

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

by
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for
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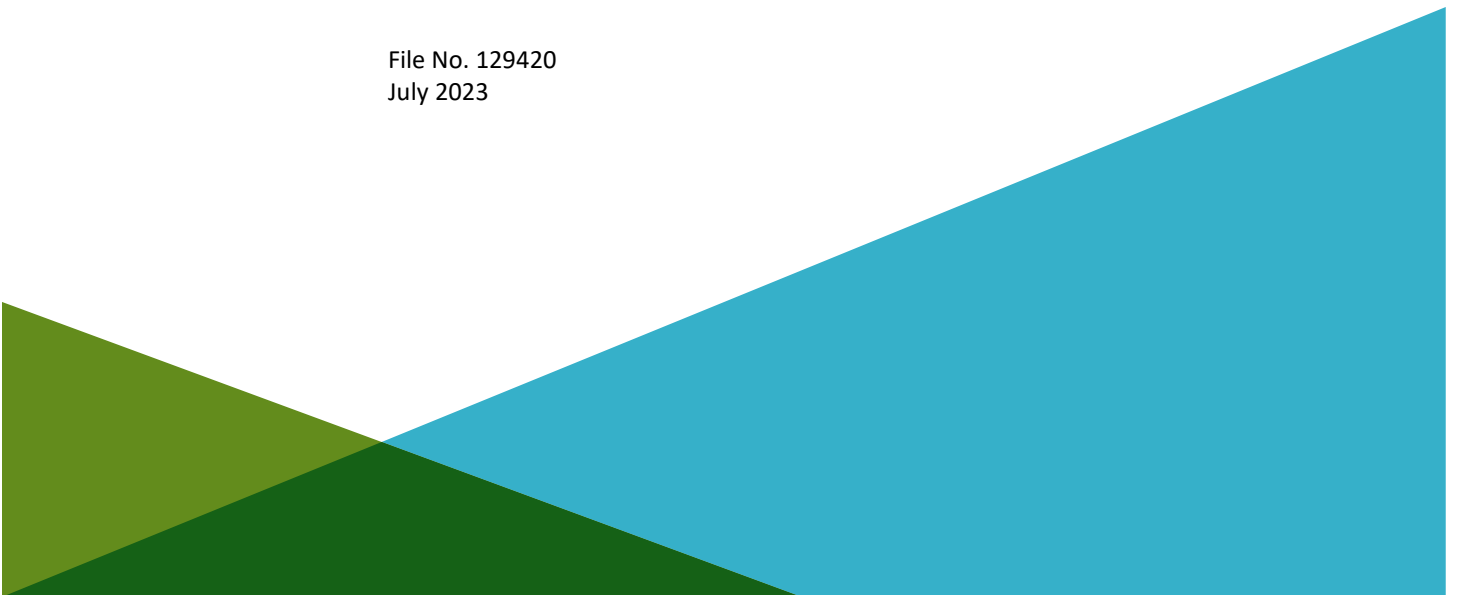


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1. Annual Groundwater Monitoring Report Summary

1.1 40 CFR § 257.90(e)(6) SUMMARY

A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR [Coal Combustion Residuals] 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, the F.B. Culley (FBC) former West Ash Pond (WAP) was operating under an assessment monitoring program in compliance with the Code of Federal Regulations Title 40 (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, the former WAP was operating under an assessment monitoring program in compliance with 40 CFR § 257.95.

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

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

1.1.3.1 40 CFR § 257.90(e)(6)(iii)(A)

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

The former WAP is operating under an assessment monitoring program; therefore, no statistical evaluations were conducted on Appendix III constituents in 2022/2023.

1.1.3.2 40 CFR § 257.90(e)(6)(iii)(B)

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

An assessment monitoring program was established on 7 February 2020 for the former WAP to meet the requirements of 40 CFR § 257.95. The former WAP remained in assessment monitoring during 2022 and 2023.

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

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

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

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

Statistical analysis of groundwater analytical results was completed in accordance with 40 CFR § 257.93(h)(2). Analysis of the May 2022 analytical results was completed in September 2022 and statistically significant levels (SSLs) of lithium were identified in monitoring well WAP-3S downgradient of the former WAP, and molybdenum in downgradient wells WAP-3S and WAP-4S.

Statistical analysis of the November 2022 groundwater analytical results was completed in January 2023 and SSLs of lithium were identified in monitoring well WAP-3S downgradient of the former WAP and molybdenum in downgradient wells WAP-3S and WAP-4S. A summary of the 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 30 October 2020.

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

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

The public meeting has not been held for the assessment of corrective measures for the former WAP. Evaluation of site-specific aspects, such as the off-site evaluation of the nature and extent of affected groundwater, are necessary to prepare for the public meeting and inform the selection of remedy and are in progress.

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 26 February 2021 and placed into the facility's Operating Record, then subsequently posted to the publicly available website, and the notification 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; and

The selection of remedy required under 40 CFR § 257.97 is ongoing during 2023 for lithium and molybdenum at the former WAP.

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

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

No remedial activities have been initiated during 2023; therefore, no demonstration or certification is applicable for this unit.

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 former WAP is subject to the groundwater monitoring and corrective action requirements described under 40 CFR § 257.90 through § 257.98 (Rule). The former WAP located at FBC was previously classified as an inactive surface impoundment as defined by 40 CFR § 257.53. The Southern Indiana Gas and Electric Company (SIGECO) filed a Notice of Intent (NOI) to initiate the closure of the former WAP and placed the NOI in the facility's Operating Record on 17 December 2015.

However, on 5 August 2016, the United States Environmental Protection Agency issued a "Direct Final Rule," effective on 4 October 2016, constituting a vacatur of 40 CFR § 257.100. The Direct Final Rule applies the requirements of existing surface impoundments that had been previously declared inactive. As a result, the former WAP had to comply with the groundwater monitoring requirements for existing CCR surface impoundments. The CCR Rule changes extended the deadlines to comply with the groundwater monitoring and corrective action requirements with the initial annual groundwater monitoring and corrective action report being placed in the facility's Operating Record by 1 August 2019, and annually thereafter.

SIGECO continued to pursue closure of the former WAP while complying with the requirements described in 40 CFR § 257.90 through § 257.98. The Indiana Department of Environmental Management (IDEM) issued their approval of the Closure/Post-Closure Plan in December 2019, and closure activities were completed in December 2020. As part of IDEM's approval, IDEM requested that additional wells be installed for post-closure monitoring. The groundwater monitoring network for the former WAP is shown on Figure 1.

This document addresses the requirement for the Owner/Operator to prepare an Annual Groundwater Monitoring and Corrective Action Report (Annual Report) per 40 CFR § 257.90(e).

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).

As required by 40 CFR §257.100(e)(5)(ii), this Annual Report will be completed no later than 1 August 2023 due to the partial vacatur ordered by the District of Columbia Circuit Court on 14 June 2016 and the subsequent Direct Final Rule effective 4 October 2016, and within one year of the previous annual report being placed into the facility's Operating Record. As required, this Annual Report documents the status of the groundwater monitoring and corrective action program for the former WAP at FBC and summarizes key actions completed through the current reporting period. Field forms pertaining to November 2022 and May 2023 sampling events are included in Appendix B and laboratory analytical reports are included in Appendix C.

1.3.1 Status of the Groundwater Monitoring Program

As provided in the notification on 12 July 2019, statistically significant increases (SSIs) of Appendix III constituents were identified downgradient of the former WAP. An evaluation of alternate sources was conducted; however, a successful alternate source demonstration was not achieved at that time. As a result, an Assessment Monitoring Program was initiated as required by 40 CFR § 257.94(e)(2). Annual and semiannual groundwater samples were collected as outlined in 40 CFR § 257.95(b) and § 257.95(d)(1), and groundwater protection standards (GWPS) were established as required by 40 CFR § 257.95(d)(2). Statistical analysis was completed on 2 July 2020 as described in 40 CFR § 257.93(h)(2), and SSLs of Appendix IV constituents above GWPS (lithium and molybdenum) were identified downgradient of the former WAP. As a result, an assessment of corrective measures was initiated as required by 40 CFR § 257.96. A 60-day extension to complete the assessment of corrective measures was required and certified by a professional engineer as required by 40 CFR § 257.96(a). Semiannual assessment monitoring is ongoing. Baseline sampling for downgradient wells installed to comply with IDEM approval of the Closure/Post-Closure Plan began in December 2020 and was completed in November 2021.

1.3.2 Key Actions Completed

The following key actions were completed during the 2022/2023 reporting period (from 1 July 2022 through 30 June 2023):

- Statistical analysis of assessment monitoring results for the May 2022 groundwater monitoring event was completed on 29 September 2022 to evaluate the potential for SSLs of Appendix IV constituents in groundwater downgradient of the former WAP (Appendix A).
- Statistical analysis of assessment monitoring results for the November 2022 groundwater monitoring event was completed on 22 March 2023 to evaluate potential for SSLs of Appendix IV constituents in groundwater downgradient of the former WAP (Appendix A).
- Preparation of the 2021/2022 Annual Report which included the following activities:
 - The 2021/2022 Annual Report was placed in the facility’s Operating Record pursuant to 40 CFR § 257.105(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 2021/2022 Annual Report being placed in the facility’s Operating Record [§ 257.106(d)]; and
 - Pursuant to 40 CFR § 257.107(h)(1), the 2021/2022 Annual Report was posted to the CCR Website within 30 days of the 2021/2022 Annual Report being placed in the facility’s Operating Record [§ 257.107(d)] and 257.107(h)(1).
- Collected and analyzed assessment monitoring groundwater samples in accordance with 40 CFR § 257.95(b) and § 257.95(d)(1). Groundwater elevations were measured during each sampling event in accordance with 40 CFR § 257.93(c). Groundwater configuration maps showing the direction of groundwater flow and the groundwater flow rates are provided as Figures 2 and 3.
- Continued evaluation of the nature and extent of Appendix IV SSLs as required by 40 CFR § 257.95(g)(1).
- Developed a Surface Water Sampling Work Plan (Work Plan) to further evaluate the nature and extent of affected groundwater downgradient from the former WAP. The Work Plan was submitted to IDEM for review and approval.

1.3.3 Problems Encountered

No problems were encountered during the 2022/2023 reporting period.

1.3.4 Actions to Resolve Problems

No actions were taken as there were no problems encountered during the 2022/2023 reporting period.

1.3.5 Project Key Activities for Upcoming Year

Key activities planned to be completed through June 2024 include the following:

- Further define the nature and extent of lithium and molybdenum in groundwater downgradient of the former WAP.
- Continue semiannual groundwater monitoring in accordance with 40 CFR § 257.95.

- Complete statistical analysis of the semiannual groundwater sampling results as required by 40 CFR § 257.93(h)(2).
- Prepare semiannual progress reports, as necessary, describing the progress in selecting and designing the remedy as outlined in 40 CFR § 257.97(a).
- Hold a public meeting at least 30 days prior to the selection of remedy with interested and affected parties in accordance with 40 CFR § 257.96(e) to discuss the results of the corrective measures assessment.
- As soon as feasible following the public meeting, select a remedy that, at a minimum, meets the standards outlined in 40 CFR § 257.97(b). As part of the selected remedy, SIGECO will develop a schedule for implementing and completing remedial activities as defined in 40 CFR § 257.97(d) and develop a Corrective Action Groundwater Monitoring Program per 40 CFR § 257.98(a)(1).

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 former WAP, associated upgradient and downgradient wells installed to comply with the CCR Rule, wells installed to assess the nature and extent of Appendix IV SSLs, and monitoring wells required by IDEM are presented as Figure 1. A groundwater flow map for the November 2022 sampling event is included on Figure 2 and for the May 2023 sampling event 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;

No monitoring wells were installed or decommissioned during the preceding year. Location and construction details of the existing monitoring well network for the former WAP is provided for reference in Table I.

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 for the CCR monitoring well network (WAP-1, CCR-AP-7, WAP-2RR, WAP-3S, WAP-4S, and WAP-5S) under the assessment monitoring program.

Summary tables including the sample names, dates of sample collection, reason for sample collection (detection, assessment, or baseline), and monitoring data obtained for the groundwater monitoring program for the former WAP are presented in Tables II, III, and IV of this report. Table II summarizes the assessment monitoring results for the original CCR monitoring network. Table III provides the results obtained to characterize the nature and extent of Appendix IV SSLs, and Table IV includes the state-required baseline and detection sampling results at monitoring locations required by IDEM. Laboratory analytical data reports and field sampling forms are provided in Appendix B of this report.

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); and

Statistical analysis was completed in September 2022 for the May 2022 sampling event and in March 2023 for the November 2022 sampling as described in 40 CFR § 257.93(h)(2), and the SSLs of lithium and molybdenum continue to be observed downgradient of the former WAP, consistent with previous results. As a result, the monitoring program did not change and the former WAP remained in assessment monitoring.

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.

Other information including the development of groundwater protection standards, recording groundwater monitoring results in the Operating Record, and an evaluation of alternate sources was included in previous annual reports.

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TABLES

TABLE I
GROUNDWATER MONITORING WELL LOCATION AND CONSTRUCTION DETAILS
 F.B. CULLEY GENERATING STATION - FORMER WEST ASH POND
 WARRICK COUNTY, INDIANA

Well	Easting	Northing	Top of Pad Elevation (ft msl)	Top of Casing Elevation (ft msl)	Surface Grout (ft bgs)	Bentonite (ft bgs)	Sand Pack (ft bgs)	Screen Zone (ft bgs)	Screen Length (ft)	Well Radius (in)
Upgradient Wells										
WAP-1	2882824.18	971214.17	403.77	403.39	0 - 22	22 - 24	24 - 36	26 - 36	10	2
CCR-AP-7	2883090.34	970774.64	429.50	434.11	0 - 16	16 - 18	18 - 30	20 - 30	10	2
Downgradient Wells										
(CCR Monitoring Network)										
WAP-2RR	2881499.20	971367.50	391.70	391.74	0 - 42	42 - 44	44 - 56	46 - 56	10	2
WAP-3S	2881252.80	970978.10	388.20	388.47	0 - 55	55 - 57	57 - 70	60 - 70	10	2
WAP-4S	2881333.40	970405.60	384.60	384.61	0 - 31	31 - 33	33 - 45	35 - 45	10	2
WAP-5S	2881521.50	970236.00	384.60	384.68	0 - 26	26 - 28	28 - 40	30 - 40	10	2
(Assessment of Nature & Extent)										
WAP-3D	2881253.20	970975.00	388.20	388.41	0 - 65.5	65.5 - 68	68 - 82.5	72.5 - 82.5	10	2
WAP-4I	2881329.10	970409.20	384.50	384.58	0 - 61	61 - 63	63 - 75	65 - 75	10	2
WAP-4D	2881325.40	970412.50	384.50	384.48	0 - 102	102 - 104	104 - 116	106 - 116	10	2
WAP-5I	2881525.00	970232.80	384.70	384.71	0 - 61	61 - 63	63 - 75	65 - 75	10	2
WAP-5D	2881528.80	970229.90	384.60	384.71	0 - 99	99 - 101	101 - 113	103 - 113	10	2
WAP-9S	2881063.86	970693.11	393.00	392.69	0 - 51	51 - 53	53 - 65	55 - 65	10	2
WAP-9I	2881066.94	970697.89	393.20	392.88	0 - 76	76 - 78	78 - 90	80 - 90	10	2
WAP-9D	2881069.75	970701.94	393.10	392.74	0 - 112.5	112.5 - 114.5	114.5 - 126.5	116.5 - 126.5	10	2
(IDEM Approval of Closure/Post-Closure Plan)										
WAP-6S	2881090.90	970688.30	385.90	385.95	0 - 36	36 - 38	38 - 50	40 - 50	10	2
WAP-6I	2881088.20	970683.30	386.10	386.11	0 - 65.5	65.5 - 67.5	67.5 - 80	70 - 80	10	2
WAP-6D	2881092.60	970693.10	386.00	386.06	0 - 101	101 - 103	103 - 115.5	105.5 - 115.5	10	2
WAP-7S	2881363.50	971158.10	389.40	389.55	0 - 45	45 - 47	47 - 60	50 - 60	10	2
WAP-7D	2881365.20	971161.50	389.20	389.25	0 - 64	64 - 66	66 - 78.5	68.5 - 78.5	10	2
WAP-8S	2881317.80	970630.00	384.80	384.90	0 - 35	35 - 37.5	37.5 - 50	40 - 50	10	2
WAP-8I	2881313.40	970633.60	384.70	384.78	0 - 65.5	65.5 - 67.5	67.5 - 80	70 - 80	10	2
WAP-8D	2881309.50	970636.70	384.70	384.72	0 - 92.5	92.5 - 94.5	94.5 - 107	97 - 107	10	2

Notes:
bgs = below ground surface
ft = feet
in = inches
msl = mean sea level

TABLE II
SUMMARY OF GROUNDWATER QUALITY DATA FROM THE ORIGINAL CCR MONITORING NETWORK
 F.B. CULLEY GENERATING STATION - FORMER WEST ASH POND
 WARRICK COUNTY, INDIANA

Location Group Location Name Sample Name Sample Date Lab Sample ID	Action Level GWPS	Up-Gradient				West Ash Pond							
		CCR-AP-7	CCR-AP-7	WAP-1	WAP-1	WAP-2RR	WAP-2RR	WAP-3S	WAP-3S	WAP-4S	WAP-4S	WAP-5S	WAP-5S
		CCR-AP-7-20221122 11/22/2022 180-148407-25	CCR-AP-7-20230522 05/22/2023 180-157134-1	WAP-1-20221121 11/21/2022 180-148407-1	WAP-1-20230518 05/18/2023 180-156913-7	WAP-2RR-20221121 11/21/2022 180-148407-2	WAP 2R-20230522 05/22/2023 180-157134-4	WAP-3S-20221121 11/21/2022 180-148407-3	WAP-3S-20230519 05/19/2023 180-156913-9	WAP-4S-20221116 11/16/2022 180-148407-5	WAP-4S-20230518 05/18/2023 180-156913-8	WAP-5S-20221116 11/16/2022 180-148407-8	WAP-5S-20230516 05/16/2023 180-156881-1
Detection Monitoring - EPA Appendix III Constituents (mg/L)													
Boron, Total	4	0.049 J-	0.1 U	0.016 J-	0.2 U	5.2	3.5	4.2	5.4	13	15	4.8	5.9
Calcium, Total	NA	110	120	160	180	110	120	110	190	270	290	190	240
Chloride	NA	30	35	36	49	48	44	47	100	150	140	130	110
Fluoride	4	0.48	0.49	1.2	0.66	0.35	0.29	0.64	0.29	0.26	0.23	0.13	0.12
pH (lab) (pH units)	NA	7.7 J	7.3 J	7.4 J	7.4 J	7.1 J	7.2 J	7.6 J	7.7 J	8.8 J	7.4 J	7.2 J	7 J
Sulfate	NA	76	110	230	260	170	120	240	380	490	450	430	480
Total Dissolved Solids (TDS)	NA	580	590	710	820	650	510	620	860	1300	1200	1200	1200 J
Assessment Monitoring - EPA Appendix IV Constituents (mg/L)													
Antimony, Total	0.006	0.002 U	0.002 U	0.00084 J	0.002 U	0.002 U	0.0011 J	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Arsenic, Total	0.025	0.004 J	0.004 J	0.0039 J	0.0048	0.0012 J	0.0011 J	0.005 U	0.00062 J	0.012	0.027	0.005 U	0.00055 J
Barium, Total	2	0.1	0.11	0.41	0.46	0.033	0.043 J+	0.037	0.068	0.052	0.069	0.037	0.037 J+
Beryllium, Total	0.004	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	0.001 U	0.001 U
Cadmium, Total	0.005	0.001 U	0.001 U	0.001 U	0.001 U	0.0003 J	0.00037 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chromium, Total	0.1	0.005 U	0.005 U	0.0036 J	0.0056 J+	0.005 U	0.005 U	0.005 U	0.002 U	0.005 U	0.002 U	0.005 U	0.002 U
Cobalt, Total	0.019	0.00087 J	0.00039 J	0.0011	0.0015	0.0022	0.002	0.00085 J	0.0011	0.0017	0.0017	0.0062	0.0037
Lead, Total	0.035	0.00082 J	0.001 U	0.0027	0.0043 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
Lithium, Total	0.04	0.007 J	0.01	0.0047 J	0.0074	0.018	0.025	0.088	0.12	0.008 U	0.0019 J	0.008 U	0.0024 J
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	0.0002 U
Molybdenum, Total	0.1	0.0014 J	0.0018 J	0.005 U	0.00076 J	0.07	0.077	0.54	0.52	0.46	0.58	0.005 U	0.005 U
Selenium, Total	0.05	0.005 U	0.005 U	0.005 U	0.005 U	0.0059	0.0071	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Thallium, Total	0.002	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	0.001 U	0.001 U
Radiological (pCi/L)													
Radium-226	NA	0.25 ± 0.133	0.269 ± 0.12	0.596 ± 0.258	0.437 ± 0.224	0.191 ± 0.105	1 U ± 0.104	0.332 ± 0.121	0.36 ± 0.175	0.112 U ± 0.0826	0.211 ± 0.144	0.0193 U ± 0.0553	1 U ± 0.0636
Radium-228	NA	1.08 U ± 0.543	1 U ± 0.452	1.63 ± 0.905	1 U ± 0.597	0.83 ± 0.401	1 U ± 0.401	0.901 ± 0.419	1 U ± 0.338	0.972 ± 0.423	1 U ± 0.344	1.47 ± 0.49	0.762 ± 0.421
Radium-226 & 228	NA	1.33 U ± 0.559	0.764 J ± 0.468	2.22 ± 0.941	1.26 J ± 0.638	1.02 ± 0.415	0.669 ± 0.414	1.23 ± 0.436	5 UJ ± 0.381	1.08 J ± 0.431	5 UJ ± 0.373	1.49 J ± 0.493	0.801 J ± 0.426
Field Parameters													
Temperature (Deg C)	NA	14.34	19.01	-	-	16.13	18.35	15.44	18.21	15.48	18.57	16.51	18.19
Dissolved Oxygen, Field (mg/L)	NA	0.68	0.42	-	-	0.19	0.3	0.72	0.35	0.12	0.21	0.37	0.38
Conductivity, Field (mS/cm)	NA	0.661	0.92607	-	-	0.688	0.82933	0.638	1.2106	1.228	1.5748	1.184	1.4114
Oxidation Reduction Potential (ORP), Field (mv)	NA	-48	-74.8	-	-	96.6	102.6	-7.5	-48.5	-21.8	-36.3	35.9	200.7
Turbidity, Field (NTU)	NA	18.2	1.08	-	-	1.29	0.39	0	1.42	37	206.61	0	0
pH, Field (pH units)	NA	7.1	7.13	-	-	6.52	6.63	7.59	7.57	6.99	7.09	6.49	6.54

Abbreviations and Notes:

- CCR: Coal Combustion Residuals.
- mg/L: milligram per liter.
- mS/cm: millSiemen per centimeter.
- mv: millivolts.
- NTU: Nephelometric Turbidity Units.
- pCi/L: picoCurie per liter.
- GWPS: Groundwater Protection Standard.
- MCL: Maximum Contaminant Level.
- RSL: Regional Screening Level.
- USEPA: United States Environmental Protection Agency.
- Results in **bold** are detected.
- USEPA. 2016. Final Rule: Disposal of Coal Combustion Residuals from Electric Utilities. July 26. 40 CFR Part 257.
<https://www.epa.gov/coalash/coal-ash-rule>
- GWPS is the maximum of the MCL or RSL where no MCL is available or the Upper Tolerance Limit.

TABLE III
SUMMARY OF GROUNDWATER QUALITY DATA FOR MONITORING WELLS
INSTALLED TO ASSESS THE NATURE AND EXTENT OF APPENDIX IV
F.B. CULLEY GENERATING STATION - FORMER WEST ASH POND
WARRICK COUNTY, INDIANA

Location Group Location Name Sample Name Sample Date Lab Sample ID	Action Level GWPS	West Ash Pond														
		WAP-3D	WAP-3D	WAP-3D	WAP-3D	WAP-4I	WAP-4I	WAP-4D	WAP-4D	WAP-5I	WAP-5I	WAP-5D	WAP-5D	WAP-9S	WAP-9S	WAP-9I
		WAP-3D-20221121 11/21/2022 180-148407-4	BLIND DUP 1-20221121 11/21/2022 180-148407-23	WAP-3D-20230519 05/19/2023 180-156913-10	DUP 2-20230519 05/19/2023 180-156913-11	WAP-4I-20221116 11/16/2022 180-148407-6	WAP-4I-20230517 05/17/2023 180-156881-8	WAP-4D-20221117 11/17/2022 180-148407-7	WAP-4D-20230517 05/17/2023 180-156881-7	WAP-5I-20221116 11/16/2022 180-148407-10	WAP-5I-20230516 05/16/2023 180-156881-2	WAP-5D-20221116 11/16/2022 180-148407-9	WAP-5D-20230516 05/16/2023 180-156881-3	WAP-9S-20221118 11/18/2022 180-148407-19	WAP-9S-20230519 05/19/2023 180-156913-1	WAP-9I-20221122 11/22/2022 180-148407-20
Detection Monitoring - EPA Appendix III Constituents (mg/L)																
Boron, Total	4	5	4.9	5.4	5.6	0.071	0.027 J	0.035	0.044 J	0.068	0.036 J	0.039	0.045 J	1.1	1	0.13
Calcium, Total	NA	170	170	190	230	41	32	47	52	40	35	47	50	69	75	45
Chloride	NA	57	58	83	83	21	18	22	24	20	19	22	24	24	25	20
Fluoride	4	0.39	0.3	0.19	0.2	0.15	0.14	0.15	0.16	0.15	0.14	0.14	0.15	0.79	0.34	0.14
pH (lab) (pH units)	NA	7.8 J	7.9 J	7.7 J	7.7 J	7.7 J	7.7 J	7.9 J	7.8 J	7.7 J	7.7 J	7.7 J	7.6 J	8 J	7.8 J	8 J
Sulfate	NA	380	380	490	490	49	40	31	33	48	42	42	46	40	64	41
Total Dissolved Solids (TDS)	NA	870	860	1100	1000 J	230	170	240	230	230	200	230	240	610	350	240
Assessment Monitoring - EPA Appendix IV Constituents (mg/L)																
Antimony, Total	0.006	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	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	0.025	0.005 U	0.005 U	0.0032 J	0.0033 J	0.0069	0.017	0.0078	0.0098	0.061	0.0046	0.01	0.0099	0.0024 J	0.0088 J	0.006
Barium, Total	2	0.021	0.021	0.024 J+	0.028 J+	0.17	0.14	0.25	0.3	0.13	0.093	0.19	0.22	0.1	0.088	0.1
Beryllium, Total	0.004	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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Cadmium, Total	0.005	0.001 U	0.001 U	0.00037 J	0.00059 J	0.001 U	0.00022 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.00028 J	0.001 U	0.001 U
Chromium, Total	0.1	0.005 U	0.005 U	0.002 U	0.002 U	0.005 U	0.002 U	0.005 U	0.002 U	0.005 U	0.002 U	0.005 U	0.002 U	0.005 U	0.002 U	0.005 U
Cobalt, Total	0.019	0.0013	0.0013	0.0012	0.0015	0.00043 J	0.0005	0.001 U	0.0005 U	0.00066 J	0.0005 U	0.0005 U	0.0005 U	0.00026	0.00046 J	0.00028 J
Lead, Total	0.035	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.00085 J	0.001 U	0.001 U	0.001 U	0.00025	0.001 U	0.001 U
Lithium, Total	0.04	0.079	0.079	0.1	0.11	0.0028 J	0.0029 J	0.008 U	0.0023 J	0.0019 J	0.0031 J	0.008 U	0.0017 J	0.0091	0.008	0.0017 J
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	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Molybdenum, Total	0.1	0.28	0.29	0.26	0.31	0.0018 J	0.0018 J	0.0049 J	0.01	0.0016 J	0.0016 J	0.0034 J	0.0039 J	0.13	0.11	0.013
Selenium, Total	0.05	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	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	0.002	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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Radiological (pCi/L)																
Radium-226	NA	0.116 U ± 0.0842	0.152 ± 0.0872	0.267 ± 0.139	1 U ± 0.128	0.324 ± 0.13	0.264 ± 0.138	0.391 ± 0.129	0.385 ± 0.157	0.304 ± 0.126	1 U ± 0.0858	0.335 ± 0.116	0.286 ± 0.179	0.245 U ± 0.201	1 U ± 0.134	0.135 U ± 0.099
Radium-228	NA	0.446 U ± 0.347	0.826 U ± 0.413	1 U ± 0.314	1 U ± 0.343	1.05 ± 0.425	0.722 ± 0.491	0.903 ± 0.382	1 U ± 0.494	0.905 ± 0.444	1 U ± 0.319	1.9 ± 0.523	1 U ± 0.352	1.01 U ± 0.778	1 U ± 0.365	0.41 U ± 0.327
Radium-226 & 228	NA	0.562 ± 0.357	0.978 U ± 0.422	5 UJ ± 0.343	5 U ± 0.366	1.38 ± 0.444	0.986 ± 0.51	1.29 ± 0.403	1.01 J ± 0.518	1.21 ± 0.462	5 U ± 0.33	2.24 ± 0.536	5 UJ ± 0.395	1.26 ± 0.804	5 U ± 0.389	0.545 ± 0.342
Field Parameters																
Temperature (Deg C)	NA	10.06	10.06	18.49	18.49	17.15	15.67	7.25	17.8	17	16.76	17.69	17.08	10.7	18.78	17.36
Dissolved Oxygen, Field (mg/L)	NA	2	2	0.28	0.28	0.25	0.19	1.57	0.29	0.25	0.19	0.25	0.21	1.14	4.42	0.19
Conductivity, Field (mS/cm)	NA	0.816	0.816	1.3852	1.3852	0.269	0.29144	0.285	0.38385	0.269	0.30426	0.275	0.39146	0.393	0.55247	0.285
Oxidation Reduction Potential (ORP), Field (mv)	NA	39	39	-144.5	-144.5	10.4	-34.2	-60	-134.7	1.5	-23.2	-69.3	-87.3	12	-29.8	-62.3
Turbidity, Field (NTU)	NA	0	0	0.61	0.61	0.01	9.42	0	0	24.66	11.38	3.64	0	182	7.64	0
pH, Field (pH units)	NA	7.46	7.46	7.5	7.5	7	7.51	7.46	7.6	7.03	7.33	7.12	7.24	7.36	7.6	7.44

Abbreviations and Notes:
 CCR: Coal Combustion Residuals.
 mg/L: milligram per liter.
 mS/cm: millSiemen per centimeter.
 mv: millivolts.
 NTU: Nephelometric Turbidity Units.
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 Results in **bold** are detected.
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<https://www.epa.gov/coalash/coal-ash-rule>
 -GWPS is the maximum of the MCL or RSL where no MCL is available or the Upper Tolerance Limit.

TABLE III
SUMMARY OF GROUNDWATER QUALITY DATA FOR MONITORING WELLS
INSTALLED TO ASSESS THE NATURE AND EXTENT OF APPENDIX IV
 F.B. CULLEY GENERATING STATION - FORMER WEST ASH POND
 WARRICK COUNTY, INDIANA

Location Group Location Name Sample Name Sample Date Lab Sample ID	Action Level GWPS	WAP-9I	WAP-9I	WAP-9D	WAP-9D
		BLIND DUP 2-20221122 11/22/2022 180-148407-24	WAP-9I-20230519 05/19/2023 180-156913-2	WAP-9D-20221122 11/22/2022 180-148407-21	WAP-9D-20230519 05/19/2023 180-156913-3
Detection Monitoring - EPA Appendix III Constituents (mg/L)					
Boron, Total	4	0.13	0.2 U	0.15	0.24
Calcium, Total	NA	45	36	36	22
Chloride	NA	20	20	19	13
Fluoride	4	0.14	0.12	0.31	7.6
pH (lab) (pH units)	NA	8 J	7.8 J	7.8 J	6.6 J
Sulfate	NA	42	39	39	24
Total Dissolved Solids (TDS)	NA	240	190	290	180
Assessment Monitoring - EPA Appendix IV Constituents (mg/L)					
Antimony, Total	0.006	0.002 U	0.002 U	0.002 U	0.002 U
Arsenic, Total	0.025	0.0059	0.0052	0.0086	0.015
Barium, Total	2	0.1	0.085	0.17	0.12
Beryllium, Total	0.004	0.001 U	0.001 U	0.001 U	0.001 U
Cadmium, Total	0.005	0.001 U	0.001 U	0.001 U	0.001 U
Chromium, Total	0.1	0.005 U	0.002 U	0.0048 J	0.0026 U
Cobalt, Total	0.019	0.00026 J	0.0005 U	0.0018	0.0019
Lead, Total	0.035	0.001 U	0.001 U	0.002	0.0013 U
Lithium, Total	0.04	0.0017 J	0.0037 J	0.0047 J	0.0053
Mercury, Total	0.002	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Molybdenum, Total	0.1	0.013	0.0099	0.0086	0.014
Selenium, Total	0.05	0.005 U	0.005 U	0.005 U	0.005 U
Thallium, Total	0.002	0.001 U	0.001 U	0.001 U	0.001 U
Radiological (pCi/L)					
Radium-226	NA	0.123 U ± 0.088	1 U ± 0.116	0.456 ± 0.257	0.631 ± 0.333
Radium-228	NA	0.241 U ± 0.316	1 U ± 0.474	1.1 U ± 0.983	1 U ± 0.732
Radium-226 & 228	NA	0.364 U ± 0.328	5 U ± 0.488	1.56 J ± 1.02	5 UJ ± 0.804
Field Parameters					
Temperature (Deg C)	NA	17.36	19.34	15.71	19.87
Dissolved Oxygen, Field (mg/L)	NA	0.19	1.04	1.24	6.16
Conductivity, Field (mS/cm)	NA	0.285	0.3294	0.249	0.24174
Oxidation Reduction Potential (ORP), Field (mv)	NA	-62.3	-88.3	14	-102.5
Turbidity, Field (NTU)	NA	0	3.08	229	41.59
pH, Field (pH units)	NA	7.44	7.64	7.2	5.89

Abbreviations and Notes:

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- mS/cm: millSiemen per centimeter.
- mv: millivolts.
- NTU: Nephelometric Turbidity Units.
- pCi/L: pikoCurie per liter.
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- MCL: Maximum Contaminant Level.
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- Results in **bold** are detected.
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- GWPS is the maximum of the MCL or RSL where no MCL is available or the Upper Tolerance Limit.

TABLE IV
SUMMARY OF GROUNDWATER QUALITY DATA FOR MONITORING WELLS
INSTALLED TO COMPLY WITH IDEM APPROVAL OF CLOSURE/POST-CLOSURE PLAN
F.B. CULLEY GENERATING STATION - FORMER WEST ASH POND
WARRICK COUNTY, INDIANA

Location Group Location Name Sample Name Sample Date Lab Sample ID	Action Level GWPS	West Ash Pond															
		WAP-6S	WAP-6S	WAP-6S	WAP-6I	WAP-6I	WAP-6D	WAP-6D	WAP-7S	WAP-7S	WAP-7D	WAP-7D	WAP-8S	WAP-8S	WAP-8S	WAP-8I	WAP-8I
		WAP-6S-20221117 11/17/2022 180-148407-11	WAP-6S-20221128 11/28/2022 180-148607-1	WAP-6S-20230519 05/19/2023 180-156913-4	WAP-6I-20221117 11/17/2022 180-148407-12	WAP-6I-20230518 05/18/2023 180-156913-5	WAP-6D-20221117 11/17/2022 180-148407-13	WAP-6D-20230518 05/18/2023 180-156913-6	WAP-7S-20221122 11/22/2022 180-148407-14	WAP-7S-20230522 05/22/2023 180-157134-3	WAP-7D-20221122 11/22/2022 180-148407-15	WAP-7D-20230522 05/22/2023 180-157134-2	WAP-8S-20221117 11/17/2022 180-148407-16	WAP-8S-20230517 05/17/2023 180-156881-4	DUP 1-20230517 05/17/2023 180-156881-9	WAP-8I-20221118 11/18/2022 180-148407-17	WAP-8I-20230517 05/17/2023 180-156881-5
Detection Monitoring - EPA Appendix III Constituents (mg/L)																	
Boron, Total	4	2.4	-	2.6	0.085	0.2 U	0.042	0.2 U	15	15	11	12	2.3	2.9	2.5	0.071	0.073 J
Calcium, Total	NA	93	-	100	43	35	40	180	210	360	380	120	140	140	45	47	47
Chloride	NA	36	-	41	19	20	21	79	90	180	150	68	69	70	21	25	25
Fluoride	4	0.46	-	0.24	0.15	0.14	0.15	0.14	0.13	0.52	0.4	0.18	0.17	0.17	0.2	0.2	0.2
pH (lab) (pH units)	NA	7.7 J	-	7.4 J	7.9 J	7.8 J	7.9 J	7.8 J	10.1 J	9.9 J	7.7 J	7.6 J	7.8 J	7.7 J	7.7 J	7.9 J	7.6 J
Sulfate	NA	120	-	140	46	39	40	390	470	1300	250	280	270	280	50	53	53
Total Dissolved Solids (TDS)	NA	-	450	540	240	180	230	200	890	960	2000	1900	730	720	690	260	230 J
Assessment Monitoring - EPA Appendix IV Constituents (mg/L)																	
Antimony, Total	0.006	0.002 U	-	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.0013 J	0.0013 J	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Arsenic, Total	0.025	0.0011 J	-	0.0015	0.0044 J	0.0057	0.0046 J	0.005	0.0071	0.0057	0.001 J	0.0011 J	0.017	0.016	0.017	0.0037 J	0.0092
Barium, Total	2	0.049	-	0.066	0.15	0.14	0.17	0.18	0.042	0.05 J+	0.031	0.031 J+	0.17	0.2	0.2	0.049	0.063 J+
Beryllium, Total	0.004	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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Cadmium, Total	0.005	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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Chromium, Total	0.1	0.005 U	-	0.002 U	0.005 U	0.002 U	0.005 U	0.002 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.002 U	0.005 U	0.002 U
Cobalt, Total	0.019	0.0009 J	-	0.0011	0.00027 J	0.0005 U	0.001 U	0.0005 U	0.001 U	0.001 U	0.0037	0.0032	0.00099 J	0.0012	0.0014	0.00042 J	0.00034 J
Lead, Total	0.035	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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Lithium, Total	0.04	0.008 U	-	0.0039 J	0.008 U	0.0033 J	0.008 U	0.0026 J	0.16	0.2	0.05	0.063	0.022	0.023	0.026	0.008 U	0.0026 J
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	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Molybdenum, Total	0.1	0.12	-	0.13	0.0042 J	0.0046 J	0.0018 J	0.0021 J	0.22	0.27	0.23	0.2	0.24	0.21	0.22	0.024	0.028
Selenium, Total	0.05	0.005 U	-	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	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	0.002	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	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Radiological (pCi/L)																	
Radium-226	NA	0.0354 U ± 0.073	-	1 U ± 0.12	0.218 ± 0.1	0.197 ± 0.133	0.385 ± 0.124	0.211 ± 0.146	0.137 ± 0.0797	1 U ± 0.08	0.377 ± 0.127	0.414 ± 0.155	0.226 ± 0.102	0.247 ± 0.123	0.225 ± 0.154	0.207 ± 0.0936	1 U ± 0.0995
Radium-228	NA	0.704 ± 0.386	-	1 U ± 0.423	1.44 ± 0.546	1 U ± 0.319	1.25 ± 0.492	1 U ± 0.397	0.647 ± 0.389	1 U ± 0.316	1.44 ± 0.439	0.925 ± 0.453	1.29 ± 0.467	0.799 ± 0.435	0.745 ± 0.417	1.63 ± 0.525	1 U ± 0.433
Radium-226 & 228	NA	0.739 J ± 0.393	-	5 U ± 0.44	1.66 ± 0.555	5 UJ ± 0.346	1.63 ± 0.507	0.713 J ± 0.423	0.784 ± 0.397	5 U ± 0.326	1.82 ± 0.457	1.34 ± 0.479	1.51 ± 0.478	1.05 ± 0.452	0.969 ± 0.445	1.84 ± 0.533	5 U ± 0.444
Field Parameters																	
Temperature (Deg C)	NA	15.01	15.34	18.94	11.29	17.73	13.54	18.84	16.46	20.45	16.23	19.57	8.07	18.76	18.76	15.27	19.99
Dissolved Oxygen, Field (mg/L)	NA	0.4	0.13	0.19	2.83	0.18	2.05	0.5	0.55	0.64	0.31	0.29	2.58	0.25	0.25	0.32	0.32
Conductivity, Field (mS/cm)	NA	0.544	0.51607	0.89305	0.265	0.31618	0.258	0.35988	0.814	1.2179	1.683	2.3797	0.662	1.038	1.038	0.296	0.39887
Oxidation Reduction Potential (ORP), Field (mv)	NA	4.9	-52.5	-42.1	27.6	-116.5	-44.6	-131.6	-28	-2.2	-43.5	-56.3	-49	-140.9	-140.9	-29.5	-78
Turbidity, Field (NTU)	NA	4	0.69	15.7	0	3.13	0	0	0	0	0	0	2	2	29	6.4	6.4
pH, Field (pH units)	NA	6.93	7.31	6.98	7.26	7.56	7.33	7.55	10.57	10.5	7.25	7.23	7.34	7.48	7.48	7.19	7.31

Abbreviations and Notes:
CCR: Coal Combustion Residuals.
mg/L: milligram per liter.
mS/cm: millSiemen per centimeter.
mv: millivolts.
NTU: Nephelometric Turbidity Units.
pCi/L: pCiCurie per liter.
GWPS: Groundwater Protection Standard.
MCL: Maximum Contaminant Level.
RSL: Regional Screening Level.
USEPA: United States Environmental Protection Agency.
Results in **bold** are detected.

- USEPA. 2016. Final Rule: Disposal of Coal Combustion Residuals from Electric Utilities. July 26. 40 CFR Part 257.
<https://www.epa.gov/coalash/coal-ash-rule>

- GWPS is the maximum of the MCL or RSL where no MCL is available or the Upper Tolerance Limit.

TABLE IV
SUMMARY OF GROUNDWATER QUALITY DATA FOR MONITORING WELLS
INSTALLED TO COMPLY WITH IDEM APPROVAL OF CLOSURE/POST-CLOSURE PLAN
 F.B. CULLEY GENERATING STATION - FORMER WEST ASH POND
 WARRICK COUNTY, INDIANA

Location Group Location Name Sample Name Sample Date Lab Sample ID	Action Level GWPS	West Ash Pond	
		WAP-8D WAP-8D-20221118 11/18/2022 180-148407-18	WAP-8D WAP-8D-20230517 05/17/2023 180-156881-6
Detection Monitoring - EPA Appendix III Constituents (mg/L)			
Boron, Total	4	0.046	0.055 J
Calcium, Total	NA	42	50
Chloride	NA	21	24
Fluoride	4	0.17	0.18
pH (lab) (pH units)	NA	7.9 J	7.7 J
Sulfate	NA	45	56
Total Dissolved Solids (TDS)	NA	220	240
Assessment Monitoring - EPA Appendix IV Constituents (mg/L)			
Antimony, Total	0.006	0.002 U	0.002 U
Arsenic, Total	0.025	0.0025 J	0.0028
Barium, Total	2	0.062	0.079
Beryllium, Total	0.004	0.001 U	0.001 U
Cadmium, Total	0.005	0.001 U	0.001 U
Chromium, Total	0.1	0.005 U	0.002 U
Cobalt, Total	0.019	0.001 U	0.0005 U
Lead, Total	0.035	0.001 U	0.001 U
Lithium, Total	0.04	0.008 U	0.002 J
Mercury, Total	0.002	0.0002 U	0.0002 U
Molybdenum, Total	0.1	0.0012 J	0.0012 J
Selenium, Total	0.05	0.005 U	0.005 U
Thallium, Total	0.002	0.001 U	0.001 U
Radiological (pCi/L)			
Radium-226	NA	0.212 ± 0.0913	0.165 ± 0.106
Radium-228	NA	1.24 ± 0.425	1 U ± 0.282
Radium-226 & 228	NA	1.46 ± 0.435	5 UJ ± 0.301
Field Parameters			
Temperature (Deg C)	NA	15.2	18.44
Dissolved Oxygen, Field (mg/L)	NA	0.09	0.17
Conductivity, Field (mS/cm)	NA	0.255	0.40408
Oxidation Reduction Potential (ORP), Field (mv)	NA	-99.4	-137.8
Turbidity, Field (NTU)	NA	0	0
pH, Field (pH units)	NA	7.3	7.45

Abbreviations and Notes:









- CCR: Coal Combustion Residuals.
- mg/L: milligram per liter.
- mS/cm: millSiemen per centimeter.
- mv: millivolts.
- NTU: Nephelometric Turbidity Units.
- pCi/L: pikoCurie per liter.
- GWPS: Groundwater Protection Standard.
- MCL: Maximum Contaminant Level.
- RSL: Regional Screening Level.
- USEPA: United States Environmental Protection Agency.
- Results in **bold** are detected.
- USEPA. 2016. Final Rule: Disposal of Coal Combustion Residuals from Electric Utilities. July 26. 40 CFR Part 257. <https://www.epa.gov/coalash/coal-ash-rule>
- GWPS is the maximum of the MCL or RSL where no MCL is available or the Upper Tolerance Limit.

FIGURES

GIS FILE PATH: \\halcyon\hald\CF\proj\GIS\Mapa\2023_06\8\supernet\120420_001_0001_GROUNDWATER_MONITORING_WELL_NETWORK_OVERVIEW.mxd - USER: talakowski - LAST SAVED: 7/17/2023 5:58:14 PM



LEGEND

-  UPGRADIENT CCR COMPLIANCE MONITORING WELL
-  DOWNGRADIENT CCR COMPLIANCE MONITORING WELL
-  DOWNGRADIENT WELL TO ASSESS NATURE AND EXTENT OF APPENDIX IV SSLs
-  DOWNGRADIENT WELL TO COMPLY WITH IDEM APPROVAL OF CLOSURE/POST CLOSURE PLAN
-  APPROXIMATE LIMITS OF WEST ASH POND FINAL COVER
-  APPROXIMATE LIMITS OF WEST ASH POND CCR REMOVAL
-  WEST ASH POND
-  APPROXIMATE F.B. CULLEY PROPERTY BOUNDARY

NOTES

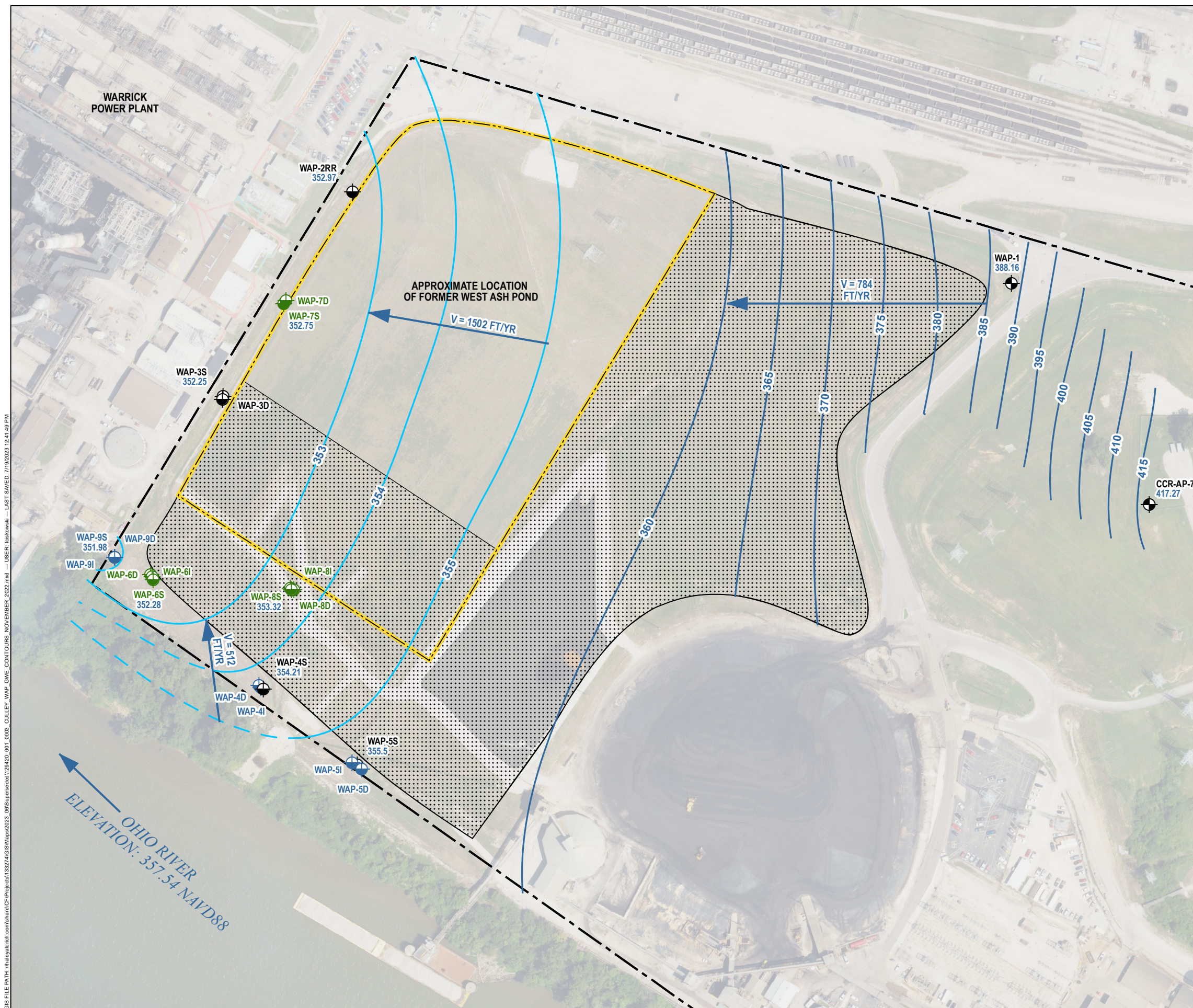
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2. AERIAL IMAGERY SOURCE: HEXAGON 21 JULY 2022

HALEY ALDRICH F.B. CULLEY GENERATING STATION
WEST ASH POND
NEWBURGH, INDIANA

GROUNDWATER MONITORING WELL NETWORK

JULY 2023

FIGURE 1



LEGEND

- UPGRADIENT CCR COMPLIANCE MONITORING WELL
- DOWNGRADIENT CCR COMPLIANCE MONITORING WELL
- DOWNGRADIENT WELL TO ASSESS NATURE AND EXTENT OF APPENDIX IV SSLs
- DOWNGRADIENT WELL TO COMPLY WITH IDEM APPROVAL OF CLOSURE/POST CLOSURE PLAN
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER ELEVATION CONTOUR (1 ft), DASHED WHERE INFERRED
- GROUNDWATER ELEVATION CONTOUR (5 ft)
- APPROXIMATE LIMITS OF FORMER WEST ASH POND FINAL COVER
- APPROXIMATE LIMITS OF FORMER WEST ASH POND CCR REMOVAL
- APPROXIMATE F.B. CULLEY PROPERTY BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. NAVD88 = NORTH AMERICAN VERTICAL DATUM OF 1988
3. OHIO RIVER STAGE MEASURED ON 10 NOVEMBER 2022 BY USGS GAUGE 03303502 AT RIVERPORT AT OWENSBORO, KY (INSTALLED ON 17 OCTOBER, 2022) APPROXIMATELY 13 MILES UPSTREAM FROM F.B. CULLEY GENERATING STATION
4. WELLS GAUGED BY ATC GROUP SERVICES LLC. ON 10 NOVEMBER 2022.
5. $V = \frac{K(I)}{n_e}$
 V = GROUNDWATER VELOCITY (FT/YR)
 K = HYDRAULIC CONDUCTIVITY (FT/YR)
 I = GROUNDWATER GRADIENT
 NE = EFFECTIVE POROSITY
6. AERIAL IMAGERY SOURCE: HEXAGON 21 JULY 2022



HALEY ALDRICH F.B. CULLEY GENERATING STATION
 WEST ASH POND
 NEWBURGH, INDIANA

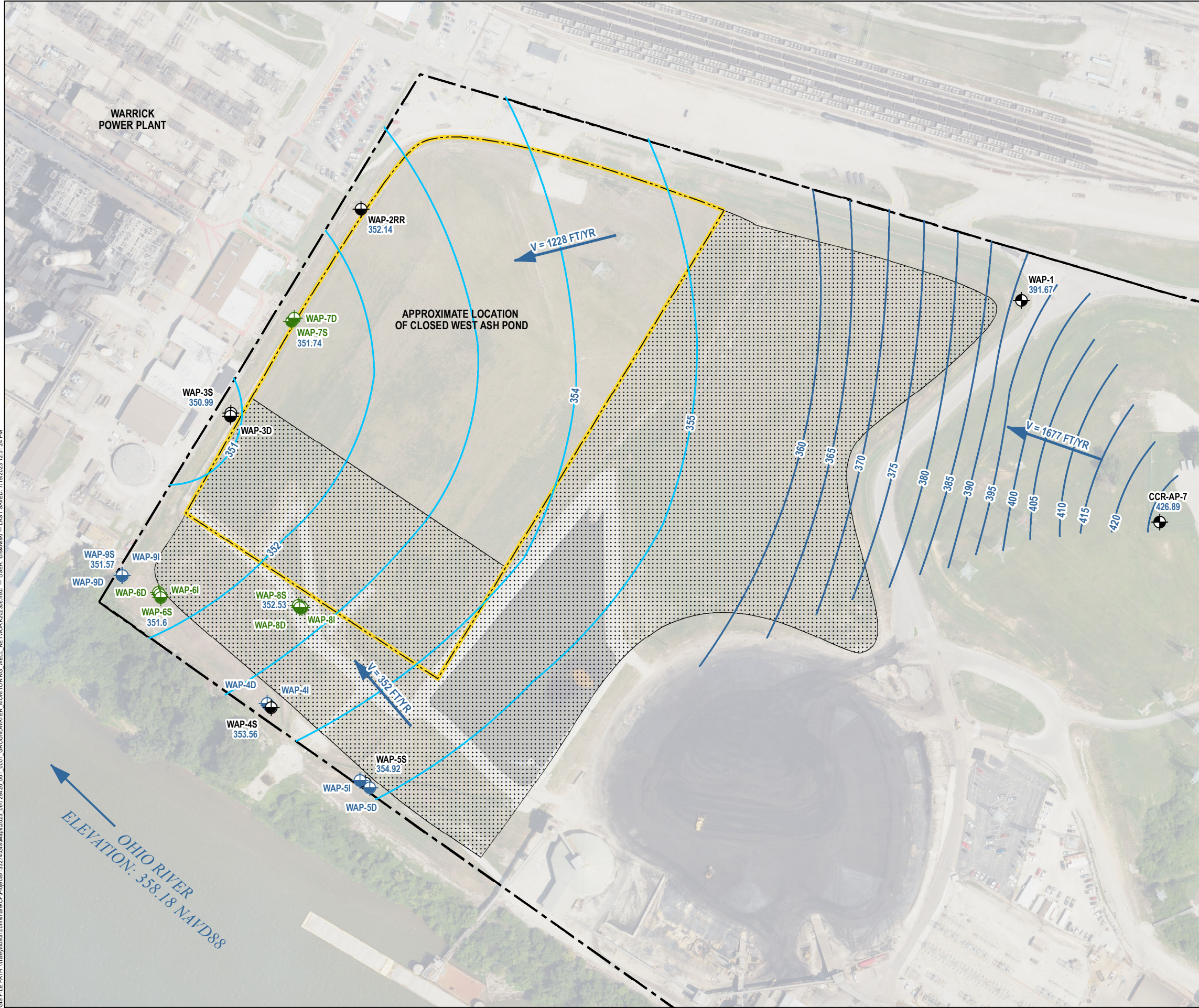
SHALLOW GROUNDWATER CONFIGURATION - 10 NOVEMBER 2022

JULY 2023

FIGURE 2

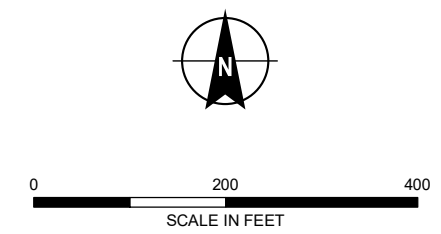
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- LEGEND**
- UPGRADIENT CCR COMPLIANCE MONITORING WELL
 - DOWNGRADIENT CCR COMPLIANCE MONITORING WELL
 - DOWNGRADIENT WELL TO ASSESS NATURE AND EXTENT OF APPENDIX IV SSLs
 - DOWNGRADIENT WELL TO COMPLY WITH IDEM APPROVAL OF CLOSURE/POST CLOSURE PLAN
 - APPROXIMATE DIRECTION OF GROUNDWATER FLOW
 - GROUNDWATER ELEVATION CONTOUR (1 ft)
 - GROUNDWATER ELEVATION CONTOUR (5 ft)
 - APPROXIMATE LIMITS OF WEST ASH POND FINAL COVER
 - APPROXIMATE LIMITS OF WEST ASH POND CCR REMOVAL
 - APPROXIMATE F.B. CULLEY PROPERTY BOUNDARY

- NOTES**
1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE
 2. NAVD88 = NORTH AMERICAN VERTICAL DATUM OF 1988
 3. OHIO RIVER STAGE MEASURED ON 15 MAY 2023 BY USGS GAUGE 03303502 AT RIVERPORT AT OWENSBORO, KY (INSTALLED ON 17 OCTOBER, 2022) APPROXIMATELY 13 MILES UPSTREAM FROM F.B. CULLEY GENERATING STATION
 4. $V = \frac{K(I)}{n_e}$
 V = GROUNDWATER VELOCITY (FT/YR)
 K = HYDRAULIC CONDUCTIVITY (FT/YR)
 I = GROUNDWATER GRADIENT
 n_e = EFFECTIVE POROSITY
 5. AERIAL IMAGERY SOURCE: HEXAGON 21 JULY 2022



HALEY ALDRICH F.B. CULLEY GENERATING STATION
WEST ASH POND
NEWBURGH, INDIANA

SHALLOW GROUNDWATER
CONFIGURATION - 15 MAY 2023

APPENDIX A
Summary of Statistical Analysis



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

TECHNICAL MEMORANDUM

29 September 2022
File No. 129420

TO: Southern Indiana Gas and Electric Company

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

SUBJECT: Statistical Evaluation of the May 2022 Semi-annual Groundwater Assessment
Monitoring Data
Southern Indiana Gas and Electric Company
West 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 2022 semi-annual assessment monitoring event for the F.B. Culley Generating Station West Ash Pond (WAP). Haley & Aldrich, Inc. (Haley & Aldrich) completed this statistical evaluation on July 1, 2022 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 the *Statistical Data Analysis Plan for the F.B. Culley Generating Station* (Haley & Aldrich, 2017). A summary of how applicable performance standards described in § 257.93 (g) were achieved include:

- § 257.93 (g) (1) – Data set distribution was evaluated using basic summary statistics, graphical methods, and the Shapiro-Wilks Test of Normality. Parametric methods were used where normal distributions were identified. Those data sets were evaluated for outliers using box plots, Dixon's test and Rosner's test. Outlier identification and data set distribution groups are summarized in Table I.
- § 257.93 (g) (2) – Not applicable
- § 257.93 (g) (3) – Not applicable

- § 257.93 (g) (4) – Levels of confidence and additional supporting information for the use of tolerance intervals and prediction limits are included in Table I.
- § 257.93 (g) (5) – Non-detect values were accounted for by simple substitution, where the detection limit replaced the non-detect result. Non-detect values are identified and summarized in Table I.
- § 257.93 (g) (6) – Time series plots for groundwater monitoring wells included in this evaluation were reviewed to identify potential seasonal variability. No additional statistics to account for seasonality of spatial variability were necessary.

Data from the groundwater sampling event for the downgradient monitoring wells (WAP-2RR, WAP-3S, WAP-4S, and WAP-5S) were compared to the GWPS established from the background dataset for the upgradient monitoring wells (WAP-1 and CCR-AP-7) for detected Appendix IV constituents. GWPS for each of the Appendix IV constituents have been set equal to the highest value of the maximum contaminant level (MCL), regional screening level (RSL), or background concentration. The results of the assessment monitoring statistical evaluation are discussed below and provided in Table I.

Development of GWPS

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 background concentration for the GWPS on 14 January 2019. As noted above, the GWPS for each of the Appendix IV constituents have been set equal to the highest value of the MCL, RSL, or background concentration. 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

An interwell statistical evaluation was used to identify SSLs. An interwell evaluation compares the most recent values from downgradient compliance wells to a background dataset composed of upgradient well data. Because the CCR unit is in assessment monitoring, no statistical evaluations were conducted on Appendix III (detection monitoring) constituents.

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

These statistical evaluations were conducted using the background dataset for all detected Appendix IV constituents using parametric TL. If an Appendix IV constituent concentration from the May 2022 sampling event was greater than the GWPS, the lower confidence limit (LCL) for the downgradient well constituent was used to evaluate if an SSL was indicated. The LCL is the lower end of the confidence interval range, which is an estimated concentration range intended to contain the true mean or median of the population from which the sample is drawn. The confidence interval range is designed to locate the true population mean or median with a high degree of statistical confidence, or conversely, with a low probability of error.

The UTLs were calculated from the background well dataset using Chemstat software after testing for outlier sample results that would warrant removal from the dataset based on likely error in sampling or measurement. Both visual and statistical outlier tests for the background data were performed using Chemstat and United States Environmental Protection Agency's ProUCL 5.1 software, and a visual inspection of the data was performed using box plots and distribution plots for the downgradient sample data. No sample data were identified as outliers that warranted removal from the dataset.

BACKGROUND DISTRIBUTIONS

The groundwater analytical results for each sampling event from the background sample locations were combined to calculate the UTL for each detected Appendix IV constituent. The variability and distribution of the pooled dataset was evaluated to determine the method for UTL calculation. The background concentrations were periodically updated per the document *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, March 2009* (Unified Guidance).

TREND SUMMARY

Mann Kendall trend analyses were performed on data sets of sufficient sample size. Results of the trend analysis are included on Table I. In summary, 84 percent of trends analyzed are identified as stable or decreasing. Increasing trends for lithium were identified at WAP-3S and for molybdenum at WAP-2RR and WAP-4S.

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 2022 assessment monitoring event were compared to their respective GWPS (Table I). A sample concentration greater than the GWPS is considered to represent an SSL. Based on previous compliance sampling events and statistical evaluations, interwell comparisons were utilized for all downgradient wells and constituents. Based on this statistical evaluation, lithium and molybdenum remain as the only SSLs greater than a GWPS downgradient of the WAP. This information is provided for Southern Indiana Gas and Electric Company's records. Because no new constituents were identified as SSLs greater than the GWPS, additional notification pertaining to the statistical analysis of the May 2022 groundwater analytical results are not required at this time.

Attachments:

Table I – Summary of Assessment Monitoring Statistical Evaluation – May 2022

TABLE

TABLE I
SUMMARY OF ASSESSMENT MONITORING STATISTICAL EVALUATION - MAY 2022
 F.B. CULLEY GENERATING STATION
 WEST ASH POND
 PREPARED: 1 JULY 2022

Location Id	Frequency of Detection	Percent Non-Detects	Range of Non-Detect	Mean	50th Percentile (Median)	95th Percentile	Maximum Detect	Variance	Standard Deviation	Coefficient of Variance	CCR MCL/RSL	Report Result Unit	Detection Exceedances (Y/N)	Number of Detection Exceedances	Number of Non-Detection Exceedances	Outlier Presence	Outlier Removed	Trend	Distribution Group	Distribution Well*	May 2022 Concentration (mg/L)	Detect?	LCL (mg/L)	Upper Tolerance Limit (mg/L)	Upper Tolerance Limit (ug/L)	SSI	GWPS (Higher of MCL/RSL or Upper Tolerance Limit) mg/L	HE	SSL
CCR Appendix-IV: Antimony, Total (mg/L)																													
CCR-AP-7	3/20	85%	0.002-0.002	0.00178	0.002	0.002	0.00083	3.00E-07	5.48E-04	0.3075	0.006	mg/L	N	0	0	No	No	NA		Non-parametric				0.002	2.0		0.006		
WAP-1	8/16	50%	0.002-0.002	0.00156	0.002	0.002	0.002	3.58E-07	5.99E-04	0.384	0.006	mg/L	N	0	0	No	No	Stable											
WAP-2RR	0/16	100%	0.002-0.002	0.002	0.002	0.002		0.00E+00	0.00E+00	0	0.006	mg/L	N	0	0	NA	NA	NA	NA		0.002	N				N		N	No
WAP-3S	1/16	94%	0.002-0.002	0.0019	0.002	0.002	0.00043	1.54E-07	3.93E-04	0.2064	0.006	mg/L	N	0	0	No	No	NA	NA		0.002	N				N		N	No
WAP-4S	0/16	100%	0.002-0.02	0.00313	0.002	0.0065		2.03E-05	4.50E-03	1.44	0.006	mg/L	N	0	1	NA	NA	NA	NA		0.002	N				N		N	No
WAP-5S	0/16	100%	0.002-0.0021	0.00201	0.002	0.002025		6.25E-10	2.50E-05	0.01246	0.006	mg/L	N	0	0	NA	NA	NA	NA		0.002	N				N		N	No
CCR Appendix-IV: Arsenic, Total (mg/L)																													
CCR-AP-7	20/20	0%	-	0.00627	0.006	0.01515	0.018	1.83E-05	4.28E-03	0.683	0.01	mg/L	Y	2	0	Yes	No	Stable		Non-parametric				0.025	25.0		0.025		
WAP-1	16/16	0%	-	0.00872	0.00695	0.022	0.025	4.11E-05	6.41E-03	0.7357	0.01	mg/L	Y	4	0	Yes	No	Stable											
WAP-2RR	15/16	6%	0.001-0.001	0.00166	0.000935	0.006375	0.0078	4.37E-06	2.09E-03	1.261	0.01	mg/L	N	0	0	Yes	No	Stable			0.00100	Y				N		N	No
WAP-3S	16/16	0%	-	0.00236	0.00225	0.00445	0.0064	2.21E-06	1.49E-03	0.6301	0.01	mg/L	N	0	0	Yes	No	Decrease			0.00031	Y				N		N	No
WAP-4S	16/16	0%	-	0.00412	0.00425	0.0061	0.0061	1.85E-06	1.36E-03	0.33	0.01	mg/L	N	0	0	Yes	No	Stable			0.0061	Y				N		N	No
WAP-5S	14/16	12%	0.001-0.001	0.00103	0.00073	0.002325	0.0042	8.20E-07	9.05E-04	0.8805	0.01	mg/L	N	0	0	Yes	No	Stable			0.00039	Y				N		N	No
CCR Appendix-IV: Barium, Total (mg/L)																													
CCR-AP-7	20/20	0%	-	0.132	0.13	0.19	0.19	8.42E-04	2.90E-02	0.2199	2	mg/L	N	0	0	No	No	Stable		Non-parametric				0.990	990.0		2.000		
WAP-1	16/16	0%	-	0.534	0.475	0.9075	0.99	3.43E-02	1.85E-01	0.3467	2	mg/L	N	0	0	Yes	No	Stable											
WAP-2RR	16/16	0%	-	0.0416	0.041	0.068	0.086	2.79E-04	1.67E-02	0.4015	2	mg/L	N	0	0	No	No	Stable			0.025	Y				N		N	No
WAP-3S	16/16	0%	-	0.184	0.185	0.36	0.39	1.51E-02	1.23E-01	0.6669	2	mg/L	N	0	0	No	No	Stable			0.030	Y				N		N	No
WAP-4S	16/16	0%	-	0.056	0.056	0.06725	0.08	6.63E-05	8.14E-03	0.1454	2	mg/L	N	0	0	Yes	No	Decrease			0.057	Y				N		N	No
WAP-5S	16/16	0%	-	0.0533	0.053	0.0615	0.063	2.94E-05	5.43E-03	0.1018	2	mg/L	N	0	0	No	No	Decrease			0.048	Y				N		N	No
CCR Appendix-IV: Beryllium, Total (mg/L)																													
CCR-AP-7	7/20	65%	0.001-0.001	0.000737	0.001	0.001	0.00075	1.52E-07	3.89E-04	0.5281	0.004	mg/L	N	0	0	No	No	Stable		Non-parametric				0.001	1.2		0.004		
WAP-1	13/16	19%	0.001-0.001	0.000576	0.000455	0.00105	0.0012	1.42E-07	3.77E-04	0.6551	0.004	mg/L	N	0	0	No	No	Stable											
WAP-2RR	2/16	88%	0.001-0.001	0.000913	0.001	0.001	0.00037	5.69E-08	2.39E-04	0.2613	0.004	mg/L	N	0	0	No	No	NA			0.001	N				N		N	No
WAP-3S	1/16	94%	0.001-0.001	0.000942	0.001	0.001	0.000068	5.43E-08	2.33E-04	0.2474	0.004	mg/L	N	0	0	No	No	NA	NA		0.001	N				N		N	No
WAP-4S	0/16	100%	0.001-0.001	0.001	0.001	0.001		0.00E+00	0.00E+00	0	0.004	mg/L	N	0	0	NA	NA	NA	NA		0.001	N				N		N	No
WAP-5S	1/16	94%	0.001-0.001	0.000943	0.001	0.001	0.000084	5.24E-08	2.29E-04	0.2429	0.004	mg/L	N	0	0	No	No	NA	NA		0.001	N				N		N	No
CCR Appendix-IV: Cadmium, Total (mg/L)																													
CCR-AP-7	2/20	90%	0.001-0.001	0.000923	0.001	0.001	0.00032	5.70E-08	2.39E-04	0.2587	0.005	mg/L	N	0	0	No	No	NA		Non-parametric				0.0010	1.0		0.005		
WAP-1	7/16	56%	0.001-0.001	0.000688	0.001	0.001	0.00049	1.42E-07	3.76E-04	0.5471	0.005	mg/L	N	0	0	No	No	Stable											
WAP-2RR	14/16	12%	0.001-0.001	0.00053	0.00044	0.001	0.001	5.96E-08	2.44E-04	0.4606	0.005	mg/L	N	0	0	No	No	Stable			0.0005	Y				N		N	No
WAP-3S	9/16	44%	0.001-0.001	0.000559	0.00027	0.001	0.0003	1.62E-07	4.02E-04	0.7194	0.005	mg/L	N	0	0	No	No	Stable			0.0010	N				N		N	No
WAP-4S	2/16	88%	0.001-0.001	0.000902	0.001	0.001	0.00025	7.21E-08	2.68E-04	0.2976	0.005	mg/L	N	0	0	No	No	NA			0.001	N				N		N	No
WAP-5S	1/16	94%	0.001-0.001	0.000947	0.001	0.001	0.00015	4.52E-08	2.13E-04	0.2244	0.005	mg/L	N	0	0	No	No	NA			0.001	N				N		N	No
CCR Appendix-IV: Chromium, Total (mg/L)																													
CCR-AP-7	11/20	45%	0.0014-0.002	0.00342	0.002	0.00684	0.019	1.60E-05	4.00E-03	1.168	0.1	mg/L	N	0	0	Yes	No	Stable		Non-parametric				0.046	46.0		0.100		
WAP-1	15/16	6%	0.0022-0.0022	0.0151	0.0115	0.04375	0.046	1.71E-04	1.31E-02	0.8657	0.1	mg/L	N	0	0	No	No	Stable											
WAP-2RR	2/16	88%	0.002-0.002	0.00236	0.002	0.0045	0.0057	1.07E-06	1.03E-03	0.4371	0.1	mg/L	N	0	0	No	No	Stable			0.0020	N				N		N	No
WAP-3S	3/16	81%	0.002-0.0029	0.00209	0.002	0.002925	0.003	1.92E-07	4.38E-04	0.2099	0.1	mg/L	N	0	0	Yes	No	Stable			0.0020	N				N		N	No
WAP-4S	1/16	94%	0.002-0.002	0.00193	0.002	0.002	0.00088	7.84E-08	2.80E-04	0.1451	0.1	mg/L	N	0	0	No	No	NA			0.002	N				N		N	No
WAP-5S	0/16	100%	0.002-0.002	0.002	0.002	0.002		0.00E+00	0.00E+00	0	0.1	mg/L	N	0	0	No	No	NA			0.002	N				N		N	No
CCR Appendix-IV: Cobalt, Total (mg/L)																													
CCR-AP-7	19/20	5%	0.0005-0.0005	0.00244	0.00105	0.00588	0.015	1.18E-05	3.44E-03	1.41	0.006	mg/L	Y	1	0	Yes	No	Decrease		Non-parametric				0.019	19.0		0.019		
WAP-1	16/16	0%	-	0.00625	0.0047	0.0175	0.019	2.89E-05	5.38E-03	0.8603	0.006	mg/L	Y	5	0	No	No	Stable											
WAP-2RR	16/16	0%	-	0.00267	0.0022	0.007075	0.0097	5.15E-06	2.27E-03	0.8502	0.006	mg/L	Y	2	0	Yes	No	Stable			0.00220	Y				N		N	No
WAP-3S	16/16	0%	-	0.000881	0.0007	0.00165	0.0018	2.31E-07	4.80E-04	0.5449	0.006	mg/L	N	0	0	No	No	Stable			0.00069	Y				N		N	No
WAP-4S	16/16	0%	-	0.00231	0.00185	0.004275	0.0093	3.61E-06	1.90E-03	0.8214	0.006	mg/L	Y	1	0	Yes	No	Stable			0.002	Y				N		N	No
WAP-5S	16/16	0%	-	0.00748	0.00785	0.009325	0.0094	3.56E-06	1.89E-03	0.2523	0.006	mg/L	Y	15	0	Yes	No	Stable			0.006	Y				N		N	No
CCR Appendix-III: Fluoride (mg/L)																													
CCR-AP-7	20/20	0%	-	1.24	1.16	2.31	2.88	7.38E-02	5.43E-01	1.7524	4	mg/L	N	0	0	Yes	No	Increase		Normal				2.000	2000.0		4.000		
WAP-1	16/16	0%	-	1.648	1.12	5.8	8	8.48E-01	1.84E+00	4.472	4	mg/L	N	0	0	Yes	No	Stable											
WAP-2RR	16/16	0%	-	0.912	0.92	1.512	1.6	2.63E-02	3.24E-01	1.4256	4	mg/L	N	0	0	No	No	Increase											

Location Id	Frequency of Detection	Percent Non-Detects	Range of Non-Detect	Mean	50th Percentile (Median)	95th Percentile	Maximum Detect	Variance	Standard Deviation	Coefficient of Variance	CCR MCL/RSL	Report Result Unit	Detection Exceedances (Y/N)	Number of Detection Exceedances	Number of Non-Detection Exceedances	Outlier Presence	Outlier Removed	Trend	Distribution Group	Distribution Well*	May 2022 Concentration (mg/L)	Detect?	LCL (mg/L)	Upper Tolerance Limit (mg/L)	Upper Tolerance Limit (ug/L)	SSI	GWPS (Higher of MCL/RSL or Upper Tolerance Limit) mg/L	HE	SSL	
CCR Appendix-IV: Lithium, Total (mg/L)																														
CCR-AP-7	20/20	0%	-	0.0141	0.011	0.02095	0.039	5.07E-05	7.12E-03	0.5051	0.04	mg/L	N	0	0	Yes	No	Decrease		Non-parametric				0.039	39.0		0.040			
WAP-1	16/16	0%	-	0.0132	0.0105	0.02475	0.027	3.62E-05	6.02E-03	0.4566	0.04	mg/L	N	0	0	No	No	Stable												
WAP-2RR	16/16	0%	-	0.0329	0.0305	0.05925	0.06	2.25E-04	1.50E-02	0.4549	0.04	mg/L	Y	5	0	No	No	Decrease			0.0260	Y					N		No	
WAP-3S	16/16	0%	-	0.0657	0.068	0.09025	0.1	4.01E-04	2.00E-02	0.3048	0.04	mg/L	Y	13	0	No	No	Increase			0.0790	Y					Y		Yes	
WAP-4S	10/16	38%	0.005-0.005	0.00779	0.005	0.01625	0.017	2.40E-05	4.89E-03	0.6285	0.04	mg/L	N	0	0	No	No	Decrease			0.001	Y					N		No	
WAP-5S	5/16	69%	0.005-0.05	0.00816	0.005	0.0245	0.016	1.33E-04	1.16E-02	1.415	0.04	mg/L	N	0	1	Yes	No	Stable			0.001	Y					N		No	
CCR Appendix-IV: Mercury, Total (mg/L)																														
CCR-AP-7	0/17	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0.00E+00	0.00E+00	0	0.002	mg/L	N	0	0	NA	NA	NA	NA	Non-parametric				0.0002	0.2		0.002			
WAP-1	0/14	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0.00E+00	0.00E+00	0	0.002	mg/L	N	0	0	NA	NA	NA	NA											
WAP-2RR	0/14	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0.00E+00	0.00E+00	0	0.002	mg/L	N	0	0	NA	NA	NA	NA		0.0002	N					N		No	
WAP-3S	0/14	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0.00E+00	0.00E+00	0	0.002	mg/L	N	0	0	NA	NA	NA	NA		0.0002	N					N		No	
WAP-4S	0/15	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0.00E+00	0.00E+00	0	0.002	mg/L	N	0	0	NA	NA	NA	NA		0.000	N					N		No	
WAP-5S	0/14	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0.00E+00	0.00E+00	0	0.002	mg/L	N	0	0	NA	NA	NA	NA		0.000	N					N		No	
CCR Appendix-IV: Molybdenum, Total (mg/L)																														
CCR-AP-7	20/20	0%	-	0.00393	0.00255	0.00901	0.013	1.02E-05	3.19E-03	0.8126	0.1	mg/L	N	0	0	No	No	Decrease		Non-parametric				0.013	13.0		0.100			
WAP-1	15/16	6%	0.005-0.005	0.00167	0.00125	0.00335	0.0028	1.28E-06	1.13E-03	0.6758	0.1	mg/L	N	0	0	Yes	No	Stable												
WAP-2RR	16/16	0%	-	0.0566	0.046	0.115	0.16	1.34E-03	3.66E-02	0.6464	0.1	mg/L	Y	2	0	Yes	No	Increase			0.0820	Y					Y		No	
WAP-3S	16/16	0%	-	0.896	0.935	1.275	1.5	9.13E-02	3.02E-01	0.3374	0.1	mg/L	Y	16	0	No	No	Stable			0.7500	Y					Y		Yes	
WAP-4S	16/16	0%	-	0.407	0.43	0.5025	0.51	1.47E-02	1.21E-01	0.2978	0.1	mg/L	Y	15	0	Yes	No	Increase			0.510	Y					Y		Yes	
WAP-5S	14/16	12%	0.005-0.005	0.0264	0.000835	0.1037	0.4	9.93E-03	9.96E-02	3.778	0.1	mg/L	Y	1	0	Yes	No	Stable			0.005	N					N		No	
CCR Appendix-IV: Radium-226 & 228 (pCi/L)																														
CCR-AP-7	15/20	25%	5-5	1.93	1.065	5	1.72	3.42E+00	1.85E+00	0.958	5	pCi/L	N	0	0	No	No	Stable	NA	Non-parametric				5.00			5.000			
WAP-1	13/16	19%	5-5	2.17	1.42	5	4.74	2.79E+00	1.67E+00	0.7708	5	pCi/L	N	0	0	No	No	Stable	NA											
WAP-2RR	9/16	44%	5-5	2.67	1.84	5	2.15	4.68E+00	2.16E+00	0.8089	5	pCi/L	N	0	0	No	No	Stable			5.000	N					N		No	
WAP-3S	12/16	25%	5-5	2.01	1.085	5	1.38	3.22E+00	1.80E+00	0.8947	5	pCi/L	N	0	0	No	No	Stable			0.639	Y					N		No	
WAP-4S	7/16	56%	5-5	3.1	5	5	1.21	4.97E+00	2.23E+00	0.7183	5	pCi/L	N	0	0	No	No	Stable			0.547	Y					N		No	
WAP-5S	7/16	56%	5-5	3.05	5	5	0.789	5.23E+00	2.29E+00	0.7496	5	pCi/L	N	0	0	No	No	Stable			0.789	Y					N		No	
CCR Appendix-IV: Selenium, Total (mg/L)																														
CCR-AP-7	3/18	83%	0.005-0.005	0.00438	0.005	0.005	0.0028	2.23E-06	1.49E-03	0.3404	0.05	mg/L	N	0	0	Yes	NA	NA	NA	Non-parametric				0.005	5.0		0.050			
WAP-1	2/14	86%	0.005-0.005	0.00454	0.005	0.005	0.0018	1.35E-06	1.16E-03	0.2558	0.05	mg/L	N	0	0	No	NA	NA	NA											
WAP-2RR	3/14	79%	0.005-0.005	0.00469	0.005	0.005	0.0049	6.37E-07	7.98E-04	0.1703	0.05	mg/L	N	0	0	No	No	NA			0.0024	Y					N		No	
WAP-3S	0/14	100%	0.005-0.005	0.005	0.005	0.005		1.25E-20	1.12E-10	2.237E-08	0.05	mg/L	N	0	0	NA	NA	NA	NA		0.005	N					N		No	
WAP-4S	0/14	100%	0.005-0.005	0.005	0.005	0.005		1.25E-20	1.12E-10	2.237E-08	0.05	mg/L	N	0	0	NA	NA	NA	NA		0.005	N					N		No	
WAP-5S	0/14	100%	0.005-0.005	0.005	0.005	0.005		1.25E-20	1.12E-10	2.237E-08	0.05	mg/L	N	0	0	NA	NA	NA	NA		0.005	N					N		No	
CCR Appendix-IV: Thallium, Total (mg/L)																														
CCR-AP-7	4/20	80%	0.001-0.001	0.000842	0.001	0.001	0.00061	1.16E-07	3.41E-04	0.4045	0.002	mg/L	N	0	0	No	No	NA	NA	Non-parametric				0.001	1.0		0.002			
WAP-1	11/16	31%	0.001-0.001	0.000523	0.00044	0.001	0.00063	1.31E-07	3.62E-04	0.6933	0.002	mg/L	N	0	0	No	No	Stable	NA											
WAP-2RR	10/16	38%	0.001-0.001	0.000493	0.000285	0.001	0.00047	1.74E-07	4.17E-04	0.846	0.002	mg/L	N	0	0	No	No	Stable			0.001	N					N		No	
WAP-3S	0/16	100%	0.001-0.001	0.001	0.001	0.001		0.00E+00	0.00E+00	0	0.002	mg/L	N	0	0	NA	NA	NA	NA		0.001	N					N		No	
WAP-4S	0/16	100%	0.001-0.001	0.001	0.001	0.001		0.00E+00	0.00E+00	0	0.002	mg/L	N	0	0	NA	NA	NA	NA		0.001	N					N		No	
WAP-5S	2/16	88%	0.001-0.001	0.000896	0.001	0.001	0.00022	8.18E-08	2.86E-04	0.3192	0.002	mg/L	N	0	0	No	No	NA			0.001	N					N		No	

Notes:
CCR - Coal Combustion Residuals
WAP - West Ash Pond
IDEM - Indiana Department of Environmental Management
MCL - maximum concentration limit
mg/L - milligrams per liter
NA - not applicable
RSL - Regional Screening Level
SSI - Statistically Significant Increase
SSL - Statistically Significant Level



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TECHNICAL MEMORANDUM

22 March 2023
File No. 129420-032

TO: Southern Indiana Gas and Electric Company

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

SUBJECT: Statistical Evaluation of the November 2022 Semi-annual Groundwater Assessment
Monitoring Data
Southern Indiana Gas and Electric Company
West 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 2022 semi-annual assessment monitoring event for the F.B. Culley Generating Station West Ash Pond (WAP). 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 the *Statistical Data Analysis Plan for the F.B. Culley Generating Station* (Haley & Aldrich, 2017). A summary of how applicable performance standards described in § 257.93 (g) were achieved include:

- § 257.93 (g) (1) – Data set distribution was evaluated using basic summary statistics, graphical methods, and the Shapiro-Wilks Test of Normality. Parametric methods were used where normal distributions were identified. Those data sets were evaluated for outliers using box plots, Dixon's test and Rosner's test. Outlier identification and data set distribution groups are summarized in Attachment A.
- § 257.93 (g) (2) – Not applicable
- § 257.93 (g) (3) – Not applicable

- § 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.
- § 257.93 (g) (5) – Non-detect values were accounted for by simple substitution, where the detection limit replaced the non-detect result. Non-detect values are identified and summarized in Attachment A.
- § 257.93 (g) (6) – Time series plots for groundwater monitoring wells included in this evaluation were reviewed to identify potential seasonal variability. No additional statistics to account for seasonality of spatial variability were necessary.

Data from the groundwater sampling event for the downgradient monitoring wells (WAP-2RR, WAP-3S, WAP-4S, and WAP-5S) were compared to the GWPS established from the background dataset for the upgradient monitoring wells (WAP-1 and CCR-AP-7) for detected Appendix IV constituents. GWPS for each of the Appendix IV constituents have been set equal to the highest value of the maximum contaminant level (MCL), regional screening level (RSL), or background concentration. The results of the assessment monitoring statistical evaluation are discussed below and provided in Attachment A.

Development of GWPS

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 background concentration for the GWPS on 14 January 2019. As noted above, the GWPS for each of the Appendix IV constituents have been set equal to the highest value of the MCL, RSL, or background concentration. 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

An interwell statistical evaluation was used to identify SSLs. An interwell evaluation compares the most recent values from downgradient compliance wells to a background dataset composed of upgradient well data. Because the CCR unit is in assessment monitoring, no statistical evaluations were conducted on Appendix III (detection monitoring) constituents.

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

These statistical evaluations were conducted using the background dataset for all detected Appendix IV constituents using parametric TL. If an Appendix IV constituent concentration from the May 2022 sampling event was greater than the GWPS, the lower confidence limit (LCL) for the downgradient well constituent was used to evaluate if an SSL was indicated. The LCL is the lower end of the confidence interval range, which is an estimated concentration range intended to contain the true mean or median of the population from which the sample is drawn. The confidence interval range is designed to locate the true population mean or median with a high degree of statistical confidence, or conversely, with a low probability of error.

The UTLs were calculated from the background well dataset using Chemstat software after testing for outlier sample results that would warrant removal from the dataset based on likely error in sampling or measurement. Both visual and statistical outlier tests for the background data were performed using Chemstat and United States Environmental Protection Agency's ProUCL 5.1 software, and a visual inspection of the data was performed using box plots and distribution plots for the downgradient sample data. No sample data were identified as outliers that warranted removal from the dataset.

BACKGROUND DISTRIBUTIONS

The groundwater analytical results for each sampling event from the background sample locations were combined to calculate the UTL for each detected Appendix IV constituent. The variability and distribution of the pooled dataset was evaluated to determine the method for UTL calculation. The background concentrations were periodically updated per the document *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, March 2009* (Unified Guidance).

TREND SUMMARY

Mann Kendall trend analyses were performed on data sets of sufficient sample size. Results of the trend analysis are included as Attachment A. In summary, 91 percent of trends analyzed for wells are identified as stable or decreasing, excluding background wells and wells with no trend. Increasing trends were identified for lithium at WAP-3S and for molybdenum at WAP-2RR and WAP-4S.

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 2022 assessment monitoring event were compared to their respective GWPS (Attachment A). A sample concentration greater than the GWPS is considered to represent an SSL. Based on previous compliance sampling events and statistical evaluations, interwell comparisons were utilized for all downgradient wells and constituents. Based on this statistical evaluation, lithium, and molybdenum remain as the only Appendix IV constituent SSLs greater than a GWPS downgradient of the WAP. This information is provided for Southern Indiana Gas and Electric Company's records. Because no new constituents were identified as SSLs greater than the GWPS, additional notification

pertaining to the statistical analysis of the November 2022 groundwater analytical results are not required at this time.

Table 1 – Statistically Significant Level Summary – Appendix IV Constituents

Location ID	Trend	Constituent	Newly Identified SSL	Concentration (mg/L)
WAP-3S	Increase	Lithium	No	0.088
WAP-3S	Stable	Molybdenum	No	0.54
WAP-4S	Increase		No	0.46

Attachments:

Attachment A – Assessment Monitoring Statistical Analysis Summary – November 2022

ATTACHMENT A
Assessment Monitoring Statistical Analysis Summary –
November 2022

Attachment A
F.B. Culley Generating Station - West Ash Pond
Assessment Monitoring Statistical Analysis Summary - November 2022
Prepared: March 22, 2023

Location Id	EPA	Frequency of Detection	Percent Non-Detects	Range of Non-Detect	Mean	50th Percentile (Median)	95th Percentile	Maximum Detect	Variance	Standard Deviation	Coefficient of Variance	CCR MCL/RSL	Report Result Unit	Detection Exceedances (Y/N)	Number of Detection Exceedances	Number of Non-Detection Exceedances	Outlier Presence	Outlier Removed	Trend	Distribution Well*	November 2022 Concentration (mg/L)	Detect?	Lower Confidence Level (LCL) (mg/L)	Upper Tolerance Limit (mg/L)	SSI	Interwell Analysis			
																										GWPS (Higher of MCL/RSL or Upper Tolerance Limit) mg/L	Exceedance above Background at Individual Well	SSL	
CCR Appendix-IV: Antimony, Total (mg/L)																													
CCR-AP-7	Background	3/21	86%	0.002-0.002	0.00179	0.002	0.002	0.00083	2.871E-07	0.0005358	0.2992	0.006	mg/L	N	0	0	No	No	NA	Non-parametric				0.002			0.006		
WAP-1	Background	9/17	47%	0.002-0.002	0.00152	0.002	0.002	0.002	3.663E-07	0.0006053	0.3991	0.006	mg/L	N	0	0	No	No	Stable										
WAP-2RR	Compliance	0/17	100%	0.002-0.002	0.002	0.002	0.002		0	0	0	0.006	mg/L	N	0	0	NA	NA	NA		0.002	N			N		N	No	
WAP-3S	Compliance	1/17	94%	0.002-0.002	0.00191	0.002	0.002	0.00043	0.00000145	0.0003808	0.1996	0.006	mg/L	N	0	0	No	No	NA		0.002	N			N		N	No	
WAP-4S	Compliance	0/17	100%	0.002-0.02	0.00306	0.002	0.0056		0.00001906	0.004366	1.427	0.006	mg/L	N	0	1	NA	NA	NA		0.002	N			N		N	No	
WAP-5S	Compliance	0/17	100%	0.002-0.0021	0.00201	0.002	0.00202		5.882E-10	0.00002425	0.01209	0.006	mg/L	N	0	0	NA	NA	NA		0.002	N			N		N	No	
CCR Appendix-IV: Arsenic, Total (mg/L)																													
CCR-AP-7	Background	21/21	0%	-	0.00616	0.0058	0.015	0.018	0.00001765	0.004201	0.6821	0.01	mg/L	Y	2	0	Yes	No	Stable	Non-parametric				0.025			0.025		
WAP-1	Background	17/17	0%	-	0.00844	0.0066	0.0218	0.025	0.00003993	0.006319	0.7492	0.01	mg/L	Y	4	0	Yes	No	Stable										
WAP-2RR	Compliance	16/17	6%	0.001-0.001	0.00163	0.00095	0.00628	0.0078	0.000004111	0.002028	1.243	0.01	mg/L	N	0	0	Yes	No	Stable		0.00120	Y			N		N	No	
WAP-3S	Compliance	16/17	6%	0.005-0.005	0.00251	0.0023	0.00528	0.0064	0.000002482	0.001575	0.6266	0.01	mg/L	N	0	0	No	No	Decrease		0.00500	N			N		N	No	
WAP-4S	Compliance	17/17	0%	-	0.00458	0.0043	0.00728	0.012	0.000005386	0.002321	0.5063	0.01	mg/L	Y	1	0	Yes	No	Increase		0.012	Y			N		N	No	
WAP-5S	Compliance	14/17	18%	0.001-0.005	0.00126	0.00076	0.00436	0.0042	0.000001696	0.001302	1.032	0.01	mg/L	N	0	0	Yes	No	Stable		0.005	N			N		N	No	
CCR Appendix-IV: Barium, Total (mg/L)																													
CCR-AP-7	Background	21/21	0%	-	0.13	0.13	0.19	0.19	0.0008478	0.02912	0.2233	2	mg/L	N	0	0	No	No	Stable	Non-parametric				0.990			2.000		
WAP-1	Background	17/17	0%	-	0.527	0.46	0.902	0.99	0.03308	0.1819	0.3451	2	mg/L	N	0	0	Yes	No	Stable										
WAP-2RR	Compliance	17/17	0%	-	0.0411	0.041	0.0668	0.086	0.0002662	0.01632	0.3968	2	mg/L	N	0	0	No	No	Stable		0.033	Y			N		N	No	
WAP-3S	Compliance	17/17	0%	-	0.176	0.17	0.358	0.39	0.01547	0.1244	0.7075	2	mg/L	N	0	0	No	No	Decrease		0.037	Y			N		N	No	
WAP-4S	Compliance	17/17	0%	-	0.0558	0.056	0.0664	0.08	0.00006307	0.007941	0.1424	2	mg/L	N	0	0	Yes	No	Decrease		0.052	Y			N		N	No	
WAP-5S	Compliance	17/17	0%	-	0.0524	0.053	0.0614	0.063	0.00004324	0.006576	0.1256	2	mg/L	N	0	0	No	No	Decrease		0.037	Y			N		N	No	
CCR Appendix-IV: Beryllium, Total (mg/L)																													
CCR-AP-7	Background	7/21	67%	0.001-0.001	0.00075	0.001	0.001	0.00075	1.473E-07	0.0003838	0.5118	0.004	mg/L	N	0	0	No	No	Stable	Non-parametric				0.001			0.004		
WAP-1	Background	13/17	24%	0.001-0.001	0.000601	0.00049	0.00104	0.0012	1.439E-07	0.0003794	0.6316	0.004	mg/L	N	0	0	No	No	Stable										
WAP-2RR	Compliance	2/17	88%	0.001-0.001	0.000918	0.001	0.001	0.00037	5.38E-08	0.000232	0.2526	0.004	mg/L	N	0	0	No	No	NA		0.001	N			N		N	No	
WAP-3S	Compliance	1/17	94%	0.001-0.001	0.000945	0.001	0.001	0.000068	5.11E-08	0.000226	0.2392	0.004	mg/L	N	0	0	No	No	NA		0.001	N			N		N	No	
WAP-4S	Compliance	0/17	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA		0.001	N			N		N	No	
WAP-5S	Compliance	1/17	94%	0.001-0.001	0.000946	0.001	0.001	0.000084	4.936E-08	0.0002222	0.2348	0.004	mg/L	N	0	0	No	No	NA		0.001	N			N		N	No	
CCR Appendix-IV: Cadmium, Total (mg/L)																													
CCR-AP-7	Background	2/21	90%	0.001-0.001	0.000927	0.001	0.001	0.00032	5.445E-08	0.0002334	0.2518	0.005	mg/L	N	0	0	No	No	NA	Non-parametric				0.0010			0.005		
WAP-1	Background	7/17	59%	0.001-0.001	0.000706	0.001	0.001	0.00049	1.384E-07	0.000372	0.527	0.005	mg/L	N	0	0	No	No	Stable										
WAP-2RR	Compliance	15/17	12%	0.001-0.001	0.000516	0.00044	0.001	0.001	5.899E-08	0.0002429	0.4703	0.005	mg/L	N	0	0	No	No	Stable		0.0003	Y			N		N	No	
WAP-3S	Compliance	9/17	47%	0.001-0.001	0.000585	0.0003	0.001	0.0003	1.633E-07	0.000404	0.6903	0.005	mg/L	N	0	0	No	No	Stable		0.0010	N			N		N	No	
WAP-4S	Compliance	2/17	88%	0.001-0.001	0.000908	0.001	0.001	0.00025	6.812E-08	0.000261	0.2876	0.005	mg/L	N	0	0	No	No	NA		0.001	N			N		N	No	
WAP-5S	Compliance	1/17	94%	0.001-0.001	0.00095	0.001	0.001	0.00015	4.25E-08	0.0002062	0.217	0.005	mg/L	N	0	0	No	No	NA		0.001	N			N		N	No	
CCR Appendix-IV: Chromium, Total (mg/L)																													
CCR-AP-7	Background	11/21	48%	0.0014-0.005	0.0035	0.002	0.0062	0.019	0.00001529	0.0003911	1.118	0.1	mg/L	N	0	0	Yes	No	Stable	Non-parametric				0.046			0.100		
WAP-1	Background	16/17	6%	0.0022-0.0022	0.0144	0.011	0.0436	0.046	0.0001685	0.01298	0.8986	0.1	mg/L	N	0	0	No	No	Stable										
WAP-2RR	Compliance	2/17	88%	0.002-0.005	0.00252	0.002	0.00514	0.0057	0.000001409	0.001187	0.4715	0.1	mg/L	N	0	0	No	No	NA		0.0050	N			N		N	No	
WAP-3S	Compliance	3/17	82%	0.002-0.005	0.00226	0.002	0.0034	0.003	6.792E-07	0.0008241	0.3649	0.1	mg/L	N	0	0	Yes	No	NA		0.0050	N			N		N	No	
WAP-4S	Compliance	1/17	94%	0.002-0.005	0.00211	0.002	0.0026	0.00088	6.279E-07	0.0007924	0.3754	0.1	mg/L	N	0	0	No	No	NA		0.005	N			N		N	No	
WAP-5S	Compliance	0/17	100%	0.002-0.005	0.00218	0.002	0.0026		5.294E-07	0.0007276	0.3343	0.1	mg/L	N	0	0	No	No	NA		0.005	N			N		N	No	
CCR Appendix-IV: Cobalt, Total (mg/L)																													
CCR-AP-7	Background	20/21	5%	0.0005-0.0005	0.00236	0.001	0.0054	0.015	0.00001134	0.0003368	1.425	0.006	mg/L	Y	1	0	Yes	No	Decrease	Non-parametric				0.019			0.019		
WAP-1	Background	17/17	0%	-	0.00595	0.0047	0.0174	0.019	0.00002869	0.0003356	0.9002	0.006	mg/L	Y	5	0	No	No	Stable										
WAP-2RR	Compliance	17/17	0%	-	0.00264	0.0022	0.0069	0.0097	0.000004841	0.0022	0.8329	0.006	mg/L	Y	2	0	Yes	No	Stable		0.00220	Y			N		N	No	
WAP-3S	Compliance	17/17	0%	-	0.000879	0.00071	0.00164	0.0018	2.163E-07	0.000465	0.5288	0.006	mg/L	N	0	0	No	No	Stable		0.00085	Y			N		N	No	
WAP-4S	Compliance	17/17	0%	-	0.00228	0.0018	0.00394	0.0093	0.000003404	0.001845	0.8105	0.006	mg/L	Y	1	0	Yes	No	Stable		0.002	Y			N		N	No	
WAP-5S	Compliance	17/17	0%	-	0.00741	0.0078	0.00932	0.0094	0.000003436	0.001854	0.2503	0.006	mg/L	Y	16	0	Yes	No	Decrease		0.006	Y			N		N	No	
CCR Appendix-III: Fluoride (mg/L)																													
CCR-AP-7	Background	21/21	0%	-	1.272	1.16	2.28	2.88	0.07552	0.5496	1.728	4	mg/L	N	0	0	Yes	No	Increase	Normal				2.000			4.000		
WAP-1	Background	17/17	0%	-	1.832	1.12	5.92	8	0.9384	1.9376	4.228	4	mg/L	N	0	0	Yes	No	Stable										
WAP-2RR	Compliance	17/17	0%	-	0.94	0.92	1.496	1.6	0.028128	0.33544	1.4292	4	mg/L	N	0	0	No	No	Increase		0.350	Y							

Attachment A
 F.B. Culley Generating Station - West Ash Pond
 Assessment Monitoring Statistical Analysis Summary - November 2022
 Prepared: March 22, 2023

CCR Appendix-IV: Lithium, Total (mg/L)																													
CCR-AP-7	Background	21/21	0%	-	0.0138	0.011	0.02	0.039	0.0005051	0.007107	0.5168	0.04	mg/L	N	0	0	Yes	No	Decrease	Non-parametric				0.039		0.040			
WAP-1	Background	17/17	0%	-	0.0127	0.01	0.0246	0.027	0.00003816	0.006177	0.4873	0.04	mg/L	N	0	0	No	No	Stable										
WAP-2RR	Compliance	17/17	0%	-	0.0321	0.029	0.0592	0.06	0.0002236	0.01495	0.4664	0.04	mg/L	Y	5	0	No	No	Decrease		0.0180	Y			N		N	No	
WAP-3S	Compliance	17/17	0%	-	0.067	0.07	0.0904	0.1	0.0004051	0.02013	0.3004	0.04	mg/L	Y	14	0	No	No	Increase		0.0880	Y			Y		Y	Yes	
WAP-4S	Compliance	10/17	41%	0.005-0.008	0.0078	0.005	0.0162	0.017	0.00002246	0.004739	0.6076	0.04	mg/L	N	0	0	No	No	Decrease		0.008	N			N		N	No	
WAP-5S	Compliance	5/17	71%	0.005-0.05	0.00815	0.005	0.0228	0.016	0.0001251	0.01118	1.372	0.04	mg/L	N	0	1	Yes	No	NA		0.008	N			N		N	No	
CCR Appendix-IV: Mercury, Total (mg/L)																													
CCR-AP-7	Background	0/18	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA	Non-parametric				0.0002		0.002			
WAP-1	Background	0/15	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA										
WAP-2RR	Compliance	0/15	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		0.0002	N			N		N	No	
WAP-3S	Compliance	0/15	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		0.0002	N			N		N	No	
WAP-4S	Compliance	0/16	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		0.000	N			N		N	No	
WAP-5S	Compliance	0/15	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		0.000	N			N		N	No	
CCR Appendix-IV: Molybdenum, Total (mg/L)																													
CCR-AP-7	Background	21/21	0%	-	0.0038	0.0025	0.0088	0.013	0.00009967	0.003157	0.8298	0.1	mg/L	N	0	0	No	No	Decrease	Non-parametric				0.013		0.100			
WAP-1	Background	15/17	12%	0.005-0.005	0.00187	0.0013	0.005	0.0028	0.00001848	0.001359	0.728	0.1	mg/L	N	0	0	Yes	No	Stable										
WAP-2RR	Compliance	17/17	0%	-	0.0574	0.05	0.112	0.16	0.001264	0.03555	0.6199	0.1	mg/L	Y	2	0	Yes	No	Increase		0.0700	Y			Y		N	No	
WAP-3S	Compliance	17/17	0%	-	0.875	0.92	1.26	1.5	0.09304	0.305	0.3487	0.1	mg/L	Y	17	0	No	No	Stable		0.5400	Y			Y		Y	Yes	
WAP-4S	Compliance	17/17	0%	-	0.41	0.43	0.502	0.51	0.01394	0.118	0.2879	0.1	mg/L	Y	16	0	Yes	No	Increase		0.460	Y			Y		Y	Yes	
WAP-5S	Compliance	14/17	18%	0.005-0.005	0.0251	0.00086	0.084	0.4	0.009335	0.09662	3.847	0.1	mg/L	Y	1	0	Yes	No	Stable		0.005	N			N		N	No	
CCR Appendix-IV: Radium-226 & 228 (pCi/L)																													
CCR-AP-7	Background	15/21	29%	5-5	2.08	1.11	5	1.72	3.701	1.924	0.9259	5	pCi/L	N	0	0	No	No	Stable	Non-parametric				5.00		5.000			
WAP-1	Background	14/17	18%	5-5	2.17	1.48	5	4.74	2.617	1.618	0.7453	5	pCi/L	N	0	0	No	No	Stable										
WAP-2RR	Compliance	10/17	41%	5-5	2.58	1.53	5	2.15	4.545	2.132	0.8275	5	pCi/L	N	0	0	No	No	Stable		1.020	Y			N		N	No	
WAP-3S	Compliance	13/17	24%	5-5	1.96	1.09	5	1.38	3.055	1.748	0.8917	5	pCi/L	N	0	0	No	No	Stable		1.230	Y			N		N	No	
WAP-4S	Compliance	8/17	53%	5-5	2.98	5	5	1.21	4.897	2.213	0.7417	5	pCi/L	N	0	0	No	No	Stable		1.080	Y			N		N	No	
WAP-5S	Compliance	8/17	53%	5-5	2.96	5	5	1.49	5.043	2.246	0.7591	5	pCi/L	N	0	0	No	No	Stable		1.490	Y			N		N	No	
CCR Appendix-IV: Selenium, Total (mg/L)																													
CCR-AP-7	Background	3/19	84%	0.005-0.005	0.00441	0.005	0.005	0.0028	0.00002122	0.001457	0.3299	0.05	mg/L	N	0	0	Yes	NA	NA	Non-parametric				0.005		0.050			
WAP-1	Background	2/15	87%	0.005-0.005	0.00457	0.005	0.005	0.0018	0.00001268	0.001126	0.2462	0.05	mg/L	N	0	0	No	NA	NA										
WAP-2RR	Compliance	4/15	73%	0.005-0.005	0.00477	0.005	0.00527	0.0059	6.895E-07	0.0008304	0.1742	0.05	mg/L	N	0	0	No	No	NA		0.0059	Y			Y		N	No	
WAP-3S	Compliance	0/15	100%	0.005-0.005	0.005	0.005	0.005		7.744E-21	8.8E-11	1.76E-08	0.05	mg/L	N	0	0	NA	NA	NA		0.005	N			N		N	No	
WAP-4S	Compliance	0/15	100%	0.005-0.005	0.005	0.005	0.005		7.744E-21	8.8E-11	1.76E-08	0.05	mg/L	N	0	0	NA	NA	NA		0.005	N			N		N	No	
WAP-5S	Compliance	0/15	100%	0.005-0.005	0.005	0.005	0.005		7.744E-21	8.8E-11	1.76E-08	0.05	mg/L	N	0	0	NA	NA	NA		0.005	N			N		N	No	
CCR Appendix-IV: Thallium, Total (mg/L)																													
CCR-AP-7	Background	4/21	81%	0.001-0.001	0.00085	0.001	0.001	0.00061	1.114E-07	0.0003338	0.3928	0.002	mg/L	N	0	0	No	No	NA	Non-parametric				0.001		0.002			
WAP-1	Background	11/17	35%	0.001-0.001	0.000551	0.00047	0.001	0.00063	1.365E-07	0.0003695	0.6709	0.002	mg/L	N	0	0	No	No	Stable										
WAP-2RR	Compliance	10/17	41%	0.001-0.001	0.000523	0.0003	0.001	0.00047	1.784E-07	0.0004224	0.8074	0.002	mg/L	N	0	0	No	No	Stable		0.001	N			N		N	No	
WAP-3S	Compliance	0/17	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		0.001	N			N		N	No	
WAP-4S	Compliance	0/17	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		0.001	N			N		N	No	
WAP-5S	Compliance	2/17	88%	0.001-0.001	0.000902	0.001	0.001	0.00022	7.728E-08	0.000278	0.3083	0.002	mg/L	N	0	0	No	No	NA		0.001	N			N		N	No	

Notes:
 CCR - Coal Combustion Residuals
 WAP - West Ash Pond
 IDEM - Indiana Department of Environmental Management
 MCL - maximum concentration limit
 mg/L - milligrams per liter
 NA - not applicable
 RSL - Regional Screening Level
 SSI - Statistically Significant Increase
 SSL - Statistically Significant Level

APPENDIX B
Field Forms

VECTREN - FB CULLEY STATION
WEST ASH POND
 CCR Groundwater Sampling Event
 Gauging Date:
 November 10, 2022
 ATC Project No. 170LF01280

WELL ID	DATE	TIME	DTW FROM TOC
West Ash Pond Wells			
CCR-AP-7	11/10/2022	15:30	16.84
WAP-1	11/10/2022	12:20	15.23
WAP-2RR	11/10/2022	14:55	38.77
WAP-3S	11/10/2022	15:01	36.22
WAP-3D	11/10/2022	15:06	36.18
WAP-4S	11/10/2022	14:00	30.40
WAP-4I	11/10/2022	14:07	30.50
WAP-4D	11/10/2022	14:12	32.82
WAP-5S	11/10/2022	14:23	29.18
WAP-5I	11/10/2022	14:30	29.18
WAP-5D	11/10/2022	14:36	29.75
WAP-6S	11/10/2022	12:30	33.67
WAP-6I	11/10/2022	12:36	34.60
WAP-6D	11/10/2022	12:42	38.50
WAP-7S	11/10/2022	14:45	36.80
WAP-7D	11/10/2022	14:49	36.42
WAP-8S	11/10/2022	13:32	31.58
WAP-8I	11/10/2022	13:40	31.75
WAP-8D	11/10/2022	13:47	33.93
WAP-9S	11/10/2022	13:00	40.76
WAP-9I	11/10/2022	13:07	42.33
WAP-9D	11/10/2022	13:15	46.10
Temporary Piezometers			
PZ-1	11/10/2022	12:03	16.84
PZ-2	11/10/2022	12:14	7.67
PZ-3	11/10/2022	11:34	11.40
PZ-4	11/10/2022	11:38	17.68
PZ-5	11/10/2022	12:10	3.96
PZ-6	11/10/2022	11:44	15.35
PZ-7	11/10/2022	11:47	16.07
PZ-8	11/10/2022	11:53	14.77
PZ-9	11/10/2022	11:56	18.30
PZ-10	11/10/2022	12:00	8.81

NOTES

DTW= Depth to Water

TOC= Top of Casing

Low-Flow Test Report:

Test Date / Time: 11/22/2022 10:36:07 AM

Project: Culley West Ash Pond (19)

Operator Name: Hayley Torres

Location Name: CCR-AP-7 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 20 ft Total Depth: 30 ft Initial Depth to Water: 18.32 ft	Pump Type: Dedicated Tubing Type: LDPE Pump Intake From TOC: 25 ft Estimated Total Volume Pumped: 1050 ml Flow Cell Volume: 130 ml Final Flow Rate: 50 ml/min Final Draw Down: 0.21 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/22/2022 10:36 AM	00:00	7.16 pH	13.42 °C	670.05 µS/cm	0.66 mg/L	45.68 NTU	-82.1 mV	558.39 cm	50.00 ml/min
11/22/2022 10:39 AM	03:00	7.14 pH	13.52 °C	669.59 µS/cm	0.77 mg/L	31.23 NTU	-76.2 mV	558.39 cm	50.00 ml/min
11/22/2022 10:42 AM	06:00	7.15 pH	13.33 °C	663.42 µS/cm	0.89 mg/L	29.69 NTU	-76.0 mV	558.39 cm	50.00 ml/min
11/22/2022 10:45 AM	09:00	7.13 pH	13.71 °C	664.99 µS/cm	0.74 mg/L	52.69 NTU	-68.3 mV	558.39 cm	50.00 ml/min
11/22/2022 10:48 AM	12:00	7.12 pH	13.99 °C	664.61 µS/cm	0.63 mg/L	41.70 NTU	-58.8 mV	558.39 cm	50.00 ml/min
11/22/2022 10:51 AM	15:00	7.10 pH	14.28 °C	663.44 µS/cm	0.70 mg/L	17.19 NTU	-52.2 mV	558.39 cm	50.00 ml/min
11/22/2022 10:54 AM	18:00	7.10 pH	14.53 °C	662.48 µS/cm	0.65 mg/L	11.87 NTU	-52.5 mV	558.39 cm	50.00 ml/min
11/22/2022 10:57 AM	21:00	7.10 pH	14.34 °C	661.93 µS/cm	0.68 mg/L	18.26 NTU	-48.0 mV	558.39 cm	50.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 11/21/2022 3:53:06 PM

Project: Culley West Ash Pond (18)

Operator Name: Hayley Torres

Location Name: WAP-2RR Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 46 ft Total Depth: 56 ft Initial Depth to Water: 38.37 ft	Pump Type: Dedicated Tubing Type: LDPE Pump Intake From TOC: 51 ft Estimated Total Volume Pumped: 2700 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/21/2022 3:53 PM	00:00	6.71 pH	16.19 °C	702.55 µS/cm	1.19 mg/L	0.00 NTU	71.0 mV	1,169.5 cm	100.00 ml/min
11/21/2022 3:56 PM	03:00	6.61 pH	16.19 °C	689.46 µS/cm	0.50 mg/L	3.06 NTU	84.1 mV	1,169.5 cm	100.00 ml/min
11/21/2022 3:59 PM	06:00	6.57 pH	16.24 °C	689.16 µS/cm	0.35 mg/L	4.76 NTU	88.8 mV	1,169.5 cm	100.00 ml/min
11/21/2022 4:02 PM	09:00	6.56 pH	16.23 °C	686.67 µS/cm	0.28 mg/L	6.44 NTU	91.6 mV	1,169.5 cm	100.00 ml/min
11/21/2022 4:05 PM	12:00	6.54 pH	16.19 °C	686.52 µS/cm	0.25 mg/L	6.27 NTU	93.6 mV	1,169.5 cm	100.00 ml/min
11/21/2022 4:08 PM	15:00	6.54 pH	16.16 °C	687.65 µS/cm	0.23 mg/L	6.60 NTU	94.8 mV	1,169.5 cm	100.00 ml/min
11/21/2022 4:11 PM	18:00	6.53 pH	16.22 °C	688.59 µS/cm	0.22 mg/L	4.08 NTU	95.5 mV	1,169.5 cm	100.00 ml/min
11/21/2022 4:14 PM	21:00	6.53 pH	16.18 °C	687.98 µS/cm	0.21 mg/L	4.05 NTU	96.0 mV	1,169.5 cm	100.00 ml/min
11/21/2022 4:17 PM	24:00	6.52 pH	16.16 °C	688.41 µS/cm	0.20 mg/L	4.17 NTU	96.5 mV	1,169.5 cm	100.00 ml/min
11/21/2022 4:20 PM	27:00	6.52 pH	16.13 °C	688.26 µS/cm	0.19 mg/L	1.29 NTU	96.6 mV	1,169.5 cm	100.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 11/21/2022 10:52:08 AM

Project: Culley West Ash Pond (14)

Operator Name: Hayley Torres

Location Name: WAP-3D Well Diameter: 2 in Screen Length: 10 ft Top of Screen: 72.5 ft Total Depth: 82.5 ft Initial Depth to Water: 35.78 ft	Pump Type: Dedicated Tubing Type: LDPE Pump Intake From TOC: 77.5 ft Estimated Total Volume Pumped: 2745 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: -0.09 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/21/2022 10:52 AM	00:00	7.95 pH	10.17 °C	576.59 µS/cm	8.99 mg/L	0.57 NTU	58.7 mV	1,090.6 cm	100.00 ml/min
11/21/2022 10:55 AM	03:00	7.65 pH	9.99 °C	577.52 µS/cm	6.05 mg/L	0.00 NTU	46.4 mV	1,090.6 cm	100.00 ml/min
11/21/2022 10:58 AM	06:00	7.50 pH	10.19 °C	620.68 µS/cm	4.74 mg/L	0.00 NTU	-25.2 mV	1,090.6 cm	100.00 ml/min
11/21/2022 11:01 AM	09:27	7.45 pH	10.92 °C	712.36 µS/cm	3.30 mg/L	0.00 NTU	-10.0 mV	1,090.6 cm	100.00 ml/min
11/21/2022 11:04 AM	12:27	7.44 pH	10.78 °C	751.61 µS/cm	2.76 mg/L	0.00 NTU	6.1 mV	1,090.6 cm	100.00 ml/min
11/21/2022 11:07 AM	15:27	7.45 pH	10.63 °C	773.86 µS/cm	2.45 mg/L	0.00 NTU	17.2 mV	1,090.6 cm	100.00 ml/min
11/21/2022 11:10 AM	18:27	7.45 pH	10.44 °C	793.05 µS/cm	2.22 mg/L	0.00 NTU	26.6 mV	1,090.6 cm	100.00 ml/min
11/21/2022 11:13 AM	21:27	7.45 pH	10.28 °C	807.80 µS/cm	2.10 mg/L	0.00 NTU	32.5 mV	1,090.6 cm	100.00 ml/min
11/21/2022 11:16 AM	24:27	7.46 pH	10.17 °C	810.87 µS/cm	2.10 mg/L	0.00 NTU	36.9 mV	1,090.6 cm	100.00 ml/min
11/21/2022 11:19 AM	27:27	7.46 pH	10.06 °C	816.01 µS/cm	2.00 mg/L	0.00 NTU	39.0 mV	1,090.6 cm	100.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 11/21/2022 12:03:39 PM

Project: Culley West Ash Pond (15)

Operator Name: Hayley Torres

Location Name: WAP-3S Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 60 ft Total Depth: 70 ft Initial Depth to Water: 36.06 ft	Pump Type: Dedicated Tubing Type: LDPE Pump Intake From TOC: 65 ft Estimated Total Volume Pumped: 3135 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: -0.27 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/21/2022 12:03 PM	00:00	7.63 pH	13.39 °C	501.62 µS/cm	7.64 mg/L	0.00 NTU	61.0 mV	1,099.1 cm	100.00 ml/min
11/21/2022 12:06 PM	03:00	7.50 pH	13.72 °C	553.95 µS/cm	4.29 mg/L	0.00 NTU	-1.7 mV	1,099.1 cm	100.00 ml/min
11/21/2022 12:09 PM	06:00	7.50 pH	14.38 °C	605.88 µS/cm	2.51 mg/L	6.58 NTU	11.2 mV	1,099.1 cm	100.00 ml/min
11/21/2022 12:12 PM	09:00	7.50 pH	14.83 °C	624.28 µS/cm	1.76 mg/L	10.36 NTU	14.2 mV	1,099.1 cm	100.00 ml/min
11/21/2022 12:15 PM	12:00	7.50 pH	15.09 °C	630.65 µS/cm	1.40 mg/L	6.35 NTU	12.8 mV	1,099.1 cm	100.00 ml/min
11/21/2022 12:18 PM	15:00	7.51 pH	15.29 °C	634.62 µS/cm	1.16 mg/L	5.27 NTU	10.5 mV	1,099.1 cm	100.00 ml/min
11/21/2022 12:21 PM	18:00	7.52 pH	15.19 °C	636.38 µS/cm	1.03 mg/L	5.65 NTU	7.3 mV	1,099.1 cm	100.00 ml/min
11/21/2022 12:24 PM	21:00	7.53 pH	15.51 °C	637.50 µS/cm	0.92 mg/L	2.60 NTU	3.7 mV	1,099.1 cm	100.00 ml/min
11/21/2022 12:27 PM	24:00	7.54 pH	15.51 °C	637.82 µS/cm	0.86 mg/L	0.55 NTU	0.8 mV	1,099.1 cm	100.00 ml/min
11/21/2022 12:31 PM	27:29	7.56 pH	15.19 °C	638.11 µS/cm	0.78 mg/L	0.35 NTU	-2.5 mV	1,099.1 cm	100.00 ml/min
11/21/2022 12:33 PM	30:09		15.22 °C	638.14 µS/cm	0.73 mg/L	0.00 NTU		1,099.1 cm	100.00 ml/min
11/21/2022 12:35 PM	31:21	7.59 pH	15.44 °C	638.88 µS/cm	0.72 mg/L	0.00 NTU	-7.5 mV	1,099.1 cm	100.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 11/17/2022 10:37:23 AM

Project: Culley West Ash Pond (6)

Operator Name: Hayley Torres

Location Name: WAP-4D Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 106 ft Total Depth: 116 ft Initial Depth to Water: 29.12 ft	Pump Type: Dedicated Tubing Type: LDPE Pump Intake From TOC: 111 ft Estimated Total Volume Pumped: 4500 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: 1.9 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/17/2022 10:37 AM	00:00	7.45 pH	14.47 °C	283.46 µS/cm	1.25 mg/L	0.00 NTU	-36.6 mV	887.58 cm	100.00 ml/min
11/17/2022 10:40 AM	03:00	7.43 pH	15.07 °C	287.08 µS/cm	0.70 mg/L	0.00 NTU	-71.3 mV	887.58 cm	100.00 ml/min
11/17/2022 10:43 AM	06:00	7.40 pH	15.06 °C	287.73 µS/cm	0.54 mg/L	0.00 NTU	-81.2 mV	887.58 cm	100.00 ml/min
11/17/2022 10:46 AM	09:00	7.38 pH	15.42 °C	287.88 µS/cm	0.47 mg/L	0.00 NTU	-86.0 mV	887.58 cm	100.00 ml/min
11/17/2022 10:49 AM	12:00	7.40 pH	14.89 °C	287.83 µS/cm	0.46 mg/L	0.00 NTU	-81.5 mV	887.58 cm	100.00 ml/min
11/17/2022 10:52 AM	15:00	7.40 pH	13.94 °C	286.79 µS/cm	0.50 mg/L	0.00 NTU	-74.8 mV	887.58 cm	100.00 ml/min
11/17/2022 10:55 AM	18:00	7.41 pH	12.99 °C	286.07 µS/cm	0.64 mg/L	0.00 NTU	-71.8 mV	887.58 cm	100.00 ml/min
11/17/2022 10:58 AM	21:00	7.42 pH	12.12 °C	285.58 µS/cm	0.82 mg/L	0.00 NTU	-67.3 mV	887.58 cm	100.00 ml/min
11/17/2022 11:01 AM	24:00	7.43 pH	11.13 °C	283.81 µS/cm	1.06 mg/L	0.00 NTU	-62.0 mV	887.58 cm	100.00 ml/min
11/17/2022 11:04 AM	27:00	7.44 pH	10.27 °C	284.89 µS/cm	1.10 mg/L	0.00 NTU	-60.5 mV	887.58 cm	100.00 ml/min
11/17/2022 11:07 AM	30:00	7.45 pH	9.48 °C	283.87 µS/cm	1.11 mg/L	0.00 NTU	-56.6 mV	887.58 cm	100.00 ml/min
11/17/2022 11:10 AM	33:00	7.46 pH	8.62 °C	283.28 µS/cm	1.14 mg/L	0.00 NTU	-57.7 mV	887.58 cm	100.00 ml/min
11/17/2022 11:13 AM	36:00	7.47 pH	7.94 °C	283.54 µS/cm	1.32 mg/L	0.00 NTU	-58.5 mV	887.58 cm	100.00 ml/min
11/17/2022 11:16 AM	39:00	7.47 pH	7.50 °C	283.03 µS/cm	1.48 mg/L	0.00 NTU	-58.6 mV	887.58 cm	100.00 ml/min
11/17/2022 11:19 AM	42:00	7.47 pH	7.22 °C	284.80 µS/cm	1.56 mg/L	0.00 NTU	-59.3 mV	887.58 cm	100.00 ml/min

11/17/2022 11:22 AM	45:00	7.46 pH	7.25 °C	285.68 µS/cm	1.57 mg/L	0.00 NTU	-60.0 mV	887.58 cm	100.00 ml/min
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Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 11/16/2022 3:47:55 PM

Project: Culley West Ash Pond (5)

Operator Name: Hayley Torres

Location Name: WAP-4I Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 65 ft Total Depth: 75 ft Initial Depth to Water: 29.36 ft	Pump Type: Dedicated Tubing Type: LDPE Pump Intake From TOC: 70 ft Estimated Total Volume Pumped: 3300 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: 0.2 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/16/2022 3:47 PM	00:00	7.28 pH	15.57 °C	241.88 µS/cm	2.27 mg/L	0.00 NTU	42.9 mV	894.89 cm	100.00 ml/min
11/16/2022 3:50 PM	03:00	7.21 pH	16.44 °C	266.20 µS/cm	0.83 mg/L	0.00 NTU	23.1 mV	894.89 cm	100.00 ml/min
11/16/2022 3:53 PM	06:00	7.17 pH	16.58 °C	268.58 µS/cm	0.53 mg/L	0.00 NTU	16.3 mV	894.89 cm	100.00 ml/min
11/16/2022 3:56 PM	09:00	7.15 pH	16.75 °C	269.15 µS/cm	0.42 mg/L	0.00 NTU	13.2 mV	894.89 cm	100.00 ml/min
11/16/2022 3:59 PM	12:00	7.12 pH	16.83 °C	269.21 µS/cm	0.36 mg/L	0.00 NTU	12.2 mV	894.89 cm	100.00 ml/min
11/16/2022 4:02 PM	15:00	7.11 pH	16.96 °C	269.10 µS/cm	0.33 mg/L	31.96 NTU	10.9 mV	894.89 cm	100.00 ml/min
11/16/2022 4:05 PM	18:00	7.09 pH	16.95 °C	269.21 µS/cm	0.30 mg/L	37.97 NTU	11.0 mV	894.89 cm	100.00 ml/min
11/16/2022 4:08 PM	21:00	7.09 pH	17.05 °C	269.15 µS/cm	0.28 mg/L	56.49 NTU	10.6 mV	894.89 cm	100.00 ml/min
11/16/2022 4:11 PM	24:00	7.07 pH	17.04 °C	269.16 µS/cm	0.27 mg/L	24.62 NTU	10.9 mV	894.89 cm	100.00 ml/min
11/16/2022 4:14 PM	27:00	7.07 pH	17.06 °C	268.99 µS/cm	0.26 mg/L	7.88 NTU	10.5 mV	894.89 cm	100.00 ml/min
11/16/2022 4:17 PM	30:00	7.06 pH	17.07 °C	268.89 µS/cm	0.26 mg/L	2.00 NTU	10.9 mV	894.89 cm	100.00 ml/min
11/16/2022 4:20 PM	33:00	7.06 pH	17.15 °C	269.13 µS/cm	0.25 mg/L	0.01 NTU	10.4 mV	894.89 cm	100.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 11/16/2022 2:02:41 PM

Project: Culley West Ash Pond (4)

Operator Name: Hayley Torres

Location Name: WAP-4S Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 35 ft Total Depth: 45 ft Initial Depth to Water: 29.88 ft	Pump Type: Dedicated Tubing Type: LDPE Pump Intake From TOC: 40 ft Estimated Total Volume Pumped: 6900 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/16/2022 2:02 PM	00:00	6.95 pH	15.66 °C	1,220.8 µS/cm	0.76 mg/L	1,575.3 NTU	0.0 mV	910.74 cm	100.00 ml/min
11/16/2022 2:05 PM	03:00	6.97 pH	15.62 °C	1,222.3 µS/cm	0.54 mg/L	1,605.0 NTU	-4.3 mV	910.74 cm	100.00 ml/min
11/16/2022 2:08 PM	06:00	6.97 pH	15.60 °C	1,220.5 µS/cm	0.43 mg/L	1,654.4 NTU	-6.7 mV	910.74 cm	100.00 ml/min
11/16/2022 2:11 PM	09:00	7.00 pH	15.57 °C	1,216.7 µS/cm	1.18 mg/L	900.12 NTU	-7.0 mV	910.74 cm	100.00 ml/min
11/16/2022 2:14 PM	12:00	6.99 pH	15.60 °C	1,210.2 µS/cm	0.35 mg/L	1,014.6 NTU	-12.1 mV	910.74 cm	100.00 ml/min
11/16/2022 2:17 PM	15:00	7.00 pH	15.69 °C	1,205.2 µS/cm	0.28 mg/L	945.71 NTU	-15.3 mV	910.74 cm	100.00 ml/min
11/16/2022 2:20 PM	18:00	7.01 pH	15.67 °C	1,196.7 µS/cm	0.24 mg/L	840.70 NTU	-18.9 mV	910.74 cm	100.00 ml/min
11/16/2022 2:23 PM	21:00	7.01 pH	15.63 °C	1,192.6 µS/cm	0.22 mg/L	681.33 NTU	-21.2 mV	910.74 cm	100.00 ml/min
11/16/2022 2:26 PM	24:00	7.02 pH	15.67 °C	1,187.8 µS/cm	0.20 mg/L	2,781.4 NTU	-22.9 mV	910.74 cm	100.00 ml/min
11/16/2022 2:29 PM	27:00	7.01 pH	15.77 °C	1,186.5 µS/cm	0.17 mg/L	756.08 NTU	-24.3 mV	910.74 cm	100.00 ml/min
11/16/2022 2:32 PM	30:00	7.01 pH	15.72 °C	1,189.2 µS/cm	0.15 mg/L	445.62 NTU	-25.7 mV	910.74 cm	100.00 ml/min
11/16/2022 2:35 PM	33:00	7.01 pH	15.71 °C	1,189.4 µS/cm	0.14 mg/L	97.97 NTU	-26.2 mV	910.74 cm	100.00 ml/min
11/16/2022 2:38 PM	36:00	7.01 pH	15.73 °C	1,192.5 µS/cm	0.14 mg/L	180.34 NTU	-26.8 mV	910.74 cm	100.00 ml/min
11/16/2022 2:41 PM	39:00	7.01 pH	15.70 °C	1,195.4 µS/cm	0.14 mg/L	83.66 NTU	-27.1 mV	910.74 cm	100.00 ml/min
11/16/2022 2:44 PM	42:00	7.01 pH	15.65 °C	1,204.5 µS/cm	0.13 mg/L	97.35 NTU	-26.7 mV	910.74 cm	100.00 ml/min

11/16/2022 2:47 PM	45:00	7.00 pH	15.65 °C	1,219.1 µS/cm	0.13 mg/L	83.94 NTU	-25.5 mV	910.74 cm	100.00 ml/min
11/16/2022 2:50 PM	48:00	6.99 pH	15.62 °C	1,226.0 µS/cm	0.12 mg/L	49.37 NTU	-24.5 mV	910.74 cm	100.00 ml/min
11/16/2022 2:53 PM	51:00	6.99 pH	15.58 °C	1,233.2 µS/cm	0.12 mg/L	42.38 NTU	-23.4 mV	910.74 cm	100.00 ml/min
11/16/2022 2:56 PM	54:00	6.99 pH	15.61 °C	1,232.4 µS/cm	0.12 mg/L	58.07 NTU	-23.4 mV	910.74 cm	100.00 ml/min
11/16/2022 2:59 PM	57:00	7.00 pH	15.53 °C	1,231.2 µS/cm	0.64 mg/L	33.30 NTU	-14.0 mV	910.74 cm	100.00 ml/min
11/16/2022 3:02 PM	01:00:00	6.99 pH	15.52 °C	1,228.4 µS/cm	0.12 mg/L	24.22 NTU	-19.4 mV	910.74 cm	100.00 ml/min
11/16/2022 3:05 PM	01:03:00	6.99 pH	15.55 °C	1,228.7 µS/cm	0.11 mg/L	29.21 NTU	-21.3 mV	910.74 cm	100.00 ml/min
11/16/2022 3:08 PM	01:06:00	6.99 pH	15.49 °C	1,227.9 µS/cm	0.12 mg/L	53.55 NTU	-21.8 mV	910.74 cm	100.00 ml/min
11/16/2022 3:11 PM	01:09:00	6.99 pH	15.48 °C	1,228.2 µS/cm	0.12 mg/L	37.13 NTU	-21.8 mV	910.74 cm	100.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 11/16/2022 12:35:20 PM

Project: Culley West Ash Pond (3)

Operator Name: Hayley Torres

Location Name: WAP-5D Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 103 ft Total Depth: 113 ft Initial Depth to Water: 29.06 ft	Pump Type: Dedicated Tubing Type: LDPE Pump Intake From TOC: 108 ft Estimated Total Volume Pumped: 3033.333 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: 0.06 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/16/2022 12:35 PM	00:00	7.08 pH	17.82 °C	276.96 µS/cm	0.99 mg/L	0.19 NTU	17.0 mV	885.75 cm	100.00 ml/min
11/16/2022 12:38 PM	03:00	7.09 pH	17.48 °C	276.89 µS/cm	0.67 mg/L	12.48 NTU	-33.0 mV	885.75 cm	100.00 ml/min
11/16/2022 12:41 PM	06:00	7.11 pH	17.54 °C	277.32 µS/cm	0.52 mg/L	7.68 NTU	-49.1 mV	885.75 cm	100.00 ml/min
11/16/2022 12:44 PM	09:00	7.11 pH	17.57 °C	277.26 µS/cm	0.43 mg/L	4.41 NTU	-55.2 mV	885.75 cm	100.00 ml/min
11/16/2022 12:47 PM	12:00	7.12 pH	17.38 °C	277.35 µS/cm	0.38 mg/L	3.48 NTU	-58.3 mV	885.75 cm	100.00 ml/min
11/16/2022 12:50 PM	15:00	7.11 pH	17.72 °C	277.41 µS/cm	0.33 mg/L	23.23 NTU	-61.9 mV	885.75 cm	100.00 ml/min
11/16/2022 12:53 PM	18:00	7.11 pH	17.85 °C	277.61 µS/cm	0.31 mg/L	3.41 NTU	-63.3 mV	885.75 cm	100.00 ml/min
11/16/2022 12:56 PM	21:20	7.12 pH	17.88 °C	277.56 µS/cm	0.29 mg/L	1.10 NTU	-65.9 mV	885.75 cm	100.00 ml/min
11/16/2022 12:59 PM	24:20	7.11 pH	18.01 °C	277.38 µS/cm	0.27 mg/L	3.00 NTU	-66.5 mV	885.75 cm	100.00 ml/min
11/16/2022 1:02 PM	27:20	7.12 pH	17.98 °C	277.15 µS/cm	0.26 mg/L	0.00 NTU	-69.0 mV	885.75 cm	100.00 ml/min
11/16/2022 1:05 PM	30:20	7.12 pH	17.69 °C	275.52 µS/cm	0.25 mg/L	3.64 NTU	-69.3 mV	885.75 cm	100.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 11/16/2022 11:25:25 AM

Project: Culley West Ash Pond (2)

Operator Name: Hayley Torres

Location Name: WAP-5I Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 65 ft Total Depth: 75 ft Initial Depth to Water: 28.62 ft	Pump Type: Dedicated Tubing Type: LDPE Pump Intake From TOC: 70 ft Estimated Total Volume Pumped: 2400 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: -0.17 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/16/2022 11:25 AM	00:00	7.08 pH	17.02 °C	264.74 µS/cm	1.18 mg/L	60.66 NTU	27.0 mV	872.34 cm	100.00 ml/min
11/16/2022 11:28 AM	03:00	7.09 pH	16.82 °C	267.72 µS/cm	0.67 mg/L	11.72 NTU	14.3 mV	872.34 cm	100.00 ml/min
11/16/2022 11:31 AM	06:00	7.06 pH	16.94 °C	268.81 µS/cm	0.47 mg/L	0.10 NTU	9.1 mV	872.34 cm	100.00 ml/min
11/16/2022 11:34 AM	09:00	7.06 pH	16.92 °C	269.30 µS/cm	0.37 mg/L	13.40 NTU	6.2 mV	872.34 cm	100.00 ml/min
11/16/2022 11:37 AM	12:00	7.05 pH	16.95 °C	269.53 µS/cm	0.32 mg/L	7.68 NTU	4.7 mV	872.34 cm	100.00 ml/min
11/16/2022 11:40 AM	15:00	7.03 pH	17.03 °C	269.68 µS/cm	0.29 mg/L	14.25 NTU	3.4 mV	872.34 cm	100.00 ml/min
11/16/2022 11:43 AM	18:00	7.04 pH	16.97 °C	269.69 µS/cm	0.27 mg/L	25.02 NTU	2.6 mV	872.34 cm	100.00 ml/min
11/16/2022 11:46 AM	21:00	7.02 pH	17.18 °C	269.89 µS/cm	0.26 mg/L	17.77 NTU	2.4 mV	872.34 cm	100.00 ml/min
11/16/2022 11:49 AM	24:00	7.03 pH	17.00 °C	269.56 µS/cm	0.25 mg/L	24.66 NTU	1.5 mV	872.34 cm	100.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 11/16/2022 10:18:41 AM

Project: Culley West Ash Pond

Operator Name: Hayley Torres

Location Name: WAP-5S Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 30 ft Total Depth: 40 ft Initial Depth to Water: 29.02 ft	Pump Type: Dedicated Tubing Type: LDPE Estimated Total Volume Pumped: 4200 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: -0.07 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/16/2022 10:18 AM	00:00	6.70 pH	14.65 °C	1,185.2 µS/cm	2.47 mg/L	0.00 NTU	44.5 mV	884.53 cm	100.00 ml/min
11/16/2022 10:21 AM	03:00	6.62 pH	14.73 °C	1,185.9 µS/cm	2.03 mg/L	0.00 NTU	45.2 mV	884.53 cm	100.00 ml/min
11/16/2022 10:24 AM	06:00	6.55 pH	15.60 °C	1,190.4 µS/cm	1.59 mg/L	0.00 NTU	44.9 mV	884.53 cm	100.00 ml/min
11/16/2022 10:27 AM	09:00	6.52 pH	15.76 °C	1,188.7 µS/cm	1.11 mg/L	0.00 NTU	43.3 mV	884.53 cm	100.00 ml/min
11/16/2022 10:30 AM	12:00	6.50 pH	15.75 °C	1,188.3 µS/cm	0.84 mg/L	0.00 NTU	41.5 mV	884.53 cm	100.00 ml/min
11/16/2022 10:33 AM	15:00	6.49 pH	16.01 °C	1,188.2 µS/cm	0.72 mg/L	0.00 NTU	41.8 mV	884.53 cm	100.00 ml/min
11/16/2022 10:36 AM	18:00	6.48 pH	16.07 °C	1,186.5 µS/cm	0.63 mg/L	0.00 NTU	40.3 mV	884.53 cm	100.00 ml/min
11/16/2022 10:39 AM	21:00	6.48 pH	16.01 °C	1,186.7 µS/cm	0.57 mg/L	0.00 NTU	39.6 mV	884.53 cm	100.00 ml/min
11/16/2022 10:42 AM	24:00	6.48 pH	16.18 °C	1,187.2 µS/cm	0.52 mg/L	0.00 NTU	39.2 mV	884.53 cm	100.00 ml/min
11/16/2022 10:45 AM	27:00	6.48 pH	16.40 °C	1,188.0 µS/cm	0.48 mg/L	0.00 NTU	38.7 mV	884.53 cm	100.00 ml/min
11/16/2022 10:48 AM	30:00	6.48 pH	16.34 °C	1,185.8 µS/cm	0.46 mg/L	0.00 NTU	37.6 mV	884.53 cm	100.00 ml/min
11/16/2022 10:51 AM	33:00	6.48 pH	16.59 °C	1,187.4 µS/cm	0.43 mg/L	0.00 NTU	37.0 mV	884.53 cm	100.00 ml/min
11/16/2022 10:54 AM	36:00	6.48 pH	16.35 °C	1,185.1 µS/cm	0.40 mg/L	0.00 NTU	37.2 mV	884.53 cm	100.00 ml/min
11/16/2022 10:57 AM	39:00	6.48 pH	16.45 °C	1,185.4 µS/cm	0.37 mg/L	0.00 NTU	36.4 mV	884.53 cm	100.00 ml/min
11/16/2022 11:00 AM	42:00	6.49 pH	16.51 °C	1,184.8 µS/cm	0.37 mg/L	0.00 NTU	35.9 mV	884.53 cm	100.00 ml/min

Samples

Sample ID:	Description:
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Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 11/17/2022 2:30:37 PM

Project: Culley West Ash Pond (9)

Operator Name: Hayley Torres

Location Name: WAP-6D Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 105.5 ft Total Depth: 115.5 ft Initial Depth to Water: 38.89 ft	Pump Type: Dedicated Tubing Type: LDPE Pump Intake From TOC: 110 ft Estimated Total Volume Pumped: 3000 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: -0.25 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/17/2022 2:30 PM	00:00	7.53 pH	13.70 °C	252.08 µS/cm	6.70 mg/L	0.00 NTU	83.4 mV	1,185.4 cm	100.00 ml/min
11/17/2022 2:33 PM	03:00	7.38 pH	13.17 °C	251.99 µS/cm	4.69 mg/L	0.00 NTU	84.1 mV	1,185.4 cm	100.00 ml/min
11/17/2022 2:36 PM	06:00	7.31 pH	13.02 °C	252.05 µS/cm	3.92 mg/L	0.00 NTU	82.7 mV	1,185.4 cm	100.00 ml/min
11/17/2022 2:39 PM	09:00	7.28 pH	13.12 °C	251.73 µS/cm	3.45 mg/L	0.00 NTU	47.4 mV	1,185.4 cm	100.00 ml/min
11/17/2022 2:42 PM	12:00	7.28 pH	13.23 °C	252.00 µS/cm	3.46 mg/L	0.00 NTU	6.2 mV	1,185.4 cm	100.00 ml/min
11/17/2022 2:45 PM	15:00	7.29 pH	13.23 °C	253.09 µS/cm	3.05 mg/L	0.00 NTU	-15.2 mV	1,185.4 cm	100.00 ml/min
11/17/2022 2:48 PM	18:00	7.30 pH	13.23 °C	254.01 µS/cm	2.51 mg/L	0.00 NTU	-28.9 mV	1,185.4 cm	100.00 ml/min
11/17/2022 2:51 PM	21:00	7.31 pH	13.34 °C	255.57 µS/cm	2.32 mg/L	0.00 NTU	-36.6 mV	1,185.4 cm	100.00 ml/min
11/17/2022 2:54 PM	24:00	7.32 pH	13.59 °C	257.20 µS/cm	2.22 mg/L	0.00 NTU	-39.9 mV	1,185.4 cm	100.00 ml/min
11/17/2022 2:57 PM	27:00	7.32 pH	13.62 °C	258.59 µS/cm	2.10 mg/L	0.00 NTU	-40.5 mV	1,185.4 cm	100.00 ml/min
11/17/2022 3:00 PM	30:00	7.33 pH	13.54 °C	258.97 µS/cm	2.05 mg/L	0.00 NTU	-44.6 mV	1,185.4 cm	100.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 11/17/2022 12:15:39 PM

Project: Culley West Ash Pond (7)

Operator Name: Hayley Torres

Location Name: WAP-6I Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 70 ft Total Depth: 80 ft Initial Depth to Water: 33.85 ft	Pump Type: Dedicated Tubing Type: LDPE Pump Intake From TOC: 75 ft Estimated Total Volume Pumped: 2400 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: 0.5 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/17/2022 12:15 PM	00:00	7.30 pH	12.58 °C	239.60 µS/cm	6.03 mg/L	0.00 NTU	71.3 mV	1,031.7 cm	100.00 ml/min
11/17/2022 12:18 PM	03:00	7.24 pH	12.28 °C	240.51 µS/cm	4.37 mg/L	0.00 NTU	60.2 mV	1,031.7 cm	100.00 ml/min
11/17/2022 12:21 PM	06:00	7.21 pH	12.55 °C	245.95 µS/cm	3.84 mg/L	0.00 NTU	50.2 mV	1,031.7 cm	100.00 ml/min
11/17/2022 12:24 PM	09:00	7.22 pH	12.63 °C	249.85 µS/cm	3.67 mg/L	0.00 NTU	44.3 mV	1,031.7 cm	100.00 ml/min
11/17/2022 12:27 PM	12:00	7.23 pH	12.12 °C	253.43 µS/cm	3.36 mg/L	0.00 NTU	39.3 mV	1,031.7 cm	100.00 ml/min
11/17/2022 12:30 PM	15:00	7.24 pH	11.53 °C	255.25 µS/cm	3.13 mg/L	0.00 NTU	35.2 mV	1,031.7 cm	100.00 ml/min
11/17/2022 12:33 PM	18:00	7.25 pH	11.17 °C	259.26 µS/cm	2.85 mg/L	0.00 NTU	31.6 mV	1,031.7 cm	100.00 ml/min
11/17/2022 12:36 PM	21:00	7.26 pH	11.26 °C	263.73 µS/cm	2.82 mg/L	0.00 NTU	28.6 mV	1,031.7 cm	100.00 ml/min
11/17/2022 12:39 PM	24:00	7.26 pH	11.29 °C	265.14 µS/cm	2.83 mg/L	0.00 NTU	27.6 mV	1,031.7 cm	100.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 11/17/2022 1:12:06 PM

Project: Culley West Ash Pond (8)

Operator Name: Hayley Torres

Location Name: WAP-6S Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 40 ft Total Depth: 50 ft Initial Depth to Water: 33.26 ft	Pump Type: Dedicated Tubing Type: LDPE Pump Intake From TOC: 45 ft Estimated Total Volume Pumped: 3600 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: -0.38 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/17/2022 1:12 PM	00:00	6.82 pH	13.85 °C	578.91 µS/cm	5.20 mg/L	19.99 NTU	81.0 mV	1,013.8 cm	100.00 ml/min
11/17/2022 1:15 PM	03:00	6.82 pH	13.76 °C	583.11 µS/cm	3.27 mg/L	45.23 NTU	46.5 mV	1,013.8 cm	100.00 ml/min
11/17/2022 1:18 PM	06:00	6.81 pH	15.19 °C	581.94 µS/cm	1.94 mg/L	53.29 NTU	30.2 mV	1,013.8 cm	100.00 ml/min
11/17/2022 1:21 PM	09:00	6.81 pH	15.08 °C	577.93 µS/cm	1.18 mg/L	51.62 NTU	21.2 mV	1,013.8 cm	100.00 ml/min
11/17/2022 1:24 PM	12:00	6.83 pH	15.11 °C	574.59 µS/cm	0.80 mg/L	46.55 NTU	16.1 mV	1,013.8 cm	100.00 ml/min
11/17/2022 1:27 PM	15:00	6.84 pH	14.95 °C	571.85 µS/cm	0.70 mg/L	42.96 NTU	13.7 mV	1,013.8 cm	100.00 ml/min
11/17/2022 1:30 PM	18:00	6.86 pH	15.03 °C	568.05 µS/cm	0.62 mg/L	26.20 NTU	11.8 mV	1,013.8 cm	100.00 ml/min
11/17/2022 1:33 PM	21:00	6.87 pH	14.97 °C	564.09 µS/cm	0.58 mg/L	21.73 NTU	11.0 mV	1,013.8 cm	100.00 ml/min
11/17/2022 1:36 PM	24:00	6.89 pH	15.13 °C	558.98 µS/cm	0.54 mg/L	18.36 NTU	9.3 mV	1,013.8 cm	100.00 ml/min
11/17/2022 1:39 PM	27:00	6.90 pH	14.98 °C	557.47 µS/cm	0.47 mg/L	10.47 NTU	8.2 mV	1,013.8 cm	100.00 ml/min
11/17/2022 1:42 PM	30:00	6.91 pH	15.09 °C	550.66 µS/cm	0.43 mg/L	8.84 NTU	6.7 mV	1,013.8 cm	100.00 ml/min
11/17/2022 1:45 PM	33:00	6.92 pH	15.17 °C	547.94 µS/cm	0.41 mg/L	12.02 NTU	5.9 mV	1,013.8 cm	100.00 ml/min
11/17/2022 1:48 PM	36:00	6.93 pH	15.01 °C	544.89 µS/cm	0.40 mg/L	4.24 NTU	4.9 mV	1,013.8 cm	100.00 ml/min

Samples

Sample ID:	Description:
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Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 11/28/2022 1:02:22 PM
Project: CULLEY WEST NOV 2022 GWM (3)
Operator Name: Mark Breting

Location Name: WAP-6S Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 40 ft Total Depth: 50 ft Initial Depth to Water: 34.03 ft	Pump Type: Dedicated pump Tubing Type: TLPE Pump Intake From TOC: 45 ft Estimated Total Volume Pumped: 7500 ml Flow Cell Volume: 130 ml Final Flow Rate: 250 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 707286
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Test Notes:

Weather Conditions:
Cloudy 48 degrees

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10	+/- 5	
11/28/2022 1:02 PM	00:00	7.37 pH	15.47 °C	551.99 µS/cm	4.27 mg/L	30.12 NTU	-86.2 mV	1,037.2 cm	250.00 ml/min
11/28/2022 1:05 PM	03:00	7.23 pH	15.42 °C	562.49 µS/cm	0.53 mg/L	52.01 NTU	-70.5 mV	1,037.2 cm	250.00 ml/min
11/28/2022 1:08 PM	06:00	7.30 pH	15.42 °C	554.59 µS/cm	0.33 mg/L	21.50 NTU	-69.0 mV	1,037.2 cm	250.00 ml/min
11/28/2022 1:11 PM	09:00	7.22 pH	15.39 °C	550.77 µS/cm	0.26 mg/L	14.47 NTU	-61.7 mV	1,037.2 cm	250.00 ml/min
11/28/2022 1:14 PM	12:00	7.30 pH	15.40 °C	542.41 µS/cm	0.22 mg/L	5.94 NTU	-62.9 mV	1,037.2 cm	250.00 ml/min
11/28/2022 1:17 PM	15:00	7.33 pH	15.38 °C	536.86 µS/cm	0.19 mg/L	5.69 NTU	-61.6 mV	1,037.2 cm	250.00 ml/min
11/28/2022 1:20 PM	18:00	7.31 pH	15.40 °C	533.52 µS/cm	0.17 mg/L	2.69 NTU	-58.9 mV	1,037.2 cm	250.00 ml/min
11/28/2022 1:23 PM	21:00	7.35 pH	15.36 °C	522.50 µS/cm	0.15 mg/L	1.62 NTU	-58.6 mV	1,037.2 cm	250.00 ml/min
11/28/2022 1:26 PM	24:00	7.32 pH	15.38 °C	523.19 µS/cm	0.13 mg/L	6.32 NTU	-55.6 mV	1,037.2 cm	250.00 ml/min
11/28/2022 1:29 PM	27:00	7.35 pH	15.37 °C	518.33 µS/cm	0.13 mg/L	0.44 NTU	-55.8 mV	1,037.2 cm	250.00 ml/min
11/28/2022 1:32 PM	30:00	7.31 pH	15.34 °C	516.07 µS/cm	0.13 mg/L	0.69 NTU	-52.5 mV	1,037.2 cm	250.00 ml/min

Samples

Sample ID:	Description:
WAP-6S	

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 11/21/2022 2:18:27 PM

Project: Culley West Ash Pond (17)

Operator Name: Hayley Torres

Location Name: WAP-7D Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 68.5 ft Total Depth: 78.5 ft Initial Depth to Water: 36.03 ft	Pump Type: Dedicated Tubing Type: LDPE Pump Intake From TOC: 73.5 ft Estimated Total Volume Pumped: 3000 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: 0.1 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/21/2022 2:18 PM	00:00	7.87 pH	16.20 °C	1,656.7 µS/cm	4.60 mg/L	0.00 NTU	-1.0 mV	1,098.2 cm	100.00 ml/min
11/21/2022 2:21 PM	03:00	7.51 pH	16.27 °C	1,680.2 µS/cm	1.48 mg/L	0.00 NTU	-57.3 mV	1,098.2 cm	100.00 ml/min
11/21/2022 2:24 PM	06:00	7.39 pH	16.35 °C	1,683.8 µS/cm	0.85 mg/L	0.00 NTU	-57.3 mV	1,098.2 cm	100.00 ml/min
11/21/2022 2:27 PM	09:00	7.34 pH	16.36 °C	1,685.2 µS/cm	0.62 mg/L	0.00 NTU	-53.4 mV	1,098.2 cm	100.00 ml/min
11/21/2022 2:30 PM	12:00	7.31 pH	16.31 °C	1,685.7 µS/cm	0.51 mg/L	0.00 NTU	-50.3 mV	1,098.2 cm	100.00 ml/min
11/21/2022 2:33 PM	15:00	7.29 pH	16.33 °C	1,684.9 µS/cm	0.43 mg/L	0.00 NTU	-48.5 mV	1,098.2 cm	100.00 ml/min
11/21/2022 2:36 PM	18:00	7.28 pH	16.35 °C	1,687.1 µS/cm	0.39 mg/L	0.00 NTU	-47.0 mV	1,098.2 cm	100.00 ml/min
11/21/2022 2:39 PM	21:00	7.27 pH	16.31 °C	1,684.4 µS/cm	0.36 mg/L	0.00 NTU	-45.8 mV	1,098.2 cm	100.00 ml/min
11/21/2022 2:42 PM	24:00	7.26 pH	16.20 °C	1,684.0 µS/cm	0.34 mg/L	0.00 NTU	-44.8 mV	1,098.2 cm	100.00 ml/min
11/21/2022 2:45 PM	27:00	7.26 pH	16.34 °C	1,683.7 µS/cm	0.32 mg/L	0.00 NTU	-44.3 mV	1,098.2 cm	100.00 ml/min
11/21/2022 2:48 PM	30:00	7.25 pH	16.23 °C	1,683.0 µS/cm	0.31 mg/L	0.00 NTU	-43.5 mV	1,098.2 cm	100.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 11/21/2022 1:12:05 PM

Project: Culley West Ash Pond (16)

Operator Name: Hayley Torres

Location Name: WAP-7S Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 50 ft Total Depth: 60 ft Initial Depth to Water: 36.51 ft	Pump Type: Dedicated Tubing Type: LDPE Pump Intake From TOC: 55 ft Estimated Total Volume Pumped: 3600 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: -0.1 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/21/2022 1:12 PM	00:00	9.18 pH	16.09 °C	790.44 µS/cm	5.18 mg/L	0.00 NTU	37.0 mV	1,112.8 cm	100.00 ml/min
11/21/2022 1:15 PM	03:00	9.90 pH	16.12 °C	799.88 µS/cm	2.49 mg/L	0.00 NTU	14.6 mV	1,112.8 cm	100.00 ml/min
11/21/2022 1:18 PM	06:00	10.13 pH	16.24 °C	804.18 µS/cm	1.77 mg/L	0.00 NTU	2.3 mV	1,112.8 cm	100.00 ml/min
11/21/2022 1:21 PM	09:00	10.25 pH	16.25 °C	807.72 µS/cm	1.37 mg/L	0.00 NTU	-5.5 mV	1,112.8 cm	100.00 ml/min
11/21/2022 1:24 PM	12:00	10.35 pH	16.30 °C	809.91 µS/cm	1.11 mg/L	0.00 NTU	-11.5 mV	1,112.8 cm	100.00 ml/min
11/21/2022 1:27 PM	15:00	10.42 pH	16.37 °C	812.49 µS/cm	0.95 mg/L	0.00 NTU	-15.9 mV	1,112.8 cm	100.00 ml/min
11/21/2022 1:30 PM	18:00	10.47 pH	16.46 °C	813.56 µS/cm	0.82 mg/L	0.00 NTU	-19.4 mV	1,112.8 cm	100.00 ml/min
11/21/2022 1:33 PM	21:00	10.49 pH	16.52 °C	814.39 µS/cm	0.74 mg/L	0.00 NTU	-21.6 mV	1,112.8 cm	100.00 ml/min
11/21/2022 1:36 PM	24:00	10.52 pH	16.43 °C	814.03 µS/cm	0.67 mg/L	0.00 NTU	-23.5 mV	1,112.8 cm	100.00 ml/min
11/21/2022 1:39 PM	27:00	10.54 pH	16.34 °C	815.15 µS/cm	0.64 mg/L	0.00 NTU	-25.2 mV	1,112.8 cm	100.00 ml/min
11/21/2022 1:42 PM	30:00	10.56 pH	16.31 °C	811.72 µS/cm	0.60 mg/L	0.00 NTU	-26.2 mV	1,112.8 cm	100.00 ml/min
11/21/2022 1:45 PM	33:00	10.57 pH	16.34 °C	814.93 µS/cm	0.57 mg/L	0.00 NTU	-27.2 mV	1,112.8 cm	100.00 ml/min
11/21/2022 1:48 PM	36:00	10.57 pH	16.46 °C	814.82 µS/cm	0.55 mg/L	0.00 NTU	-28.0 mV	1,112.8 cm	100.00 ml/min

Samples

Sample ID:	Description:
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Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 11/18/2022 12:40:02 PM

Project: Culley West Ash Pond (12)

Operator Name: Hayley Torres

Location Name: WAP-8D Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 97 ft Total Depth: 107 ft Initial Depth to Water: 33.42 ft	Pump Type: Dedicated Tubing Type: LDPE Pump Intake From TOC: 102 ft Estimated Total Volume Pumped: 4200 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: 0.1 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/18/2022 12:40 PM	00:00	7.28 pH	15.88 °C	282.79 µS/cm	4.52 mg/L	0.00 NTU	75.6 mV	1,018.6 cm	100.00 ml/min
11/18/2022 12:43 PM	03:00	7.32 pH	15.30 °C	269.34 µS/cm	1.09 mg/L	0.00 NTU	-27.5 mV	1,018.6 cm	100.00 ml/min
11/18/2022 12:46 PM	06:00	7.31 pH	15.43 °C	258.68 µS/cm	0.54 mg/L	0.00 NTU	-66.8 mV	1,018.6 cm	100.00 ml/min
11/18/2022 12:49 PM	09:00	7.30 pH	15.25 °C	255.95 µS/cm	0.28 mg/L	0.00 NTU	-80.1 mV	1,018.6 cm	100.00 ml/min
11/18/2022 12:52 PM	12:00	7.30 pH	15.14 °C	255.46 µS/cm	0.20 mg/L	0.00 NTU	-86.3 mV	1,018.6 cm	100.00 ml/min
11/18/2022 12:55 PM	15:00	7.29 pH	15.24 °C	255.55 µS/cm	0.17 mg/L	0.00 NTU	-89.9 mV	1,018.6 cm	100.00 ml/min
11/18/2022 12:58 PM	18:00	7.30 pH	15.35 °C	255.31 µS/cm	0.15 mg/L	0.00 NTU	-92.5 mV	1,018.6 cm	100.00 ml/min
11/18/2022 1:01 PM	21:00	7.30 pH	15.06 °C	254.36 µS/cm	0.14 mg/L	0.00 NTU	-94.1 mV	1,018.6 cm	100.00 ml/min
11/18/2022 1:04 PM	24:00	7.30 pH	15.18 °C	255.11 µS/cm	0.13 mg/L	0.00 NTU	-95.5 mV	1,018.6 cm	100.00 ml/min
11/18/2022 1:07 PM	27:00	7.30 pH	14.95 °C	254.60 µS/cm	0.12 mg/L	0.00 NTU	-96.4 mV	1,018.6 cm	100.00 ml/min
11/18/2022 1:10 PM	30:00	7.30 pH	15.16 °C	255.16 µS/cm	0.11 mg/L	0.00 NTU	-97.2 mV	1,018.6 cm	100.00 ml/min
11/18/2022 1:13 PM	33:00	7.30 pH	15.09 °C	254.82 µS/cm	0.11 mg/L	0.00 NTU	-98.0 mV	1,018.6 cm	100.00 ml/min
11/18/2022 1:16 PM	36:00	7.30 pH	15.24 °C	255.24 µS/cm	0.10 mg/L	0.00 NTU	-98.6 mV	1,018.6 cm	100.00 ml/min
11/18/2022 1:19 PM	39:00	7.30 pH	15.17 °C	255.22 µS/cm	0.10 mg/L	0.00 NTU	-99.2 mV	1,018.6 cm	100.00 ml/min
11/18/2022 1:22 PM	42:00	7.30 pH	15.20 °C	255.09 µS/cm	0.09 mg/L	0.00 NTU	-99.4 mV	1,018.6 cm	100.00 ml/min

Samples

Sample ID:	Description:
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Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 11/18/2022 11:09:04 AM

Project: Culley West Ash Pond (11)

Operator Name: Hayley Torres

Location Name: WAP-8I Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 70 ft Total Depth: 80 ft Initial Depth to Water: 31.35 ft	Pump Type: Dedicated Tubing Type: LDPE Pump Intake From TOC: 75 ft Estimated Total Volume Pumped: 4061.667 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: -0.08 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/18/2022 11:09 AM	00:00	7.41 pH	13.35 °C	288.77 µS/cm	2.29 mg/L	222.94 NTU	8.5 mV	955.55 cm	100.00 ml/min
11/18/2022 11:12 AM	03:00	7.35 pH	13.53 °C	291.76 µS/cm	1.95 mg/L	139.86 NTU	-2.0 mV	955.55 cm	100.00 ml/min
11/18/2022 11:15 AM	06:00	7.32 pH	13.88 °C	293.99 µS/cm	1.49 mg/L	131.71 NTU	-12.5 mV	955.55 cm	100.00 ml/min
11/18/2022 11:18 AM	09:00	7.29 pH	14.47 °C	294.08 µS/cm	1.18 mg/L	85.12 NTU	-16.2 mV	955.55 cm	100.00 ml/min
11/18/2022 11:21 AM	12:00	7.27 pH	14.72 °C	294.95 µS/cm	0.96 mg/L	118.37 NTU	-18.7 mV	955.55 cm	100.00 ml/min
11/18/2022 11:24 AM	15:00	7.24 pH	14.61 °C	294.26 µS/cm	0.90 mg/L	703.32 NTU	-19.2 mV	955.55 cm	100.00 ml/min
11/18/2022 11:27 AM	18:00	7.24 pH	15.08 °C	296.39 µS/cm	1.66 mg/L	31.62 NTU	-11.6 mV	955.55 cm	100.00 ml/min
11/18/2022 11:30 AM	21:00	7.22 pH	15.34 °C	296.03 µS/cm	0.50 mg/L	25.86 NTU	-23.8 mV	955.55 cm	100.00 ml/min
11/18/2022 11:33 AM	24:00	7.20 pH	15.59 °C	296.10 µS/cm	0.41 mg/L	23.22 NTU	-26.7 mV	955.55 cm	100.00 ml/min
11/18/2022 11:36 AM	27:00	7.20 pH	15.43 °C	295.70 µS/cm	0.36 mg/L	15.32 NTU	-28.7 mV	955.55 cm	100.00 ml/min
11/18/2022 11:39 AM	30:00	7.19 pH	15.63 °C	295.35 µS/cm	0.35 mg/L	63.25 NTU	-28.6 mV	955.55 cm	100.00 ml/min
11/18/2022 11:42 AM	33:00	7.19 pH	15.49 °C	295.20 µS/cm	0.34 mg/L	52.24 NTU	-27.4 mV	955.55 cm	100.00 ml/min
11/18/2022 11:45 AM	36:00	7.18 pH	15.51 °C	295.51 µS/cm	0.33 mg/L	24.22 NTU	-30.0 mV	955.55 cm	100.00 ml/min
11/18/2022 11:46 AM	37:37	7.18 pH	15.65 °C	295.61 µS/cm	0.32 mg/L	24.41 NTU	-30.4 mV	955.55 cm	100.00 ml/min
11/18/2022 11:49 AM	40:37	7.19 pH	15.27 °C	296.41 µS/cm	0.32 mg/L	29.41 NTU	-29.5 mV	955.55 cm	100.00 ml/min

Samples

Sample ID:	Description:
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Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 11/17/2022 4:06:24 PM

Project: Culley West Ash Pond (10)

Operator Name: Hayley Torres

Location Name: WAP-8S Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 40 ft Total Depth: 50 ft Initial Depth to Water: 31.26 ft	Pump Type: Dedicated Tubing Type: LDPE Pump Intake From TOC: 45 ft Estimated Total Volume Pumped: 5010 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: -0.12 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/17/2022 4:06 PM	00:00	7.32 pH	13.73 °C	638.79 µS/cm	5.85 mg/L	3.72 NTU	-2.8 mV	952.80 cm	100.00 ml/min
11/17/2022 4:09 PM	03:00	7.34 pH	13.36 °C	637.09 µS/cm	5.88 mg/L	6.63 NTU	6.2 mV	952.80 cm	100.00 ml/min
11/17/2022 4:11 PM	05:06	7.35 pH	13.21 °C	634.61 µS/cm	6.01 mg/L	2.83 NTU	10.2 mV	952.80 cm	100.00 ml/min
11/17/2022 4:14 PM	08:06	7.37 pH	12.98 °C	633.34 µS/cm	6.12 mg/L	1.01 NTU	12.7 mV	952.80 cm	100.00 ml/min
11/17/2022 4:17 PM	11:06	7.35 pH	12.62 °C	635.94 µS/cm	6.03 mg/L	3.15 NTU	15.0 mV	952.80 cm	100.00 ml/min
11/17/2022 4:20 PM	14:06	7.32 pH	11.97 °C	640.39 µS/cm	6.35 mg/L	3.12 NTU	18.7 mV	952.80 cm	100.00 ml/min
11/17/2022 4:23 PM	17:06	7.31 pH	11.16 °C	645.03 µS/cm	6.52 mg/L	3.93 NTU	9.0 mV	952.80 cm	100.00 ml/min
11/17/2022 4:26 PM	20:06	7.32 pH	10.38 °C	648.72 µS/cm	6.46 mg/L	2.91 NTU	-6.1 mV	952.80 cm	100.00 ml/min
11/17/2022 4:29 PM	23:06	7.33 pH	9.82 °C	651.84 µS/cm	6.26 mg/L	4.31 NTU	-13.4 mV	952.80 cm	100.00 ml/min
11/17/2022 4:32 PM	26:06	7.34 pH	9.44 °C	654.04 µS/cm	6.48 mg/L	4.33 NTU	-18.4 mV	952.80 cm	100.00 ml/min
11/17/2022 4:35 PM	29:06	7.34 pH	9.17 °C	655.74 µS/cm	6.14 mg/L	4.50 NTU	-19.4 mV	952.80 cm	100.00 ml/min
11/17/2022 4:38 PM	32:06	7.34 pH	8.84 °C	655.57 µS/cm	6.21 mg/L	2.03 NTU	-23.7 mV	952.80 cm	100.00 ml/min
11/17/2022 4:41 PM	35:06	7.35 pH	8.48 °C	657.20 µS/cm	5.41 mg/L	3.32 NTU	-36.1 mV	952.80 cm	100.00 ml/min
11/17/2022 4:44 PM	38:06	7.35 pH	8.20 °C	657.62 µS/cm	3.85 mg/L	0.59 NTU	-42.1 mV	952.80 cm	100.00 ml/min
11/17/2022 4:47 PM	41:06	7.35 pH	8.13 °C	660.23 µS/cm	2.96 mg/L	0.00 NTU	-46.0 mV	952.80 cm	100.00 ml/min

11/17/2022 4:50 PM	44:06	7.35 pH	8.08 °C	661.03 µS/cm	2.81 mg/L	0.24 NTU	-46.8 mV	952.80 cm	100.00 ml/min
11/17/2022 4:53 PM	47:06	7.34 pH	8.08 °C	662.15 µS/cm	2.67 mg/L	0.43 NTU	-47.7 mV	952.80 cm	100.00 ml/min
11/17/2022 4:56 PM	50:06	7.34 pH	8.07 °C	662.42 µS/cm	2.58 mg/L	0.00 NTU	-49.0 mV	952.80 cm	100.00 ml/min

Samples

Sample ID:	Description:
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PROJECT	Calley West	H&A FILE NO.	
LOCATION	Newburgh IN	PROJECT MGR.	
CLIENT	Vectren	FIELD REP	HT
CONTRACTOR	ATLAS	DATE	11-22-22

GROUNDWATER SAMPLING INFORMATION

Well No.	WAP-9D				
Water Depth (ft)	46.09				
Time					
Product					
Depth Of Well (ft)	126.5				
Inside Diameter (in)	2				
Standing Water Depth (ft) ⁽¹⁾					
Volume Of Water In Well (gal)					
Purging Device	P pump				
Volume of Bailer/Pump Capacity					
Cleaning Procedure	Decon				
Bails Removed/ Volume Removed					
Time Purging Started	2:54				
Time Purging Stopped	4:18				
Sampling Device	P-pump				
Cleaning Procedure	Decon				

TIME SAMPLES TAKEN	VOA											
	ABN											
	Metals	Sample										
		4:30										

PARAMETERS	Time	2:54	2:57	3:00	3:03	3:06	3:09	3:12	3:15	3:18	3:21	3:24	3:27
	DTW	46.09	45.95	45.81	45.80	45.79	45.79	45.79	45.80	45.80	45.81	45.82	45.87
	pH	7.49	7.40	7.35	7.32	7.30	7.29	7.27	7.28	7.28	7.27	7.25	7.25
	Conductivity	244	243	243	242	242	242	242	403	474	459	257	255.9
	Turbidity	194	192	266	237	341	369	374.8	259	259	259	482	384
	Dissolved Oxygen	5.87	1.55	1.08	0.93	0.86	0.82	0.80	1.66	1.13	1.38	1.50	1.35
	Temp, °C	16.59	16.35	16.41	16.39	16.37	16.25	16.28	16.30	16.26	16.27	16.23	16.25
	ORP	-34.9	-39.9	-39.9	-39.0	-36.1	-32.8	-28.6	-7.0	-8.4	-2.1	4.6	19.9

Remarks: (ie: field filtrations, persons communicated with at site, etc.)

1. Standing Water Depth = Depth of Well - Water Depth

PROJECT _____	H&A FILE NO. _____
LOCATION _____	PROJECT MGR. _____
CLIENT _____	FIELD REP _____
CONTRACTOR _____	DATE _____

GROUNDWATER SAMPLING INFORMATION

Well No.	WAP-9D COND											
Water Depth (ft)												
Time												
Product												
Depth Of Well (ft)												
Inside Diameter (in)												
Standing Water Depth (ft) ⁽¹⁾												
Volume Of Water In Well (gal)												
Purging Device												
Volume of Bailor/Pump Capacity												
Cleaning Procedure												
Bails Removed/ Volume Removed												
Time Purging Started												
Time Purging Stopped												
Sampling Device												
Cleaning Procedure												

TIME SAMPLES TAKEN	VOA												
	ABN												
	Metals												

PARAMETERS	Time	3:30	3:38	3:36	3:39	3:42	3:45	3:48	3:51	3:54	3:57	4:00	4:03
	DTW	45.90	45.91	45.91	45.92	45.94	45.95	45.96	45.98	45.99	46.00	46.01	46.01
	pH	7.24	7.23	7.23	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22
	Conductivity	255	255	254	254	254	253	253	252	252	252	252	251
	Turbidity	386	461	371	385	303	310	276	269	230	255	253	225
	Dissolved Oxygen	1.35	1.35	1.37	1.47	1.13	1.35	1.38	1.37	1.06	1.61	1.04	1.05
	Temp, °C	16.22	16.29	16.17	16.13	16.05	16.04	16.04	15.98	16.00	15.94	15.74	15.87
	ORP	14.3	17.8	21.7	24.4	25.0	26.0	26.4	25.6	23.2	21.5	20.4	19.6

Remarks: (ie: field filtrations, persons communicated with at site, etc.)

1. Standing Water Depth = Depth of Well - Water Depth

PROJECT _____	H&A FILE NO. _____
LOCATION _____	PROJECT MGR. _____
CLIENT _____	FIELD REP _____
CONTRACTOR _____	DATE _____

GROUNDWATER SAMPLING INFORMATION

Well No.	WAR-9D CON-9				
Water Depth (ft)					
Time					
Product					
Depth Of Well (ft)					
Inside Diameter (in)					
Standing Water Depth (ft) ⁽¹⁾					
Volume Of Water In Well (gal)					
Purging Device					
Volume of Bailer/Pump Capacity					
Cleaning Procedure					
Bails Removed/ Volume Removed					
Time Purging Started					
Time Purging Stopped					
Sampling Device					
Cleaning Procedure					

TIME SAMPLES TAKEN	VOA										
	ABN										
	Metals										

PARAMETERS	Time	4:06	4:09	4:12	4:15	4:18						
	DTW	46.04	46.05	46.11	45.79	45.88						
	pH	7.21	7.21	7.21	7.21	7.20						
	Conductivity	251	250	250	249	249						
	Turbidity	214	187	217	190	229						
	Dissolved Oxygen	1.11	1.03	1.02	1.08	1.24						
	Temp, °C	15.82	15.76	15.73	15.74	15.71						
	ORP	19.2	17.5	16.3	15.1	14.0						

Remarks: (ie: field filtrations, persons communicated with at site, etc.)

1. Standing Water Depth = Depth of Well - Water Depth

Low-Flow Test Report:

Test Date / Time: 11/22/2022 1:21:11 PM

Project: Culley West Ash Pond (20)

Operator Name: Hayley Torres

Location Name: WAP-9I Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 80 ft Total Depth: 90 ft Initial Depth to Water: 41.89 ft	Pump Type: Dedicated Tubing Type: LDPE Pump Intake From TOC: 85 ft Estimated Total Volume Pumped: 4500 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: 0.25 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/22/2022 1:21 PM	00:00	7.41 pH	17.03 °C	283.26 µS/cm	2.84 mg/L	37.44 NTU	36.1 mV	1,276.8 cm	100.00 ml/min
11/22/2022 1:24 PM	03:00	7.41 pH	17.06 °C	285.90 µS/cm	0.75 mg/L	1.67 NTU	-29.0 mV	1,276.8 cm	100.00 ml/min
11/22/2022 1:27 PM	06:00	7.38 pH	17.18 °C	285.84 µS/cm	0.55 mg/L	0.00 NTU	-41.1 mV	1,276.8 cm	100.00 ml/min
11/22/2022 1:30 PM	09:00	7.37 pH	17.26 °C	286.42 µS/cm	0.45 mg/L	0.00 NTU	-45.8 mV	1,276.8 cm	100.00 ml/min
11/22/2022 1:33 PM	12:00	7.36 pH	17.27 °C	286.15 µS/cm	0.38 mg/L	0.00 NTU	-48.3 mV	1,276.8 cm	100.00 ml/min
11/22/2022 1:36 PM	15:00	7.37 pH	17.32 °C	286.21 µS/cm	0.34 mg/L	0.00 NTU	-50.6 mV	1,276.8 cm	100.00 ml/min
11/22/2022 1:39 PM	18:00	7.37 pH	17.29 °C	286.34 µS/cm	0.31 mg/L	0.00 NTU	-52.1 mV	1,276.8 cm	100.00 ml/min
11/22/2022 1:42 PM	21:00	7.38 pH	17.39 °C	286.24 µS/cm	0.27 mg/L	0.00 NTU	-53.3 mV	1,276.8 cm	100.00 ml/min
11/22/2022 1:45 PM	24:00	7.39 pH	17.33 °C	286.31 µS/cm	0.25 mg/L	0.00 NTU	-54.8 mV	1,276.8 cm	100.00 ml/min
11/22/2022 1:48 PM	27:00	7.40 pH	17.39 °C	286.25 µS/cm	0.24 mg/L	0.00 NTU	-55.5 mV	1,276.8 cm	100.00 ml/min
11/22/2022 1:51 PM	30:00	7.41 pH	17.35 °C	286.48 µS/cm	0.22 mg/L	0.00 NTU	-57.3 mV	1,276.8 cm	100.00 ml/min
11/22/2022 1:54 PM	33:00	7.42 pH	17.40 °C	286.25 µS/cm	0.21 mg/L	0.00 NTU	-58.3 mV	1,276.8 cm	100.00 ml/min
11/22/2022 1:57 PM	36:00	7.43 pH	17.34 °C	286.40 µS/cm	0.20 mg/L	0.00 NTU	-59.6 mV	1,276.8 cm	100.00 ml/min
11/22/2022 2:00 PM	39:00	7.43 pH	17.43 °C	285.85 µS/cm	0.18 mg/L	0.00 NTU	-60.8 mV	1,276.8 cm	100.00 ml/min
11/22/2022 2:03 PM	42:00	7.44 pH	17.38 °C	286.21 µS/cm	0.17 mg/L	0.00 NTU	-61.7 mV	1,276.8 cm	100.00 ml/min

11/22/2022 2:06 PM	45:00	7.44 pH	17.36 °C	285.47 µS/cm	0.19 mg/L	0.00 NTU	-62.3 mV	1,276.8 cm	100.00 ml/min
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Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 11/18/2022 2:45:05 PM

Project: Culley West Ash Pond (13)

Operator Name: Hayley Torres

Location Name: WAP-9S Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 55 ft Total Depth: 65 ft Initial Depth to Water: 40.46 ft	Pump Type: Dedicated Tubing Type: LDPE Pump Intake From TOC: 60 ft Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 500 Serial Number: 625772
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 5	
11/18/2022 2:45 PM	00:00	7.37 pH	13.71 °C	377.42 µS/cm	2.22 mg/L	566.59 NTU	79.6 mV	1,233.2 cm	100.00 ml/min
11/18/2022 2:48 PM	03:00	7.38 pH	13.54 °C	376.09 µS/cm	2.14 mg/L	434.57 NTU	75.3 mV	1,233.2 cm	100.00 ml/min
11/18/2022 2:51 PM	06:00	7.39 pH	12.44 °C	377.41 µS/cm	2.00 mg/L	423.98 NTU	72.6 mV	1,233.2 cm	100.00 ml/min
11/18/2022 2:54 PM	09:00	7.40 pH	12.11 °C	378.93 µS/cm	1.84 mg/L	337.51 NTU	70.5 mV	1,233.2 cm	100.00 ml/min
11/18/2022 2:57 PM	12:00	7.41 pH	11.68 °C	379.98 µS/cm	1.79 mg/L	331.62 NTU	70.0 mV	1,233.2 cm	100.00 ml/min
11/18/2022 3:00 PM	15:00	7.41 pH	13.33 °C	0.07 µS/cm	10.59 mg/L	0.00 NTU	81.1 mV	1,233.2 cm	100.00 ml/min
11/18/2022 3:03 PM	18:00	7.32 pH	13.54 °C	0.07 µS/cm	10.56 mg/L	0.00 NTU	88.3 mV	1,233.2 cm	100.00 ml/min
11/18/2022 3:06 PM	21:00	7.41 pH	12.66 °C	389.63 µS/cm	1.80 mg/L	300.21 NTU	87.4 mV	1,233.2 cm	100.00 ml/min
11/18/2022 3:09 PM	24:00	7.38 pH	12.27 °C	394.68 µS/cm	1.08 mg/L	392.87 NTU	83.7 mV	1,233.2 cm	100.00 ml/min
11/18/2022 3:12 PM	27:00	7.39 pH	11.49 °C	395.68 µS/cm	0.89 mg/L	208.55 NTU	80.3 mV	1,233.2 cm	100.00 ml/min
11/18/2022 3:15 PM	30:00	7.39 pH	11.28 °C	395.90 µS/cm	0.84 mg/L	334.69 NTU	77.5 mV	1,233.2 cm	100.00 ml/min
11/18/2022 3:18 PM	33:00	7.40 pH	10.78 °C	392.08 µS/cm	0.78 mg/L	219.91 NTU	75.7 mV	1,233.2 cm	100.00 ml/min
11/18/2022 3:21 PM	36:00	7.40 pH	10.19 °C	397.97 µS/cm	0.76 mg/L	311.77 NTU	74.3 mV	1,233.2 cm	100.00 ml/min
11/18/2022 3:24 PM	39:00	7.39 pH	11.25 °C	398.68 µS/cm	0.65 mg/L	252.51 NTU	73.1 mV	1,233.2 cm	100.00 ml/min
11/18/2022 3:27 PM	42:00	7.39 pH	11.06 °C	400.11 µS/cm	0.51 mg/L	288.92 NTU	72.2 mV	1,233.2 cm	100.00 ml/min
11/18/2022 3:30 PM	45:00	7.38 pH	11.07 °C	400.32 µS/cm	0.47 mg/L	205.94 NTU	71.0 mV	1,233.2 cm	100.00 ml/min

11/18/2022 3:33 PM	48:00	7.39 pH	10.63 °C	400.36 µS/cm	0.42 mg/L	260.40 NTU	69.8 mV	1,233.2 cm	100.00 ml/min
11/18/2022 3:36 PM	51:00	7.39 pH	10.16 °C	400.41 µS/cm	0.41 mg/L	223.24 NTU	68.1 mV	1,233.2 cm	100.00 ml/min
11/18/2022 3:39 PM	54:00	7.39 pH	10.20 °C	401.65 µS/cm	0.41 mg/L	253.53 NTU	66.6 mV	1,233.2 cm	100.00 ml/min
11/18/2022 3:42 PM	57:00	7.39 pH	10.42 °C	402.70 µS/cm	0.37 mg/L	252.92 NTU	64.6 mV	1,233.2 cm	100.00 ml/min
11/18/2022 3:45 PM	01:00:00	7.37 pH	11.83 °C	405.23 µS/cm	0.33 mg/L	240.39 NTU	61.0 mV	1,233.2 cm	100.00 ml/min
11/18/2022 3:48 PM	01:03:00	7.36 pH	12.05 °C	402.77 µS/cm	0.26 mg/L	309.06 NTU	55.0 mV	1,233.2 cm	100.00 ml/min
11/18/2022 3:51 PM	01:06:00	7.35 pH	11.93 °C	401.76 µS/cm	0.25 mg/L	264.67 NTU	47.6 mV	1,233.2 cm	100.00 ml/min
11/18/2022 3:54 PM	01:09:00	7.37 pH	11.04 °C	400.72 µS/cm	0.24 mg/L	259.63 NTU	41.7 mV	1,233.2 cm	100.00 ml/min
11/18/2022 3:57 PM	01:12:00	7.37 pH	10.65 °C	400.14 µS/cm	0.25 mg/L	220.64 NTU	36.3 mV	1,233.2 cm	100.00 ml/min
11/18/2022 4:00 PM	01:15:00	7.37 pH	10.67 °C	399.96 µS/cm	0.25 mg/L	262.18 NTU	31.8 mV	1,233.2 cm	100.00 ml/min
11/18/2022 4:03 PM	01:18:00	7.37 pH	11.30 °C	399.15 µS/cm	0.26 mg/L	209.51 NTU	27.7 mV	1,233.2 cm	100.00 ml/min
11/18/2022 4:06 PM	01:21:00	7.37 pH	10.99 °C	397.40 µS/cm	0.39 mg/L	303.86 NTU	25.4 mV	1,233.2 cm	100.00 ml/min
11/18/2022 4:09 PM	01:24:00	7.46 pH	10.46 °C	0.52 µS/cm	11.08 mg/L	0.00 NTU	46.6 mV	1,233.2 cm	100.00 ml/min
11/18/2022 4:12 PM	01:27:00	7.36 pH	11.45 °C	397.48 µS/cm	0.73 mg/L	231.39 NTU	32.8 mV	1,233.2 cm	100.00 ml/min
11/18/2022 4:15 PM	01:30:00	7.35 pH	11.60 °C	396.62 µS/cm	0.57 mg/L	176.18 NTU	23.8 mV	1,233.2 cm	100.00 ml/min
11/18/2022 4:18 PM	01:33:00	7.35 pH	11.62 °C	395.74 µS/cm	0.51 mg/L	189.01 NTU	16.2 mV	1,233.2 cm	100.00 ml/min
11/18/2022 4:21 PM	01:36:00	7.35 pH	11.39 °C	395.69 µS/cm	0.57 mg/L	163.60 NTU	11.0 mV	1,233.2 cm	100.00 ml/min
11/18/2022 4:24 PM	01:39:00	7.35 pH	11.60 °C	395.45 µS/cm	1.16 mg/L	196.27 NTU	10.4 mV	1,233.2 cm	100.00 ml/min
11/18/2022 4:27 PM	01:42:00	7.34 pH	11.90 °C	395.42 µS/cm	1.10 mg/L	202.40 NTU	10.9 mV	1,233.2 cm	100.00 ml/min
11/18/2022 4:30 PM	01:45:00	7.36 pH	10.70 °C	393.16 µS/cm	1.14 mg/L	182.36 NTU	12.0 mV	1,233.2 cm	100.00 ml/min
11/18/2022 4:33 PM	01:48:00	7.37 pH	10.35 °C	393.41 µS/cm	1.25 mg/L	127.42 NTU	14.1 mV	1,233.2 cm	100.00 ml/min
11/18/2022 4:36 PM	01:51:00	7.39 pH	9.52 °C	387.22 µS/cm	1.34 mg/L	166.08 NTU	16.9 mV	1,233.2 cm	100.00 ml/min
11/18/2022 4:39 PM	01:54:00	7.39 pH	9.18 °C	392.95 µS/cm	1.35 mg/L	106.09 NTU	19.7 mV	1,233.2 cm	100.00 ml/min
11/18/2022 4:42 PM	01:57:00	7.40 pH	8.88 °C	393.53 µS/cm	1.33 mg/L	106.38 NTU	23.5 mV	1,233.2 cm	100.00 ml/min
11/18/2022 4:45 PM	02:00:00	7.40 pH	8.63 °C	393.70 µS/cm	1.35 mg/L	107.27 NTU	26.6 mV	1,233.2 cm	100.00 ml/min
11/18/2022 4:45 PM	02:00:25	7.40 pH	8.59 °C	393.71 µS/cm	1.36 mg/L	108.71 NTU	27.0 mV	1,233.2 cm	100.00 ml/min
11/21/2022 10:23 AM	19:38:41	7.19 pH	2.97 °C	0.09 µS/cm	13.79 mg/L	0.00 NTU	94.6 mV	1,233.2 cm	100.00 ml/min

Samples

Sample ID:	Description:
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Created using VuSitu from In-Situ, Inc.

**VECTREN - FB CULLEY STATION
WEST ASH POND**

CCR Groundwater Sampling Event

Gauging Date:

May 15 , 2023

ATC Project No. 170LF01498

WELL ID	DATE	TIME	DTW FROM TOC
West Ash Pond Wells			
CCR-AP-7	5/15/2023	13:30	7.22
WAP-1	5/15/2023	12:52	12.10
WAP-2RR	5/15/2023	13:20	39.56
WAP-3S	5/15/2023	13:10	37.21
WAP-3D	5/15/2023	13:10	37.18
WAP-4S	5/15/2023	12:55	31.04
WAP-4I	5/15/2023	12:55	31.15
WAP-4D	5/15/2023	12:55	33.58
WAP-5S	5/15/2023	12:35	29.68
WAP-5I	5/15/2023	12:35	29.63
WAP-5D	5/15/2023	12:35	30.22
WAP-6S	5/15/2023	12:55	34.30
WAP-6I	5/15/2023	12:55	34.89
WAP-6D	5/15/2023	12:55	39.54
WAP-7S	5/15/2023	13:15	37.66
WAP-7D	5/15/2023	13:15	37.29
WAP-8S	5/15/2023	12:45	32.27
WAP-8I	5/15/2023	12:45	32.46
WAP-8D	5/15/2023	12:45	34.75
WAP-9S	5/15/2023	13:00	41.43
WAP-9I	5/15/2023	13:00	42.88
WAP-9D	5/15/2023	13:00	47.45
Temporary Piezometers			
PZ-1	Destroyed		
PZ-2	Destroyed		
PZ-3	5/15/2023	12:30	9.82
PZ-4	5/15/2023	12:40	11.54
PZ-5	5/15/2023	13:05	3.71
PZ-6	5/15/2023	12:47	11.10
PZ-7	5/15/2023	13:00	10.72
PZ-8	Destroyed		
PZ-9	Destroyed		
PZ-10	Destroyed		

NOTES

DTW= Depth to Water

TOC= Top of Casing

Low-Flow Test Report:

Test Date / Time: 5/22/2023 10:36:03 AM

Project: FB Culley West (18)

Operator Name: Hayley Torres

Location Name: CCR-AP7 Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 20 ft Total Depth: 30 ft Initial Depth to Water: 7.79 ft	Pump Type: Mp50 Pump Intake From TOC: 25 ft Estimated Total Volume Pumped: 1800 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
5/22/2023 10:36 AM	00:00	7.10 pH	17.91 °C	901.94 µS/cm	0.82 mg/L	12.30 NTU	-65.2 mV	7.79 ft	100.00 ml/min
5/22/2023 10:39 AM	03:00	7.11 pH	18.19 °C	928.54 µS/cm	0.63 mg/L	0.41 NTU	-71.0 mV		100.00 ml/min
5/22/2023 10:42 AM	06:00	7.12 pH	18.92 °C	925.32 µS/cm	0.65 mg/L	5.08 NTU	-72.2 mV		100.00 ml/min
5/22/2023 10:45 AM	09:00	7.12 pH	19.01 °C	924.42 µS/cm	0.55 mg/L	24.26 NTU	-73.0 mV	7.79 ft	100.00 ml/min
5/22/2023 10:48 AM	12:00	7.13 pH	18.97 °C	923.98 µS/cm	0.49 mg/L	2.84 NTU	-73.8 mV		100.00 ml/min
5/22/2023 10:51 AM	15:00	7.12 pH	18.93 °C	925.38 µS/cm	0.43 mg/L	3.79 NTU	-74.5 mV		100.00 ml/min
5/22/2023 10:54 AM	18:00	7.13 pH	19.01 °C	926.07 µS/cm	0.42 mg/L	1.08 NTU	-74.8 mV	7.79 ft	100.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/22/2023 3:48:06 PM

Project: FB Culley West (21)

Operator Name: Hayley Torres

Location Name: WAP-2R Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 46 ft Total Depth: 56 ft Initial Depth to Water: 39.68 ft	Pump Type: Mp50 Pump Intake From TOC: 51 ft Estimated Total Volume Pumped: 2160 ml Flow Cell Volume: 130 ml Final Flow Rate: 120 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
5/22/2023 3:48 PM	00:00	6.69 pH	19.19 °C	835.36 µS/cm	1.59 mg/L	0.20 NTU	43.1 mV	39.68 ft	120.00 ml/min
5/22/2023 3:51 PM	03:00	6.65 pH	18.87 °C	830.11 µS/cm	0.84 mg/L	0.37 NTU	70.0 mV		120.00 ml/min
5/22/2023 3:54 PM	06:00	6.64 pH	18.50 °C	829.57 µS/cm	0.58 mg/L	0.38 NTU	82.5 mV		120.00 ml/min
5/22/2023 3:57 PM	09:00	6.64 pH	18.60 °C	829.25 µS/cm	0.45 mg/L	0.63 NTU	90.0 mV	39.68 ft	120.00 ml/min
5/22/2023 4:00 PM	12:00	6.64 pH	18.44 °C	828.91 µS/cm	0.38 mg/L	0.49 NTU	95.3 mV		120.00 ml/min
5/22/2023 4:03 PM	15:00	6.64 pH	18.48 °C	828.57 µS/cm	0.33 mg/L	0.71 NTU	99.2 mV		120.00 ml/min
5/22/2023 4:06 PM	18:00	6.63 pH	18.35 °C	829.33 µS/cm	0.30 mg/L	0.39 NTU	102.6 mV	39.68 ft	120.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/19/2023 5:45:07 PM

Project: FB Culley West (17)

Operator Name: Hayley Torres

Location Name: WAP-3S Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 40 ft Total Depth: 50 ft Initial Depth to Water: 37.52 ft	Pump Type: Mp50 Pump Intake From TOC: 45 ft Estimated Total Volume Pumped: 2160 ml Flow Cell Volume: 130 ml Final Flow Rate: 120 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
5/19/2023 5:45 PM	00:00	7.49 pH	19.13 °C	968.06 µS/cm	4.79 mg/L	2.31 NTU	-100.1 mV	37.52 ft	120.00 ml/min
5/19/2023 5:48 PM	03:00	7.56 pH	18.76 °C	1,162.1 µS/cm	1.66 mg/L	5.02 NTU	-56.1 mV		120.00 ml/min
5/19/2023 5:51 PM	06:00	7.58 pH	18.56 °C	1,200.6 µS/cm	0.91 mg/L	5.91 NTU	-44.7 mV		120.00 ml/min
5/19/2023 5:54 PM	09:00	7.59 pH	18.41 °C	1,209.6 µS/cm	0.60 mg/L	2.46 NTU	-45.4 mV	37.52 ft	120.00 ml/min
5/19/2023 5:57 PM	12:00	7.58 pH	18.33 °C	1,210.4 µS/cm	0.48 mg/L	1.25 NTU	-45.8 mV		120.00 ml/min
5/19/2023 6:00 PM	15:00	7.58 pH	18.25 °C	1,210.9 µS/cm	0.41 mg/L	4.23 NTU	-47.0 mV		120.00 ml/min
5/19/2023 6:03 PM	18:00	7.57 pH	18.21 °C	1,210.6 µS/cm	0.35 mg/L	1.42 NTU	-48.5 mV	37.52 ft	120.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/19/2023 4:48:04 PM

Project: FB Culley West (16)

Operator Name: Hayley Torres

Location Name: WAP-3D Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 72.5 ft Total Depth: 82.5 ft Initial Depth to Water: 37.09 ft	Pump Type: Mp50 Pump Intake From TOC: 77.5 ft Estimated Total Volume Pumped: 2160 ml Flow Cell Volume: 130 ml Final Flow Rate: 120 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

DUP 2

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
5/19/2023 4:48 PM	00:00	7.47 pH	18.81 °C	1,378.4 µS/cm	0.93 mg/L	7.86 NTU	-134.4 mV	37.09 ft	120.00 ml/min
5/19/2023 4:51 PM	03:00	7.48 pH	18.89 °C	1,384.9 µS/cm	0.58 mg/L	4.17 NTU	-126.2 mV		120.00 ml/min
5/19/2023 4:54 PM	06:00	7.49 pH	18.93 °C	1,386.1 µS/cm	0.45 mg/L	3.16 NTU	-129.3 mV		120.00 ml/min
5/19/2023 4:57 PM	09:00	7.49 pH	18.82 °C	1,384.8 µS/cm	0.38 mg/L	2.39 NTU	-138.0 mV	37.09 ft	120.00 ml/min
5/19/2023 5:00 PM	12:00	7.50 pH	18.69 °C	1,385.5 µS/cm	0.33 mg/L	1.61 NTU	-145.3 mV		120.00 ml/min
5/19/2023 5:03 PM	15:00	7.50 pH	18.50 °C	1,385.7 µS/cm	0.30 mg/L	0.79 NTU	-145.8 mV		120.00 ml/min
5/19/2023 5:06 PM	18:00	7.50 pH	18.49 °C	1,385.2 µS/cm	0.28 mg/L	0.61 NTU	-144.5 mV	37.09 ft	120.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/18/2023 12:09:09 PM

Project: FB Culley West (9)

Operator Name: Hayley Torres

Location Name: WAP-4S Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 45 ft Total Depth: 55 ft Initial Depth to Water: 31.28 ft	Pump Type: Mp50 Pump Intake From TOC: 50 ft Estimated Total Volume Pumped: 9000 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
5/18/2023 12:09 PM	00:00	7.15 pH	18.49 °C	1,526.9 µS/cm	1.50 mg/L	672.96 NTU	-24.8 mV	31.28 ft	100.00 ml/min
5/18/2023 12:12 PM	03:00	7.14 pH	18.32 °C	1,544.5 µS/cm	0.80 mg/L	1,240.5 NTU	-30.0 mV		100.00 ml/min
5/18/2023 12:15 PM	06:00	7.13 pH	18.39 °C	1,554.0 µS/cm	0.55 mg/L	426.17 NTU	-31.9 mV		100.00 ml/min
5/18/2023 12:18 PM	09:00	7.12 pH	18.30 °C	1,560.6 µS/cm	0.59 mg/L	956.75 NTU	-33.2 mV	31.28 ft	100.00 ml/min
5/18/2023 12:21 PM	12:00	7.12 pH	18.33 °C	1,559.3 µS/cm	0.33 mg/L	346.25 NTU	-35.5 mV		100.00 ml/min
5/18/2023 12:24 PM	15:00	7.11 pH	18.31 °C	1,559.7 µS/cm	0.28 mg/L	771.64 NTU	-36.7 mV		100.00 ml/min
5/18/2023 12:27 PM	18:00	7.13 pH	18.36 °C	1,546.6 µS/cm	0.26 mg/L	362.68 NTU	-40.2 mV	31.28 ft	100.00 ml/min
5/18/2023 12:30 PM	21:00	7.13 pH	18.38 °C	1,549.5 µS/cm	0.24 mg/L	450.44 NTU	-40.9 mV		100.00 ml/min
5/18/2023 12:33 PM	24:00	7.14 pH	18.58 °C	1,543.3 µS/cm	0.88 mg/L	529.74 NTU	-38.6 mV		100.00 ml/min
5/18/2023 12:36 PM	27:00	7.13 pH	18.27 °C	1,561.1 µS/cm	0.27 mg/L	391.42 NTU	-38.1 mV	31.28 ft	100.00 ml/min
5/18/2023 12:39 PM	30:00	7.13 pH	18.90 °C	1,560.2 µS/cm	0.35 mg/L	175.16 NTU	-38.4 mV		100.00 ml/min
5/18/2023 12:42 PM	33:00	7.12 pH	20.06 °C	1,591.8 µS/cm	0.62 mg/L	687.12 NTU	-40.5 mV		100.00 ml/min
5/18/2023 12:45 PM	36:00	7.12 pH	18.87 °C	1,556.4 µS/cm	0.48 mg/L	229.35 NTU	-34.7 mV	31.28 ft	100.00 ml/min
5/18/2023 12:48 PM	39:00	7.11 pH	18.72 °C	1,568.0 µS/cm	0.34 mg/L	150.76 NTU	-36.1 mV		100.00 ml/min
5/18/2023 12:51 PM	42:00	7.11 pH	18.66 °C	1,570.4 µS/cm	0.30 mg/L	178.99 NTU	-37.1 mV		100.00 ml/min
5/18/2023 12:54 PM	45:00	7.11 pH	18.75 °C	1,570.3 µS/cm	0.28 mg/L	396.11 NTU	-37.3 mV	31.28 ft	100.00 ml/min

5/18/2023 12:57 PM	48:00	7.12 pH	18.81 °C	1,563.6 µS/cm	2.59 mg/L	203.60 NTU	-30.1 mV		100.00 ml/min
5/18/2023 1:00 PM	51:00	7.13 pH	18.69 °C	1,562.4 µS/cm	0.37 mg/L	287.76 NTU	-35.2 mV		100.00 ml/min
5/18/2023 1:03 PM	54:00	7.13 pH	18.76 °C	1,562.9 µS/cm	0.47 mg/L	762.48 NTU	-28.1 mV	31.28 ft	100.00 ml/min
5/18/2023 1:06 PM	57:00	7.12 pH	18.11 °C	1,562.5 µS/cm	0.87 mg/L	1,799.3 NTU	-27.0 mV		100.00 ml/min
5/18/2023 1:09 PM	01:00:00	7.10 pH	18.44 °C	1,573.1 µS/cm	0.18 mg/L	711.34 NTU	-31.3 mV		100.00 ml/min
5/18/2023 1:12 PM	01:03:00	7.10 pH	18.51 °C	1,569.9 µS/cm	0.19 mg/L	870.93 NTU	-32.9 mV	31.28 ft	100.00 ml/min
5/18/2023 1:15 PM	01:06:00	7.10 pH	18.42 °C	1,576.4 µS/cm	0.19 mg/L	494.24 NTU	-33.1 mV		100.00 ml/min
5/18/2023 1:18 PM	01:09:00	7.10 pH	18.21 °C	1,580.7 µS/cm	0.20 mg/L	632.40 NTU	-33.9 mV		100.00 ml/min
5/18/2023 1:21 PM	01:12:00	7.10 pH	18.48 °C	1,581.9 µS/cm	0.19 mg/L	455.10 NTU	-33.5 mV	31.28 ft	100.00 ml/min
5/18/2023 1:24 PM	01:15:00	7.10 pH	18.84 °C	1,571.5 µS/cm	1.09 mg/L	541.72 NTU	-30.7 mV		100.00 ml/min
5/18/2023 1:27 PM	01:18:00	7.10 pH	18.80 °C	1,576.3 µS/cm	0.23 mg/L	350.86 NTU	-33.5 mV		100.00 ml/min
5/18/2023 1:30 PM	01:21:00	7.10 pH	18.56 °C	1,572.8 µS/cm	0.21 mg/L	229.05 NTU	-34.7 mV	31.28 ft	100.00 ml/min
5/18/2023 1:33 PM	01:24:00	7.10 pH	18.57 °C	1,574.2 µS/cm	0.21 mg/L	233.38 NTU	-35.5 mV		100.00 ml/min
5/18/2023 1:36 PM	01:27:00	7.10 pH	18.48 °C	1,571.7 µS/cm	0.21 mg/L	293.23 NTU	-36.0 mV		100.00 ml/min
5/18/2023 1:39 PM	01:30:00	7.09 pH	18.57 °C	1,574.8 µS/cm	0.21 mg/L	206.61 NTU	-36.3 mV	31.28 ft	100.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/17/2023 7:27:05 PM

Project: FB Culley West (8)

Operator Name: Hayley Torres

Location Name: WAP-4I Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 75 ft Total Depth: 85 ft Initial Depth to Water: 30.91 ft	Pump Type: Mp50 Pump Intake From TOC: 70 ft Estimated Total Volume Pumped: 2160 ml Flow Cell Volume: 130 ml Final Flow Rate: 120 ml/min Final Draw Down: 0.01 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
5/17/2023 7:27 PM	00:00	7.43 pH	17.28 °C	338.36 µS/cm	2.90 mg/L	0.52 NTU	45.2 mV	30.91 ft	120.00 ml/min
5/17/2023 7:30 PM	03:00	7.51 pH	16.46 °C	298.45 µS/cm	0.83 mg/L	10.54 NTU	-12.5 mV		120.00 ml/min
5/17/2023 7:33 PM	06:00	7.52 pH	16.10 °C	293.98 µS/cm	0.42 mg/L	6.67 NTU	-23.7 mV		120.00 ml/min
5/17/2023 7:36 PM	09:00	7.50 pH	15.96 °C	292.71 µS/cm	0.29 mg/L	39.30 NTU	-27.6 mV	30.91 ft	120.00 ml/min
5/17/2023 7:39 PM	12:00	7.51 pH	15.80 °C	292.26 µS/cm	0.24 mg/L	18.59 NTU	-31.5 mV		120.00 ml/min
5/17/2023 7:42 PM	15:00	7.50 pH	15.78 °C	291.75 µS/cm	0.21 mg/L	25.31 NTU	-32.7 mV		120.00 ml/min
5/17/2023 7:45 PM	18:00	7.51 pH	15.67 °C	291.44 µS/cm	0.19 mg/L	9.42 NTU	-34.2 mV	30.92 ft	120.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/17/2023 5:24:24 PM

Project: FB Culley West (7)

Operator Name: Hayley Torres

Location Name: WAP-4D Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 116 ft Total Depth: 126 ft Initial Depth to Water: 31.89 ft	Pump Type: Mp50 Pump Intake From TOC: 121 ft Estimated Total Volume Pumped: 2520 ml Flow Cell Volume: 130 ml Final Flow Rate: 120 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
5/17/2023 5:24 PM	00:00	7.51 pH	18.66 °C	390.58 µS/cm	1.31 mg/L	0.80 NTU	-126.4 mV	31.89 ft	120.00 ml/min
5/17/2023 5:27 PM	03:00	7.56 pH	18.45 °C	381.59 µS/cm	0.62 mg/L	0.00 NTU	-133.7 mV		120.00 ml/min
5/17/2023 5:30 PM	06:00	7.59 pH	17.96 °C	382.84 µS/cm	0.46 mg/L	0.00 NTU	-135.2 mV		120.00 ml/min
5/17/2023 5:33 PM	09:00	7.59 pH	18.02 °C	382.96 µS/cm	0.39 mg/L	0.00 NTU	-134.3 mV	31.89 ft	120.00 ml/min
5/17/2023 5:36 PM	12:00	7.61 pH	17.87 °C	383.36 µS/cm	0.36 mg/L	0.00 NTU	-135.5 mV		120.00 ml/min
5/17/2023 5:39 PM	15:00	7.60 pH	17.92 °C	383.57 µS/cm	0.32 mg/L	0.16 NTU	-134.8 mV		120.00 ml/min
5/17/2023 5:42 PM	18:00	7.61 pH	17.75 °C	383.71 µS/cm	0.31 mg/L	0.62 NTU	-135.7 mV	31.89 ft	120.00 ml/min
5/17/2023 5:45 PM	21:00	7.60 pH	17.80 °C	383.85 µS/cm	0.29 mg/L	0.00 NTU	-134.7 mV		120.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/16/2023 6:15:10 PM

Project: FB Culley West (3)

Operator Name: Hayley Torres

Location Name: WAP-5S Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 40 ft Total Depth: 50 ft Initial Depth to Water: 29.5 ft	Pump Type: Mp50 Pump Intake From TOC: 45 ft Estimated Total Volume Pumped: 2520 ml Flow Cell Volume: 130 ml Final Flow Rate: 120 ml/min Final Draw Down: 0.01 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 0.01	
5/16/2023 6:15 PM	00:00	6.56 pH	18.47 °C	1,408.7 µS/cm	1.36 mg/L	1.67 NTU	184.6 mV	29.50 ft	120.00 ml/min
5/16/2023 6:18 PM	03:00	6.55 pH	18.22 °C	1,405.9 µS/cm	0.91 mg/L	0.15 NTU	191.0 mV		120.00 ml/min
5/16/2023 6:21 PM	06:00	6.55 pH	18.26 °C	1,408.1 µS/cm	0.72 mg/L	0.00 NTU	196.0 mV		120.00 ml/min
5/16/2023 6:24 PM	09:00	6.54 pH	18.36 °C	1,407.8 µS/cm	0.61 mg/L	0.00 NTU	197.8 mV	29.50 ft	120.00 ml/min
5/16/2023 6:27 PM	12:00	6.55 pH	18.57 °C	1,412.1 µS/cm	0.54 mg/L	0.00 NTU	199.4 mV		120.00 ml/min
5/16/2023 6:30 PM	15:00	6.54 pH	18.27 °C	1,409.2 µS/cm	0.50 mg/L	0.00 NTU	198.8 mV		120.00 ml/min
5/16/2023 6:33 PM	18:00	6.55 pH	18.23 °C	1,418.2 µS/cm	0.43 mg/L	0.00 NTU	200.3 mV	29.51 ft	120.00 ml/min
5/16/2023 6:36 PM	21:00	6.54 pH	18.19 °C	1,411.4 µS/cm	0.38 mg/L	0.00 NTU	200.7 mV		120.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/16/2023 5:17:59 PM

Project: FB Culley West (2)

Operator Name: Hayley Torres

Location Name: WAP-5I Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 75 ft Total Depth: 85 ft Initial Depth to Water: 29.55 ft	Pump Type: Mp50 Pump Intake From TOC: 80 ft Estimated Total Volume Pumped: 2520 ml Flow Cell Volume: 130 ml Final Flow Rate: 120 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10	+/- 0.01	
5/16/2023 5:17 PM	00:00	7.29 pH	16.93 °C	312.15 µS/cm	0.85 mg/L	12.52 NTU	9.7 mV	29.55 ft	120.00 ml/min
5/16/2023 5:20 PM	03:00	7.32 pH	16.82 °C	306.52 µS/cm	0.51 mg/L	7.42 NTU	-7.7 mV		120.00 ml/min
5/16/2023 5:23 PM	06:00	7.32 pH	16.73 °C	306.20 µS/cm	0.37 mg/L	6.48 NTU	-11.0 mV		120.00 ml/min
5/16/2023 5:26 PM	09:00	7.33 pH	16.72 °C	305.84 µS/cm	0.30 mg/L	8.16 NTU	-17.4 mV	29.55 ft	120.00 ml/min
5/16/2023 5:29 PM	12:00	7.33 pH	16.80 °C	305.69 µS/cm	0.25 mg/L	7.03 NTU	-20.9 mV		120.00 ml/min
5/16/2023 5:32 PM	15:00	7.33 pH	16.78 °C	305.27 µS/cm	0.22 mg/L	8.52 NTU	-21.4 mV		120.00 ml/min
5/16/2023 5:35 PM	18:00	7.33 pH	16.73 °C	304.26 µS/cm	0.21 mg/L	7.83 NTU	-21.2 mV	29.55 ft	120.00 ml/min
5/16/2023 5:38 PM	21:00	7.33 pH	16.76 °C	304.26 µS/cm	0.19 mg/L	11.38 NTU	-23.2 mV		120.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/16/2023 4:18:01 PM

Project: FB Culley West

Operator Name: Hayley Torres

Location Name: WAP-5D Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 113 ft Total Depth: 123 ft Initial Depth to Water: 30.08 ft	Pump Type: Mp50 Pump Intake From TOC: 118 m Estimated Total Volume Pumped: 2400 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: 0.01 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10 %	+/- 10	+/- 0.01	
5/16/2023 4:18 PM	00:00	7.11 pH	17.84 °C	412.13 µS/cm	1.35 mg/L	0.62 NTU	10.0 mV	30.08 ft	100.00 ml/min
5/16/2023 4:21 PM	03:00	7.18 pH	17.59 °C	416.44 µS/cm	0.55 mg/L	0.80 NTU	-44.5 mV		100.00 ml/min
5/16/2023 4:24 PM	06:00	7.21 pH	17.33 °C	396.96 µS/cm	0.37 mg/L	0.89 NTU	-69.3 mV		100.00 ml/min
5/16/2023 4:27 PM	09:00	7.20 pH	17.34 °C	399.13 µS/cm	0.31 mg/L	0.39 NTU	-71.6 mV	30.08 ft	100.00 ml/min
5/16/2023 4:30 PM	12:00	7.22 pH	17.26 °C	394.53 µS/cm	0.28 mg/L	1.41 NTU	-79.3 mV		100.00 ml/min
5/16/2023 4:33 PM	15:00	7.21 pH	17.30 °C	392.82 µS/cm	0.25 mg/L	0.00 NTU	-81.2 mV		100.00 ml/min
5/16/2023 4:36 PM	18:00	7.25 pH	17.21 °C	391.80 µS/cm	0.23 mg/L	0.00 NTU	-84.3 mV	30.09 ft	100.00 ml/min
5/16/2023 4:39 PM	21:00	7.23 pH	17.21 °C	391.47 µS/cm	0.22 mg/L	0.00 NTU	-86.2 mV		100.00 ml/min
5/16/2023 4:42 PM	24:00	7.24 pH	17.08 °C	391.46 µS/cm	0.21 mg/L	0.00 NTU	-87.3 mV		100.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/18/2023 2:30:03 PM

Project: FB Culley West (10)

Operator Name: Hayley Torres

Location Name: WAP-6S Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 40 ft Total Depth: 50 ft Initial Depth to Water: 34.98 ft	Pump Type: Mp50 Pump Intake From TOC: 45 ft Estimated Total Volume Pumped: 3960 ml Flow Cell Volume: 130 ml Final Flow Rate: 120 ml/min Final Draw Down: 0.01 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
5/18/2023 2:30 PM	00:00	7.07 pH	21.15 °C	676.66 µS/cm	6.23 mg/L	22.42 NTU	-100.6 mV	34.98 ft	120.00 ml/min
5/18/2023 2:33 PM	03:00	6.92 pH	19.44 °C	925.51 µS/cm	1.87 mg/L	298.42 NTU	-61.6 mV		120.00 ml/min
5/18/2023 2:36 PM	06:00	6.92 pH	19.27 °C	951.48 µS/cm	0.72 mg/L	149.20 NTU	-52.4 mV		120.00 ml/min
5/18/2023 2:39 PM	09:00	6.94 pH	19.11 °C	938.36 µS/cm	0.45 mg/L	80.38 NTU	-48.5 mV	34.98 ft	120.00 ml/min
5/18/2023 2:42 PM	12:00	6.94 pH	19.02 °C	936.65 µS/cm	0.34 mg/L	40.31 NTU	-46.7 mV		120.00 ml/min
5/18/2023 2:45 PM	15:00	6.95 pH	18.99 °C	927.92 µS/cm	0.28 mg/L	40.29 NTU	-45.3 mV		120.00 ml/min
5/18/2023 2:48 PM	18:00	6.95 pH	19.01 °C	920.97 µS/cm	0.26 mg/L	24.49 NTU	-44.6 mV	34.99 ft	120.00 ml/min
5/18/2023 2:51 PM	21:00	6.96 pH	18.95 °C	915.22 µS/cm	0.23 mg/L	22.16 NTU	-43.7 mV		120.00 ml/min
5/18/2023 2:54 PM	24:00	6.96 pH	18.96 °C	913.61 µS/cm	0.22 mg/L	20.59 NTU	-43.3 mV		120.00 ml/min
5/18/2023 2:57 PM	27:00	6.97 pH	18.94 °C	905.11 µS/cm	0.21 mg/L	19.47 NTU	-42.7 mV	34.99 ft	120.00 ml/min
5/18/2023 3:00 PM	30:00	6.98 pH	18.95 °C	897.86 µS/cm	0.20 mg/L	13.26 NTU	-42.4 mV		120.00 ml/min
5/18/2023 3:03 PM	33:00	6.98 pH	18.94 °C	893.05 µS/cm	0.19 mg/L	15.70 NTU	-42.1 mV		120.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/18/2023 3:51:12 PM

Project: FB Culley West (11)

Operator Name: Hayley Torres

Location Name: WAP-6I Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 70 ft Total Depth: 80 ft Initial Depth to Water: 35.65 ft	Pump Type: Mp50 Pump Intake From TOC: 75 ft Estimated Total Volume Pumped: 2160 ml Flow Cell Volume: 130 ml Final Flow Rate: 120 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
5/18/2023 3:51 PM	00:00	7.39 pH	18.82 °C	370.15 µS/cm	3.10 mg/L	3.07 NTU	-87.8 mV	35.65 ft	120.00 ml/min
5/18/2023 3:54 PM	03:00	7.54 pH	18.01 °C	322.71 µS/cm	0.75 mg/L	9.01 NTU	-96.2 mV		120.00 ml/min
5/18/2023 3:57 PM	06:00	7.55 pH	17.96 °C	319.19 µS/cm	0.41 mg/L	42.71 NTU	-100.5 mV		120.00 ml/min
5/18/2023 4:00 PM	09:00	7.55 pH	17.88 °C	317.01 µS/cm	0.29 mg/L	34.14 NTU	-103.2 mV	35.65 ft	120.00 ml/min
5/18/2023 4:03 PM	12:00	7.56 pH	17.85 °C	316.33 µS/cm	0.23 mg/L	17.72 NTU	-109.1 mV		120.00 ml/min
5/18/2023 4:06 PM	15:00	7.56 pH	17.76 °C	316.40 µS/cm	0.21 mg/L	8.70 NTU	-113.8 mV		120.00 ml/min
5/18/2023 4:09 PM	18:00	7.56 pH	17.73 °C	316.18 µS/cm	0.18 mg/L	3.13 NTU	-116.5 mV	35.65 ft	120.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/18/2023 4:36:00 PM

Project: FB Culley West (12)

Operator Name: Hayley Torres

Location Name: WAP-6D Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 105 ft Total Depth: 115.5 ft Initial Depth to Water: 40.47 ft	Pump Type: Mp50 Pump Intake From TOC: 110 ft Estimated Total Volume Pumped: 1800 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
5/18/2023 4:36 PM	00:00	7.31 pH	19.38 °C	359.15 µS/cm	3.35 mg/L	0.00 NTU	-41.9 mV	40.47 ft	100.00 ml/min
5/18/2023 4:39 PM	03:00	7.44 pH	19.19 °C	359.58 µS/cm	1.47 mg/L	0.01 NTU	-116.5 mV		100.00 ml/min
5/18/2023 4:42 PM	06:00	7.51 pH	18.84 °C	359.92 µS/cm	0.97 mg/L	0.00 NTU	-123.6 mV		100.00 ml/min
5/18/2023 4:45 PM	09:00	7.53 pH	18.94 °C	359.89 µS/cm	0.75 mg/L	0.00 NTU	-124.5 mV	40.47 ft	100.00 ml/min
5/18/2023 4:48 PM	12:00	7.54 pH	18.76 °C	360.07 µS/cm	0.62 mg/L	0.00 NTU	-128.1 mV		100.00 ml/min
5/18/2023 4:51 PM	15:00	7.55 pH	18.88 °C	360.10 µS/cm	0.55 mg/L	0.00 NTU	-129.6 mV		100.00 ml/min
5/18/2023 4:54 PM	18:00	7.55 pH	18.84 °C	359.88 µS/cm	0.50 mg/L	0.00 NTU	-131.6 mV	40.47 ft	100.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/22/2023 1:33:10 PM

Project: FB Culley West (19)

Operator Name: Hayley Torres

Location Name: WAP-7S Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 50 ft Total Depth: 60 ft Initial Depth to Water: 37.81 ft	Pump Type: Mp50 Pump Intake From TOC: 55 ft Estimated Total Volume Pumped: 1800 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
5/22/2023 1:33 PM	00:00	10.20 pH	19.67 °C	1,184.0 µS/cm	1.80 mg/L	0.00 NTU	25.8 mV	37.81 ft	100.00 ml/min
5/22/2023 1:36 PM	03:00	10.32 pH	19.42 °C	1,195.6 µS/cm	1.41 mg/L	0.00 NTU	14.0 mV		100.00 ml/min
5/22/2023 1:39 PM	06:00	10.39 pH	19.63 °C	1,203.6 µS/cm	1.13 mg/L	0.00 NTU	7.6 mV		100.00 ml/min
5/22/2023 1:42 PM	09:00	10.44 pH	19.85 °C	1,210.8 µS/cm	0.94 mg/L	0.00 NTU	2.7 mV	37.81 ft	100.00 ml/min
5/22/2023 1:45 PM	12:00	10.47 pH	20.06 °C	1,214.0 µS/cm	0.80 mg/L	0.00 NTU	0.3 mV		100.00 ml/min
5/22/2023 1:48 PM	15:00	10.49 pH	20.33 °C	1,216.9 µS/cm	0.71 mg/L	0.00 NTU	-1.5 mV		100.00 ml/min
5/22/2023 1:51 PM	18:00	10.50 pH	20.45 °C	1,217.9 µS/cm	0.64 mg/L	0.00 NTU	-2.2 mV	37.81 ft	100.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/22/2023 2:42:03 PM

Project: FB Culley West (20)

Operator Name: Hayley Torres

Location Name: WAP-7D Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 68.5 ft Total Depth: 78.5 ft Initial Depth to Water: 37.5 ft	Pump Type: Mp50 Pump Intake From TOC: 73 ft Estimated Total Volume Pumped: 1800 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
5/22/2023 2:42 PM	00:00	7.26 pH	19.17 °C	2,357.1 µS/cm	1.08 mg/L	6.25 NTU	-63.0 mV	37.50 ft	100.00 ml/min
5/22/2023 2:45 PM	03:00	7.25 pH	19.03 °C	2,366.5 µS/cm	0.68 mg/L	5.21 NTU	-58.3 mV		100.00 ml/min
5/22/2023 2:48 PM	06:00	7.25 pH	18.95 °C	2,369.8 µS/cm	0.50 mg/L	0.40 NTU	-56.8 mV		100.00 ml/min
5/22/2023 2:51 PM	09:00	7.24 pH	19.08 °C	2,373.2 µS/cm	0.41 mg/L	0.00 NTU	-56.4 mV	37.50 ft	100.00 ml/min
5/22/2023 2:54 PM	12:00	7.24 pH	19.41 °C	2,376.0 µS/cm	0.35 mg/L	0.00 NTU	-56.7 mV		100.00 ml/min
5/22/2023 2:57 PM	15:00	7.23 pH	19.42 °C	2,377.7 µS/cm	0.32 mg/L	0.00 NTU	-56.4 mV		100.00 ml/min
5/22/2023 3:00 PM	18:00	7.23 pH	19.57 °C	2,379.7 µS/cm	0.29 mg/L	0.00 NTU	-56.3 mV	37.50 ft	100.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/17/2023 3:28:31 PM

Project: FB Culley West (4)

Operator Name: Hayley Torres

Location Name: WAP-8S Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 40 ft Total Depth: 50 ft	Pump Type: Mp50 Pump Intake From TOC: 45 ft Estimated Total Volume Pumped: 2284 ml Flow Cell Volume: 130 ml Final Flow Rate: 120 ml/min	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

DUP 1

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
5/17/2023 3:28 PM	00:00	7.43 pH	18.92 °C	1,038.7 µS/cm	0.81 mg/L	31.41 NTU	-125.6 mV		120.00 ml/min
5/17/2023 3:29 PM	01:02	7.44 pH	18.76 °C	1,035.1 µS/cm	0.70 mg/L	31.45 NTU	-127.8 mV	31.75 ft	120.00 ml/min
5/17/2023 3:32 PM	04:02	7.46 pH	18.98 °C	1,035.3 µS/cm	0.44 mg/L	60.09 NTU	-133.0 mV		120.00 ml/min
5/17/2023 3:35 PM	07:02	7.48 pH	18.84 °C	1,034.8 µS/cm	0.37 mg/L	19.43 NTU	-136.5 mV		120.00 ml/min
5/17/2023 3:38 PM	10:02	7.47 pH	18.98 °C	1,038.5 µS/cm	0.32 mg/L	6.58 NTU	-137.6 mV	31.75 ft	120.00 ml/min
5/17/2023 3:41 PM	13:02	7.48 pH	18.81 °C	1,038.9 µS/cm	0.29 mg/L	12.79 NTU	-139.3 mV		120.00 ml/min
5/17/2023 3:44 PM	16:02	7.47 pH	18.88 °C	1,039.4 µS/cm	0.27 mg/L	2.69 NTU	-139.7 mV		120.00 ml/min
5/17/2023 3:47 PM	19:02	7.48 pH	18.76 °C	1,038.0 µS/cm	0.25 mg/L	2.00 NTU	-140.9 mV	31.75 ft	120.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/17/2023 12:30:01 PM

Project: FB Culley West (5)

Operator Name: Hayley Torres

Location Name: WAP-81 Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 70 ft Total Depth: 80 ft Initial Depth to Water: 31.75 ft	Pump Type: Mp50 Pump Intake From TOC: 75 ft Estimated Total Volume Pumped: 9360 ml Flow Cell Volume: 130 ml Final Flow Rate: 120 ml/min Final Draw Down: 0.02 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
5/17/2023 12:30 PM	00:00	11.94 pH	18.93 °C	211.26 µS/cm	8.19 mg/L	948.99 NTU	-62.3 mV	31.75 ft	120.00 ml/min
5/17/2023 12:33 PM	03:00	7.30 pH	18.67 °C	402.93 µS/cm	0.38 mg/L	1,960.0 NTU	-69.6 mV		120.00 ml/min
5/17/2023 12:36 PM	06:00	7.32 pH	18.95 °C	400.48 µS/cm	0.25 mg/L	768.01 NTU	-72.0 mV		120.00 ml/min
5/17/2023 12:39 PM	09:00	7.31 pH	19.14 °C	399.56 µS/cm	0.23 mg/L	1,236.3 NTU	-73.1 mV	31.75 ft	120.00 ml/min
5/17/2023 12:42 PM	12:00	7.32 pH	19.35 °C	399.35 µS/cm	0.21 mg/L	4,772.8 NTU	-76.1 mV		120.00 ml/min
5/17/2023 12:45 PM	15:00	7.34 pH	18.99 °C	398.96 µS/cm	2.37 mg/L	238.14 NTU	-61.5 mV		120.00 ml/min
5/17/2023 12:48 PM	18:00	7.30 pH	18.63 °C	398.59 µS/cm	0.26 mg/L	1,907.2 NTU	-68.9 mV	31.75 ft	120.00 ml/min
5/17/2023 12:51 PM	21:00	7.31 pH	18.60 °C	401.56 µS/cm	0.21 mg/L	129.76 NTU	-76.8 mV		120.00 ml/min
5/17/2023 12:54 PM	24:00	7.30 pH	18.57 °C	399.76 µS/cm	0.17 mg/L	934.17 NTU	-69.1 mV		120.00 ml/min
5/17/2023 12:57 PM	27:00	7.30 pH	18.56 °C	401.63 µS/cm	0.16 mg/L	100.36 NTU	-71.9 mV	31.76 ft	120.00 ml/min
5/17/2023 1:00 PM	30:00	7.30 pH	18.59 °C	400.46 µS/cm	0.14 mg/L	115.54 NTU	-74.6 mV		120.00 ml/min
5/17/2023 1:03 PM	33:00	7.31 pH	18.49 °C	401.99 µS/cm	0.52 mg/L	77.16 NTU	-68.4 mV		120.00 ml/min
5/17/2023 1:06 PM	36:00	7.30 pH	18.52 °C	401.39 µS/cm	0.22 mg/L	81.80 NTU	-73.7 mV	31.76 ft	120.00 ml/min
5/17/2023 1:09 PM	39:00	7.31 pH	18.49 °C	402.07 µS/cm	0.19 mg/L	95.98 NTU	-75.0 mV		120.00 ml/min
5/17/2023 1:12 PM	42:00	7.30 pH	18.59 °C	401.07 µS/cm	0.49 mg/L	20.77 NTU	-69.8 mV		120.00 ml/min
5/17/2023 1:15 PM	45:00	7.30 pH	18.52 °C	401.93 µS/cm	0.14 mg/L	33.16 NTU	-74.2 mV	31.76 ft	120.00 ml/min

5/17/2023 1:18 PM	48:00	7.29 pH	18.57 °C	401.31 µS/cm	0.13 mg/L	14.31 NTU	-75.9 mV		120.00 ml/min
5/17/2023 1:21 PM	51:00	7.30 pH	18.52 °C	401.80 µS/cm	0.13 mg/L	17.56 NTU	-78.0 mV		120.00 ml/min
5/17/2023 1:24 PM	54:00	7.30 pH	18.64 °C	397.77 µS/cm	0.23 mg/L	35.02 NTU	-73.5 mV	31.76 ft	120.00 ml/min
5/17/2023 1:27 PM	57:00	7.31 pH	18.71 °C	398.68 µS/cm	0.14 mg/L	33.34 NTU	-78.8 mV		120.00 ml/min
5/17/2023 1:30 PM	01:00:00	7.31 pH	18.92 °C	398.69 µS/cm	0.15 mg/L	21.40 NTU	-79.7 mV		120.00 ml/min
5/17/2023 1:33 PM	01:03:00	7.31 pH	18.82 °C	398.52 µS/cm	0.17 mg/L	37.66 NTU	-79.8 mV	31.77 ft	120.00 ml/min
5/17/2023 1:36 PM	01:06:00	7.31 pH	18.86 °C	398.59 µS/cm	0.18 mg/L	17.84 NTU	-79.5 mV		120.00 ml/min
5/17/2023 1:39 PM	01:09:00	7.31 pH	19.11 °C	398.71 µS/cm	0.19 mg/L	21.12 NTU	-80.5 mV		120.00 ml/min
5/17/2023 1:42 PM	01:12:00	7.31 pH	19.84 °C	399.50 µS/cm	0.23 mg/L	12.60 NTU	-80.3 mV	31.77 ft	120.00 ml/min
5/17/2023 1:45 PM	01:15:00	7.31 pH	19.81 °C	398.48 µS/cm	0.27 mg/L	7.83 NTU	-79.4 mV		120.00 ml/min
5/17/2023 1:48 PM	01:18:00	7.31 pH	19.99 °C	398.87 µS/cm	0.32 mg/L	6.40 NTU	-78.0 mV	31.77 ft	120.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/17/2023 2:33:09 PM

Project: FB Culley West (6)

Operator Name: Hayley Torres

Location Name: WAP-8D Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 97 ft Total Depth: 107 ft Initial Depth to Water: 31.92 ft	Pump Type: Mp50 Pump Intake From TOC: 102 ft Estimated Total Volume Pumped: 2160 ml Flow Cell Volume: 130 ml Final Flow Rate: 120 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
5/17/2023 2:33 PM	00:00	7.40 pH	18.73 °C	388.75 µS/cm	0.57 mg/L	0.00 NTU	-109.2 mV	31.92 ft	120.00 ml/min
5/17/2023 2:36 PM	03:00	7.43 pH	18.71 °C	400.28 µS/cm	0.36 mg/L	0.11 NTU	-124.7 mV		120.00 ml/min
5/17/2023 2:39 PM	06:00	7.45 pH	18.47 °C	402.88 µS/cm	0.29 mg/L	0.00 NTU	-130.2 mV		120.00 ml/min
5/17/2023 2:42 PM	09:00	7.45 pH	18.48 °C	403.11 µS/cm	0.24 mg/L	0.00 NTU	-132.9 mV	31.92 ft	120.00 ml/min
5/17/2023 2:45 PM	12:00	7.45 pH	18.34 °C	403.73 µS/cm	0.21 mg/L	0.45 NTU	-134.9 mV		120.00 ml/min
5/17/2023 2:48 PM	15:00	7.45 pH	18.49 °C	403.52 µS/cm	0.19 mg/L	0.00 NTU	-136.0 mV		120.00 ml/min
5/17/2023 2:51 PM	18:00	7.45 pH	18.44 °C	404.08 µS/cm	0.17 mg/L	0.00 NTU	-137.8 mV	31.92 ft	120.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/19/2023 10:42:14 AM

Project: FB Culley West (13)

Operator Name: Hayley Torres

Location Name: WAP-9S Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 60 ft Total Depth: 70 ft Initial Depth to Water: 41.69 ft	Pump Type: Mp50 Pump Intake From TOC: 65 ft Estimated Total Volume Pumped: 8280 ml Flow Cell Volume: 130 ml Final Flow Rate: 120 ml/min Final Draw Down: 0.02 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
5/19/2023 10:42 AM	00:00	7.59 pH	19.24 °C	554.09 µS/cm	3.75 mg/L	453.77 NTU	42.6 mV	41.69 ft	120.00 ml/min
5/19/2023 10:45 AM	03:00	7.62 pH	18.54 °C	571.24 µS/cm	3.43 mg/L	450.96 NTU	-21.4 mV		120.00 ml/min
5/19/2023 10:48 AM	06:00	7.62 pH	18.59 °C	569.37 µS/cm	3.61 mg/L	493.69 NTU	-28.9 mV		120.00 ml/min
5/19/2023 10:51 AM	09:00	7.62 pH	18.50 °C	569.43 µS/cm	4.05 mg/L	375.09 NTU	-29.6 mV	41.70 ft	120.00 ml/min
5/19/2023 10:54 AM	12:00	7.62 pH	18.40 °C	567.49 µS/cm	4.02 mg/L	464.01 NTU	-32.0 mV		120.00 ml/min
5/19/2023 10:57 AM	15:00	7.61 pH	18.48 °C	569.31 µS/cm	3.71 mg/L	289.28 NTU	-30.6 mV		120.00 ml/min
5/19/2023 11:00 AM	18:00	7.61 pH	18.52 °C	570.01 µS/cm	4.19 mg/L	281.72 NTU	-28.5 mV	41.71 ft	120.00 ml/min
5/19/2023 11:03 AM	21:00	7.62 pH	18.50 °C	569.76 µS/cm	4.22 mg/L	214.85 NTU	-29.6 mV		120.00 ml/min
5/19/2023 11:06 AM	24:00	7.62 pH	18.49 °C	569.38 µS/cm	4.25 mg/L	149.18 NTU	-29.4 mV		120.00 ml/min
5/19/2023 11:09 AM	27:00	7.62 pH	18.47 °C	569.66 µS/cm	4.26 mg/L	115.54 NTU	-28.6 mV	41.71 ft	120.00 ml/min
5/19/2023 11:12 AM	30:00	7.62 pH	18.62 °C	570.49 µS/cm	4.25 mg/L	97.75 NTU	-28.3 mV		120.00 ml/min
5/19/2023 11:15 AM	33:00	7.62 pH	18.57 °C	568.67 µS/cm	4.34 mg/L	68.23 NTU	-27.6 mV		120.00 ml/min
5/19/2023 11:18 AM	36:00	7.62 pH	18.49 °C	566.78 µS/cm	4.17 mg/L	73.47 NTU	-27.7 mV	41.71 ft	120.00 ml/min
5/19/2023 11:21 AM	39:00	7.62 pH	18.49 °C	568.57 µS/cm	3.96 mg/L	65.24 NTU	-28.2 mV		120.00 ml/min
5/19/2023 11:24 AM	42:00	7.61 pH	18.45 °C	567.38 µS/cm	4.17 mg/L	70.57 NTU	-27.7 mV		120.00 ml/min
5/19/2023 11:27 AM	45:00	7.61 pH	18.65 °C	562.95 µS/cm	4.23 mg/L	75.17 NTU	-24.9 mV	41.70 ft	120.00 ml/min

5/19/2023 11:30 AM	48:00	7.61 pH	18.64 °C	561.83 µS/cm	4.18 mg/L	91.31 NTU	-26.0 mV		120.00 ml/min
5/19/2023 11:33 AM	51:00	7.60 pH	18.98 °C	562.30 µS/cm	4.16 mg/L	95.23 NTU	-22.5 mV		120.00 ml/min
5/19/2023 11:36 AM	54:00	7.60 pH	18.94 °C	561.76 µS/cm	4.33 mg/L	110.60 NTU	-21.2 mV	41.71 ft	120.00 ml/min
5/19/2023 11:39 AM	57:00	7.61 pH	18.38 °C	572.06 µS/cm	3.95 mg/L	126.77 NTU	-27.8 mV		120.00 ml/min
5/19/2023 11:42 AM	01:00:00	7.59 pH	18.51 °C	575.83 µS/cm	3.69 mg/L	142.54 NTU	-29.6 mV		120.00 ml/min
5/19/2023 11:45 AM	01:03:00	7.60 pH	18.57 °C	551.56 µS/cm	4.19 mg/L	30.76 NTU	-31.1 mV	41.71 ft	120.00 ml/min
5/19/2023 11:48 AM	01:06:00	7.60 pH	18.67 °C	550.81 µS/cm	3.85 mg/L	33.62 NTU	-30.5 mV		120.00 ml/min
5/19/2023 11:51 AM	01:09:00	7.60 pH	18.78 °C	552.47 µS/cm	4.42 mg/L	7.64 NTU	-29.8 mV		120.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/19/2023 12:36:32 PM

Project: FB Culley West (14)

Operator Name: Hayley Torres

Location Name: WAP-9I Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 80 ft Total Depth: 90 ft Initial Depth to Water: 43.09 ft	Pump Type: Mp50 Pump Intake From TOC: 85 ft Estimated Total Volume Pumped: 3960 ml Flow Cell Volume: 130 ml Final Flow Rate: 120 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
5/19/2023 12:36 PM	00:00	7.50 pH	20.26 °C	339.92 µS/cm	4.51 mg/L	42.87 NTU	-32.0 mV	43.09 ft	120.00 ml/min
5/19/2023 12:39 PM	03:00	7.64 pH	19.71 °C	331.82 µS/cm	7.56 mg/L	21.49 NTU	-56.8 mV		120.00 ml/min
5/19/2023 12:42 PM	06:00	7.66 pH	19.37 °C	328.82 µS/cm	6.77 mg/L	54.99 NTU	-62.3 mV		120.00 ml/min
5/19/2023 12:45 PM	09:00	7.66 pH	19.30 °C	326.78 µS/cm	6.28 mg/L	80.20 NTU	-64.5 mV	43.09 ft	120.00 ml/min
5/19/2023 12:48 PM	12:00	7.66 pH	19.38 °C	318.32 µS/cm	6.09 mg/L	78.21 NTU	-65.3 mV		120.00 ml/min
5/19/2023 12:51 PM	15:00	7.65 pH	19.37 °C	327.57 µS/cm	6.51 mg/L	0.83 NTU	-68.3 mV		120.00 ml/min
5/19/2023 12:54 PM	18:00	7.66 pH	19.38 °C	328.18 µS/cm	6.24 mg/L	5.50 NTU	-70.3 mV	43.09 ft	120.00 ml/min
5/19/2023 12:57 PM	21:00	7.65 pH	19.57 °C	326.58 µS/cm	5.38 mg/L	10.52 NTU	-54.9 mV		120.00 ml/min
5/19/2023 1:00 PM	24:00	7.64 pH	19.02 °C	329.41 µS/cm	3.81 mg/L	0.00 NTU	-73.9 mV		120.00 ml/min
5/19/2023 1:03 PM	27:00	7.63 pH	19.42 °C	330.07 µS/cm	1.94 mg/L	0.27 NTU	-81.2 mV	43.09 ft	120.00 ml/min
5/19/2023 1:06 PM	30:00	7.64 pH	19.25 °C	329.69 µS/cm	1.53 mg/L	1.00 NTU	-85.3 mV		120.00 ml/min
5/19/2023 1:09 PM	33:00	7.64 pH	19.34 °C	329.40 µS/cm	1.04 mg/L	3.08 NTU	-88.3 mV		120.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 5/19/2023 2:06:08 PM

Project: FB Culley West (15)

Operator Name: Hayley Torres

Location Name: WAP-9D Well Diameter: 2 in Casing Type: Pvc Screen Length: 10 ft Top of Screen: 110 ft Total Depth: 120 ft Initial Depth to Water: 48.29 ft	Pump Type: Mp50 Pump Intake From TOC: 115 ft Estimated Total Volume Pumped: 6298.333 ml Flow Cell Volume: 130 ml Final Flow Rate: 100 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 745383
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth to Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
5/19/2023 2:06 PM	00:00	5.92 pH	20.94 °C	248.59 µS/cm	4.39 mg/L	57.35 NTU	-68.9 mV	48.29 ft	100.00 ml/min
5/19/2023 2:09 PM	03:00	5.84 pH	20.74 °C	243.06 µS/cm	5.54 mg/L	26.73 NTU	-74.9 mV		100.00 ml/min
5/19/2023 2:12 PM	06:00	5.82 pH	20.19 °C	239.54 µS/cm	5.94 mg/L	46.72 NTU	-93.1 mV		100.00 ml/min
5/19/2023 2:15 PM	09:00	5.82 pH	20.28 °C	237.60 µS/cm	6.78 mg/L	46.42 NTU	-119.2 mV	48.29 ft	100.00 ml/min
5/19/2023 2:18 PM	12:00	5.81 pH	20.43 °C	235.20 µS/cm	6.61 mg/L	94.89 NTU	-123.4 mV		100.00 ml/min
5/19/2023 2:21 PM	15:00	5.81 pH	20.37 °C	237.26 µS/cm	6.67 mg/L	72.00 NTU	-123.5 mV		100.00 ml/min
5/19/2023 2:24 PM	18:15	5.80 pH	20.45 °C	237.06 µS/cm	7.56 mg/L	124.54 NTU	-120.6 mV	48.29 ft	100.00 ml/min
5/19/2023 2:27 PM	21:15	5.81 pH	20.87 °C	241.45 µS/cm	8.31 mg/L	39.43 NTU	-115.3 mV		100.00 ml/min
5/19/2023 2:30 PM	24:15	5.81 pH	20.87 °C	238.30 µS/cm	7.41 mg/L	79.75 NTU	-114.5 mV		100.00 ml/min
5/19/2023 2:33 PM	27:15	5.81 pH	20.68 °C	239.70 µS/cm	8.10 mg/L	50.64 NTU	-111.8 mV	48.28 ft	100.00 ml/min
5/19/2023 2:36 PM	30:15	5.80 pH	20.47 °C	240.04 µS/cm	7.54 mg/L	77.93 NTU	-110.8 mV		100.00 ml/min
5/19/2023 2:39 PM	33:11	5.79 pH	20.64 °C	237.56 µS/cm	7.61 mg/L	82.30 NTU	-107.7 mV		100.00 ml/min
5/19/2023 2:42 PM	35:59	5.81 pH	21.03 °C	216.94 µS/cm	7.20 mg/L	67.46 NTU	-108.6 mV	48.28 ft	100.00 ml/min
5/19/2023 2:45 PM	38:59	5.83 pH	20.63 °C	236.95 µS/cm	6.03 mg/L	44.83 NTU	-112.8 mV	48.29 ft	100.00 ml/min
5/19/2023 2:48 PM	41:59	5.82 pH	20.99 °C	236.05 µS/cm	5.74 mg/L	62.61 NTU	-112.4 mV		100.00 ml/min
5/19/2023 2:51 PM	44:59	5.83 pH	20.69 °C	234.86 µS/cm	5.52 mg/L	65.64 NTU	-112.5 mV		100.00 ml/min

5/19/2023 2:54 PM	47:59	5.84 pH	20.08 °C	233.63 µS/cm	5.50 mg/L	73.66 NTU	-111.9 mV	48.29 ft	100.00 ml/min
5/19/2023 2:57 PM	50:59	5.83 pH	19.65 °C	240.04 µS/cm	5.62 mg/L	37.28 NTU	-109.2 mV		100.00 ml/min
5/19/2023 3:00 PM	53:59	5.84 pH	19.82 °C	240.99 µS/cm	4.89 mg/L	48.10 NTU	-110.1 mV		100.00 ml/min
5/19/2023 3:03 PM	56:59	5.85 pH	19.45 °C	240.86 µS/cm	5.77 mg/L	37.19 NTU	-104.6 mV	48.29 ft	100.00 ml/min
5/19/2023 3:06 PM	59:59	5.87 pH	19.45 °C	241.17 µS/cm	6.23 mg/L	48.25 NTU	-102.3 mV		100.00 ml/min
5/19/2023 3:09 PM	01:02:59	5.89 pH	19.87 °C	241.74 µS/cm	6.16 mg/L	41.59 NTU	-102.5 mV		100.00 ml/min

Samples

Sample ID:	Description:
------------	--------------

APPENDIX C
Laboratory Analytical Reports

 **ANALYTICAL REPORT****PREPARED FOR**

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

Generated 12/28/2022 6:17:23 PM

JOB DESCRIPTION

CCR Groundwater Monitoring

JOB NUMBER

180-148407-1

Eurofins Pittsburgh

Job Notes

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of Eurofins Environment Testing Northeast, LLC Pittsburgh and its client. All questions regarding this report should be directed to the Eurofins Environment Testing Northeast, LLC Pittsburgh Project Manager or designee who has signed this report.

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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12/28/2022 6:17:23 PM

Authorized for release by
Ken Hayes, Project Manager II
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(615)301-5035



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Case Narrative

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

Job ID: 180-148407-1

Job ID: 180-148407-1

Laboratory: Eurofins Pittsburgh

Narrative

Job Narrative 180-148407-1

Comments

No additional comments.

Receipt

The samples were received on 11/23/2022 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 8 coolers at receipt time were 2.1° C, 2.3° C, 2.4° C, 2.4° C, 2.4° C, 2.4° C, 2.6° C and 2.6° C.

Receipt Exceptions

The following samples were received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the TDS analysis within holding time: WAP-4S (180-148407-5), WAP-4I (180-148407-6), WAP-4D (180-148407-7), WAP-5S (180-148407-8), WAP-5D (180-148407-9), WAP-5I (180-148407-10), WAP-6S (180-148407-11), WAP-6I (180-148407-12), WAP-6D (180-148407-13) and WAP-8S (180-148407-16).

The time collected on container label for the following sample did not match the information listed on the Chain-of-Custody (COC): WAP-5D (180-148407-9). The time collected on the container labels list 12:20, while the COC lists 11:00. The sample tech logged per the COC.

The time collected on the container label for the following sample did not match the information listed on the Chain-of-Custody (COC): WAP-5I (180-148407-10). The time collected on the container labels list 11:00, while the COC lists 12:20. The sample tech logged per the COC.

GC Semi VOA

Method 9056A: The following sample was diluted due to the nature of the sample matrix: WAP-7D (180-148407-15). Elevated reporting limits (RLs) are provided. Dilutions based on conductivity results of sample.

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

Metals

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

General Chemistry

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

Narrative

Job Narrative 180-148407-2

Comments

No additional comments.

Receipt

The samples were received on 11/23/2022 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 8 coolers at receipt time were 2.1° C, 2.3° C, 2.4° C, 2.4° C, 2.4° C, 2.4° C, 2.6° C and 2.6° C.

Receipt Exceptions

The following samples were received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the TDS analysis within holding time: WAP-4S (180-148407-5), WAP-4I (180-148407-6), WAP-4D (180-148407-7), WAP-5S (180-148407-8), WAP-5D (180-148407-9), WAP-5I (180-148407-10), WAP-6S (180-148407-11), WAP-6I (180-148407-12), WAP-6D (180-148407-13) and WAP-8S

Case Narrative

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

Job ID: 180-148407-1

Job ID: 180-148407-1 (Continued)

Laboratory: Eurofins Pittsburgh (Continued)

(180-148407-16).

The time collected on container label for the following sample did not match the information listed on the Chain-of-Custody (COC): WAP-5D (180-148407-9). The time collected on the container labels list 12:20, while the COC lists 11:00. The sample tech logged per the COC.

The time collected on the container label for the following sample did not match the information listed on the Chain-of-Custody (COC): WAP-5I (180-148407-10). The time collected on the container labels list 11:00, while the COC lists 12:20. The sample tech logged per the COC.

RAD

Methods 903.0, 9315: Radium-226 batch 592044

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. WAP-9S (180-148407-19), WAP-9I (180-148407-20), WAP-9D (180-148407-21), FIELD BLANK (180-148407-22), BLIND DUP 1 (180-148407-23), BLIND DUP 2 (180-148407-24), CCR-AP-7 (180-148407-25), CCR-AP-7 (180-148407-25[DU]), (LCS 160-592044/2-A) and (MB 160-592044/1-A)

Method 9315: Radium-226 batch 591878

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. WAP-1 (180-148407-1), WAP-2RR (180-148407-2), WAP-3S (180-148407-3), WAP-3D (180-148407-4), WAP-4S (180-148407-5), WAP-4I (180-148407-6), WAP-4I (180-148407-6[DU]), WAP-4D (180-148407-7), WAP-5S (180-148407-8), WAP-5D (180-148407-9), WAP-5I (180-148407-10), WAP-6S (180-148407-11), WAP-6I (180-148407-12), WAP-6D (180-148407-13), WAP-7S (180-148407-14), WAP-7D (180-148407-15), WAP-8S (180-148407-16), WAP-8I (180-148407-17), WAP-8D (180-148407-18), (LCS 160-591878/2-A) and (MB 160-591878/1-A)

Methods 904.0, 9320: Radium-228 batch 592054

The detection goal was not met for the following samples. Samples were prepped at a reduced volume due to the presence of matrix interferences: WAP-9S (180-148407-19) and WAP-9D (180-148407-21). Analytical results are reported with the detection limit achieved.

Methods 904.0, 9320: Radium-228 batch 592054

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. WAP-9S (180-148407-19), WAP-9I (180-148407-20), WAP-9D (180-148407-21), FIELD BLANK (180-148407-22), BLIND DUP 1 (180-148407-23), BLIND DUP 2 (180-148407-24), CCR-AP-7 (180-148407-25), CCR-AP-7 (180-148407-25[DU]), (LCS 160-592054/2-A) and (MB 160-592054/1-A)

Method 9320: Radium-228 batch 591884

The detection goal was not met for the following sample. Sample was prepped at a reduced volume due to the presence of matrix interferences: WAP-1 (180-148407-1). Analytical results are reported with the detection limit achieved.

Method 9320: Radium-228 batch 591884

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. WAP-1 (180-148407-1), WAP-2RR (180-148407-2), WAP-3S (180-148407-3), WAP-3D (180-148407-4), WAP-4S (180-148407-5), WAP-4I (180-148407-6), WAP-4I (180-148407-6[DU]), WAP-4D (180-148407-7), WAP-5S (180-148407-8), WAP-5D (180-148407-9), WAP-5I (180-148407-10), WAP-6S (180-148407-11), WAP-6I (180-148407-12), WAP-6D (180-148407-13), WAP-7S (180-148407-14), WAP-7D (180-148407-15), WAP-8S (180-148407-16), WAP-8I (180-148407-17), WAP-8D (180-148407-18), (LCS 160-591884/2-A) and (MB 160-591884/1-A)

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

Definitions/Glossary

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

Job ID: 180-148407-1

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.
F1	MS and/or MSD recovery exceeds control limits.
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	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

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.
α	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

Job ID: 180-148407-1

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	06-27-22 *
California	State	2891	04-30-23
Connecticut	State	PH-0688	09-30-22 *
Florida	NELAP	E871008	06-30-23
Georgia	State	PA 02-00416	04-30-23
Illinois	NELAP	004375	06-30-23
Kansas	NELAP	E-10350	03-31-23
Kentucky (UST)	State	162013	04-30-23
Kentucky (WW)	State	KY98043	12-31-22
Louisiana	NELAP	04041	06-30-22 *
Louisiana (All)	NELAP	04041	06-30-23
Maine	State	PA00164	03-06-24
Minnesota	NELAP	042-999-482	12-31-22
New Hampshire	NELAP	2030	04-04-23
New Jersey	NELAP	PA005	06-30-23
New York	NELAP	11182	04-01-23
North Carolina (WW/SW)	State	434	12-31-22
North Dakota	State	R-227	04-30-23
Oregon	NELAP	PA-2151	02-07-23
Pennsylvania	NELAP	02-00416	04-30-23
Rhode Island	State	LAO00362	12-31-22
South Carolina	State	89014	04-20-23
Texas	NELAP	T104704528	03-31-23
US Fish & Wildlife	US Federal Programs	058448	03-31-23
USDA	US Federal Programs	P330-16-00211	06-21-24
Utah	NELAP	PA001462019-8	05-31-23
Virginia	NELAP	10043	09-14-23
West Virginia DEP	State	142	01-31-23
Wisconsin	State	998027800	08-31-23

Laboratory: Eurofins Canton

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	02-27-23
Connecticut	State	PH-0590	12-31-23
Florida	NELAP	E87225	06-30-23
Georgia	State	4062	02-27-23
Illinois	NELAP	200004	07-31-23
Iowa	State	421	06-01-23
Kentucky (UST)	State	112225	02-27-23
Kentucky (WW)	State	KY98016	12-31-22
Minnesota	NELAP	039-999-348	12-21-22
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-23
New York	NELAP	10975	04-01-23
Ohio	State	8303	02-27-23
Ohio VAP	State	CL0024	02-27-23
Oregon	NELAP	4062	02-27-23
Pennsylvania	NELAP	68-00340	08-31-23

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

Accreditation/Certification Summary

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

Job ID: 180-148407-1

Laboratory: Eurofins Canton (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	T104704517-22-17	08-31-23
Virginia	NELAP	460175	09-14-23
Washington	State	C971	01-12-23
West Virginia DEP	State	210	12-31-22

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	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	04-01-23
North Dakota	State	R-207	06-30-23
NRC	NRC	24-24817-01	12-31-22
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-23
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-24
Washington	State	C592	08-30-23
West Virginia DEP	State	381	12-31-22

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

Sample Summary

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

Job ID: 180-148407-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-148407-1	WAP-1	Water	11/21/22 16:30	11/23/22 09:15
180-148407-2	WAP-2RR	Water	11/21/22 15:30	11/23/22 09:15
180-148407-3	WAP-3S	Water	11/21/22 11:45	11/23/22 09:15
180-148407-4	WAP-3D	Water	11/21/22 10:30	11/23/22 09:15
180-148407-5	WAP-4S	Water	11/16/22 14:25	11/23/22 09:15
180-148407-6	WAP-4I	Water	11/16/22 15:40	11/23/22 09:15
180-148407-7	WAP-4D	Water	11/17/22 10:30	11/23/22 09:15
180-148407-8	WAP-5S	Water	11/16/22 10:15	11/23/22 09:15
180-148407-9	WAP-5D	Water	11/16/22 11:00	11/23/22 09:15
180-148407-10	WAP-5I	Water	11/16/22 12:20	11/23/22 09:15
180-148407-11	WAP-6S	Water	11/17/22 13:00	11/23/22 09:15
180-148407-12	WAP-6I	Water	11/17/22 11:50	11/23/22 09:15
180-148407-13	WAP-6D	Water	11/17/22 14:15	11/23/22 09:15
180-148407-14	WAP-7S	Water	11/22/22 13:00	11/23/22 09:15
180-148407-15	WAP-7D	Water	11/22/22 14:00	11/23/22 09:15
180-148407-16	WAP-8S	Water	11/17/22 16:15	11/23/22 09:15
180-148407-17	WAP-8I	Water	11/18/22 11:05	11/23/22 09:15
180-148407-18	WAP-8D	Water	11/18/22 12:40	11/23/22 09:15
180-148407-19	WAP-9S	Water	11/18/22 16:00	11/23/22 09:15
180-148407-20	WAP-9I	Water	11/22/22 13:06	11/23/22 09:15
180-148407-21	WAP-9D	Water	11/22/22 16:30	11/23/22 09:15
180-148407-22	FIELD BLANK	Water	11/21/22 11:45	11/23/22 09:15
180-148407-23	BLIND DUP 1	Water	11/21/22 00:01	11/23/22 09:15
180-148407-24	BLIND DUP 2	Water	11/22/22 00:01	11/23/22 09:15
180-148407-25	CCR-AP-7	Water	11/22/22 10:10	11/23/22 09:15



Method Summary

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

Job ID: 180-148407-1

Method	Method Description	Protocol	Laboratory
EPA 9056A	Anions, Ion Chromatography	SW846	EET PIT
6020A	Metals (ICP/MS)	SW846	EET CAN
7470A	Mercury (CVAA)	SW846	EET CAN
EPA 9040C	pH	SW846	EET PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CAN
7470A	Preparation, Mercury	SW846	EET CAN

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

EET CAN = Eurofins Canton, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

EET PIT = Eurofins Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

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

Job ID: 180-148407-1

Client Sample ID: WAP-1
Date Collected: 11/21/22 16:30
Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-1
Matrix: Water

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	419148	11/26/22 15:20	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 14:53	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 14:19	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 11:32	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 14:08	MAM	EET PIT
Instrument ID: PHTITRATOR										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	419240	11/28/22 15:28	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			500.11 mL	1.0 g	591878	12/01/22 09:07	DJP	EET SL
Total/NA	Analysis	9315		1			594849	12/27/22 14:13	CLP	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			500.11 mL	1.0 g	591884	12/01/22 09:29	DJP	EET SL
Total/NA	Analysis	9320		1			594204	12/19/22 12:13	FLC	EET SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-2RR
Date Collected: 11/21/22 15:30
Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-2
Matrix: Water

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	419148	11/26/22 15:01	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 14:55	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		20			554512	12/02/22 14:22	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 17:04	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 11:34	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			420258	12/08/22 15:49	MAM	EET PIT
Instrument ID: NOEQUIP										

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Lab Chronicle

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

Job ID: 180-148407-1

Client Sample ID: WAP-2RR

Lab Sample ID: 180-148407-2

Date Collected: 11/21/22 15:30

Matrix: Water

Date Received: 11/23/22 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	SM 2540C		1	100 mL	100 mL	419247	11/28/22 17:36	LWM	EET PIT
Total/NA	Prep	PrecSep-21			994.12 mL	1.0 g	591878	12/01/22 09:07	DJP	EET SL
Total/NA	Analysis	9315		1			594849	12/27/22 14:13	CLP	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			994.12 mL	1.0 g	591884	12/01/22 09:29	DJP	EET SL
Total/NA	Analysis	9320		1			594204	12/19/22 12:13	FLC	EET SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-3S

Lab Sample ID: 180-148407-3

Date Collected: 11/21/22 11:45

Matrix: Water

Date Received: 11/23/22 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	419148	11/26/22 15:38	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 14:58	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		20			554512	12/02/22 14:24	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 17:06	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 11:36	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 14:18	MAM	EET PIT
Instrument ID: PHTITRATOR										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	419240	11/28/22 15:28	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			993.50 mL	1.0 g	591878	12/01/22 09:07	DJP	EET SL
Total/NA	Analysis	9315		1			594849	12/27/22 14:13	CLP	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			993.50 mL	1.0 g	591884	12/01/22 09:29	DJP	EET SL
Total/NA	Analysis	9320		1			594204	12/19/22 12:13	FLC	EET SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

Lab Chronicle

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

Job ID: 180-148407-1

Client Sample ID: WAP-3D
Date Collected: 11/21/22 10:30
Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-4
Matrix: Water

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	419148	11/26/22 15:56	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 15:00	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		20			554512	12/02/22 14:27	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 17:09	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 11:38	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 14:24	MAM	EET PIT
Instrument ID: PHTITRATOR										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	419247	11/28/22 17:36	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			998.30 mL	1.0 g	591878	12/01/22 09:07	DJP	EET SL
Total/NA	Analysis	9315		1			594849	12/27/22 14:13	CLP	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			998.30 mL	1.0 g	591884	12/01/22 09:29	DJP	EET SL
Total/NA	Analysis	9320		1			594204	12/19/22 12:13	FLC	EET SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-4S
Date Collected: 11/16/22 14:25
Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-5
Matrix: Water

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	419148	11/26/22 16:15	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 15:03	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		100			554512	12/02/22 14:34	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 17:11	DSH	EET CAN
Instrument ID: I14										

Lab Chronicle

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

Job ID: 180-148407-1

Client Sample ID: WAP-4S
Date Collected: 11/16/22 14:25
Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 11:40	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			421852	12/28/22 15:50	ELS	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	419108	11/23/22 19:50	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			979.36 mL	1.0 g	591878	12/01/22 09:07	DJP	EET SL
Total/NA	Analysis	9315		1			594849	12/27/22 14:13	CLP	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			979.36 mL	1.0 g	591884	12/01/22 09:29	DJP	EET SL
Total/NA	Analysis	9320		1			594204	12/19/22 12:13	FLC	EET SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-4I
Date Collected: 11/16/22 15:40
Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-6
Matrix: Water

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	419148	11/26/22 14:06	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 14:41	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 14:07	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 11:15	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 14:47	MAM	EET PIT
Instrument ID: PHTITRATOR										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	419108	11/23/22 19:50	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			998.01 mL	1.0 g	591878	12/01/22 09:07	DJP	EET SL
Total/NA	Analysis	9315		1			594849	12/27/22 14:13	CLP	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			998.01 mL	1.0 g	591884	12/01/22 09:29	DJP	EET SL
Total/NA	Analysis	9320		1			594204	12/19/22 12:13	FLC	EET SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

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Lab Chronicle

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

Job ID: 180-148407-1

Client Sample ID: WAP-4D

Lab Sample ID: 180-148407-7

Date Collected: 11/17/22 10:30

Matrix: Water

Date Received: 11/23/22 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	419148	11/26/22 17:10	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 15:10	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 14:37	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 11:42	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 14:34	MAM	EET PIT
Instrument ID: PHTITRATOR										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	419108	11/23/22 19:50	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			999.73 mL	1.0 g	591878	12/01/22 09:07	DJP	EET SL
Total/NA	Analysis	9315		1			594849	12/27/22 14:13	CLP	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			999.73 mL	1.0 g	591884	12/01/22 09:29	DJP	EET SL
Total/NA	Analysis	9320		1			594204	12/19/22 12:14	FLC	EET SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-5S

Lab Sample ID: 180-148407-8

Date Collected: 11/16/22 10:15

Matrix: Water

Date Received: 11/23/22 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	419148	11/26/22 17:29	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 15:13	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		20			554512	12/02/22 14:39	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 17:13	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 11:44	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 14:59	MAM	EET PIT
Instrument ID: PHTITRATOR										

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Lab Chronicle

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

Job ID: 180-148407-1

Client Sample ID: WAP-5S
Date Collected: 11/16/22 10:15
Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-8
Matrix: Water

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	419108	11/23/22 19:50	LWM	EET PIT
Total/NA	Prep	PrecSep-21			988.76 mL	1.0 g	591878	12/01/22 09:07	DJP	EET SL
Total/NA	Analysis	9315		1			594846	12/27/22 14:14	CLP	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			988.76 mL	1.0 g	591884	12/01/22 09:29	DJP	EET SL
Total/NA	Analysis	9320		1			594203	12/19/22 12:15	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-5D
Date Collected: 11/16/22 11:00
Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-9
Matrix: Water

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	419148	11/26/22 17:47	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 15:15	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 14:41	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 11:46	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 15:05	MAM	EET PIT
Instrument ID: PHTITRATOR										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	419108	11/23/22 19:50	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			969.67 mL	1.0 g	591878	12/01/22 09:07	DJP	EET SL
Total/NA	Analysis	9315		1			594846	12/27/22 14:14	CLP	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			969.67 mL	1.0 g	591884	12/01/22 09:29	DJP	EET SL
Total/NA	Analysis	9320		1			594203	12/19/22 12:15	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

Lab Chronicle

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

Job ID: 180-148407-1

Client Sample ID: WAP-51

Lab Sample ID: 180-148407-10

Date Collected: 11/16/22 12:20

Matrix: Water

Date Received: 11/23/22 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	419148	11/26/22 18:06	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 15:18	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 14:44	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 11:48	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 15:11	MAM	EET PIT
Instrument ID: PHTITRATOR										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	419108	11/23/22 19:50	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			992.23 mL	1.0 g	591878	12/01/22 09:07	DJP	EET SL
Total/NA	Analysis	9315		1			594846	12/27/22 14:14	CLP	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			992.23 mL	1.0 g	591884	12/01/22 09:29	DJP	EET SL
Total/NA	Analysis	9320		1			594203	12/19/22 12:15	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-6S

Lab Sample ID: 180-148407-11

Date Collected: 11/17/22 13:00

Matrix: Water

Date Received: 11/23/22 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	419148	11/26/22 19:19	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 15:20	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		10			554512	12/02/22 14:46	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 17:16	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 11:55	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 15:17	MAM	EET PIT
Instrument ID: PHTITRATOR										

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Lab Chronicle

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

Job ID: 180-148407-1

Client Sample ID: WAP-6S

Date Collected: 11/17/22 13:00

Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-11

Matrix: Water

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			1003.88 mL	1.0 g	591878	12/01/22 09:07	DJP	EET SL
Total/NA	Analysis	9315		1			594846	12/27/22 14:14	CLP	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1003.88 mL	1.0 g	591884	12/01/22 09:29	DJP	EET SL
Total/NA	Analysis	9320		1			594203	12/19/22 12:15	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-6I

Date Collected: 11/17/22 11:50

Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-12

Matrix: Water

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	419148	11/26/22 19:38	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 15:22	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 14:49	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 11:57	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 15:22	MAM	EET PIT
Instrument ID: PHTITRATOR										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	419108	11/23/22 19:50	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			984.76 mL	1.0 g	591878	12/01/22 09:07	DJP	EET SL
Total/NA	Analysis	9315		1			594846	12/27/22 14:15	CLP	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			984.76 mL	1.0 g	591884	12/01/22 09:29	DJP	EET SL
Total/NA	Analysis	9320		1			594203	12/19/22 12:16	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-6D

Date Collected: 11/17/22 14:15

Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-13

Matrix: Water

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	419148	11/26/22 19:56	M1D	EET PIT
Instrument ID: INTEGRION										

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Lab Chronicle

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

Job ID: 180-148407-1

Client Sample ID: WAP-6D
Date Collected: 11/17/22 14:15
Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 15:25	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 14:51	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 11:59	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 15:28	MAM	EET PIT
Instrument ID: PHTITRATOR										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	419108	11/23/22 19:50	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			985.02 mL	1.0 g	591878	12/01/22 09:07	DJP	EET SL
Total/NA	Analysis	9315		1			594846	12/27/22 14:15	CLP	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			985.02 mL	1.0 g	591884	12/01/22 09:29	DJP	EET SL
Total/NA	Analysis	9320		1			594203	12/19/22 12:16	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-7S
Date Collected: 11/22/22 13:00
Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-14
Matrix: Water

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	419148	11/26/22 20:52	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 15:27	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		100			554512	12/02/22 14:54	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 17:18	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 12:01	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 15:32	MAM	EET PIT
Instrument ID: PHTITRATOR										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	419240	11/28/22 15:28	LWM	EET PIT
Instrument ID: NOEQUIP										

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Lab Chronicle

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

Job ID: 180-148407-1

Client Sample ID: WAP-7S

Lab Sample ID: 180-148407-14

Date Collected: 11/22/22 13:00

Matrix: Water

Date Received: 11/23/22 09:15

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			995.07 mL	1.0 g	591878	12/01/22 09:07	DJP	EET SL
Total/NA	Analysis	9315		1			594846	12/27/22 14:15	CLP	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			995.07 mL	1.0 g	591884	12/01/22 09:29	DJP	EET SL
Total/NA	Analysis	9320		1			594201	12/19/22 12:17	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-7D

Lab Sample ID: 180-148407-15

Date Collected: 11/22/22 14:00

Matrix: Water

Date Received: 11/23/22 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		2.5	1 mL	1 mL	419148	11/26/22 21:10	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 15:30	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		100			554512	12/02/22 14:56	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 17:21	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 12:03	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 15:38	MAM	EET PIT
Instrument ID: PHTITRATOR										
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	419240	11/28/22 15:28	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			999.82 mL	1.0 g	591878	12/01/22 09:07	DJP	EET SL
Total/NA	Analysis	9315		1			594846	12/27/22 14:15	CLP	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.82 mL	1.0 g	591884	12/01/22 09:29	DJP	EET SL
Total/NA	Analysis	9320		1			594201	12/19/22 12:17	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

Lab Chronicle

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

Job ID: 180-148407-1

Client Sample ID: WAP-8S
Date Collected: 11/17/22 16:15
Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-16
Matrix: Water

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	419148	11/26/22 21:29	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 15:32	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		10			554512	12/02/22 15:04	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 17:23	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 12:05	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 15:47	MAM	EET PIT
Instrument ID: PHTITRATOR										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	419108	11/23/22 19:50	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			995.98 mL	1.0 g	591878	12/01/22 09:07	DJP	EET SL
Total/NA	Analysis	9315		1			594846	12/27/22 14:16	CLP	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			995.98 mL	1.0 g	591884	12/01/22 09:29	DJP	EET SL
Total/NA	Analysis	9320		1			594201	12/19/22 12:17	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-8I
Date Collected: 11/18/22 11:05
Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-17
Matrix: Water

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	419148	11/26/22 21:47	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 15:40	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 15:06	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 12:07	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 15:59	MAM	EET PIT
Instrument ID: PHTITRATOR										

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Lab Chronicle

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

Job ID: 180-148407-1

Client Sample ID: WAP-8I
Date Collected: 11/18/22 11:05
Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-17
Matrix: Water

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	419108	11/23/22 19:50	LWM	EET PIT
Total/NA	Prep	PrecSep-21			994.09 mL	1.0 g	591878	12/01/22 09:07	DJP	EET SL
Total/NA	Analysis	9315		1			594846	12/27/22 14:16	CLP	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			994.09 mL	1.0 g	591884	12/01/22 09:29	DJP	EET SL
Total/NA	Analysis	9320		1			594201	12/19/22 12:17	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-8D
Date Collected: 11/18/22 12:40
Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-18
Matrix: Water

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	419148	11/26/22 22:05	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 15:42	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 15:08	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 12:09	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 16:04	MAM	EET PIT
Instrument ID: PHTITRATOR										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	419108	11/23/22 19:50	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			999.02 mL	1.0 g	591878	12/01/22 09:07	DJP	EET SL
Total/NA	Analysis	9315		1			594846	12/27/22 14:16	CLP	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.02 mL	1.0 g	591884	12/01/22 09:29	DJP	EET SL
Total/NA	Analysis	9320		1			594201	12/19/22 12:17	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

Lab Chronicle

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

Job ID: 180-148407-1

Client Sample ID: WAP-9S

Lab Sample ID: 180-148407-19

Date Collected: 11/18/22 16:00

Matrix: Water

Date Received: 11/23/22 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	419148	11/26/22 22:24	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 15:45	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		10			554512	12/02/22 15:11	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 17:26	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 12:11	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 16:10	MAM	EET PIT
Instrument ID: PHTITRATOR										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	419108	11/23/22 19:50	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			501.04 mL	1.0 g	592044	12/02/22 09:26	DJP	EET SL
Total/NA	Analysis	9315		1			594847	12/27/22 14:19	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			501.04 mL	1.0 g	592054	12/02/22 09:55	DJP	EET SL
Total/NA	Analysis	9320		1			594201	12/19/22 12:19	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-9I

Lab Sample ID: 180-148407-20

Date Collected: 11/22/22 13:06

Matrix: Water

Date Received: 11/23/22 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	419148	11/26/22 23:19	M1D	EET PIT
Instrument ID: INTEGRION										
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	419311	11/29/22 18:40	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 15:47	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553966	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 15:13	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553967	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554531	12/02/22 12:13	MRL	EET CAN
Instrument ID: H2										

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Lab Chronicle

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

Job ID: 180-148407-1

Client Sample ID: WAP-9I
Date Collected: 11/22/22 13:06
Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-20
Matrix: Water

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			419288	11/28/22 16:16	MAM	EET PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	419240	11/28/22 15:28	LWM	EET PIT
Total/NA	Prep	PrecSep-21			991.56 mL	1.0 g	592044	12/02/22 09:26	DJP	EET SL
Total/NA	Analysis	9315 Instrument ID: GFPCBLUE		1			594847	12/27/22 14:19	FLC	EET SL
Total/NA	Prep	PrecSep_0			991.56 mL	1.0 g	592054	12/02/22 09:55	DJP	EET SL
Total/NA	Analysis	9320 Instrument ID: GFPCRED		1			594201	12/19/22 12:20	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Instrument ID: NOEQUIP		1			594896	12/28/22 10:36	CLP	EET SL

Client Sample ID: WAP-9D
Date Collected: 11/22/22 16:30
Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-21
Matrix: Water

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 Instrument ID: INTEGRION		1	1 mL	1 mL	419148	11/27/22 00:51	M1D	EET PIT
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		1	1 mL	1 mL	419311	11/29/22 16:31	M1D	EET PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	553976	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A Instrument ID: I14		1			554304	12/01/22 16:23	DSH	EET CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	553976	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A Instrument ID: I14		1			554512	12/02/22 13:53	DSH	EET CAN
Total/NA	Prep	7470A			50 mL	50 mL	553979	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A Instrument ID: H2		1			554305	12/01/22 14:03	MRL	EET CAN
Total/NA	Analysis	EPA 9040C Instrument ID: PHTITRATOR		1			419288	11/28/22 16:22	MAM	EET PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	419247	11/28/22 17:36	LWM	EET PIT
Total/NA	Prep	PrecSep-21			498.19 mL	1.0 g	592044	12/02/22 09:26	DJP	EET SL
Total/NA	Analysis	9315 Instrument ID: GFPCBLUE		1			594847	12/27/22 14:19	FLC	EET SL
Total/NA	Prep	PrecSep_0			498.19 mL	1.0 g	592054	12/02/22 09:55	DJP	EET SL
Total/NA	Analysis	9320 Instrument ID: GFPCRED		1			594201	12/19/22 12:20	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Instrument ID: NOEQUIP		1			594896	12/28/22 10:36	CLP	EET SL

Lab Chronicle

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

Job ID: 180-148407-1

Client Sample ID: FIELD BLANK

Lab Sample ID: 180-148407-22

Date Collected: 11/21/22 11:45

Matrix: Water

Date Received: 11/23/22 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	419148	11/27/22 01:10	M1D	EET PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	419311	11/29/22 16:49	M1D	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	553976	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 16:25	DSH	EET CAN
		Instrument ID: I14								
Total Recoverable	Prep	3005A			50 mL	50 mL	553976	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 13:55	DSH	EET CAN
		Instrument ID: I14								
Total/NA	Prep	7470A			50 mL	50 mL	553979	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554305	12/01/22 14:05	MRL	EET CAN
		Instrument ID: H2								
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 16:27	MAM	EET PIT
		Instrument ID: PHTITRATOR								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	419247	11/28/22 17:36	LWM	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			996.40 mL	1.0 g	592044	12/02/22 09:26	DJP	EET SL
Total/NA	Analysis	9315		1			594847	12/27/22 14:19	FLC	EET SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			996.40 mL	1.0 g	592054	12/02/22 09:55	DJP	EET SL
Total/NA	Analysis	9320		1			594201	12/19/22 12:20	FLC	EET SL
		Instrument ID: GFPCRED								
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
		Instrument ID: NOEQUIP								

Client Sample ID: BLIND DUP 1

Lab Sample ID: 180-148407-23

Date Collected: 11/21/22 00:01

Matrix: Water

Date Received: 11/23/22 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	419148	11/27/22 01:28	M1D	EET PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	419311	11/29/22 18:03	M1D	EET PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	553976	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 16:28	DSH	EET CAN
		Instrument ID: I14								
Total Recoverable	Prep	3005A			50 mL	50 mL	553976	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		20			554512	12/02/22 13:58	DSH	EET CAN
		Instrument ID: I14								
Total Recoverable	Prep	3005A			50 mL	50 mL	553976	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 17:33	DSH	EET CAN
		Instrument ID: I14								

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Lab Chronicle

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

Job ID: 180-148407-1

Client Sample ID: BLIND DUP 1

Lab Sample ID: 180-148407-23

Date Collected: 11/21/22 00:01

Matrix: Water

Date Received: 11/23/22 09:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			50 mL	50 mL	553979	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554305	12/01/22 14:07	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 16:32	MAM	EET PIT
Instrument ID: PHTITRATOR										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	419247	11/28/22 17:36	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			988.24 mL	1.0 g	592044	12/02/22 09:26	DJP	EET SL
Total/NA	Analysis	9315		1			594847	12/27/22 14:20	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			988.24 mL	1.0 g	592054	12/02/22 09:55	DJP	EET SL
Total/NA	Analysis	9320		1			594201	12/19/22 12:20	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Analysis	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: BLIND DUP 2

Lab Sample ID: 180-148407-24

Date Collected: 11/22/22 00:01

Matrix: Water

Date Received: 11/23/22 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	419148	11/27/22 01:47	M1D	EET PIT
Instrument ID: INTEGRION										
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	419311	11/29/22 18:22	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	553976	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554304	12/01/22 16:30	DSH	EET CAN
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	553976	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A		1			554512	12/02/22 14:05	DSH	EET CAN
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	553979	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A		1			554305	12/01/22 14:09	MRL	EET CAN
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			419288	11/28/22 16:38	MAM	EET PIT
Instrument ID: PHTITRATOR										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	419240	11/28/22 15:28	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			996.69 mL	1.0 g	592044	12/02/22 09:26	DJP	EET SL
Total/NA	Analysis	9315		1			594847	12/27/22 14:20	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			996.69 mL	1.0 g	592054	12/02/22 09:55	DJP	EET SL
Total/NA	Analysis	9320		1			594201	12/19/22 12:20	FLC	EET SL
Instrument ID: GFPCRED										

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Lab Chronicle

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

Job ID: 180-148407-1

Client Sample ID: BLIND DUP 2

Lab Sample ID: 180-148407-24

Date Collected: 11/22/22 00:01

Matrix: Water

Date Received: 11/23/22 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	Ra226_Ra228		1			594896	12/28/22 10:36	CLP	EET SL

Client Sample ID: CCR-AP-7

Lab Sample ID: 180-148407-25

Date Collected: 11/22/22 10:10

Matrix: Water

Date Received: 11/23/22 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 Instrument ID: INTEGRION		1	1 mL	1 mL	419148	11/26/22 18:24	M1D	EET PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	553976	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A Instrument ID: I14		1			554304	12/01/22 16:02	DSH	EET CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	553976	11/30/22 12:00	SHB	EET CAN
Total Recoverable	Analysis	6020A Instrument ID: I14		1			554512	12/02/22 13:41	DSH	EET CAN
Total/NA	Prep	7470A			50 mL	50 mL	553979	11/30/22 12:00	SHB	EET CAN
Total/NA	Analysis	7470A Instrument ID: H2		1			554305	12/01/22 13:56	MRL	EET CAN
Total/NA	Analysis	EPA 9040C Instrument ID: PHTITRATOR		1			419288	11/28/22 16:51	MAM	EET PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	419240	11/28/22 15:28	LWM	EET PIT
Total/NA	Prep	PrecSep-21			748.26 mL	1.0 g	592044	12/02/22 09:26	DJP	EET SL
Total/NA	Analysis	9315 Instrument ID: GFPCRED		1			594846	12/27/22 16:36	CLP	EET SL
Total/NA	Prep	PrecSep_0			748.26 mL	1.0 g	592054	12/02/22 09:55	DJP	EET SL
Total/NA	Analysis	9320 Instrument ID: GFPCRED		1			594201	12/19/22 12:20	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Instrument ID: NOEQUIP		1			594896	12/28/22 10:36	CLP	EET SL

Laboratory References:

EET CAN = Eurofins Canton, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396
 EET PIT = Eurofins Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

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

Job ID: 180-148407-1

Analyst References:

Lab: EET CAN

Batch Type: Prep

SHB = Samuel Banks

Batch Type: Analysis

DSH = David Heakin

MRL = Matthew Loeb

Lab: EET PIT

Batch Type: Analysis

ELS = Edwin Shireman

LWM = Leslie McIntire

M1D = Maureen Donlin

MAM = Matthew Martin

Lab: EET SL

Batch Type: Prep

DJP = Dalton Pieper

Batch Type: Analysis

CLP = Cassandra Park

FLC = Fernando Cruz

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-1

Lab Sample ID: 180-148407-1

Date Collected: 11/21/22 16:30

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	36		1.0	0.71	mg/L			11/26/22 15:20	1
Fluoride	1.2		0.10	0.026	mg/L			11/26/22 15:20	1
Sulfate	230		1.0	0.76	mg/L			11/26/22 15:20	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00084	J	0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 14:53	1
Arsenic	0.0039	J	0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 14:53	1
Barium	0.41		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 14:53	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 14:53	1
Boron	0.016	J	0.020	0.016	mg/L		11/30/22 12:00	12/02/22 14:19	1
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 14:53	1
Calcium	160		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 14:53	1
Chromium	0.0036	J	0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 14:53	1
Cobalt	0.0011		0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 14:53	1
Lead	0.0027		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 14:19	1
Lithium	0.0047	J	0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 14:53	1
Molybdenum	ND		0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 14:53	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 14:53	1
Thallium	0.00062	J	0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 14:19	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 11:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	710		10	10	mg/L			11/28/22 15:28	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.4	HF	0.1	0.1	SU			11/28/22 14:08	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	0.596		0.252	0.258	1.00	0.280	pCi/L	12/01/22 09:07	12/27/22 14:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	69.7		40 - 110					12/01/22 09:07	12/27/22 14:13	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	1.63	G	0.892	0.905	1.00	1.23	pCi/L	12/01/22 09:29	12/19/22 12:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	69.7		40 - 110					12/01/22 09:29	12/19/22 12:13	1
Y Carrier	80.7		40 - 110					12/01/22 09:29	12/19/22 12:13	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-1

Date Collected: 11/21/22 16:30

Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-1

Matrix: Water

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	2.22		0.927	0.941	5.00	1.23	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-2RR

Date Collected: 11/21/22 15:30

Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-2

Matrix: Water

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48		1.0	0.71	mg/L			11/26/22 15:01	1
Fluoride	0.35		0.10	0.026	mg/L			11/26/22 15:01	1
Sulfate	170		1.0	0.76	mg/L			11/26/22 15:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 14:55	1
Arsenic	0.0012	J	0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 14:55	1
Barium	0.033		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 14:55	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 14:55	1
Boron	5.2		0.40	0.32	mg/L		11/30/22 12:00	12/02/22 14:22	20
Cadmium	0.00030	J	0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 14:55	1
Calcium	110		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 14:55	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 14:55	1
Cobalt	0.0022		0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 14:55	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 17:04	1
Lithium	0.018		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 14:55	1
Molybdenum	0.070		0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 14:55	1
Selenium	0.0059		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 14:55	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 17:04	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 11:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	650		10	10	mg/L			11/28/22 17:36	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.1	HF	0.1	0.1	SU			12/08/22 15:49	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	0.191		0.103	0.105	1.00	0.136	pCi/L	12/01/22 09:07	12/27/22 14:13	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110	12/01/22 09:07	12/27/22 14:13	1

Eurofins Pittsburgh

Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-2RR

Lab Sample ID: 180-148407-2

Date Collected: 11/21/22 15:30

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.830		0.394	0.401	1.00	0.534	pCi/L	12/01/22 09:29	12/19/22 12:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110					12/01/22 09:29	12/19/22 12:13	1
Y Carrier	84.5		40 - 110					12/01/22 09:29	12/19/22 12:13	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	1.02		0.407	0.415	5.00	0.534	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-3S

Lab Sample ID: 180-148407-3

Date Collected: 11/21/22 11:45

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	47		1.0	0.71	mg/L			11/26/22 15:38	1
Fluoride	0.64		0.10	0.026	mg/L			11/26/22 15:38	1
Sulfate	240		1.0	0.76	mg/L			11/26/22 15:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 14:58	1
Arsenic	ND		0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 14:58	1
Barium	0.037		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 14:58	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 14:58	1
Boron	4.2		0.40	0.32	mg/L		11/30/22 12:00	12/02/22 14:24	20
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 14:58	1
Calcium	110		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 14:58	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 14:58	1
Cobalt	0.00085	J	0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 14:58	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 17:06	1
Lithium	0.088		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 14:58	1
Molybdenum	0.54		0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 14:58	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 14:58	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 17:06	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 11:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	620		10	10	mg/L			11/28/22 15:28	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.6	HF	0.1	0.1	SU			11/28/22 14:18	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-3S

Lab Sample ID: 180-148407-3

Date Collected: 11/21/22 11:45

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.332		0.117	0.121	1.00	0.127	pCi/L	12/01/22 09:07	12/27/22 14:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.6		40 - 110					12/01/22 09:07	12/27/22 14:13	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	0.901		0.410	0.419	1.00	0.553	pCi/L	12/01/22 09:29	12/19/22 12:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.6		40 - 110					12/01/22 09:29	12/19/22 12:13	1
Y Carrier	81.9		40 - 110					12/01/22 09:29	12/19/22 12:13	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	1.23		0.426	0.436	5.00	0.553	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-3D

Lab Sample ID: 180-148407-4

Date Collected: 11/21/22 10:30

Matrix: Water

Date Received: 11/23/22 09:15

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			11/26/22 15:56	1
Fluoride	0.39		0.10	0.026	mg/L			11/26/22 15:56	1
Sulfate	380		1.0	0.76	mg/L			11/26/22 15:56	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 15:00	1
Arsenic	ND		0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 15:00	1
Barium	0.021		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 15:00	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 15:00	1
Boron	5.0		0.40	0.32	mg/L		11/30/22 12:00	12/02/22 14:27	20
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 15:00	1
Calcium	170		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 15:00	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 15:00	1
Cobalt	0.0013		0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 15:00	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 17:09	1
Lithium	0.079		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 15:00	1
Molybdenum	0.28		0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 15:00	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 15:00	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 17:09	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-3D

Lab Sample ID: 180-148407-4

Date Collected: 11/21/22 10:30

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 11:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	870		10	10	mg/L			11/28/22 17:36	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.8	HF	0.1	0.1	SU			11/28/22 14:24	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	0.116	U	0.0836	0.0842	1.00	0.118	pCi/L	12/01/22 09:07	12/27/22 14:13	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110	12/01/22 09:07	12/27/22 14:13	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	0.446	U	0.345	0.347	1.00	0.529	pCi/L	12/01/22 09:29	12/19/22 12:13	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110	12/01/22 09:29	12/19/22 12:13	1
Y Carrier	83.4		40 - 110	12/01/22 09:29	12/19/22 12:13	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	0.562		0.355	0.357	5.00	0.529	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-4S

Lab Sample ID: 180-148407-5

Date Collected: 11/16/22 14:25

Matrix: Water

Date Received: 11/23/22 09:15

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			11/26/22 16:15	1
Fluoride	0.26		0.10	0.026	mg/L			11/26/22 16:15	1
Sulfate	490		1.0	0.76	mg/L			11/26/22 16:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 15:03	1
Arsenic	0.012		0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 15:03	1
Barium	0.052		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 15:03	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 15:03	1
Boron	13		2.0	1.6	mg/L		11/30/22 12:00	12/02/22 14:34	100
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 15:03	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-4S

Lab Sample ID: 180-148407-5

Date Collected: 11/16/22 14:25

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	270		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 15:03	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 15:03	1
Cobalt	0.0017		0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 15:03	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 17:11	1
Lithium	ND		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 15:03	1
Molybdenum	0.46		0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 15:03	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 15:03	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 17:11	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 11:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1300		10	10	mg/L			11/23/22 19:50	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	8.8	HF	0.1	0.1	SU			12/28/22 15:50	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	0.112	U	0.0820	0.0826	1.00	0.116	pCi/L	12/01/22 09:07	12/27/22 14:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.9		40 - 110					12/01/22 09:07	12/27/22 14:13	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	0.972		0.413	0.423	1.00	0.538	pCi/L	12/01/22 09:29	12/19/22 12:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.9		40 - 110					12/01/22 09:29	12/19/22 12:13	1
Y Carrier	83.4		40 - 110					12/01/22 09:29	12/19/22 12:13	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	1.08		0.421	0.431	5.00	0.538	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-4I

Lab Sample ID: 180-148407-6

Date Collected: 11/16/22 15:40

Matrix: Water

Date Received: 11/23/22 09:15

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			11/26/22 14:06	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-4I

Lab Sample ID: 180-148407-6

Date Collected: 11/16/22 15:40

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 EPA 9056A - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.15		0.10	0.026	mg/L			11/26/22 14:06	1
Sulfate	49		1.0	0.76	mg/L			11/26/22 14:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 14:41	1
Arsenic	0.0069		0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 14:41	1
Barium	0.17		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 14:41	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 14:41	1
Boron	0.071		0.020	0.016	mg/L		11/30/22 12:00	12/02/22 14:07	1
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 14:41	1
Calcium	41		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 14:41	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 14:41	1
Cobalt	0.00043	J	0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 14:41	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 14:07	1
Lithium	0.0028	J	0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 14:41	1
Molybdenum	0.0018	J	0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 14:41	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 14:41	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 14:07	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 11:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	230		10	10	mg/L			11/23/22 19:50	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.7	HF	0.1	0.1	SU			11/28/22 14:47	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		0.126	0.130	1.00	0.144	pCi/L	12/01/22 09:07	12/27/22 14:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.5		40 - 110					12/01/22 09:07	12/27/22 14:13	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		0.414	0.425	1.00	0.517	pCi/L	12/01/22 09:29	12/19/22 12:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.5		40 - 110					12/01/22 09:29	12/19/22 12:13	1
Y Carrier	84.9		40 - 110					12/01/22 09:29	12/19/22 12:13	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-4I
 Date Collected: 11/16/22 15:40
 Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-6
 Matrix: Water

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	1.38		0.433	0.444	5.00	0.517	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-4D
 Date Collected: 11/17/22 10:30
 Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-7
 Matrix: Water

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			11/26/22 17:10	1
Fluoride	0.15		0.10	0.026	mg/L			11/26/22 17:10	1
Sulfate	31		1.0	0.76	mg/L			11/26/22 17:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 15:10	1
Arsenic	0.0078		0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 15:10	1
Barium	0.25		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 15:10	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 15:10	1
Boron	0.035		0.020	0.016	mg/L		11/30/22 12:00	12/02/22 14:37	1
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 15:10	1
Calcium	47		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 15:10	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 15:10	1
Cobalt	ND		0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 15:10	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 14:37	1
Lithium	ND		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 15:10	1
Molybdenum	0.0049	J	0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 15:10	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 15:10	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 14:37	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 11:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	240		10	10	mg/L			11/23/22 19:50	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.9	HF	0.1	0.1	SU			11/28/22 14:34	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	0.391		0.125	0.129	1.00	0.118	pCi/L	12/01/22 09:07	12/27/22 14:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		40 - 110					12/01/22 09:07	12/27/22 14:13	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-4D

Date Collected: 11/17/22 10:30

Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-7

Matrix: Water

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
Radium-228	0.903		0.373	0.382	1.00	0.478	pCi/L	12/01/22 09:29	12/19/22 12:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		40 - 110					12/01/22 09:29	12/19/22 12:14	1
Y Carrier	87.9		40 - 110					12/01/22 09:29	12/19/22 12:14	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.						
Combined Radium 226 + 228	1.29		0.393	0.403	5.00	0.478	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-5S

Date Collected: 11/16/22 10:15

Date Received: 11/23/22 09:15

Lab Sample ID: 180-148407-8

Matrix: Water

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	130		1.0	0.71	mg/L			11/26/22 17:29	1
Fluoride	0.13		0.10	0.026	mg/L			11/26/22 17:29	1
Sulfate	430		1.0	0.76	mg/L			11/26/22 17:29	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 15:13	1
Arsenic	ND		0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 15:13	1
Barium	0.037		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 15:13	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 15:13	1
Boron	4.8		0.40	0.32	mg/L		11/30/22 12:00	12/02/22 14:39	20
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 15:13	1
Calcium	190		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 15:13	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 15:13	1
Cobalt	0.0062		0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 15:13	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 17:13	1
Lithium	ND		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 15:13	1
Molybdenum	ND		0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 15:13	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 15:13	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 17:13	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 11:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1200		10	10	mg/L			11/23/22 19:50	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.2	HF	0.1	0.1	SU			11/28/22 14:59	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-5S

Lab Sample ID: 180-148407-8

Date Collected: 11/16/22 10:15

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0193	U	0.0553	0.0553	1.00	0.105	pCi/L	12/01/22 09:07	12/27/22 14:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110					12/01/22 09:07	12/27/22 14:14	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	1.47		0.471	0.490	1.00	0.550	pCi/L	12/01/22 09:29	12/19/22 12:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110					12/01/22 09:29	12/19/22 12:15	1
Y Carrier	82.2		40 - 110					12/01/22 09:29	12/19/22 12:15	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	1.49		0.474	0.493	5.00	0.550	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-5D

Lab Sample ID: 180-148407-9

Date Collected: 11/16/22 11:00

Matrix: Water

Date Received: 11/23/22 09:15

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			11/26/22 17:47	1
Fluoride	0.14		0.10	0.026	mg/L			11/26/22 17:47	1
Sulfate	42		1.0	0.76	mg/L			11/26/22 17:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 15:15	1
Arsenic	0.010		0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 15:15	1
Barium	0.19		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 15:15	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 15:15	1
Boron	0.039		0.020	0.016	mg/L		11/30/22 12:00	12/02/22 14:41	1
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 15:15	1
Calcium	47		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 15:15	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 15:15	1
Cobalt	ND		0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 15:15	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 14:41	1
Lithium	ND		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 15:15	1
Molybdenum	0.0034	J	0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 15:15	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 15:15	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 14:41	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-5D

Lab Sample ID: 180-148407-9

Date Collected: 11/16/22 11:00

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 11:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	230		10	10	mg/L			11/23/22 19:50	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.7	HF	0.1	0.1	SU			11/28/22 15:05	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	0.335		0.112	0.116	1.00	0.0993	pCi/L	12/01/22 09:07	12/27/22 14:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.2		40 - 110					12/01/22 09:07	12/27/22 14:14	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	1.90		0.493	0.523	1.00	0.520	pCi/L	12/01/22 09:29	12/19/22 12:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.2		40 - 110					12/01/22 09:29	12/19/22 12:15	1
Y Carrier	86.0		40 - 110					12/01/22 09:29	12/19/22 12:15	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	2.24		0.506	0.536	5.00	0.520	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-5I

Lab Sample ID: 180-148407-10

Date Collected: 11/16/22 12:20

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20		1.0	0.71	mg/L			11/26/22 18:06	1
Fluoride	0.15		0.10	0.026	mg/L			11/26/22 18:06	1
Sulfate	48		1.0	0.76	mg/L			11/26/22 18:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 15:18	1
Arsenic	0.061		0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 15:18	1
Barium	0.13		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 15:18	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 15:18	1
Boron	0.068		0.020	0.016	mg/L		11/30/22 12:00	12/02/22 14:44	1
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 15:18	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-5I

Lab Sample ID: 180-148407-10

Date Collected: 11/16/22 12:20

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	40		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 15:18	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 15:18	1
Cobalt	0.00066	J	0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 15:18	1
Lead	0.00085	J	0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 14:44	1
Lithium	0.0019	J	0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 15:18	1
Molybdenum	0.0016	J	0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 15:18	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 15:18	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 14:44	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 11:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	230		10	10	mg/L			11/23/22 19:50	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.7	HF	0.1	0.1	SU			11/28/22 15:11	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	0.304		0.123	0.126	1.00	0.146	pCi/L	12/01/22 09:07	12/27/22 14:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110					12/01/22 09:07	12/27/22 14:14	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	0.905		0.436	0.444	1.00	0.603	pCi/L	12/01/22 09:29	12/19/22 12:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.6		40 - 110					12/01/22 09:29	12/19/22 12:15	1
Y Carrier	81.9		40 - 110					12/01/22 09:29	12/19/22 12:15	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	1.21		0.453	0.462	5.00	0.603	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-6S

Lab Sample ID: 180-148407-11

Date Collected: 11/17/22 13:00

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	36		1.0	0.71	mg/L			11/26/22 19:19	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-6S

Lab Sample ID: 180-148407-11

Date Collected: 11/17/22 13:00

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 EPA 9056A - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.46		0.10	0.026	mg/L			11/26/22 19:19	1
Sulfate	120		1.0	0.76	mg/L			11/26/22 19:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 15:20	1
Arsenic	0.0011	J	0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 15:20	1
Barium	0.049		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 15:20	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 15:20	1
Boron	2.4		0.20	0.16	mg/L		11/30/22 12:00	12/02/22 14:46	10
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 15:20	1
Calcium	93		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 15:20	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 15:20	1
Cobalt	0.00090	J	0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 15:20	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 17:16	1
Lithium	ND		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 15:20	1
Molybdenum	0.12		0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 15:20	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 15:20	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 17:16	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 11:55	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.7	HF	0.1	0.1	SU			11/28/22 15:17	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	0.0354	U	0.0730	0.0730	1.00	0.130	pCi/L	12/01/22 09:07	12/27/22 14:14	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.1		40 - 110					12/01/22 09:07	12/27/22 14:14	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	0.704		0.381	0.386	1.00	0.537	pCi/L	12/01/22 09:29	12/19/22 12:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.1		40 - 110					12/01/22 09:29	12/19/22 12:15	1
Y Carrier	87.1		40 - 110					12/01/22 09:29	12/19/22 12:15	1

Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-6S

Lab Sample ID: 180-148407-11

Date Collected: 11/17/22 13:00

Matrix: Water

Date Received: 11/23/22 09:15

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	0.739		0.388	0.393	5.00	0.537	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-6I

Lab Sample ID: 180-148407-12

Date Collected: 11/17/22 11:50

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19		1.0	0.71	mg/L			11/26/22 19:38	1
Fluoride	0.15		0.10	0.026	mg/L			11/26/22 19:38	1
Sulfate	46		1.0	0.76	mg/L			11/26/22 19:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 15:22	1
Arsenic	0.0044	J	0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 15:22	1
Barium	0.15		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 15:22	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 15:22	1
Boron	0.085		0.020	0.016	mg/L		11/30/22 12:00	12/02/22 14:49	1
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 15:22	1
Calcium	43		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 15:22	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 15:22	1
Cobalt	0.00027	J	0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 15:22	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 14:49	1
Lithium	ND		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 15:22	1
Molybdenum	0.0042	J	0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 15:22	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 15:22	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 14:49	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 11:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	240		10	10	mg/L			11/23/22 19:50	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.9	HF	0.1	0.1	SU			11/28/22 15:22	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	0.218		0.0985	0.100	1.00	0.111	pCi/L	12/01/22 09:07	12/27/22 14:15	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	88.8		40 - 110	12/01/22 09:07	12/27/22 14:15	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-6I

Lab Sample ID: 180-148407-12

Date Collected: 11/17/22 11:50

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.44		0.530	0.546	1.00	0.694	pCi/L	12/01/22 09:29	12/19/22 12:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.8		40 - 110					12/01/22 09:29	12/19/22 12:16	1
Y Carrier	81.5		40 - 110					12/01/22 09:29	12/19/22 12:16	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	1.66		0.539	0.555	5.00	0.694	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-6D

Lab Sample ID: 180-148407-13

Date Collected: 11/17/22 14:15

Matrix: Water

Date Received: 11/23/22 09:15

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			11/26/22 19:56	1
Fluoride	0.15		0.10	0.026	mg/L			11/26/22 19:56	1
Sulfate	40		1.0	0.76	mg/L			11/26/22 19:56	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 15:25	1
Arsenic	0.0046	J	0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 15:25	1
Barium	0.17		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 15:25	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 15:25	1
Boron	0.042		0.020	0.016	mg/L		11/30/22 12:00	12/02/22 14:51	1
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 15:25	1
Calcium	39		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 15:25	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 15:25	1
Cobalt	ND		0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 15:25	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 14:51	1
Lithium	ND		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 15:25	1
Molybdenum	0.0018	J	0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 15:25	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 15:25	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 14:51	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 11:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	230		10	10	mg/L			11/23/22 19:50	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.9	HF	0.1	0.1	SU			11/28/22 15:28	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-6D

Lab Sample ID: 180-148407-13

Date Collected: 11/17/22 14:15

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.385		0.119	0.124	1.00	0.0959	pCi/L	12/01/22 09:07	12/27/22 14:15	1
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Ba Carrier	85.9		40 - 110					12/01/22 09:07	12/27/22 14:15	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		0.478	0.492	1.00	0.603	pCi/L	12/01/22 09:29	12/19/22 12:16	1
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Ba Carrier	85.9		40 - 110					12/01/22 09:29	12/19/22 12:16	1
Y Carrier	77.8		40 - 110					12/01/22 09:29	12/19/22 12:16	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	1.63		0.493	0.507	5.00	0.603	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-7S

Lab Sample ID: 180-148407-14

Date Collected: 11/22/22 13:00

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	79		1.0	0.71	mg/L			11/26/22 20:52	1
Fluoride	0.14		0.10	0.026	mg/L			11/26/22 20:52	1
Sulfate	390		1.0	0.76	mg/L			11/26/22 20:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0013	J	0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 15:27	1
Arsenic	0.0071		0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 15:27	1
Barium	0.042		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 15:27	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 15:27	1
Boron	15		2.0	1.6	mg/L		11/30/22 12:00	12/02/22 14:54	100
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 15:27	1
Calcium	180		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 15:27	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 15:27	1
Cobalt	ND		0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 15:27	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 17:18	1
Lithium	0.16		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 15:27	1
Molybdenum	0.22		0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 15:27	1
Selenium	0.0050		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 15:27	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 17:18	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-7S

Lab Sample ID: 180-148407-14

Date Collected: 11/22/22 13:00

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 12:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	890		10	10	mg/L			11/28/22 15:28	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	10.1	HF	0.1	0.1	SU			11/28/22 15:32	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	0.137		0.0788	0.0797	1.00	0.0962	pCi/L	12/01/22 09:07	12/27/22 14:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.3		40 - 110					12/01/22 09:07	12/27/22 14:15	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	0.647		0.384	0.389	1.00	0.555	pCi/L	12/01/22 09:29	12/19/22 12:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.3		40 - 110					12/01/22 09:29	12/19/22 12:17	1
Y Carrier	81.1		40 - 110					12/01/22 09:29	12/19/22 12:17	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	0.784		0.392	0.397	5.00	0.555	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-7D

Lab Sample ID: 180-148407-15

Date Collected: 11/22/22 14:00

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	180		2.5	1.8	mg/L			11/26/22 21:10	2.5
Fluoride	0.52		0.25	0.065	mg/L			11/26/22 21:10	2.5
Sulfate	1300		2.5	1.9	mg/L			11/26/22 21:10	2.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 15:30	1
Arsenic	0.0010	J	0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 15:30	1
Barium	0.031		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 15:30	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 15:30	1
Boron	11		2.0	1.6	mg/L		11/30/22 12:00	12/02/22 14:56	100
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 15:30	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-7D

Lab Sample ID: 180-148407-15

Date Collected: 11/22/22 14:00

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	360		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 15:30	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 15:30	1
Cobalt	0.0037		0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 15:30	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 17:21	1
Lithium	0.050		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 15:30	1
Molybdenum	0.23		0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 15:30	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 15:30	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 17:21	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 12:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2000		20	20	mg/L			11/28/22 15:28	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.7	HF	0.1	0.1	SU			11/28/22 15:38	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	0.377		0.123	0.127	1.00	0.115	pCi/L	12/01/22 09:07	12/27/22 14:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.7		40 - 110					12/01/22 09:07	12/27/22 14:15	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	1.44		0.418	0.439	1.00	0.432	pCi/L	12/01/22 09:29	12/19/22 12:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.7		40 - 110					12/01/22 09:29	12/19/22 12:17	1
Y Carrier	89.7		40 - 110					12/01/22 09:29	12/19/22 12:17	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	1.82		0.436	0.457	5.00	0.432	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-8S

Lab Sample ID: 180-148407-16

Date Collected: 11/17/22 16:15

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	68		1.0	0.71	mg/L			11/26/22 21:29	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-8S

Lab Sample ID: 180-148407-16

Date Collected: 11/17/22 16:15

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 EPA 9056A - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.18		0.10	0.026	mg/L			11/26/22 21:29	1
Sulfate	250		1.0	0.76	mg/L			11/26/22 21:29	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 15:32	1
Arsenic	0.017		0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 15:32	1
Barium	0.17		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 15:32	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 15:32	1
Boron	2.3		0.20	0.16	mg/L		11/30/22 12:00	12/02/22 15:04	10
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 15:32	1
Calcium	120		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 15:32	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 15:32	1
Cobalt	0.00099	J	0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 15:32	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 17:23	1
Lithium	0.022		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 15:32	1
Molybdenum	0.24		0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 15:32	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 15:32	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 17:23	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 12:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	730		10	10	mg/L			11/23/22 19:50	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.8	HF	0.1	0.1	SU			11/28/22 15:47	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	0.226		0.100	0.102	1.00	0.115	pCi/L	12/01/22 09:07	12/27/22 14:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		40 - 110					12/01/22 09:07	12/27/22 14:16	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	1.29		0.452	0.467	1.00	0.529	pCi/L	12/01/22 09:29	12/19/22 12:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		40 - 110					12/01/22 09:29	12/19/22 12:17	1
Y Carrier	74.8		40 - 110					12/01/22 09:29	12/19/22 12:17	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-8S

Lab Sample ID: 180-148407-16

Date Collected: 11/17/22 16:15

Matrix: Water

Date Received: 11/23/22 09:15

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	1.51		0.463	0.478	5.00	0.529	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-8I

Lab Sample ID: 180-148407-17

Date Collected: 11/18/22 11:05

Matrix: Water

Date Received: 11/23/22 09:15

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			11/26/22 21:47	1
Fluoride	0.20		0.10	0.026	mg/L			11/26/22 21:47	1
Sulfate	50		1.0	0.76	mg/L			11/26/22 21:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 15:40	1
Arsenic	0.0037	J	0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 15:40	1
Barium	0.049		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 15:40	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 15:40	1
Boron	0.071		0.020	0.016	mg/L		11/30/22 12:00	12/02/22 15:06	1
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 15:40	1
Calcium	45		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 15:40	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 15:40	1
Cobalt	0.00042	J	0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 15:40	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 15:06	1
Lithium	ND		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 15:40	1
Molybdenum	0.024		0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 15:40	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 15:40	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 15:06	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 12:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	260		10	10	mg/L			11/23/22 19:50	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.9	HF	0.1	0.1	SU			11/28/22 15:59	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	0.207		0.0917	0.0936	1.00	0.0912	pCi/L	12/01/22 09:07	12/27/22 14:16	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	85.2		40 - 110	12/01/22 09:07	12/27/22 14:16	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-8I

Lab Sample ID: 180-148407-17

Date Collected: 11/18/22 11:05

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.63		0.503	0.525	1.00	0.585	pCi/L	12/01/22 09:29	12/19/22 12:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.2		40 - 110					12/01/22 09:29	12/19/22 12:17	1
Y Carrier	83.4		40 - 110					12/01/22 09:29	12/19/22 12:17	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	1.84		0.511	0.533	5.00	0.585	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-8D

Lab Sample ID: 180-148407-18

Date Collected: 11/18/22 12:40

Matrix: Water

Date Received: 11/23/22 09:15

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			11/26/22 22:05	1
Fluoride	0.17		0.10	0.026	mg/L			11/26/22 22:05	1
Sulfate	45		1.0	0.76	mg/L			11/26/22 22:05	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 15:42	1
Arsenic	0.0025	J	0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 15:42	1
Barium	0.062		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 15:42	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 15:42	1
Boron	0.046		0.020	0.016	mg/L		11/30/22 12:00	12/02/22 15:08	1
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 15:42	1
Calcium	42		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 15:42	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 15:42	1
Cobalt	ND		0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 15:42	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 15:08	1
Lithium	ND		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 15:42	1
Molybdenum	0.0012	J	0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 15:42	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 15:42	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 15:08	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 12:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	220		10	10	mg/L			11/23/22 19:50	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.9	HF	0.1	0.1	SU			11/28/22 16:04	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-8D

Lab Sample ID: 180-148407-18

Date Collected: 11/18/22 12:40

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.212		0.0893	0.0913	1.00	0.0918	pCi/L	12/01/22 09:07	12/27/22 14:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110					12/01/22 09:07	12/27/22 14:16	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	1.24		0.409	0.425	1.00	0.488	pCi/L	12/01/22 09:29	12/19/22 12:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	97.3		40 - 110					12/01/22 09:29	12/19/22 12:17	1
Y Carrier	87.5		40 - 110					12/01/22 09:29	12/19/22 12:17	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	1.46		0.419	0.435	5.00	0.488	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-9S

Lab Sample ID: 180-148407-19

Date Collected: 11/18/22 16:00

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24		1.0	0.71	mg/L			11/26/22 22:24	1
Fluoride	0.79		0.10	0.026	mg/L			11/26/22 22:24	1
Sulfate	40		1.0	0.76	mg/L			11/26/22 22:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 15:45	1
Arsenic	0.0024	J	0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 15:45	1
Barium	0.10		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 15:45	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 15:45	1
Boron	1.1		0.20	0.16	mg/L		11/30/22 12:00	12/02/22 15:11	10
Cadmium	0.00028	J	0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 15:45	1
Calcium	69		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 15:45	1
Chromium	0.0056		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 15:45	1
Cobalt	0.0026		0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 15:45	1
Lead	0.0025		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 17:26	1
Lithium	0.0091		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 15:45	1
Molybdenum	0.13		0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 15:45	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 15:45	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 17:26	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-9S

Lab Sample ID: 180-148407-19

Date Collected: 11/18/22 16:00

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 12:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	610		10	10	mg/L			11/23/22 19:50	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	8.0	HF	0.1	0.1	SU			11/28/22 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	0.245	U	0.200	0.201	1.00	0.300	pCi/L	12/02/22 09:26	12/27/22 14:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.2		40 - 110					12/02/22 09:26	12/27/22 14:19	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	1.01	U G	0.772	0.778	1.00	1.18	pCi/L	12/02/22 09:55	12/19/22 12:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.2		40 - 110					12/02/22 09:55	12/19/22 12:19	1
Y Carrier	89.0		40 - 110					12/02/22 09:55	12/19/22 12:19	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	1.26		0.797	0.804	5.00	1.18	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-9I

Lab Sample ID: 180-148407-20

Date Collected: 11/22/22 13:06

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20		1.0	0.71	mg/L			11/26/22 23:19	1
Fluoride	0.14		0.10	0.026	mg/L			11/29/22 18:40	1
Sulfate	41		1.0	0.76	mg/L			11/26/22 23:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 15:47	1
Arsenic	0.0060		0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 15:47	1
Barium	0.10		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 15:47	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 15:47	1
Boron	0.13		0.020	0.016	mg/L		11/30/22 12:00	12/02/22 15:13	1
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 15:47	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-9I

Lab Sample ID: 180-148407-20

Date Collected: 11/22/22 13:06

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	45		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 15:47	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 15:47	1
Cobalt	0.00028	J	0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 15:47	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 15:13	1
Lithium	0.0017	J	0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 15:47	1
Molybdenum	0.013		0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 15:47	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 15:47	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 15:13	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 12:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	240		10	10	mg/L			11/28/22 15:28	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	8.0	HF	0.1	0.1	SU			11/28/22 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	0.135	U	0.0982	0.0990	1.00	0.144	pCi/L	12/02/22 09:26	12/27/22 14:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.7		40 - 110					12/02/22 09:26	12/27/22 14:19	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	0.410	U	0.324	0.327	1.00	0.501	pCi/L	12/02/22 09:55	12/19/22 12:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.7		40 - 110					12/02/22 09:55	12/19/22 12:20	1
Y Carrier	88.6		40 - 110					12/02/22 09:55	12/19/22 12:20	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	0.545		0.339	0.342	5.00	0.501	pCi/L		12/28/22 10:36	1

Client Sample ID: WAP-9D

Lab Sample ID: 180-148407-21

Date Collected: 11/22/22 16:30

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19		1.0	0.71	mg/L			11/27/22 00:51	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-9D

Lab Sample ID: 180-148407-21

Date Collected: 11/22/22 16:30

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 EPA 9056A - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.31		0.10	0.026	mg/L			11/29/22 16:31	1
Sulfate	39		1.0	0.76	mg/L			11/27/22 00:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 16:23	1
Arsenic	0.0086		0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 16:23	1
Barium	0.17		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 16:23	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 16:23	1
Boron	0.15		0.020	0.016	mg/L		11/30/22 12:00	12/02/22 13:53	1
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 16:23	1
Calcium	36		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 16:23	1
Chromium	0.0048	J	0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 16:23	1
Cobalt	0.0018		0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 16:23	1
Lead	0.0020		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 13:53	1
Lithium	0.0047	J	0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 16:23	1
Molybdenum	0.0086		0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 16:23	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 16:23	1
Thallium	0.00063	J	0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 13:53	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/01/22 14:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	290		10	10	mg/L			11/28/22 17:36	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.8	HF	0.1	0.1	SU			11/28/22 16:22	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	0.456		0.254	0.257	1.00	0.312	pCi/L	12/02/22 09:26	12/27/22 14:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	56.1		40 - 110					12/02/22 09:26	12/27/22 14:19	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	1.10	U G	0.978	0.983	1.00	1.53	pCi/L	12/02/22 09:55	12/19/22 12:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	56.1		40 - 110					12/02/22 09:55	12/19/22 12:20	1
Y Carrier	86.4		40 - 110					12/02/22 09:55	12/19/22 12:20	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: WAP-9D

Lab Sample ID: 180-148407-21

Date Collected: 11/22/22 16:30

Matrix: Water

Date Received: 11/23/22 09:15

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	1.56		1.01	1.02	5.00	1.53	pCi/L		12/28/22 10:36	1

Client Sample ID: FIELD BLANK

Lab Sample ID: 180-148407-22

Date Collected: 11/21/22 11:45

Matrix: Water

Date Received: 11/23/22 09:15

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			11/27/22 01:10	1
Fluoride	ND		0.10	0.026	mg/L			11/29/22 16:49	1
Sulfate	ND		1.0	0.76	mg/L			11/27/22 01:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 16:25	1
Arsenic	ND		0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 16:25	1
Barium	ND		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 16:25	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 16:25	1
Boron	ND		0.020	0.016	mg/L		11/30/22 12:00	12/02/22 13:55	1
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 16:25	1
Calcium	ND		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 16:25	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 16:25	1
Cobalt	ND		0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 16:25	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 13:55	1
Lithium	ND		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 16:25	1
Molybdenum	ND		0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 16:25	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 16:25	1
Thallium	0.00025	J	0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 13:55	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/01/22 14:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	ND		10	10	mg/L			11/28/22 17:36	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	6.0	HF	0.1	0.1	SU			11/28/22 16:27	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	0.0207	U	0.0551	0.0552	1.00	0.104	pCi/L	12/02/22 09:26	12/27/22 14:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.0		40 - 110					12/02/22 09:26	12/27/22 14:19	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: FIELD BLANK

Lab Sample ID: 180-148407-22

Date Collected: 11/21/22 11:45

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.348	U	0.297	0.299	1.00	0.462	pCi/L	12/02/22 09:55	12/19/22 12:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.0		40 - 110					12/02/22 09:55	12/19/22 12:20	1
Y Carrier	85.6		40 - 110					12/02/22 09:55	12/19/22 12:20	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	0.369	U	0.302	0.304	5.00	0.462	pCi/L		12/28/22 10:36	1

Client Sample ID: BLIND DUP 1

Lab Sample ID: 180-148407-23

Date Collected: 11/21/22 00:01

Matrix: Water

Date Received: 11/23/22 09:15

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			11/27/22 01:28	1
Fluoride	0.30		0.10	0.026	mg/L			11/29/22 18:03	1
Sulfate	380		1.0	0.76	mg/L			11/27/22 01:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 16:28	1
Arsenic	ND		0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 16:28	1
Barium	0.021		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 16:28	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 16:28	1
Boron	4.9		0.40	0.32	mg/L		11/30/22 12:00	12/02/22 13:58	20
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 16:28	1
Calcium	170		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 16:28	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 16:28	1
Cobalt	0.0013		0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 16:28	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 17:33	1
Lithium	0.079		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 16:28	1
Molybdenum	0.29		0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 16:28	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 16:28	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 17:33	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/01/22 14:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	860		10	10	mg/L			11/28/22 17:36	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.9	HF	0.1	0.1	SU			11/28/22 16:32	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: BLIND DUP 1

Lab Sample ID: 180-148407-23

Date Collected: 11/21/22 00:01

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.152		0.0861	0.0872	1.00	0.111	pCi/L	12/02/22 09:26	12/27/22 14:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.9		40 - 110					12/02/22 09:26	12/27/22 14:20	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	0.826		0.406	0.413	1.00	0.559	pCi/L	12/02/22 09:55	12/19/22 12:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.9		40 - 110					12/02/22 09:55	12/19/22 12:20	1
Y Carrier	77.4		40 - 110					12/02/22 09:55	12/19/22 12:20	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	0.978		0.415	0.422	5.00	0.559	pCi/L		12/28/22 10:36	1

Client Sample ID: BLIND DUP 2

Lab Sample ID: 180-148407-24

Date Collected: 11/22/22 00:01

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20		1.0	0.71	mg/L			11/27/22 01:47	1
Fluoride	0.14		0.10	0.026	mg/L			11/29/22 18:22	1
Sulfate	42		1.0	0.76	mg/L			11/27/22 01:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 16:30	1
Arsenic	0.0059		0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 16:30	1
Barium	0.10		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 16:30	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 16:30	1
Boron	0.13		0.020	0.016	mg/L		11/30/22 12:00	12/02/22 14:05	1
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 16:30	1
Calcium	45		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 16:30	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 16:30	1
Cobalt	0.00026	J	0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 16:30	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 14:05	1
Lithium	0.0017	J	0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 16:30	1
Molybdenum	0.013		0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 16:30	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 16:30	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 14:05	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: BLIND DUP 2

Lab Sample ID: 180-148407-24

Date Collected: 11/22/22 00:01

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/01/22 14:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	240		10	10	mg/L			11/28/22 15:28	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	8.0	HF	0.1	0.1	SU			11/28/22 16:38	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	0.0873	0.0880	1.00	0.126	pCi/L	12/02/22 09:26	12/27/22 14:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.4		40 - 110					12/02/22 09:26	12/27/22 14:20	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	0.241	U	0.315	0.316	1.00	0.525	pCi/L	12/02/22 09:55	12/19/22 12:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.4		40 - 110					12/02/22 09:55	12/19/22 12:20	1
Y Carrier	76.6		40 - 110					12/02/22 09:55	12/19/22 12:20	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	0.364	U	0.327	0.328	5.00	0.525	pCi/L		12/28/22 10:36	1

Client Sample ID: CCR-AP-7

Lab Sample ID: 180-148407-25

Date Collected: 11/22/22 10:10

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	30		1.0	0.71	mg/L			11/26/22 18:24	1
Fluoride	0.48		0.10	0.026	mg/L			11/26/22 18:24	1
Sulfate	76		1.0	0.76	mg/L			11/26/22 18:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 16:02	1
Arsenic	0.0040	J	0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 16:02	1
Barium	0.10		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 16:02	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 16:02	1
Boron	0.049	F1	0.020	0.016	mg/L		11/30/22 12:00	12/02/22 13:41	1
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 16:02	1

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Client Sample Results

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

Job ID: 180-148407-1

Client Sample ID: CCR-AP-7

Lab Sample ID: 180-148407-25

Date Collected: 11/22/22 10:10

Matrix: Water

Date Received: 11/23/22 09:15

Method: SW846 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	110		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 16:02	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 16:02	1
Cobalt	0.00087	J	0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 16:02	1
Lead	0.00082	J	0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 13:41	1
Lithium	0.0070	J	0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 16:02	1
Molybdenum	0.0014	J	0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 16:02	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 16:02	1
Thallium	0.00039	J	0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 13:41	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/01/22 13:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	580		10	10	mg/L			11/28/22 15:28	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.7	HF	0.1	0.1	SU			11/28/22 16:51	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	0.250		0.131	0.133	1.00	0.169	pCi/L	12/02/22 09:26	12/27/22 16:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.5		40 - 110					12/02/22 09:26	12/27/22 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	1.08		0.533	0.543	1.00	0.715	pCi/L	12/02/22 09:55	12/19/22 12:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.5		40 - 110					12/02/22 09:55	12/19/22 12:20	1
Y Carrier	74.8		40 - 110					12/02/22 09:55	12/19/22 12:20	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	1.33		0.549	0.559	5.00	0.715	pCi/L		12/28/22 10:36	1

QC Sample Results

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

Job ID: 180-148407-1

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-419148/36
Matrix: Water
Analysis Batch: 419148

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			11/26/22 22:42	1
Fluoride	ND		0.10	0.026	mg/L			11/26/22 22:42	1
Sulfate	ND		1.0	0.76	mg/L			11/26/22 22:42	1

Lab Sample ID: MB 180-419148/6
Matrix: Water
Analysis Batch: 419148

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			11/26/22 10:56	1
Fluoride	ND		0.10	0.026	mg/L			11/26/22 10:56	1
Sulfate	ND		1.0	0.76	mg/L			11/26/22 10:56	1

Lab Sample ID: LCS 180-419148/37
Matrix: Water
Analysis Batch: 419148

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	52.9		mg/L		106	80 - 120
Fluoride	2.50	2.72		mg/L		109	80 - 120
Sulfate	50.0	51.7		mg/L		103	80 - 120

Lab Sample ID: LCS 180-419148/7
Matrix: Water
Analysis Batch: 419148

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	51.8		mg/L		104	80 - 120
Fluoride	2.50	2.69		mg/L		108	80 - 120
Sulfate	50.0	50.7		mg/L		101	80 - 120

Lab Sample ID: 180-148407-6 MS
Matrix: Water
Analysis Batch: 419148

Client Sample ID: WAP-4I
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	21		50.0	71.4		mg/L		101	80 - 120
Fluoride	0.15		2.50	2.80		mg/L		106	80 - 120
Sulfate	49		50.0	98.0		mg/L		97	80 - 120

Lab Sample ID: 180-148407-6 MSD
Matrix: Water
Analysis Batch: 419148

Client Sample ID: WAP-4I
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	21		50.0	71.4		mg/L		101	80 - 120	0	15
Fluoride	0.15		2.50	2.80		mg/L		106	80 - 120	0	15
Sulfate	49		50.0	97.3		mg/L		96	80 - 120	1	15

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QC Sample Results

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

Job ID: 180-148407-1

Method: EPA 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: 180-148407-20 MS
Matrix: Water
Analysis Batch: 419148

Client Sample ID: WAP-9I
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20		50.0	70.7		mg/L		102	80 - 120
Sulfate	41		50.0	90.6		mg/L		98	80 - 120

Lab Sample ID: 180-148407-20 MSD
Matrix: Water
Analysis Batch: 419148

Client Sample ID: WAP-9I
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20		50.0	70.9		mg/L		102	80 - 120	0	15
Sulfate	41		50.0	90.5		mg/L		98	80 - 120	0	15

Lab Sample ID: 180-148407-25 MS
Matrix: Water
Analysis Batch: 419148

Client Sample ID: CCR-AP-7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	30		50.0	80.7		mg/L		101	80 - 120
Fluoride	0.48		2.50	3.07		mg/L		104	80 - 120
Sulfate	76		50.0	123		mg/L		94	80 - 120

Lab Sample ID: 180-148407-25 MSD
Matrix: Water
Analysis Batch: 419148

Client Sample ID: CCR-AP-7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	30		50.0	80.9		mg/L		101	80 - 120	0	15
Fluoride	0.48		2.50	3.07		mg/L		104	80 - 120	0	15
Sulfate	76		50.0	123		mg/L		94	80 - 120	0	15

Lab Sample ID: MB 180-419311/6
Matrix: Water
Analysis Batch: 419311

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			11/29/22 12:05	1
Fluoride	ND		0.10	0.026	mg/L			11/29/22 12:05	1
Sulfate	ND		1.0	0.76	mg/L			11/29/22 12:05	1

Lab Sample ID: LCS 180-419311/7
Matrix: Water
Analysis Batch: 419311

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	51.9		mg/L		104	80 - 120
Fluoride	2.50	2.63		mg/L		105	80 - 120
Sulfate	50.0	50.7		mg/L		101	80 - 120

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QC Sample Results

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

Job ID: 180-148407-1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-553966/1-A
Matrix: Water
Analysis Batch: 554304

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 553966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 14:29	1
Arsenic	ND		0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 14:29	1
Barium	ND		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 14:29	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 14:29	1
Boron	ND		0.020	0.016	mg/L		11/30/22 12:00	12/01/22 14:29	1
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 14:29	1
Calcium	ND		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 14:29	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 14:29	1
Cobalt	ND		0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 14:29	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/01/22 14:29	1
Lithium	ND		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 14:29	1
Molybdenum	ND		0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 14:29	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 14:29	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 14:29	1

Lab Sample ID: LCS 240-553966/2-A
Matrix: Water
Analysis Batch: 554304

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 553966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.102		mg/L		102	80 - 120
Arsenic	1.00	0.911		mg/L		91	80 - 120
Barium	1.00	0.897		mg/L		90	80 - 120
Beryllium	0.500	0.461		mg/L		92	80 - 120
Boron	0.100	0.0891		mg/L		89	80 - 120
Cadmium	0.500	0.479		mg/L		96	80 - 120
Calcium	25.0	24.6		mg/L		98	80 - 120
Chromium	0.500	0.490		mg/L		98	80 - 120
Cobalt	0.500	0.470		mg/L		94	80 - 120
Lead	0.500	0.480		mg/L		96	80 - 120
Lithium	0.500	0.462		mg/L		92	80 - 120
Molybdenum	0.500	0.467		mg/L		93	80 - 120
Selenium	1.00	0.903		mg/L		90	80 - 120
Thallium	1.00	0.946		mg/L		95	80 - 120

Lab Sample ID: 180-148407-6 MS
Matrix: Water
Analysis Batch: 554304

Client Sample ID: WAP-4I
Prep Type: Total Recoverable
Prep Batch: 553966

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND		0.100	0.0994		mg/L		99	75 - 125
Arsenic	0.0069		1.00	0.883		mg/L		88	75 - 125
Barium	0.17		1.00	1.08		mg/L		91	75 - 125
Beryllium	ND		0.500	0.449		mg/L		90	75 - 125
Cadmium	ND		0.500	0.465		mg/L		93	75 - 125
Calcium	41		25.0	63.5		mg/L		91	75 - 125
Chromium	ND		0.500	0.475		mg/L		95	75 - 125
Cobalt	0.00043	J	0.500	0.451		mg/L		90	75 - 125
Molybdenum	0.0018	J	0.500	0.459		mg/L		91	75 - 125

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QC Sample Results

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

Job ID: 180-148407-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 180-148407-6 MS
Matrix: Water
Analysis Batch: 554304

Client Sample ID: WAP-4I
Prep Type: Total Recoverable
Prep Batch: 553966

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	ND		1.00	0.874		mg/L		87	75 - 125

Lab Sample ID: 180-148407-6 MS
Matrix: Water
Analysis Batch: 554512

Client Sample ID: WAP-4I
Prep Type: Total Recoverable
Prep Batch: 553966

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.071		0.100	0.163		mg/L		92	75 - 125
Lead	ND		0.500	0.480		mg/L		96	75 - 125
Thallium	ND		1.00	0.930		mg/L		93	75 - 125

Lab Sample ID: 180-148407-6 MSD
Matrix: Water
Analysis Batch: 554304

Client Sample ID: WAP-4I
Prep Type: Total Recoverable
Prep Batch: 553966

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		0.100	0.0980		mg/L		98	75 - 125	1	20
Arsenic	0.0069		1.00	0.891		mg/L		88	75 - 125	1	20
Barium	0.17		1.00	1.07		mg/L		90	75 - 125	0	20
Beryllium	ND		0.500	0.454		mg/L		91	75 - 125	1	20
Cadmium	ND		0.500	0.463		mg/L		93	75 - 125	0	20
Calcium	41		25.0	64.3		mg/L		95	75 - 125	1	20
Chromium	ND		0.500	0.481		mg/L		96	75 - 125	1	20
Cobalt	0.00043	J	0.500	0.451		mg/L		90	75 - 125	0	20
Molybdenum	0.0018	J	0.500	0.465		mg/L		93	75 - 125	1	20
Selenium	ND		1.00	0.882		mg/L		88	75 - 125	1	20

Lab Sample ID: 180-148407-6 MSD
Matrix: Water
Analysis Batch: 554512

Client Sample ID: WAP-4I
Prep Type: Total Recoverable
Prep Batch: 553966

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.071		0.100	0.164		mg/L		93	75 - 125	0	20
Lead	ND		0.500	0.485		mg/L		97	75 - 125	1	20
Thallium	ND		1.00	0.951		mg/L		95	75 - 125	2	20

Lab Sample ID: MB 240-553976/1-A
Matrix: Water
Analysis Batch: 554304

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 553976

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		11/30/22 12:00	12/01/22 15:57	1
Arsenic	ND		0.0050	0.00075	mg/L		11/30/22 12:00	12/01/22 15:57	1
Barium	ND		0.0050	0.0022	mg/L		11/30/22 12:00	12/01/22 15:57	1
Beryllium	ND		0.0010	0.00062	mg/L		11/30/22 12:00	12/01/22 15:57	1
Cadmium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/01/22 15:57	1
Calcium	ND		1.0	0.58	mg/L		11/30/22 12:00	12/01/22 15:57	1
Chromium	ND		0.0050	0.0025	mg/L		11/30/22 12:00	12/01/22 15:57	1
Cobalt	ND		0.0010	0.00019	mg/L		11/30/22 12:00	12/01/22 15:57	1
Lithium	ND		0.0080	0.0017	mg/L		11/30/22 12:00	12/01/22 15:57	1

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QC Sample Results

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

Job ID: 180-148407-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 240-553976/1-A
Matrix: Water
Analysis Batch: 554304

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 553976

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND		0.0050	0.0011	mg/L		11/30/22 12:00	12/01/22 15:57	1
Selenium	ND		0.0050	0.00089	mg/L		11/30/22 12:00	12/01/22 15:57	1

Lab Sample ID: MB 240-553976/1-A
Matrix: Water
Analysis Batch: 554512

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 553976

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.020	0.016	mg/L		11/30/22 12:00	12/02/22 13:36	1
Lead	ND		0.0010	0.00045	mg/L		11/30/22 12:00	12/02/22 13:36	1
Thallium	ND		0.0010	0.00020	mg/L		11/30/22 12:00	12/02/22 13:36	1

Lab Sample ID: LCS 240-553976/2-A
Matrix: Water
Analysis Batch: 554304

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 553976

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0978		mg/L		98	80 - 120
Arsenic	1.00	0.861		mg/L		86	80 - 120
Barium	1.00	0.859		mg/L		86	80 - 120
Beryllium	0.500	0.445		mg/L		89	80 - 120
Cadmium	0.500	0.460		mg/L		92	80 - 120
Calcium	25.0	23.5		mg/L		94	80 - 120
Chromium	0.500	0.465		mg/L		93	80 - 120
Cobalt	0.500	0.438		mg/L		88	80 - 120
Lithium	0.500	0.445		mg/L		89	80 - 120
Molybdenum	0.500	0.445		mg/L		89	80 - 120
Selenium	1.00	0.871		mg/L		87	80 - 120

Lab Sample ID: LCS 240-553976/2-A
Matrix: Water
Analysis Batch: 554512

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 553976

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.100	0.0883		mg/L		88	80 - 120
Lead	0.500	0.469		mg/L		94	80 - 120
Thallium	1.00	0.924		mg/L		92	80 - 120

Lab Sample ID: 180-148407-25 MS
Matrix: Water
Analysis Batch: 554304

Client Sample ID: CCR-AP-7
Prep Type: Total Recoverable
Prep Batch: 553976

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND		0.100	0.0985		mg/L		98	75 - 125
Arsenic	0.0040	J	1.00	0.899		mg/L		90	75 - 125
Barium	0.10		1.00	0.995		mg/L		89	75 - 125
Beryllium	ND		0.500	0.443		mg/L		89	75 - 125
Cadmium	ND		0.500	0.457		mg/L		91	75 - 125
Calcium	110		25.0	126	4	mg/L		71	75 - 125
Chromium	ND		0.500	0.460		mg/L		92	75 - 125

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QC Sample Results

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

Job ID: 180-148407-1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 180-148407-25 MS
Matrix: Water
Analysis Batch: 554304

Client Sample ID: CCR-AP-7
Prep Type: Total Recoverable
Prep Batch: 553976

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier		Result	Qualifier				Limits	RPD
Cobalt	0.00087	J	0.500	0.449		mg/L		90	75 - 125	
Molybdenum	0.0014	J	0.500	0.460		mg/L		92	75 - 125	
Selenium	ND		1.00	0.861		mg/L		86	75 - 125	

Lab Sample ID: 180-148407-25 MS
Matrix: Water
Analysis Batch: 554512

Client Sample ID: CCR-AP-7
Prep Type: Total Recoverable
Prep Batch: 553976

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier		Result	Qualifier				Limits	RPD
Boron	0.049	F1	0.100	0.119	F1	mg/L		70	75 - 125	
Lead	0.00082	J	0.500	0.472		mg/L		94	75 - 125	
Thallium	0.00039	J	1.00	0.920		mg/L		92	75 - 125	

Lab Sample ID: 180-148407-25 MSD
Matrix: Water
Analysis Batch: 554304

Client Sample ID: CCR-AP-7
Prep Type: Total Recoverable
Prep Batch: 553976

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD	Limit	
Antimony	ND		0.100	0.0998		mg/L		100	75 - 125	1	20	
Arsenic	0.0040	J	1.00	0.903		mg/L		90	75 - 125	0	20	
Barium	0.10		1.00	1.02		mg/L		92	75 - 125	3	20	
Beryllium	ND		0.500	0.454		mg/L		91	75 - 125	2	20	
Cadmium	ND		0.500	0.462		mg/L		92	75 - 125	1	20	
Calcium	110		25.0	127	4	mg/L		76	75 - 125	1	20	
Chromium	ND		0.500	0.475		mg/L		95	75 - 125	3	20	
Cobalt	0.00087	J	0.500	0.450		mg/L		90	75 - 125	0	20	
Molybdenum	0.0014	J	0.500	0.462		mg/L		92	75 - 125	1	20	
Selenium	ND		1.00	0.872		mg/L		87	75 - 125	1	20	

Lab Sample ID: 180-148407-25 MSD
Matrix: Water
Analysis Batch: 554512

Client Sample ID: CCR-AP-7
Prep Type: Total Recoverable
Prep Batch: 553976

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD	Limit	
Boron	0.049	F1	0.100	0.119	F1	mg/L		70	75 - 125	0	20	
Lead	0.00082	J	0.500	0.485		mg/L		97	75 - 125	3	20	
Thallium	0.00039	J	1.00	0.946		mg/L		95	75 - 125	3	20	

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-553967/1-A
Matrix: Water
Analysis Batch: 554531

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 553967

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
	Result	Qualifier							
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/02/22 11:11	1

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QC Sample Results

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

Job ID: 180-148407-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 240-553967/2-A
Matrix: Water
Analysis Batch: 554531

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 553967

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	5.22		ug/L		104	80 - 120

Lab Sample ID: 180-148407-6 MS
Matrix: Water
Analysis Batch: 554531

Client Sample ID: WAP-4I
Prep Type: Total/NA
Prep Batch: 553967

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		0.00100	0.00107		mg/L		107	80 - 120

Lab Sample ID: 180-148407-6 MSD
Matrix: Water
Analysis Batch: 554531

Client Sample ID: WAP-4I
Prep Type: Total/NA
Prep Batch: 553967

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		0.00100	0.00102		mg/L		102	80 - 120	5	20

Lab Sample ID: MB 240-553979/1-A
Matrix: Water
Analysis Batch: 554305

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 553979

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		11/30/22 12:00	12/01/22 13:52	1

Lab Sample ID: LCS 240-553979/2-A
Matrix: Water
Analysis Batch: 554305

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 553979

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	5.15		ug/L		103	80 - 120

Lab Sample ID: 180-148407-25 MS
Matrix: Water
Analysis Batch: 554305

Client Sample ID: CCR-AP-7
Prep Type: Total/NA
Prep Batch: 553979

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		0.00100	0.00104		mg/L		104	80 - 120

Lab Sample ID: 180-148407-25 MSD
Matrix: Water
Analysis Batch: 554305

Client Sample ID: CCR-AP-7
Prep Type: Total/NA
Prep Batch: 553979

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		0.00100	0.000970		mg/L		97	80 - 120	7	20

QC Sample Results

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

Job ID: 180-148407-1

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-419288/27
Matrix: Water
Analysis Batch: 419288

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		101	99 - 101

Lab Sample ID: LCS 180-419288/4
Matrix: Water
Analysis Batch: 419288

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 180-419288/50
Matrix: Water
Analysis Batch: 419288

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: 180-148407-6 DU
Matrix: Water
Analysis Batch: 419288

Client Sample ID: WAP-4I
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.7	HF	7.7	HF	SU		0.3	2

Lab Sample ID: 180-148407-16 DU
Matrix: Water
Analysis Batch: 419288

Client Sample ID: WAP-8S
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.8	HF	7.9		SU		0.9	2

Lab Sample ID: 180-148407-25 DU
Matrix: Water
Analysis Batch: 419288

Client Sample ID: CCR-AP-7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.7	HF	7.8	HF	SU		1	2

Lab Sample ID: LCS 180-420258/1
Matrix: Water
Analysis Batch: 420258

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: 180-148407-C-25 DU
Matrix: Water
Analysis Batch: 420258

Client Sample ID: 180-148407-C-25 DU
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.2		7.2		SU		0.4	2

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QC Sample Results

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

Job ID: 180-148407-1

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-421852/1
 Matrix: Water
 Analysis Batch: 421852

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 180-419108/1
 Matrix: Water
 Analysis Batch: 419108

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			11/23/22 18:04	1

Lab Sample ID: LCS 180-419108/2
 Matrix: Water
 Analysis Batch: 419108

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	388	380		mg/L		98	85 - 115

Lab Sample ID: 180-148407-6 DU
 Matrix: Water
 Analysis Batch: 419108

Client Sample ID: WAP-4I
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	230		229		mg/L		2	10

Lab Sample ID: MB 180-419240/1
 Matrix: Water
 Analysis Batch: 419240

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			11/28/22 15:28	1

Lab Sample ID: LCS 180-419240/2
 Matrix: Water
 Analysis Batch: 419240

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	388	396		mg/L		102	85 - 115

Lab Sample ID: 180-148407-25 DU
 Matrix: Water
 Analysis Batch: 419240

Client Sample ID: CCR-AP-7
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	580		574		mg/L		0.3	10

QC Sample Results

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

Job ID: 180-148407-1

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

Lab Sample ID: MB 180-419247/1
 Matrix: Water
 Analysis Batch: 419247

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			11/28/22 17:36	1

Lab Sample ID: LCS 180-419247/2
 Matrix: Water
 Analysis Batch: 419247

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	388	394		mg/L		102	85 - 115

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-591878/1-A
 Matrix: Water
 Analysis Batch: 594849

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 591878

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.03755	U	0.0509	0.0510	1.00	0.123	pCi/L	12/01/22 09:07	12/27/22 14:13	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.2		40 - 110					12/01/22 09:07	12/27/22 14:13	1

Lab Sample ID: LCS 160-591878/2-A
 Matrix: Water
 Analysis Batch: 594849

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 591878

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	10.34		1.08	1.00	0.102	pCi/L	91	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	94.7		40 - 110						

Lab Sample ID: MB 160-592044/1-A
 Matrix: Water
 Analysis Batch: 594846

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 592044

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.01068	U	0.0449	0.0449	1.00	0.0905	pCi/L	12/02/22 09:26	12/27/22 14:17	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.4		40 - 110					12/02/22 09:26	12/27/22 14:17	1

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QC Sample Results

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

Job ID: 180-148407-1

Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-592044/2-A
Matrix: Water
Analysis Batch: 594846

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 592044

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	
Radium-226	11.3	10.11		1.06	1.00	0.0894	pCi/L	89	75 - 125	
Carrier	%Yield	LCS Qualifier	Limits							
Ba Carrier	99.0		40 - 110							

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-591884/1-A
Matrix: Water
Analysis Batch: 594204

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 591884

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Carrier	%Yield	MB Qualifier	Limits							
Ba Carrier	92.2		40 - 110							
Y Carrier	82.2		40 - 110							
								Prepared	Analyzed	Dil Fac
								12/01/22 09:29	12/19/22 12:12	1
								12/01/22 09:29	12/19/22 12:12	1

Lab Sample ID: LCS 160-591884/2-A
Matrix: Water
Analysis Batch: 594204

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 591884

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	
Radium-228	8.35	8.628		1.16	1.00	0.414	pCi/L	103	75 - 125	
Carrier	%Yield	LCS Qualifier	Limits							
Ba Carrier	94.7		40 - 110							
Y Carrier	90.1		40 - 110							

Lab Sample ID: MB 160-592054/1-A
Matrix: Water
Analysis Batch: 594201

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 592054

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Carrier	%Yield	MB Qualifier	Limits							
Ba Carrier	95.4		40 - 110							
Y Carrier	80.0		40 - 110							
								Prepared	Analyzed	Dil Fac
								12/02/22 09:55	12/19/22 12:17	1
								12/02/22 09:55	12/19/22 12:17	1

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QC Sample Results

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

Job ID: 180-148407-1

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

Lab Sample ID: LCS 160-592054/2-A
 Matrix: Water
 Analysis Batch: 594201

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 592054

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	8.35	9.629		1.27	1.00	0.456	pCi/L	115	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	99.0		40 - 110
Y Carrier	84.9		40 - 110

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QC Association Summary

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

Job ID: 180-148407-1

HPLC/IC

Analysis Batch: 419148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-1	WAP-1	Total/NA	Water	EPA 9056A	
180-148407-2	WAP-2RR	Total/NA	Water	EPA 9056A	
180-148407-3	WAP-3S	Total/NA	Water	EPA 9056A	
180-148407-4	WAP-3D	Total/NA	Water	EPA 9056A	
180-148407-5	WAP-4S	Total/NA	Water	EPA 9056A	
180-148407-6	WAP-4I	Total/NA	Water	EPA 9056A	
180-148407-7	WAP-4D	Total/NA	Water	EPA 9056A	
180-148407-8	WAP-5S	Total/NA	Water	EPA 9056A	
180-148407-9	WAP-5D	Total/NA	Water	EPA 9056A	
180-148407-10	WAP-5I	Total/NA	Water	EPA 9056A	
180-148407-11	WAP-6S	Total/NA	Water	EPA 9056A	
180-148407-12	WAP-6I	Total/NA	Water	EPA 9056A	
180-148407-13	WAP-6D	Total/NA	Water	EPA 9056A	
180-148407-14	WAP-7S	Total/NA	Water	EPA 9056A	
180-148407-15	WAP-7D	Total/NA	Water	EPA 9056A	
180-148407-16	WAP-8S	Total/NA	Water	EPA 9056A	
180-148407-17	WAP-8I	Total/NA	Water	EPA 9056A	
180-148407-18	WAP-8D	Total/NA	Water	EPA 9056A	
180-148407-19	WAP-9S	Total/NA	Water	EPA 9056A	
180-148407-20	WAP-9I	Total/NA	Water	EPA 9056A	
180-148407-21	WAP-9D	Total/NA	Water	EPA 9056A	
180-148407-22	FIELD BLANK	Total/NA	Water	EPA 9056A	
180-148407-23	BLIND DUP 1	Total/NA	Water	EPA 9056A	
180-148407-24	BLIND DUP 2	Total/NA	Water	EPA 9056A	
180-148407-25	CCR-AP-7	Total/NA	Water	EPA 9056A	
MB 180-419148/36	Method Blank	Total/NA	Water	EPA 9056A	
MB 180-419148/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-419148/37	Lab Control Sample	Total/NA	Water	EPA 9056A	
LCS 180-419148/7	Lab Control Sample	Total/NA	Water	EPA 9056A	
180-148407-6 MS	WAP-4I	Total/NA	Water	EPA 9056A	
180-148407-6 MSD	WAP-4I	Total/NA	Water	EPA 9056A	
180-148407-20 MS	WAP-9I	Total/NA	Water	EPA 9056A	
180-148407-20 MSD	WAP-9I	Total/NA	Water	EPA 9056A	
180-148407-25 MS	CCR-AP-7	Total/NA	Water	EPA 9056A	
180-148407-25 MSD	CCR-AP-7	Total/NA	Water	EPA 9056A	

Analysis Batch: 419311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-20	WAP-9I	Total/NA	Water	EPA 9056A	
180-148407-21	WAP-9D	Total/NA	Water	EPA 9056A	
180-148407-22	FIELD BLANK	Total/NA	Water	EPA 9056A	
180-148407-23	BLIND DUP 1	Total/NA	Water	EPA 9056A	
180-148407-24	BLIND DUP 2	Total/NA	Water	EPA 9056A	
MB 180-419311/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-419311/7	Lab Control Sample	Total/NA	Water	EPA 9056A	

Metals

Prep Batch: 553966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-1	WAP-1	Total Recoverable	Water	3005A	

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QC Association Summary

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

Job ID: 180-148407-1

Metals (Continued)

Prep Batch: 553966 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-2	WAP-2RR	Total Recoverable	Water	3005A	
180-148407-3	WAP-3S	Total Recoverable	Water	3005A	
180-148407-4	WAP-3D	Total Recoverable	Water	3005A	
180-148407-5	WAP-4S	Total Recoverable	Water	3005A	
180-148407-6	WAP-4I	Total Recoverable	Water	3005A	
180-148407-7	WAP-4D	Total Recoverable	Water	3005A	
180-148407-8	WAP-5S	Total Recoverable	Water	3005A	
180-148407-9	WAP-5D	Total Recoverable	Water	3005A	
180-148407-10	WAP-5I	Total Recoverable	Water	3005A	
180-148407-11	WAP-6S	Total Recoverable	Water	3005A	
180-148407-12	WAP-6I	Total Recoverable	Water	3005A	
180-148407-13	WAP-6D	Total Recoverable	Water	3005A	
180-148407-14	WAP-7S	Total Recoverable	Water	3005A	
180-148407-15	WAP-7D	Total Recoverable	Water	3005A	
180-148407-16	WAP-8S	Total Recoverable	Water	3005A	
180-148407-17	WAP-8I	Total Recoverable	Water	3005A	
180-148407-18	WAP-8D	Total Recoverable	Water	3005A	
180-148407-19	WAP-9S	Total Recoverable	Water	3005A	
180-148407-20	WAP-9I	Total Recoverable	Water	3005A	
MB 240-553966/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-553966/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-148407-6 MS	WAP-4I	Total Recoverable	Water	3005A	
180-148407-6 MSD	WAP-4I	Total Recoverable	Water	3005A	

Prep Batch: 553967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-1	WAP-1	Total/NA	Water	7470A	
180-148407-2	WAP-2RR	Total/NA	Water	7470A	
180-148407-3	WAP-3S	Total/NA	Water	7470A	
180-148407-4	WAP-3D	Total/NA	Water	7470A	
180-148407-5	WAP-4S	Total/NA	Water	7470A	
180-148407-6	WAP-4I	Total/NA	Water	7470A	
180-148407-7	WAP-4D	Total/NA	Water	7470A	
180-148407-8	WAP-5S	Total/NA	Water	7470A	
180-148407-9	WAP-5D	Total/NA	Water	7470A	
180-148407-10	WAP-5I	Total/NA	Water	7470A	
180-148407-11	WAP-6S	Total/NA	Water	7470A	
180-148407-12	WAP-6I	Total/NA	Water	7470A	
180-148407-13	WAP-6D	Total/NA	Water	7470A	
180-148407-14	WAP-7S	Total/NA	Water	7470A	
180-148407-15	WAP-7D	Total/NA	Water	7470A	
180-148407-16	WAP-8S	Total/NA	Water	7470A	
180-148407-17	WAP-8I	Total/NA	Water	7470A	
180-148407-18	WAP-8D	Total/NA	Water	7470A	
180-148407-19	WAP-9S	Total/NA	Water	7470A	
180-148407-20	WAP-9I	Total/NA	Water	7470A	
MB 240-553967/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-553967/2-A	Lab Control Sample	Total/NA	Water	7470A	
180-148407-6 MS	WAP-4I	Total/NA	Water	7470A	
180-148407-6 MSD	WAP-4I	Total/NA	Water	7470A	

QC Association Summary

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

Job ID: 180-148407-1

Metals

Prep Batch: 553976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-21	WAP-9D	Total Recoverable	Water	3005A	
180-148407-22	FIELD BLANK	Total Recoverable	Water	3005A	
180-148407-23	BLIND DUP 1	Total Recoverable	Water	3005A	
180-148407-24	BLIND DUP 2	Total Recoverable	Water	3005A	
180-148407-25	CCR-AP-7	Total Recoverable	Water	3005A	
MB 240-553976/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-553976/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-148407-25 MS	CCR-AP-7	Total Recoverable	Water	3005A	
180-148407-25 MSD	CCR-AP-7	Total Recoverable	Water	3005A	

Prep Batch: 553979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-21	WAP-9D	Total/NA	Water	7470A	
180-148407-22	FIELD BLANK	Total/NA	Water	7470A	
180-148407-23	BLIND DUP 1	Total/NA	Water	7470A	
180-148407-24	BLIND DUP 2	Total/NA	Water	7470A	
180-148407-25	CCR-AP-7	Total/NA	Water	7470A	
MB 240-553979/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-553979/2-A	Lab Control Sample	Total/NA	Water	7470A	
180-148407-25 MS	CCR-AP-7	Total/NA	Water	7470A	
180-148407-25 MSD	CCR-AP-7	Total/NA	Water	7470A	

Analysis Batch: 554304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-1	WAP-1	Total Recoverable	Water	6020A	553966
180-148407-2	WAP-2RR	Total Recoverable	Water	6020A	553966
180-148407-3	WAP-3S	Total Recoverable	Water	6020A	553966
180-148407-4	WAP-3D	Total Recoverable	Water	6020A	553966
180-148407-5	WAP-4S	Total Recoverable	Water	6020A	553966
180-148407-6	WAP-4I	Total Recoverable	Water	6020A	553966
180-148407-7	WAP-4D	Total Recoverable	Water	6020A	553966
180-148407-8	WAP-5S	Total Recoverable	Water	6020A	553966
180-148407-9	WAP-5D	Total Recoverable	Water	6020A	553966
180-148407-10	WAP-5I	Total Recoverable	Water	6020A	553966
180-148407-11	WAP-6S	Total Recoverable	Water	6020A	553966
180-148407-12	WAP-6I	Total Recoverable	Water	6020A	553966
180-148407-13	WAP-6D	Total Recoverable	Water	6020A	553966
180-148407-14	WAP-7S	Total Recoverable	Water	6020A	553966
180-148407-15	WAP-7D	Total Recoverable	Water	6020A	553966
180-148407-16	WAP-8S	Total Recoverable	Water	6020A	553966
180-148407-17	WAP-8I	Total Recoverable	Water	6020A	553966
180-148407-18	WAP-8D	Total Recoverable	Water	6020A	553966
180-148407-19	WAP-9S	Total Recoverable	Water	6020A	553966
180-148407-20	WAP-9I	Total Recoverable	Water	6020A	553966
180-148407-21	WAP-9D	Total Recoverable	Water	6020A	553976
180-148407-22	FIELD BLANK	Total Recoverable	Water	6020A	553976
180-148407-23	BLIND DUP 1	Total Recoverable	Water	6020A	553976
180-148407-24	BLIND DUP 2	Total Recoverable	Water	6020A	553976
180-148407-25	CCR-AP-7	Total Recoverable	Water	6020A	553976
MB 240-553966/1-A	Method Blank	Total Recoverable	Water	6020A	553966
MB 240-553976/1-A	Method Blank	Total Recoverable	Water	6020A	553976

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QC Association Summary

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

Job ID: 180-148407-1

Metals (Continued)

Analysis Batch: 554304 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-553966/2-A	Lab Control Sample	Total Recoverable	Water	6020A	553966
LCS 240-553976/2-A	Lab Control Sample	Total Recoverable	Water	6020A	553976
180-148407-6 MS	WAP-4I	Total Recoverable	Water	6020A	553966
180-148407-6 MSD	WAP-4I	Total Recoverable	Water	6020A	553966
180-148407-25 MS	CCR-AP-7	Total Recoverable	Water	6020A	553976
180-148407-25 MSD	CCR-AP-7	Total Recoverable	Water	6020A	553976

Analysis Batch: 554305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-21	WAP-9D	Total/NA	Water	7470A	553979
180-148407-22	FIELD BLANK	Total/NA	Water	7470A	553979
180-148407-23	BLIND DUP 1	Total/NA	Water	7470A	553979
180-148407-24	BLIND DUP 2	Total/NA	Water	7470A	553979
180-148407-25	CCR-AP-7	Total/NA	Water	7470A	553979
MB 240-553979/1-A	Method Blank	Total/NA	Water	7470A	553979
LCS 240-553979/2-A	Lab Control Sample	Total/NA	Water	7470A	553979
180-148407-25 MS	CCR-AP-7	Total/NA	Water	7470A	553979
180-148407-25 MSD	CCR-AP-7	Total/NA	Water	7470A	553979

Analysis Batch: 554512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-1	WAP-1	Total Recoverable	Water	6020A	553966
180-148407-2	WAP-2RR	Total Recoverable	Water	6020A	553966
180-148407-2	WAP-2RR	Total Recoverable	Water	6020A	553966
180-148407-3	WAP-3S	Total Recoverable	Water	6020A	553966
180-148407-3	WAP-3S	Total Recoverable	Water	6020A	553966
180-148407-4	WAP-3D	Total Recoverable	Water	6020A	553966
180-148407-4	WAP-3D	Total Recoverable	Water	6020A	553966
180-148407-5	WAP-4S	Total Recoverable	Water	6020A	553966
180-148407-5	WAP-4S	Total Recoverable	Water	6020A	553966
180-148407-6	WAP-4I	Total Recoverable	Water	6020A	553966
180-148407-7	WAP-4D	Total Recoverable	Water	6020A	553966
180-148407-8	WAP-5S	Total Recoverable	Water	6020A	553966
180-148407-8	WAP-5S	Total Recoverable	Water	6020A	553966
180-148407-9	WAP-5D	Total Recoverable	Water	6020A	553966
180-148407-10	WAP-5I	Total Recoverable	Water	6020A	553966
180-148407-11	WAP-6S	Total Recoverable	Water	6020A	553966
180-148407-11	WAP-6S	Total Recoverable	Water	6020A	553966
180-148407-12	WAP-6I	Total Recoverable	Water	6020A	553966
180-148407-13	WAP-6D	Total Recoverable	Water	6020A	553966
180-148407-14	WAP-7S	Total Recoverable	Water	6020A	553966
180-148407-14	WAP-7S	Total Recoverable	Water	6020A	553966
180-148407-15	WAP-7D	Total Recoverable	Water	6020A	553966
180-148407-15	WAP-7D	Total Recoverable	Water	6020A	553966
180-148407-16	WAP-8S	Total Recoverable	Water	6020A	553966
180-148407-16	WAP-8S	Total Recoverable	Water	6020A	553966
180-148407-17	WAP-8I	Total Recoverable	Water	6020A	553966
180-148407-18	WAP-8D	Total Recoverable	Water	6020A	553966
180-148407-19	WAP-9S	Total Recoverable	Water	6020A	553966
180-148407-19	WAP-9S	Total Recoverable	Water	6020A	553966
180-148407-20	WAP-9I	Total Recoverable	Water	6020A	553966

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QC Association Summary

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

Job ID: 180-148407-1

Metals (Continued)

Analysis Batch: 554512 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-21	WAP-9D	Total Recoverable	Water	6020A	553976
180-148407-22	FIELD BLANK	Total Recoverable	Water	6020A	553976
180-148407-23	BLIND DUP 1	Total Recoverable	Water	6020A	553976
180-148407-23	BLIND DUP 1	Total Recoverable	Water	6020A	553976
180-148407-24	BLIND DUP 2	Total Recoverable	Water	6020A	553976
180-148407-25	CCR-AP-7	Total Recoverable	Water	6020A	553976
MB 240-553976/1-A	Method Blank	Total Recoverable	Water	6020A	553976
LCS 240-553976/2-A	Lab Control Sample	Total Recoverable	Water	6020A	553976
180-148407-6 MS	WAP-4I	Total Recoverable	Water	6020A	553966
180-148407-6 MSD	WAP-4I	Total Recoverable	Water	6020A	553966
180-148407-25 MS	CCR-AP-7	Total Recoverable	Water	6020A	553976
180-148407-25 MSD	CCR-AP-7	Total Recoverable	Water	6020A	553976

Analysis Batch: 554531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-1	WAP-1	Total/NA	Water	7470A	553967
180-148407-2	WAP-2RR	Total/NA	Water	7470A	553967
180-148407-3	WAP-3S	Total/NA	Water	7470A	553967
180-148407-4	WAP-3D	Total/NA	Water	7470A	553967
180-148407-5	WAP-4S	Total/NA	Water	7470A	553967
180-148407-6	WAP-4I	Total/NA	Water	7470A	553967
180-148407-7	WAP-4D	Total/NA	Water	7470A	553967
180-148407-8	WAP-5S	Total/NA	Water	7470A	553967
180-148407-9	WAP-5D	Total/NA	Water	7470A	553967
180-148407-10	WAP-5I	Total/NA	Water	7470A	553967
180-148407-11	WAP-6S	Total/NA	Water	7470A	553967
180-148407-12	WAP-6I	Total/NA	Water	7470A	553967
180-148407-13	WAP-6D	Total/NA	Water	7470A	553967
180-148407-14	WAP-7S	Total/NA	Water	7470A	553967
180-148407-15	WAP-7D	Total/NA	Water	7470A	553967
180-148407-16	WAP-8S	Total/NA	Water	7470A	553967
180-148407-17	WAP-8I	Total/NA	Water	7470A	553967
180-148407-18	WAP-8D	Total/NA	Water	7470A	553967
180-148407-19	WAP-9S	Total/NA	Water	7470A	553967
180-148407-20	WAP-9I	Total/NA	Water	7470A	553967
MB 240-553967/1-A	Method Blank	Total/NA	Water	7470A	553967
LCS 240-553967/2-A	Lab Control Sample	Total/NA	Water	7470A	553967
180-148407-6 MS	WAP-4I	Total/NA	Water	7470A	553967
180-148407-6 MSD	WAP-4I	Total/NA	Water	7470A	553967

General Chemistry

Analysis Batch: 419108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-5	WAP-4S	Total/NA	Water	SM 2540C	
180-148407-6	WAP-4I	Total/NA	Water	SM 2540C	
180-148407-7	WAP-4D	Total/NA	Water	SM 2540C	
180-148407-8	WAP-5S	Total/NA	Water	SM 2540C	
180-148407-9	WAP-5D	Total/NA	Water	SM 2540C	
180-148407-10	WAP-5I	Total/NA	Water	SM 2540C	
180-148407-12	WAP-6I	Total/NA	Water	SM 2540C	

Eurofins Pittsburgh

QC Association Summary

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

Job ID: 180-148407-1

General Chemistry (Continued)

Analysis Batch: 419108 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-13	WAP-6D	Total/NA	Water	SM 2540C	
180-148407-16	WAP-8S	Total/NA	Water	SM 2540C	
180-148407-17	WAP-8I	Total/NA	Water	SM 2540C	
180-148407-18	WAP-8D	Total/NA	Water	SM 2540C	
180-148407-19	WAP-9S	Total/NA	Water	SM 2540C	
MB 180-419108/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-419108/2	Lab Control Sample	Total/NA	Water	SM 2540C	
180-148407-6 DU	WAP-4I	Total/NA	Water	SM 2540C	

Analysis Batch: 419240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-1	WAP-1	Total/NA	Water	SM 2540C	
180-148407-3	WAP-3S	Total/NA	Water	SM 2540C	
180-148407-14	WAP-7S	Total/NA	Water	SM 2540C	
180-148407-15	WAP-7D	Total/NA	Water	SM 2540C	
180-148407-20	WAP-9I	Total/NA	Water	SM 2540C	
180-148407-24	BLIND DUP 2	Total/NA	Water	SM 2540C	
180-148407-25	CCR-AP-7	Total/NA	Water	SM 2540C	
MB 180-419240/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-419240/2	Lab Control Sample	Total/NA	Water	SM 2540C	
180-148407-25 DU	CCR-AP-7	Total/NA	Water	SM 2540C	

Analysis Batch: 419247

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-2	WAP-2RR	Total/NA	Water	SM 2540C	
180-148407-4	WAP-3D	Total/NA	Water	SM 2540C	
180-148407-21	WAP-9D	Total/NA	Water	SM 2540C	
180-148407-22	FIELD BLANK	Total/NA	Water	SM 2540C	
180-148407-23	BLIND DUP 1	Total/NA	Water	SM 2540C	
MB 180-419247/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-419247/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 419288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-1	WAP-1	Total/NA	Water	EPA 9040C	
180-148407-3	WAP-3S	Total/NA	Water	EPA 9040C	
180-148407-4	WAP-3D	Total/NA	Water	EPA 9040C	
180-148407-6	WAP-4I	Total/NA	Water	EPA 9040C	
180-148407-7	WAP-4D	Total/NA	Water	EPA 9040C	
180-148407-8	WAP-5S	Total/NA	Water	EPA 9040C	
180-148407-9	WAP-5D	Total/NA	Water	EPA 9040C	
180-148407-10	WAP-5I	Total/NA	Water	EPA 9040C	
180-148407-11	WAP-6S	Total/NA	Water	EPA 9040C	
180-148407-12	WAP-6I	Total/NA	Water	EPA 9040C	
180-148407-13	WAP-6D	Total/NA	Water	EPA 9040C	
180-148407-14	WAP-7S	Total/NA	Water	EPA 9040C	
180-148407-15	WAP-7D	Total/NA	Water	EPA 9040C	
180-148407-16	WAP-8S	Total/NA	Water	EPA 9040C	
180-148407-17	WAP-8I	Total/NA	Water	EPA 9040C	
180-148407-18	WAP-8D	Total/NA	Water	EPA 9040C	
180-148407-19	WAP-9S	Total/NA	Water	EPA 9040C	

Eurofins Pittsburgh

QC Association Summary

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

Job ID: 180-148407-1

General Chemistry (Continued)

Analysis Batch: 419288 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-20	WAP-9I	Total/NA	Water	EPA 9040C	
180-148407-21	WAP-9D	Total/NA	Water	EPA 9040C	
180-148407-22	FIELD BLANK	Total/NA	Water	EPA 9040C	
180-148407-23	BLIND DUP 1	Total/NA	Water	EPA 9040C	
180-148407-24	BLIND DUP 2	Total/NA	Water	EPA 9040C	
180-148407-25	CCR-AP-7	Total/NA	Water	EPA 9040C	
LCS 180-419288/27	Lab Control Sample	Total/NA	Water	EPA 9040C	
LCS 180-419288/4	Lab Control Sample	Total/NA	Water	EPA 9040C	
LCS 180-419288/50	Lab Control Sample	Total/NA	Water	EPA 9040C	
180-148407-6 DU	WAP-4I	Total/NA	Water	EPA 9040C	
180-148407-16 DU	WAP-8S	Total/NA	Water	EPA 9040C	
180-148407-25 DU	CCR-AP-7	Total/NA	Water	EPA 9040C	

Analysis Batch: 420258

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-2	WAP-2RR	Total/NA	Water	EPA 9040C	
LCS 180-420258/1	Lab Control Sample	Total/NA	Water	EPA 9040C	
180-148407-C-25 DU	180-148407-C-25 DU	Total/NA	Water	EPA 9040C	

Analysis Batch: 421852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-5	WAP-4S	Total/NA	Water	EPA 9040C	
LCS 180-421852/1	Lab Control Sample	Total/NA	Water	EPA 9040C	

Rad

Prep Batch: 591878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-1	WAP-1	Total/NA	Water	PrecSep-21	
180-148407-2	WAP-2RR	Total/NA	Water	PrecSep-21	
180-148407-3	WAP-3S	Total/NA	Water	PrecSep-21	
180-148407-4	WAP-3D	Total/NA	Water	PrecSep-21	
180-148407-5	WAP-4S	Total/NA	Water	PrecSep-21	
180-148407-6	WAP-4I	Total/NA	Water	PrecSep-21	
180-148407-7	WAP-4D	Total/NA	Water	PrecSep-21	
180-148407-8	WAP-5S	Total/NA	Water	PrecSep-21	
180-148407-9	WAP-5D	Total/NA	Water	PrecSep-21	
180-148407-10	WAP-5I	Total/NA	Water	PrecSep-21	
180-148407-11	WAP-6S	Total/NA	Water	PrecSep-21	
180-148407-12	WAP-6I	Total/NA	Water	PrecSep-21	
180-148407-13	WAP-6D	Total/NA	Water	PrecSep-21	
180-148407-14	WAP-7S	Total/NA	Water	PrecSep-21	
180-148407-15	WAP-7D	Total/NA	Water	PrecSep-21	
180-148407-16	WAP-8S	Total/NA	Water	PrecSep-21	
180-148407-17	WAP-8I	Total/NA	Water	PrecSep-21	
180-148407-18	WAP-8D	Total/NA	Water	PrecSep-21	
MB 160-591878/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-591878/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Eurofins Pittsburgh

QC Association Summary

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

Job ID: 180-148407-1

Rad

Prep Batch: 591884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-1	WAP-1	Total/NA	Water	PrecSep_0	
180-148407-2	WAP-2RR	Total/NA	Water	PrecSep_0	
180-148407-3	WAP-3S	Total/NA	Water	PrecSep_0	
180-148407-4	WAP-3D	Total/NA	Water	PrecSep_0	
180-148407-5	WAP-4S	Total/NA	Water	PrecSep_0	
180-148407-6	WAP-4I	Total/NA	Water	PrecSep_0	
180-148407-7	WAP-4D	Total/NA	Water	PrecSep_0	
180-148407-8	WAP-5S	Total/NA	Water	PrecSep_0	
180-148407-9	WAP-5D	Total/NA	Water	PrecSep_0	
180-148407-10	WAP-5I	Total/NA	Water	PrecSep_0	
180-148407-11	WAP-6S	Total/NA	Water	PrecSep_0	
180-148407-12	WAP-6I	Total/NA	Water	PrecSep_0	
180-148407-13	WAP-6D	Total/NA	Water	PrecSep_0	
180-148407-14	WAP-7S	Total/NA	Water	PrecSep_0	
180-148407-15	WAP-7D	Total/NA	Water	PrecSep_0	
180-148407-16	WAP-8S	Total/NA	Water	PrecSep_0	
180-148407-17	WAP-8I	Total/NA	Water	PrecSep_0	
180-148407-18	WAP-8D	Total/NA	Water	PrecSep_0	
MB 160-591884/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-591884/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 592044

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-19	WAP-9S	Total/NA	Water	PrecSep-21	
180-148407-20	WAP-9I	Total/NA	Water	PrecSep-21	
180-148407-21	WAP-9D	Total/NA	Water	PrecSep-21	
180-148407-22	FIELD BLANK	Total/NA	Water	PrecSep-21	
180-148407-23	BLIND DUP 1	Total/NA	Water	PrecSep-21	
180-148407-24	BLIND DUP 2	Total/NA	Water	PrecSep-21	
180-148407-25	CCR-AP-7	Total/NA	Water	PrecSep-21	
MB 160-592044/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-592044/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 592054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-148407-19	WAP-9S	Total/NA	Water	PrecSep_0	
180-148407-20	WAP-9I	Total/NA	Water	PrecSep_0	
180-148407-21	WAP-9D	Total/NA	Water	PrecSep_0	
180-148407-22	FIELD BLANK	Total/NA	Water	PrecSep_0	
180-148407-23	BLIND DUP 1	Total/NA	Water	PrecSep_0	
180-148407-24	BLIND DUP 2	Total/NA	Water	PrecSep_0	
180-148407-25	CCR-AP-7	Total/NA	Water	PrecSep_0	
MB 160-592054/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-592054/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Client Information
 Client Contact: Mark Breiting
 Company: Atlas Technical Consultants LLC
 Address: 7988 Centerpoint Drive Suite 100
 City: Indianapolis
 State, Zip: IN, 46256
 Phone: 864-214-8750(Tel)
 Email: mark.breiting@atcassociates.com
 Project Name: CCR Groundwater Monitoring FB Culley
 Site:

Sampler: *Hayley Torres*
 Lab PIV: Hayes, Ken
 Phone: 812-455-0988
 E-Mail: Ken.Hayes@et.eurofinsus.com
 PWSID:

Carrier Tracking No(s): 180-85680-14505.1
 State of Origin:
 Page: Page 1 of 3
 Job #:

Analysis Requested

Due Date Requested:
 TAT Requested (days):
 Compliance Project: Yes No
 PO #: FB-242026, AB-241410
 WO #:
 Project #: 18016014
 SOW#:

9040C_9056A_ORGFM_28D
 6020A_7470A
 2540C_Calcd - TDS
 9315_Ra226, 9320_Ra228

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air)	Analysis Requested	Special Instructions/Note:
WAP-1	11-21-22	16:30	G	W	X	180-148407 Chain of Custody
WAP-2RA	11-21-22	15:30			X	
WAP-3S	11-21-22	11:45			X	
WAP-3D	11-21-22	10:30			X	
WAP-4S	11-16-22	14:25			X	
WAP-4I	11-16-22	15:40			X	
WAP-4D	11-17-22	10:30			X	
WAP-5S	11-16-22	10:15			X	
WAP-5D	11-16-22	11:00			X	
WAP-5I	11-16-22	12:20			X	
WAP-6S	11-17-22	13:00			X	

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
 Deliverable Requested: I, II, III, IV, Other (specify)

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:

Empty Kit Relinquished by: Date: _____ Time: _____
 Relinquished by: *Hayley Torres* Company: *ATLAS*
 Date/Time: 11-22-22 / 19:00
 Relinquished by: _____ Company: _____
 Date/Time: _____
 Relinquished by: _____ Company: _____
 Date/Time: _____

Received by: *Redox* Date/Time: 11-22-22 / 19:00
 Received by: *Redox* Date/Time: 11-23-22 / 9:15
 Received by: _____ Date/Time: _____

Company: _____
 Company: _____
 Company: _____

Custody Seals Intact: Yes No
 Custody Seal No.: _____
 Cooler Temperature(s) °C and Other Remarks:



Client Information		Sampler: <u>Hayley Torres</u>		Lab PW: Hayes, Ken	Carrier Tracking No(s): 180-85680-14505.2
Client Contact: Mark Bretling		Phone: <u>812-455-0888</u>		E-Mail: Ken.Hayes@et.eurofinsus.com	State of Origin: <u>PA</u>
Company: Atlas Technical Consultants LLC		Address: 7988 Centerpoint Drive Suite 100		City: Indianapolis	
State, Zip: IN, 46256		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		PO #: FB-242026, AB-241410	
Phone: 864-214-8750(Tel)		WO #:		Project #: 18016014	
Email: mark.bretling@atcassociates.com		Project Name: CCR Groundwater Monitoring FB Culley		Site:	
Analysis Requested		Due Date Requested:		TAT Requested (days):	
9040C_9056A_ORGM_28D		2540C_Calcd - TDS		9315_Ra226, 9320_Ra228	
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, BT=Tissue, AA=Air)
WAP-6I	11-17-22	11:50	G	W	
WAP-6D	11-17-22	14:15			
WAP-7S	11-22-22	13:00			
WAP-7D	11-22-22	14:00			
WAP-8S	11-17-22	16:15			
WAP-8I	11-18-22	11:05			
WAP-8D	11-18-22	12:40			
WAP-9S	11-18-22	16:00			
WAP-9I	11-22-22	13:06			
WAP-9D	11-22-22	16:30			
Field Blank	11-21-22	11:45			
Possible Hazard Identification					
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					
Deliverable Requested: I, II, III, IV, Other (specify)					
Empty Kit Relinquished by: _____ Date: _____					
Relinquished by: <u>Hayley Torres 11/23</u> Date/Time: <u>11-22-22 19:00</u>					
Relinquished by: _____ Date/Time: _____					
Relinquished by: _____ Date/Time: _____					
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No					
Custody Seal No.: _____					
Special Instructions/Note: _____					
Special Instructions/QC Requirements: _____					
<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
Received by: <u>Fedex</u> Date/Time: <u>11-22-22 19:00</u> Company: _____					
Received by: _____ Date/Time: _____ Company: _____					
Received by: _____ Date/Time: _____ Company: _____					
Cooler Temperature(s) °C and Other Remarks: _____					



Chain of Custody Record



Environment Testing

Client Information (Sub Contract Lab)		Sampler Hayes, Ken	Lab PM Hayes, Ken	Carrier Tracking No(s) 180-474990.2
Shipping/Receiving		Phone	E-Mail Ken.Hayes@et.eurofins.com	State of Origin Indiana
Company TestAmerica Laboratories, Inc.		Accreditations Required (See note)		
Address 13715 Rider Trail North,		Due Date Requested: 11/2/2023		
City Earth City		TAT Requested (days):		
State, Zip MO, 63045		Analysis Requested		
Phone 314-298-8566(Tel) 314-298-8757(Fax)		9320_Ra228/PreSep_0 Standard Target List		
Email		9315_Ra228/PreSep_21 Standard Target List		
Project Name CCR Groundwater Monitoring		Perform MS/MSD (Yes or No)		
Site		Field Filtered Sample (Yes or No)		
SSOW#		Total Number of Containers		
Preservation Codes:		Special Instructions/Note:		
M - Hexane				
N - None				
O - AsNaO2				
P - Na2O4S				
Q - Nitric Acid				
R - Na2SO3				
S - H2SO4				
T - TSP Dodecahydrate				
U - Acetone				
V - MCAA				
W - pH 4.5				
Y - Trizma				
Z - other (Specify)				
Other:				

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Newer, Sealed, On-site)	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9320_Ra228/PreSep_0 Standard Target List	9315_Ra228/PreSep_21 Standard Target List	9320_Ra228/PreSep_0 GFC	Total Number of Containers	Special Instructions/Note:
WAP-50 (180-148407-9)	11/16/22	11:00 Eastern	Water	Water		X	X	X	X		2	
WAP-51 (180-148407-10)	11/16/22	12:20 Eastern	Water	Water		X	X	X	X		2	
WAP-6S (180-148407-11)	11/17/22	13:00 Eastern	Water	Water		X	X	X	X		2	
WAP-6I (180-148407-12)	11/17/22	11:50 Eastern	Water	Water		X	X	X	X		2	
WAP-6D (180-148407-13)	11/17/22	14:15 Eastern	Water	Water		X	X	X	X		2	
WAP-7S (180-148407-14)	11/22/22	13:00 Eastern	Water	Water		X	X	X	X		2	
WAP-7D (180-148407-15)	11/22/22	14:00 Eastern	Water	Water		X	X	X	X		2	
WAP-8S (180-148407-16)	11/17/22	16:15 Eastern	Water	Water		X	X	X	X		2	
WAP-8I (180-148407-17)	11/18/22	11:05 Eastern	Water	Water		X	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/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 <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Method of Shipment:	
Relinquished by: <i>Mo</i>	Date: 11-28-22 18:00	Received by: <i>CEA</i>	Date/Time: <i>NOV 29 2022 08:50</i>
Relinquished by:	Date/Time:	Company: <i>FEDEX</i>	Date/Time:
Relinquished by:	Date/Time:	Company:	Date/Time:
Relinquished by:	Date/Time:	Company:	Date/Time:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks	



Chain of Custody Record



Environmental Testing

Client Information (Sub Contract Lab)		Sampler:	Lab PM	Carrier Tracking No(s)	COC No						
Client Contact Shipping/Receiving		Phone	Hayes, Ken		180-474990 3						
Company TestAmerica Laboratories, Inc.			E-Mail Ken.Hayes@et.eurofins.com	State of Origin Indiana	Page Page 3 of 3						
Address 13715 Rider Trail North,				Job # 180-148407-1							
City Earth City											
State, Zip MO, 63045											
Phone 314-298-8566(Tel) 314-298-8757(Fax)											
Email											
Project Name CCR Groundwater Monitoring											
Site SSOW#											
Due Date Requested: 1/2/2023		Analysis Requested		Preservation Codes:							
TAT Requested (days):				M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)							
PO #											
WO #											
Project # 18016014											
SSOW#											
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, A=air, T=tissue, A=acid)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra228/PreSep_21 Standard Target List	9320_Ra228/PreSep_0 Standard Target List	Ra228Ra228_GFP	Total Number of containers	Special Instructions/Note:
WAP-8D (180-148407-18)	11/18/22	12:40 Eastern	Water	Water	X	X	X	X	X	2	
WAP-9S (180-148407-19)	11/18/22	16:00 Eastern	Water	Water	X	X	X	X	X	2	
WAP-9I (180-148407-20)	11/22/22	13:06 Eastern	Water	Water	X	X	X	X	X	2	
WAP-9D (180-148407-21)	11/22/22	16:30 Eastern	Water	Water	X	X	X	X	X	2	
FIELD BLANK (180-148407-22)	11/21/22	11:45 Eastern	Water	Water	X	X	X	X	X	2	
BLIND DUP 1 (180-148407-23)	11/21/22	00:01 Eastern	Water	Water	X	X	X	X	X	2	
BLIND DUP 2 (180-148407-24)	11/22/22	00:01 Eastern	Water	Water	X	X	X	X	X	2	
CCR-AP-7 (180-148407-25)	11/22/22	10:10 Eastern	Water	Water	X	X	X	X	X	2	
CCR-AP-7 (180-148407-25DU)	11/22/22	10:10 Eastern	DU	Water	X	X	X	X	X	4	
<p>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/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.</p>											
Possible Hazard Identification											
Unconfirmed											
Deliverable Requested: I, II, III, IV, Other (specify)											
Primary Deliverable Rank: 2											
Date: _____											
Empty Kit Relinquished by: _____											
Relinquished by: _____ Date/Time: _____											
Relinquished by: _____ Date/Time: _____											
Relinquished by: _____ Date/Time: _____											
Custody Seals Intact: _____ Cooler Temperature(s) °C and Other Remarks											
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/OC Requirements											



13.4/14.1

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

Chain of Custody Record



Client Information (Sub Contract Lab) Client Contact: Hayes, Ken Shipping/Receiving: Ken.Hayes@eurofins.com Company: Eurofins Environment Testing North Centre Address: 180 S. Van Buren Avenue, Barborton, OH, 44203 Phone: 330-497-9396(Tel) 330-497-0772(Fax) Email: CCR Groundwater Monitoring Site Project Name: CCR Groundwater Monitoring Site: 18016014 SOW#:		Lab PM: Hayes, Ken E-Mail: Ken.Hayes@eurofins.com State of Origin: Indiana Carrier Tracking No(s): Page 1 of 3 Job #: 180-148407-1	
Due Date Requested: 1/3/2023 TAT Requested (days):		Analysis Requested A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Sample Identification - Client ID (Lab ID) WAP-1 (180-148407-1) WAP-2RR (180-148407-2) WAP-3S (180-148407-3) WAP-3D (180-148407-4) WAP-4S (180-148407-5) WAP-4I (180-148407-6) WAP-4D (180-148407-7) WAP-5S (180-148407-8) WAP-5D (180-148407-9)		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)	
Sample Date 11/21/22 11/21/22 11/21/22 11/21/22 11/16/22 11/16/22 11/17/22 11/16/22 11/16/22		Sample Time 16:30 Eastern 15:30 Eastern 11:45 Eastern 10:30 Eastern 14:25 Eastern 15:40 Eastern 10:30 Eastern 10:15 Eastern 11:00 Eastern	
Sample Type (C=Comp, G=grab) C C C C C C C C C		Matrix (W=water, S=solid, O=soil, BT=tissue, A=air) Water Water Water Water Water Water Water Water Water	
Field Filtered Sample (Yes or No) X X X X X X X X X		Perform MS/MSD (Yes or No) X X X X X X X X X	
7470A/7470A Prep Mercury X X X X X X X X X		6020A/3005A (MOD) Custom Sublist X X X X X X X X X	
Total Number of Containers 1 1 1 1 1 1 1 1 1		Special Instructions/Note: M34	

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/max 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: Time: Method of Shipment: Months
 Relinquished by: SC Date: 11-28-22 18:00 Company: cct
 Relinquished by: Date: Time: Company:
 Relinquished by: Date: Time: Company:
 Custody Seals Intact: Δ Yes Δ No
 Custody Seal No.:

Client Information (Sub Contract Lab)		Sampler: Hayes, Ken	Lab PM: Hayes, Ken	Carrier Tracking No(s): 180-474993.2	COC No: 180-474993.2
Shipping/Receiving		Phone: Ken.Hayes@et.eurofins.com	E-Mail: Ken.Hayes@et.eurofins.com	State of Origin: Indiana	Page: Page 2 of 3
Eurofins Environment Testing North Centre		Address: 180 S. Van Buren Avenue, Barberton, OH, 44203		Job #: 180-148407-1	Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)
Due Date Requested: 1/3/2023		TAT Requested (days):		Analysis Requested	
PO #	WO #	Project #	SSOW#	Field Filtered Sample (Yes or No)	Form MS/MSD (Yes or No)
330-497-9396(Tel) 330-497-0772(Fax)		18016014			
Project Name: CCR Groundwater Monitoring	Site:				
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=soil, S=solid, O=waterfall, BT=titrus, A=air)
WAP-51 (180-148407-10)	11/16/22	12:20 Eastern	Water		
WAP-6S (180-148407-11)	11/17/22	13:00 Eastern	Water		
WAP-6I (180-148407-12)	11/17/22	11:50 Eastern	Water		
WAP-6D (180-148407-13)	11/17/22	14:15 Eastern	Water		
WAP-7S (180-148407-14)	11/22/22	13:00 Eastern	Water		
WAP-7D (180-148407-15)	11/22/22	14:00 Eastern	Water		
WAP-8S (180-148407-16)	11/17/22	16:15 Eastern	Water		
WAP-8I (180-148407-17)	11/18/22	11:05 Eastern	Water		
WAP-8D (180-148407-18)	11/18/22	12:40 Eastern	Water		
<p>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 analyte/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</p>					
Possible Hazard Identification					
Unconfirmed					
Deliverable Requested: I, II, III, IV, Other (specify) _____					
Primary Deliverable Rank: 2					
Empty Kit Relinquished by: _____ Date: _____					
Relinquished by: <i>bc</i> Date/Time: 11-28-22 10:00 Company: <i>cef</i>					
Relinquished by: _____ Date/Time: _____ Company: _____					
Relinquished by: _____ Date/Time: _____ Company: _____					
Custody Seals Intact: _____ Custody Seal No.: _____					
Δ Yes Δ No					

Eurofins - Canton Sample Receipt Form/Narrative

Login # : _____

Barberton Facility

Client Eurofins Site Name _____

Cooler unpacked by:

Cooler Received on 11-29-22 Opened on 11-29-22

Charles

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off Eurofins Courier Other

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # 11 Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____


COOLANT: None Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
IR GUN# IR-13 (CF +0.7 °C) Observed Cooler Temp. 13.4 °C Corrected Cooler Temp. 14.1 °C
IR GUN #IR-15 (CF 0.0°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

- 2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____ Yes No
- Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
- Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA
- Were tamper/custody seals intact and uncompromised? Yes No NA
- 3. Shippers' packing slip attached to the cooler(s)? Yes No
- 4. Did custody papers accompany the sample(s)? Yes No
- 5. Were the custody papers relinquished & signed in the appropriate place? Yes No
- 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
- 7. Did all bottles arrive in good condition (Unbroken)? Yes No
- 8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No
- 9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? Yes No
- 10. Were correct bottle(s) used for the test(s) indicated? Yes No
- 11. Sufficient quantity received to perform indicated analyses? Yes No
- 12. Are these work share samples and all listed on the COC? Yes No

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

- If yes, Questions 13-17 have been checked at the originating laboratory.
- 13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC286797
- 14. Were VOAs on the COC? Yes No
- 15. Were air bubbles >6 mm in any VOA vials? Yes No NA  ← Larger than this.
- 16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
- 17. Was a LL Hg or Me Hg trip blank present? _____ Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES additional next page Samples processed by: _____

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Eurofins - Canton Sample Receipt Form/Narrative Login # : _____
Barberton Facility

Client Eurofins Pittsburgh Site Name _____ Cooler unpacked by: Racheille Haider
Cooler Received on 11-30-22 Opened on 11-30-22
FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off Eurofins Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ **Storage Location** _____

Eurofins Cooler # 174 Foam Box Client Cooler Box Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
IR GUN# IR-13 (CF +0.7 °C) Observed Cooler Temp 3.9 °C Corrected Cooler Temp 14.6 °C
IR GUN #IR-15 (CF 0.0°C) Observed Cooler Temp _____ °C Corrected Cooler Temp _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____ Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
-Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? Yes No
10. Were correct bottle(s) used for the test(s) indicated? Yes No
11. Sufficient quantity received to perform indicated analyses? Yes No
12. Are these work share samples and all listed on the COC? Yes No
If yes, Questions 13-17 have been checked at the originating laboratory.

13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC286797
14. Were VOAs on the COC? Yes No
15. Were air bubbles >6 mm in any VOA vials? Yes ← Larger than this. Yes No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
17. Was a LL Hg or Me Hg trip blank present? Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
Concerning _____

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES additional next page Samples processed by: _____

19. SAMPLE CONDITION
Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION
Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____
VOA Sample Preservation - Date/Time VOAs Frozen: _____

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-148407-1

Login Number: 148407

List Source: Eurofins Pittsburgh

List Number: 1

Creator: Abernathy, Eric L

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)	False	ARRIVED DAY HT EXPIRE 16TH & 17TH
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 <math><6\text{mm}</math> (1/4").	True	
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 6/29/2023 7:24:27 PM

JOB DESCRIPTION

CCR Groundwater Monitoring FB Culley
SDG NUMBER Culley West

JOB NUMBER

180-156881-1

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
6/29/2023 7:24:27 PM

Authorized for release by
Ken Hayes, Project Manager II
Ken.Hayes@et.eurofinsus.com
(615)301-5035



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Case Narrative

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

Job ID: 180-156881-1
SDG: Culley West

Job ID: 180-156881-1

Laboratory: Eurofins Pittsburgh

Narrative

Job Narrative 180-156881-1

Receipt

The samples were received on 5/19/2023 9:35 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 2.1°C and 2.5°C

Receipt Exceptions

The following samples were listed on the Chain of Custody (COC); however, no samples were received: WAP-5S (180-156881-1), WAP-5I (180-156881-2), WAP-8S (180-156881-4), WAP-8I (180-156881-5), WAP-4D (180-156881-7[DUJ]), WAP-4D (180-156881-7[MSD]) and WAP-4I (180-156881-8). They were received on 5/19/23 and were located at the end of the night and added to the login.

Gas Flow Proportional Counter

Method 9315_Ra226: Radium-226 batch 613645 Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. WAP-5D (180-156881-3), DUP 1 (180-156881-9), (LCS 160-613645/2-A), (MB 160-613645/1-A), (180-156823-A-2-A) and (180-156823-G-2-F DU)

Method 9315_Ra226: Radium-226 batch 614557 Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. WAP-5S (180-156881-1), WAP-5I (180-156881-2), WAP-8S (180-156881-4), WAP-8I (180-156881-5), WAP-8D (180-156881-6), WAP-4D (180-156881-7), WAP-4D (180-156881-7[DUJ]), WAP-4I (180-156881-8), (LCS 160-614557/2-A) and (MB 160-614557/1-A)

Method 9320_Ra228: Radium-228 batch 613647 Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. WAP-5D (180-156881-3), DUP 1 (180-156881-9), (LCS 160-613647/2-A), (MB 160-613647/1-A), (180-156823-A-2-B) and (180-156823-G-2-G DU)

Method 9320_Ra228: Radium-228 batch 614558 Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. WAP-5S (180-156881-1), WAP-5I (180-156881-2), WAP-8S (180-156881-4), WAP-8I (180-156881-5), WAP-8D (180-156881-6), WAP-4D (180-156881-7), WAP-4D (180-156881-7[DUJ]), WAP-4I (180-156881-8), (LCS 160-614558/2-A) and (MB 160-614558/1-A)

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.

Narrative

Job Narrative 180-156881-2

Receipt

The samples were received on 5/19/2023 9:35 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 2.1°C and 2.5°C

Receipt Exceptions

The following samples were listed on the Chain of Custody (COC); however, no samples were received: WAP-5S (180-156881-1), WAP-5I (180-156881-2), WAP-8S (180-156881-4), WAP-8I (180-156881-5), WAP-4D (180-156881-7[DUJ]), WAP-4D (180-156881-7[MSD]) and WAP-4I (180-156881-8). They were received on 5/19/23 and were located at the end of the night and added to the login.

Case Narrative

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

Job ID: 180-156881-1
SDG: Culley West

Job ID: 180-156881-1 (Continued)

Laboratory: Eurofins Pittsburgh (Continued)

HPLC/IC

Method 9056A_ORGFM_28D: The continuing calibration blank (CCB) for analytical batch 180-436051 contained chloride above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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

Metals

Method 6010D: The post digestion spike % recovery for boron associated with batch 180-438036 was outside of control limits. The associated sample is: (180-156881-E-7-D PDS).

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

General Chemistry

Method 2540C_Calcd: Sample did not reach a stable weight following 4 cycles of heating, cooling, and desiccating. Sample result from cycle 3 will be used to calculate analyte for method. WAP-5S (180-156881-1)

Method 2540C_Calcd: Sample did not reach a stable weight after 4 cycles of heating, cooling, and desiccating. Cycle 3 weight was used to calculate the Total Dissolved Solids in the sample. WAP-8I (180-156881-5)

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



Definitions/Glossary

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

Job ID: 180-156881-1
SDG: Culley West

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
^2	Calibration Blank (ICB and/or CCB) is outside acceptance limits.

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	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

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.
α	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

Job ID: 180-156881-1
 SDG: Culley West

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	06-25-23
California	State	2891	04-30-24
Connecticut	State	PH-0688	06-25-23
Florida	NELAP	E871008	06-25-23
Georgia	State	PA 02-00416	06-25-23
Illinois	NELAP	004375	06-30-24
Kansas	NELAP	E-10350	06-25-23
Kentucky (UST)	State	162013	04-30-23 *
Kentucky (WW)	State	KY98043	06-25-23
Louisiana	NELAP	04041	06-30-22 *
Louisiana (All)	NELAP	04041	06-25-23
Maine	State	PA00164	03-06-24
Minnesota	NELAP	042-999-482	06-25-23
New Hampshire	NELAP	2030	06-25-23
New Jersey	NELAP	PA005	06-25-23
New York	NELAP	11182	06-25-23
North Carolina (WW/SW)	State	434	12-31-23
North Dakota	State	R-227	04-30-24
Oregon	NELAP	PA-2151	02-06-24
Pennsylvania	NELAP	02-00416	06-25-23
Rhode Island	State	LAO00362	12-31-22 *
South Carolina	State	89014	04-30-23 *
Texas	NELAP	T104704528	06-25-23
US Fish & Wildlife	US Federal Programs	058448	03-31-24
USDA	US Federal Programs	P330-16-00211	06-21-24
Utah	NELAP	PA001462019-8	05-31-24
Virginia	NELAP	10043	06-25-23
West Virginia DEP	State	142	06-25-23
Wisconsin	State	998027800	08-31-23

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	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23

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

Eurofins Pittsburgh

Accreditation/Certification Summary

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

Job ID: 180-156881-1
SDG: Culley West

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
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-24
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23

Sample Summary

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

Job ID: 180-156881-1
SDG: Culley West

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-156881-1	WAP-5S	Water	05/16/23 18:15	05/19/23 09:35
180-156881-2	WAP-5I	Water	05/16/23 17:10	05/19/23 09:35
180-156881-3	WAP-5D	Water	05/16/23 16:10	05/19/23 09:35
180-156881-4	WAP-8S	Water	05/17/23 15:40	05/19/23 09:35
180-156881-5	WAP-8I	Water	05/17/23 13:15	05/19/23 09:35
180-156881-6	WAP-8D	Water	05/17/23 14:20	05/19/23 09:35
180-156881-7	WAP-4D	Water	05/17/23 17:40	05/19/23 09:35
180-156881-8	WAP-4I	Water	05/17/23 19:15	05/19/23 09:35
180-156881-9	DUP 1	Water	05/17/23 00:00	05/19/23 09:35

- 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

Job ID: 180-156881-1
SDG: Culley West

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

Job ID: 180-156881-1
 SDG: Culley West

Client Sample ID: WAP-5S
Date Collected: 05/16/23 18:15
Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-1
Matrix: Water

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	435928	05/23/23 12:27	SNL	EET PIT
Instrument ID: CHICS2100B										
Total Recoverable	Prep	3005A			50 mL	50 mL	436357	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6010D		1			438036	06/14/23 15:26	AAS	EET PIT
Instrument ID: Q										
Total Recoverable	Prep	3005A			50 mL	50 mL	436345	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438772	06/22/23 22:42	KED	EET PIT
Instrument ID: NEMO										
Total Recoverable	Prep	3005A			50 mL	50 mL	436345	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438909	06/23/23 19:04	KED	EET PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	436996	06/05/23 12:00	MTW	EET PIT
Total/NA	Analysis	EPA 7470A		1			437135	06/06/23 12:44	MTW	EET PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			436285	05/25/23 15:30	BAB	EET PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	435869	05/22/23 16:09	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			957.35 mL	1.0 g	614557	06/06/23 10:30	KAC	EET SL
Total/NA	Analysis	9315		1			618150	06/28/23 18:21	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			957.35 mL	1.0 g	614558	06/06/23 10:34	KAC	EET SL
Total/NA	Analysis	9320		1			617527	06/23/23 11:48	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			618364	06/29/23 16:50	SCB	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-5I
Date Collected: 05/16/23 17:10
Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-2
Matrix: Water

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	435928	05/23/23 12:42	SNL	EET PIT
Instrument ID: CHICS2100B										
Total Recoverable	Prep	3005A			50 mL	50 mL	436357	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6010D		1			438036	06/14/23 15:31	AAS	EET PIT
Instrument ID: Q										
Total Recoverable	Prep	3005A			50 mL	50 mL	436345	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438772	06/22/23 22:45	KED	EET PIT
Instrument ID: NEMO										
Total Recoverable	Prep	3005A			50 mL	50 mL	436345	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438909	06/23/23 19:07	KED	EET PIT
Instrument ID: NEMO										

Lab Chronicle

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

Job ID: 180-156881-1
 SDG: Culley West

Client Sample ID: WAP-5I
Date Collected: 05/16/23 17:10
Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			25 mL	25 mL	436996	06/05/23 12:00	MTW	EET PIT
Total/NA	Analysis	EPA 7470A		1			437135	06/06/23 12:48	MTW	EET PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			436285	05/25/23 15:33	BAB	EET PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	435869	05/22/23 16:09	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			976.31 mL	1.0 g	614557	06/06/23 10:30	KAC	EET SL
Total/NA	Analysis	9315		1			618151	06/28/23 18:23	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			976.31 mL	1.0 g	614558	06/06/23 10:34	KAC	EET SL
Total/NA	Analysis	9320		1			617527	06/23/23 11:48	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			618364	06/29/23 16:50	SCB	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-5D
Date Collected: 05/16/23 16:10
Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-3
Matrix: Water

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	436051	05/24/23 12:09	SNL	EET PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	436357	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6010D		1			438036	06/14/23 15:47	AAS	EET PIT
Instrument ID: Q										
Total Recoverable	Prep	3005A			50 mL	50 mL	436345	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438772	06/22/23 22:48	KED	EET PIT
Instrument ID: NEMO										
Total Recoverable	Prep	3005A			50 mL	50 mL	436345	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438909	06/23/23 19:10	KED	EET PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	436996	06/05/23 12:00	MTW	EET PIT
Total/NA	Analysis	EPA 7470A		1			437135	06/06/23 12:49	MTW	EET PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			436285	05/25/23 15:36	BAB	EET PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	435869	05/22/23 16:09	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			993.72 mL	1.0 g	613645	05/30/23 10:07	KAC	EET SL
Total/NA	Analysis	9315		1			617000	06/21/23 09:29	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			993.72 mL	1.0 g	613647	05/30/23 10:18	KAC	EET SL
Total/NA	Analysis	9320		1			616863	06/20/23 14:34	FLC	EET SL
Instrument ID: GFPCPURPLE										

Eurofins Pittsburgh

Lab Chronicle

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

Job ID: 180-156881-1
 SDG: Culley West

Client Sample ID: WAP-5D
Date Collected: 05/16/23 16:10
Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			617151	06/21/23 14:54	SCB	EET SL

Client Sample ID: WAP-8S
Date Collected: 05/17/23 15:40
Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-4
Matrix: Water

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 Instrument ID: CHIC2100A		1	1 mL	1 mL	436051	05/24/23 12:23	SNL	EET PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	436357	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6010D Instrument ID: Q		1			438036	06/14/23 15:52	AAS	EET PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	436345	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: NEMO		1			438772	06/22/23 22:51	KED	EET PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	436345	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: NEMO		1			438909	06/23/23 19:13	KED	EET PIT
Total/NA	Prep	7470A			25 mL	25 mL	436996	06/05/23 12:00	MTW	EET PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			437135	06/06/23 12:50	MTW	EET PIT
Total/NA	Analysis	EPA 9040C Instrument ID: OZ		1			436285	05/25/23 15:39	BAB	EET PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	435992	05/23/23 21:03	LWM	EET PIT
Total/NA	Prep	PrecSep-21			984.09 mL	1.0 g	614557	06/06/23 10:30	KAC	EET SL
Total/NA	Analysis	9315 Instrument ID: GFPCBLUE		1			618151	06/28/23 18:23	FLC	EET SL
Total/NA	Prep	PrecSep_0			984.09 mL	1.0 g	614558	06/06/23 10:34	KAC	EET SL
Total/NA	Analysis	9320 Instrument ID: GFPCBLUE		1			617527	06/23/23 11:49	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Instrument ID: NOEQUIP		1			618364	06/29/23 16:50	SCB	EET SL

Client Sample ID: WAP-8I
Date Collected: 05/17/23 13:15
Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-5
Matrix: Water

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 Instrument ID: CHIC2100A		1	1 mL	1 mL	436051	05/24/23 12:37	SNL	EET PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	436357	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6010D Instrument ID: Q		1			438036	06/14/23 15:57	AAS	EET PIT

Lab Chronicle

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

Job ID: 180-156881-1
 SDG: Culley West

Client Sample ID: WAP-8I
Date Collected: 05/17/23 13:15
Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	436345	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438772	06/22/23 23:00	KED	EET PIT
Instrument ID: NEMO										
Total Recoverable	Prep	3005A			50 mL	50 mL	436345	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438909	06/23/23 19:16	KED	EET PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	436996	06/05/23 12:00	MTW	EET PIT
Total/NA	Analysis	EPA 7470A		1			437135	06/06/23 12:51	MTW	EET PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			436285	05/25/23 15:42	BAB	EET PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	435992	05/23/23 21:03	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			964.54 mL	1.0 g	614557	06/06/23 10:30	KAC	EET SL
Total/NA	Analysis	9315		1			618151	06/28/23 18:23	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			964.54 mL	1.0 g	614558	06/06/23 10:34	KAC	EET SL
Total/NA	Analysis	9320		1			617527	06/23/23 11:49	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			618364	06/29/23 16:50	SCB	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-8D
Date Collected: 05/17/23 14:20
Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-6
Matrix: Water

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	436051	05/24/23 12:50	SNL	EET PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	436357	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6010D		1			438036	06/14/23 16:02	AAS	EET PIT
Instrument ID: Q										
Total Recoverable	Prep	3005A			50 mL	50 mL	436345	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438772	06/22/23 23:03	KED	EET PIT
Instrument ID: NEMO										
Total Recoverable	Prep	3005A			50 mL	50 mL	436345	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438909	06/23/23 19:18	KED	EET PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	436996	06/05/23 12:00	MTW	EET PIT
Total/NA	Analysis	EPA 7470A		1			437135	06/06/23 12:52	MTW	EET PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			436285	05/25/23 15:45	BAB	EET PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	435992	05/23/23 21:03	LWM	EET PIT
Instrument ID: NOEQUIP										

Eurofins Pittsburgh

Lab Chronicle

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

Job ID: 180-156881-1
 SDG: Culley West

Client Sample ID: WAP-8D
Date Collected: 05/17/23 14:20
Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-6
Matrix: Water

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			996.81 mL	1.0 g	614557	06/06/23 10:30	KAC	EET SL
Total/NA	Analysis	9315		1			618151	06/28/23 18:23	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			996.81 mL	1.0 g	614558	06/06/23 10:34	KAC	EET SL
Total/NA	Analysis	9320		1			617527	06/23/23 11:49	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			618364	06/29/23 16:50	SCB	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-4D
Date Collected: 05/17/23 17:40
Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-7
Matrix: Water

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	436051	05/24/23 11:13	SNL	EET PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	436357	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6010D		1			438036	06/14/23 16:07	AAS	EET PIT
Instrument ID: Q										
Total Recoverable	Prep	3005A			50 mL	50 mL	436345	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438772	06/22/23 23:06	KED	EET PIT
Instrument ID: NEMO										
Total Recoverable	Prep	3005A			50 mL	50 mL	436345	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438909	06/23/23 19:21	KED	EET PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	436996	06/05/23 12:00	MTW	EET PIT
Total/NA	Analysis	EPA 7470A		1			437135	06/06/23 12:53	MTW	EET PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			436285	05/25/23 15:19	BAB	EET PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	435991	05/23/23 20:17	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			950.02 mL	1.0 g	614557	06/06/23 10:30	KAC	EET SL
Total/NA	Analysis	9315		1			618151	06/28/23 18:23	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			950.02 mL	1.0 g	614558	06/06/23 10:34	KAC	EET SL
Total/NA	Analysis	9320		1			617527	06/23/23 11:49	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			618364	06/29/23 16:50	SCB	EET SL
Instrument ID: NOEQUIP										

Lab Chronicle

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

Job ID: 180-156881-1
 SDG: Culley West

Client Sample ID: WAP-41
Date Collected: 05/17/23 19:15
Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-8
Matrix: Water

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	436051	05/24/23 13:32	SNL	EET PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	436357	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6010D		1			438036	06/14/23 16:32	AAS	EET PIT
Instrument ID: Q										
Total Recoverable	Prep	3005A			50 mL	50 mL	436345	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438772	06/22/23 23:20	KED	EET PIT
Instrument ID: NEMO										
Total Recoverable	Prep	3005A			50 mL	50 mL	436345	05/26/23 13:00	HCY	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438909	06/23/23 19:41	KED	EET PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	436996	06/05/23 12:00	MTW	EET PIT
Total/NA	Analysis	EPA 7470A		1			437135	06/06/23 12:57	MTW	EET PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			436285	05/25/23 15:25	BAB	EET PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	435992	05/23/23 21:03	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			742.24 mL	1.0 g	614557	06/06/23 10:30	KAC	EET SL
Total/NA	Analysis	9315		1			618151	06/28/23 18:24	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			742.24 mL	1.0 g	614558	06/06/23 10:34	KAC	EET SL
Total/NA	Analysis	9320		1			617527	06/23/23 11:49	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			618364	06/29/23 16:50	SCB	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: DUP 1
Date Collected: 05/17/23 00:00
Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-9
Matrix: Water

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	436051	05/24/23 13:46	SNL	EET PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			25 mL	25 mL	436758	06/01/23 12:30	HCY	EET PIT
Total Recoverable	Analysis	EPA 6010D		1			437021	06/05/23 11:44	AAS	EET PIT
Instrument ID: Q										
Total Recoverable	Prep	3005A			25 mL	25 mL	436507	05/31/23 10:30	HCY	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438554	06/20/23 19:27	KED	EET PIT
Instrument ID: DORY										
Total/NA	Prep	7470A			25 mL	25 mL	437479	06/09/23 10:00	MTW	EET PIT
Total/NA	Analysis	EPA 7470A		1			437591	06/10/23 11:47	MTW	EET PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			436285	05/25/23 15:27	BAB	EET PIT
Instrument ID: OZ										

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Lab Chronicle

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

Job ID: 180-156881-1
 SDG: Culley West

Client Sample ID: DUP 1
Date Collected: 05/17/23 00:00
Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-9
Matrix: Water

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	435992	05/23/23 21:03	LWM	EET PIT
Total/NA	Prep	PrecSep-21			995.54 mL	1.0 g	613645	05/30/23 10:07	KAC	EET SL
Total/NA	Analysis	9315		1			617000	06/21/23 09:30	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			995.54 mL	1.0 g	613647	05/30/23 10:18	KAC	EET SL
Total/NA	Analysis	9320		1			616863	06/20/23 14:34	FLC	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			617151	06/21/23 14:54	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

Analyst References:

Lab: EET PIT

Batch Type: Prep

HCY = Harrison Yaeger

MTW = Michael Wesoloski

Batch Type: Analysis

AAS = Arianna Swick

BAB = Brooke Batyi

KED = Katie Dacko

LWM = Leslie McIntire

MTW = Michael Wesoloski

SNL = Sean Lordo

Lab: EET SL

Batch Type: Prep

KAC = Kevin Cox

Batch Type: Analysis

FLC = Fernando Cruz

SCB = Sarah Bernsen

Client Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

Client Sample ID: WAP-5S

Lab Sample ID: 180-156881-1

Date Collected: 05/16/23 18:15

Matrix: Water

Date Received: 05/19/23 09:35

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110		1.0	0.71	mg/L			05/23/23 12:27	1
Fluoride	0.12		0.10	0.026	mg/L			05/23/23 12:27	1
Sulfate	480		1.0	0.76	mg/L			05/23/23 12:27	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5900		200	13	ug/L		05/26/23 13:00	06/14/23 15:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		05/26/23 13:00	06/22/23 22:42	1
Arsenic	0.00055	J	0.0010	0.00028	mg/L		05/26/23 13:00	06/22/23 22:42	1
Barium	0.037		0.010	0.0031	mg/L		05/26/23 13:00	06/22/23 22:42	1
Beryllium	ND		0.0010	0.00027	mg/L		05/26/23 13:00	06/22/23 22:42	1
Cadmium	ND		0.0010	0.00022	mg/L		05/26/23 13:00	06/22/23 22:42	1
Calcium	240		0.50	0.13	mg/L		05/26/23 13:00	06/22/23 22:42	1
Chromium	ND		0.0020	0.0015	mg/L		05/26/23 13:00	06/22/23 22:42	1
Cobalt	0.0037		0.00050	0.00026	mg/L		05/26/23 13:00	06/23/23 19:04	1
Lead	ND		0.0010	0.00038	mg/L		05/26/23 13:00	06/22/23 22:42	1
Lithium	0.0024	J	0.0050	0.0013	mg/L		05/26/23 13:00	06/22/23 22:42	1
Molybdenum	ND		0.0050	0.00061	mg/L		05/26/23 13:00	06/22/23 22:42	1
Selenium	ND		0.0050	0.00074	mg/L		05/26/23 13:00	06/22/23 22:42	1
Thallium	ND		0.0010	0.00047	mg/L		05/26/23 13:00	06/22/23 22:42	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		06/05/23 12:00	06/06/23 12:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1200		10	10	mg/L			05/22/23 16:09	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.0	HF	0.1	0.1	SU			05/25/23 15:30	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	0.0390	U	0.0635	0.0636	1.00	0.112	pCi/L	06/06/23 10:30	06/28/23 18:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.8		30 - 110					06/06/23 10:30	06/28/23 18:21	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	0.762		0.415	0.421	1.00	0.589	pCi/L	06/06/23 10:34	06/23/23 11:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.8		30 - 110					06/06/23 10:34	06/23/23 11:48	1

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Client Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

Client Sample ID: WAP-5S
 Date Collected: 05/16/23 18:15
 Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-1
 Matrix: Water

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

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	82.2		30 - 110	06/06/23 10:34	06/23/23 11:48	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	0.801		0.420	0.426	5.00	0.589	pCi/L		06/29/23 16:50	1

Client Sample ID: WAP-5I
 Date Collected: 05/16/23 17:10
 Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-2
 Matrix: Water

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19		1.0	0.71	mg/L			05/23/23 12:42	1
Fluoride	0.14		0.10	0.026	mg/L			05/23/23 12:42	1
Sulfate	42		1.0	0.76	mg/L			05/23/23 12:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	36	J	200	13	ug/L		05/26/23 13:00	06/14/23 15:31	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		05/26/23 13:00	06/22/23 22:45	1
Arsenic	0.0046		0.0010	0.00028	mg/L		05/26/23 13:00	06/22/23 22:45	1
Barium	0.093		0.010	0.0031	mg/L		05/26/23 13:00	06/22/23 22:45	1
Beryllium	ND		0.0010	0.00027	mg/L		05/26/23 13:00	06/22/23 22:45	1
Cadmium	ND		0.0010	0.00022	mg/L		05/26/23 13:00	06/22/23 22:45	1
Calcium	35		0.50	0.13	mg/L		05/26/23 13:00	06/22/23 22:45	1
Chromium	ND		0.0020	0.0015	mg/L		05/26/23 13:00	06/22/23 22:45	1
Cobalt	ND		0.00050	0.00026	mg/L		05/26/23 13:00	06/23/23 19:07	1
Lead	ND		0.0010	0.00038	mg/L		05/26/23 13:00	06/22/23 22:45	1
Lithium	0.0031	J	0.0050	0.0013	mg/L		05/26/23 13:00	06/22/23 22:45	1
Molybdenum	0.0016	J	0.0050	0.00061	mg/L		05/26/23 13:00	06/22/23 22:45	1
Selenium	ND		0.0050	0.00074	mg/L		05/26/23 13:00	06/22/23 22:45	1
Thallium	ND		0.0010	0.00047	mg/L		05/26/23 13:00	06/22/23 22:45	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		06/05/23 12:00	06/06/23 12:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	200		10	10	mg/L			05/22/23 16:09	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.7	HF	0.1	0.1	SU			05/25/23 15:33	1

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Client Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

Client Sample ID: WAP-5I
Date Collected: 05/16/23 17:10
Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-2
Matrix: Water

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0619	U	0.0857	0.0858	1.00	0.145	pCi/L	06/06/23 10:30	06/28/23 18:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.5		30 - 110					06/06/23 10:30	06/28/23 18:23	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	0.325	U	0.317	0.319	1.00	0.507	pCi/L	06/06/23 10:34	06/23/23 11:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.5		30 - 110					06/06/23 10:34	06/23/23 11:48	1
Y Carrier	87.9		30 - 110					06/06/23 10:34	06/23/23 11:48	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	0.387	U	0.328	0.330	5.00	0.507	pCi/L		06/29/23 16:50	1

Client Sample ID: WAP-5D
Date Collected: 05/16/23 16:10
Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-3
Matrix: Water

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24		1.0	0.71	mg/L			05/24/23 12:09	1
Fluoride	0.15		0.10	0.026	mg/L			05/24/23 12:09	1
Sulfate	46		1.0	0.76	mg/L			05/24/23 12:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	45	J	200	13	ug/L		05/26/23 13:00	06/14/23 15:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		05/26/23 13:00	06/22/23 22:48	1
Arsenic	0.0099		0.0010	0.00028	mg/L		05/26/23 13:00	06/22/23 22:48	1
Barium	0.22		0.010	0.0031	mg/L		05/26/23 13:00	06/22/23 22:48	1
Beryllium	ND		0.0010	0.00027	mg/L		05/26/23 13:00	06/22/23 22:48	1
Cadmium	ND		0.0010	0.00022	mg/L		05/26/23 13:00	06/22/23 22:48	1
Calcium	50		0.50	0.13	mg/L		05/26/23 13:00	06/22/23 22:48	1
Chromium	ND		0.0020	0.0015	mg/L		05/26/23 13:00	06/22/23 22:48	1
Cobalt	ND		0.00050	0.00026	mg/L		05/26/23 13:00	06/23/23 19:10	1
Lead	ND		0.0010	0.00038	mg/L		05/26/23 13:00	06/22/23 22:48	1
Lithium	0.0017	J	0.0050	0.0013	mg/L		05/26/23 13:00	06/22/23 22:48	1
Molybdenum	0.0039	J	0.0050	0.00061	mg/L		05/26/23 13:00	06/22/23 22:48	1
Selenium	ND		0.0050	0.00074	mg/L		05/26/23 13:00	06/22/23 22:48	1

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Client Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

Client Sample ID: WAP-5D
 Date Collected: 05/16/23 16:10
 Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-3
 Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	ND		0.0010	0.00047	mg/L		05/26/23 13:00	06/22/23 22:48	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		06/05/23 12:00	06/06/23 12:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	240		10	10	mg/L			05/22/23 16:09	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.6	HF	0.1	0.1	SU			05/25/23 15:36	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	0.286		0.177	0.179	1.00	0.221	pCi/L	05/30/23 10:07	06/21/23 09:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		30 - 110					05/30/23 10:07	06/21/23 09:29	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	0.225	U	0.352	0.352	1.00	0.598	pCi/L	05/30/23 10:18	06/20/23 14:34	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		30 - 110					05/30/23 10:18	06/20/23 14:34	1
Y Carrier	81.9		30 - 110					05/30/23 10:18	06/20/23 14:34	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	0.511	U	0.394	0.395	5.00	0.598	pCi/L		06/21/23 14:54	1

Client Sample ID: WAP-8S
 Date Collected: 05/17/23 15:40
 Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-4
 Matrix: Water

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	69		1.0	0.71	mg/L			05/24/23 12:23	1
Fluoride	0.17		0.10	0.026	mg/L			05/24/23 12:23	1
Sulfate	270		1.0	0.76	mg/L			05/24/23 12:23	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2900		200	13	ug/L		05/26/23 13:00	06/14/23 15:52	1

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Client Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

Client Sample ID: WAP-8S

Lab Sample ID: 180-156881-4

Date Collected: 05/17/23 15:40

Matrix: Water

Date Received: 05/19/23 09:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		05/26/23 13:00	06/22/23 22:51	1
Arsenic	0.016		0.0010	0.00028	mg/L		05/26/23 13:00	06/22/23 22:51	1
Barium	0.20		0.010	0.0031	mg/L		05/26/23 13:00	06/22/23 22:51	1
Beryllium	ND		0.0010	0.00027	mg/L		05/26/23 13:00	06/22/23 22:51	1
Cadmium	ND		0.0010	0.00022	mg/L		05/26/23 13:00	06/22/23 22:51	1
Calcium	140		0.50	0.13	mg/L		05/26/23 13:00	06/22/23 22:51	1
Chromium	ND		0.0020	0.0015	mg/L		05/26/23 13:00	06/22/23 22:51	1
Cobalt	0.0012		0.00050	0.00026	mg/L		05/26/23 13:00	06/23/23 19:13	1
Lead	ND		0.0010	0.00038	mg/L		05/26/23 13:00	06/22/23 22:51	1
Lithium	0.023		0.0050	0.0013	mg/L		05/26/23 13:00	06/22/23 22:51	1
Molybdenum	0.21		0.0050	0.00061	mg/L		05/26/23 13:00	06/22/23 22:51	1
Selenium	ND		0.0050	0.00074	mg/L		05/26/23 13:00	06/22/23 22:51	1
Thallium	ND		0.0010	0.00047	mg/L		05/26/23 13:00	06/22/23 22:51	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		06/05/23 12:00	06/06/23 12:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	720		10	10	mg/L			05/23/23 21:03	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.7	HF	0.1	0.1	SU			05/25/23 15:39	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	0.247		0.121	0.123	1.00	0.151	pCi/L	06/06/23 10:30	06/28/23 18:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		30 - 110					06/06/23 10:30	06/28/23 18:23	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	0.799		0.429	0.435	1.00	0.601	pCi/L	06/06/23 10:34	06/23/23 11:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		30 - 110					06/06/23 10:34	06/23/23 11:49	1
Y Carrier	77.0		30 - 110					06/06/23 10:34	06/23/23 11:49	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	1.05		0.446	0.452	5.00	0.601	pCi/L		06/29/23 16:50	1

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Client Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

Client Sample ID: WAP-81
 Date Collected: 05/17/23 13:15
 Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-5
 Matrix: Water

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			05/24/23 12:37	1
Fluoride	0.20		0.10	0.026	mg/L			05/24/23 12:37	1
Sulfate	53		1.0	0.76	mg/L			05/24/23 12:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	73	J	200	13	ug/L		05/26/23 13:00	06/14/23 15:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		05/26/23 13:00	06/22/23 23:00	1
Arsenic	0.0092		0.0010	0.00028	mg/L		05/26/23 13:00	06/22/23 23:00	1
Barium	0.063		0.010	0.0031	mg/L		05/26/23 13:00	06/22/23 23:00	1
Beryllium	ND		0.0010	0.00027	mg/L		05/26/23 13:00	06/22/23 23:00	1
Cadmium	ND		0.0010	0.00022	mg/L		05/26/23 13:00	06/22/23 23:00	1
Calcium	47		0.50	0.13	mg/L		05/26/23 13:00	06/22/23 23:00	1
Chromium	ND		0.0020	0.0015	mg/L		05/26/23 13:00	06/22/23 23:00	1
Cobalt	0.00034	J	0.00050	0.00026	mg/L		05/26/23 13:00	06/23/23 19:16	1
Lead	ND		0.0010	0.00038	mg/L		05/26/23 13:00	06/22/23 23:00	1
Lithium	0.0026	J	0.0050	0.0013	mg/L		05/26/23 13:00	06/22/23 23:00	1
Molybdenum	0.028		0.0050	0.00061	mg/L		05/26/23 13:00	06/22/23 23:00	1
Selenium	ND		0.0050	0.00074	mg/L		05/26/23 13:00	06/22/23 23:00	1
Thallium	ND		0.0010	0.00047	mg/L		05/26/23 13:00	06/22/23 23:00	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		06/05/23 12:00	06/06/23 12:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	230		10	10	mg/L			05/23/23 21:03	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.6	HF	0.1	0.1	SU			05/25/23 15:42	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	0.0934	U	0.0991	0.0995	1.00	0.159	pCi/L	06/06/23 10:30	06/28/23 18:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.6		30 - 110					06/06/23 10:30	06/28/23 18:23	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	0.543	U	0.430	0.433	1.00	0.674	pCi/L	06/06/23 10:34	06/23/23 11:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.6		30 - 110					06/06/23 10:34	06/23/23 11:49	1

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Client Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

Client Sample ID: WAP-8I
 Date Collected: 05/17/23 13:15
 Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-5
 Matrix: Water

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

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	84.9		30 - 110	06/06/23 10:34	06/23/23 11:49	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	0.636	U	0.441	0.444	5.00	0.674	pCi/L		06/29/23 16:50	1

Client Sample ID: WAP-8D
 Date Collected: 05/17/23 14:20
 Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-6
 Matrix: Water

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24		1.0	0.71	mg/L			05/24/23 12:50	1
Fluoride	0.18		0.10	0.026	mg/L			05/24/23 12:50	1
Sulfate	56		1.0	0.76	mg/L			05/24/23 12:50	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	55	J	200	13	ug/L		05/26/23 13:00	06/14/23 16:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		05/26/23 13:00	06/22/23 23:03	1
Arsenic	0.0028		0.0010	0.00028	mg/L		05/26/23 13:00	06/22/23 23:03	1
Barium	0.079		0.010	0.0031	mg/L		05/26/23 13:00	06/22/23 23:03	1
Beryllium	ND		0.0010	0.00027	mg/L		05/26/23 13:00	06/22/23 23:03	1
Cadmium	ND		0.0010	0.00022	mg/L		05/26/23 13:00	06/22/23 23:03	1
Calcium	50		0.50	0.13	mg/L		05/26/23 13:00	06/22/23 23:03	1
Chromium	ND		0.0020	0.0015	mg/L		05/26/23 13:00	06/22/23 23:03	1
Cobalt	ND		0.00050	0.00026	mg/L		05/26/23 13:00	06/23/23 19:18	1
Lead	ND		0.0010	0.00038	mg/L		05/26/23 13:00	06/22/23 23:03	1
Lithium	0.0020	J	0.0050	0.0013	mg/L		05/26/23 13:00	06/22/23 23:03	1
Molybdenum	0.0012	J	0.0050	0.00061	mg/L		05/26/23 13:00	06/22/23 23:03	1
Selenium	ND		0.0050	0.00074	mg/L		05/26/23 13:00	06/22/23 23:03	1
Thallium	ND		0.0010	0.00047	mg/L		05/26/23 13:00	06/22/23 23:03	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		06/05/23 12:00	06/06/23 12:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	240		10	10	mg/L			05/23/23 21:03	1
pH (SW846 EPA 9040C)	7.7	HF	0.1	0.1	SU			05/25/23 15:45	1

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Client Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

Client Sample ID: WAP-8D

Lab Sample ID: 180-156881-6

Date Collected: 05/17/23 14:20

Matrix: Water

Date Received: 05/19/23 09:35

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.165		0.105	0.106	1.00	0.145	pCi/L	06/06/23 10:30	06/28/23 18:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.1		30 - 110					06/06/23 10:30	06/28/23 18:23	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	-0.00455	U	0.282	0.282	1.00	0.534	pCi/L	06/06/23 10:34	06/23/23 11:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.1		30 - 110					06/06/23 10:34	06/23/23 11:49	1
Y Carrier	84.9		30 - 110					06/06/23 10:34	06/23/23 11:49	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	0.160	U	0.301	0.301	5.00	0.534	pCi/L		06/29/23 16:50	1

Client Sample ID: WAP-4D

Lab Sample ID: 180-156881-7

Date Collected: 05/17/23 17:40

Matrix: Water

Date Received: 05/19/23 09:35

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24		1.0	0.71	mg/L			05/24/23 11:13	1
Fluoride	0.16		0.10	0.026	mg/L			05/24/23 11:13	1
Sulfate	33		1.0	0.76	mg/L			05/24/23 11:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	44	J	200	13	ug/L		05/26/23 13:00	06/14/23 16:07	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		05/26/23 13:00	06/22/23 23:06	1
Arsenic	0.0098		0.0010	0.00028	mg/L		05/26/23 13:00	06/22/23 23:06	1
Barium	0.30		0.010	0.0031	mg/L		05/26/23 13:00	06/22/23 23:06	1
Beryllium	ND		0.0010	0.00027	mg/L		05/26/23 13:00	06/22/23 23:06	1
Cadmium	ND		0.0010	0.00022	mg/L		05/26/23 13:00	06/22/23 23:06	1
Calcium	52		0.50	0.13	mg/L		05/26/23 13:00	06/22/23 23:06	1
Chromium	ND		0.0020	0.0015	mg/L		05/26/23 13:00	06/22/23 23:06	1
Cobalt	ND		0.00050	0.00026	mg/L		05/26/23 13:00	06/23/23 19:21	1
Lead	ND		0.0010	0.00038	mg/L		05/26/23 13:00	06/22/23 23:06	1
Lithium	0.0023	J	0.0050	0.0013	mg/L		05/26/23 13:00	06/22/23 23:06	1
Molybdenum	0.0050		0.0050	0.00061	mg/L		05/26/23 13:00	06/22/23 23:06	1
Selenium	ND		0.0050	0.00074	mg/L		05/26/23 13:00	06/22/23 23:06	1

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Client Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

Client Sample ID: WAP-4D

Lab Sample ID: 180-156881-7

Date Collected: 05/17/23 17:40

Matrix: Water

Date Received: 05/19/23 09:35

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	ND		0.0010	0.00047	mg/L		05/26/23 13:00	06/22/23 23:06	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		06/05/23 12:00	06/06/23 12:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	230		10	10	mg/L			05/23/23 20:17	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.8	HF	0.1	0.1	SU			05/25/23 15:19	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	0.385		0.153	0.157	1.00	0.178	pCi/L	06/06/23 10:30	06/28/23 18:23	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	87.2		30 - 110	06/06/23 10:30	06/28/23 18:23	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	0.626	U	0.491	0.494	1.00	0.766	pCi/L	06/06/23 10:34	06/23/23 11:49	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	87.2		30 - 110	06/06/23 10:34	06/23/23 11:49	1
Y Carrier	78.1		30 - 110	06/06/23 10:34	06/23/23 11:49	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		0.514	0.518	5.00	0.766	pCi/L		06/29/23 16:50	1

Client Sample ID: WAP-4I

Lab Sample ID: 180-156881-8

Date Collected: 05/17/23 19:15

Matrix: Water

Date Received: 05/19/23 09:35

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18	^2	1.0	0.71	mg/L			05/24/23 13:32	1
Fluoride	0.14		0.10	0.026	mg/L			05/24/23 13:32	1
Sulfate	40		1.0	0.76	mg/L			05/24/23 13:32	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	27	J	200	13	ug/L		05/26/23 13:00	06/14/23 16:32	1

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Client Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

Client Sample ID: WAP-4I
Date Collected: 05/17/23 19:15
Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		05/26/23 13:00	06/22/23 23:20	1
Arsenic	0.017		0.0010	0.00028	mg/L		05/26/23 13:00	06/22/23 23:20	1
Barium	0.14		0.010	0.0031	mg/L		05/26/23 13:00	06/22/23 23:20	1
Beryllium	ND		0.0010	0.00027	mg/L		05/26/23 13:00	06/22/23 23:20	1
Cadmium	0.00022	J	0.0010	0.00022	mg/L		05/26/23 13:00	06/22/23 23:20	1
Calcium	32		0.50	0.13	mg/L		05/26/23 13:00	06/22/23 23:20	1
Chromium	ND		0.0020	0.0015	mg/L		05/26/23 13:00	06/22/23 23:20	1
Cobalt	0.00050		0.00050	0.00026	mg/L		05/26/23 13:00	06/23/23 19:41	1
Lead	0.00046	J	0.0010	0.00038	mg/L		05/26/23 13:00	06/22/23 23:20	1
Lithium	0.0029	J	0.0050	0.0013	mg/L		05/26/23 13:00	06/22/23 23:20	1
Molybdenum	0.0018	J	0.0050	0.00061	mg/L		05/26/23 13:00	06/22/23 23:20	1
Selenium	ND		0.0050	0.00074	mg/L		05/26/23 13:00	06/22/23 23:20	1
Thallium	0.00048	J	0.0010	0.00047	mg/L		05/26/23 13:00	06/22/23 23:20	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		06/05/23 12:00	06/06/23 12:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	170		10	10	mg/L			05/23/23 21:03	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.7	HF	0.1	0.1	SU			05/25/23 15:25	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	0.264		0.136	0.138	1.00	0.160	pCi/L	06/06/23 10:30	06/28/23 18:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.3		30 - 110					06/06/23 10:30	06/28/23 18:24	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	0.722		0.487	0.491	1.00	0.719	pCi/L	06/06/23 10:34	06/23/23 11:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.3		30 - 110					06/06/23 10:34	06/23/23 11:49	1
Y Carrier	77.4		30 - 110					06/06/23 10:34	06/23/23 11:49	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	0.986		0.506	0.510	5.00	0.719	pCi/L		06/29/23 16:50	1

Client Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

Client Sample ID: DUP 1
 Date Collected: 05/17/23 00:00
 Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-9
 Matrix: Water

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	70	^2	1.0	0.71	mg/L			05/24/23 13:46	1
Fluoride	0.17		0.10	0.026	mg/L			05/24/23 13:46	1
Sulfate	280		1.0	0.76	mg/L			05/24/23 13:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2500		200	13	ug/L		06/01/23 12:30	06/05/23 11:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		05/31/23 10:30	06/20/23 19:27	1
Arsenic	0.017		0.0010	0.00028	mg/L		05/31/23 10:30	06/20/23 19:27	1
Barium	0.20		0.010	0.0031	mg/L		05/31/23 10:30	06/20/23 19:27	1
Beryllium	ND		0.0010	0.00027	mg/L		05/31/23 10:30	06/20/23 19:27	1
Cadmium	ND		0.0010	0.00022	mg/L		05/31/23 10:30	06/20/23 19:27	1
Calcium	140		0.50	0.13	mg/L		05/31/23 10:30	06/20/23 19:27	1
Chromium	ND		0.0020	0.0015	mg/L		05/31/23 10:30	06/20/23 19:27	1
Cobalt	0.0014		0.00050	0.00026	mg/L		05/31/23 10:30	06/20/23 19:27	1
Lead	ND		0.0010	0.00038	mg/L		05/31/23 10:30	06/20/23 19:27	1
Lithium	0.026		0.0050	0.0013	mg/L		05/31/23 10:30	06/20/23 19:27	1
Molybdenum	0.22		0.0050	0.00061	mg/L		05/31/23 10:30	06/20/23 19:27	1
Selenium	ND		0.0050	0.00074	mg/L		05/31/23 10:30	06/20/23 19:27	1
Thallium	ND		0.0010	0.00047	mg/L		05/31/23 10:30	06/20/23 19:27	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		06/09/23 10:00	06/10/23 11:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	690		10	10	mg/L			05/23/23 21:03	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.7	HF	0.1	0.1	SU			05/25/23 15:27	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	0.225		0.152	0.154	1.00	0.193	pCi/L	05/30/23 10:07	06/21/23 09:30	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		30 - 110	05/30/23 10:07	06/21/23 09:30	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	0.745		0.412	0.417	1.00	0.585	pCi/L	05/30/23 10:18	06/20/23 14:34	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		30 - 110	05/30/23 10:18	06/20/23 14:34	1

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Client Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

Client Sample ID: DUP 1
Date Collected: 05/17/23 00:00
Date Received: 05/19/23 09:35

Lab Sample ID: 180-156881-9
Matrix: Water

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

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	80.7		30 - 110	05/30/23 10:18	06/20/23 14:34	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.						
Combined Radium 226 + 228	0.969		(2σ+/-) 0.439	(2σ+/-) 0.445	5.00	0.585	pCi/L		06/21/23 14:54	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

QC Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-435928/6
Matrix: Water
Analysis Batch: 435928

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			05/23/23 10:29	1
Fluoride	ND		0.10	0.026	mg/L			05/23/23 10:29	1
Sulfate	ND		1.0	0.76	mg/L			05/23/23 10:29	1

Lab Sample ID: LCS 180-435928/7
Matrix: Water
Analysis Batch: 435928

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	48.7		mg/L		97	80 - 120
Fluoride	2.50	2.50		mg/L		100	80 - 120
Sulfate	50.0	47.8		mg/L		96	80 - 120

Lab Sample ID: MB 180-436051/6
Matrix: Water
Analysis Batch: 436051

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			05/24/23 10:46	1
Fluoride	ND		0.10	0.026	mg/L			05/24/23 10:46	1
Sulfate	ND		1.0	0.76	mg/L			05/24/23 10:46	1

Lab Sample ID: LCS 180-436051/7
Matrix: Water
Analysis Batch: 436051

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	53.6		mg/L		107	80 - 120
Fluoride	2.50	2.74		mg/L		110	80 - 120
Sulfate	50.0	53.3		mg/L		107	80 - 120

Lab Sample ID: 180-156881-7 MS
Matrix: Water
Analysis Batch: 436051

Client Sample ID: WAP-4D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	24		50.0	73.1		mg/L		99	80 - 120
Fluoride	0.16		2.50	2.90		mg/L		109	80 - 120
Sulfate	33		50.0	81.1		mg/L		95	80 - 120

Lab Sample ID: 180-156881-7 MSD
Matrix: Water
Analysis Batch: 436051

Client Sample ID: WAP-4D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	24		50.0	72.8		mg/L		98	80 - 120	0	15
Fluoride	0.16		2.50	2.93		mg/L		111	80 - 120	1	15
Sulfate	33		50.0	81.8		mg/L		97	80 - 120	1	15

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QC Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

Method: EPA 6010D - Metals (ICP)

Lab Sample ID: MB 180-436357/1-A
 Matrix: Water
 Analysis Batch: 438036

Client Sample ID: Method Blank
 Prep Type: Total Recoverable
 Prep Batch: 436357

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		200	13	ug/L		05/26/23 13:00	06/14/23 14:01	1

Lab Sample ID: LCS 180-436357/2-A
 Matrix: Water
 Analysis Batch: 438036

Client Sample ID: Lab Control Sample
 Prep Type: Total Recoverable
 Prep Batch: 436357

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1250	1340		ug/L		107	80 - 120

Lab Sample ID: 180-156881-7 MS
 Matrix: Water
 Analysis Batch: 438036

Client Sample ID: WAP-4D
 Prep Type: Total Recoverable
 Prep Batch: 436357

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	44	J	1250	1340		ug/L		104	75 - 125

Lab Sample ID: 180-156881-7 MSD
 Matrix: Water
 Analysis Batch: 438036

Client Sample ID: WAP-4D
 Prep Type: Total Recoverable
 Prep Batch: 436357

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Boron	44	J	1250	1420		ug/L		110	75 - 125	6	20

Lab Sample ID: MB 180-436758/1-A
 Matrix: Water
 Analysis Batch: 437021

Client Sample ID: Method Blank
 Prep Type: Total Recoverable
 Prep Batch: 436758

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		200	13	ug/L		06/01/23 12:30	06/05/23 10:26	1

Lab Sample ID: LCS 180-436758/2-A
 Matrix: Water
 Analysis Batch: 437021

Client Sample ID: Lab Control Sample
 Prep Type: Total Recoverable
 Prep Batch: 436758

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1250	1240		ug/L		99	80 - 120

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

Lab Sample ID: MB 180-436345/1-A
 Matrix: Water
 Analysis Batch: 438772

Client Sample ID: Method Blank
 Prep Type: Total Recoverable
 Prep Batch: 436345

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		05/26/23 13:00	06/22/23 21:56	1
Arsenic	ND		0.0010	0.00028	mg/L		05/26/23 13:00	06/22/23 21:56	1
Barium	ND		0.010	0.0031	mg/L		05/26/23 13:00	06/22/23 21:56	1
Beryllium	ND		0.0010	0.00027	mg/L		05/26/23 13:00	06/22/23 21:56	1
Cadmium	ND		0.0010	0.00022	mg/L		05/26/23 13:00	06/22/23 21:56	1
Calcium	ND		0.50	0.13	mg/L		05/26/23 13:00	06/22/23 21:56	1

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QC Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

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

Lab Sample ID: MB 180-436345/1-A
Matrix: Water
Analysis Batch: 438772

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 436345

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chromium	ND		0.0020	0.0015	mg/L		05/26/23 13:00	06/22/23 21:56	1
Lead	ND		0.0010	0.00038	mg/L		05/26/23 13:00	06/22/23 21:56	1
Lithium	ND		0.0050	0.0013	mg/L		05/26/23 13:00	06/22/23 21:56	1
Molybdenum	ND		0.0050	0.00061	mg/L		05/26/23 13:00	06/22/23 21:56	1
Selenium	ND		0.0050	0.00074	mg/L		05/26/23 13:00	06/22/23 21:56	1
Thallium	ND		0.0010	0.00047	mg/L		05/26/23 13:00	06/22/23 21:56	1

Lab Sample ID: MB 180-436345/1-A
Matrix: Water
Analysis Batch: 438909

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 436345

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Cobalt	ND		0.00050	0.00026	mg/L		05/26/23 13:00	06/23/23 18:29	1

Lab Sample ID: LCS 180-436345/2-A
Matrix: Water
Analysis Batch: 438772

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 436345

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Antimony	0.250	0.235		mg/L		94	80 - 120	
Arsenic	1.00	0.810		mg/L		81	80 - 120	
Barium	1.00	0.895		mg/L		89	80 - 120	
Beryllium	0.500	0.485		mg/L		97	80 - 120	
Cadmium	0.500	0.427		mg/L		85	80 - 120	
Calcium	25.0	24.5		mg/L		98	80 - 120	
Chromium	0.500	0.422		mg/L		84	80 - 120	
Lead	0.500	0.438		mg/L		88	80 - 120	
Lithium	0.500	0.502		mg/L		100	80 - 120	
Molybdenum	0.500	0.445		mg/L		89	80 - 120	
Selenium	1.00	0.981		mg/L		98	80 - 120	
Thallium	1.00	0.859		mg/L		86	80 - 120	

Lab Sample ID: LCS 180-436345/2-A
Matrix: Water
Analysis Batch: 438909

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 436345

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Cobalt	0.500	0.433		mg/L		87	80 - 120	

Lab Sample ID: 180-156881-7 MS
Matrix: Water
Analysis Batch: 438772

Client Sample ID: WAP-4D
Prep Type: Total Recoverable
Prep Batch: 436345

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	
Antimony	ND		0.250	0.276		mg/L		111	75 - 125	
Arsenic	0.0098		1.00	0.912		mg/L		90	75 - 125	
Barium	0.30		1.00	1.31		mg/L		101	75 - 125	
Beryllium	ND		0.500	0.449		mg/L		90	75 - 125	
Cadmium	ND		0.500	0.467		mg/L		93	75 - 125	
Calcium	52		25.0	76.8		mg/L		100	75 - 125	

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QC Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

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

Lab Sample ID: 180-156881-7 MS
Matrix: Water
Analysis Batch: 438772

Client Sample ID: WAP-4D
Prep Type: Total Recoverable
Prep Batch: 436345

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier	Added	Result	Qualifier				Limits	
Chromium	ND		0.500	0.456		mg/L		91	75 - 125	
Lead	ND		0.500	0.482		mg/L		96	75 - 125	
Lithium	0.0023	J	0.500	0.446		mg/L		89	75 - 125	
Molybdenum	0.0050		0.500	0.523		mg/L		104	75 - 125	
Selenium	ND		1.00	0.949		mg/L		95	75 - 125	
Thallium	ND		1.00	0.947		mg/L		95	75 - 125	

Lab Sample ID: 180-156881-7 MS
Matrix: Water
Analysis Batch: 438909

Client Sample ID: WAP-4D
Prep Type: Total Recoverable
Prep Batch: 436345

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier	Added	Result	Qualifier				Limits	
Cobalt	ND		0.500	0.457		mg/L		91	75 - 125	

Lab Sample ID: 180-156881-7 MSD
Matrix: Water
Analysis Batch: 438772

Client Sample ID: WAP-4D
Prep Type: Total Recoverable
Prep Batch: 436345

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit	
Antimony	ND		0.250	0.273		mg/L		109	75 - 125		1	20
Arsenic	0.0098		1.00	0.979		mg/L		97	75 - 125		7	20
Barium	0.30		1.00	1.38		mg/L		107	75 - 125		5	20
Beryllium	ND		0.500	0.482		mg/L		96	75 - 125		7	20
Cadmium	ND		0.500	0.498		mg/L		100	75 - 125		6	20
Calcium	52		25.0	79.4		mg/L		111	75 - 125		3	20
Chromium	ND		0.500	0.487		mg/L		97	75 - 125		7	20
Lead	ND		0.500	0.520		mg/L		104	75 - 125		7	20
Lithium	0.0023	J	0.500	0.491		mg/L		98	75 - 125		10	20
Molybdenum	0.0050		0.500	0.546		mg/L		108	75 - 125		4	20
Selenium	ND		1.00	0.964		mg/L		96	75 - 125		2	20
Thallium	ND		1.00	1.02		mg/L		102	75 - 125		7	20

Lab Sample ID: 180-156881-7 MSD
Matrix: Water
Analysis Batch: 438909

Client Sample ID: WAP-4D
Prep Type: Total Recoverable
Prep Batch: 436345

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit	
Cobalt	ND		0.500	0.496		mg/L		99	75 - 125		8	20

Lab Sample ID: MB 180-436507/1-A
Matrix: Water
Analysis Batch: 438554

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 436507

Analyte	MB	MB	RL	MDL	Unit	D	Prepared		Analyzed		Dil Fac
	Result	Qualifier									
Antimony	ND		0.0020	0.00097	mg/L		05/31/23 10:30	06/20/23 17:48			1
Arsenic	ND		0.0010	0.00028	mg/L		05/31/23 10:30	06/20/23 17:48			1
Barium	ND		0.010	0.0031	mg/L		05/31/23 10:30	06/20/23 17:48			1
Beryllium	ND		0.0010	0.00027	mg/L		05/31/23 10:30	06/20/23 17:48			1
Cadmium	ND		0.0010	0.00022	mg/L		05/31/23 10:30	06/20/23 17:48			1
Calcium	ND		0.50	0.13	mg/L		05/31/23 10:30	06/20/23 17:48			1

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QC Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

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

Lab Sample ID: MB 180-436507/1-A
Matrix: Water
Analysis Batch: 438554

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 436507

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.0020	0.0015	mg/L		05/31/23 10:30	06/20/23 17:48	1
Cobalt	ND		0.00050	0.00026	mg/L		05/31/23 10:30	06/20/23 17:48	1
Lead	ND		0.0010	0.00038	mg/L		05/31/23 10:30	06/20/23 17:48	1
Lithium	ND		0.0050	0.0013	mg/L		05/31/23 10:30	06/20/23 17:48	1
Molybdenum	ND		0.0050	0.00061	mg/L		05/31/23 10:30	06/20/23 17:48	1
Selenium	ND		0.0050	0.00074	mg/L		05/31/23 10:30	06/20/23 17:48	1
Thallium	ND		0.0010	0.00047	mg/L		05/31/23 10:30	06/20/23 17:48	1

Lab Sample ID: LCS 180-436507/2-A
Matrix: Water
Analysis Batch: 438554

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 436507

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.250	0.258		mg/L		103	80 - 120
Arsenic	1.00	0.923		mg/L		92	80 - 120
Barium	1.00	1.01		mg/L		101	80 - 120
Beryllium	0.500	0.476		mg/L		95	80 - 120
Cadmium	0.500	0.488		mg/L		98	80 - 120
Calcium	25.0	26.5		mg/L		106	80 - 120
Chromium	0.500	0.493		mg/L		99	80 - 120
Cobalt	0.500	0.460		mg/L		92	80 - 120
Lead	0.500	0.498		mg/L		100	80 - 120
Lithium	0.500	0.488		mg/L		98	80 - 120
Molybdenum	0.500	0.482		mg/L		96	80 - 120
Selenium	1.00	0.997		mg/L		100	80 - 120
Thallium	1.00	0.978		mg/L		98	80 - 120

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-436996/1-A
Matrix: Water
Analysis Batch: 437135

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 436996

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/05/23 12:00	06/06/23 12:34	1

Lab Sample ID: LCS 180-436996/2-A
Matrix: Water
Analysis Batch: 437135

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436996

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00250	0.00255		mg/L		102	80 - 120

Lab Sample ID: 180-156881-7 MS
Matrix: Water
Analysis Batch: 437135

Client Sample ID: WAP-4D
Prep Type: Total/NA
Prep Batch: 436996

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		0.00100	0.000962		mg/L		96	75 - 125

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QC Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

Method: EPA 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 180-156881-7 MSD
 Matrix: Water
 Analysis Batch: 437135

Client Sample ID: WAP-4D
 Prep Type: Total/NA
 Prep Batch: 436996

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		0.00100	0.000964		mg/L		96	75 - 125	0	20

Lab Sample ID: MB 180-437479/1-A
 Matrix: Water
 Analysis Batch: 437591

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 437479

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/09/23 10:00	06/10/23 11:30	1

Lab Sample ID: LCS 180-437479/2-A
 Matrix: Water
 Analysis Batch: 437591

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 437479

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00250	0.00249		mg/L		100	80 - 120

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-436285/1
 Matrix: Water
 Analysis Batch: 436285

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

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

Lab Sample ID: MB 180-435869/1
 Matrix: Water
 Analysis Batch: 435869

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			05/22/23 16:09	1

Lab Sample ID: LCS 180-435869/2
 Matrix: Water
 Analysis Batch: 435869

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	580	598		mg/L		103	85 - 115

Lab Sample ID: MB 180-435991/1
 Matrix: Water
 Analysis Batch: 435991

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			05/23/23 20:17	1

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QC Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

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

Lab Sample ID: LCS 180-435991/2
 Matrix: Water
 Analysis Batch: 435991

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	580	572		mg/L		99	85 - 115

Lab Sample ID: MB 180-435992/1
 Matrix: Water
 Analysis Batch: 435992

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			05/23/23 21:03	1

Lab Sample ID: LCS 180-435992/2
 Matrix: Water
 Analysis Batch: 435992

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	580	556		mg/L		96	85 - 115

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-613645/1-A
 Matrix: Water
 Analysis Batch: 617000

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 613645

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.05215	U	0.0806	0.0807	1.00	0.223	pCi/L	05/30/23 10:07	06/21/23 09:24	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.4		30 - 110					05/30/23 10:07	06/21/23 09:24	1

Lab Sample ID: LCS 160-613645/2-A
 Matrix: Water
 Analysis Batch: 617000

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 613645

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	9.777		1.21	1.00	0.208	pCi/L	86	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	92.1		30 - 110						

Lab Sample ID: MB 160-614557/1-A
 Matrix: Water
 Analysis Batch: 618150

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 614557

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.01728	U	0.0814	0.0814	1.00	0.166	pCi/L	06/06/23 10:30	06/28/23 18:19	1

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QC Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: MB 160-614557/1-A
 Matrix: Water
 Analysis Batch: 618150

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 614557

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		30 - 110	06/06/23 10:30	06/28/23 18:19	1

Lab Sample ID: LCS 160-614557/2-A
 Matrix: Water
 Analysis Batch: 618150

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 614557

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	9.867		1.07	1.00	0.138	pCi/L	87	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	89.3		30 - 110

Lab Sample ID: 180-156881-7 DU
 Matrix: Water
 Analysis Batch: 618151

Client Sample ID: WAP-4D
 Prep Type: Total/NA
 Prep Batch: 614557

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.385		0.2587		0.129	1.00	0.158	pCi/L	0.44	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	95.1		30 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-613647/1-A
 Matrix: Water
 Analysis Batch: 616862

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 613647

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.4351	U	0.401	0.403	1.00	0.637	pCi/L	05/30/23 10:18	06/20/23 14:27	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	86.4		30 - 110	05/30/23 10:18	06/20/23 14:27	1
Y Carrier	80.4		30 - 110	05/30/23 10:18	06/20/23 14:27	1

Lab Sample ID: LCS 160-613647/2-A
 Matrix: Water
 Analysis Batch: 616862

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 613647

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	8.10	9.283		1.30	1.00	0.493	pCi/L	115	75 - 125

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QC Sample Results

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

Job ID: 180-156881-1
 SDG: Culley West

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

Lab Sample ID: LCS 160-613647/2-A
Matrix: Water
Analysis Batch: 616862

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 613647

Carrier	LCS		Limits
	%Yield	Qualifier	
Ba Carrier	92.1		30 - 110
Y Carrier	81.1		30 - 110

Lab Sample ID: MB 160-614558/1-A
Matrix: Water
Analysis Batch: 617527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 614558

Analyte	MB		Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared		Analyzed		Dil Fac
	Result	Qualifier										
Radium-228	0.5210	U	0.361	0.364	1.00	0.544	pCi/L	06/06/23 10:34	06/23/23 11:47		1	

Carrier	MB		Limits	Prepared		Analyzed		Dil Fac
	%Yield	Qualifier						
Ba Carrier	94.1		30 - 110	06/06/23 10:34		06/23/23 11:47		1
Y Carrier	84.5		30 - 110	06/06/23 10:34		06/23/23 11:47		1

Lab Sample ID: LCS 160-614558/2-A
Matrix: Water
Analysis Batch: 617527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 614558

Analyte	Spike Added	LCS		Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits	
		Result	Qual							
Radium-228	8.10	8.775		1.25	1.00	0.558	pCi/L	108	75 - 125	

Carrier	LCS		Limits
	%Yield	Qualifier	
Ba Carrier	89.3		30 - 110
Y Carrier	83.0		30 - 110

Lab Sample ID: 180-156881-7 DU
Matrix: Water
Analysis Batch: 617527

Client Sample ID: WAP-4D
Prep Type: Total/NA
Prep Batch: 614558

Analyte	Sample		DU		Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	
	Result	Qual	Result	Qual					RER	Limit
Radium-228	0.626	U	0.5119		0.347	1.00	0.510	pCi/L	0.14	1

Carrier	DU		Limits
	%Yield	Qualifier	
Ba Carrier	95.1		30 - 110
Y Carrier	81.9		30 - 110

QC Association Summary

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

Job ID: 180-156881-1
 SDG: Culley West

HPLC/IC

Analysis Batch: 435928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-1	WAP-5S	Total/NA	Water	EPA 9056A	
180-156881-2	WAP-5I	Total/NA	Water	EPA 9056A	
MB 180-435928/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-435928/7	Lab Control Sample	Total/NA	Water	EPA 9056A	

Analysis Batch: 436051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-3	WAP-5D	Total/NA	Water	EPA 9056A	
180-156881-4	WAP-8S	Total/NA	Water	EPA 9056A	
180-156881-5	WAP-8I	Total/NA	Water	EPA 9056A	
180-156881-6	WAP-8D	Total/NA	Water	EPA 9056A	
180-156881-7	WAP-4D	Total/NA	Water	EPA 9056A	
180-156881-8	WAP-4I	Total/NA	Water	EPA 9056A	
180-156881-9	DUP 1	Total/NA	Water	EPA 9056A	
MB 180-436051/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-436051/7	Lab Control Sample	Total/NA	Water	EPA 9056A	
180-156881-7 MS	WAP-4D	Total/NA	Water	EPA 9056A	
180-156881-7 MSD	WAP-4D	Total/NA	Water	EPA 9056A	

Metals

Prep Batch: 436345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-1	WAP-5S	Total Recoverable	Water	3005A	
180-156881-2	WAP-5I	Total Recoverable	Water	3005A	
180-156881-3	WAP-5D	Total Recoverable	Water	3005A	
180-156881-4	WAP-8S	Total Recoverable	Water	3005A	
180-156881-5	WAP-8I	Total Recoverable	Water	3005A	
180-156881-6	WAP-8D	Total Recoverable	Water	3005A	
180-156881-7	WAP-4D	Total Recoverable	Water	3005A	
180-156881-8	WAP-4I	Total Recoverable	Water	3005A	
MB 180-436345/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-436345/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-156881-7 MS	WAP-4D	Total Recoverable	Water	3005A	
180-156881-7 MSD	WAP-4D	Total Recoverable	Water	3005A	

Prep Batch: 436357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-1	WAP-5S	Total Recoverable	Water	3005A	
180-156881-2	WAP-5I	Total Recoverable	Water	3005A	
180-156881-3	WAP-5D	Total Recoverable	Water	3005A	
180-156881-4	WAP-8S	Total Recoverable	Water	3005A	
180-156881-5	WAP-8I	Total Recoverable	Water	3005A	
180-156881-6	WAP-8D	Total Recoverable	Water	3005A	
180-156881-7	WAP-4D	Total Recoverable	Water	3005A	
180-156881-8	WAP-4I	Total Recoverable	Water	3005A	
MB 180-436357/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-436357/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-156881-7 MS	WAP-4D	Total Recoverable	Water	3005A	
180-156881-7 MSD	WAP-4D	Total Recoverable	Water	3005A	

QC Association Summary

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

Job ID: 180-156881-1
 SDG: Culley West

Metals

Prep Batch: 436507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-9	DUP 1	Total Recoverable	Water	3005A	
MB 180-436507/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-436507/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 436758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-9	DUP 1	Total Recoverable	Water	3005A	
MB 180-436758/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-436758/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 436996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-1	WAP-5S	Total/NA	Water	7470A	
180-156881-2	WAP-5I	Total/NA	Water	7470A	
180-156881-3	WAP-5D	Total/NA	Water	7470A	
180-156881-4	WAP-8S	Total/NA	Water	7470A	
180-156881-5	WAP-8I	Total/NA	Water	7470A	
180-156881-6	WAP-8D	Total/NA	Water	7470A	
180-156881-7	WAP-4D	Total/NA	Water	7470A	
180-156881-8	WAP-4I	Total/NA	Water	7470A	
MB 180-436996/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-436996/2-A	Lab Control Sample	Total/NA	Water	7470A	
180-156881-7 MS	WAP-4D	Total/NA	Water	7470A	
180-156881-7 MSD	WAP-4D	Total/NA	Water	7470A	

Analysis Batch: 437021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-9	DUP 1	Total Recoverable	Water	EPA 6010D	436758
MB 180-436758/1-A	Method Blank	Total Recoverable	Water	EPA 6010D	436758
LCS 180-436758/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6010D	436758

Analysis Batch: 437135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-1	WAP-5S	Total/NA	Water	EPA 7470A	436996
180-156881-2	WAP-5I	Total/NA	Water	EPA 7470A	436996
180-156881-3	WAP-5D	Total/NA	Water	EPA 7470A	436996
180-156881-4	WAP-8S	Total/NA	Water	EPA 7470A	436996
180-156881-5	WAP-8I	Total/NA	Water	EPA 7470A	436996
180-156881-6	WAP-8D	Total/NA	Water	EPA 7470A	436996
180-156881-7	WAP-4D	Total/NA	Water	EPA 7470A	436996
180-156881-8	WAP-4I	Total/NA	Water	EPA 7470A	436996
MB 180-436996/1-A	Method Blank	Total/NA	Water	EPA 7470A	436996
LCS 180-436996/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	436996
180-156881-7 MS	WAP-4D	Total/NA	Water	EPA 7470A	436996
180-156881-7 MSD	WAP-4D	Total/NA	Water	EPA 7470A	436996

Prep Batch: 437479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-9	DUP 1	Total/NA	Water	7470A	
MB 180-437479/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-437479/2-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

Job ID: 180-156881-1
 SDG: Culley West

Metals

Analysis Batch: 437591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-9	DUP 1	Total/NA	Water	EPA 7470A	437479
MB 180-437479/1-A	Method Blank	Total/NA	Water	EPA 7470A	437479
LCS 180-437479/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	437479

Analysis Batch: 438036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-1	WAP-5S	Total Recoverable	Water	EPA 6010D	436357
180-156881-2	WAP-5I	Total Recoverable	Water	EPA 6010D	436357
180-156881-3	WAP-5D	Total Recoverable	Water	EPA 6010D	436357
180-156881-4	WAP-8S	Total Recoverable	Water	EPA 6010D	436357
180-156881-5	WAP-8I	Total Recoverable	Water	EPA 6010D	436357
180-156881-6	WAP-8D	Total Recoverable	Water	EPA 6010D	436357
180-156881-7	WAP-4D	Total Recoverable	Water	EPA 6010D	436357
180-156881-8	WAP-4I	Total Recoverable	Water	EPA 6010D	436357
MB 180-436357/1-A	Method Blank	Total Recoverable	Water	EPA 6010D	436357
LCS 180-436357/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6010D	436357
180-156881-7 MS	WAP-4D	Total Recoverable	Water	EPA 6010D	436357
180-156881-7 MSD	WAP-4D	Total Recoverable	Water	EPA 6010D	436357

Analysis Batch: 438554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-9	DUP 1	Total Recoverable	Water	EPA 6020A	436507
MB 180-436507/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	436507
LCS 180-436507/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	436507

Analysis Batch: 438772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-1	WAP-5S	Total Recoverable	Water	EPA 6020A	436345
180-156881-2	WAP-5I	Total Recoverable	Water	EPA 6020A	436345
180-156881-3	WAP-5D	Total Recoverable	Water	EPA 6020A	436345
180-156881-4	WAP-8S	Total Recoverable	Water	EPA 6020A	436345
180-156881-5	WAP-8I	Total Recoverable	Water	EPA 6020A	436345
180-156881-6	WAP-8D	Total Recoverable	Water	EPA 6020A	436345
180-156881-7	WAP-4D	Total Recoverable	Water	EPA 6020A	436345
180-156881-8	WAP-4I	Total Recoverable	Water	EPA 6020A	436345
MB 180-436345/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	436345
LCS 180-436345/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	436345
180-156881-7 MS	WAP-4D	Total Recoverable	Water	EPA 6020A	436345
180-156881-7 MSD	WAP-4D	Total Recoverable	Water	EPA 6020A	436345

Analysis Batch: 438909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-1	WAP-5S	Total Recoverable	Water	EPA 6020A	436345
180-156881-2	WAP-5I	Total Recoverable	Water	EPA 6020A	436345
180-156881-3	WAP-5D	Total Recoverable	Water	EPA 6020A	436345
180-156881-4	WAP-8S	Total Recoverable	Water	EPA 6020A	436345
180-156881-5	WAP-8I	Total Recoverable	Water	EPA 6020A	436345
180-156881-6	WAP-8D	Total Recoverable	Water	EPA 6020A	436345
180-156881-7	WAP-4D	Total Recoverable	Water	EPA 6020A	436345
180-156881-8	WAP-4I	Total Recoverable	Water	EPA 6020A	436345
MB 180-436345/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	436345

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QC Association Summary

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

Job ID: 180-156881-1
 SDG: Culley West

Metals (Continued)

Analysis Batch: 438909 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 180-436345/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	436345
180-156881-7 MS	WAP-4D	Total Recoverable	Water	EPA 6020A	436345
180-156881-7 MSD	WAP-4D	Total Recoverable	Water	EPA 6020A	436345

General Chemistry

Analysis Batch: 435869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-1	WAP-5S	Total/NA	Water	SM 2540C	
180-156881-2	WAP-5I	Total/NA	Water	SM 2540C	
180-156881-3	WAP-5D	Total/NA	Water	SM 2540C	
MB 180-435869/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-435869/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 435991

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-7	WAP-4D	Total/NA	Water	SM 2540C	
MB 180-435991/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-435991/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 435992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-4	WAP-8S	Total/NA	Water	SM 2540C	
180-156881-5	WAP-8I	Total/NA	Water	SM 2540C	
180-156881-6	WAP-8D	Total/NA	Water	SM 2540C	
180-156881-8	WAP-4I	Total/NA	Water	SM 2540C	
180-156881-9	DUP 1	Total/NA	Water	SM 2540C	
MB 180-435992/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-435992/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 436285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-1	WAP-5S	Total/NA	Water	EPA 9040C	
180-156881-2	WAP-5I	Total/NA	Water	EPA 9040C	
180-156881-3	WAP-5D	Total/NA	Water	EPA 9040C	
180-156881-4	WAP-8S	Total/NA	Water	EPA 9040C	
180-156881-5	WAP-8I	Total/NA	Water	EPA 9040C	
180-156881-6	WAP-8D	Total/NA	Water	EPA 9040C	
180-156881-7	WAP-4D	Total/NA	Water	EPA 9040C	
180-156881-8	WAP-4I	Total/NA	Water	EPA 9040C	
180-156881-9	DUP 1	Total/NA	Water	EPA 9040C	
LCS 180-436285/1	Lab Control Sample	Total/NA	Water	EPA 9040C	

Rad

Prep Batch: 613645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-3	WAP-5D	Total/NA	Water	PrecSep-21	
180-156881-9	DUP 1	Total/NA	Water	PrecSep-21	
MB 160-613645/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-613645/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Eurofins Pittsburgh

QC Association Summary

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

Job ID: 180-156881-1
 SDG: Culley West

Rad

Prep Batch: 613647

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-3	WAP-5D	Total/NA	Water	PrecSep_0	
180-156881-9	DUP 1	Total/NA	Water	PrecSep_0	
MB 160-613647/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-613647/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 614557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-1	WAP-5S	Total/NA	Water	PrecSep-21	
180-156881-2	WAP-5I	Total/NA	Water	PrecSep-21	
180-156881-4	WAP-8S	Total/NA	Water	PrecSep-21	
180-156881-5	WAP-8I	Total/NA	Water	PrecSep-21	
180-156881-6	WAP-8D	Total/NA	Water	PrecSep-21	
180-156881-7	WAP-4D	Total/NA	Water	PrecSep-21	
180-156881-8	WAP-4I	Total/NA	Water	PrecSep-21	
MB 160-614557/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-614557/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
180-156881-7 DU	WAP-4D	Total/NA	Water	PrecSep-21	

Prep Batch: 614558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156881-1	WAP-5S	Total/NA	Water	PrecSep_0	
180-156881-2	WAP-5I	Total/NA	Water	PrecSep_0	
180-156881-4	WAP-8S	Total/NA	Water	PrecSep_0	
180-156881-5	WAP-8I	Total/NA	Water	PrecSep_0	
180-156881-6	WAP-8D	Total/NA	Water	PrecSep_0	
180-156881-7	WAP-4D	Total/NA	Water	PrecSep_0	
180-156881-8	WAP-4I	Total/NA	Water	PrecSep_0	
MB 160-614558/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-614558/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
180-156881-7 DU	WAP-4D	Total/NA	Water	PrecSep_0	

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-156881-1

SDG Number: Culley West

Login Number: 156881

List Number: 1

Creator: Watson, Debbie

List Source: Eurofins Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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 <6mm (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: 180-156881-1

SDG Number: Culley West

Login Number: 156881

List Number: 2

Creator: Worthington, Sierra M

List Source: Eurofins St. Louis

List Creation: 05/26/23 03:34 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?	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 <math><6\text{mm}</math> (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: 180-156881-1

SDG Number: Culley West

Login Number: 156881

List Number: 3

Creator: Sharkey-Gonzalez, Briana L

List Source: Eurofins St. Louis

List Creation: 06/01/23 12:44 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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?	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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





ANALYTICAL REPORT

PREPARED FOR

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

Generated 6/27/2023 10:19:34 AM

JOB DESCRIPTION

CCR Groundwater Monitoring
SDG NUMBER Culley West

JOB NUMBER

180-156913-1

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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6/27/2023 10:19:34 AM

Authorized for release by
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Case Narrative

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

Job ID: 180-156913-1
SDG: Culley West

Job ID: 180-156913-1

Laboratory: Eurofins Pittsburgh

Narrative

Job Narrative 180-156913-1

Receipt

The samples were received on 5/20/2023 9:30 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 1.3°C, 1.9°C and 2.9°C

Gas Flow Proportional Counter

Method 9315_Ra226: Radium-226 batch 613843 Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. WAP-9S (180-156913-1), WAP-9I (180-156913-2), WAP-9D (180-156913-3), WAP-6S (180-156913-4), WAP-6I (180-156913-5), WAP-6D (180-156913-6), WAP-1 (180-156913-7), WAP-4S (180-156913-8), WAP-3S (180-156913-9), WAP-3D (180-156913-10), DUP 2 (180-156913-11), (LCS 160-613843/2-A), (MB 160-613843/1-A), (480-209057-D-4-A), (480-209057-D-4-B MS) and (480-209057-C-4-A MSD)

Method 9320_Ra228: Radium-228 batch 613845 The detection goal was not met for the following sample(s). Sample was prepped at a reduced volume due to the presence of matrix interferences: WAP-9D (180-156913-3). Analytical results are reported with the detection limit achieved.

Method 9320_Ra228: Radium-228 batch 613845 Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. WAP-9S (180-156913-1), WAP-9I (180-156913-2), WAP-9D (180-156913-3), WAP-6S (180-156913-4), WAP-6I (180-156913-5), WAP-6D (180-156913-6), WAP-1 (180-156913-7), WAP-4S (180-156913-8), WAP-3S (180-156913-9), WAP-3D (180-156913-10), DUP 2 (180-156913-11), (LCS 160-613845/2-A), (MB 160-613845/1-A), (480-209057-D-4-C), (480-209057-D-4-D MS) and (480-209057-C-4-B MSD)

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.

Narrative

Job Narrative 180-156913-2

Receipt

The samples were received on 5/20/2023 9:30 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 1.3°C, 1.9°C and 2.9°C

HPLC/IC

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

Metals

Method 6020A: The post digestion spike % recovery for calcium associated with batch 180-438909 was outside of control limits. The associated samples are: WAP-9S (180-156913-1), WAP-9I (180-156913-2), WAP-9D (180-156913-3), WAP-6S (180-156913-4), WAP-6I (180-156913-5), WAP-6D (180-156913-6), WAP-1 (180-156913-7), WAP-4S (180-156913-8), WAP-3S (180-156913-9), WAP-3D (180-156913-10), DUP 2 (180-156913-11), (180-156913-E-7-E MS), (180-156913-E-7-F MSD), (180-156913-E-7-D PDS) and (180-156913-E-7-D SD ^5).

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

General Chemistry

Case Narrative

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

Job ID: 180-156913-1
SDG: Culley West

Job ID: 180-156913-1 (Continued)

Laboratory: Eurofins Pittsburgh (Continued)

Method 2540C_Calcd: Sample did not reach a stable weight after 4 cycles of heating, cooling, and desiccating. Sample cycle 3 residue mass was used to calculate the Total Dissolved Solids (TDS). DUP 2 (180-156913-11)

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

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Definitions/Glossary

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

Job ID: 180-156913-1
SDG: Culley West

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.
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	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

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.
α	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

Job ID: 180-156913-1
 SDG: Culley West

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	06-25-23
California	State	2891	04-30-24
Connecticut	State	PH-0688	06-25-23
Florida	NELAP	E871008	06-25-23
Georgia	State	PA 02-00416	06-25-23
Illinois	NELAP	004375	06-30-24
Kansas	NELAP	E-10350	06-25-23
Kentucky (UST)	State	162013	04-30-23 *
Kentucky (WW)	State	KY98043	06-25-23
Louisiana	NELAP	04041	06-30-22 *
Louisiana (All)	NELAP	04041	06-25-23
Maine	State	PA00164	03-06-24
Minnesota	NELAP	042-999-482	06-25-23
New Hampshire	NELAP	2030	06-25-23
New Jersey	NELAP	PA005	06-25-23
New York	NELAP	11182	06-25-23
North Carolina (WW/SW)	State	434	12-31-23
North Dakota	State	R-227	04-30-24
Oregon	NELAP	PA-2151	02-06-24
Pennsylvania	NELAP	02-00416	06-25-23
Rhode Island	State	LAO00362	12-31-22 *
South Carolina	State	89014	04-30-23 *
Texas	NELAP	T104704528	06-25-23
US Fish & Wildlife	US Federal Programs	058448	03-31-24
USDA	US Federal Programs	P330-16-00211	06-21-24
Utah	NELAP	PA001462019-8	05-31-24
Virginia	NELAP	10043	06-25-23
West Virginia DEP	State	142	06-25-23
Wisconsin	State	998027800	08-31-23

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	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23

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

Eurofins Pittsburgh

Accreditation/Certification Summary

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

Job ID: 180-156913-1
 SDG: Culley West

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
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-24
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23



Sample Summary

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

Job ID: 180-156913-1
SDG: Culley West

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-156913-1	WAP-9S	Water	05/19/23 11:30	05/20/23 09:30
180-156913-2	WAP-9I	Water	05/19/23 12:40	05/20/23 09:30
180-156913-3	WAP-9D	Water	05/19/23 14:40	05/20/23 09:30
180-156913-4	WAP-6S	Water	05/19/23 14:30	05/20/23 09:30
180-156913-5	WAP-6I	Water	05/18/23 15:40	05/20/23 09:30
180-156913-6	WAP-6D	Water	05/18/23 16:30	05/20/23 09:30
180-156913-7	WAP-1	Water	05/18/23 17:50	05/20/23 09:30
180-156913-8	WAP-4S	Water	05/18/23 13:15	05/20/23 09:30
180-156913-9	WAP-3S	Water	05/19/23 17:30	05/20/23 09:30
180-156913-10	WAP-3D	Water	05/19/23 16:40	05/20/23 09:30
180-156913-11	DUP 2	Water	05/19/23 00:00	05/20/23 09:30

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Method Summary

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

Job ID: 180-156913-1
SDG: Culley West

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

Job ID: 180-156913-1
 SDG: Culley West

Client Sample ID: WAP-9S
Date Collected: 05/19/23 11:30
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-1
Matrix: Water

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	435949	05/23/23 13:44	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	437189	06/07/23 06:53	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6010D		1			438432	06/19/23 17:16	AAS	EET PIT
Instrument ID: Q										
Total Recoverable	Prep	3005A			50 mL	50 mL	437190	06/07/23 07:02	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438909	06/23/23 17:34	KED	EET PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	437669	06/12/23 11:30	MTW	EET PIT
Total/NA	Analysis	EPA 7470A		1			437829	06/13/23 14:25	MTW	EET PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			436603	05/27/23 15:32	BAB	EET PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	436229	05/25/23 13:53	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			992.34 mL	1.0 g	613843	05/31/23 09:27	KAC	EET SL
Total/NA	Analysis	9315		1			617526	06/23/23 09:16	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			992.34 mL	1.0 g	613845	05/31/23 09:30	KAC	EET SL
Total/NA	Analysis	9320		1			617160	06/21/23 14:29	FLC	EET SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			617547	06/23/23 16:54	SCB	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-9I
Date Collected: 05/19/23 12:40
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-2
Matrix: Water

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	435949	05/23/23 14:40	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	437189	06/07/23 06:53	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6010D		1			438432	06/19/23 17:22	AAS	EET PIT
Instrument ID: Q										
Total Recoverable	Prep	3005A			50 mL	50 mL	437190	06/07/23 07:02	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438909	06/23/23 17:37	KED	EET PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	437669	06/12/23 11:30	MTW	EET PIT
Total/NA	Analysis	EPA 7470A		1			437829	06/13/23 14:26	MTW	EET PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			436603	05/27/23 15:38	BAB	EET PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	436229	05/25/23 13:53	LWM	EET PIT
Instrument ID: NOEQUIP										

Lab Chronicle

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

Job ID: 180-156913-1
 SDG: Culley West

Client Sample ID: WAP-9I
Date Collected: 05/19/23 12:40
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-2
Matrix: Water

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			997.95 mL	1.0 g	613843	05/31/23 09:27	KAC	EET SL
Total/NA	Analysis	9315		1			617526	06/23/23 09:16	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			997.95 mL	1.0 g	613845	05/31/23 09:30	KAC	EET SL
Total/NA	Analysis	9320		1			617160	06/21/23 14:29	FLC	EET SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			617547	06/23/23 16:54	SCB	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-9D
Date Collected: 05/19/23 14:40
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-3
Matrix: Water

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	435949	05/23/23 14:58	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	437189	06/07/23 06:53	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6010D		1			438432	06/19/23 17:37	AAS	EET PIT
Instrument ID: Q										
Total Recoverable	Prep	3005A			50 mL	50 mL	437190	06/07/23 07:02	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438909	06/23/23 17:40	KED	EET PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	437669	06/12/23 11:30	MTW	EET PIT
Total/NA	Analysis	EPA 7470A		1			437829	06/13/23 14:27	MTW	EET PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			436603	05/27/23 15:41	BAB	EET PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	436229	05/25/23 13:53	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			757.03 mL	1.0 g	613843	05/31/23 09:27	KAC	EET SL
Total/NA	Analysis	9315		1			617526	06/23/23 09:18	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			757.03 mL	1.0 g	613845	05/31/23 09:30	KAC	EET SL
Total/NA	Analysis	9320		1			617160	06/21/23 14:30	FLC	EET SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			617547	06/23/23 16:54	SCB	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-6S
Date Collected: 05/19/23 14:30
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-4
Matrix: Water

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	435949	05/23/23 15:17	M1D	EET PIT
Instrument ID: INTEGRION										

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Lab Chronicle

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

Job ID: 180-156913-1
 SDG: Culley West

Client Sample ID: WAP-6S
Date Collected: 05/19/23 14:30
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	437189	06/07/23 06:53	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6010D		1			438432	06/19/23 17:42	AAS	EET PIT
Instrument ID: Q										
Total Recoverable	Prep	3005A			50 mL	50 mL	437190	06/07/23 07:02	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438909	06/23/23 17:43	KED	EET PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	437669	06/12/23 11:30	MTW	EET PIT
Total/NA	Analysis	EPA 7470A		1			437829	06/13/23 14:31	MTW	EET PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			436603	05/27/23 15:44	BAB	EET PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	436229	05/25/23 13:53	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			743.38 mL	1.0 g	613843	05/31/23 09:27	KAC	EET SL
Total/NA	Analysis	9315		1			617526	06/23/23 09:19	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			743.38 mL	1.0 g	613845	05/31/23 09:30	KAC	EET SL
Total/NA	Analysis	9320		1			617160	06/21/23 14:30	FLC	EET SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			617547	06/23/23 16:54	SCB	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-6I
Date Collected: 05/18/23 15:40
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-5
Matrix: Water

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	435927	05/23/23 15:13	SNL	EET PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	437189	06/07/23 06:53	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6010D		1			438432	06/19/23 17:47	AAS	EET PIT
Instrument ID: Q										
Total Recoverable	Prep	3005A			50 mL	50 mL	437190	06/07/23 07:02	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438909	06/23/23 17:46	KED	EET PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	437524	06/09/23 12:15	MTW	EET PIT
Total/NA	Analysis	EPA 7470A		1			437591	06/10/23 12:34	MTW	EET PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			436603	05/27/23 15:46	BAB	EET PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	435992	05/23/23 21:03	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			992.79 mL	1.0 g	613843	05/31/23 09:27	KAC	EET SL
Total/NA	Analysis	9315		1			617526	06/23/23 09:19	FLC	EET SL
Instrument ID: GFPCRED										

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Lab Chronicle

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

Job ID: 180-156913-1
 SDG: Culley West

Client Sample ID: WAP-6I
Date Collected: 05/18/23 15:40
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			992.79 mL	1.0 g	613845	05/31/23 09:30	KAC	EET SL
Total/NA	Analysis	9320		1			617160	06/21/23 14:30	FLC	EET SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			617547	06/23/23 16:54	SCB	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-6D
Date Collected: 05/18/23 16:30
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-6
Matrix: Water

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	435927	05/23/23 15:28	SNL	EET PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	437189	06/07/23 06:53	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6010D		1			438432	06/19/23 17:52	AAS	EET PIT
Instrument ID: Q										
Total Recoverable	Prep	3005A			50 mL	50 mL	437190	06/07/23 07:02	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438909	06/23/23 17:48	KED	EET PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	437524	06/09/23 12:15	MTW	EET PIT
Total/NA	Analysis	EPA 7470A		1			437591	06/10/23 12:35	MTW	EET PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			436603	05/27/23 15:49	BAB	EET PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	435992	05/23/23 21:03	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			997.06 mL	1.0 g	613843	05/31/23 09:27	KAC	EET SL
Total/NA	Analysis	9315		1			617526	06/23/23 09:19	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			997.06 mL	1.0 g	613845	05/31/23 09:30	KAC	EET SL
Total/NA	Analysis	9320		1			617160	06/21/23 14:30	FLC	EET SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			617547	06/23/23 16:54	SCB	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP-1
Date Collected: 05/18/23 17:50
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-7
Matrix: Water

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	435927	05/23/23 16:12	SNL	EET PIT
Instrument ID: CHIC2100A										
Total Recoverable	Prep	3005A			50 mL	50 mL	437189	06/07/23 06:53	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6010D		1			438432	06/19/23 17:58	AAS	EET PIT
Instrument ID: Q										

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Lab Chronicle

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

Job ID: 180-156913-1
 SDG: Culley West

Client Sample ID: WAP-1
Date Collected: 05/18/23 17:50
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	437190	06/07/23 07:02	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438909	06/23/23 17:51	KED	EET PIT
		Instrument ID: NEMO								
Total/NA	Prep	7470A			25 mL	25 mL	437524	06/09/23 12:15	MTW	EET PIT
Total/NA	Analysis	EPA 7470A		1			437591	06/10/23 12:36	MTW	EET PIT
		Instrument ID: HGZ								
Total/NA	Analysis	EPA 9040C		1			436603	05/27/23 15:52	BAB	EET PIT
		Instrument ID: OZ								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	435992	05/23/23 21:03	LWM	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			743.40 mL	1.0 g	613843	05/31/23 09:27	KAC	EET SL
Total/NA	Analysis	9315		1			617526	06/23/23 09:19	FLC	EET SL
		Instrument ID: GFPCRED								
Total/NA	Prep	PrecSep_0			743.40 mL	1.0 g	613845	05/31/23 09:30	KAC	EET SL
Total/NA	Analysis	9320		1			617160	06/21/23 14:30	FLC	EET SL
		Instrument ID: GFPCORANGE								
Total/NA	Analysis	Ra226_Ra228		1			617547	06/23/23 16:54	SCB	EET SL
		Instrument ID: NOEQUIP								

Client Sample ID: WAP-4S
Date Collected: 05/18/23 13:15
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-8
Matrix: Water

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	435927	05/23/23 16:27	SNL	EET PIT
		Instrument ID: CHIC2100A								
Total Recoverable	Prep	3005A			50 mL	50 mL	437189	06/07/23 06:53	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6010D		1			438432	06/19/23 18:23	AAS	EET PIT
		Instrument ID: Q								
Total Recoverable	Prep	3005A			50 mL	50 mL	437190	06/07/23 07:02	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438909	06/23/23 18:11	KED	EET PIT
		Instrument ID: NEMO								
Total/NA	Prep	7470A			25 mL	25 mL	437524	06/09/23 12:15	MTW	EET PIT
Total/NA	Analysis	EPA 7470A		1			437591	06/10/23 12:37	MTW	EET PIT
		Instrument ID: HGZ								
Total/NA	Analysis	EPA 9040C		1			436603	05/27/23 15:55	BAB	EET PIT
		Instrument ID: OZ								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	435992	05/23/23 21:03	LWM	EET PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			991.83 mL	1.0 g	613843	05/31/23 09:27	KAC	EET SL
Total/NA	Analysis	9315		1			617526	06/23/23 09:20	FLC	EET SL
		Instrument ID: GFPCRED								
Total/NA	Prep	PrecSep_0			991.83 mL	1.0 g	613845	05/31/23 09:30	KAC	EET SL
Total/NA	Analysis	9320		1			617160	06/21/23 14:30	FLC	EET SL
		Instrument ID: GFPCORANGE								

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Lab Chronicle

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

Job ID: 180-156913-1
 SDG: Culley West

Client Sample ID: WAP-4S
Date Collected: 05/18/23 13:15
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			617547	06/23/23 16:54	SCB	EET SL

Client Sample ID: WAP-3S
Date Collected: 05/19/23 17:30
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-9
Matrix: Water

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 Instrument ID: INTEGRION		1	1 mL	1 mL	435949	05/23/23 15:35	M1D	EET PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	437189	06/07/23 06:53	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6010D Instrument ID: Q		1			438432	06/19/23 18:39	AAS	EET PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	437190	06/07/23 07:02	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: NEMO		1			438909	06/23/23 18:14	KED	EET PIT
Total/NA	Prep	7470A			25 mL	25 mL	437669	06/12/23 11:30	MTW	EET PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			437829	06/13/23 14:32	MTW	EET PIT
Total/NA	Analysis	EPA 9040C Instrument ID: OZ		1			436603	05/27/23 15:57	BAB	EET PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	436229	05/25/23 13:53	LWM	EET PIT
Total/NA	Prep	PrecSep-21			1003.77 mL	1.0 g	613843	05/31/23 09:27	KAC	EET SL
Total/NA	Analysis	9315 Instrument ID: GFPCRED		1			617526	06/23/23 09:24	FLC	EET SL
Total/NA	Prep	PrecSep_0			1003.77 mL	1.0 g	613845	05/31/23 09:30	KAC	EET SL
Total/NA	Analysis	9320 Instrument ID: GFPCORANGE		1			617160	06/21/23 14:30	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Instrument ID: NOEQUIP		1			617547	06/23/23 16:54	SCB	EET SL

Client Sample ID: WAP-3D
Date Collected: 05/19/23 16:40
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-10
Matrix: Water

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 Instrument ID: INTEGRION		1	1 mL	1 mL	435949	05/23/23 15:53	M1D	EET PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	437189	06/07/23 06:53	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6010D Instrument ID: Q		1			438432	06/19/23 18:44	AAS	EET PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	437190	06/07/23 07:02	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: NEMO		1			438909	06/23/23 18:17	KED	EET PIT

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Lab Chronicle

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

Job ID: 180-156913-1
 SDG: Culley West

Client Sample ID: WAP-3D
Date Collected: 05/19/23 16:40
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			25 mL	25 mL	437669	06/12/23 11:30	MTW	EET PIT
Total/NA	Analysis	EPA 7470A		1			437829	06/13/23 14:33	MTW	EET PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			436603	05/27/23 16:06	BAB	EET PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	436229	05/25/23 13:53	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			994.95 mL	1.0 g	613843	05/31/23 09:27	KAC	EET SL
Total/NA	Analysis	9315		1			617526	06/23/23 09:24	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			994.95 mL	1.0 g	613845	05/31/23 09:30	KAC	EET SL
Total/NA	Analysis	9320		1			617160	06/21/23 14:30	FLC	EET SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			617547	06/23/23 16:54	SCB	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: DUP 2
Date Collected: 05/19/23 00:00
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-11
Matrix: Water

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	435949	05/23/23 16:49	M1D	EET PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	437189	06/07/23 06:53	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6010D		1			438432	06/19/23 18:49	AAS	EET PIT
Instrument ID: Q										
Total Recoverable	Prep	3005A			50 mL	50 mL	437190	06/07/23 07:02	S1Z	EET PIT
Total Recoverable	Analysis	EPA 6020A		1			438909	06/23/23 18:20	KED	EET PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	437669	06/12/23 11:30	MTW	EET PIT
Total/NA	Analysis	EPA 7470A		1			437829	06/13/23 14:34	MTW	EET PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			436603	05/27/23 16:11	BAB	EET PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	436229	05/25/23 13:53	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			1000.33 mL	1.0 g	613843	05/31/23 09:27	KAC	EET SL
Total/NA	Analysis	9315		1			617526	06/23/23 09:25	FLC	EET SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.33 mL	1.0 g	613845	05/31/23 09:30	KAC	EET SL
Total/NA	Analysis	9320		1			617160	06/21/23 14:31	FLC	EET SL
Instrument ID: GFPCORANGE										
Total/NA	Analysis	Ra226_Ra228		1			617547	06/23/23 16:54	SCB	EET SL
Instrument ID: NOEQUIP										

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Lab Chronicle

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

Job ID: 180-156913-1
SDG: Culley West

Laboratory References:

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

Analyst References:

Lab: EET PIT

Batch Type: Prep

MTW = Michael Wesoloski

S1Z = Sage Ziviello

Batch Type: Analysis

AAS = Arianna Swick

BAB = Brooke Batyi

KED = Katie Dacko

LWM = Leslie McIntire

M1D = Maureen Donlin

MTW = Michael Wesoloski

SNL = Sean Lordo

Lab: EET SL

Batch Type: Prep

KAC = Kevin Cox

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

Job ID: 180-156913-1
 SDG: Culley West

Client Sample ID: WAP-9S

Lab Sample ID: 180-156913-1

Date Collected: 05/19/23 11:30

Matrix: Water

Date Received: 05/20/23 09:30

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			05/23/23 13:44	1
Fluoride	0.34		0.10	0.026	mg/L			05/23/23 13:44	1
Sulfate	64		1.0	0.76	mg/L			05/23/23 13:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1000	B	200	13	ug/L		06/07/23 06:53	06/19/23 17:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		06/07/23 07:02	06/23/23 17:34	1
Arsenic	0.00088	J	0.0010	0.00028	mg/L		06/07/23 07:02	06/23/23 17:34	1
Barium	0.088		0.010	0.0031	mg/L		06/07/23 07:02	06/23/23 17:34	1
Beryllium	ND		0.0010	0.00027	mg/L		06/07/23 07:02	06/23/23 17:34	1
Cadmium	ND		0.0010	0.00022	mg/L		06/07/23 07:02	06/23/23 17:34	1
Calcium	75		0.50	0.13	mg/L		06/07/23 07:02	06/23/23 17:34	1
Chromium	ND		0.0020	0.0015	mg/L		06/07/23 07:02	06/23/23 17:34	1
Cobalt	0.00046	J	0.00050	0.00026	mg/L		06/07/23 07:02	06/23/23 17:34	1
Lead	ND		0.0010	0.00038	mg/L		06/07/23 07:02	06/23/23 17:34	1
Lithium	0.0080		0.0050	0.0013	mg/L		06/07/23 07:02	06/23/23 17:34	1
Molybdenum	0.11		0.0050	0.00061	mg/L		06/07/23 07:02	06/23/23 17:34	1
Selenium	ND		0.0050	0.00074	mg/L		06/07/23 07:02	06/23/23 17:34	1
Thallium	ND		0.0010	0.00047	mg/L		06/07/23 07:02	06/23/23 17:34	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		06/12/23 11:30	06/13/23 14:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	350		10	10	mg/L			05/25/23 13:53	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.8	HF	0.1	0.1	SU			05/27/23 15:32	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	-0.00142	U	0.134	0.134	1.00	0.263	pCi/L	05/31/23 09:27	06/23/23 09:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.5		30 - 110					05/31/23 09:27	06/23/23 09:16	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	0.302	U	0.364	0.365	1.00	0.601	pCi/L	05/31/23 09:30	06/21/23 14:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.5		30 - 110					05/31/23 09:30	06/21/23 14:29	1

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Client Sample Results

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

Job ID: 180-156913-1
SDG: Culley West

Client Sample ID: WAP-9S

Date Collected: 05/19/23 11:30

Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-1

Matrix: Water

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

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	77.8		30 - 110	05/31/23 09:30	06/21/23 14:29	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	0.301	U	0.388	0.389	5.00	0.601	pCi/L		06/23/23 16:54	1

Client Sample ID: WAP-9I

Date Collected: 05/19/23 12:40

Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-2

Matrix: Water

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20		1.0	0.71	mg/L			05/23/23 14:40	1
Fluoride	0.12		0.10	0.026	mg/L			05/23/23 14:40	1
Sulfate	39		1.0	0.76	mg/L			05/23/23 14:40	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	87	J B	200	13	ug/L		06/07/23 06:53	06/19/23 17:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		06/07/23 07:02	06/23/23 17:37	1
Arsenic	0.0052		0.0010	0.00028	mg/L		06/07/23 07:02	06/23/23 17:37	1
Barium	0.085		0.010	0.0031	mg/L		06/07/23 07:02	06/23/23 17:37	1
Beryllium	ND		0.0010	0.00027	mg/L		06/07/23 07:02	06/23/23 17:37	1
Cadmium	ND		0.0010	0.00022	mg/L		06/07/23 07:02	06/23/23 17:37	1
Calcium	36		0.50	0.13	mg/L		06/07/23 07:02	06/23/23 17:37	1
Chromium	ND		0.0020	0.0015	mg/L		06/07/23 07:02	06/23/23 17:37	1
Cobalt	ND		0.00050	0.00026	mg/L		06/07/23 07:02	06/23/23 17:37	1
Lead	ND		0.0010	0.00038	mg/L		06/07/23 07:02	06/23/23 17:37	1
Lithium	0.0037	J	0.0050	0.0013	mg/L		06/07/23 07:02	06/23/23 17:37	1
Molybdenum	0.0099		0.0050	0.00061	mg/L		06/07/23 07:02	06/23/23 17:37	1
Selenium	ND		0.0050	0.00074	mg/L		06/07/23 07:02	06/23/23 17:37	1
Thallium	ND		0.0010	0.00047	mg/L		06/07/23 07:02	06/23/23 17:37	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		06/12/23 11:30	06/13/23 14:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	190		10	10	mg/L			05/25/23 13:53	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.8	HF	0.1	0.1	SU			05/27/23 15:38	1

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Client Sample Results

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

Job ID: 180-156913-1
SDG: Culley West

Client Sample ID: WAP-9I
Date Collected: 05/19/23 12:40
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-2
Matrix: Water

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0273	U	0.116	0.116	1.00	0.223	pCi/L	05/31/23 09:27	06/23/23 09:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.2		30 - 110					05/31/23 09:27	06/23/23 09:16	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	0.150	U	0.474	0.474	1.00	0.835	pCi/L	05/31/23 09:30	06/21/23 14:29	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.2		30 - 110					05/31/23 09:30	06/21/23 14:29	1
Y Carrier	72.5		30 - 110					05/31/23 09:30	06/21/23 14:29	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	0.177	U	0.488	0.488	5.00	0.835	pCi/L		06/23/23 16:54	1

Client Sample ID: WAP-9D
Date Collected: 05/19/23 14:40
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-3
Matrix: Water

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13		1.0	0.71	mg/L			05/23/23 14:58	1
Fluoride	7.6		0.10	0.026	mg/L			05/23/23 14:58	1
Sulfate	24		1.0	0.76	mg/L			05/23/23 14:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	240	B	200	13	ug/L		06/07/23 06:53	06/19/23 17:37	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		06/07/23 07:02	06/23/23 17:40	1
Arsenic	0.015		0.0010	0.00028	mg/L		06/07/23 07:02	06/23/23 17:40	1
Barium	0.12		0.010	0.0031	mg/L		06/07/23 07:02	06/23/23 17:40	1
Beryllium	ND		0.0010	0.00027	mg/L		06/07/23 07:02	06/23/23 17:40	1
Cadmium	ND		0.0010	0.00022	mg/L		06/07/23 07:02	06/23/23 17:40	1
Calcium	22		0.50	0.13	mg/L		06/07/23 07:02	06/23/23 17:40	1
Chromium	0.0026		0.0020	0.0015	mg/L		06/07/23 07:02	06/23/23 17:40	1
Cobalt	0.0019		0.00050	0.00026	mg/L		06/07/23 07:02	06/23/23 17:40	1
Lead	0.0013		0.0010	0.00038	mg/L		06/07/23 07:02	06/23/23 17:40	1
Lithium	0.0053		0.0050	0.0013	mg/L		06/07/23 07:02	06/23/23 17:40	1
Molybdenum	0.014		0.0050	0.00061	mg/L		06/07/23 07:02	06/23/23 17:40	1
Selenium	ND		0.0050	0.00074	mg/L		06/07/23 07:02	06/23/23 17:40	1

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Client Sample Results

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

Job ID: 180-156913-1
 SDG: Culley West

Client Sample ID: WAP-9D
 Date Collected: 05/19/23 14:40
 Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-3
 Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	ND		0.0010	0.00047	mg/L		06/07/23 07:02	06/23/23 17:40	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		06/12/23 11:30	06/13/23 14:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	180		10	10	mg/L			05/25/23 13:53	1
pH (SW846 EPA 9040C)	6.6	HF	0.1	0.1	SU			05/27/23 15:41	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		0.329	0.333	1.00	0.393	pCi/L	05/31/23 09:27	06/23/23 09:18	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	52.2		30 - 110					05/31/23 09:27	06/23/23 09:18	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	-0.391	U G	0.731	0.732	1.00	1.50	pCi/L	05/31/23 09:30	06/21/23 14:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	52.2		30 - 110					05/31/23 09:30	06/21/23 14:30	1
Y Carrier	71.0		30 - 110					05/31/23 09:30	06/21/23 14:30	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	0.240	U	0.802	0.804	5.00	1.50	pCi/L		06/23/23 16:54	1

Client Sample ID: WAP-6S
 Date Collected: 05/19/23 14:30
 Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-4
 Matrix: Water

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	41		1.0	0.71	mg/L			05/23/23 15:17	1
Fluoride	0.24		0.10	0.026	mg/L			05/23/23 15:17	1
Sulfate	140		1.0	0.76	mg/L			05/23/23 15:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2600	B	200	13	ug/L		06/07/23 06:53	06/19/23 17:42	1

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Client Sample Results

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

Job ID: 180-156913-1
 SDG: Culley West

Client Sample ID: WAP-6S
Date Collected: 05/19/23 14:30
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		06/07/23 07:02	06/23/23 17:43	1
Arsenic	0.0015		0.0010	0.00028	mg/L		06/07/23 07:02	06/23/23 17:43	1
Barium	0.066		0.010	0.0031	mg/L		06/07/23 07:02	06/23/23 17:43	1
Beryllium	ND		0.0010	0.00027	mg/L		06/07/23 07:02	06/23/23 17:43	1
Cadmium	ND		0.0010	0.00022	mg/L		06/07/23 07:02	06/23/23 17:43	1
Calcium	100		0.50	0.13	mg/L		06/07/23 07:02	06/23/23 17:43	1
Chromium	ND		0.0020	0.0015	mg/L		06/07/23 07:02	06/23/23 17:43	1
Cobalt	0.0011		0.00050	0.00026	mg/L		06/07/23 07:02	06/23/23 17:43	1
Lead	ND		0.0010	0.00038	mg/L		06/07/23 07:02	06/23/23 17:43	1
Lithium	0.0039	J	0.0050	0.0013	mg/L		06/07/23 07:02	06/23/23 17:43	1
Molybdenum	0.13		0.0050	0.00061	mg/L		06/07/23 07:02	06/23/23 17:43	1
Selenium	ND		0.0050	0.00074	mg/L		06/07/23 07:02	06/23/23 17:43	1
Thallium	ND		0.0010	0.00047	mg/L		06/07/23 07:02	06/23/23 17:43	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		06/12/23 11:30	06/13/23 14:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	540		10	10	mg/L			05/25/23 13:53	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.4	HF	0.1	0.1	SU			05/27/23 15:44	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	0.0182	U	0.120	0.120	1.00	0.242	pCi/L	05/31/23 09:27	06/23/23 09:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.3		30 - 110					05/31/23 09:27	06/23/23 09:19	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	0.138	U	0.423	0.423	1.00	0.764	pCi/L	05/31/23 09:30	06/21/23 14:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.3		30 - 110					05/31/23 09:30	06/21/23 14:30	1
Y Carrier	71.4		30 - 110					05/31/23 09:30	06/21/23 14:30	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	0.156	U	0.440	0.440	5.00	0.764	pCi/L		06/23/23 16:54	1

Client Sample Results

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

Job ID: 180-156913-1
 SDG: Culley West

Client Sample ID: WAP-6I
 Date Collected: 05/18/23 15:40
 Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-5
 Matrix: Water

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20		1.0	0.71	mg/L			05/23/23 15:13	1
Fluoride	0.14		0.10	0.026	mg/L			05/23/23 15:13	1
Sulfate	39		1.0	0.76	mg/L			05/23/23 15:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	51	J B	200	13	ug/L		06/07/23 06:53	06/19/23 17:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		06/07/23 07:02	06/23/23 17:46	1
Arsenic	0.0057		0.0010	0.00028	mg/L		06/07/23 07:02	06/23/23 17:46	1
Barium	0.14		0.010	0.0031	mg/L		06/07/23 07:02	06/23/23 17:46	1
Beryllium	ND		0.0010	0.00027	mg/L		06/07/23 07:02	06/23/23 17:46	1
Cadmium	ND		0.0010	0.00022	mg/L		06/07/23 07:02	06/23/23 17:46	1
Calcium	35		0.50	0.13	mg/L		06/07/23 07:02	06/23/23 17:46	1
Chromium	ND		0.0020	0.0015	mg/L		06/07/23 07:02	06/23/23 17:46	1
Cobalt	ND		0.00050	0.00026	mg/L		06/07/23 07:02	06/23/23 17:46	1
Lead	ND		0.0010	0.00038	mg/L		06/07/23 07:02	06/23/23 17:46	1
Lithium	0.0033	J	0.0050	0.0013	mg/L		06/07/23 07:02	06/23/23 17:46	1
Molybdenum	0.0046	J	0.0050	0.00061	mg/L		06/07/23 07:02	06/23/23 17:46	1
Selenium	ND		0.0050	0.00074	mg/L		06/07/23 07:02	06/23/23 17:46	1
Thallium	ND		0.0010	0.00047	mg/L		06/07/23 07:02	06/23/23 17:46	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		06/09/23 12:15	06/10/23 12:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	180		10	10	mg/L			05/23/23 21:03	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.8	HF	0.1	0.1	SU			05/27/23 15:46	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	0.197		0.132	0.133	1.00	0.173	pCi/L	05/31/23 09:27	06/23/23 09:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.2		30 - 110					05/31/23 09:27	06/23/23 09:19	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	-0.187	U	0.319	0.319	1.00	0.673	pCi/L	05/31/23 09:30	06/21/23 14:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.2		30 - 110					05/31/23 09:30	06/21/23 14:30	1

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Client Sample Results

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

Job ID: 180-156913-1
 SDG: Culley West

Client Sample ID: WAP-6I
 Date Collected: 05/18/23 15:40
 Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-5
 Matrix: Water

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

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	67.3		30 - 110	05/31/23 09:30	06/21/23 14:30	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	0.00967	U	0.345	0.346	5.00	0.673	pCi/L		06/23/23 16:54	1

Client Sample ID: WAP-6D
 Date Collected: 05/18/23 16:30
 Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-6
 Matrix: Water

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			05/23/23 15:28	1
Fluoride	0.14		0.10	0.026	mg/L			05/23/23 15:28	1
Sulfate	40		1.0	0.76	mg/L			05/23/23 15:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	57	J B	200	13	ug/L		06/07/23 06:53	06/19/23 17:52	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		06/07/23 07:02	06/23/23 17:48	1
Arsenic	0.0050		0.0010	0.00028	mg/L		06/07/23 07:02	06/23/23 17:48	1
Barium	0.18		0.010	0.0031	mg/L		06/07/23 07:02	06/23/23 17:48	1
Beryllium	ND		0.0010	0.00027	mg/L		06/07/23 07:02	06/23/23 17:48	1
Cadmium	ND		0.0010	0.00022	mg/L		06/07/23 07:02	06/23/23 17:48	1
Calcium	40		0.50	0.13	mg/L		06/07/23 07:02	06/23/23 17:48	1
Chromium	ND		0.0020	0.0015	mg/L		06/07/23 07:02	06/23/23 17:48	1
Cobalt	ND		0.00050	0.00026	mg/L		06/07/23 07:02	06/23/23 17:48	1
Lead	ND		0.0010	0.00038	mg/L		06/07/23 07:02	06/23/23 17:48	1
Lithium	0.0026	J	0.0050	0.0013	mg/L		06/07/23 07:02	06/23/23 17:48	1
Molybdenum	0.0021	J	0.0050	0.00061	mg/L		06/07/23 07:02	06/23/23 17:48	1
Selenium	ND		0.0050	0.00074	mg/L		06/07/23 07:02	06/23/23 17:48	1
Thallium	ND		0.0010	0.00047	mg/L		06/07/23 07:02	06/23/23 17:48	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		06/09/23 12:15	06/10/23 12:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	200		10	10	mg/L			05/23/23 21:03	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.8	HF	0.1	0.1	SU			05/27/23 15:49	1

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Client Sample Results

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

Job ID: 180-156913-1
 SDG: Culley West

Client Sample ID: WAP-6D

Lab Sample ID: 180-156913-6

Date Collected: 05/18/23 16:30

Matrix: Water

Date Received: 05/20/23 09:30

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.211		0.144	0.146	1.00	0.200	pCi/L	05/31/23 09:27	06/23/23 09:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.1		30 - 110					05/31/23 09:27	06/23/23 09:19	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	0.502	U	0.394	0.397	1.00	0.610	pCi/L	05/31/23 09:30	06/21/23 14:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.1		30 - 110					05/31/23 09:30	06/21/23 14:30	1
Y Carrier	80.7		30 - 110					05/31/23 09:30	06/21/23 14:30	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	0.713		0.419	0.423	5.00	0.610	pCi/L		06/23/23 16:54	1

Client Sample ID: WAP-1

Lab Sample ID: 180-156913-7

Date Collected: 05/18/23 17:50

Matrix: Water

Date Received: 05/20/23 09:30

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	49		1.0	0.71	mg/L			05/23/23 16:12	1
Fluoride	0.66		0.10	0.026	mg/L			05/23/23 16:12	1
Sulfate	260		1.0	0.76	mg/L			05/23/23 16:12	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	25	J B	200	13	ug/L		06/07/23 06:53	06/19/23 17:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		06/07/23 07:02	06/23/23 17:51	1
Arsenic	0.0048		0.0010	0.00028	mg/L		06/07/23 07:02	06/23/23 17:51	1
Barium	0.46		0.010	0.0031	mg/L		06/07/23 07:02	06/23/23 17:51	1
Beryllium	ND		0.0010	0.00027	mg/L		06/07/23 07:02	06/23/23 17:51	1
Cadmium	ND		0.0010	0.00022	mg/L		06/07/23 07:02	06/23/23 17:51	1
Calcium	180		0.50	0.13	mg/L		06/07/23 07:02	06/23/23 17:51	1
Chromium	0.0056		0.0020	0.0015	mg/L		06/07/23 07:02	06/23/23 17:51	1
Cobalt	0.0015		0.00050	0.00026	mg/L		06/07/23 07:02	06/23/23 17:51	1
Lead	0.0043		0.0010	0.00038	mg/L		06/07/23 07:02	06/23/23 17:51	1
Lithium	0.0074		0.0050	0.0013	mg/L		06/07/23 07:02	06/23/23 17:51	1
Molybdenum	0.00076	J	0.0050	0.00061	mg/L		06/07/23 07:02	06/23/23 17:51	1
Selenium	ND		0.0050	0.00074	mg/L		06/07/23 07:02	06/23/23 17:51	1

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Client Sample Results

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

Job ID: 180-156913-1
 SDG: Culley West

Client Sample ID: WAP-1
 Date Collected: 05/18/23 17:50
 Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-7
 Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	ND		0.0010	0.00047	mg/L		06/07/23 07:02	06/23/23 17:51	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		06/09/23 12:15	06/10/23 12:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	820		10	10	mg/L			05/23/23 21:03	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.4	HF	0.1	0.1	SU			05/27/23 15:52	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	0.437		0.221	0.224	1.00	0.260	pCi/L	05/31/23 09:27	06/23/23 09:19	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.5		30 - 110					05/31/23 09:27	06/23/23 09:19	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	0.823	U	0.593	0.597	1.00	0.896	pCi/L	05/31/23 09:30	06/21/23 14:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.5		30 - 110					05/31/23 09:30	06/21/23 14:30	1
Y Carrier	71.4		30 - 110					05/31/23 09:30	06/21/23 14:30	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	1.26		0.633	0.638	5.00	0.896	pCi/L		06/23/23 16:54	1

Client Sample ID: WAP-4S
 Date Collected: 05/18/23 13:15
 Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-8
 Matrix: Water

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			05/23/23 16:27	1
Fluoride	0.23		0.10	0.026	mg/L			05/23/23 16:27	1
Sulfate	450		1.0	0.76	mg/L			05/23/23 16:27	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	15000	B	200	13	ug/L		06/07/23 06:53	06/19/23 18:23	1

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Client Sample Results

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

Job ID: 180-156913-1
SDG: Culley West

Client Sample ID: WAP-4S

Lab Sample ID: 180-156913-8

Date Collected: 05/18/23 13:15

Matrix: Water

Date Received: 05/20/23 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		06/07/23 07:02	06/23/23 18:11	1
Arsenic	0.027		0.0010	0.00028	mg/L		06/07/23 07:02	06/23/23 18:11	1
Barium	0.069		0.010	0.0031	mg/L		06/07/23 07:02	06/23/23 18:11	1
Beryllium	ND		0.0010	0.00027	mg/L		06/07/23 07:02	06/23/23 18:11	1
Cadmium	ND		0.0010	0.00022	mg/L		06/07/23 07:02	06/23/23 18:11	1
Calcium	290		0.50	0.13	mg/L		06/07/23 07:02	06/23/23 18:11	1
Chromium	ND		0.0020	0.0015	mg/L		06/07/23 07:02	06/23/23 18:11	1
Cobalt	0.0017		0.00050	0.00026	mg/L		06/07/23 07:02	06/23/23 18:11	1
Lead	0.00038	J	0.0010	0.00038	mg/L		06/07/23 07:02	06/23/23 18:11	1
Lithium	0.0019	J	0.0050	0.0013	mg/L		06/07/23 07:02	06/23/23 18:11	1
Molybdenum	0.58		0.0050	0.00061	mg/L		06/07/23 07:02	06/23/23 18:11	1
Selenium	ND		0.0050	0.00074	mg/L		06/07/23 07:02	06/23/23 18:11	1
Thallium	ND		0.0010	0.00047	mg/L		06/07/23 07:02	06/23/23 18:11	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		06/09/23 12:15	06/10/23 12:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1200		10	10	mg/L			05/23/23 21:03	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.4	HF	0.1	0.1	SU			05/27/23 15:55	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	0.211		0.143	0.144	1.00	0.194	pCi/L	05/31/23 09:27	06/23/23 09:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.0		30 - 110					05/31/23 09:27	06/23/23 09:20	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	0.0555	U	0.344	0.344	1.00	0.634	pCi/L	05/31/23 09:30	06/21/23 14:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.0		30 - 110					05/31/23 09:30	06/21/23 14:30	1
Y Carrier	72.9		30 - 110					05/31/23 09:30	06/21/23 14:30	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	0.266	U	0.373	0.373	5.00	0.634	pCi/L		06/23/23 16:54	1

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Client Sample Results

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

Job ID: 180-156913-1
 SDG: Culley West

Client Sample ID: WAP-3S
 Date Collected: 05/19/23 17:30
 Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-9
 Matrix: Water

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			05/23/23 15:35	1
Fluoride	0.29		0.10	0.026	mg/L			05/23/23 15:35	1
Sulfate	380		1.0	0.76	mg/L			05/23/23 15:35	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5400	B	200	13	ug/L		06/07/23 06:53	06/19/23 18:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		06/07/23 07:02	06/23/23 18:14	1
Arsenic	0.00062	J	0.0010	0.00028	mg/L		06/07/23 07:02	06/23/23 18:14	1
Barium	0.068		0.010	0.0031	mg/L		06/07/23 07:02	06/23/23 18:14	1
Beryllium	ND		0.0010	0.00027	mg/L		06/07/23 07:02	06/23/23 18:14	1
Cadmium	ND		0.0010	0.00022	mg/L		06/07/23 07:02	06/23/23 18:14	1
Calcium	190		0.50	0.13	mg/L		06/07/23 07:02	06/23/23 18:14	1
Chromium	ND		0.0020	0.0015	mg/L		06/07/23 07:02	06/23/23 18:14	1
Cobalt	0.0011		0.00050	0.00026	mg/L		06/07/23 07:02	06/23/23 18:14	1
Lead	ND		0.0010	0.00038	mg/L		06/07/23 07:02	06/23/23 18:14	1
Lithium	0.12		0.0050	0.0013	mg/L		06/07/23 07:02	06/23/23 18:14	1
Molybdenum	0.52		0.0050	0.00061	mg/L		06/07/23 07:02	06/23/23 18:14	1
Selenium	ND		0.0050	0.00074	mg/L		06/07/23 07:02	06/23/23 18:14	1
Thallium	ND		0.0010	0.00047	mg/L		06/07/23 07:02	06/23/23 18:14	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		06/12/23 11:30	06/13/23 14:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	860		10	10	mg/L			05/25/23 13:53	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.7	HF	0.1	0.1	SU			05/27/23 15:57	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	0.360		0.172	0.175	1.00	0.190	pCi/L	05/31/23 09:27	06/23/23 09:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.3		30 - 110					05/31/23 09:27	06/23/23 09:24	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	-0.0733	U	0.338	0.338	1.00	0.657	pCi/L	05/31/23 09:30	06/21/23 14:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.3		30 - 110					05/31/23 09:30	06/21/23 14:30	1

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Client Sample Results

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

Job ID: 180-156913-1
 SDG: Culley West

Client Sample ID: WAP-3S
 Date Collected: 05/19/23 17:30
 Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-9
 Matrix: Water

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

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	81.5		30 - 110	05/31/23 09:30	06/21/23 14:30	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	0.286	U	0.379	0.381	5.00	0.657	pCi/L		06/23/23 16:54	1

Client Sample ID: WAP-3D
 Date Collected: 05/19/23 16:40
 Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-10
 Matrix: Water

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	83		1.0	0.71	mg/L			05/23/23 15:53	1
Fluoride	0.19		0.10	0.026	mg/L			05/23/23 15:53	1
Sulfate	490		1.0	0.76	mg/L			05/23/23 15:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5400	B	200	13	ug/L		06/07/23 06:53	06/19/23 18:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		06/07/23 07:02	06/23/23 18:17	1
Arsenic	0.00032	J	0.0010	0.00028	mg/L		06/07/23 07:02	06/23/23 18:17	1
Barium	0.024		0.010	0.0031	mg/L		06/07/23 07:02	06/23/23 18:17	1
Beryllium	ND		0.0010	0.00027	mg/L		06/07/23 07:02	06/23/23 18:17	1
Cadmium	0.00037	J	0.0010	0.00022	mg/L		06/07/23 07:02	06/23/23 18:17	1
Calcium	190		0.50	0.13	mg/L		06/07/23 07:02	06/23/23 18:17	1
Chromium	ND		0.0020	0.0015	mg/L		06/07/23 07:02	06/23/23 18:17	1
Cobalt	0.0012		0.00050	0.00026	mg/L		06/07/23 07:02	06/23/23 18:17	1
Lead	ND		0.0010	0.00038	mg/L		06/07/23 07:02	06/23/23 18:17	1
Lithium	0.10		0.0050	0.0013	mg/L		06/07/23 07:02	06/23/23 18:17	1
Molybdenum	0.26		0.0050	0.00061	mg/L		06/07/23 07:02	06/23/23 18:17	1
Selenium	ND		0.0050	0.00074	mg/L		06/07/23 07:02	06/23/23 18:17	1
Thallium	ND		0.0010	0.00047	mg/L		06/07/23 07:02	06/23/23 18:17	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		06/12/23 11:30	06/13/23 14:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1100		10	10	mg/L			05/25/23 13:53	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.7	HF	0.1	0.1	SU			05/27/23 16:06	1

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Client Sample Results

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

Job ID: 180-156913-1
SDG: Culley West

Client Sample ID: WAP-3D

Lab Sample ID: 180-156913-10

Date Collected: 05/19/23 16:40

Matrix: Water

Date Received: 05/20/23 09:30

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		0.137	0.139	1.00	0.148	pCi/L	05/31/23 09:27	06/23/23 09:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.9		30 - 110					05/31/23 09:27	06/23/23 09:24	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	0.0682	U	0.314	0.314	1.00	0.572	pCi/L	05/31/23 09:30	06/21/23 14:30	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.9		30 - 110					05/31/23 09:30	06/21/23 14:30	1
Y Carrier	77.8		30 - 110					05/31/23 09:30	06/21/23 14:30	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	0.335	U	0.343	0.343	5.00	0.572	pCi/L		06/23/23 16:54	1

Client Sample ID: DUP 2

Lab Sample ID: 180-156913-11

Date Collected: 05/19/23 00:00

Matrix: Water

Date Received: 05/20/23 09:30

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	83		1.0	0.71	mg/L			05/23/23 16:49	1
Fluoride	0.20		0.10	0.026	mg/L			05/23/23 16:49	1
Sulfate	490		1.0	0.76	mg/L			05/23/23 16:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5600	B	200	13	ug/L		06/07/23 06:53	06/19/23 18:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		06/07/23 07:02	06/23/23 18:20	1
Arsenic	0.00033	J	0.0010	0.00028	mg/L		06/07/23 07:02	06/23/23 18:20	1
Barium	0.028		0.010	0.0031	mg/L		06/07/23 07:02	06/23/23 18:20	1
Beryllium	ND		0.0010	0.00027	mg/L		06/07/23 07:02	06/23/23 18:20	1
Cadmium	0.00059	J	0.0010	0.00022	mg/L		06/07/23 07:02	06/23/23 18:20	1
Calcium	230		0.50	0.13	mg/L		06/07/23 07:02	06/23/23 18:20	1
Chromium	ND		0.0020	0.0015	mg/L		06/07/23 07:02	06/23/23 18:20	1
Cobalt	0.0015		0.00050	0.00026	mg/L		06/07/23 07:02	06/23/23 18:20	1
Lead	ND		0.0010	0.00038	mg/L		06/07/23 07:02	06/23/23 18:20	1
Lithium	0.11		0.0050	0.0013	mg/L		06/07/23 07:02	06/23/23 18:20	1
Molybdenum	0.31		0.0050	0.00061	mg/L		06/07/23 07:02	06/23/23 18:20	1
Selenium	ND		0.0050	0.00074	mg/L		06/07/23 07:02	06/23/23 18:20	1

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Client Sample Results

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

Job ID: 180-156913-1
 SDG: Culley West

Client Sample ID: DUP 2
Date Collected: 05/19/23 00:00
Date Received: 05/20/23 09:30

Lab Sample ID: 180-156913-11
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	ND		0.0010	0.00047	mg/L		06/07/23 07:02	06/23/23 18:20	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		06/12/23 11:30	06/13/23 14:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1000		10	10	mg/L			05/25/23 13:53	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.7	HF	0.1	0.1	SU			05/27/23 16:11	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	0.0949	U	0.127	0.128	1.00	0.214	pCi/L	05/31/23 09:27	06/23/23 09:25	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	90.5		30 - 110	05/31/23 09:27	06/23/23 09:25	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	0.292	U	0.342	0.343	1.00	0.563	pCi/L	05/31/23 09:30	06/21/23 14:31	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	90.5		30 - 110	05/31/23 09:30	06/21/23 14:31	1
Y Carrier	78.1		30 - 110	05/31/23 09:30	06/21/23 14:31	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	0.387	U	0.365	0.366	5.00	0.563	pCi/L		06/23/23 16:54	1

QC Sample Results

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

Job ID: 180-156913-1
 SDG: Culley West

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-435927/6
Matrix: Water
Analysis Batch: 435927

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			05/23/23 13:15	1
Fluoride	ND		0.10	0.026	mg/L			05/23/23 13:15	1
Sulfate	ND		1.0	0.76	mg/L			05/23/23 13:15	1

Lab Sample ID: LCS 180-435927/7
Matrix: Water
Analysis Batch: 435927

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	2.59		mg/L		104	80 - 120
Sulfate	50.0	48.2		mg/L		96	80 - 120

Lab Sample ID: MB 180-435949/6
Matrix: Water
Analysis Batch: 435949

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			05/23/23 13:07	1
Fluoride	ND		0.10	0.026	mg/L			05/23/23 13:07	1
Sulfate	ND		1.0	0.76	mg/L			05/23/23 13:07	1

Lab Sample ID: LCS 180-435949/7
Matrix: Water
Analysis Batch: 435949

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	50.0		mg/L		100	80 - 120
Fluoride	2.50	2.48		mg/L		99	80 - 120
Sulfate	50.0	50.3		mg/L		101	80 - 120

Lab Sample ID: 180-156913-1 MS
Matrix: Water
Analysis Batch: 435949

Client Sample ID: WAP-9S
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	25		50.0	73.9		mg/L		98	80 - 120
Fluoride	0.34		2.50	3.09		mg/L		110	80 - 120
Sulfate	64		50.0	112		mg/L		95	80 - 120

Lab Sample ID: 180-156913-1 MSD
Matrix: Water
Analysis Batch: 435949

Client Sample ID: WAP-9S
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	25		50.0	73.7		mg/L		98	80 - 120	0	15
Fluoride	0.34		2.50	3.15		mg/L		112	80 - 120	2	15
Sulfate	64		50.0	112		mg/L		95	80 - 120	0	15

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QC Sample Results

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

Job ID: 180-156913-1
SDG: Culley West

Method: EPA 6010D - Metals (ICP)

Lab Sample ID: MB 180-437189/1-A
Matrix: Water
Analysis Batch: 438432

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 437189

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	15.5	J	200	13	ug/L		06/07/23 06:53	06/19/23 16:14	1

Lab Sample ID: LCS 180-437189/2-A
Matrix: Water
Analysis Batch: 438432

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 437189

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1250	1410		ug/L		112	80 - 120

Lab Sample ID: 180-156913-7 MS
Matrix: Water
Analysis Batch: 438432

Client Sample ID: WAP-1
Prep Type: Total Recoverable
Prep Batch: 437189

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	25	J B	1250	1430		ug/L		113	75 - 125

Lab Sample ID: 180-156913-7 MSD
Matrix: Water
Analysis Batch: 438432

Client Sample ID: WAP-1
Prep Type: Total Recoverable
Prep Batch: 437189

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	25	J B	1250	1450		ug/L		114	75 - 125	1	20

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

Lab Sample ID: MB 180-437190/1-A
Matrix: Water
Analysis Batch: 438909

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 437190

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00097	mg/L		06/07/23 07:02	06/23/23 16:59	1
Arsenic	ND		0.0010	0.00028	mg/L		06/07/23 07:02	06/23/23 16:59	1
Barium	ND		0.010	0.0031	mg/L		06/07/23 07:02	06/23/23 16:59	1
Beryllium	ND		0.0010	0.00027	mg/L		06/07/23 07:02	06/23/23 16:59	1
Cadmium	ND		0.0010	0.00022	mg/L		06/07/23 07:02	06/23/23 16:59	1
Calcium	ND		0.50	0.13	mg/L		06/07/23 07:02	06/23/23 16:59	1
Chromium	ND		0.0020	0.0015	mg/L		06/07/23 07:02	06/23/23 16:59	1
Cobalt	ND		0.00050	0.00026	mg/L		06/07/23 07:02	06/23/23 16:59	1
Lead	ND		0.0010	0.00038	mg/L		06/07/23 07:02	06/23/23 16:59	1
Lithium	ND		0.0050	0.0013	mg/L		06/07/23 07:02	06/23/23 16:59	1
Molybdenum	ND		0.0050	0.00061	mg/L		06/07/23 07:02	06/23/23 16:59	1
Selenium	ND		0.0050	0.00074	mg/L		06/07/23 07:02	06/23/23 16:59	1
Thallium	ND		0.0010	0.00047	mg/L		06/07/23 07:02	06/23/23 16:59	1

Lab Sample ID: LCS 180-437190/2-A
Matrix: Water
Analysis Batch: 438909

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 437190

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.250	0.268		mg/L		107	80 - 120

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QC Sample Results

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

Job ID: 180-156913-1
SDG: Culley West

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

Lab Sample ID: LCS 180-437190/2-A
Matrix: Water
Analysis Batch: 438909

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 437190

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	1.00	1.03		mg/L		103	80 - 120
Barium	1.00	1.03		mg/L		103	80 - 120
Beryllium	0.500	0.517		mg/L		103	80 - 120
Cadmium	0.500	0.491		mg/L		98	80 - 120
Calcium	25.0	28.5		mg/L		114	80 - 120
Chromium	0.500	0.485		mg/L		97	80 - 120
Cobalt	0.500	0.493		mg/L		99	80 - 120
Lead	0.500	0.508		mg/L		102	80 - 120
Lithium	0.500	0.479		mg/L		96	80 - 120
Molybdenum	0.500	0.564		mg/L		113	80 - 120
Selenium	1.00	0.940		mg/L		94	80 - 120
Thallium	1.00	0.989		mg/L		99	80 - 120

Lab Sample ID: 180-156913-7 MS
Matrix: Water
Analysis Batch: 438909

Client Sample ID: WAP-1
Prep Type: Total Recoverable
Prep Batch: 437190

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND		0.250	0.268		mg/L		107	75 - 125
Arsenic	0.0048		1.00	1.03		mg/L		103	75 - 125
Barium	0.46		1.00	1.50		mg/L		103	75 - 125
Beryllium	ND		0.500	0.498		mg/L		100	75 - 125
Cadmium	ND		0.500	0.485		mg/L		97	75 - 125
Calcium	180		25.0	205	4	mg/L		82	75 - 125
Chromium	0.0056		0.500	0.474		mg/L		94	75 - 125
Cobalt	0.0015		0.500	0.473		mg/L		94	75 - 125
Lead	0.0043		0.500	0.506		mg/L		100	75 - 125
Lithium	0.0074		0.500	0.485		mg/L		96	75 - 125
Molybdenum	0.00076	J	0.500	0.565		mg/L		113	75 - 125
Selenium	ND		1.00	0.920		mg/L		92	75 - 125
Thallium	ND		1.00	0.966		mg/L		97	75 - 125

Lab Sample ID: 180-156913-7 MSD
Matrix: Water
Analysis Batch: 438909

Client Sample ID: WAP-1
Prep Type: Total Recoverable
Prep Batch: 437190

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		0.250	0.243		mg/L		97	75 - 125	10	20
Arsenic	0.0048		1.00	0.937		mg/L		93	75 - 125	9	20
Barium	0.46		1.00	1.38		mg/L		91	75 - 125	8	20
Beryllium	ND		0.500	0.478		mg/L		96	75 - 125	4	20
Cadmium	ND		0.500	0.445		mg/L		89	75 - 125	9	20
Calcium	180		25.0	189	4	mg/L		19	75 - 125	8	20
Chromium	0.0056		0.500	0.435		mg/L		86	75 - 125	9	20
Cobalt	0.0015		0.500	0.436		mg/L		87	75 - 125	8	20
Lead	0.0043		0.500	0.464		mg/L		92	75 - 125	9	20
Lithium	0.0074		0.500	0.481		mg/L		95	75 - 125	1	20
Molybdenum	0.00076	J	0.500	0.524		mg/L		105	75 - 125	8	20
Selenium	ND		1.00	0.933		mg/L		93	75 - 125	1	20

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QC Sample Results

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

Job ID: 180-156913-1
 SDG: Culley West

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

Lab Sample ID: 180-156913-7 MSD
 Matrix: Water
 Analysis Batch: 438909

Client Sample ID: WAP-1
 Prep Type: Total Recoverable
 Prep Batch: 437190

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thallium	ND		1.00	0.886		mg/L		89	75 - 125	9	20

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-437524/1-A
 Matrix: Water
 Analysis Batch: 437591

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 437524

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/09/23 12:15	06/10/23 12:06	1

Lab Sample ID: LCS 180-437524/2-A
 Matrix: Water
 Analysis Batch: 437591

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 437524

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00250	0.00249		mg/L		99	80 - 120

Lab Sample ID: MB 180-437669/1-A
 Matrix: Water
 Analysis Batch: 437829

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 437669

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/12/23 11:30	06/13/23 14:03	1

Lab Sample ID: LCS 180-437669/2-A
 Matrix: Water
 Analysis Batch: 437829

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 437669

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00250	0.00230		mg/L		92	80 - 120

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-436603/1
 Matrix: Water
 Analysis Batch: 436603

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 180-436603/24
 Matrix: Water
 Analysis Batch: 436603

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

Job ID: 180-156913-1
 SDG: Culley West

Method: EPA 9040C - pH (Continued)

Lab Sample ID: 180-156913-1 DU
 Matrix: Water
 Analysis Batch: 436603

Client Sample ID: WAP-9S
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.8	HF	7.9		SU		0.3	2

Lab Sample ID: 180-156913-10 DU
 Matrix: Water
 Analysis Batch: 436603

Client Sample ID: WAP-3D
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.7	HF	7.8		SU		0.3	2

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

Lab Sample ID: MB 180-435992/1
 Matrix: Water
 Analysis Batch: 435992

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			05/23/23 21:03	1

Lab Sample ID: LCS 180-435992/2
 Matrix: Water
 Analysis Batch: 435992

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	580	556		mg/L		96	85 - 115

Lab Sample ID: MB 180-436229/1
 Matrix: Water
 Analysis Batch: 436229

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			05/25/23 13:53	1

Lab Sample ID: LCS 180-436229/2
 Matrix: Water
 Analysis Batch: 436229

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	580	582		mg/L		100	85 - 115

Lab Sample ID: 180-156913-9 DU
 Matrix: Water
 Analysis Batch: 436229

Client Sample ID: WAP-3S
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	860		864		mg/L		0	10

QC Sample Results

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

Job ID: 180-156913-1
SDG: Culley West

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-613843/1-A
Matrix: Water
Analysis Batch: 617526

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 613843

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.09956	U	0.106	0.106	1.00	0.166	pCi/L	05/31/23 09:27	06/23/23 09:16	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	91.3		30 - 110		05/31/23 09:27	06/23/23 09:16	1			

Lab Sample ID: LCS 160-613843/2-A
Matrix: Water
Analysis Batch: 617526

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 613843

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	9.398		1.10	1.00	0.153	pCi/L	83	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	98.2		30 - 110						

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-613845/1-A
Matrix: Water
Analysis Batch: 617160

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 613845

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	-0.09773	U	0.338	0.339	1.00	0.663	pCi/L	05/31/23 09:30	06/21/23 14:29	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	91.3		30 - 110		05/31/23 09:30	06/21/23 14:29	1			
Y Carrier	70.7		30 - 110		05/31/23 09:30	06/21/23 14:29	1			

Lab Sample ID: LCS 160-613845/2-A
Matrix: Water
Analysis Batch: 617160

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 613845

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits
				Uncert. (2σ+/-)					
Radium-228	8.10	7.971		1.15	1.00	0.494	pCi/L	98	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	98.2		30 - 110						
Y Carrier	80.0		30 - 110						

QC Association Summary

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

Job ID: 180-156913-1
SDG: Culley West

HPLC/IC

Analysis Batch: 435927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156913-5	WAP-6I	Total/NA	Water	EPA 9056A	
180-156913-6	WAP-6D	Total/NA	Water	EPA 9056A	
180-156913-7	WAP-1	Total/NA	Water	EPA 9056A	
180-156913-8	WAP-4S	Total/NA	Water	EPA 9056A	
MB 180-435927/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-435927/7	Lab Control Sample	Total/NA	Water	EPA 9056A	

Analysis Batch: 435949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156913-1	WAP-9S	Total/NA	Water	EPA 9056A	
180-156913-2	WAP-9I	Total/NA	Water	EPA 9056A	
180-156913-3	WAP-9D	Total/NA	Water	EPA 9056A	
180-156913-4	WAP-6S	Total/NA	Water	EPA 9056A	
180-156913-9	WAP-3S	Total/NA	Water	EPA 9056A	
180-156913-10	WAP-3D	Total/NA	Water	EPA 9056A	
180-156913-11	DUP 2	Total/NA	Water	EPA 9056A	
MB 180-435949/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-435949/7	Lab Control Sample	Total/NA	Water	EPA 9056A	
180-156913-1 MS	WAP-9S	Total/NA	Water	EPA 9056A	
180-156913-1 MSD	WAP-9S	Total/NA	Water	EPA 9056A	

Metals

Prep Batch: 437189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156913-1	WAP-9S	Total Recoverable	Water	3005A	
180-156913-2	WAP-9I	Total Recoverable	Water	3005A	
180-156913-3	WAP-9D	Total Recoverable	Water	3005A	
180-156913-4	WAP-6S	Total Recoverable	Water	3005A	
180-156913-5	WAP-6I	Total Recoverable	Water	3005A	
180-156913-6	WAP-6D	Total Recoverable	Water	3005A	
180-156913-7	WAP-1	Total Recoverable	Water	3005A	
180-156913-8	WAP-4S	Total Recoverable	Water	3005A	
180-156913-9	WAP-3S	Total Recoverable	Water	3005A	
180-156913-10	WAP-3D	Total Recoverable	Water	3005A	
180-156913-11	DUP 2	Total Recoverable	Water	3005A	
MB 180-437189/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-437189/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-156913-7 MS	WAP-1	Total Recoverable	Water	3005A	
180-156913-7 MSD	WAP-1	Total Recoverable	Water	3005A	

Prep Batch: 437190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156913-1	WAP-9S	Total Recoverable	Water	3005A	
180-156913-2	WAP-9I	Total Recoverable	Water	3005A	
180-156913-3	WAP-9D	Total Recoverable	Water	3005A	
180-156913-4	WAP-6S	Total Recoverable	Water	3005A	
180-156913-5	WAP-6I	Total Recoverable	Water	3005A	
180-156913-6	WAP-6D	Total Recoverable	Water	3005A	
180-156913-7	WAP-1	Total Recoverable	Water	3005A	
180-156913-8	WAP-4S	Total Recoverable	Water	3005A	

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QC Association Summary

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

Job ID: 180-156913-1
SDG: Culley West

Metals (Continued)

Prep Batch: 437190 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156913-9	WAP-3S	Total Recoverable	Water	3005A	
180-156913-10	WAP-3D	Total Recoverable	Water	3005A	
180-156913-11	DUP 2	Total Recoverable	Water	3005A	
MB 180-437190/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-437190/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-156913-7 MS	WAP-1	Total Recoverable	Water	3005A	
180-156913-7 MSD	WAP-1	Total Recoverable	Water	3005A	

Prep Batch: 437524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156913-5	WAP-6I	Total/NA	Water	7470A	
180-156913-6	WAP-6D	Total/NA	Water	7470A	
180-156913-7	WAP-1	Total/NA	Water	7470A	
180-156913-8	WAP-4S	Total/NA	Water	7470A	
MB 180-437524/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-437524/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 437591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156913-5	WAP-6I	Total/NA	Water	EPA 7470A	437524
180-156913-6	WAP-6D	Total/NA	Water	EPA 7470A	437524
180-156913-7	WAP-1	Total/NA	Water	EPA 7470A	437524
180-156913-8	WAP-4S	Total/NA	Water	EPA 7470A	437524
MB 180-437524/1-A	Method Blank	Total/NA	Water	EPA 7470A	437524
LCS 180-437524/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	437524

Prep Batch: 437669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156913-1	WAP-9S	Total/NA	Water	7470A	
180-156913-2	WAP-9I	Total/NA	Water	7470A	
180-156913-3	WAP-9D	Total/NA	Water	7470A	
180-156913-4	WAP-6S	Total/NA	Water	7470A	
180-156913-9	WAP-3S	Total/NA	Water	7470A	
180-156913-10	WAP-3D	Total/NA	Water	7470A	
180-156913-11	DUP 2	Total/NA	Water	7470A	
MB 180-437669/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-437669/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 437829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156913-1	WAP-9S	Total/NA	Water	EPA 7470A	437669
180-156913-2	WAP-9I	Total/NA	Water	EPA 7470A	437669
180-156913-3	WAP-9D	Total/NA	Water	EPA 7470A	437669
180-156913-4	WAP-6S	Total/NA	Water	EPA 7470A	437669
180-156913-9	WAP-3S	Total/NA	Water	EPA 7470A	437669
180-156913-10	WAP-3D	Total/NA	Water	EPA 7470A	437669
180-156913-11	DUP 2	Total/NA	Water	EPA 7470A	437669
MB 180-437669/1-A	Method Blank	Total/NA	Water	EPA 7470A	437669
LCS 180-437669/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	437669

QC Association Summary

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

Job ID: 180-156913-1
SDG: Culley West

Metals

Analysis Batch: 438432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156913-1	WAP-9S	Total Recoverable	Water	EPA 6010D	437189
180-156913-2	WAP-9I	Total Recoverable	Water	EPA 6010D	437189
180-156913-3	WAP-9D	Total Recoverable	Water	EPA 6010D	437189
180-156913-4	WAP-6S	Total Recoverable	Water	EPA 6010D	437189
180-156913-5	WAP-6I	Total Recoverable	Water	EPA 6010D	437189
180-156913-6	WAP-6D	Total Recoverable	Water	EPA 6010D	437189
180-156913-7	WAP-1	Total Recoverable	Water	EPA 6010D	437189
180-156913-8	WAP-4S	Total Recoverable	Water	EPA 6010D	437189
180-156913-9	WAP-3S	Total Recoverable	Water	EPA 6010D	437189
180-156913-10	WAP-3D	Total Recoverable	Water	EPA 6010D	437189
180-156913-11	DUP 2	Total Recoverable	Water	EPA 6010D	437189
MB 180-437189/1-A	Method Blank	Total Recoverable	Water	EPA 6010D	437189
LCS 180-437189/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6010D	437189
180-156913-7 MS	WAP-1	Total Recoverable	Water	EPA 6010D	437189
180-156913-7 MSD	WAP-1	Total Recoverable	Water	EPA 6010D	437189

Analysis Batch: 438909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156913-1	WAP-9S	Total Recoverable	Water	EPA 6020A	437190
180-156913-2	WAP-9I	Total Recoverable	Water	EPA 6020A	437190
180-156913-3	WAP-9D	Total Recoverable	Water	EPA 6020A	437190
180-156913-4	WAP-6S	Total Recoverable	Water	EPA 6020A	437190
180-156913-5	WAP-6I	Total Recoverable	Water	EPA 6020A	437190
180-156913-6	WAP-6D	Total Recoverable	Water	EPA 6020A	437190
180-156913-7	WAP-1	Total Recoverable	Water	EPA 6020A	437190
180-156913-8	WAP-4S	Total Recoverable	Water	EPA 6020A	437190
180-156913-9	WAP-3S	Total Recoverable	Water	EPA 6020A	437190
180-156913-10	WAP-3D	Total Recoverable	Water	EPA 6020A	437190
180-156913-11	DUP 2	Total Recoverable	Water	EPA 6020A	437190
MB 180-437190/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	437190
LCS 180-437190/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	437190
180-156913-7 MS	WAP-1	Total Recoverable	Water	EPA 6020A	437190
180-156913-7 MSD	WAP-1	Total Recoverable	Water	EPA 6020A	437190

General Chemistry

Analysis Batch: 435992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156913-5	WAP-6I	Total/NA	Water	SM 2540C	
180-156913-6	WAP-6D	Total/NA	Water	SM 2540C	
180-156913-7	WAP-1	Total/NA	Water	SM 2540C	
180-156913-8	WAP-4S	Total/NA	Water	SM 2540C	
MB 180-435992/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-435992/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 436229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156913-1	WAP-9S	Total/NA	Water	SM 2540C	
180-156913-2	WAP-9I	Total/NA	Water	SM 2540C	
180-156913-3	WAP-9D	Total/NA	Water	SM 2540C	
180-156913-4	WAP-6S	Total/NA	Water	SM 2540C	

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QC Association Summary

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

Job ID: 180-156913-1
SDG: Culley West

General Chemistry (Continued)

Analysis Batch: 436229 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156913-9	WAP-3S	Total/NA	Water	SM 2540C	
180-156913-10	WAP-3D	Total/NA	Water	SM 2540C	
180-156913-11	DUP 2	Total/NA	Water	SM 2540C	
MB 180-436229/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-436229/2	Lab Control Sample	Total/NA	Water	SM 2540C	
180-156913-9 DU	WAP-3S	Total/NA	Water	SM 2540C	

Analysis Batch: 436603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156913-1	WAP-9S	Total/NA	Water	EPA 9040C	
180-156913-2	WAP-9I	Total/NA	Water	EPA 9040C	
180-156913-3	WAP-9D	Total/NA	Water	EPA 9040C	
180-156913-4	WAP-6S	Total/NA	Water	EPA 9040C	
180-156913-5	WAP-6I	Total/NA	Water	EPA 9040C	
180-156913-6	WAP-6D	Total/NA	Water	EPA 9040C	
180-156913-7	WAP-1	Total/NA	Water	EPA 9040C	
180-156913-8	WAP-4S	Total/NA	Water	EPA 9040C	
180-156913-9	WAP-3S	Total/NA	Water	EPA 9040C	
180-156913-10	WAP-3D	Total/NA	Water	EPA 9040C	
180-156913-11	DUP 2	Total/NA	Water	EPA 9040C	
LCS 180-436603/1	Lab Control Sample	Total/NA	Water	EPA 9040C	
LCS 180-436603/24	Lab Control Sample	Total/NA	Water	EPA 9040C	
180-156913-1 DU	WAP-9S	Total/NA	Water	EPA 9040C	
180-156913-10 DU	WAP-3D	Total/NA	Water	EPA 9040C	

Rad

Prep Batch: 613843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156913-1	WAP-9S	Total/NA	Water	PrecSep-21	
180-156913-2	WAP-9I	Total/NA	Water	PrecSep-21	
180-156913-3	WAP-9D	Total/NA	Water	PrecSep-21	
180-156913-4	WAP-6S	Total/NA	Water	PrecSep-21	
180-156913-5	WAP-6I	Total/NA	Water	PrecSep-21	
180-156913-6	WAP-6D	Total/NA	Water	PrecSep-21	
180-156913-7	WAP-1	Total/NA	Water	PrecSep-21	
180-156913-8	WAP-4S	Total/NA	Water	PrecSep-21	
180-156913-9	WAP-3S	Total/NA	Water	PrecSep-21	
180-156913-10	WAP-3D	Total/NA	Water	PrecSep-21	
180-156913-11	DUP 2	Total/NA	Water	PrecSep-21	
MB 160-613843/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-613843/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 613845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156913-1	WAP-9S	Total/NA	Water	PrecSep_0	
180-156913-2	WAP-9I	Total/NA	Water	PrecSep_0	
180-156913-3	WAP-9D	Total/NA	Water	PrecSep_0	
180-156913-4	WAP-6S	Total/NA	Water	PrecSep_0	
180-156913-5	WAP-6I	Total/NA	Water	PrecSep_0	
180-156913-6	WAP-6D	Total/NA	Water	PrecSep_0	

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QC Association Summary

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

Job ID: 180-156913-1
SDG: Culley West

Rad (Continued)

Prep Batch: 613845 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-156913-7	WAP-1	Total/NA	Water	PrecSep_0	
180-156913-8	WAP-4S	Total/NA	Water	PrecSep_0	
180-156913-9	WAP-3S	Total/NA	Water	PrecSep_0	
180-156913-10	WAP-3D	Total/NA	Water	PrecSep_0	
180-156913-11	DUP 2	Total/NA	Water	PrecSep_0	
MB 160-613845/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-613845/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Chain of Custody Record



Client Information
 Client Contact: Mark Breting
 Company: Atlas Technical Consultants LLC
 Address: 7988 Centerpoint Drive Suite 100
 City: Indianapolis
 State, Zip: IN, 46256
 Phone: 864-214-8750(Tel)
 Email: mark.breting@atcassociates.com
 Project Name: CCR Groundwater Monitoring FB Culley
 Site: Culley West

Sampler: Hayley Torres
 Lab PM: Hayes, Ken
 E-Mail: Ken.Hayes@et.eurofinsus.com
 Phone: Ken.Hayes@et.eurofinsus.com
 PWSID:

Carrier Tracking No(s): 180-91635-14505.2
State of Origin:
Page: Page 1 of 1
Job #:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air)	Analysis Requested		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify) Other:
					9940C, 9066A, ORGFM, 28D	6020A, 7470A	
WAP-95	5-19-23	11:30	G	W	X	X	
WAP-9I	5-19-23	12:40			X	X	
WAP-9D	5-19-23	14:40			X	X	
WAP-6S	5-18-23	74:30					
WAP-6I	5-18-23	15:40					
WAP-6D	5-18-23	16:30					
WAP-1	5-18-23	17:50					
WAP-4S	5-18-23	13:15					
WAP-3S	5-19-23	17:30					
WAP-3D	5-19-23	16:40					
DUP2	5-19-23						

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:

Empty Kit Relinquished by: _____ Date: _____
 Method of Shipment: _____

Relinquished by: Hayley Torres
 Date/Time: 5-19-23 19:00
 Company: ATLAS

Relinquished by: Hayley Torres
 Date/Time: 5-20-23 0930
 Company: Eurofins

Relinquished by: _____
 Date/Time: _____
 Company: _____

Custody Seals Intact: Yes No
 Custody Seal No.: _____
 Cooler Temperature(s) °C and Other Remarks: _____

Ver: 06/08/2021



Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-156913-2

SDG Number: Culley West

Login Number: 156913

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 <math><6\text{mm}</math> (1/4").	True	
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 6/29/2023 7:56:22 PM

JOB DESCRIPTION

CCR Groundwater Monitoring
SDG NUMBER FB Cully West

JOB NUMBER

180-157134-1

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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6/29/2023 7:56:22 PM

Authorized for release by
Ken Hayes, Project Manager II
Ken.Hayes@et.eurofinsus.com
(615)301-5035



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Case Narrative

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

Job ID: 180-157134-1
SDG: FB Cully West

Job ID: 180-157134-1

Laboratory: Eurofins Pittsburgh

Narrative

Job Narrative 180-157134-1

Receipt

The samples were received on 5/25/2023 9:50 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 2.3°C

Gas Flow Proportional Counter

Method 9315_Ra226: Radium-226 batch 614557 Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. CCR-AP-7 (180-157134-1), CCR-AP-7 (180-157134-1[DU]), WAP 7D (180-157134-2), WAP 7S (180-157134-3), WAP 2R (180-157134-4), FIELD BLANK (180-157134-5), (LCS 160-614557/2-A) and (MB 160-614557/1-A)

Method 9320_Ra228: Radium-228 batch 614558 Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date. CCR-AP-7 (180-157134-1), CCR-AP-7 (180-157134-1[DU]), WAP 7D (180-157134-2), WAP 7S (180-157134-3), WAP 2R (180-157134-4), FIELD BLANK (180-157134-5), (LCS 160-614558/2-A) and (MB 160-614558/1-A)

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.

Narrative

Job Narrative 180-157134-2

Receipt

The samples were received on 5/25/2023 9:50 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 2.3°C

HPLC/IC

Method 9056A_ORGFM_28D: The continuing calibration verification (CCV) associated with batch 180-436380 recovered above the upper control limit for fluoride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: FIELD BLANK (180-157134-5) and (CCV 180-436380/16).

Method 9056A_ORGFM_28D: The following sample was diluted due to the nature of the sample matrix: WAP 7D (180-157134-2) at 2.5. Elevated reporting limits (RLs) are provided.

Method 9056A_ORGFM_28D: The following sample was diluted due to the nature of the sample matrix: WAP 7D (180-157134-2) at 2.5. 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

Method 6020B: The continuing calibration verification (CCV) associated with batch 240-577260 recovered above the upper control limit for beryllium. The samples associated with this CCV were less than the reporting limit for the affected analyte; therefore, the data have been reported. The associated samples are impacted: WAP 7D (180-157134-2) and WAP 7S (180-157134-3).

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

Case Narrative

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

Job ID: 180-157134-1
SDG: FB Cully West

Job ID: 180-157134-1 (Continued)

Laboratory: Eurofins Pittsburgh (Continued)

General Chemistry

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

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Definitions/Glossary

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

Job ID: 180-157134-1
SDG: FB Cully West

Qualifiers

Metals

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
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	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

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.
α	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

Job ID: 180-157134-1
 SDG: FB Cully West

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	06-27-23
California	State	2891	04-30-24
Connecticut	State	PH-0688	09-30-24
Florida	NELAP	E871008	06-30-23
Georgia	State	PA 02-00416	04-30-24
Illinois	NELAP	004375	06-30-24
Kansas	NELAP	E-10350	01-31-24
Kentucky (UST)	State	162013	04-30-23 *
Kentucky (WW)	State	KY98043	12-31-23
Louisiana	NELAP	04041	06-30-22 *
Louisiana (All)	NELAP	04041	06-30-23
Maine	State	PA00164	03-06-24
Minnesota	NELAP	042-999-482	12-31-23
New Hampshire	NELAP	2030	04-04-24
New Jersey	NELAP	PA005	06-30-23
New York	NELAP	11182	04-01-24
North Carolina (WW/SW)	State	434	12-31-23
North Dakota	State	R-227	04-30-24
Oregon	NELAP	PA-2151	02-06-24
Pennsylvania	NELAP	02-00416	04-30-24
Rhode Island	State	LAO00362	12-31-22 *
South Carolina	State	89014	04-30-23 *
Texas	NELAP	T104704528	03-31-24
US Fish & Wildlife	US Federal Programs	058448	03-31-24
USDA	US Federal Programs	P330-16-00211	06-21-24
Utah	NELAP	PA001462019-8	05-31-23 *
Virginia	NELAP	10043	09-14-23
West Virginia DEP	State	142	03-31-24
Wisconsin	State	998027800	08-31-23

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	02-27-24
Connecticut	State	PH-0590	06-29-23
Florida	NELAP	E87225	06-30-23
Georgia	State	4062	02-28-24
Illinois	NELAP	200004	07-31-23
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-28-24
Kentucky (WW)	State	KY98016	12-31-23
Michigan	State	9135	02-27-24
Minnesota	NELAP	039-999-348	12-31-23
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-23
New York	NELAP	10975	04-02-24
Ohio	State	8303	02-27-24
Ohio VAP	State	ORELAP 4062	02-27-24
Oregon	NELAP	4062	02-27-24

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

Eurofins Pittsburgh

Accreditation/Certification Summary

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

Job ID: 180-157134-1
 SDG: FB Cully West

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
Pennsylvania	NELAP	68-00340	08-31-23
Texas	NELAP	T104704517-22-17	08-31-23
Virginia	NELAP	460175	09-14-23
West Virginia DEP	State	210	12-31-23

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	04-06-25
Arizona	State	AZ0813	12-08-23
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-23
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-23
HI - RadChem Recognition	State	n/a	06-30-23
Illinois	NELAP	200023	11-30-23
Iowa	State	373	12-01-24
Kansas	NELAP	E-10236	10-31-23
Kentucky (DW)	State	KY90125	12-31-23
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-23
Louisiana (All)	NELAP	04080	06-30-23
Louisiana (DW)	State	LA011	12-31-23
Maryland	State	310	09-30-23
MI - RadChem Recognition	State	9005	06-30-23
Missouri	State	780	06-30-25
Nevada	State	MO000542020-1	07-31-23
New Jersey	NELAP	MO002	06-30-23
New York	NELAP	11616	03-31-24
North Carolina (DW)	State	29700	07-31-23
North Dakota	State	R-207	06-30-23
Oklahoma	NELAP	9997	08-31-23
Oregon	NELAP	4157	09-01-23
Pennsylvania	NELAP	68-00540	02-28-24
South Carolina	State	85002001	06-30-23
Texas	NELAP	T104704193	07-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO000542021-14	07-31-23
Virginia	NELAP	10310	06-14-24
Washington	State	C592	08-30-23
West Virginia DEP	State	381	10-31-23

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

Sample Summary

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

Job ID: 180-157134-1
SDG: FB Cully West

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-157134-1	CCR-AP-7	Water	05/22/23 11:20	05/25/23 09:50
180-157134-2	WAP 7D	Water	05/22/23 14:30	05/25/23 09:50
180-157134-3	WAP 7S	Water	05/22/23 13:20	05/25/23 09:50
180-157134-4	WAP 2R	Water	05/22/23 15:40	05/25/23 09:50
180-157134-5	FIELD BLANK	Water	05/22/23 13:20	05/25/23 09:50

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Method Summary

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

Job ID: 180-157134-1
SDG: FB Cully West

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

Job ID: 180-157134-1
 SDG: FB Cully West

Client Sample ID: CCR-AP-7

Lab Sample ID: 180-157134-1

Date Collected: 05/22/23 11:20

Matrix: Water

Date Received: 05/25/23 09:50

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			436477	05/30/23 13:48	SNL	EET PIT
Instrument ID: CHIC2100A										
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	436380	05/27/23 14:15	SNL	EET PIT
Instrument ID: CHICS2100B										
Total Recoverable	Prep	3005A			50 mL	50 mL	575955	06/05/23 14:00	BN	EET CLE
Total Recoverable	Analysis	6010D		1			576189	06/06/23 16:24	KLC	EET CLE
Instrument ID: I12										
Total Recoverable	Prep	3005A			50 mL	50 mL	575955	06/05/23 14:00	BN	EET CLE
Total Recoverable	Analysis	6020B		1			576217	06/06/23 22:39	RKT	EET CLE
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	575955	06/05/23 14:00	BN	EET CLE
Total Recoverable	Analysis	6020B		1			576385	06/07/23 18:19	RKT	EET CLE
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	576992	06/13/23 14:00	BN	EET CLE
Total/NA	Analysis	7470A		1			577182	06/14/23 12:36	MRL	EET CLE
Instrument ID: H3										
Total/NA	Analysis	EPA 9040C		1			436894	06/02/23 17:30	BAB	EET PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	436369	05/26/23 19:19	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			996.71 mL	1.0 g	614557	06/06/23 10:30	KAC	EET SL
Total/NA	Analysis	9315		1			618151	06/28/23 20:45	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			996.71 mL	1.0 g	614558	06/06/23 10:34	KAC	EET SL
Total/NA	Analysis	9320		1			617527	06/23/23 11:49	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			618364	06/29/23 16:50	SCB	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP 7D

Lab Sample ID: 180-157134-2

Date Collected: 05/22/23 14:30

Matrix: Water

Date Received: 05/25/23 09:50

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			436477	05/30/23 14:32	SNL	EET PIT
Instrument ID: CHIC2100A										
Total/NA	Analysis	EPA 9056A		2.5	1 mL	1 mL	436380	05/27/23 15:00	SNL	EET PIT
Instrument ID: CHICS2100B										
Total Recoverable	Prep	3005A			50 mL	50 mL	576981	06/13/23 14:00	BN	EET CLE
Total Recoverable	Analysis	6010D		5			577186	06/14/23 17:51	KLC	EET CLE
Instrument ID: I9										
Total Recoverable	Prep	3005A			50 mL	50 mL	576981	06/13/23 14:00	BN	EET CLE
Total Recoverable	Analysis	6020B		1			577260	06/14/23 19:55	RKT	EET CLE
Instrument ID: I14										

Eurofins Pittsburgh

Lab Chronicle

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

Job ID: 180-157134-1
 SDG: FB Cully West

Client Sample ID: WAP 7D
Date Collected: 05/22/23 14:30
Date Received: 05/25/23 09:50

Lab Sample ID: 180-157134-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			50 mL	50 mL	576992	06/13/23 14:00	BN	EET CLE
Total/NA	Analysis	7470A		1			577182	06/14/23 12:47	MRL	EET CLE
Instrument ID: H3										
Total/NA	Analysis	EPA 9040C		1			436894	06/02/23 17:36	BAB	EET PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	436369	05/26/23 19:19	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			991.50 mL	1.0 g	614557	06/06/23 10:30	KAC	EET SL
Total/NA	Analysis	9315		1			618151	06/28/23 20:45	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			991.50 mL	1.0 g	614558	06/06/23 10:34	KAC	EET SL
Total/NA	Analysis	9320		1			617518	06/23/23 11:51	FLC	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			618364	06/29/23 16:50	SCB	EET SL
Instrument ID: NOEQUIP										

Client Sample ID: WAP 7S
Date Collected: 05/22/23 13:20
Date Received: 05/25/23 09:50

Lab Sample ID: 180-157134-3
Matrix: Water

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			436477	05/30/23 14:46	SNL	EET PIT
Instrument ID: CHIC2100A										
Total/NA	Analysis	EPA 9056A		1	1 mL	1 mL	436380	05/27/23 15:14	SNL	EET PIT
Instrument ID: CHICS2100B										
Total Recoverable	Prep	3005A			50 mL	50 mL	576981	06/13/23 14:00	BN	EET CLE
Total Recoverable	Analysis	6010D		5			577186	06/14/23 17:56	KLC	EET CLE
Instrument ID: I9										
Total Recoverable	Prep	3005A			50 mL	50 mL	576981	06/13/23 14:00	BN	EET CLE
Total Recoverable	Analysis	6020B		1			577260	06/14/23 19:57	RKT	EET CLE
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	576992	06/13/23 14:00	BN	EET CLE
Total/NA	Analysis	7470A		1			577182	06/14/23 12:49	MRL	EET CLE
Instrument ID: H3										
Total/NA	Analysis	EPA 9040C		1			436894	06/02/23 17:23	BAB	EET PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	436369	05/26/23 19:19	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			992.52 mL	1.0 g	614557	06/06/23 10:30	KAC	EET SL
Total/NA	Analysis	9315		1			618151	06/28/23 20:45	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			992.52 mL	1.0 g	614558	06/06/23 10:34	KAC	EET SL
Total/NA	Analysis	9320		1			617518	06/23/23 11:51	FLC	EET SL
Instrument ID: GFPCPURPLE										

Eurofins Pittsburgh

Lab Chronicle

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

Job ID: 180-157134-1
 SDG: FB Cully West

Client Sample ID: WAP 7S
 Date Collected: 05/22/23 13:20
 Date Received: 05/25/23 09:50

Lab Sample ID: 180-157134-3
 Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			618364	06/29/23 16:50	SCB	EET SL

Client Sample ID: WAP 2R
 Date Collected: 05/22/23 15:40
 Date Received: 05/25/23 09:50

Lab Sample ID: 180-157134-4
 Matrix: Water

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 Instrument ID: CHIC2100A		1			436477	05/30/23 15:00	SNL	EET PIT
Total/NA	Analysis	EPA 9056A Instrument ID: CHICS2100B		1	1 mL	1 mL	436380	05/27/23 15:29	SNL	EET PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	575955	06/05/23 14:00	BN	EET CLE
Total Recoverable	Analysis	6010D Instrument ID: I12		1			576189	06/06/23 16:53	KLC	EET CLE
Total Recoverable	Prep	3005A			50 mL	50 mL	575955	06/05/23 14:00	BN	EET CLE
Total Recoverable	Analysis	6020B Instrument ID: I14		1			576217	06/06/23 22:52	RKT	EET CLE
Total Recoverable	Prep	3005A			50 mL	50 mL	575955	06/05/23 14:00	BN	EET CLE
Total Recoverable	Analysis	6020B Instrument ID: I14		1			576385	06/07/23 18:37	RKT	EET CLE
Total/NA	Prep	7470A			50 mL	50 mL	576649	06/09/23 14:00	MRL	EET CLE
Total/NA	Analysis	7470A Instrument ID: H2		1			576802	06/10/23 14:11	DSH	EET CLE
Total/NA	Analysis	EPA 9040C Instrument ID: OZ		1			436894	06/02/23 17:20	BAB	EET PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	436369	05/26/23 19:19	LWM	EET PIT
Total/NA	Prep	PrecSep-21			948.68 mL	1.0 g	614557	06/06/23 10:30	KAC	EET SL
Total/NA	Analysis	9315 Instrument ID: GFPCBLUE		1			618151	06/28/23 20:45	FLC	EET SL
Total/NA	Prep	PrecSep_0			948.68 mL	1.0 g	614558	06/06/23 10:34	KAC	EET SL
Total/NA	Analysis	9320 Instrument ID: GFPCPURPLE		1			617518	06/23/23 11:51	FLC	EET SL
Total/NA	Analysis	Ra226_Ra228 Instrument ID: NOEQUIP		1			618364	06/29/23 16:50	SCB	EET SL

Client Sample ID: FIELD BLANK
 Date Collected: 05/22/23 13:20
 Date Received: 05/25/23 09:50

Lab Sample ID: 180-157134-5
 Matrix: Water

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 Instrument ID: CHICS2100B		1	1 mL	1 mL	436380	05/27/23 15:44	SNL	EET PIT

Lab Chronicle

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

Job ID: 180-157134-1
 SDG: FB Cully West

Client Sample ID: FIELD BLANK

Lab Sample ID: 180-157134-5

Date Collected: 05/22/23 13:20

Matrix: Water

Date Received: 05/25/23 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	575955	06/05/23 14:00	BN	EET CLE
Total Recoverable	Analysis	6010D		1			576189	06/06/23 16:57	KLC	EET CLE
Instrument ID: I12										
Total Recoverable	Prep	3005A			50 mL	50 mL	575955	06/05/23 14:00	BN	EET CLE
Total Recoverable	Analysis	6020B		1			576217	06/06/23 22:54	RKT	EET CLE
Instrument ID: I14										
Total Recoverable	Prep	3005A			50 mL	50 mL	575955	06/05/23 14:00	BN	EET CLE
Total Recoverable	Analysis	6020B		1			576385	06/07/23 18:40	RKT	EET CLE
Instrument ID: I14										
Total/NA	Prep	7470A			50 mL	50 mL	576649	06/09/23 14:00	MRL	EET CLE
Total/NA	Analysis	7470A		1			576802	06/10/23 14:18	DSH	EET CLE
Instrument ID: H2										
Total/NA	Analysis	EPA 9040C		1			436894	06/02/23 17:17	BAB	EET PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	436369	05/26/23 19:19	LWM	EET PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			992.29 mL	1.0 g	614557	06/06/23 10:30	KAC	EET SL
Total/NA	Analysis	9315		1			618151	06/28/23 20:46	FLC	EET SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			992.29 mL	1.0 g	614558	06/06/23 10:34	KAC	EET SL
Total/NA	Analysis	9320		1			617518	06/23/23 11:52	FLC	EET SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			618364	06/29/23 16:50	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

Job ID: 180-157134-1
SDG: FB Cully West

Analyst References:

Lab: EET CLE

Batch Type: Prep

BN = Benjamin Norman

MRL = Matthew Loeb

Batch Type: Analysis

DSH = David Heakin

KLC = Karen Counts

MRL = Matthew Loeb

RKT = Roger Toth

Lab: EET PIT

Batch Type: Analysis

BAB = Brooke Batyi

LWM = Leslie McIntire

SNL = Sean Lordo

Lab: EET SL

Batch Type: Prep

KAC = Kevin Cox

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

Job ID: 180-157134-1
 SDG: FB Cully West

Client Sample ID: CCR-AP-7

Lab Sample ID: 180-157134-1

Date Collected: 05/22/23 11:20

Matrix: Water

Date Received: 05/25/23 09:50

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	35		1.0	0.71	mg/L			05/27/23 14:15	1
Fluoride	0.49		0.10	0.026	mg/L			05/30/23 13:48	1
Sulfate	110		1.0	0.76	mg/L			05/27/23 14:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100	57	ug/L		06/05/23 14:00	06/06/23 16:24	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0040	J	0.0050	0.00075	mg/L		06/05/23 14:00	06/06/23 22:39	1
Barium	0.11		0.0050	0.0022	mg/L		06/05/23 14:00	06/06/23 22:39	1
Beryllium	ND		0.0010	0.00062	mg/L		06/05/23 14:00	06/07/23 18:19	1
Cadmium	ND		0.0010	0.00020	mg/L		06/05/23 14:00	06/06/23 22:39	1
Calcium	120		1.0	0.25	mg/L		06/05/23 14:00	06/06/23 22:39	1
Chromium	ND		0.0050	0.0012	mg/L		06/05/23 14:00	06/06/23 22:39	1
Cobalt	0.00039	J	0.0010	0.00019	mg/L		06/05/23 14:00	06/06/23 22:39	1
Molybdenum	0.0018	J	0.0050	0.0011	mg/L		06/05/23 14:00	06/07/23 18:19	1
Lead	ND		0.0010	0.00045	mg/L		06/05/23 14:00	06/06/23 22:39	1
Antimony	ND		0.0020	0.00057	mg/L		06/05/23 14:00	06/06/23 22:39	1
Selenium	ND		0.0050	0.00089	mg/L		06/05/23 14:00	06/06/23 22:39	1
Thallium	ND		0.0010	0.00020	mg/L		06/05/23 14:00	06/06/23 22:39	1
Lithium	0.010		0.0080	0.0017	mg/L		06/05/23 14:00	06/07/23 18:19	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		06/13/23 14:00	06/14/23 12:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	590		10	10	mg/L			05/26/23 19:19	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.3	HF	0.1	0.1	SU			06/02/23 17:30	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	0.269		0.117	0.120	1.00	0.134	pCi/L	06/06/23 10:30	06/28/23 20:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.1		30 - 110					06/06/23 10:30	06/28/23 20:45	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	0.495	U	0.449	0.452	1.00	0.720	pCi/L	06/06/23 10:34	06/23/23 11:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.1		30 - 110					06/06/23 10:34	06/23/23 11:49	1

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Client Sample Results

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

Job ID: 180-157134-1
 SDG: FB Cully West

Client Sample ID: CCR-AP-7

Lab Sample ID: 180-157134-1

Date Collected: 05/22/23 11:20

Matrix: Water

Date Received: 05/25/23 09:50

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

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	81.1		30 - 110	06/06/23 10:34	06/23/23 11:49	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	0.764		0.464	0.468	5.00	0.720	pCi/L		06/29/23 16:50	1

Client Sample ID: WAP 7D

Lab Sample ID: 180-157134-2

Date Collected: 05/22/23 14:30

Matrix: Water

Date Received: 05/25/23 09:50

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		2.5	1.8	mg/L			05/27/23 15:00	2.5
Fluoride	0.40		0.25	0.065	mg/L			05/30/23 14:32	2.5
Sulfate	1100		2.5	1.9	mg/L			05/27/23 15:00	2.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	12000		500	290	ug/L		06/13/23 14:00	06/14/23 17:51	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0011	J	0.0050	0.00075	mg/L		06/13/23 14:00	06/14/23 19:55	1
Barium	0.031		0.0050	0.0022	mg/L		06/13/23 14:00	06/14/23 19:55	1
Beryllium	ND	^+	0.0010	0.00062	mg/L		06/13/23 14:00	06/14/23 19:55	1
Cadmium	ND		0.0010	0.00020	mg/L		06/13/23 14:00	06/14/23 19:55	1
Calcium	380		1.0	0.25	mg/L		06/13/23 14:00	06/14/23 19:55	1
Chromium	ND		0.0050	0.0012	mg/L		06/13/23 14:00	06/14/23 19:55	1
Cobalt	0.0032		0.0010	0.00019	mg/L		06/13/23 14:00	06/14/23 19:55	1
Molybdenum	0.20		0.0050	0.0011	mg/L		06/13/23 14:00	06/14/23 19:55	1
Lead	ND		0.0010	0.00045	mg/L		06/13/23 14:00	06/14/23 19:55	1
Antimony	ND		0.0020	0.00057	mg/L		06/13/23 14:00	06/14/23 19:55	1
Selenium	ND		0.0050	0.00089	mg/L		06/13/23 14:00	06/14/23 19:55	1
Thallium	ND		0.0010	0.00020	mg/L		06/13/23 14:00	06/14/23 19:55	1
Lithium	0.063		0.0080	0.0017	mg/L		06/13/23 14:00	06/14/23 19:55	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		06/13/23 14:00	06/14/23 12:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1900		10	10	mg/L			05/26/23 19:19	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.6	HF	0.1	0.1	SU			06/02/23 17:36	1

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Client Sample Results

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

Job ID: 180-157134-1
 SDG: FB Cully West

Client Sample ID: WAP 7D

Date Collected: 05/22/23 14:30

Date Received: 05/25/23 09:50

Lab Sample ID: 180-157134-2

Matrix: Water

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.414		0.150	0.155	1.00	0.163	pCi/L	06/06/23 10:30	06/28/23 20:45	1
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Ba Carrier	86.2		30 - 110					06/06/23 10:30	06/28/23 20:45	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	0.925		0.445	0.453	1.00	0.609	pCi/L	06/06/23 10:34	06/23/23 11:51	1
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Ba Carrier	86.2		30 - 110					06/06/23 10:34	06/23/23 11:51	1
Y Carrier	80.4		30 - 110					06/06/23 10:34	06/23/23 11:51	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	1.34		0.470	0.479	5.00	0.609	pCi/L		06/29/23 16:50	1

Client Sample ID: WAP 7S

Date Collected: 05/22/23 13:20

Date Received: 05/25/23 09:50

Lab Sample ID: 180-157134-3

Matrix: Water

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	90		1.0	0.71	mg/L			05/27/23 15:14	1
Fluoride	0.13		0.10	0.026	mg/L			05/30/23 14:46	1
Sulfate	470		1.0	0.76	mg/L			05/27/23 15:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	15000		500	290	ug/L		06/13/23 14:00	06/14/23 17:56	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0057		0.0050	0.00075	mg/L		06/13/23 14:00	06/14/23 19:57	1
Barium	0.050		0.0050	0.0022	mg/L		06/13/23 14:00	06/14/23 19:57	1
Beryllium	ND	^+	0.0010	0.00062	mg/L		06/13/23 14:00	06/14/23 19:57	1
Cadmium	ND		0.0010	0.00020	mg/L		06/13/23 14:00	06/14/23 19:57	1
Calcium	210		1.0	0.25	mg/L		06/13/23 14:00	06/14/23 19:57	1
Chromium	ND		0.0050	0.0012	mg/L		06/13/23 14:00	06/14/23 19:57	1
Cobalt	ND		0.0010	0.00019	mg/L		06/13/23 14:00	06/14/23 19:57	1
Molybdenum	0.27		0.0050	0.0011	mg/L		06/13/23 14:00	06/14/23 19:57	1
Lead	ND		0.0010	0.00045	mg/L		06/13/23 14:00	06/14/23 19:57	1
Antimony	0.0013	J	0.0020	0.00057	mg/L		06/13/23 14:00	06/14/23 19:57	1
Selenium	0.0034	J	0.0050	0.00089	mg/L		06/13/23 14:00	06/14/23 19:57	1
Thallium	ND		0.0010	0.00020	mg/L		06/13/23 14:00	06/14/23 19:57	1

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Client Sample Results

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

Job ID: 180-157134-1
 SDG: FB Cully West

Client Sample ID: WAP 7S

Lab Sample ID: 180-157134-3

Date Collected: 05/22/23 13:20

Matrix: Water

Date Received: 05/25/23 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.20		0.0080	0.0017	mg/L		06/13/23 14:00	06/14/23 19:57	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		06/13/23 14:00	06/14/23 12:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	960		10	10	mg/L			05/26/23 19:19	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	9.9	HF	0.1	0.1	SU			06/02/23 17:23	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	0.0466	U	0.0799	0.0800	1.00	0.140	pCi/L	06/06/23 10:30	06/28/23 20:45	1
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Ba Carrier</i>	96.2		30 - 110					06/06/23 10:30	06/28/23 20:45	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	0.148	U	0.316	0.316	1.00	0.552	pCi/L	06/06/23 10:34	06/23/23 11:51	1
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Ba Carrier</i>	96.2		30 - 110					06/06/23 10:34	06/23/23 11:51	1
<i>Y Carrier</i>	78.5		30 - 110					06/06/23 10:34	06/23/23 11:51	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	0.194	U	0.326	0.326	5.00	0.552	pCi/L		06/29/23 16:50	1

Client Sample ID: WAP 2R

Lab Sample ID: 180-157134-4

Date Collected: 05/22/23 15:40

Matrix: Water

Date Received: 05/25/23 09:50

Method: SW846 EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	44		1.0	0.71	mg/L			05/27/23 15:29	1
Fluoride	0.29		0.10	0.026	mg/L			05/30/23 15:00	1
Sulfate	120		1.0	0.76	mg/L			05/27/23 15:29	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3500		100	57	ug/L		06/05/23 14:00	06/06/23 16:53	1

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Client Sample Results

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

Job ID: 180-157134-1
 SDG: FB Cully West

Client Sample ID: WAP 2R

Lab Sample ID: 180-157134-4

Date Collected: 05/22/23 15:40

Matrix: Water

Date Received: 05/25/23 09:50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0011	J	0.0050	0.00075	mg/L		06/05/23 14:00	06/06/23 22:52	1
Barium	0.043		0.0050	0.0022	mg/L		06/05/23 14:00	06/06/23 22:52	1
Beryllium	ND		0.0010	0.00062	mg/L		06/05/23 14:00	06/07/23 18:37	1
Cadmium	0.00037	J	0.0010	0.00020	mg/L		06/05/23 14:00	06/06/23 22:52	1
Calcium	120		1.0	0.25	mg/L		06/05/23 14:00	06/06/23 22:52	1
Chromium	ND		0.0050	0.0012	mg/L		06/05/23 14:00	06/06/23 22:52	1
Cobalt	0.0020		0.0010	0.00019	mg/L		06/05/23 14:00	06/06/23 22:52	1
Molybdenum	0.077		0.0050	0.0011	mg/L		06/05/23 14:00	06/07/23 18:37	1
Lead	ND		0.0010	0.00045	mg/L		06/05/23 14:00	06/06/23 22:52	1
Antimony	0.0011	J	0.0020	0.00057	mg/L		06/05/23 14:00	06/06/23 22:52	1
Selenium	0.0071		0.0050	0.00089	mg/L		06/05/23 14:00	06/06/23 22:52	1
Thallium	0.00069	J	0.0010	0.00020	mg/L		06/05/23 14:00	06/06/23 22:52	1
Lithium	0.025		0.0080	0.0017	mg/L		06/05/23 14:00	06/07/23 18:37	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		06/09/23 14:00	06/10/23 14:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	510		10	10	mg/L			05/26/23 19:19	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	7.2	HF	0.1	0.1	SU			06/02/23 17:20	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	0.0856	U	0.104	0.104	1.00	0.172	pCi/L	06/06/23 10:30	06/28/23 20:45	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.8		30 - 110					06/06/23 10:30	06/28/23 20:45	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	0.583	U	0.398	0.401	1.00	0.593	pCi/L	06/06/23 10:34	06/23/23 11:51	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.8		30 - 110					06/06/23 10:34	06/23/23 11:51	1
Y Carrier	78.5		30 - 110					06/06/23 10:34	06/23/23 11:51	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	0.669		0.411	0.414	5.00	0.593	pCi/L		06/29/23 16:50	1

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Client Sample Results

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

Job ID: 180-157134-1
 SDG: FB Cully West

Client Sample ID: FIELD BLANK

Lab Sample ID: 180-157134-5

Date Collected: 05/22/23 13:20

Matrix: Water

Date Received: 05/25/23 09:50

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			05/27/23 15:44	1
Fluoride	ND		0.10	0.026	mg/L			05/27/23 15:44	1
Sulfate	ND		1.0	0.76	mg/L			05/27/23 15:44	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100	57	ug/L		06/05/23 14:00	06/06/23 16:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		06/05/23 14:00	06/06/23 22:54	1
Barium	0.0063		0.0050	0.0022	mg/L		06/05/23 14:00	06/06/23 22:54	1
Beryllium	ND		0.0010	0.00062	mg/L		06/05/23 14:00	06/07/23 18:40	1
Cadmium	ND		0.0010	0.00020	mg/L		06/05/23 14:00	06/06/23 22:54	1
Calcium	1.8		1.0	0.25	mg/L		06/05/23 14:00	06/06/23 22:54	1
Chromium	0.0015	J	0.0050	0.0012	mg/L		06/05/23 14:00	06/06/23 22:54	1
Cobalt	ND		0.0010	0.00019	mg/L		06/05/23 14:00	06/06/23 22:54	1
Molybdenum	ND		0.0050	0.0011	mg/L		06/05/23 14:00	06/07/23 18:40	1
Lead	0.00067	J	0.0010	0.00045	mg/L		06/05/23 14:00	06/06/23 22:54	1
Antimony	ND		0.0020	0.00057	mg/L		06/05/23 14:00	06/06/23 22:54	1
Selenium	ND		0.0050	0.00089	mg/L		06/05/23 14:00	06/06/23 22:54	1
Thallium	0.00022	J	0.0010	0.00020	mg/L		06/05/23 14:00	06/06/23 22:54	1
Lithium	ND		0.0080	0.0017	mg/L		06/05/23 14:00	06/07/23 18:40	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		06/09/23 14:00	06/10/23 14:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	14		10	10	mg/L			05/26/23 19:19	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SW846 EPA 9040C)	9.4	HF	0.1	0.1	SU			06/02/23 17:17	1

Method: SW846 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	0.0122	U	0.0810	0.0810	1.00	0.157	pCi/L	06/06/23 10:30	06/28/23 20:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.9		30 - 110					06/06/23 10:30	06/28/23 20:46	1

Method: SW846 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-228	0.171	U	0.334	0.334	1.00	0.577	pCi/L	06/06/23 10:34	06/23/23 11:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.9		30 - 110					06/06/23 10:34	06/23/23 11:52	1

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Client Sample Results

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

Job ID: 180-157134-1
 SDG: FB Cully West

Client Sample ID: FIELD BLANK

Lab Sample ID: 180-157134-5

Date Collected: 05/22/23 13:20

Matrix: Water

Date Received: 05/25/23 09:50

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

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	82.2		30 - 110	06/06/23 10:34	06/23/23 11:52	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	0.183	U	0.344	0.344	5.00	0.577	pCi/L		06/29/23 16:50	1



QC Sample Results

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

Job ID: 180-157134-1
 SDG: FB Cully West

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-436380/6
Matrix: Water
Analysis Batch: 436380

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			05/27/23 11:55	1
Fluoride	ND		0.10	0.026	mg/L			05/27/23 11:55	1
Sulfate	ND		1.0	0.76	mg/L			05/27/23 11:55	1

Lab Sample ID: LCS 180-436380/7
Matrix: Water
Analysis Batch: 436380

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	50.2		mg/L		100	80 - 120
Fluoride	2.50	2.61		mg/L		104	80 - 120
Sulfate	50.0	50.6		mg/L		101	80 - 120

Lab Sample ID: 180-157134-1 MS
Matrix: Water
Analysis Batch: 436380

Client Sample ID: CCR-AP-7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	35		50.0	85.8		mg/L		101	80 - 120
Fluoride	0.58		2.50	3.17		mg/L		104	80 - 120
Sulfate	110		50.0	156		mg/L		96	80 - 120

Lab Sample ID: 180-157134-1 MSD
Matrix: Water
Analysis Batch: 436380

Client Sample ID: CCR-AP-7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	35		50.0	82.7		mg/L		95	80 - 120	4	15
Fluoride	0.58		2.50	3.04		mg/L		98	80 - 120	4	15
Sulfate	110		50.0	150		mg/L		84	80 - 120	4	15

Lab Sample ID: MB 180-436477/6
Matrix: Water
Analysis Batch: 436477

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			05/30/23 13:18	1
Fluoride	ND		0.10	0.026	mg/L			05/30/23 13:18	1
Sulfate	ND		1.0	0.76	mg/L			05/30/23 13:18	1

Lab Sample ID: LCS 180-436477/7
Matrix: Water
Analysis Batch: 436477

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	50.9		mg/L		102	80 - 120
Fluoride	2.50	2.72		mg/L		109	80 - 120
Sulfate	50.0	50.9		mg/L		102	80 - 120

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QC Sample Results

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

Job ID: 180-157134-1
SDG: FB Cully West

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 240-575955/1-A
Matrix: Water
Analysis Batch: 576189

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 575955

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100	57	ug/L		06/05/23 14:00	06/06/23 16:16	1

Lab Sample ID: LCS 240-575955/2-A
Matrix: Water
Analysis Batch: 576189

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 575955

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1000	1120		ug/L		112	80 - 120

Lab Sample ID: 180-157134-1 MS
Matrix: Water
Analysis Batch: 576189

Client Sample ID: CCR-AP-7
Prep Type: Total Recoverable
Prep Batch: 575955

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	ND		1000	1170		ug/L		117	75 - 125

Lab Sample ID: 180-157134-1 MSD
Matrix: Water
Analysis Batch: 576189

Client Sample ID: CCR-AP-7
Prep Type: Total Recoverable
Prep Batch: 575955

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Boron	ND		1000	1190		ug/L		119	75 - 125	2	20

Lab Sample ID: MB 240-576981/1-A
Matrix: Water
Analysis Batch: 577186

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 576981

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		100	57	ug/L		06/13/23 14:00	06/14/23 15:03	1

Lab Sample ID: LCS 240-576981/2-A
Matrix: Water
Analysis Batch: 577186

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 576981

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1000	1040		ug/L		104	80 - 120

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-575955/1-A
Matrix: Water
Analysis Batch: 576217

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 575955

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		06/05/23 14:00	06/06/23 22:28	1
Barium	ND		0.0050	0.0022	mg/L		06/05/23 14:00	06/06/23 22:28	1
Cadmium	ND		0.0010	0.00020	mg/L		06/05/23 14:00	06/06/23 22:28	1
Calcium	ND		1.0	0.25	mg/L		06/05/23 14:00	06/06/23 22:28	1
Chromium	ND		0.0050	0.0012	mg/L		06/05/23 14:00	06/06/23 22:28	1
Cobalt	ND		0.0010	0.00019	mg/L		06/05/23 14:00	06/06/23 22:28	1

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QC Sample Results

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

Job ID: 180-157134-1
 SDG: FB Cully West

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

Lab Sample ID: MB 240-575955/1-A
Matrix: Water
Analysis Batch: 576217

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 575955

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Lead	ND		0.0010	0.00045	mg/L		06/05/23 14:00	06/06/23 22:28	1
Antimony	ND		0.0020	0.00057	mg/L		06/05/23 14:00	06/06/23 22:28	1
Selenium	ND		0.0050	0.00089	mg/L		06/05/23 14:00	06/06/23 22:28	1
Thallium	ND		0.0010	0.00020	mg/L		06/05/23 14:00	06/06/23 22:28	1

Lab Sample ID: MB 240-575955/1-A
Matrix: Water
Analysis Batch: 576385

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 575955

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Beryllium	ND		0.0010	0.00062	mg/L		06/05/23 14:00	06/07/23 18:14	1
Molybdenum	ND		0.0050	0.0011	mg/L		06/05/23 14:00	06/07/23 18:14	1
Lithium	ND		0.0080	0.0017	mg/L		06/05/23 14:00	06/07/23 18:14	1

Lab Sample ID: LCS 240-575955/3-A
Matrix: Water
Analysis Batch: 576217

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 575955

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	
Arsenic	1.00	0.991		mg/L		99	80 - 120	
Barium	1.00	0.950		mg/L		95	80 - 120	
Cadmium	0.500	0.467		mg/L		93	80 - 120	
Calcium	25.0	24.7		mg/L		99	80 - 120	
Chromium	0.500	0.446		mg/L		89	80 - 120	
Cobalt	0.500	0.509		mg/L		102	80 - 120	
Lead	0.500	0.485		mg/L		97	80 - 120	
Antimony	0.100	0.102		mg/L		102	80 - 120	
Selenium	1.00	0.962		mg/L		96	80 - 120	
Thallium	1.00	0.908		mg/L		91	80 - 120	

Lab Sample ID: LCS 240-575955/3-A
Matrix: Water
Analysis Batch: 576385

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 575955

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	
Beryllium	0.500	0.502		mg/L		100	80 - 120	
Molybdenum	0.500	0.492		mg/L		98	80 - 120	
Lithium	0.500	0.498		mg/L		100	80 - 120	

Lab Sample ID: 180-157134-1 MS
Matrix: Water
Analysis Batch: 576217

Client Sample ID: CCR-AP-7
Prep Type: Total Recoverable
Prep Batch: 575955

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	
Arsenic	0.0040	J	1.00	0.998		mg/L		99	80 - 120	
Barium	0.11		1.00	1.05		mg/L		94	80 - 120	
Cadmium	ND		0.500	0.460		mg/L		92	80 - 120	
Calcium	120		25.0	137	4	mg/L		74	80 - 120	
Chromium	ND		0.500	0.446		mg/L		89	80 - 120	
Cobalt	0.00039	J	0.500	0.501		mg/L		100	80 - 120	

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QC Sample Results

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

Job ID: 180-157134-1
SDG: FB Cully West

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

Lab Sample ID: 180-157134-1 MS
Matrix: Water
Analysis Batch: 576217

Client Sample ID: CCR-AP-7
Prep Type: Total Recoverable
Prep Batch: 575955

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier		Result	Qualifier				Limits	
Lead	ND		0.500	0.468		mg/L		94	80 - 120	
Antimony	ND		0.100	0.104		mg/L		104	80 - 120	
Selenium	ND		1.00	0.957		mg/L		96	80 - 120	
Thallium	ND		1.00	0.881		mg/L		88	80 - 120	

Lab Sample ID: 180-157134-1 MS
Matrix: Water
Analysis Batch: 576385

Client Sample ID: CCR-AP-7
Prep Type: Total Recoverable
Prep Batch: 575955

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier		Result	Qualifier				Limits	
Beryllium	ND		0.500	0.490		mg/L		98	80 - 120	
Molybdenum	0.0018	J	0.500	0.490		mg/L		98	80 - 120	
Lithium	0.010		0.500	0.496		mg/L		97	80 - 120	

Lab Sample ID: 180-157134-1 MSD
Matrix: Water
Analysis Batch: 576217

Client Sample ID: CCR-AP-7
Prep Type: Total Recoverable
Prep Batch: 575955

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	
	Result	Qualifier		Result	Qualifier				Limits	RPD	Limit	
Arsenic	0.0040	J	1.00	1.02		mg/L		102	80 - 120		3	20
Barium	0.11		1.00	1.09		mg/L		98	80 - 120		4	20
Cadmium	ND		0.500	0.477		mg/L		95	80 - 120		3	20
Calcium	120		25.0	140	4	mg/L		86	80 - 120		2	20
Chromium	ND		0.500	0.465		mg/L		93	80 - 120		4	20
Cobalt	0.00039	J	0.500	0.513		mg/L		103	80 - 120		2	20
Lead	ND		0.500	0.488		mg/L		98	80 - 120		4	20
Antimony	ND		0.100	0.109		mg/L		109	80 - 120		5	20
Selenium	ND		1.00	0.981		mg/L		98	80 - 120		2	20
Thallium	ND		1.00	0.918		mg/L		92	80 - 120		4	20

Lab Sample ID: 180-157134-1 MSD
Matrix: Water
Analysis Batch: 576385

Client Sample ID: CCR-AP-7
Prep Type: Total Recoverable
Prep Batch: 575955

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	
	Result	Qualifier		Result	Qualifier				Limits	RPD	Limit	
Beryllium	ND		0.500	0.499		mg/L		100	80 - 120		2	20
Molybdenum	0.0018	J	0.500	0.512		mg/L		102	80 - 120		4	20
Lithium	0.010		0.500	0.504		mg/L		99	80 - 120		1	20

Lab Sample ID: MB 240-576981/1-A
Matrix: Water
Analysis Batch: 577260

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 576981

Analyte	MB	MB	RL	MDL	Unit	D	Prepared		Analyzed		Dil Fac
	Result	Qualifier									
Arsenic	ND		0.0050	0.00075	mg/L		06/13/23 14:00	06/14/23 18:35			1
Barium	ND		0.0050	0.0022	mg/L		06/13/23 14:00	06/14/23 18:35			1
Beryllium	ND	^+	0.0010	0.00062	mg/L		06/13/23 14:00	06/14/23 18:35			1
Cadmium	ND		0.0010	0.00020	mg/L		06/13/23 14:00	06/14/23 18:35			1
Calcium	ND		1.0	0.25	mg/L		06/13/23 14:00	06/14/23 18:35			1
Chromium	ND		0.0050	0.0012	mg/L		06/13/23 14:00	06/14/23 18:35			1

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QC Sample Results

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

Job ID: 180-157134-1
 SDG: FB Cully West

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

Lab Sample ID: MB 240-576981/1-A
Matrix: Water
Analysis Batch: 577260

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 576981

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		0.0010	0.00019	mg/L		06/13/23 14:00	06/14/23 18:35	1
Molybdenum	ND		0.0050	0.0011	mg/L		06/13/23 14:00	06/14/23 18:35	1
Lead	ND		0.0010	0.00045	mg/L		06/13/23 14:00	06/14/23 18:35	1
Antimony	ND		0.0020	0.00057	mg/L		06/13/23 14:00	06/14/23 18:35	1
Selenium	ND		0.0050	0.00089	mg/L		06/13/23 14:00	06/14/23 18:35	1
Thallium	ND		0.0010	0.00020	mg/L		06/13/23 14:00	06/14/23 18:35	1
Lithium	ND		0.0080	0.0017	mg/L		06/13/23 14:00	06/14/23 18:35	1

Lab Sample ID: LCS 240-576981/27-A
Matrix: Water
Analysis Batch: 577260

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 576981

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	1.00	0.906		mg/L		91	80 - 120
Barium	1.00	0.945		mg/L		95	80 - 120
Beryllium	0.500	0.524	^+	mg/L		105	80 - 120
Cadmium	0.500	0.479		mg/L		96	80 - 120
Calcium	25.0	24.1		mg/L		97	80 - 120
Chromium	0.500	0.483		mg/L		97	80 - 120
Cobalt	0.500	0.472		mg/L		94	80 - 120
Molybdenum	0.500	0.473		mg/L		95	80 - 120
Lead	0.500	0.491		mg/L		98	80 - 120
Antimony	0.100	0.104		mg/L		104	80 - 120
Selenium	1.00	0.921		mg/L		92	80 - 120
Thallium	1.00	0.951		mg/L		95	80 - 120
Lithium	0.500	0.499		mg/L		100	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-576649/1-A
Matrix: Water
Analysis Batch: 576802

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 576649

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.161	J	0.20	0.13	ug/L		06/09/23 14:00	06/10/23 13:09	1

Lab Sample ID: LCS 240-576649/2-A
Matrix: Water
Analysis Batch: 576802

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 576649

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	4.93		ug/L		99	80 - 120

Lab Sample ID: MB 240-576992/1-A
Matrix: Water
Analysis Batch: 577182

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 576992

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		06/13/23 14:00	06/14/23 12:32	1

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QC Sample Results

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

Job ID: 180-157134-1
 SDG: FB Cully West

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 240-576992/2-A
 Matrix: Water
 Analysis Batch: 577182

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 576992

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	4.03		ug/L		81	80 - 120

Lab Sample ID: 180-157134-1 MS
 Matrix: Water
 Analysis Batch: 577182

Client Sample ID: CCR-AP-7
 Prep Type: Total/NA
 Prep Batch: 576992

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		1.00	1.03		ug/L		103	80 - 120

Lab Sample ID: 180-157134-1 MSD
 Matrix: Water
 Analysis Batch: 577182

Client Sample ID: CCR-AP-7
 Prep Type: Total/NA
 Prep Batch: 576992

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		1.00	0.890		ug/L		89	80 - 120	15	20

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-436894/1
 Matrix: Water
 Analysis Batch: 436894

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 180-436369/1
 Matrix: Water
 Analysis Batch: 436369

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			05/26/23 19:19	1

Lab Sample ID: LCS 180-436369/2
 Matrix: Water
 Analysis Batch: 436369

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	580	598		mg/L		103	85 - 115

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-614557/1-A
 Matrix: Water
 Analysis Batch: 618150

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 614557

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.01728	U	0.0814	0.0814	1.00	0.166	pCi/L	06/06/23 10:30	06/28/23 18:19	1

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QC Sample Results

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

Job ID: 180-157134-1
SDG: FB Cully West

Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: MB 160-614557/1-A
Matrix: Water
Analysis Batch: 618150

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 614557

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		30 - 110	06/06/23 10:30	06/28/23 18:19	1

Lab Sample ID: LCS 160-614557/2-A
Matrix: Water
Analysis Batch: 618150

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 614557

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	9.867		1.07	1.00	0.138	pCi/L	87	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	89.3		30 - 110

Lab Sample ID: 180-157134-1 DU
Matrix: Water
Analysis Batch: 618151

Client Sample ID: CCR-AP-7
Prep Type: Total/NA
Prep Batch: 614557

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.269		0.3571		0.141	1.00	0.151	pCi/L	0.34	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	88.7		30 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-614558/1-A
Matrix: Water
Analysis Batch: 617527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 614558

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.5210	U	0.361	0.364	1.00	0.544	pCi/L	06/06/23 10:34	06/23/23 11:47	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	94.1		30 - 110	06/06/23 10:34	06/23/23 11:47	1
Y Carrier	84.5		30 - 110	06/06/23 10:34	06/23/23 11:47	1

Lab Sample ID: LCS 160-614558/2-A
Matrix: Water
Analysis Batch: 617527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 614558

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-228	8.10	8.775		1.25	1.00	0.558	pCi/L	108	75 - 125

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QC Sample Results

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

Job ID: 180-157134-1
 SDG: FB Cully West

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

Lab Sample ID: LCS 160-614558/2-A
Matrix: Water
Analysis Batch: 617527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 614558

Carrier	LCS	LCS	Limits
	%Yield	Qualifier	
Ba Carrier	89.3		30 - 110
Y Carrier	83.0		30 - 110

Lab Sample ID: 180-157134-1 DU
Matrix: Water
Analysis Batch: 617518

Client Sample ID: CCR-AP-7
Prep Type: Total/NA
Prep Batch: 614558

Analyte	Sample	Sample	DU	DU	Total	RL	MDC	Unit	RER	Limit
	Result	Qual	Result	Qual	Uncert. (2σ+/-)					
Radium-228	0.495	U	0.3757	U	0.374	1.00	0.599	pCi/L	0.15	1

Carrier	DU	DU	Limits
	%Yield	Qualifier	
Ba Carrier	88.7		30 - 110
Y Carrier	83.0		30 - 110

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QC Association Summary

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

Job ID: 180-157134-1
SDG: FB Cully West

HPLC/IC

Analysis Batch: 436380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-157134-1	CCR-AP-7	Total/NA	Water	EPA 9056A	
180-157134-2	WAP 7D	Total/NA	Water	EPA 9056A	
180-157134-3	WAP 7S	Total/NA	Water	EPA 9056A	
180-157134-4	WAP 2R	Total/NA	Water	EPA 9056A	
180-157134-5	FIELD BLANK	Total/NA	Water	EPA 9056A	
MB 180-436380/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-436380/7	Lab Control Sample	Total/NA	Water	EPA 9056A	
180-157134-1 MS	CCR-AP-7	Total/NA	Water	EPA 9056A	
180-157134-1 MSD	CCR-AP-7	Total/NA	Water	EPA 9056A	

Analysis Batch: 436477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-157134-1	CCR-AP-7	Total/NA	Water	EPA 9056A	
180-157134-2	WAP 7D	Total/NA	Water	EPA 9056A	
180-157134-3	WAP 7S	Total/NA	Water	EPA 9056A	
180-157134-4	WAP 2R	Total/NA	Water	EPA 9056A	
MB 180-436477/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-436477/7	Lab Control Sample	Total/NA	Water	EPA 9056A	

Metals

Prep Batch: 575955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-157134-1	CCR-AP-7	Total Recoverable	Water	3005A	
180-157134-4	WAP 2R	Total Recoverable	Water	3005A	
180-157134-5	FIELD BLANK	Total Recoverable	Water	3005A	
MB 240-575955/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-575955/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-575955/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-157134-1 MS	CCR-AP-7	Total Recoverable	Water	3005A	
180-157134-1 MS	CCR-AP-7	Total Recoverable	Water	3005A	
180-157134-1 MSD	CCR-AP-7	Total Recoverable	Water	3005A	
180-157134-1 MSD	CCR-AP-7	Total Recoverable	Water	3005A	

Analysis Batch: 576189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-157134-1	CCR-AP-7	Total Recoverable	Water	6010D	575955
180-157134-4	WAP 2R	Total Recoverable	Water	6010D	575955
180-157134-5	FIELD BLANK	Total Recoverable	Water	6010D	575955
MB 240-575955/1-A	Method Blank	Total Recoverable	Water	6010D	575955
LCS 240-575955/2-A	Lab Control Sample	Total Recoverable	Water	6010D	575955
180-157134-1 MS	CCR-AP-7	Total Recoverable	Water	6010D	575955
180-157134-1 MSD	CCR-AP-7	Total Recoverable	Water	6010D	575955

Analysis Batch: 576217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-157134-1	CCR-AP-7	Total Recoverable	Water	6020B	575955
180-157134-4	WAP 2R	Total Recoverable	Water	6020B	575955
180-157134-5	FIELD BLANK	Total Recoverable	Water	6020B	575955
MB 240-575955/1-A	Method Blank	Total Recoverable	Water	6020B	575955
LCS 240-575955/3-A	Lab Control Sample	Total Recoverable	Water	6020B	575955

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QC Association Summary

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

Job ID: 180-157134-1
SDG: FB Cully West

Metals (Continued)

Analysis Batch: 576217 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-157134-1 MS	CCR-AP-7	Total Recoverable	Water	6020B	575955
180-157134-1 MSD	CCR-AP-7	Total Recoverable	Water	6020B	575955

Analysis Batch: 576385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-157134-1	CCR-AP-7	Total Recoverable	Water	6020B	575955
180-157134-4	WAP 2R	Total Recoverable	Water	6020B	575955
180-157134-5	FIELD BLANK	Total Recoverable	Water	6020B	575955
MB 240-575955/1-A	Method Blank	Total Recoverable	Water	6020B	575955
LCS 240-575955/3-A	Lab Control Sample	Total Recoverable	Water	6020B	575955
180-157134-1 MS	CCR-AP-7	Total Recoverable	Water	6020B	575955
180-157134-1 MSD	CCR-AP-7	Total Recoverable	Water	6020B	575955

Prep Batch: 576649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-157134-4	WAP 2R	Total/NA	Water	7470A	
180-157134-5	FIELD BLANK	Total/NA	Water	7470A	
MB 240-576649/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-576649/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 576802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-157134-4	WAP 2R	Total/NA	Water	7470A	576649
180-157134-5	FIELD BLANK	Total/NA	Water	7470A	576649
MB 240-576649/1-A	Method Blank	Total/NA	Water	7470A	576649
LCS 240-576649/2-A	Lab Control Sample	Total/NA	Water	7470A	576649

Prep Batch: 576981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-157134-2	WAP 7D	Total Recoverable	Water	3005A	
180-157134-3	WAP 7S	Total Recoverable	Water	3005A	
MB 240-576981/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-576981/27-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-576981/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 576992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-157134-1	CCR-AP-7	Total/NA	Water	7470A	
180-157134-2	WAP 7D	Total/NA	Water	7470A	
180-157134-3	WAP 7S	Total/NA	Water	7470A	
MB 240-576992/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-576992/2-A	Lab Control Sample	Total/NA	Water	7470A	
180-157134-1 MS	CCR-AP-7	Total/NA	Water	7470A	
180-157134-1 MSD	CCR-AP-7	Total/NA	Water	7470A	

Analysis Batch: 577182

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-157134-1	CCR-AP-7	Total/NA	Water	7470A	576992
180-157134-2	WAP 7D	Total/NA	Water	7470A	576992
180-157134-3	WAP 7S	Total/NA	Water	7470A	576992
MB 240-576992/1-A	Method Blank	Total/NA	Water	7470A	576992

Eurofins Pittsburgh

QC Association Summary

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

Job ID: 180-157134-1
SDG: FB Cully West

Metals (Continued)

Analysis Batch: 577182 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-576992/2-A	Lab Control Sample	Total/NA	Water	7470A	576992
180-157134-1 MS	CCR-AP-7	Total/NA	Water	7470A	576992
180-157134-1 MSD	CCR-AP-7	Total/NA	Water	7470A	576992

Analysis Batch: 577186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-157134-2	WAP 7D	Total Recoverable	Water	6010D	576981
180-157134-3	WAP 7S	Total Recoverable	Water	6010D	576981
MB 240-576981/1-A	Method Blank	Total Recoverable	Water	6010D	576981
LCS 240-576981/2-A	Lab Control Sample	Total Recoverable	Water	6010D	576981

Analysis Batch: 577260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-157134-2	WAP 7D	Total Recoverable	Water	6020B	576981
180-157134-3	WAP 7S	Total Recoverable	Water	6020B	576981
MB 240-576981/1-A	Method Blank	Total Recoverable	Water	6020B	576981
LCS 240-576981/27-A	Lab Control Sample	Total Recoverable	Water	6020B	576981

General Chemistry

Analysis Batch: 436369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-157134-1	CCR-AP-7	Total/NA	Water	SM 2540C	
180-157134-2	WAP 7D	Total/NA	Water	SM 2540C	
180-157134-3	WAP 7S	Total/NA	Water	SM 2540C	
180-157134-4	WAP 2R	Total/NA	Water	SM 2540C	
180-157134-5	FIELD BLANK	Total/NA	Water	SM 2540C	
MB 180-436369/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-436369/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 436894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-157134-1	CCR-AP-7	Total/NA	Water	EPA 9040C	
180-157134-2	WAP 7D	Total/NA	Water	EPA 9040C	
180-157134-3	WAP 7S	Total/NA	Water	EPA 9040C	
180-157134-4	WAP 2R	Total/NA	Water	EPA 9040C	
180-157134-5	FIELD BLANK	Total/NA	Water	EPA 9040C	
LCS 180-436894/1	Lab Control Sample	Total/NA	Water	EPA 9040C	

Rad

Prep Batch: 614557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-157134-1	CCR-AP-7	Total/NA	Water	PrecSep-21	
180-157134-2	WAP 7D	Total/NA	Water	PrecSep-21	
180-157134-3	WAP 7S	Total/NA	Water	PrecSep-21	
180-157134-4	WAP 2R	Total/NA	Water	PrecSep-21	
180-157134-5	FIELD BLANK	Total/NA	Water	PrecSep-21	
MB 160-614557/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-614557/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
180-157134-1 DU	CCR-AP-7	Total/NA	Water	PrecSep-21	

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QC Association Summary

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

Job ID: 180-157134-1
SDG: FB Cully West

Rad

Prep Batch: 614558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-157134-1	CCR-AP-7	Total/NA	Water	PrecSep_0	
180-157134-2	WAP 7D	Total/NA	Water	PrecSep_0	
180-157134-3	WAP 7S	Total/NA	Water	PrecSep_0	
180-157134-4	WAP 2R	Total/NA	Water	PrecSep_0	
180-157134-5	FIELD BLANK	Total/NA	Water	PrecSep_0	
MB 160-614558/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-614558/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
180-157134-1 DU	CCR-AP-7	Total/NA	Water	PrecSep_0	

Client Information		Sampler		Lab PM: Hayes, Ken		COC No: 180-91635-14505.2			
Client Contact: Mark Breiting		Phone:		E-Mail: Ken.Hayes@et.eurofins.com		Page: 6 of 6			
Company: Atlas Technical Consultants LLC		Address: 7988 Centerpoint Drive Suite 100		State of Origin:		Job #:			
City: Indianapolis		State, Zip: IN, 46256		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - Trizma Y - Other (specify)			
PO #: FB-242026, AB-241410		WO #:		Project #: 18016014		Total Number of Containers			
Email: mark.breiting@atcassociates.com		Project Name: CCR Groundwater Monitoring FB Culley Wt57		SSOW#:		180-157134 Chain of Custody			
Due Date Requested:		TAT Requested (days):		Field Temperature (Yes or No)		/Note:			
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=water, B=BT-Tissue, A=Air)	Sample Date	Sample Time	Sample Type	Matrix	Analysis Requested
CCR-AP-7	5-22-23	11:20	G	W	5-22-23	11:20	G	W	9040C, 9066A, ORGFM_28D
MS 2	5-22-23	11:20			5-22-23	11:20			2640C, Calcd - TDS
MSD 2	5-22-23	11:20			5-22-23	11:20			6020A, 7470A
WAP 7D	5-22-23	14:30			5-22-23	14:30			9316, Pa226, 9320, Pa228
WAP 7S	5-22-23	13:20			5-22-23	13:20			
WAP 2A	5-22-23	15:40			5-22-23	15:40			
Field Blank 1	5-22-23	13:20			5-22-23	13:20			

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
 Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: _____ Date: _____ Time: _____

Relinquished by: *Hayley Toile* Date/Time: 5-24-23/16:00 Company: ATLAS

Relinquished by: _____ Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: Yes No Custody Seal No.: _____

Relinquished by: *F. de* Date/Time: 5-24-23/16:00 Company: _____

Relinquished by: *Regan* Date/Time: 5-24-23/16:00 Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Special Instructions/QC Requirements: _____

Return To Client Disposal By Lab Archive For _____ Months

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Method of Shipment: _____

Received by: _____ Date/Time: _____ Company: _____

Received by: _____ Date/Time: _____ Company: _____

Received by: _____ Date/Time: _____ Company: _____

Cooler Temperature(s) °C and Other Remarks: _____



Chain of Custody Record



Client Information (Sub Contract Lab)		Lab PM: Hayes, Ken	Carrier Tracking No(s): COC No: 180-487999.1																																																																																				
Client Contact: Shipping/Receiving		E-Mail: Ken.Hayes@et.eurofinsus.com	Page: Page 1 of 1																																																																																				
Company: TestAmerica Laboratories, Inc.		State of Origin: Indiana	Job #: 180-157134-1																																																																																				
Address: 13715 Rider Trail North,		Accreditations Required (See note):																																																																																					
City: Earth City	Due Date Requested: 6/4/2023	Analysis Requested <table border="1"> <thead> <tr> <th>Sample ID (Lab ID)</th> <th>Sample Date</th> <th>Sample Time</th> <th>Sample Type (C=Comp, G=grab)</th> <th>Matrix (W=water, S=solid, O=water/oil, BT=tissue, AA=air)</th> <th>Field Filtered Sample (Yes or No)</th> <th>Perform MS/MSD (Yes or No)</th> <th>9315 Ra226/PreSep_21 Standard Target List</th> <th>9320 Ra228/PreSep_0 Standard Target List</th> <th>Ra226Ra228_GFPc</th> <th>Total Number of Containers</th> <th>Special Instructions/Note:</th> </tr> </thead> <tbody> <tr> <td>CCR-AP-7 (180-157134-1)</td> <td>5/22/23</td> <td>11:20 Eastern</td> <td></td> <td>Water</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>2</td> <td></td> </tr> <tr> <td>CCR-AP-7 (180-157134-1DU)</td> <td>5/22/23</td> <td>11:20 Eastern</td> <td>DU</td> <td>Water</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>4</td> <td></td> </tr> <tr> <td>WAP 7D (180-157134-2)</td> <td>5/22/23</td> <td>14:30 Eastern</td> <td></td> <td>Water</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>2</td> <td></td> </tr> <tr> <td>WAP 7S (180-157134-3)</td> <td>5/22/23</td> <td>13:20 Eastern</td> <td></td> <td>Water</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>2</td> <td></td> </tr> <tr> <td>WAP 2R (180-157134-4)</td> <td>5/22/23</td> <td>15:40 Eastern</td> <td></td> <td>Water</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>2</td> <td></td> </tr> <tr> <td>FIELD BLANK (180-157134-5)</td> <td>5/22/23</td> <td>13:20 Eastern</td> <td></td> <td>Water</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>2</td> <td></td> </tr> </tbody> </table>		Sample ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=water/oil, BT=tissue, AA=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315 Ra226/PreSep_21 Standard Target List	9320 Ra228/PreSep_0 Standard Target List	Ra226Ra228_GFPc	Total Number of Containers	Special Instructions/Note:	CCR-AP-7 (180-157134-1)	5/22/23	11:20 Eastern		Water	X	X	X	X	X	2		CCR-AP-7 (180-157134-1DU)	5/22/23	11:20 Eastern	DU	Water	X	X	X	X	X	4		WAP 7D (180-157134-2)	5/22/23	14:30 Eastern		Water	X	X	X	X	X	2		WAP 7S (180-157134-3)	5/22/23	13:20 Eastern		Water	X	X	X	X	X	2		WAP 2R (180-157134-4)	5/22/23	15:40 Eastern		Water	X	X	X	X	X	2		FIELD BLANK (180-157134-5)	5/22/23	13:20 Eastern		Water	X	X	X	X	X	2	
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State, Zip MO, 63045	TAT Requested (days):																																																																																						
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:																																																																																						
Email:	WO #:																																																																																						
Project Name: CCR Groundwater Monitoring	Project #: 18016014																																																																																						
Site:	SSOW#:																																																																																						
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<p>Preservation Codes:</p> <p>M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA Y - Trizma Z - other (specify) Other:</p>																																																																																							
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Special Instructions/Note:

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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/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: _____ Method of Shipment: _____
 Relinquished by: _____ Date/Time: 5/31/23 17:00 Company: FedEx Received by: _____ Date/Time: _____ Company: _____
 Relinquished by: _____ Date/Time: _____ Company: _____ Received by: _____ Date/Time: 6/1/23 08:50 Company: E7ASTC
 Relinquished by: _____ Date/Time: _____ Company: _____ Received by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: _____ Custody Seal No.: _____
 Δ Yes Δ No Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-157134-1
SDG Number: FB Cully West

Login Number: 157134

List Number: 1

Creator: Abernathy, Eric L

List Source: Eurofins Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is < /= 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 < 6mm (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: 180-157134-1
SDG Number: FB Cully West

Login Number: 157134

List Number: 2

Creator: Sharkey-Gonzalez, Briana L

List Source: Eurofins St. Louis

List Creation: 06/01/23 12:44 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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?	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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

