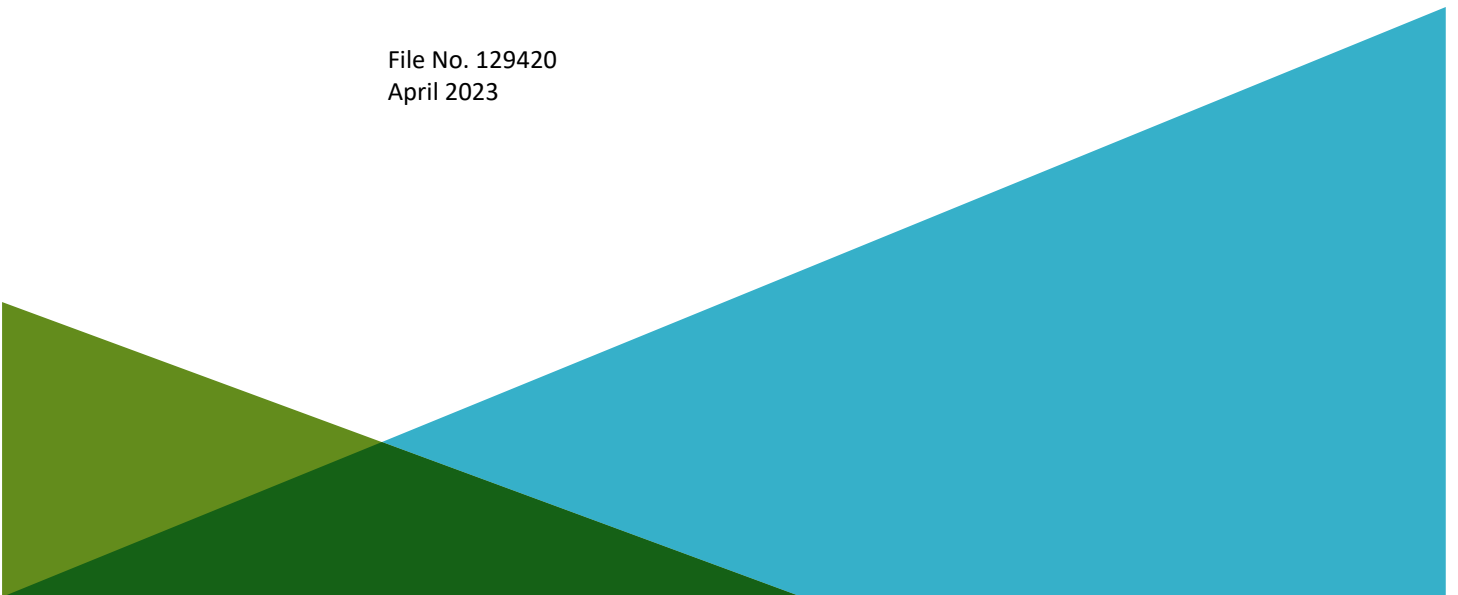


2021 ANNUAL GROUNDWATER MONITORING AND
CORRECTIVE ACTION REPORT ADDENDUM
SEDIMENTATION POND
A.B. BROWN GENERATING STATION
POSEY COUNTY, INDIANA

by
Haley & Aldrich, Inc.
Greenville, South Carolina

for
Southern Indiana Gas and Electric Company
Evansville, Indiana

File No. 129420
April 2023





HALEY & ALDRICH, INC.
400 Augusta Street
Suite 100
Greenville, SC 29601
864.214.8750

26 April 2023
File No. 129420

SUBJECT: 2021 Annual Groundwater Monitoring and Corrective Action Report Addendum
Southern Indiana Gas and Electric Company
Sedimentation Pond
A.B. Brown Generating Station; Posey County, Indiana

The Sedimentation Pond at A.B. Brown Generating Station is subject to the groundwater monitoring and corrective action requirements described under 40 CFR § 257.90 through § 257.98 (Rule). An Annual Groundwater Monitoring and Corrective Action Report documenting the activities completed in 2021 for the Sedimentation Pond was completed and placed in the facilities operating record on 31 January 2022, as required by the Rule. The Annual Groundwater Monitoring and Corrective Action Report (annual groundwater report) contained the specific information listed in § 257.90(e).

This report addendum has been prepared to supplement the operating record in recognition of comments issued by the United States Environmental Protection Agency (U.S. EPA) on 11 January 2022 to various utilities regarding their respective Part A extension applications, and EPA's "proposed finding that GWMCA reports are incomplete and lack clarity of visual representation of data" in the proposed conditional approval for the A.B. Brown Generating Station that was released on October 5, 2022. Those comments, proposed finding, and U.S. EPA clarifications were understood to be U.S. EPA's expectations regarding the contents of a facility's annual groundwater reporting. In addition to the information listed in § 257.90(e), the U.S. EPA indicated in their comments that annual reports should contain:

- Water level gauging data for each sampling event, including groundwater elevation data, a determination of groundwater flow direction(s) and rate(s), and updated potentiometric surface map(s);
- Laboratory analytical reports to verify that groundwater sampling and analysis requirements outlined in § 257.93 are being met; and finally,
- Statistical analyses, including detailed discussion of the statistical analyses (e.g., statistical method applied, confidence levels, normality test results).

While this information is not specifically referred to in 257.90(e) of the Rule for inclusion in the annual reports, it has been routinely collected and maintained in Southern Indiana Gas and Electric Company's files, and is being provided in the attachments to this addendum as follows:

Attachment 1 – Groundwater Gauging Data

- Summary of groundwater gauging data

Attachment 2 – Updated Potentiometric Surface Map containing most recent groundwater elevation data

- Water table configuration maps – May 2021
- Water table configuration map – November 2021

Water table maps include groundwater flow direction arrows and groundwater velocity calculations.

Attachment 3 – Laboratory Analytical Reports

- Laboratory data packages

Includes supporting information, such as, case narrative, sample and method summary, analytical results, quality control, and chain-of-custody documentation.

Attachment 4 – Statistical Analyses

- Statistical Evaluation of the May 2021 Semi-annual Groundwater Assessment
- Statistical Evaluation of the November 2020 Semi-annual Groundwater Assessment

Includes a discussion of the statistical analysis utilized along with a table summarizing the statistical outputs (e.g., frequency of detection, maximum detection, variance, standard deviation, coefficient of variance, outlier tests, trends, upper and lower confidence limits, and comparison against Groundwater Protection Standards), and supporting backup.

ATTACHMENT 1
Groundwater Gauging Data

VECTREN - AB BROWN STATION
 CCR Groundwater Sampling Event
 Gauging Date: May 13, 2021
 ATC Project No. 170LF01118

WELL ID	DATE	TIME	DTW FROM TOC
French Drain Area Locations			
HA-PP-1	5/13/2021	9:00	2.40
HA-PP-2	5/13/2021	9:10	2.95
FD PZ-1	5/13/2021	16:40	7.61
FD PZ-2	5/13/2021	16:45	3.82
CCR-SG-3	5/13/2021	9:25	1.00
MH-1	5/13/2021	10:45	9.20
MH-2	5/13/2021	10:50	11.09
Ash Pond Wells			
CCR-AP-1R	5/13/2021	15:20	14.44
CCR-AP-2R	5/13/2021	9:50	38.62
CCR-AP-2I	5/13/2021	9:55	25.17
CCR-AP-3R	5/13/2021	10:15	38.81
CCR-AP-3I	5/13/2021	10:20	22.62
CCR-AP-4R	5/13/2021	14:20	32.64
CCR-AP-5	Destroyed		
CCR-AP-6	5/13/2021	13:35	15.71
CCR-AP-7R	5/13/2021	13:55	34.29
CCR-AP-8	5/13/2021	8:20	4.42
CCR-AP-9	5/13/2021	8:35	7.80
CCR-AP-10	5/13/2021	14:50	35.09
CCR-AP-11	5/13/2021	8:00	11.06
Landfill Wells			
CCR-LF-1	5/13/2021	11:40	7.38
CCR-LF-2	5/13/2021	11:25	26.68
CCR-LF-3	5/13/2021	11:10	29.07
CCR-LF-4	5/13/2021	17:10	46.99
CCR-LF-5	5/13/2021	13:05	20.39
CCR-LF-6	5/13/2021	12:50	8.48
Sedimentation Pond Wells			
CCR-SP-1	5/13/2021	12:00	10.83
CCR-SP-2	5/13/2021	12:15	13.00
CCR-SP-3	5/13/2021	12:30	7.10
Background Wells			
CCR-BK-1R	5/13/2021	15:45	60.61
CCR-BK-2	5/13/2021	16:10	16.81

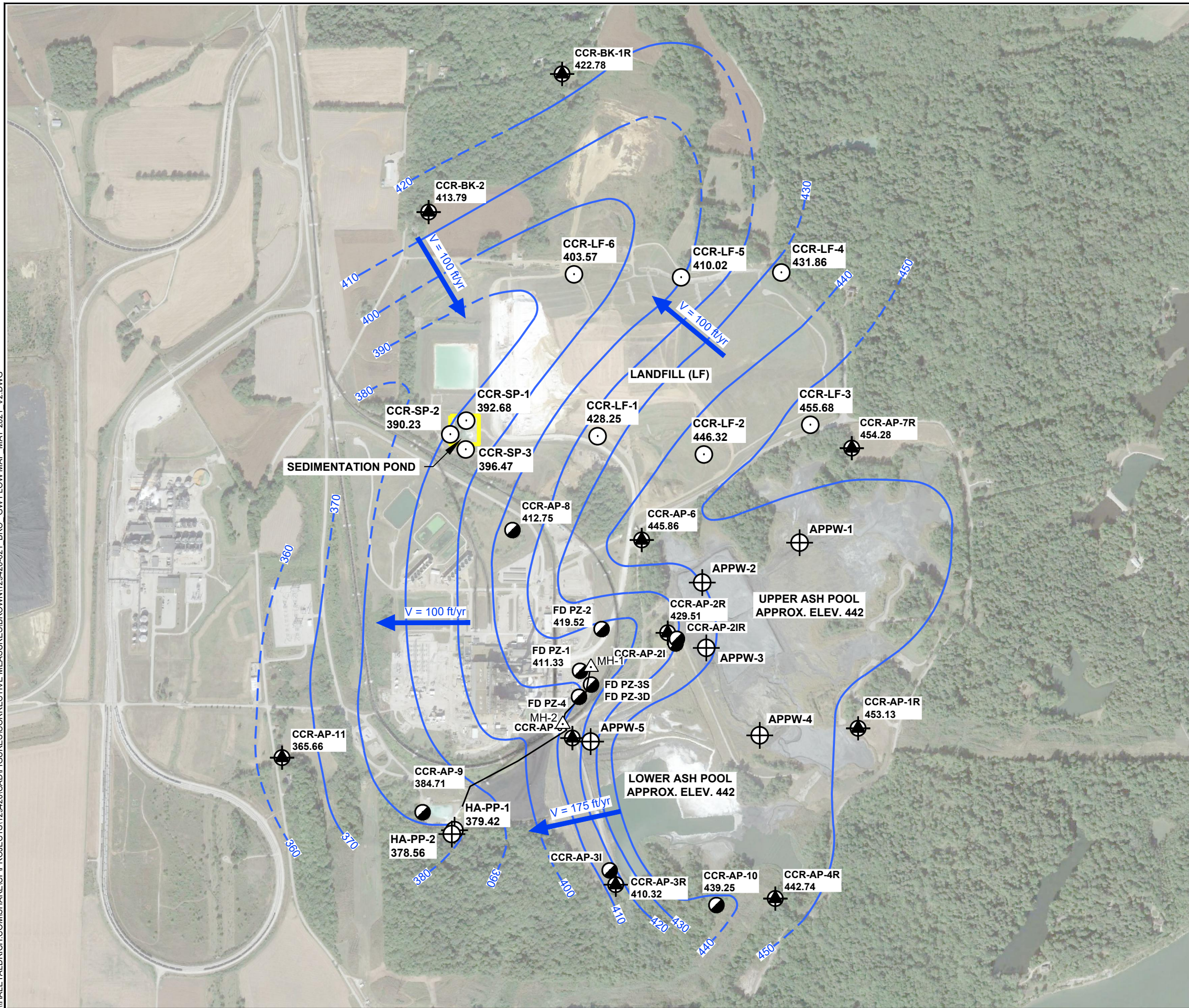
DTW= Depth to Water
 TOC= Top of Casing

VECTREN - AB BROWN STATION
CCR Groundwater Sampling Event
Gauging Date: November 15, 2021
ATC Project No. 17OLF01118

WELL ID	DATE	TIME	DTW FROM TOC
French Drain Area Locations			
HA-PP-1	11/16/2021	8:00	2.82
HA-PP-2	11/16/2021	8:02	3.00
FD PZ-1	11/16/2021	13:40	7.41
FD PZ-2	11/16/2021	13:23	5.05
FD PZ-3S	11/16/2021	Inadvertently Not Gauged	
FD PZ-3D	11/16/2021	Inadvertently Not Gauged	
FD PZ-4	11/16/2021	Inadvertently Not Gauged	
CCR-SG-3	11/16/2021	8:03	0.98
MH-1	11/16/2021	13:00	9.30
MH-2	11/16/2021	13:10	9.55
Ash Pond Wells			
CCR-AP-1R	11/16/2021	12:45	18.60
CCR-AP-2R	11/16/2021	9:52	43.95
CCR-AP-2I	11/16/2021	9:55	31.55
CCR-AP-3R	11/16/2021	10:12	40.42
CCR-AP-3I	11/16/2021	10:09	31.35
CCR-AP-4R	11/16/2021	12:27	37.02
CCR-AP-5	Destroyed		
CCR-AP-6	11/16/2021	8:36	18.53
CCR-AP-7R	11/16/2021	12:07	35.85
CCR-AP-8	11/16/2021	14:00	6.85
CCR-AP-9	11/16/2021	8:07	8.45
CCR-AP-10	11/16/2021	12:23	40.05
CCR-AP-11	11/16/2021	8:25	14.00
Landfill Wells			
CCR-LF-1	11/16/2021	9:41	11.05
CCR-LF-2	11/16/2021	9:30	27.75
CCR-LF-3	11/16/2021	9:34	30.48
CCR-LF-4	11/16/2021	8:42	47.72
CCR-LF-5	11/16/2021	9:02	22.20
CCR-LF-6	11/16/2021	9:06	8.87
Sedimentation Pond Wells			
CCR-SP-1	11/16/2021	9:14	14.22
CCR-SP-2	11/16/2021	9:18	15.81
CCR-SP-3	11/16/2021	9:22	10.33
Background Wells			
CCR-BK-1R	11/16/2021	8:55	60.50
CCR-BK-2	11/16/2021	8:50	24.55

DTW= Depth to Water
TOC= Top of Casing

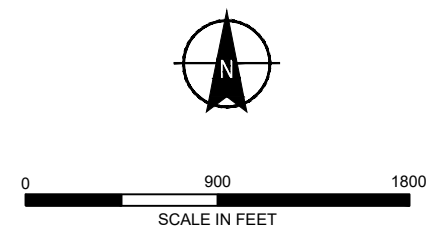
ATTACHMENT 2
Updated Potentiometric Surface Map Containing Most
Recent Groundwater Elevation Data



LEGEND

- CCR MONITORING WELL
- NATURE AND EXTENT MONITORING WELL
- CCR PIEZOMETER WELL
- SEDIMENTATION POND AND LANDFILL CCR MONITORING WELL
- APPROXIMATE UNIT BOUNDARY
- GROUNDWATER ELEVATION CONTOUR, 10-FT INTERVAL
DASHED WHERE INFERRED

- NOTES**
1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
 2. APPROXIMATE GROUNDWATER FLOW RATE CALCULATED USING $V = ki/n_e$ where
 - V = GROUNDWATER FLOW VELOCITY IN FEET PER YEAR
 - k = HORIZONTAL HYDRAULIC CONDUCTIVITY IN FEET PER DAY
 - i = HORIZONTAL GROUNDWATER GRADIENT IN FEET PER FOOT
 - n_e = ASSUMED EFFECTIVE PEROSITY
 3. $K = 2.3$ FEET PER DAY
 4. $n_e = 0.25$
 5. CCR = COAL COMBUSTION RESIDUALS
 6. AERIAL IMAGERY SOURCE: GOOGLE 2018

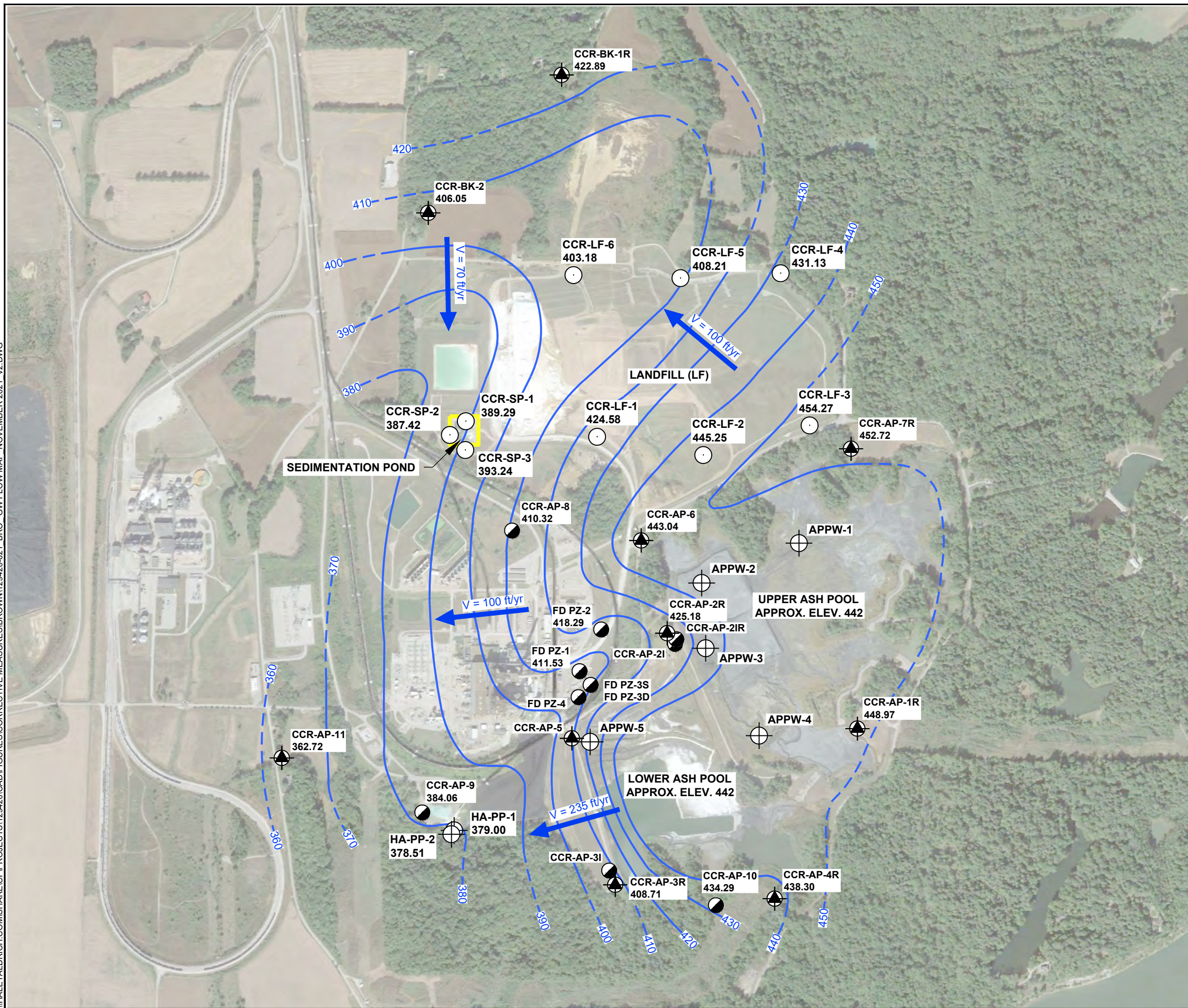


HALEY ALDRICH SOUTHERN INDIANA GAS AND ELECTRIC COMPANY
 A.B. BROWN GENERATING STATION
 MOUNT VERNON, INDIANA

**WATER TABLE CONFIGURATION MAP
 MAY 2021**

SCALE: AS SHOWN
 JULY 2022

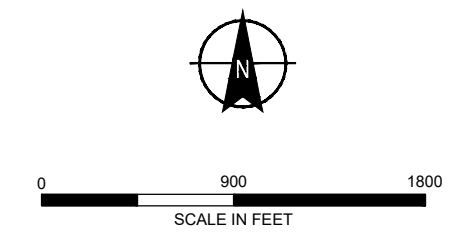
FIGURE 1



LEGEND

- CCR MONITORING WELL
- NATURE AND EXTENT MONITORING WELL
- CCR PIEZOMETER WELL
- SEDIMENTATION POND AND LANDFILL CCR MONITORING WELL
- APPROXIMATE UNIT BOUNDARY
- GROUNDWATER ELEVATION CONTOUR, 10-FT INTERVAL
DASHED WHERE INFERRED

- NOTES**
1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
 2. APPROXIMATE GROUNDWATER FLOW RATE CALCULATED USING $V = ki/n_e$ where
 - V = GROUNDWATER FLOW VELOCITY IN FEET PER YEAR
 - k = HORIZONTAL HYDRAULIC CONDUCTIVITY IN FEET PER DAY
 - i = HORIZONTAL GROUNDWATER GRADIENT IN FEET PER FOOT
 - n_e = ASSUMED EFFECTIVE PEROSITY
 3. $K = 2.3$ FEET PER DAY
 4. $n_e = 0.25$
 5. CCR = COAL COMBUSTION RESIDUALS
 6. AERIAL IMAGERY SOURCE: GOOGLE 2018



HALEY ALDRICH SOUTHERN INDIANA GAS AND ELECTRIC COMPANY
 A.B. BROWN GENERATING STATION
 MOUNT VERNON, INDIANA

**WATER TABLE CONFIGURATION MAP
 NOVEMBER 2021**

SCALE: AS SHOWN
 MARCH 2022 FIGURE 2

ATTACHMENT 3
Laboratory Analytical Reports

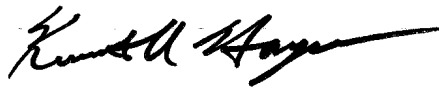
ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

Laboratory Job ID: 180-122065-1
Laboratory Sample Delivery Group: AB Brown
Client Project/Site: AB Brown
Revision: 1

For:
Haley & Aldrich, Inc.
465 Medford St
Suite 2200
Boston, Massachusetts 02129-0414

Attn: Mark Miesfeldt



Authorized for release by:
7/23/2021 10:46:02 AM

Ken Hayes, Project Manager II
(615)301-5035
Ken.Hayes@Eurofinset.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

PA Lab ID: 02-00416



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	6
Certification Summary	8
Sample Summary	10
Method Summary	11
Lab Chronicle	12
Client Sample Results	23
QC Sample Results	43
QC Association Summary	54
Chain of Custody	61
Receipt Checklists	69

Case Narrative

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Job ID: 180-122065-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative 180-122065-1

REVISED REPORT

Revised to add the site name to the report. This report replaces the one generated on 07/19/21 @ 09:20.

Receipt

The samples were received on 5/21/2021 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 2.2° C, 3.7° C, 4.6° C and 4.9° C.

Receipt Exceptions

The following samples were listed on the Chain of Custody (COC); however, no samples were received: CCR-AP-2I (180-122065-3), CCR-AP-3R (180-122065-4), CCR-AP-3I (180-122065-5) and CCR-AP-4R (180-122065-6). There is a missing cooler with this job. The following samples were received 5/27/21

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): CCR-LF-5 (180-122065-11). The container labels list a sample id of CCR-LF-4, while the COC lists CCR-LF-5. The id on the COC was used.

The following samples were received outside of holding time for the TDS analysis: CCR-AP-2I (180-122065-3), CCR-AP-3R (180-122065-4), CCR-AP-3I (180-122065-5) and CCR-AP-4R (180-122065-6).

GC Semi VOA

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

RAD

Methods 903.0, 9315: Radium-226 Batch 511925: 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. BLIND DUPLICATE 1 (180-122065-15), CCR-AP-10 (180-122065-16), (LCS 160-511925/1-A), (MB 160-511925/23-A), (500-199645-D-4-A) and (500-199645-E-4-A DU)

Methods 903.0, 9315: Radium-226 prep batch 160-513098: 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-2I (180-122065-3), CCR-AP-3R (180-122065-4), CCR-AP-3I (180-122065-5), CCR-AP-4R (180-122065-6), (LCS 160-513098/1-A), (LCS 160-513098/2-A) and (MB 160-513098/23-A)

Methods 903.0, 9315: Radium-226 prep batch 160-515419: 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-1R (180-122065-1), CCR-AP-2R (180-122065-2), CCR-AP-6 (180-122065-7), CCR-AP-7R (180-122065-8), CCR-AP-8 (180-122065-9), CCR-LF-4 (180-122065-10), CCR-LF-5 (180-122065-11), CCR-LF-6 (180-122065-12), CCR-BK-1R (180-122065-13), CCR-BK-2 (180-122065-14), (LCS 160-515419/1-A), (MB 160-515419/23-A), (500-199296-E-4-A) and (500-199296-D-4-A DU)

Methods 904.0, 9320: Radium228 prep batch 160-511755: 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-1R (180-122065-1), CCR-AP-2R (180-122065-2), CCR-AP-6 (180-122065-7), CCR-AP-7R (180-122065-8), CCR-AP-8 (180-122065-9), CCR-LF-4 (180-122065-10), CCR-LF-5 (180-122065-11), CCR-LF-6 (180-122065-12), CCR-BK-1R (180-122065-13), CCR-BK-2 (180-122065-14), (LCS 160-511755/1-A), (MB 160-511755/23-A), (500-199296-D-5-B) and (500-199296-E-5-C DU)

Methods 904.0, 9320: Radium228 prep batch 160-511755: The carrier recovery is outside acceptance limit for the laboratory control sample (LCS). The LCS spike recoveries are within control limits, which demonstrates acceptable sample preparation and instrument performance. As such, this was an apparent anomaly in the sample preparation, isolated to the LCS, which is not indicative of the entire batch.

(LCS 160-511755/1-A)

Case Narrative

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Job ID: 180-122065-1 (Continued)

Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

Method 9320: Radium-228 Batch 511931: The following sample did not meet the requested limit (RL) due to the reduced sample volume attributed to the presence of matrix interference. During preparation the analyst visually noted matrix effects. The data have been reported with this narrative. CCR-AP-10 (180-122065-16)

Methods 904.0, 9320: Radium-228 Batch 511931: 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. BLIND DUPLICATE 1 (180-122065-15), CCR-AP-10 (180-122065-16), (LCS 160-511931/1-A), (MB 160-511931/23-A), (500-199645-D-4-B) and (500-199645-E-4-B DU)

Methods 904.0, 9320: Radium-228 Batch 513102: 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-2I (180-122065-3), CCR-AP-3R (180-122065-4), CCR-AP-3I (180-122065-5), CCR-AP-4R (180-122065-6), (LCS 160-513102/1-A), (LCSD 160-513102/2-A) and (MB 160-513102/23-A)

Method PrecSep_0: Ra-228 Batch 160-511755: During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: CCR-AP-1R (180-122065-1), CCR-AP-2R (180-122065-2), CCR-AP-6 (180-122065-7), CCR-AP-7R (180-122065-8) and CCR-LF-4 (180-122065-10). This is an indicator of matrix interference.

Method PrecSep_0: Ra-228 Batch 160-511931: During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: BLIND DUPLICATE 1 (180-122065-15) and CCR-AP-10 (180-122065-16). This is an indicator of matrix interference.

Method PrecSep_0: Ra-228 Batch 160-513102: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: CCR-AP-2I (180-122065-3), CCR-AP-3R (180-122065-4), CCR-AP-3I (180-122065-5) and CCR-AP-4R (180-122065-6). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Ra-226 Batch 160-511750: During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: CCR-AP-1R (180-122065-1), CCR-AP-2R (180-122065-2), CCR-AP-6 (180-122065-7), CCR-AP-7R (180-122065-8) and CCR-LF-4 (180-122065-10). This is an indicator of matrix interference.

Method PrecSep-21: Ra-226 Batch 160-511925: During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: BLIND DUPLICATE 1 (180-122065-15) and CCR-AP-10 (180-122065-16). This is an indicator of matrix interference.

Method PrecSep-21: Ra-226 Batch 160-513098: Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: CCR-AP-2I (180-122065-3), CCR-AP-3R (180-122065-4), CCR-AP-3I (180-122065-5) and CCR-AP-4R (180-122065-6). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

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 manganese associated with batch 180-359290 was outside of control limits. The associated sample is: CCR-AP-2R (180-122065-2).

Method 6020A: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-AP-2R (180-122065-2), (180-122065-E-2-C MS ^10), (180-122065-E-2-D MSD ^10), (180-122065-E-2-B PDS ^10) and (180-122065-E-2-B SD ^50). Elevated reporting limits (RLs) are provided.

Method 6020A: The post digestion spike % recovery for boron associated with batch 180-359431 was outside of control limits. The associated sample is: CCR-AP-2R (180-122065-2).

Case Narrative

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Job ID: 180-122065-1 (Continued)

Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

Method 6020A: The post digestion spike % recovery for calcium associated with batch 180-360167 was outside of control limits. The associated sample is: CCR-AP-2I (180-122065-3).

Method 6020A: The following sample was diluted to bring the concentration of target analytes within the calibration range: CCR-AP-3R (180-122065-4). 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.

General Chemistry

Method SM 2540C: The following samples were analyzed outside of analytical holding time due to analyst error. CCR-AP-3I (180-122065-5), CCR-AP-4R (180-122065-6) and CCR-AP-10 (180-122065-16).

Method SM 2540C: The following samples were analyzed outside of analytical holding time due to analyst error. CCR-AP-2I (180-122065-3) and CCR-AP-3R (180-122065-4).

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: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Qualifiers

HPLC/IC

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

Metals

Qualifier	Qualifier Description
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
H	Sample was prepped or analyzed beyond the specified holding time
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.
X	Carrier is outside acceptance limits.

Glossary

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

Definitions/Glossary

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

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Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Laboratory: Eurofins TestAmerica, 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	06-27-21
California	State	2891	04-30-21 *
Connecticut	State	PH-0688	09-30-22
Florida	NELAP	E871008	06-30-21
Georgia	State	PA 02-00416	04-30-22
Illinois	NELAP	004375	06-16-21
Kansas	NELAP	E-10350	01-31-22
Kentucky (UST)	State	162013	04-30-22
Kentucky (WW)	State	KY98043	12-31-21
Louisiana	NELAP	04041	06-30-21
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-21
Nevada	State	PA00164	07-30-21
New Hampshire	NELAP	2030	04-05-22
New Jersey	NELAP	PA005	06-30-21
New York	NELAP	11182	04-01-22
North Carolina (WW/SW)	State	434	12-31-21
North Dakota	State	R-227	04-30-22
Oregon	NELAP	PA-2151	02-06-22
Pennsylvania	NELAP	02-00416	04-30-22
Rhode Island	State	LAO00362	12-31-21
South Carolina	State	89014	04-30-22
Texas	NELAP	T104704528	03-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-21 *
Virginia	NELAP	10043	09-14-21
West Virginia DEP	State	142	01-31-22
Wisconsin	State	998027800	08-31-21

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

Eurofins TestAmerica, Pittsburgh

Accreditation/Certification Summary

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Laboratory: Eurofins TestAmerica, 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	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	07-19-21
MI - RadChem Recognition	State	9005	06-30-21 *
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	07-01-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-21 *
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

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

Sample Summary

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-122065-1	CCR-AP-1R	Water	05/18/21 16:45	05/21/21 09:00
180-122065-2	CCR-AP-2R	Water	05/18/21 10:30	05/21/21 09:00
180-122065-3	CCR-AP-2I	Water	05/18/21 12:15	05/21/21 09:00
180-122065-4	CCR-AP-3R	Water	05/18/21 13:45	05/21/21 09:00
180-122065-5	CCR-AP-3I	Water	05/18/21 15:15	05/21/21 09:00
180-122065-6	CCR-AP-4R	Water	05/18/21 16:00	05/21/21 09:00
180-122065-7	CCR-AP-6	Water	05/19/21 16:00	05/21/21 09:00
180-122065-8	CCR-AP-7R	Water	05/19/21 16:45	05/21/21 09:00
180-122065-9	CCR-AP-8	Water	05/19/21 15:00	05/21/21 09:00
180-122065-10	CCR-LF-4	Water	05/19/21 17:45	05/21/21 09:00
180-122065-11	CCR-LF-5	Water	05/19/21 18:30	05/21/21 09:00
180-122065-12	CCR-LF-6	Water	05/19/21 19:15	05/21/21 09:00
180-122065-13	CCR-BK-1R	Water	05/19/21 13:30	05/21/21 09:00
180-122065-14	CCR-BK-2	Water	05/19/21 11:45	05/21/21 09:00
180-122065-15	BLIND DUPLICATE 1	Water	05/19/21 00:00	05/21/21 09:00
180-122065-16	CCR-AP-10	Water	05/18/21 18:45	05/21/21 09:00



Method Summary

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Method	Method Description	Protocol	Laboratory
EPA 9056A	Anions, Ion Chromatography	SW846	TAL PIT
EPA 6020A	Metals (ICP/MS)	SW846	TAL PIT
EPA 7470A	Mercury (CVAA)	SW846	TAL PIT
EPA 9040C	pH	SW846	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL PIT
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None

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.

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

Laboratory References:

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

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

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-AP-1R

Lab Sample ID: 180-122065-1

Date Collected: 05/18/21 16:45

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			358865	05/30/21 05:13	SAT	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	359040	06/01/21 11:34	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359290	06/02/21 09:46	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			25 mL	25 mL	358873	05/29/21 09:42	KHM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359233	06/02/21 12:20	KHM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			359558	06/04/21 17:52	ELS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	358309	05/25/21 20:19	KMM	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			1000.19 mL	1.0 g	515419	06/22/21 10:46	MJ	TAL SL
Total/NA	Analysis	9315		1			518711	07/15/21 15:01	JCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1001.06 mL	1.0 g	511755	05/26/21 13:25	MJ	TAL SL
Total/NA	Analysis	9320		1			514698	06/17/21 09:23	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			519144	07/18/21 21:42	GRW	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: CCR-AP-2R

Lab Sample ID: 180-122065-2

Date Collected: 05/18/21 10:30

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			358865	05/30/21 01:03	SAT	TAL PIT
Instrument ID: INTEGRION										
Total/NA	Analysis	EPA 9056A		50			358865	05/30/21 01:21	SAT	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	359040	06/01/21 11:34	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359290	06/02/21 09:57	RSK	TAL PIT
Instrument ID: A										
Total Recoverable	Prep	3005A			50 mL	50 mL	359040	06/01/21 11:34	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		10			359431	06/03/21 09:11	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			25 mL	25 mL	358873	05/29/21 09:42	KHM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359233	06/02/21 12:21	KHM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			359558	06/04/21 17:57	ELS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	358309	05/25/21 20:19	KMM	TAL PIT
Instrument ID: NOEQUIP										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-AP-2R

Lab Sample ID: 180-122065-2

Date Collected: 05/18/21 10:30

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.80 mL	1.0 g	515419	06/22/21 10:46	MJ	TAL SL
Total/NA	Analysis	9315		1			518711	07/15/21 14:54	JCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1001.80 mL	1.0 g	511755	05/26/21 13:25	MJ	TAL SL
Total/NA	Analysis	9320		1			514698	06/17/21 09:23	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			519144	07/18/21 21:42	GRW	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: CCR-AP-2I

Lab Sample ID: 180-122065-3

Date Collected: 05/18/21 12:15

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			358865	05/30/21 08:47	SAT	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	359844	06/08/21 09:00	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			360167	06/09/21 10:29	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	359786	06/08/21 06:11	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359902	06/08/21 12:49	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	EPA 9040C		1			360484	06/11/21 19:17	ELS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	359087	06/01/21 20:06	KMM	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			1001.05 mL	1.0 g	513098	06/07/21 09:17	MJ	TAL SL
Total/NA	Analysis	9315		1			516647	06/30/21 07:32	SCB	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			1001.05 mL	1.0 g	513102	06/07/21 10:13	MJ	TAL SL
Total/NA	Analysis	9320		1			516466	06/28/21 13:46	ANW	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			516799	06/30/21 16:38	GRW	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: CCR-AP-3R

Lab Sample ID: 180-122065-4

Date Collected: 05/18/21 13:45

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			358865	05/30/21 02:50	SAT	TAL PIT
Instrument ID: INTEGRION										
Total/NA	Analysis	EPA 9056A		50			358865	05/30/21 03:08	SAT	TAL PIT
Instrument ID: INTEGRION										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-AP-3R

Lab Sample ID: 180-122065-4

Date Collected: 05/18/21 13:45

Matrix: Water

Date Received: 05/21/21 09:00

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	359844	06/08/21 09:00	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			360167	06/09/21 10:59	RSK	TAL PIT
Instrument ID: NEMO										
Total Recoverable	Prep	3005A			50 mL	50 mL	359844	06/08/21 09:00	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020A		5			360344	06/10/21 11:23	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	359786	06/08/21 06:11	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359902	06/08/21 12:50	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	EPA 9040C		1			360484	06/11/21 19:19	ELS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	359087	06/01/21 20:06	KMM	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			1001.81 mL	1.0 g	513098	06/07/21 09:17	MJ	TAL SL
Total/NA	Analysis	9315		1			516647	06/30/21 07:32	SCB	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			1001.81 mL	1.0 g	513102	06/07/21 10:13	MJ	TAL SL
Total/NA	Analysis	9320		1			516466	06/28/21 13:47	ANW	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			516799	06/30/21 16:38	GRW	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: CCR-AP-3I

Lab Sample ID: 180-122065-5

Date Collected: 05/18/21 15:15

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			358865	05/30/21 10:34	SAT	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	359844	06/08/21 09:00	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			360167	06/09/21 11:10	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	359786	06/08/21 06:11	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359902	06/08/21 12:51	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	EPA 9040C		1			360484	06/11/21 19:22	ELS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	358676	05/27/21 19:55	GRB	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			1001.40 mL	1.0 g	513098	06/07/21 09:17	MJ	TAL SL
Total/NA	Analysis	9315		1			516648	06/30/21 09:24	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1001.40 mL	1.0 g	513102	06/07/21 10:13	MJ	TAL SL
Total/NA	Analysis	9320		1			516466	06/28/21 13:47	ANW	TAL SL
Instrument ID: GFPCPURPLE										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-AP-3I

Lab Sample ID: 180-122065-5

Date Collected: 05/18/21 15:15

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			516799	06/30/21 16:38	GRW	TAL SL

Client Sample ID: CCR-AP-4R

Lab Sample ID: 180-122065-6

Date Collected: 05/18/21 16:00

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		1			358865	05/30/21 01:39	SAT	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	359844	06/08/21 09:00	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: NEMO		1			360167	06/09/21 11:13	RSK	TAL PIT
Total/NA	Prep	7470A			25 mL	25 mL	359786	06/08/21 06:11	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGY		1			359902	06/08/21 12:52	RJR	TAL PIT
Total/NA	Analysis	EPA 9040C Instrument ID: NOEQUIP		1			360484	06/11/21 19:24	ELS	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	358676	05/27/21 19:55	GRB	TAL PIT
Total/NA	Prep	PrecSep-21			1000.33 mL	1.0 g	513098	06/07/21 09:17	MJ	TAL SL
Total/NA	Analysis	9315 Instrument ID: GFPCBLUE		1			516648	06/30/21 09:24	SCB	TAL SL
Total/NA	Prep	PrecSep_0			1000.33 mL	1.0 g	513102	06/07/21 10:13	MJ	TAL SL
Total/NA	Analysis	9320 Instrument ID: GFPCPURPLE		1			516466	06/28/21 13:47	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Instrument ID: NOEQUIP		1			516799	06/30/21 16:38	GRW	TAL SL

Client Sample ID: CCR-AP-6

Lab Sample ID: 180-122065-7

Date Collected: 05/19/21 16:00

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		2.5			358865	05/30/21 04:37	SAT	TAL PIT
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		25			358865	05/30/21 04:55	SAT	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	359040	06/01/21 11:34	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: A		1			359290	06/02/21 11:19	RSK	TAL PIT
Total/NA	Prep	7470A			25 mL	25 mL	358462	05/28/21 09:06	KHM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			359233	06/02/21 12:44	KHM	TAL PIT
Total/NA	Analysis	EPA 9040C Instrument ID: NOEQUIP		1			359558	06/04/21 18:07	ELS	TAL PIT

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-AP-6

Lab Sample ID: 180-122065-7

Date Collected: 05/19/21 16:00

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	358502	05/26/21 23:29	KMM	TAL PIT
Total/NA	Prep	PrecSep-21			991.49 mL	1.0 g	515419	06/22/21 10:46	MJ	TAL SL
Total/NA	Analysis	9315		1			518711	07/15/21 15:01	JCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.88 mL	1.0 g	511755	05/26/21 13:25	MJ	TAL SL
Total/NA	Analysis	9320		1			514698	06/17/21 09:23	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			519144	07/18/21 21:42	GRW	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: CCR-AP-7R

Lab Sample ID: 180-122065-8

Date Collected: 05/19/21 16:45

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			358865	05/30/21 03:26	SAT	TAL PIT
Instrument ID: INTEGRION										
Total/NA	Analysis	EPA 9056A		50			358865	05/30/21 03:44	SAT	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	359040	06/01/21 11:34	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359290	06/02/21 11:34	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			25 mL	25 mL	358462	05/28/21 09:06	KHM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359233	06/02/21 12:45	KHM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			359558	06/04/21 18:16	ELS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	358502	05/26/21 23:29	KMM	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			1001.50 mL	1.0 g	515419	06/22/21 10:46	MJ	TAL SL
Total/NA	Analysis	9315		1			518711	07/15/21 15:02	JCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.60 mL	1.0 g	511755	05/26/21 13:25	MJ	TAL SL
Total/NA	Analysis	9320		1			514698	06/17/21 09:23	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			519144	07/18/21 21:42	GRW	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: CCR-AP-8

Lab Sample ID: 180-122065-9

Date Collected: 05/19/21 15:00

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		2.5			358865	05/30/21 07:00	SAT	TAL PIT
Instrument ID: INTEGRION										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-AP-8

Lab Sample ID: 180-122065-9

Date Collected: 05/19/21 15:00

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		25			358865	05/30/21 07:18	SAT	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	359040	06/01/21 11:34	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359290	06/02/21 11:48	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Prep	7470A			25 mL	25 mL	358462	05/28/21 09:06	KHM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359233	06/02/21 12:46	KHM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	EPA 9040C		1			359558	06/04/21 18:21	ELS	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	358502	05/26/21 23:29	KMM	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			1001.73 mL	1.0 g	515419	06/22/21 10:46	MJ	TAL SL
Total/NA	Analysis	9315		1			518711	07/15/21 15:10	JCB	TAL SL
		Instrument ID: GFPCRED								
Total/NA	Prep	PrecSep_0			1001.73 mL	1.0 g	511755	05/26/21 13:25	MJ	TAL SL
Total/NA	Analysis	9320		1			514698	06/17/21 09:24	SCB	TAL SL
		Instrument ID: GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228		1			519144	07/18/21 21:42	GRW	TAL SL
		Instrument ID: NOEQUIP								

Client Sample ID: CCR-LF-4

Lab Sample ID: 180-122065-10

Date Collected: 05/19/21 17:45

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			358865	05/30/21 04:02	SAT	TAL PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		50			358865	05/30/21 04:19	SAT	TAL PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	359040	06/01/21 11:34	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359290	06/02/21 11:55	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Prep	7470A			25 mL	25 mL	358462	05/28/21 09:06	KHM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359233	06/02/21 12:47	KHM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	EPA 9040C		1			359558	06/04/21 18:26	ELS	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	358502	05/26/21 23:29	KMM	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			1000.88 mL	1.0 g	515419	06/22/21 10:46	MJ	TAL SL
Total/NA	Analysis	9315		1			518711	07/15/21 15:10	JCB	TAL SL
		Instrument ID: GFPCRED								
Total/NA	Prep	PrecSep_0			1000.38 mL	1.0 g	511755	05/26/21 13:25	MJ	TAL SL
Total/NA	Analysis	9320		1			514698	06/17/21 09:24	SCB	TAL SL
		Instrument ID: GFPCBLUE								

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-LF-4

Lab Sample ID: 180-122065-10

Date Collected: 05/19/21 17:45

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			519144	07/18/21 21:42	GRW	TAL SL

Client Sample ID: CCR-LF-5

Lab Sample ID: 180-122065-11

Date Collected: 05/19/21 18:30

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			358865	05/30/21 06:24	SAT	TAL PIT
Instrument ID: INTEGRION										
Total/NA	Analysis	EPA 9056A		50			358865	05/30/21 06:42	SAT	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	359040	06/01/21 11:34	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359290	06/02/21 12:06	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			25 mL	25 mL	358462	05/28/21 09:06	KHM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359233	06/02/21 12:48	KHM	TAL PIT
Instrument ID: HGZ										
Total/NA	Analysis	EPA 9040C		1			359558	06/04/21 18:31	ELS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	358504	05/26/21 23:36	KMM	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			1002.10 mL	1.0 g	515419	06/22/21 10:46	MJ	TAL SL
Total/NA	Analysis	9315		1			518711	07/15/21 15:03	JCB	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.21 mL	1.0 g	511755	05/26/21 13:25	MJ	TAL SL
Total/NA	Analysis	9320		1			514698	06/17/21 09:24	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			519144	07/18/21 21:42	GRW	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: CCR-LF-6

Lab Sample ID: 180-122065-12

Date Collected: 05/19/21 19:15

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		2.5			358865	05/30/21 07:36	SAT	TAL PIT
Instrument ID: INTEGRION										
Total/NA	Analysis	EPA 9056A		25			358865	05/30/21 07:54	SAT	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	359040	06/01/21 11:34	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359290	06/02/21 12:24	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			25 mL	25 mL	358462	05/28/21 09:06	KHM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359233	06/02/21 12:49	KHM	TAL PIT
Instrument ID: HGZ										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-LF-6

Lab Sample ID: 180-122065-12

Date Collected: 05/19/21 19:15

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9040C		1			359558	06/04/21 18:35	ELS	TAL PIT
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	358504	05/26/21 23:36	KMM	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			1002.28 mL	1.0 g	515419	06/22/21 10:46	MJ	TAL SL
Total/NA	Analysis	9315		1			518711	07/15/21 15:03	JCB	TAL SL
		Instrument ID: GFPCRED								
Total/NA	Prep	PrecSep_0			1000.41 mL	1.0 g	511755	05/26/21 13:25	MJ	TAL SL
Total/NA	Analysis	9320		1			514718	06/17/21 09:17	ANW	TAL SL
		Instrument ID: GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228		1			519144	07/18/21 21:42	GRW	TAL SL
		Instrument ID: NOEQUIP								

Client Sample ID: CCR-BK-1R

Lab Sample ID: 180-122065-13

Date Collected: 05/19/21 13:30

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1.0 mL	358865	05/29/21 23:51	SAT	TAL PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	359040	06/01/21 11:34	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359290	06/02/21 12:28	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Prep	7470A			25 mL	25 mL	358462	05/28/21 09:06	KHM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359233	06/02/21 12:52	KHM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	EPA 9040C		1			359558	06/04/21 18:40	ELS	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	358504	05/26/21 23:36	KMM	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			1001.20 mL	1.0 g	515419	06/22/21 10:46	MJ	TAL SL
Total/NA	Analysis	9315		1			518711	07/15/21 15:09	JCB	TAL SL
		Instrument ID: GFPCRED								
Total/NA	Prep	PrecSep_0			1001.07 mL	1.0 g	511755	05/26/21 13:25	MJ	TAL SL
Total/NA	Analysis	9320		1			514718	06/17/21 09:17	ANW	TAL SL
		Instrument ID: GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228		1			519144	07/18/21 21:42	GRW	TAL SL
		Instrument ID: NOEQUIP								

Client Sample ID: CCR-BK-2

Lab Sample ID: 180-122065-14

Date Collected: 05/19/21 11:45

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			358865	05/30/21 11:10	SAT	TAL PIT
		Instrument ID: INTEGRION								

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-BK-2

Lab Sample ID: 180-122065-14

Date Collected: 05/19/21 11:45

Matrix: Water

Date Received: 05/21/21 09:00

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	359040	06/01/21 11:34	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359290	06/02/21 12:31	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Prep	7470A			25 mL	25 mL	358873	05/29/21 09:42	KHM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359233	06/02/21 12:22	KHM	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	EPA 9040C		1			359558	06/04/21 18:45	ELS	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	358504	05/26/21 23:36	KMM	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			1002.24 mL	1.0 g	515419	06/22/21 10:46	MJ	TAL SL
Total/NA	Analysis	9315		1			518711	07/15/21 16:54	JCB	TAL SL
		Instrument ID: GFPCRED								
Total/NA	Prep	PrecSep_0			1001.22 mL	1.0 g	511755	05/26/21 13:25	MJ	TAL SL
Total/NA	Analysis	9320		1			514718	06/17/21 09:17	ANW	TAL SL
		Instrument ID: GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228		1			519144	07/18/21 21:42	GRW	TAL SL
		Instrument ID: NOEQUIP								

Client Sample ID: BLIND DUPLICATE 1

Lab Sample ID: 180-122065-15

Date Collected: 05/19/21 00:00

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		2.5			358865	05/30/21 08:12	SAT	TAL PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		25			358865	05/30/21 08:29	SAT	TAL PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	359040	06/01/21 11:34	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359290	06/02/21 12:35	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Prep	7470A			25 mL	25 mL	359382	06/03/21 12:00	KHM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359544	06/04/21 11:48	RJR	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	EPA 9040C		1			359558	06/04/21 18:50	ELS	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	358504	05/26/21 23:36	KMM	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			1000.68 mL	1.0 g	511925	05/27/21 14:34	HRT	TAL SL
Total/NA	Analysis	9315		1			514753	06/18/21 21:02	ANW	TAL SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.68 mL	1.0 g	511931	05/27/21 15:09	HRT	TAL SL
Total/NA	Analysis	9320		1			514804	06/18/21 09:22	ANW	TAL SL
		Instrument ID: GFPCORANGE								

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: BLIND DUPLICATE 1

Lab Sample ID: 180-122065-15

Date Collected: 05/19/21 00:00

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Ra226_Ra228		1			516786	06/30/21 14:47	GRW	TAL SL

Client Sample ID: CCR-AP-10

Lab Sample ID: 180-122065-16

Date Collected: 05/18/21 18:45

Matrix: Water

Date Received: 05/21/21 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		2.5			358865	05/30/21 09:59	SAT	TAL PIT
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		25			358865	05/30/21 10:17	SAT	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	359040	06/01/21 11:34	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: A		1			359290	06/02/21 12:49	RSK	TAL PIT
Total/NA	Prep	7470A			25 mL	25 mL	358873	05/29/21 09:42	KHM	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGZ		1			359233	06/02/21 12:23	KHM	TAL PIT
Total/NA	Analysis	EPA 9040C Instrument ID: NOEQUIP		1			359759	06/07/21 17:24	ELS	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	25 mL	100 mL	358676	05/27/21 19:55	GRB	TAL PIT
Total/NA	Prep	PrecSep-21			498.89 mL	1.0 g	511925	05/27/21 14:34	HRT	TAL SL
Total/NA	Analysis	9315 Instrument ID: GFPCBLUE		1			514753	06/18/21 21:02	ANW	TAL SL
Total/NA	Prep	PrecSep_0			498.89 mL	1.0 g	511931	05/27/21 15:09	HRT	TAL SL
Total/NA	Analysis	9320 Instrument ID: GFPCORANGE		1			514804	06/18/21 09:23	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Instrument ID: NOEQUIP		1			516786	06/30/21 14:47	GRW	TAL SL

Laboratory References:

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

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

Lab Chronicle

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Analyst References:

Lab: TAL PIT

Batch Type: Prep

KEM = Kimberly Mahoney

KHM = Kyle Mucroski

RJR = Ron Rosenbaum

TLP = Tara Peterson

Batch Type: Analysis

ELS = Edwin Shireman

GRB = Gabriel Berghe

KHM = Kyle Mucroski

KMM = Kendric Moore

RJR = Ron Rosenbaum

RSK = Robert Kurtz

SAT = Stephen Tallam

Lab: TAL SL

Batch Type: Prep

HRT = Hannah Tomasovic

MJ = Mary Johns

Batch Type: Analysis

ANW = Amber Woods

GRW = George Witt

JCB = Jacob Boyd

SCB = Sarah Bernsen

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-AP-1R

Lab Sample ID: 180-122065-1

Date Collected: 05/18/21 16:45

Matrix: Water

Date Received: 05/21/21 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20		1.0	0.71	mg/L			05/30/21 05:13	1
Fluoride	0.61		0.10	0.026	mg/L			05/30/21 05:13	1
Sulfate	190		1.0	0.76	mg/L			05/30/21 05:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/01/21 11:34	06/02/21 09:46	1
Arsenic	ND		0.0010	0.00031	mg/L		06/01/21 11:34	06/02/21 09:46	1
Barium	0.032		0.010	0.0016	mg/L		06/01/21 11:34	06/02/21 09:46	1
Beryllium	ND		0.0010	0.00018	mg/L		06/01/21 11:34	06/02/21 09:46	1
Boron	2.6		0.080	0.039	mg/L		06/01/21 11:34	06/02/21 09:46	1
Cadmium	ND		0.0010	0.00022	mg/L		06/01/21 11:34	06/02/21 09:46	1
Calcium	33		0.50	0.13	mg/L		06/01/21 11:34	06/02/21 09:46	1
Chromium	ND		0.0020	0.0015	mg/L		06/01/21 11:34	06/02/21 09:46	1
Cobalt	ND		0.00050	0.00013	mg/L		06/01/21 11:34	06/02/21 09:46	1
Lead	ND		0.0010	0.00013	mg/L		06/01/21 11:34	06/02/21 09:46	1
Lithium	ND		0.0050	0.0034	mg/L		06/01/21 11:34	06/02/21 09:46	1
Molybdenum	0.0047	J	0.0050	0.00061	mg/L		06/01/21 11:34	06/02/21 09:46	1
Selenium	ND		0.0050	0.0015	mg/L		06/01/21 11:34	06/02/21 09:46	1
Thallium	ND		0.0010	0.00015	mg/L		06/01/21 11:34	06/02/21 09:46	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/29/21 09:42	06/02/21 12:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	930		10	10	mg/L			05/25/21 20:19	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5	HF	0.1	0.1	SU			06/04/21 17:52	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.192		0.108	0.110	1.00	0.138	pCi/L	06/22/21 10:46	07/15/21 15:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	70.5		40 - 110					06/22/21 10:46	07/15/21 15:01	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.744		0.297	0.305	1.00	0.406	pCi/L	05/26/21 13:25	06/17/21 09:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.8		40 - 110					05/26/21 13:25	06/17/21 09:23	1
Y Carrier	86.0		40 - 110					05/26/21 13:25	06/17/21 09:23	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-AP-1R

Lab Sample ID: 180-122065-1

Date Collected: 05/18/21 16:45

Matrix: Water

Date Received: 05/21/21 09:00

Method: 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	0.936		0.316	0.324	5.00	0.406	pCi/L		07/18/21 21:42	1

Client Sample ID: CCR-AP-2R

Lab Sample ID: 180-122065-2

Date Collected: 05/18/21 10:30

Matrix: Water

Date Received: 05/21/21 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	510		5.0	3.6	mg/L			05/30/21 01:03	5
Fluoride	0.51		0.50	0.13	mg/L			05/30/21 01:03	5
Sulfate	2800		50	38	mg/L			05/30/21 01:21	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/01/21 11:34	06/02/21 09:57	1
Arsenic	0.00096	J	0.0010	0.00031	mg/L		06/01/21 11:34	06/02/21 09:57	1
Barium	0.024		0.010	0.0016	mg/L		06/01/21 11:34	06/02/21 09:57	1
Beryllium	ND		0.0010	0.00018	mg/L		06/01/21 11:34	06/02/21 09:57	1
Boron	12		0.80	0.39	mg/L		06/01/21 11:34	06/03/21 09:11	10
Cadmium	ND		0.0010	0.00022	mg/L		06/01/21 11:34	06/02/21 09:57	1
Calcium	340		0.50	0.13	mg/L		06/01/21 11:34	06/02/21 09:57	1
Chromium	ND		0.0020	0.0015	mg/L		06/01/21 11:34	06/02/21 09:57	1
Cobalt	0.0032		0.00050	0.00013	mg/L		06/01/21 11:34	06/02/21 09:57	1
Lead	ND		0.0010	0.00013	mg/L		06/01/21 11:34	06/02/21 09:57	1
Lithium	0.032		0.0050	0.0034	mg/L		06/01/21 11:34	06/02/21 09:57	1
Molybdenum	2.0		0.0050	0.00061	mg/L		06/01/21 11:34	06/02/21 09:57	1
Selenium	ND		0.0050	0.0015	mg/L		06/01/21 11:34	06/02/21 09:57	1
Thallium	ND		0.0010	0.00015	mg/L		06/01/21 11:34	06/02/21 09:57	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/29/21 09:42	06/02/21 12:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4700		40	40	mg/L			05/25/21 20:19	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.2	HF	0.1	0.1	SU			06/04/21 17:57	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.106	U	0.0818	0.0824	1.00	0.121	pCi/L	06/22/21 10:46	07/15/21 14:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.7		40 - 110					06/22/21 10:46	07/15/21 14:54	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-AP-2R

Lab Sample ID: 180-122065-2

Date Collected: 05/18/21 10:30

Matrix: Water

Date Received: 05/21/21 09:00

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.857		0.375	0.383	1.00	0.526	pCi/L	05/26/21 13:25	06/17/21 09:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	64.2		40 - 110					05/26/21 13:25	06/17/21 09:23	1
Y Carrier	84.9		40 - 110					05/26/21 13:25	06/17/21 09:23	1

Method: 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	0.964		0.384	0.392	5.00	0.526	pCi/L		07/18/21 21:42	1

Client Sample ID: CCR-AP-2I

Lab Sample ID: 180-122065-3

Date Collected: 05/18/21 12:15

Matrix: Water

Date Received: 05/21/21 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	98		1.0	0.71	mg/L			05/30/21 08:47	1
Fluoride	1.0		0.10	0.026	mg/L			05/30/21 08:47	1
Sulfate	0.86	J	1.0	0.76	mg/L			05/30/21 08:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/08/21 09:00	06/09/21 10:29	1
Arsenic	0.0010		0.0010	0.00031	mg/L		06/08/21 09:00	06/09/21 10:29	1
Barium	0.092		0.010	0.0016	mg/L		06/08/21 09:00	06/09/21 10:29	1
Beryllium	0.00021	J	0.0010	0.00018	mg/L		06/08/21 09:00	06/09/21 10:29	1
Boron	2.0		0.080	0.039	mg/L		06/08/21 09:00	06/09/21 10:29	1
Cadmium	ND		0.0010	0.00022	mg/L		06/08/21 09:00	06/09/21 10:29	1
Calcium	11		0.50	0.13	mg/L		06/08/21 09:00	06/09/21 10:29	1
Chromium	ND		0.0020	0.0015	mg/L		06/08/21 09:00	06/09/21 10:29	1
Cobalt	0.00015	J	0.00050	0.00013	mg/L		06/08/21 09:00	06/09/21 10:29	1
Lead	ND		0.0010	0.00013	mg/L		06/08/21 09:00	06/09/21 10:29	1
Lithium	0.020		0.0050	0.0034	mg/L		06/08/21 09:00	06/09/21 10:29	1
Molybdenum	0.00087	J	0.0050	0.00061	mg/L		06/08/21 09:00	06/09/21 10:29	1
Selenium	ND		0.0050	0.0015	mg/L		06/08/21 09:00	06/09/21 10:29	1
Thallium	0.00038	J	0.0010	0.00015	mg/L		06/08/21 09:00	06/09/21 10:29	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/08/21 06:11	06/08/21 12:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	720	H	10	10	mg/L			06/01/21 20:06	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.9	HF	0.1	0.1	SU			06/11/21 19:17	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-AP-2I

Lab Sample ID: 180-122065-3

Date Collected: 05/18/21 12:15

Matrix: Water

Date Received: 05/21/21 09:00

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.367		0.177	0.180	1.00	0.217	pCi/L	06/07/21 09:17	06/30/21 07:32	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	90.3		40 - 110					06/07/21 09:17	06/30/21 07:32	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.182	U	0.207	0.208	1.00	0.340	pCi/L	06/07/21 10:13	06/28/21 13:46	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	90.3		40 - 110					06/07/21 10:13	06/28/21 13:46	1
Y Carrier	97.0		40 - 110					06/07/21 10:13	06/28/21 13:46	1

Method: 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	0.550		0.272	0.275	5.00	0.340	pCi/L		06/30/21 16:38	1

Client Sample ID: CCR-AP-3R

Lab Sample ID: 180-122065-4

Date Collected: 05/18/21 13:45

Matrix: Water

Date Received: 05/21/21 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	530		5.0	3.6	mg/L			05/30/21 02:50	5
Fluoride	1.6		0.50	0.13	mg/L			05/30/21 02:50	5
Sulfate	2700		50	38	mg/L			05/30/21 03:08	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/08/21 09:00	06/09/21 10:59	1
Arsenic	0.00047	J	0.0010	0.00031	mg/L		06/08/21 09:00	06/09/21 10:59	1
Barium	0.012		0.010	0.0016	mg/L		06/08/21 09:00	06/09/21 10:59	1
Beryllium	ND		0.0010	0.00018	mg/L		06/08/21 09:00	06/09/21 10:59	1
Boron	11		0.40	0.19	mg/L		06/08/21 09:00	06/10/21 11:23	5
Cadmium	ND		0.0010	0.00022	mg/L		06/08/21 09:00	06/09/21 10:59	1
Calcium	200		0.50	0.13	mg/L		06/08/21 09:00	06/09/21 10:59	1
Chromium	ND		0.0020	0.0015	mg/L		06/08/21 09:00	06/09/21 10:59	1
Cobalt	0.00063		0.00050	0.00013	mg/L		06/08/21 09:00	06/09/21 10:59	1
Lead	ND		0.0010	0.00013	mg/L		06/08/21 09:00	06/09/21 10:59	1
Lithium	0.062		0.0050	0.0034	mg/L		06/08/21 09:00	06/09/21 10:59	1
Molybdenum	0.96		0.0050	0.00061	mg/L		06/08/21 09:00	06/09/21 10:59	1
Selenium	0.019		0.0050	0.0015	mg/L		06/08/21 09:00	06/09/21 10:59	1
Thallium	0.00016	J	0.0010	0.00015	mg/L		06/08/21 09:00	06/09/21 10:59	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-AP-3R

Lab Sample ID: 180-122065-4

Date Collected: 05/18/21 13:45

Matrix: Water

Date Received: 05/21/21 09:00

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/08/21 06:11	06/08/21 12:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5000	H	40	40	mg/L			06/01/21 20:06	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3	HF	0.1	0.1	SU			06/11/21 19:19	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0427	U	0.114	0.114	1.00	0.210	pCi/L	06/07/21 09:17	06/30/21 07:32	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.4		40 - 110					06/07/21 09:17	06/30/21 07:32	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.388		0.226	0.229	1.00	0.338	pCi/L	06/07/21 10:13	06/28/21 13:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.4		40 - 110					06/07/21 10:13	06/28/21 13:47	1
Y Carrier	94.9		40 - 110					06/07/21 10:13	06/28/21 13:47	1

Method: 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	0.430		0.253	0.256	5.00	0.338	pCi/L		06/30/21 16:38	1

Client Sample ID: CCR-AP-3I

Lab Sample ID: 180-122065-5

Date Collected: 05/18/21 15:15

Matrix: Water

Date Received: 05/21/21 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	140		1.0	0.71	mg/L			05/30/21 10:34	1
Fluoride	1.3		0.10	0.026	mg/L			05/30/21 10:34	1
Sulfate	17		1.0	0.76	mg/L			05/30/21 10:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/08/21 09:00	06/09/21 11:10	1
Arsenic	0.0010		0.0010	0.00031	mg/L		06/08/21 09:00	06/09/21 11:10	1
Barium	0.15		0.010	0.0016	mg/L		06/08/21 09:00	06/09/21 11:10	1
Beryllium	ND		0.0010	0.00018	mg/L		06/08/21 09:00	06/09/21 11:10	1
Boron	2.0		0.080	0.039	mg/L		06/08/21 09:00	06/09/21 11:10	1
Cadmium	ND		0.0010	0.00022	mg/L		06/08/21 09:00	06/09/21 11:10	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-AP-3I

Lab Sample ID: 180-122065-5

Date Collected: 05/18/21 15:15

Matrix: Water

Date Received: 05/21/21 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	19		0.50	0.13	mg/L		06/08/21 09:00	06/09/21 11:10	1
Chromium	ND		0.0020	0.0015	mg/L		06/08/21 09:00	06/09/21 11:10	1
Cobalt	ND		0.00050	0.00013	mg/L		06/08/21 09:00	06/09/21 11:10	1
Lead	0.00013	J	0.0010	0.00013	mg/L		06/08/21 09:00	06/09/21 11:10	1
Lithium	0.021		0.0050	0.0034	mg/L		06/08/21 09:00	06/09/21 11:10	1
Molybdenum	0.0041	J	0.0050	0.00061	mg/L		06/08/21 09:00	06/09/21 11:10	1
Selenium	ND		0.0050	0.0015	mg/L		06/08/21 09:00	06/09/21 11:10	1
Thallium	ND		0.0010	0.00015	mg/L		06/08/21 09:00	06/09/21 11:10	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/08/21 06:11	06/08/21 12:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	750	H	10	10	mg/L			05/27/21 19:55	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.0	HF	0.1	0.1	SU			06/11/21 19:22	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.394		0.168	0.172	1.00	0.189	pCi/L	06/07/21 09:17	06/30/21 09:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.3		40 - 110					06/07/21 09:17	06/30/21 09:24	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.356	U	0.245	0.247	1.00	0.381	pCi/L	06/07/21 10:13	06/28/21 13:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	95.3		40 - 110					06/07/21 10:13	06/28/21 13:47	1
Y Carrier	95.2		40 - 110					06/07/21 10:13	06/28/21 13:47	1

Method: 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	0.750		0.297	0.301	5.00	0.381	pCi/L		06/30/21 16:38	1

Client Sample ID: CCR-AP-4R

Lab Sample ID: 180-122065-6

Date Collected: 05/18/21 16:00

Matrix: Water

Date Received: 05/21/21 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24		1.0	0.71	mg/L			05/30/21 01:39	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-AP-4R

Lab Sample ID: 180-122065-6

Date Collected: 05/18/21 16:00

Matrix: Water

Date Received: 05/21/21 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.36		0.10	0.026	mg/L			05/30/21 01:39	1
Sulfate	99		1.0	0.76	mg/L			05/30/21 01:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/08/21 09:00	06/09/21 11:13	1
Arsenic	ND		0.0010	0.00031	mg/L		06/08/21 09:00	06/09/21 11:13	1
Barium	0.095		0.010	0.0016	mg/L		06/08/21 09:00	06/09/21 11:13	1
Beryllium	ND		0.0010	0.00018	mg/L		06/08/21 09:00	06/09/21 11:13	1
Boron	0.076	J	0.080	0.039	mg/L		06/08/21 09:00	06/09/21 11:13	1
Cadmium	ND		0.0010	0.00022	mg/L		06/08/21 09:00	06/09/21 11:13	1
Calcium	180		0.50	0.13	mg/L		06/08/21 09:00	06/09/21 11:13	1
Chromium	0.0025	B	0.0020	0.0015	mg/L		06/08/21 09:00	06/09/21 11:13	1
Cobalt	ND		0.00050	0.00013	mg/L		06/08/21 09:00	06/09/21 11:13	1
Lead	ND		0.0010	0.00013	mg/L		06/08/21 09:00	06/09/21 11:13	1
Lithium	ND		0.0050	0.0034	mg/L		06/08/21 09:00	06/09/21 11:13	1
Molybdenum	0.0012	J	0.0050	0.00061	mg/L		06/08/21 09:00	06/09/21 11:13	1
Selenium	ND		0.0050	0.0015	mg/L		06/08/21 09:00	06/09/21 11:13	1
Thallium	ND		0.0010	0.00015	mg/L		06/08/21 09:00	06/09/21 11:13	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/08/21 06:11	06/08/21 12:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	990	H	10	10	mg/L			05/27/21 19:55	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.0	HF	0.1	0.1	SU			06/11/21 19:24	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.283		0.164	0.166	1.00	0.218	pCi/L	06/07/21 09:17	06/30/21 09:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.6		40 - 110					06/07/21 09:17	06/30/21 09:24	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.281	U	0.266	0.267	1.00	0.431	pCi/L	06/07/21 10:13	06/28/21 13:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.6		40 - 110					06/07/21 10:13	06/28/21 13:47	1
Y Carrier	96.1		40 - 110					06/07/21 10:13	06/28/21 13:47	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-AP-4R

Lab Sample ID: 180-122065-6

Date Collected: 05/18/21 16:00

Matrix: Water

Date Received: 05/21/21 09:00

Method: 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	0.564		0.312	0.314	5.00	0.431	pCi/L		06/30/21 16:38	1

Client Sample ID: CCR-AP-6

Lab Sample ID: 180-122065-7

Date Collected: 05/19/21 16:00

Matrix: Water

Date Received: 05/21/21 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	270		2.5	1.8	mg/L			05/30/21 04:37	2.5
Fluoride	0.17	J	0.25	0.065	mg/L			05/30/21 04:37	2.5
Sulfate	1400		25	19	mg/L			05/30/21 04:55	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/01/21 11:34	06/02/21 11:19	1
Arsenic	0.00073	J	0.0010	0.00031	mg/L		06/01/21 11:34	06/02/21 11:19	1
Barium	0.011		0.010	0.0016	mg/L		06/01/21 11:34	06/02/21 11:19	1
Beryllium	ND		0.0010	0.00018	mg/L		06/01/21 11:34	06/02/21 11:19	1
Boron	6.4		0.080	0.039	mg/L		06/01/21 11:34	06/02/21 11:19	1
Cadmium	ND		0.0010	0.00022	mg/L		06/01/21 11:34	06/02/21 11:19	1
Calcium	270		0.50	0.13	mg/L		06/01/21 11:34	06/02/21 11:19	1
Chromium	ND		0.0020	0.0015	mg/L		06/01/21 11:34	06/02/21 11:19	1
Cobalt	0.00048	J	0.00050	0.00013	mg/L		06/01/21 11:34	06/02/21 11:19	1
Lead	ND		0.0010	0.00013	mg/L		06/01/21 11:34	06/02/21 11:19	1
Lithium	0.025		0.0050	0.0034	mg/L		06/01/21 11:34	06/02/21 11:19	1
Molybdenum	0.0043	J	0.0050	0.00061	mg/L		06/01/21 11:34	06/02/21 11:19	1
Selenium	ND		0.0050	0.0015	mg/L		06/01/21 11:34	06/02/21 11:19	1
Thallium	ND		0.0010	0.00015	mg/L		06/01/21 11:34	06/02/21 11:19	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/28/21 09:06	06/02/21 12:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2500		20	20	mg/L			05/26/21 23:29	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.9	HF	0.1	0.1	SU			06/04/21 18:07	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.115	U	0.0869	0.0875	1.00	0.127	pCi/L	06/22/21 10:46	07/15/21 15:01	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	70.8		40 - 110					06/22/21 10:46	07/15/21 15:01	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-AP-6

Lab Sample ID: 180-122065-7

Date Collected: 05/19/21 16:00

Matrix: Water

Date Received: 05/21/21 09:00

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.284	U	0.314	0.315	1.00	0.514	pCi/L	05/26/21 13:25	06/17/21 09:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	72.3		40 - 110					05/26/21 13:25	06/17/21 09:23	1
Y Carrier	84.9		40 - 110					05/26/21 13:25	06/17/21 09:23	1

Method: 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	0.399	U	0.326	0.327	5.00	0.514	pCi/L		07/18/21 21:42	1

Client Sample ID: CCR-AP-7R

Lab Sample ID: 180-122065-8

Date Collected: 05/19/21 16:45

Matrix: Water

Date Received: 05/21/21 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	580		5.0	3.6	mg/L			05/30/21 03:26	5
Fluoride	0.17	J	0.50	0.13	mg/L			05/30/21 03:26	5
Sulfate	2700		50	38	mg/L			05/30/21 03:44	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/01/21 11:34	06/02/21 11:34	1
Arsenic	0.00046	J	0.0010	0.00031	mg/L		06/01/21 11:34	06/02/21 11:34	1
Barium	0.024		0.010	0.0016	mg/L		06/01/21 11:34	06/02/21 11:34	1
Beryllium	ND		0.0010	0.00018	mg/L		06/01/21 11:34	06/02/21 11:34	1
Boron	7.2		0.080	0.039	mg/L		06/01/21 11:34	06/02/21 11:34	1
Cadmium	ND		0.0010	0.00022	mg/L		06/01/21 11:34	06/02/21 11:34	1
Calcium	390		0.50	0.13	mg/L		06/01/21 11:34	06/02/21 11:34	1
Chromium	ND		0.0020	0.0015	mg/L		06/01/21 11:34	06/02/21 11:34	1
Cobalt	0.00022	J	0.00050	0.00013	mg/L		06/01/21 11:34	06/02/21 11:34	1
Lead	ND		0.0010	0.00013	mg/L		06/01/21 11:34	06/02/21 11:34	1
Lithium	0.024		0.0050	0.0034	mg/L		06/01/21 11:34	06/02/21 11:34	1
Molybdenum	ND		0.0050	0.00061	mg/L		06/01/21 11:34	06/02/21 11:34	1
Selenium	ND		0.0050	0.0015	mg/L		06/01/21 11:34	06/02/21 11:34	1
Thallium	ND		0.0010	0.00015	mg/L		06/01/21 11:34	06/02/21 11:34	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/28/21 09:06	06/02/21 12:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4600		40	40	mg/L			05/26/21 23:29	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.7	HF	0.1	0.1	SU			06/04/21 18:16	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-AP-7R

Lab Sample ID: 180-122065-8

Date Collected: 05/19/21 16:45

Matrix: Water

Date Received: 05/21/21 09:00

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.163		0.0837	0.0850	1.00	0.104	pCi/L	06/22/21 10:46	07/15/21 15:02	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.9		40 - 110					06/22/21 10:46	07/15/21 15:02	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.690		0.422	0.426	1.00	0.637	pCi/L	05/26/21 13:25	06/17/21 09:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	54.8		40 - 110					05/26/21 13:25	06/17/21 09:23	1
Y Carrier	83.7		40 - 110					05/26/21 13:25	06/17/21 09:23	1

Method: 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	0.853		0.430	0.434	5.00	0.637	pCi/L		07/18/21 21:42	1

Client Sample ID: CCR-AP-8

Lab Sample ID: 180-122065-9

Date Collected: 05/19/21 15:00

Matrix: Water

Date Received: 05/21/21 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	100		2.5	1.8	mg/L			05/30/21 07:00	2.5
Fluoride	0.28		0.25	0.065	mg/L			05/30/21 07:00	2.5
Sulfate	940		25	19	mg/L			05/30/21 07:18	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/01/21 11:34	06/02/21 11:48	1
Arsenic	0.00066	J	0.0010	0.00031	mg/L		06/01/21 11:34	06/02/21 11:48	1
Barium	0.048		0.010	0.0016	mg/L		06/01/21 11:34	06/02/21 11:48	1
Beryllium	ND		0.0010	0.00018	mg/L		06/01/21 11:34	06/02/21 11:48	1
Boron	0.75		0.080	0.039	mg/L		06/01/21 11:34	06/02/21 11:48	1
Cadmium	ND		0.0010	0.00022	mg/L		06/01/21 11:34	06/02/21 11:48	1
Calcium	280		0.50	0.13	mg/L		06/01/21 11:34	06/02/21 11:48	1
Chromium	ND		0.0020	0.0015	mg/L		06/01/21 11:34	06/02/21 11:48	1
Cobalt	0.0028		0.00050	0.00013	mg/L		06/01/21 11:34	06/02/21 11:48	1
Lead	0.00018	J	0.0010	0.00013	mg/L		06/01/21 11:34	06/02/21 11:48	1
Lithium	0.014		0.0050	0.0034	mg/L		06/01/21 11:34	06/02/21 11:48	1
Molybdenum	0.00081	J	0.0050	0.00061	mg/L		06/01/21 11:34	06/02/21 11:48	1
Selenium	ND		0.0050	0.0015	mg/L		06/01/21 11:34	06/02/21 11:48	1
Thallium	ND		0.0010	0.00015	mg/L		06/01/21 11:34	06/02/21 11:48	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-AP-8

Lab Sample ID: 180-122065-9

Date Collected: 05/19/21 15:00

Matrix: Water

Date Received: 05/21/21 09:00

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/28/21 09:06	06/02/21 12:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1800		10	10	mg/L			05/26/21 23:29	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.2	HF	0.1	0.1	SU			06/04/21 18:21	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0687	U	0.0745	0.0747	1.00	0.120	pCi/L	06/22/21 10:46	07/15/21 15:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.6		40 - 110					06/22/21 10:46	07/15/21 15:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.155	U	0.277	0.277	1.00	0.469	pCi/L	05/26/21 13:25	06/17/21 09:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	82.9		40 - 110					05/26/21 13:25	06/17/21 09:24	1
Y Carrier	85.6		40 - 110					05/26/21 13:25	06/17/21 09:24	1

Method: 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	0.224	U	0.287	0.287	5.00	0.469	pCi/L		07/18/21 21:42	1

Client Sample ID: CCR-LF-4

Lab Sample ID: 180-122065-10

Date Collected: 05/19/21 17:45

Matrix: Water

Date Received: 05/21/21 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	83		5.0	3.6	mg/L			05/30/21 04:02	5
Fluoride	0.32	J	0.50	0.13	mg/L			05/30/21 04:02	5
Sulfate	4100		50	38	mg/L			05/30/21 04:19	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/01/21 11:34	06/02/21 11:55	1
Arsenic	0.026		0.0010	0.00031	mg/L		06/01/21 11:34	06/02/21 11:55	1
Barium	0.0087	J	0.010	0.0016	mg/L		06/01/21 11:34	06/02/21 11:55	1
Beryllium	0.00034	J	0.0010	0.00018	mg/L		06/01/21 11:34	06/02/21 11:55	1
Boron	0.29		0.080	0.039	mg/L		06/01/21 11:34	06/02/21 11:55	1
Cadmium	ND		0.0010	0.00022	mg/L		06/01/21 11:34	06/02/21 11:55	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-LF-4

Lab Sample ID: 180-122065-10

Date Collected: 05/19/21 17:45

Matrix: Water

Date Received: 05/21/21 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	230		0.50	0.13	mg/L		06/01/21 11:34	06/02/21 11:55	1
Chromium	ND		0.0020	0.0015	mg/L		06/01/21 11:34	06/02/21 11:55	1
Cobalt	0.00054		0.00050	0.00013	mg/L		06/01/21 11:34	06/02/21 11:55	1
Lead	0.0013		0.0010	0.00013	mg/L		06/01/21 11:34	06/02/21 11:55	1
Lithium	0.037		0.0050	0.0034	mg/L		06/01/21 11:34	06/02/21 11:55	1
Molybdenum	0.015		0.0050	0.00061	mg/L		06/01/21 11:34	06/02/21 11:55	1
Selenium	ND		0.0050	0.0015	mg/L		06/01/21 11:34	06/02/21 11:55	1
Thallium	ND		0.0010	0.00015	mg/L		06/01/21 11:34	06/02/21 11:55	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/28/21 09:06	06/02/21 12:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6300		40	40	mg/L			05/26/21 23:29	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.2	HF	0.1	0.1	SU			06/04/21 18:26	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.65		0.219	0.265	1.00	0.112	pCi/L	06/22/21 10:46	07/15/21 15:10	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.3		40 - 110					06/22/21 10:46	07/15/21 15:10	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.662		0.286	0.293	1.00	0.401	pCi/L	05/26/21 13:25	06/17/21 09:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.4		40 - 110					05/26/21 13:25	06/17/21 09:24	1
Y Carrier	84.1		40 - 110					05/26/21 13:25	06/17/21 09:24	1

Method: 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	2.32		0.360	0.395	5.00	0.401	pCi/L		07/18/21 21:42	1

Client Sample ID: CCR-LF-5

Lab Sample ID: 180-122065-11

Date Collected: 05/19/21 18:30

Matrix: Water

Date Received: 05/21/21 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	370		5.0	3.6	mg/L			05/30/21 06:24	5

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-LF-5

Lab Sample ID: 180-122065-11

Date Collected: 05/19/21 18:30

Matrix: Water

Date Received: 05/21/21 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.23	J	0.50	0.13	mg/L			05/30/21 06:24	5
Sulfate	2700		50	38	mg/L			05/30/21 06:42	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/01/21 11:34	06/02/21 12:06	1
Arsenic	ND		0.0010	0.00031	mg/L		06/01/21 11:34	06/02/21 12:06	1
Barium	0.021		0.010	0.0016	mg/L		06/01/21 11:34	06/02/21 12:06	1
Beryllium	ND		0.0010	0.00018	mg/L		06/01/21 11:34	06/02/21 12:06	1
Boron	1.5		0.080	0.039	mg/L		06/01/21 11:34	06/02/21 12:06	1
Cadmium	ND		0.0010	0.00022	mg/L		06/01/21 11:34	06/02/21 12:06	1
Calcium	450		0.50	0.13	mg/L		06/01/21 11:34	06/02/21 12:06	1
Chromium	ND		0.0020	0.0015	mg/L		06/01/21 11:34	06/02/21 12:06	1
Cobalt	0.00018	J	0.00050	0.00013	mg/L		06/01/21 11:34	06/02/21 12:06	1
Lead	ND		0.0010	0.00013	mg/L		06/01/21 11:34	06/02/21 12:06	1
Lithium	0.020		0.0050	0.0034	mg/L		06/01/21 11:34	06/02/21 12:06	1
Molybdenum	0.00069	J	0.0050	0.00061	mg/L		06/01/21 11:34	06/02/21 12:06	1
Selenium	ND		0.0050	0.0015	mg/L		06/01/21 11:34	06/02/21 12:06	1
Thallium	ND		0.0010	0.00015	mg/L		06/01/21 11:34	06/02/21 12:06	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00015	J	0.00020	0.00013	mg/L		05/28/21 09:06	06/02/21 12:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4800		40	40	mg/L			05/26/21 23:36	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.2	HF	0.1	0.1	SU			06/04/21 18:31	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.247		0.103	0.105	1.00	0.121	pCi/L	06/22/21 10:46	07/15/21 15:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	85.2		40 - 110					06/22/21 10:46	07/15/21 15:03	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.723	U	0.475	0.480	1.00	0.729	pCi/L	05/26/21 13:25	06/17/21 09:24	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	48.3		40 - 110					05/26/21 13:25	06/17/21 09:24	1
Y Carrier	84.5		40 - 110					05/26/21 13:25	06/17/21 09:24	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-LF-5

Lab Sample ID: 180-122065-11

Date Collected: 05/19/21 18:30

Matrix: Water

Date Received: 05/21/21 09:00

Method: 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	0.969		0.486	0.491	5.00	0.729	pCi/L		07/18/21 21:42	1

Client Sample ID: CCR-LF-6

Lab Sample ID: 180-122065-12

Date Collected: 05/19/21 19:15

Matrix: Water

Date Received: 05/21/21 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	64		2.5	1.8	mg/L			05/30/21 07:36	2.5
Fluoride	0.25		0.25	0.065	mg/L			05/30/21 07:36	2.5
Sulfate	1100		25	19	mg/L			05/30/21 07:54	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/01/21 11:34	06/02/21 12:24	1
Arsenic	ND		0.0010	0.00031	mg/L		06/01/21 11:34	06/02/21 12:24	1
Barium	0.019		0.010	0.0016	mg/L		06/01/21 11:34	06/02/21 12:24	1
Beryllium	ND		0.0010	0.00018	mg/L		06/01/21 11:34	06/02/21 12:24	1
Boron	0.83		0.080	0.039	mg/L		06/01/21 11:34	06/02/21 12:24	1
Cadmium	0.00025	J	0.0010	0.00022	mg/L		06/01/21 11:34	06/02/21 12:24	1
Calcium	330		0.50	0.13	mg/L		06/01/21 11:34	06/02/21 12:24	1
Chromium	ND		0.0020	0.0015	mg/L		06/01/21 11:34	06/02/21 12:24	1
Cobalt	ND		0.00050	0.00013	mg/L		06/01/21 11:34	06/02/21 12:24	1
Lead	ND		0.0010	0.00013	mg/L		06/01/21 11:34	06/02/21 12:24	1
Lithium	0.019		0.0050	0.0034	mg/L		06/01/21 11:34	06/02/21 12:24	1
Molybdenum	0.00071	J	0.0050	0.00061	mg/L		06/01/21 11:34	06/02/21 12:24	1
Selenium	ND		0.0050	0.0015	mg/L		06/01/21 11:34	06/02/21 12:24	1
Thallium	ND		0.0010	0.00015	mg/L		06/01/21 11:34	06/02/21 12:24	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/28/21 09:06	06/02/21 12:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1800		10	10	mg/L			05/26/21 23:36	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.0	HF	0.1	0.1	SU			06/04/21 18:35	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0932	U	0.0853	0.0857	1.00	0.132	pCi/L	06/22/21 10:46	07/15/21 15:03	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	75.0		40 - 110					06/22/21 10:46	07/15/21 15:03	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-LF-6

Lab Sample ID: 180-122065-12

Date Collected: 05/19/21 19:15

Matrix: Water

Date Received: 05/21/21 09:00

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.725		0.319	0.326	1.00	0.460	pCi/L	05/26/21 13:25	06/17/21 09:17	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	81.0		40 - 110					05/26/21 13:25	06/17/21 09:17	1
Y Carrier	86.0		40 - 110					05/26/21 13:25	06/17/21 09:17	1

Method: 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	0.819		0.330	0.337	5.00	0.460	pCi/L		07/18/21 21:42	1

Client Sample ID: CCR-BK-1R

Lab Sample ID: 180-122065-13

Date Collected: 05/19/21 13:30

Matrix: Water

Date Received: 05/21/21 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6.6		1.0	0.71	mg/L			05/29/21 23:51	1
Fluoride	0.33		0.10	0.026	mg/L			05/29/21 23:51	1
Sulfate	30		1.0	0.76	mg/L			05/29/21 23:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/01/21 11:34	06/02/21 12:28	1
Arsenic	ND		0.0010	0.00031	mg/L		06/01/21 11:34	06/02/21 12:28	1
Barium	0.035		0.010	0.0016	mg/L		06/01/21 11:34	06/02/21 12:28	1
Beryllium	ND		0.0010	0.00018	mg/L		06/01/21 11:34	06/02/21 12:28	1
Boron	0.054	J	0.080	0.039	mg/L		06/01/21 11:34	06/02/21 12:28	1
Cadmium	ND		0.0010	0.00022	mg/L		06/01/21 11:34	06/02/21 12:28	1
Calcium	53		0.50	0.13	mg/L		06/01/21 11:34	06/02/21 12:28	1
Chromium	ND		0.0020	0.0015	mg/L		06/01/21 11:34	06/02/21 12:28	1
Cobalt	ND		0.00050	0.00013	mg/L		06/01/21 11:34	06/02/21 12:28	1
Lead	ND		0.0010	0.00013	mg/L		06/01/21 11:34	06/02/21 12:28	1
Lithium	ND		0.0050	0.0034	mg/L		06/01/21 11:34	06/02/21 12:28	1
Molybdenum	0.00084	J	0.0050	0.00061	mg/L		06/01/21 11:34	06/02/21 12:28	1
Selenium	ND		0.0050	0.0015	mg/L		06/01/21 11:34	06/02/21 12:28	1
Thallium	ND		0.0010	0.00015	mg/L		06/01/21 11:34	06/02/21 12:28	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/28/21 09:06	06/02/21 12:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	320		10	10	mg/L			05/26/21 23:36	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.5	HF	0.1	0.1	SU			06/04/21 18:40	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-BK-1R

Lab Sample ID: 180-122065-13

Date Collected: 05/19/21 13:30

Matrix: Water

Date Received: 05/21/21 09:00

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.252		0.105	0.108	1.00	0.120	pCi/L	06/22/21 10:46	07/15/21 15:09	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	75.9		40 - 110					06/22/21 10:46	07/15/21 15:09	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.388	U	0.294	0.296	1.00	0.463	pCi/L	05/26/21 13:25	06/17/21 09:17	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	82.9		40 - 110					05/26/21 13:25	06/17/21 09:17	1
Y Carrier	84.5		40 - 110					05/26/21 13:25	06/17/21 09:17	1

Method: 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	0.640		0.312	0.315	5.00	0.463	pCi/L		07/18/21 21:42	1

Client Sample ID: CCR-BK-2

Lab Sample ID: 180-122065-14

Date Collected: 05/19/21 11:45

Matrix: Water

Date Received: 05/21/21 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		1.0	0.71	mg/L			05/30/21 11:10	1
Fluoride	0.16		0.10	0.026	mg/L			05/30/21 11:10	1
Sulfate	41		1.0	0.76	mg/L			05/30/21 11:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/01/21 11:34	06/02/21 12:31	1
Arsenic	ND		0.0010	0.00031	mg/L		06/01/21 11:34	06/02/21 12:31	1
Barium	0.040		0.010	0.0016	mg/L		06/01/21 11:34	06/02/21 12:31	1
Beryllium	ND		0.0010	0.00018	mg/L		06/01/21 11:34	06/02/21 12:31	1
Boron	0.056	J	0.080	0.039	mg/L		06/01/21 11:34	06/02/21 12:31	1
Cadmium	ND		0.0010	0.00022	mg/L		06/01/21 11:34	06/02/21 12:31	1
Calcium	58		0.50	0.13	mg/L		06/01/21 11:34	06/02/21 12:31	1
Chromium	ND		0.0020	0.0015	mg/L		06/01/21 11:34	06/02/21 12:31	1
Cobalt	ND		0.00050	0.00013	mg/L		06/01/21 11:34	06/02/21 12:31	1
Lead	ND		0.0010	0.00013	mg/L		06/01/21 11:34	06/02/21 12:31	1
Lithium	ND		0.0050	0.0034	mg/L		06/01/21 11:34	06/02/21 12:31	1
Molybdenum	0.00092	J	0.0050	0.00061	mg/L		06/01/21 11:34	06/02/21 12:31	1
Selenium	ND		0.0050	0.0015	mg/L		06/01/21 11:34	06/02/21 12:31	1
Thallium	ND		0.0010	0.00015	mg/L		06/01/21 11:34	06/02/21 12:31	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-BK-2

Lab Sample ID: 180-122065-14

Date Collected: 05/19/21 11:45

Matrix: Water

Date Received: 05/21/21 09:00

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/29/21 09:42	06/02/21 12:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	330		10	10	mg/L			05/26/21 23:36	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.8	HF	0.1	0.1	SU			06/04/21 18:45	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0449	U	0.0730	0.0731	1.00	0.126	pCi/L	06/22/21 10:46	07/15/21 16:54	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	71.4		40 - 110					06/22/21 10:46	07/15/21 16:54	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.268	U	0.286	0.287	1.00	0.467	pCi/L	05/26/21 13:25	06/17/21 09:17	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	73.8		40 - 110					05/26/21 13:25	06/17/21 09:17	1
Y Carrier	89.0		40 - 110					05/26/21 13:25	06/17/21 09:17	1

Method: 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	0.313	U	0.295	0.296	5.00	0.467	pCi/L		07/18/21 21:42	1

Client Sample ID: BLIND DUPLICATE 1

Lab Sample ID: 180-122065-15

Date Collected: 05/19/21 00:00

Matrix: Water

Date Received: 05/21/21 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	260		2.5	1.8	mg/L			05/30/21 08:12	2.5
Fluoride	0.17	J	0.25	0.065	mg/L			05/30/21 08:12	2.5
Sulfate	1300		25	19	mg/L			05/30/21 08:29	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/01/21 11:34	06/02/21 12:35	1
Arsenic	0.00070	J	0.0010	0.00031	mg/L		06/01/21 11:34	06/02/21 12:35	1
Barium	0.011		0.010	0.0016	mg/L		06/01/21 11:34	06/02/21 12:35	1
Beryllium	ND		0.0010	0.00018	mg/L		06/01/21 11:34	06/02/21 12:35	1
Boron	6.3		0.080	0.039	mg/L		06/01/21 11:34	06/02/21 12:35	1
Cadmium	ND		0.0010	0.00022	mg/L		06/01/21 11:34	06/02/21 12:35	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: BLIND DUPLICATE 1

Lab Sample ID: 180-122065-15

Date Collected: 05/19/21 00:00

Matrix: Water

Date Received: 05/21/21 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	270		0.50	0.13	mg/L		06/01/21 11:34	06/02/21 12:35	1
Chromium	ND		0.0020	0.0015	mg/L		06/01/21 11:34	06/02/21 12:35	1
Cobalt	0.00047	J	0.00050	0.00013	mg/L		06/01/21 11:34	06/02/21 12:35	1
Lead	ND		0.0010	0.00013	mg/L		06/01/21 11:34	06/02/21 12:35	1
Lithium	0.025		0.0050	0.0034	mg/L		06/01/21 11:34	06/02/21 12:35	1
Molybdenum	0.0043	J	0.0050	0.00061	mg/L		06/01/21 11:34	06/02/21 12:35	1
Selenium	ND		0.0050	0.0015	mg/L		06/01/21 11:34	06/02/21 12:35	1
Thallium	ND		0.0010	0.00015	mg/L		06/01/21 11:34	06/02/21 12:35	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/03/21 12:00	06/04/21 11:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2400		20	20	mg/L			05/26/21 23:36	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.2	HF	0.1	0.1	SU			06/04/21 18:50	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0645	U	0.142	0.142	1.00	0.332	pCi/L	05/27/21 14:34	06/18/21 21:02	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	77.9		40 - 110					05/27/21 14:34	06/18/21 21:02	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.151	U	0.265	0.266	1.00	0.450	pCi/L	05/27/21 15:09	06/18/21 09:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	77.9		40 - 110					05/27/21 15:09	06/18/21 09:22	1
Y Carrier	82.6		40 - 110					05/27/21 15:09	06/18/21 09:22	1

Method: 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	0.0869	U	0.301	0.302	5.00	0.450	pCi/L		06/30/21 14:47	1

Client Sample ID: CCR-AP-10

Lab Sample ID: 180-122065-16

Date Collected: 05/18/21 18:45

Matrix: Water

Date Received: 05/21/21 09:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	130		2.5	1.8	mg/L			05/30/21 09:59	2.5

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-AP-10

Lab Sample ID: 180-122065-16

Date Collected: 05/18/21 18:45

Matrix: Water

Date Received: 05/21/21 09:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.50		0.25	0.065	mg/L			05/30/21 09:59	2.5
Sulfate	1700		25	19	mg/L			05/30/21 10:17	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/01/21 11:34	06/02/21 12:49	1
Arsenic	0.0013		0.0010	0.00031	mg/L		06/01/21 11:34	06/02/21 12:49	1
Barium	0.017		0.010	0.0016	mg/L		06/01/21 11:34	06/02/21 12:49	1
Beryllium	ND		0.0010	0.00018	mg/L		06/01/21 11:34	06/02/21 12:49	1
Boron	8.1		0.080	0.039	mg/L		06/01/21 11:34	06/02/21 12:49	1
Cadmium	ND		0.0010	0.00022	mg/L		06/01/21 11:34	06/02/21 12:49	1
Calcium	210		0.50	0.13	mg/L		06/01/21 11:34	06/02/21 12:49	1
Chromium	0.0023		0.0020	0.0015	mg/L		06/01/21 11:34	06/02/21 12:49	1
Cobalt	0.0015		0.00050	0.00013	mg/L		06/01/21 11:34	06/02/21 12:49	1
Lead	0.0013		0.0010	0.00013	mg/L		06/01/21 11:34	06/02/21 12:49	1
Lithium	ND		0.0050	0.0034	mg/L		06/01/21 11:34	06/02/21 12:49	1
Molybdenum	0.0024	J	0.0050	0.00061	mg/L		06/01/21 11:34	06/02/21 12:49	1
Selenium	0.041		0.0050	0.0015	mg/L		06/01/21 11:34	06/02/21 12:49	1
Thallium	ND		0.0010	0.00015	mg/L		06/01/21 11:34	06/02/21 12:49	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/29/21 09:42	06/02/21 12:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3400	H	40	40	mg/L			05/27/21 19:55	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.8	HF	0.1	0.1	SU			06/07/21 17:24	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.253	U	0.428	0.429	1.00	0.964	pCi/L	05/27/21 14:34	06/18/21 21:02	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	63.6		40 - 110					05/27/21 14:34	06/18/21 21:02	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.533	U G	0.630	0.632	1.00	1.04	pCi/L	05/27/21 15:09	06/18/21 09:23	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	63.6		40 - 110					05/27/21 15:09	06/18/21 09:23	1
Y Carrier	83.7		40 - 110					05/27/21 15:09	06/18/21 09:23	1

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Client Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Client Sample ID: CCR-AP-10

Lab Sample ID: 180-122065-16

Date Collected: 05/18/21 18:45

Matrix: Water

Date Received: 05/21/21 09:00

Method: 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	0.280	U	0.762	0.764	5.00	1.04	pCi/L		06/30/21 14:47	1

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-358865/55
Matrix: Water
Analysis Batch: 358865

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

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	ND		1.0	0.71	mg/L			05/29/21 23:34	1
Fluoride	ND		0.10	0.026	mg/L			05/29/21 23:34	1
Sulfate	ND		1.0	0.76	mg/L			05/29/21 23:34	1

Lab Sample ID: LCS 180-358865/54
Matrix: Water
Analysis Batch: 358865

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.50	2.51		mg/L		101	80 - 120
Sulfate	50.0	51.2		mg/L		102	80 - 120

Lab Sample ID: 180-122065-13 MS
Matrix: Water
Analysis Batch: 358865

Client Sample ID: CCR-BK-1R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.34	J	12.5	13.0		mg/L		101	80 - 120
Sulfate	31		250	283		mg/L		101	80 - 120

Lab Sample ID: 180-122065-13 MSD
Matrix: Water
Analysis Batch: 358865

Client Sample ID: CCR-BK-1R
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.34	J	12.5	13.0		mg/L		101	80 - 120	0	15
Sulfate	31		250	286		mg/L		102	80 - 120	1	15

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

Lab Sample ID: MB 180-359040/1-A
Matrix: Water
Analysis Batch: 359290

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 359040

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	ND		0.0020	0.00038	mg/L		06/01/21 11:34	06/02/21 09:24	1
Arsenic	ND		0.0010	0.00031	mg/L		06/01/21 11:34	06/02/21 09:24	1
Barium	ND		0.010	0.0016	mg/L		06/01/21 11:34	06/02/21 09:24	1
Beryllium	ND		0.0010	0.00018	mg/L		06/01/21 11:34	06/02/21 09:24	1
Boron	ND		0.080	0.039	mg/L		06/01/21 11:34	06/02/21 09:24	1
Cadmium	ND		0.0010	0.00022	mg/L		06/01/21 11:34	06/02/21 09:24	1
Calcium	ND		0.50	0.13	mg/L		06/01/21 11:34	06/02/21 09:24	1
Chromium	ND		0.0020	0.0015	mg/L		06/01/21 11:34	06/02/21 09:24	1
Cobalt	ND		0.00050	0.00013	mg/L		06/01/21 11:34	06/02/21 09:24	1
Lead	ND		0.0010	0.00013	mg/L		06/01/21 11:34	06/02/21 09:24	1
Lithium	ND		0.0050	0.0034	mg/L		06/01/21 11:34	06/02/21 09:24	1
Molybdenum	ND		0.0050	0.00061	mg/L		06/01/21 11:34	06/02/21 09:24	1

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

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

Lab Sample ID: MB 180-359040/1-A
Matrix: Water
Analysis Batch: 359290

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 359040

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		0.0050	0.0015	mg/L		06/01/21 11:34	06/02/21 09:24	1
Thallium	ND		0.0010	0.00015	mg/L		06/01/21 11:34	06/02/21 09:24	1

Lab Sample ID: LCS 180-359040/2-A
Matrix: Water
Analysis Batch: 359290

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 359040

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.250	0.246		mg/L		98	80 - 120
Arsenic	1.00	1.02		mg/L		102	80 - 120
Barium	1.00	1.02		mg/L		102	80 - 120
Beryllium	0.500	0.509		mg/L		102	80 - 120
Boron	1.25	1.26		mg/L		101	80 - 120
Cadmium	0.500	0.520		mg/L		104	80 - 120
Calcium	25.0	27.6		mg/L		111	80 - 120
Chromium	0.500	0.507		mg/L		101	80 - 120
Cobalt	0.500	0.514		mg/L		103	80 - 120
Lead	0.500	0.514		mg/L		103	80 - 120
Lithium	0.500	0.499		mg/L		100	80 - 120
Molybdenum	0.500	0.516		mg/L		103	80 - 120
Selenium	1.00	1.02		mg/L		102	80 - 120
Thallium	1.00	1.06		mg/L		106	80 - 120

Lab Sample ID: 180-122065-2 MS
Matrix: Water
Analysis Batch: 359290

Client Sample ID: CCR-AP-2R
Prep Type: Total Recoverable
Prep Batch: 359040

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		0.250	0.244		mg/L		98	75 - 125
Arsenic	0.00096	J	1.00	1.05		mg/L		105	75 - 125
Barium	0.024		1.00	1.04		mg/L		101	75 - 125
Beryllium	ND		0.500	0.467		mg/L		93	75 - 125
Cadmium	ND		0.500	0.495		mg/L		99	75 - 125
Calcium	340		25.0	378	4	mg/L		137	75 - 125
Chromium	ND		0.500	0.485		mg/L		97	75 - 125
Cobalt	0.0032		0.500	0.524		mg/L		104	75 - 125
Lead	ND		0.500	0.511		mg/L		102	75 - 125
Lithium	0.032		0.500	0.484		mg/L		90	75 - 125
Molybdenum	2.0		0.500	2.55	4	mg/L		107	75 - 125
Selenium	ND		1.00	0.953		mg/L		95	75 - 125
Thallium	ND		1.00	1.05		mg/L		105	75 - 125

Lab Sample ID: 180-122065-2 MS
Matrix: Water
Analysis Batch: 359431

Client Sample ID: CCR-AP-2R
Prep Type: Total Recoverable
Prep Batch: 359040

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	12		1.25	14.4	4	mg/L		182	75 - 125

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

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

Lab Sample ID: 180-122065-2 MSD
Matrix: Water
Analysis Batch: 359290

Client Sample ID: CCR-AP-2R
Prep Type: Total Recoverable
Prep Batch: 359040

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
Antimony	ND		0.250	0.243		mg/L		97	75 - 125	1	20
Arsenic	0.00096	J	1.00	1.09		mg/L		109	75 - 125	3	20
Barium	0.024		1.00	1.04		mg/L		101	75 - 125	0	20
Beryllium	ND		0.500	0.479		mg/L		96	75 - 125	3	20
Cadmium	ND		0.500	0.498		mg/L		100	75 - 125	1	20
Calcium	340		25.0	380	4	mg/L		147	75 - 125	1	20
Chromium	ND		0.500	0.486		mg/L		97	75 - 125	0	20
Cobalt	0.0032		0.500	0.535		mg/L		106	75 - 125	2	20
Lead	ND		0.500	0.510		mg/L		102	75 - 125	0	20
Lithium	0.032		0.500	0.484		mg/L		90	75 - 125	0	20
Molybdenum	2.0		0.500	2.59	4	mg/L		114	75 - 125	2	20
Selenium	ND		1.00	0.953		mg/L		95	75 - 125	0	20
Thallium	ND		1.00	1.05		mg/L		105	75 - 125	1	20

Lab Sample ID: 180-122065-2 MSD
Matrix: Water
Analysis Batch: 359431

Client Sample ID: CCR-AP-2R
Prep Type: Total Recoverable
Prep Batch: 359040

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
Boron	12		1.25	14.3	4	mg/L		179	75 - 125	0	20

Lab Sample ID: MB 180-359844/1-A
Matrix: Water
Analysis Batch: 360167

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 359844

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	ND		0.0020	0.00038	mg/L		06/08/21 09:00	06/09/21 10:24	1
Arsenic	ND		0.0010	0.00031	mg/L		06/08/21 09:00	06/09/21 10:24	1
Barium	ND		0.010	0.0016	mg/L		06/08/21 09:00	06/09/21 10:24	1
Beryllium	ND		0.0010	0.00018	mg/L		06/08/21 09:00	06/09/21 10:24	1
Boron	ND		0.080	0.039	mg/L		06/08/21 09:00	06/09/21 10:24	1
Cadmium	ND		0.0010	0.00022	mg/L		06/08/21 09:00	06/09/21 10:24	1
Calcium	ND		0.50	0.13	mg/L		06/08/21 09:00	06/09/21 10:24	1
Chromium	0.00171	J	0.0020	0.0015	mg/L		06/08/21 09:00	06/09/21 10:24	1
Cobalt	ND		0.00050	0.00013	mg/L		06/08/21 09:00	06/09/21 10:24	1
Lead	ND		0.0010	0.00013	mg/L		06/08/21 09:00	06/09/21 10:24	1
Lithium	ND		0.0050	0.0034	mg/L		06/08/21 09:00	06/09/21 10:24	1
Molybdenum	ND		0.0050	0.00061	mg/L		06/08/21 09:00	06/09/21 10:24	1
Selenium	ND		0.0050	0.0015	mg/L		06/08/21 09:00	06/09/21 10:24	1
Thallium	ND		0.0010	0.00015	mg/L		06/08/21 09:00	06/09/21 10:24	1

Lab Sample ID: LCS 180-359844/2-A
Matrix: Water
Analysis Batch: 360167

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 359844

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.08		mg/L		108	80 - 120
Barium	1.00	1.06		mg/L		106	80 - 120

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

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

Lab Sample ID: LCS 180-359844/2-A
Matrix: Water
Analysis Batch: 360167

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 359844

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.500	0.513		mg/L		103	80 - 120
Boron	1.25	1.24		mg/L		99	80 - 120
Cadmium	0.500	0.535		mg/L		107	80 - 120
Calcium	25.0	29.7		mg/L		119	80 - 120
Chromium	0.500	0.523		mg/L		105	80 - 120
Cobalt	0.500	0.520		mg/L		104	80 - 120
Lead	0.500	0.511		mg/L		102	80 - 120
Lithium	0.500	0.514		mg/L		103	80 - 120
Molybdenum	0.500	0.576		mg/L		115	80 - 120
Selenium	1.00	1.06		mg/L		106	80 - 120
Thallium	1.00	1.03		mg/L		103	80 - 120

Lab Sample ID: 180-122065-3 MS
Matrix: Water
Analysis Batch: 360167

Client Sample ID: CCR-AP-21
Prep Type: Total Recoverable
Prep Batch: 359844

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		0.250	0.248		mg/L		99	75 - 125
Arsenic	0.0010		1.00	1.11		mg/L		111	75 - 125
Barium	0.092		1.00	1.14		mg/L		104	75 - 125
Beryllium	0.00021	J	0.500	0.487		mg/L		97	75 - 125
Boron	2.0		1.25	3.17		mg/L		93	75 - 125
Cadmium	ND		0.500	0.512		mg/L		102	75 - 125
Calcium	11		25.0	40.7		mg/L		118	75 - 125
Chromium	ND		0.500	0.506		mg/L		101	75 - 125
Cobalt	0.00015	J	0.500	0.527		mg/L		105	75 - 125
Lead	ND		0.500	0.485		mg/L		97	75 - 125
Lithium	0.020		0.500	0.514		mg/L		99	75 - 125
Molybdenum	0.00087	J	0.500	0.589		mg/L		118	75 - 125
Selenium	ND		1.00	0.985		mg/L		99	75 - 125
Thallium	0.00038	J	1.00	1.03		mg/L		103	75 - 125

Lab Sample ID: 180-122065-3 MSD
Matrix: Water
Analysis Batch: 360167

Client Sample ID: CCR-AP-21
Prep Type: Total Recoverable
Prep Batch: 359844

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Antimony	ND		0.250	0.246		mg/L		99	75 - 125	1	20
Arsenic	0.0010		1.00	1.09		mg/L		109	75 - 125	2	20
Barium	0.092		1.00	1.14		mg/L		105	75 - 125	0	20
Beryllium	0.00021	J	0.500	0.526		mg/L		105	75 - 125	8	20
Boron	2.0		1.25	3.29		mg/L		102	75 - 125	4	20
Cadmium	ND		0.500	0.511		mg/L		102	75 - 125	0	20
Calcium	11		25.0	40.1		mg/L		116	75 - 125	2	20
Chromium	ND		0.500	0.499		mg/L		100	75 - 125	1	20
Cobalt	0.00015	J	0.500	0.528		mg/L		106	75 - 125	0	20
Lead	ND		0.500	0.479		mg/L		96	75 - 125	1	20
Lithium	0.020		0.500	0.524		mg/L		101	75 - 125	2	20
Molybdenum	0.00087	J	0.500	0.573		mg/L		114	75 - 125	3	20

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

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

Lab Sample ID: 180-122065-3 MSD
Matrix: Water
Analysis Batch: 360167

Client Sample ID: CCR-AP-21
Prep Type: Total Recoverable
Prep Batch: 359844

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Selenium	ND		1.00	0.988		mg/L		99	75 - 125	0	20
Thallium	0.00038	J	1.00	1.01		mg/L		101	75 - 125	2	20

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-358462/1-A
Matrix: Water
Analysis Batch: 359233

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358462

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/28/21 09:06	06/02/21 12:24	1

Lab Sample ID: LCS 180-358462/2-A
Matrix: Water
Analysis Batch: 359233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358462

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00251		mg/L		100	80 - 120

Lab Sample ID: MB 180-358873/1-A
Matrix: Water
Analysis Batch: 359233

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 358873

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/29/21 09:42	06/02/21 11:59	1

Lab Sample ID: LCS 180-358873/2-A
Matrix: Water
Analysis Batch: 359233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 358873

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00243		mg/L		97	80 - 120

Lab Sample ID: MB 180-359382/1-A
Matrix: Water
Analysis Batch: 359544

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 359382

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/03/21 12:00	06/04/21 11:40	1

Lab Sample ID: LCS 180-359382/2-A
Matrix: Water
Analysis Batch: 359544

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 359382

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00236		mg/L		95	80 - 120

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

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

Lab Sample ID: MB 180-359786/1-A
Matrix: Water
Analysis Batch: 359902

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 359786

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/08/21 06:11	06/08/21 12:32	1

Lab Sample ID: LCS 180-359786/2-A
Matrix: Water
Analysis Batch: 359902

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 359786

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 180-359558/27
Matrix: Water
Analysis Batch: 359558

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: 180-122065-7 DU
Matrix: Water
Analysis Batch: 359558

Client Sample ID: CCR-AP-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.9	HF	6.9		SU		0.1	2

Lab Sample ID: LCS 180-359759/1
Matrix: Water
Analysis Batch: 359759

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 180-360484/27
Matrix: Water
Analysis Batch: 360484

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 180-358309/2
Matrix: Water
Analysis Batch: 358309

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			05/25/21 20:19	1

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

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

Lab Sample ID: LCS 180-358309/1
Matrix: Water
Analysis Batch: 358309

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	683	668		mg/L		98	80 - 120

Lab Sample ID: MB 180-358502/2
Matrix: Water
Analysis Batch: 358502

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			05/26/21 23:29	1

Lab Sample ID: LCS 180-358502/1
Matrix: Water
Analysis Batch: 358502

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	683	616		mg/L		90	80 - 120

Lab Sample ID: MB 180-358504/2
Matrix: Water
Analysis Batch: 358504

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			05/26/21 23:36	1

Lab Sample ID: LCS 180-358504/1
Matrix: Water
Analysis Batch: 358504

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	683	704		mg/L		103	80 - 120

Lab Sample ID: 180-122065-11 DU
Matrix: Water
Analysis Batch: 358504

Client Sample ID: CCR-LF-5
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	4800		5120		mg/L		7	10

Lab Sample ID: MB 180-358676/2
Matrix: Water
Analysis Batch: 358676

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			05/27/21 19:55	1

Lab Sample ID: LCS 180-358676/1
Matrix: Water
Analysis Batch: 358676

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	683	714		mg/L		105	80 - 120

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QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

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

Lab Sample ID: 180-122065-5 DU
Matrix: Water
Analysis Batch: 358676

Client Sample ID: CCR-AP-3I
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	750	H	741		mg/L		1	10

Lab Sample ID: MB 180-359087/2
Matrix: Water
Analysis Batch: 359087

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			06/01/21 20:06	1

Lab Sample ID: LCS 180-359087/1
Matrix: Water
Analysis Batch: 359087

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	683	710		mg/L		104	80 - 120

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-511925/23-A
Matrix: Water
Analysis Batch: 514789

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 511925

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.08358	U	0.180	0.180	1.00	0.323	pCi/L	05/27/21 14:34	06/18/21 21:03	1
Carrier	%Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.5		40 - 110					05/27/21 14:34	06/18/21 21:03	1

Lab Sample ID: LCS 160-511925/1-A
Matrix: Water
Analysis Batch: 514753

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 511925

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Radium-226	11.3	10.18		1.31	1.00	0.310	pCi/L	90	75 - 125
Carrier	%Yield	LCS Qualifier	Limits						
Ba Carrier	83.2		40 - 110						

Lab Sample ID: MB 160-513098/23-A
Matrix: Water
Analysis Batch: 516648

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513098

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.2126		0.145	0.146	1.00	0.205	pCi/L	06/07/21 09:17	06/30/21 11:19	1

Eurofins TestAmerica, Pittsburgh

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

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

Lab Sample ID: MB 160-513098/23-A
Matrix: Water
Analysis Batch: 516648

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513098

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	98.1		40 - 110	06/07/21 09:17	06/30/21 11:19	1

Lab Sample ID: LCS 160-513098/1-A
Matrix: Water
Analysis Batch: 516648

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513098

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.3	10.42		1.19	1.00	0.190	pCi/L	92	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	96.9		40 - 110

Lab Sample ID: LCSD 160-513098/2-A
Matrix: Water
Analysis Batch: 516648

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 513098

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	11.3	10.10		1.19	1.00	0.230	pCi/L	89	75 - 125	0.14	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	87.5		40 - 110

Lab Sample ID: MB 160-515419/23-A
Matrix: Water
Analysis Batch: 518711

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 515419

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.03898	U	0.0627	0.0628	1.00	0.109	pCi/L	06/22/21 10:46	07/15/21 16:54	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	78.3		40 - 110	06/22/21 10:46	07/15/21 16:54	1

Lab Sample ID: LCS 160-515419/1-A
Matrix: Water
Analysis Batch: 518711

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 515419

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.3	11.25		1.17	1.00	0.130	pCi/L	99	75 - 125

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	74.7		40 - 110

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-511755/23-A
Matrix: Water
Analysis Batch: 514718

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 511755

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.2218	U	0.323	0.323	1.00	0.541	pCi/L	05/26/21 13:25	06/17/21 09:18	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	66.4		40 - 110		05/26/21 13:25	06/17/21 09:18	1			
Y Carrier	87.5		40 - 110		05/26/21 13:25	06/17/21 09:18	1			

Lab Sample ID: LCS 160-511755/1-A
Matrix: Water
Analysis Batch: 514698

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 511755

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-228	9.62	8.907		2.68	1.00	3.24	pCi/L	93	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	11.5	X	40 - 110						
Y Carrier	83.4		40 - 110						

Lab Sample ID: MB 160-511931/23-A
Matrix: Water
Analysis Batch: 514804

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 511931

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.1527	U	0.231	0.231	1.00	0.388	pCi/L	05/27/21 15:09	06/18/21 09:25	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	83.5		40 - 110		05/27/21 15:09	06/18/21 09:25	1			
Y Carrier	85.6		40 - 110		05/27/21 15:09	06/18/21 09:25	1			

Lab Sample ID: LCS 160-511931/1-A
Matrix: Water
Analysis Batch: 514804

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 511931

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-228	9.61	10.85		1.25	1.00	0.417	pCi/L	113	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	83.2		40 - 110						
Y Carrier	82.2		40 - 110						

QC Sample Results

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

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

Lab Sample ID: MB 160-513102/23-A
Matrix: Water
Analysis Batch: 516465

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513102

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac	
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)							
Radium-228	0.3769		0.239	0.241	1.00	0.367	pCi/L	06/07/21 10:13	06/28/21 13:55	1	
Carrier	MB	MB	Limits				Prepared		Analyzed		Dil Fac
	%Yield	Qualifier									
Ba Carrier	98.1		40 - 110				06/07/21 10:13		06/28/21 13:55		1
Y Carrier	96.1		40 - 110				06/07/21 10:13		06/28/21 13:55		1

Lab Sample ID: LCS 160-513102/1-A
Matrix: Water
Analysis Batch: 516467

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513102

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-228	9.58	9.321		1.07	1.00	0.326	pCi/L	97	75 - 125
Carrier	LCS	LCS	Limits						
	%Yield	Qualifier							
Ba Carrier	96.9		40 - 110						
Y Carrier	92.3		40 - 110						

Lab Sample ID: LCSD 160-513102/2-A
Matrix: Water
Analysis Batch: 516467

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 513102

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER
				Uncert. (2σ+/-)							Limit
Radium-228	9.58	10.14		1.17	1.00	0.379	pCi/L	106	75 - 125	0.37	1
Carrier	LCSD	LCSD	Limits								
	%Yield	Qualifier									
Ba Carrier	87.5		40 - 110								
Y Carrier	93.8		40 - 110								

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

HPLC/IC

Analysis Batch: 358865

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-1	CCR-AP-1R	Total/NA	Water	EPA 9056A	
180-122065-2	CCR-AP-2R	Total/NA	Water	EPA 9056A	
180-122065-2	CCR-AP-2R	Total/NA	Water	EPA 9056A	
180-122065-3	CCR-AP-2I	Total/NA	Water	EPA 9056A	
180-122065-4	CCR-AP-3R	Total/NA	Water	EPA 9056A	
180-122065-4	CCR-AP-3R	Total/NA	Water	EPA 9056A	
180-122065-5	CCR-AP-3I	Total/NA	Water	EPA 9056A	
180-122065-6	CCR-AP-4R	Total/NA	Water	EPA 9056A	
180-122065-7	CCR-AP-6	Total/NA	Water	EPA 9056A	
180-122065-7	CCR-AP-6	Total/NA	Water	EPA 9056A	
180-122065-8	CCR-AP-7R	Total/NA	Water	EPA 9056A	
180-122065-8	CCR-AP-7R	Total/NA	Water	EPA 9056A	
180-122065-9	CCR-AP-8	Total/NA	Water	EPA 9056A	
180-122065-9	CCR-AP-8	Total/NA	Water	EPA 9056A	
180-122065-10	CCR-LF-4	Total/NA	Water	EPA 9056A	
180-122065-10	CCR-LF-4	Total/NA	Water	EPA 9056A	
180-122065-11	CCR-LF-5	Total/NA	Water	EPA 9056A	
180-122065-11	CCR-LF-5	Total/NA	Water	EPA 9056A	
180-122065-12	CCR-LF-6	Total/NA	Water	EPA 9056A	
180-122065-12	CCR-LF-6	Total/NA	Water	EPA 9056A	
180-122065-13	CCR-BK-1R	Total/NA	Water	EPA 9056A	
180-122065-14	CCR-BK-2	Total/NA	Water	EPA 9056A	
180-122065-15	BLIND DUPLICATE 1	Total/NA	Water	EPA 9056A	
180-122065-15	BLIND DUPLICATE 1	Total/NA	Water	EPA 9056A	
180-122065-16	CCR-AP-10	Total/NA	Water	EPA 9056A	
180-122065-16	CCR-AP-10	Total/NA	Water	EPA 9056A	
MB 180-358865/55	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-358865/54	Lab Control Sample	Total/NA	Water	EPA 9056A	
180-122065-13 MS	CCR-BK-1R	Total/NA	Water	EPA 9056A	
180-122065-13 MSD	CCR-BK-1R	Total/NA	Water	EPA 9056A	

Metals

Prep Batch: 358462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-7	CCR-AP-6	Total/NA	Water	7470A	
180-122065-8	CCR-AP-7R	Total/NA	Water	7470A	
180-122065-9	CCR-AP-8	Total/NA	Water	7470A	
180-122065-10	CCR-LF-4	Total/NA	Water	7470A	
180-122065-11	CCR-LF-5	Total/NA	Water	7470A	
180-122065-12	CCR-LF-6	Total/NA	Water	7470A	
180-122065-13	CCR-BK-1R	Total/NA	Water	7470A	
MB 180-358462/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-358462/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 358873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-1	CCR-AP-1R	Total/NA	Water	7470A	
180-122065-2	CCR-AP-2R	Total/NA	Water	7470A	
180-122065-14	CCR-BK-2	Total/NA	Water	7470A	
180-122065-16	CCR-AP-10	Total/NA	Water	7470A	

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QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Metals (Continued)

Prep Batch: 358873 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-358873/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-358873/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 359040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-1	CCR-AP-1R	Total Recoverable	Water	3005A	
180-122065-2	CCR-AP-2R	Total Recoverable	Water	3005A	
180-122065-7	CCR-AP-6	Total Recoverable	Water	3005A	
180-122065-8	CCR-AP-7R	Total Recoverable	Water	3005A	
180-122065-9	CCR-AP-8	Total Recoverable	Water	3005A	
180-122065-10	CCR-LF-4	Total Recoverable	Water	3005A	
180-122065-11	CCR-LF-5	Total Recoverable	Water	3005A	
180-122065-12	CCR-LF-6	Total Recoverable	Water	3005A	
180-122065-13	CCR-BK-1R	Total Recoverable	Water	3005A	
180-122065-14	CCR-BK-2	Total Recoverable	Water	3005A	
180-122065-15	BLIND DUPLICATE 1	Total Recoverable	Water	3005A	
180-122065-16	CCR-AP-10	Total Recoverable	Water	3005A	
MB 180-359040/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-359040/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-122065-2 MS	CCR-AP-2R	Total Recoverable	Water	3005A	
180-122065-2 MSD	CCR-AP-2R	Total Recoverable	Water	3005A	

Analysis Batch: 359233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-1	CCR-AP-1R	Total/NA	Water	EPA 7470A	358873
180-122065-2	CCR-AP-2R	Total/NA	Water	EPA 7470A	358873
180-122065-7	CCR-AP-6	Total/NA	Water	EPA 7470A	358462
180-122065-8	CCR-AP-7R	Total/NA	Water	EPA 7470A	358462
180-122065-9	CCR-AP-8	Total/NA	Water	EPA 7470A	358462
180-122065-10	CCR-LF-4	Total/NA	Water	EPA 7470A	358462
180-122065-11	CCR-LF-5	Total/NA	Water	EPA 7470A	358462
180-122065-12	CCR-LF-6	Total/NA	Water	EPA 7470A	358462
180-122065-13	CCR-BK-1R	Total/NA	Water	EPA 7470A	358462
180-122065-14	CCR-BK-2	Total/NA	Water	EPA 7470A	358873
180-122065-16	CCR-AP-10	Total/NA	Water	EPA 7470A	358873
MB 180-358462/1-A	Method Blank	Total/NA	Water	EPA 7470A	358462
MB 180-358873/1-A	Method Blank	Total/NA	Water	EPA 7470A	358873
LCS 180-358462/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	358462
LCS 180-358873/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	358873

Analysis Batch: 359290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-1	CCR-AP-1R	Total Recoverable	Water	EPA 6020A	359040
180-122065-2	CCR-AP-2R	Total Recoverable	Water	EPA 6020A	359040
180-122065-7	CCR-AP-6	Total Recoverable	Water	EPA 6020A	359040
180-122065-8	CCR-AP-7R	Total Recoverable	Water	EPA 6020A	359040
180-122065-9	CCR-AP-8	Total Recoverable	Water	EPA 6020A	359040
180-122065-10	CCR-LF-4	Total Recoverable	Water	EPA 6020A	359040
180-122065-11	CCR-LF-5	Total Recoverable	Water	EPA 6020A	359040
180-122065-12	CCR-LF-6	Total Recoverable	Water	EPA 6020A	359040
180-122065-13	CCR-BK-1R	Total Recoverable	Water	EPA 6020A	359040

Eurofins TestAmerica, Pittsburgh

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Metals (Continued)

Analysis Batch: 359290 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-14	CCR-BK-2	Total Recoverable	Water	EPA 6020A	359040
180-122065-15	BLIND DUPLICATE 1	Total Recoverable	Water	EPA 6020A	359040
180-122065-16	CCR-AP-10	Total Recoverable	Water	EPA 6020A	359040
MB 180-359040/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	359040
LCS 180-359040/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	359040
180-122065-2 MS	CCR-AP-2R	Total Recoverable	Water	EPA 6020A	359040
180-122065-2 MSD	CCR-AP-2R	Total Recoverable	Water	EPA 6020A	359040

Prep Batch: 359382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-15	BLIND DUPLICATE 1	Total/NA	Water	7470A	
MB 180-359382/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-359382/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 359431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-2	CCR-AP-2R	Total Recoverable	Water	EPA 6020A	359040
180-122065-2 MS	CCR-AP-2R	Total Recoverable	Water	EPA 6020A	359040
180-122065-2 MSD	CCR-AP-2R	Total Recoverable	Water	EPA 6020A	359040

Analysis Batch: 359544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-15	BLIND DUPLICATE 1	Total/NA	Water	EPA 7470A	359382
MB 180-359382/1-A	Method Blank	Total/NA	Water	EPA 7470A	359382
LCS 180-359382/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	359382

Prep Batch: 359786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-3	CCR-AP-2I	Total/NA	Water	7470A	
180-122065-4	CCR-AP-3R	Total/NA	Water	7470A	
180-122065-5	CCR-AP-3I	Total/NA	Water	7470A	
180-122065-6	CCR-AP-4R	Total/NA	Water	7470A	
MB 180-359786/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-359786/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 359844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-3	CCR-AP-2I	Total Recoverable	Water	3005A	
180-122065-4	CCR-AP-3R	Total Recoverable	Water	3005A	
180-122065-5	CCR-AP-3I	Total Recoverable	Water	3005A	
180-122065-6	CCR-AP-4R	Total Recoverable	Water	3005A	
MB 180-359844/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-359844/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-122065-3 MS	CCR-AP-2I	Total Recoverable	Water	3005A	
180-122065-3 MSD	CCR-AP-2I	Total Recoverable	Water	3005A	

Analysis Batch: 359902

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-3	CCR-AP-2I	Total/NA	Water	EPA 7470A	359786
180-122065-4	CCR-AP-3R	Total/NA	Water	EPA 7470A	359786
180-122065-5	CCR-AP-3I	Total/NA	Water	EPA 7470A	359786

Eurofins TestAmerica, Pittsburgh

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Metals (Continued)

Analysis Batch: 359902 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-6	CCR-AP-4R	Total/NA	Water	EPA 7470A	359786
MB 180-359786/1-A	Method Blank	Total/NA	Water	EPA 7470A	359786
LCS 180-359786/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	359786

Analysis Batch: 360167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-3	CCR-AP-2I	Total Recoverable	Water	EPA 6020A	359844
180-122065-4	CCR-AP-3R	Total Recoverable	Water	EPA 6020A	359844
180-122065-5	CCR-AP-3I	Total Recoverable	Water	EPA 6020A	359844
180-122065-6	CCR-AP-4R	Total Recoverable	Water	EPA 6020A	359844
MB 180-359844/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	359844
LCS 180-359844/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	359844
180-122065-3 MS	CCR-AP-2I	Total Recoverable	Water	EPA 6020A	359844
180-122065-3 MSD	CCR-AP-2I	Total Recoverable	Water	EPA 6020A	359844

Analysis Batch: 360344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-4	CCR-AP-3R	Total Recoverable	Water	EPA 6020A	359844

General Chemistry

Analysis Batch: 358309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-1	CCR-AP-1R	Total/NA	Water	SM 2540C	
180-122065-2	CCR-AP-2R	Total/NA	Water	SM 2540C	
MB 180-358309/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-358309/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 358502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-7	CCR-AP-6	Total/NA	Water	SM 2540C	
180-122065-8	CCR-AP-7R	Total/NA	Water	SM 2540C	
180-122065-9	CCR-AP-8	Total/NA	Water	SM 2540C	
180-122065-10	CCR-LF-4	Total/NA	Water	SM 2540C	
MB 180-358502/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-358502/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 358504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-11	CCR-LF-5	Total/NA	Water	SM 2540C	
180-122065-12	CCR-LF-6	Total/NA	Water	SM 2540C	
180-122065-13	CCR-BK-1R	Total/NA	Water	SM 2540C	
180-122065-14	CCR-BK-2	Total/NA	Water	SM 2540C	
180-122065-15	BLIND DUPLICATE 1	Total/NA	Water	SM 2540C	
MB 180-358504/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-358504/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-122065-11 DU	CCR-LF-5	Total/NA	Water	SM 2540C	

Analysis Batch: 358676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-5	CCR-AP-3I	Total/NA	Water	SM 2540C	

Eurofins TestAmerica, Pittsburgh

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

General Chemistry (Continued)

Analysis Batch: 358676 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-6	CCR-AP-4R	Total/NA	Water	SM 2540C	
180-122065-16	CCR-AP-10	Total/NA	Water	SM 2540C	
MB 180-358676/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-358676/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-122065-5 DU	CCR-AP-3I	Total/NA	Water	SM 2540C	

Analysis Batch: 359087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-3	CCR-AP-2I	Total/NA	Water	SM 2540C	
180-122065-4	CCR-AP-3R	Total/NA	Water	SM 2540C	
MB 180-359087/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-359087/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 359558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-1	CCR-AP-1R	Total/NA	Water	EPA 9040C	
180-122065-2	CCR-AP-2R	Total/NA	Water	EPA 9040C	
180-122065-7	CCR-AP-6	Total/NA	Water	EPA 9040C	
180-122065-8	CCR-AP-7R	Total/NA	Water	EPA 9040C	
180-122065-9	CCR-AP-8	Total/NA	Water	EPA 9040C	
180-122065-10	CCR-LF-4	Total/NA	Water	EPA 9040C	
180-122065-11	CCR-LF-5	Total/NA	Water	EPA 9040C	
180-122065-12	CCR-LF-6	Total/NA	Water	EPA 9040C	
180-122065-13	CCR-BK-1R	Total/NA	Water	EPA 9040C	
180-122065-14	CCR-BK-2	Total/NA	Water	EPA 9040C	
180-122065-15	BLIND DUPLICATE 1	Total/NA	Water	EPA 9040C	
LCS 180-359558/27	Lab Control Sample	Total/NA	Water	EPA 9040C	
180-122065-7 DU	CCR-AP-6	Total/NA	Water	EPA 9040C	

Analysis Batch: 359759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-16	CCR-AP-10	Total/NA	Water	EPA 9040C	
LCS 180-359759/1	Lab Control Sample	Total/NA	Water	EPA 9040C	

Analysis Batch: 360484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-3	CCR-AP-2I	Total/NA	Water	EPA 9040C	
180-122065-4	CCR-AP-3R	Total/NA	Water	EPA 9040C	
180-122065-5	CCR-AP-3I	Total/NA	Water	EPA 9040C	
180-122065-6	CCR-AP-4R	Total/NA	Water	EPA 9040C	
LCS 180-360484/27	Lab Control Sample	Total/NA	Water	EPA 9040C	

Rad

Prep Batch: 511755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-1	CCR-AP-1R	Total/NA	Water	PrecSep_0	
180-122065-2	CCR-AP-2R	Total/NA	Water	PrecSep_0	
180-122065-7	CCR-AP-6	Total/NA	Water	PrecSep_0	
180-122065-8	CCR-AP-7R	Total/NA	Water	PrecSep_0	
180-122065-9	CCR-AP-8	Total/NA	Water	PrecSep_0	

Eurofins TestAmerica, Pittsburgh

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Rad (Continued)

Prep Batch: 511755 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-10	CCR-LF-4	Total/NA	Water	PrecSep_0	
180-122065-11	CCR-LF-5	Total/NA	Water	PrecSep_0	
180-122065-12	CCR-LF-6	Total/NA	Water	PrecSep_0	
180-122065-13	CCR-BK-1R	Total/NA	Water	PrecSep_0	
180-122065-14	CCR-BK-2	Total/NA	Water	PrecSep_0	
MB 160-511755/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-511755/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 511925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-15	BLIND DUPLICATE 1	Total/NA	Water	PrecSep-21	
180-122065-16	CCR-AP-10	Total/NA	Water	PrecSep-21	
MB 160-511925/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-511925/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 511931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-15	BLIND DUPLICATE 1	Total/NA	Water	PrecSep_0	
180-122065-16	CCR-AP-10	Total/NA	Water	PrecSep_0	
MB 160-511931/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-511931/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 513098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-3	CCR-AP-2I	Total/NA	Water	PrecSep-21	
180-122065-4	CCR-AP-3R	Total/NA	Water	PrecSep-21	
180-122065-5	CCR-AP-3I	Total/NA	Water	PrecSep-21	
180-122065-6	CCR-AP-4R	Total/NA	Water	PrecSep-21	
MB 160-513098/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-513098/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-513098/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 513102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-3	CCR-AP-2I	Total/NA	Water	PrecSep_0	
180-122065-4	CCR-AP-3R	Total/NA	Water	PrecSep_0	
180-122065-5	CCR-AP-3I	Total/NA	Water	PrecSep_0	
180-122065-6	CCR-AP-4R	Total/NA	Water	PrecSep_0	
MB 160-513102/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-513102/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-513102/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 515419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-1	CCR-AP-1R	Total/NA	Water	PrecSep-21	
180-122065-2	CCR-AP-2R	Total/NA	Water	PrecSep-21	
180-122065-7	CCR-AP-6	Total/NA	Water	PrecSep-21	
180-122065-8	CCR-AP-7R	Total/NA	Water	PrecSep-21	
180-122065-9	CCR-AP-8	Total/NA	Water	PrecSep-21	
180-122065-10	CCR-LF-4	Total/NA	Water	PrecSep-21	
180-122065-11	CCR-LF-5	Total/NA	Water	PrecSep-21	

Eurofins TestAmerica, Pittsburgh

QC Association Summary

Client: Haley & Aldrich, Inc.
Project/Site: AB Brown

Job ID: 180-122065-1
SDG: AB Brown

Rad (Continued)

Prep Batch: 515419 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122065-12	CCR-LF-6	Total/NA	Water	PrecSep-21	
180-122065-13	CCR-BK-1R	Total/NA	Water	PrecSep-21	
180-122065-14	CCR-BK-2	Total/NA	Water	PrecSep-21	
MB 160-515419/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-515419/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Chain of Custody Record

Client Information		Sampler: <i>Jacob Winstelt</i>		Lab PM: Bortot, Veronica		Carrier Tracking No(s):		COC No: 180-65337-8018.2	
Client Contact: Lisa Messinger		Phone: <i>(317) 671-3730</i>		E-Mail: Veronica.Bortot@Eurofinset.com		Page: Page 2 of 2		Job #:	
Company: Vectren Corporation		Due Date Requested:		Analysis Requested		Total Number of Containers		Preservation Codes:	
Address: PO BOX 209		TAT Requested (days):		Perform MS/MSD (Yes or No)		9315_Ra226, 9320_Ra228		A - HCL	
City: Evansville		Purchase Order Requested		Field Filtered Sample (Yes or No)		9040C_9056A_ORGM_28D		M - Hexane	
State, Zip: IN, 47702		PO #:		Matrix		6020A_7470A		N - None	
Phone: 864-214-8750(Tel)		WO #:		Sample Type (C=Comp, G=grab)		2540C_Calcd - TDS		O - AsNaO2	
Email: lmessinger@vectren.com		Project #:		Sample Time		9040C_9056A_ORGM_28D		P - Na2O4S	
Project Name: CCR Groundwater Monitoring		18016014		Sample Date		6020A_7470A		Q - Na2SO3	
Site: <i>Ab Brown</i>		SSOW#:		Preservation Code:		9315_Ra226, 9320_Ra228		R - Na2SO3	
Sample Identification		Sample Date		Sample Time		9040C_9056A_ORGM_28D		S - H2SO4	
<i>CCR-LF-6</i>		<i>5-19-21 1915</i>		<i>G</i>		6020A_7470A		T - TSP Dodecahydrate	
<i>CCR-BK-1R</i>		<i>5-18-21 1330</i>		<i>Water</i>		9040C_9056A_ORGM_28D		U - Acetone	
<i>CCR-BK-2</i>		<i>5-18-21 1145</i>		<i>Water</i>		9315_Ra226, 9320_Ra228		V - MCAA	
<i>Blank Duplicate 1</i>		<i>5-18-21 1645</i>		<i>Water</i>		9040C_9056A_ORGM_28D		W - pH 4-5	
<i>CCR-AP-1D</i>				<i>Water</i>		6020A_7470A		L - EDA	
				<i>Water</i>		9315_Ra226, 9320_Ra228		Other:	
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
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				<i>Water</i>		9040C_9056A_ORGM_28D			
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				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
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				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
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				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
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				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_9056A_ORGM_28D			
				<i>Water</i>		6020A_7470A			
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				<i>Water</i>		6020A_7470A			
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				<i>Water</i>		6020A_7470A			
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				<i>Water</i>		9315_Ra226, 9320_Ra228			
				<i>Water</i>		9040C_			

ORIGIN ID: EV VA (312) 477-1176
BRIAN KLEEMAN

1149 WEDEKING AVENUE
BUILDING D, SUITE 2
EVANSVILLE, IN 47715
UNITED STATES US

SHIP DATE: 20MAY21
ACT WGT: 50.00 LB
CAD: 108997842/NET4340
D.L.S 24.816x15 IN

BILL SENDER

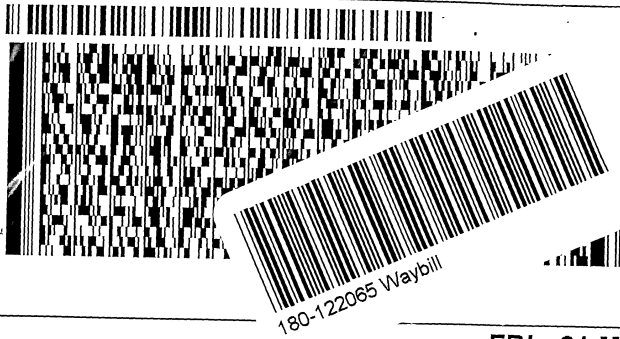
TO VERONICA BORTOT
TESTAMERICA
301 ALPHA DRIVE

PITTSBURGH PA 15238

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INV. 170LF01080
PO: 170LF01080 DEPT:

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2 of 4

FRI - 21 MAY 10:30A
PRIORITY OVERNIGHT

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0263
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MPS# 7737 8601 6010
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FRI - 21 MAY AA
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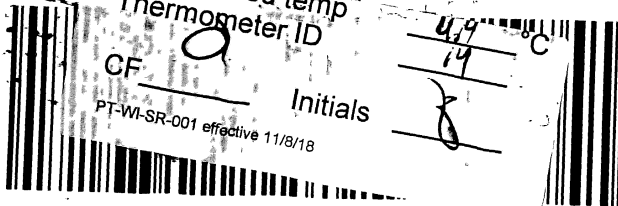
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15238
PA-US PIT

Uncorrected temp
Thermometer ID

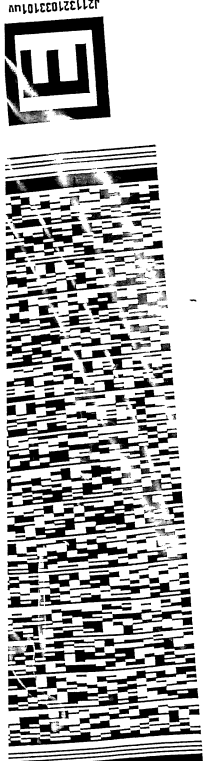
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PT-WI-SR-001 effective 11/8/18



5/20/2021

#3923924 05/20 56DJ3/71DC/FE4A



FRI - 21 MAY 10:30A
PRIORITY OVERNIGHT

15238
PIT

PA-US

AGCA

1 of 4
TRK# 7737 8601 6009
MASTER ##



FRI - 21 MAY AA
PRIORITY OVERNIGHT

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PIT

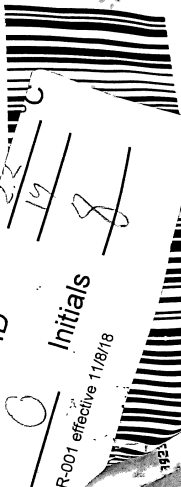
PA-US

AGCA

FedEx
TRK# 7737 8601 6009
0201

Uncorrected temp
Thermometer ID

CF 0 Initials JS
PT-NL-SR-001 effective 11/8/18



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FRI - 21 MAY 10:30A
PRIORITY OVERNIGHT

4 of 4
MPS# 7737 8601 5583
0263
Mstr# 7737 8601 6009

0201

15238

FRI - 21 MAY AA
PRIORITY OVERNIGHT

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MPS# 7737 8601 5583
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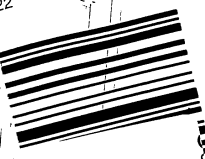
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Uncorrected temp
Thermometer ID

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PT-NL-SR-001 effective 11/8/18



5/20/2021

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10:30
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RT98



Euroins TestAmerica Pittsburgh



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NA AGCA

Uncorrected temp
Thermometer ID

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PT-WI-SR-001 effective 11/8/18

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- 13

Chain of Custody Record



Client Information (Sub Contract Lab)		Lab PM: Rumble, Jennifer L		COC No: 180-435426-1					
Client Contact: Shipping/Receiving		E-Mail: Jennifer.Rumble@Eurofins.com		Page: Page 1 of 2					
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-122065-1					
Address: 13715 Rider Trail North,		State of Origin: Indiana		Carrier Tracking No(s):					
City: Earth City		Due Date Requested: 6/24/2021		Analysis Requested					
State, Zip: MO, 63045		TAT Requested (days):		Total Number of Containers					
Phone: 314-298-8566(Tel) 314-298-8757(Fax)		PO #:		Preservation Codes:					
Email:		WO #:		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:					
Project Name: CCR Groundwater Monitoring		Project #: 18016014		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - H2SO4 S - TSP Dodecahydrate T - U - Acetone V - MCAA W - pH 4.5 Z - other (Specify)					
Site:		SSOW#:		Special Instructions/Note:					
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C-comp, G-grab)	Matrix (W-water, S-solid, O-wasteoil, BT-TISSUE, A-ALP)	Field Filled Sample (Yes or No)	Perform MS/MSD (Yes or No)	9315_Ra226/PreSep_21 Standard Target List	9320_Ra226/PreSep_0 Standard Target List	Ra226Ra228_GFPc
CCR-AP-1R (180-122065-1)	5/18/21	16:45 Eastern	Water	Water	X	X	X	X	X
CCR-AP-2R (180-122065-2)	5/18/21	10:30 Eastern	Water	Water	X	X	X	X	X
CCR-AP-6 (180-122065-7)	5/19/21	16:00 Eastern	Water	Water	X	X	X	X	X
CCR-AP-7R (180-122065-8)	5/19/21	16:45 Eastern	Water	Water	X	X	X	X	X
CCR-AP-8 (180-122065-9)	5/19/21	15:00 Eastern	Water	Water	X	X	X	X	X
CCR-LF-4 (180-122065-10)	5/19/21	17:45 Eastern	Water	Water	X	X	X	X	X
CCR-LF-5 (180-122065-11)	5/19/21	18:30 Eastern	Water	Water	X	X	X	X	X
CCR-LF-6 (180-122065-12)	5/19/21	19:15 Eastern	Water	Water	X	X	X	X	X
CCR-BK-1R (180-122065-13)	5/19/21	13:30 Eastern	Water	Water	X	X	X	X	X

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica 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/lests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2
 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:

Relinquished by: *[Signature]* Date: 5/19/21 (7:00) Company: PEDEX
 Relinquished by: *[Signature]* Date/Time: 5/19/21 08:55 EST Company: ETO STU
 Relinquished by: *[Signature]* Date/Time: _____ Company: _____
 Custody Seals Intact: _____ Custody Seal No.: _____
 Cooler Temperature(s) °C and Other Remarks: _____



Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-122065-1

SDG Number: AB Brown

Login Number: 122065

List Number: 1

Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <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: 180-122065-1

SDG Number: AB Brown

Login Number: 122065

List Number: 3

Creator: Watson, Debbie

List Source: Eurofins TestAmerica, 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.	False	missing cooler no coc
COC is filled out in ink and legible.	N/A	
COC is filled out with all pertinent information.	N/A	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	N/A	
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: 180-122065-1

SDG Number: AB Brown

Login Number: 122065

List Number: 2

Creator: Mazariegos, Leonel A

List Source: Eurofins TestAmerica, St. Louis

List Creation: 05/25/21 03:34 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	



Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-122065-1

SDG Number: AB Brown

Login Number: 122065

List Number: 4

Creator: Worthington, Sierra M

List Source: Eurofins TestAmerica, St. Louis

List Creation: 06/03/21 08:43 AM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	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	



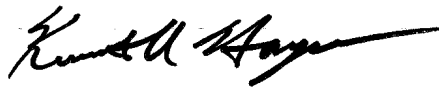
ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

Laboratory Job ID: 180-122147-1
Laboratory Sample Delivery Group: AB Brown
Client Project/Site: CCR Groundwater Monitoring
Revision: 1

For:
Haley & Aldrich, Inc.
465 Medford St
Suite 2200
Boston, Massachusetts 02129-0414

Attn: Mark Miesfeldt



Authorized for release by:
7/23/2021 11:00:04 AM

Ken Hayes, Project Manager II
(615)301-5035
Ken.Hayes@Eurofinset.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

PA Lab ID: 02-00416



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	6
Certification Summary	7
Sample Summary	9
Method Summary	10
Lab Chronicle	11
Client Sample Results	23
QC Sample Results	44
QC Association Summary	55
Chain of Custody	61
Receipt Checklists	63

Case Narrative

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

Job ID: 180-122147-1
SDG: AB Brown

Job ID: 180-122147-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative 180-122147-1

REVISED REPORT

Revised to add the site name to the report. This report replaces the one generated on 07/23/21 @ 09:28.

Receipt

The samples were received on 5/25/2021 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 4 coolers at receipt time were 2.4° C, 3.4° C, 3.8° C and 4.5° C.

GC Semi VOA

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

RAD

Methods 903.0, 9315: Radium-226 prep batch 160-512468:

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-9 (180-122147-1), CCR-AP-11 (180-122147-2), CCR-LF-1 (180-122147-3), CCR-LF-2 (180-122147-4), CCR-LF-3 (180-122147-5), CCR-SP-1 (180-122147-6), (LCS 160-512468/1-A), (LCSD 160-512468/2-A) and (MB 160-512468/23-A)

Methods 903.0, 9315: Radium-226 Batch 512566

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-SP-2 (180-122147-7), CCR-SP-3 (180-122147-8), FD-PZ-1 (180-122147-9), FD-PZ-2 (180-122147-10), MH-1 (180-122147-11), MH-2 (180-122147-12), BLIND DUPLICATE 2 (180-122147-13), BLIND DUPLICATE 3 (180-122147-14), FIELD BLANK 1 (180-122147-15), FIELD BLANK 2 (180-122147-16), FIELD BLANK 3 (180-122147-17), (LCS 160-512566/1-A), (MB 160-512566/23-A), (500-199645-E-10-A) and (500-199645-C-10-A DU)

Methods 903.0, 9315: Radium 226 prep batch 160-516084

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-LF-2 (180-122147-4), CCR-LF-2 (180-122147-4[DU]), (LCS 160-516084/1-A) and (MB 160-516084/22-A)

Methods 904.0, 9320: Radium 228 prep batch 160-512573

The detection goal was not met for the following sample due to a reduction of the sample used attributed to sample matrix.: FD-PZ-2 (180-122147-10). Analytical results are reported with the detection limit achieved.

Methods 904.0, 9320: Radium 228 prep batch 160-512573

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-SP-2 (180-122147-7), CCR-SP-3 (180-122147-8), FD-PZ-1 (180-122147-9), FD-PZ-2 (180-122147-10), MH-1 (180-122147-11), MH-2 (180-122147-12), BLIND DUPLICATE 2 (180-122147-13), BLIND DUPLICATE 3 (180-122147-14), FIELD BLANK 1 (180-122147-15), FIELD BLANK 2 (180-122147-16), FIELD BLANK 3 (180-122147-17), (LCS 160-512573/1-A), (MB 160-512573/23-A), (500-199645-E-10-B) and (500-199645-C-10-B DU)

Methods 904.0, 9320: Radium-228 Batch 512478

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-9 (180-122147-1), CCR-AP-11 (180-122147-2), CCR-LF-1 (180-122147-3), CCR-LF-2 (180-122147-4), CCR-LF-3 (180-122147-5), CCR-SP-1 (180-122147-6), (LCS 160-512478/1-A), (LCSD 160-512478/2-A) and (MB 160-512478/23-A)

Case Narrative

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

Job ID: 180-122147-1
SDG: AB Brown

Job ID: 180-122147-1 (Continued)

Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

Methods 904.0, 9320: Radium-228 Batch 516150

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-LF-2 (180-122147-4), CCR-LF-2 (180-122147-4[DU]), (LCS 160-516150/1-A) and (MB 160-516150/22-A)

Method PrecSep_0: Ra-228 Batch 160-512478:

Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: CCR-AP-11 (180-122147-2), CCR-LF-3 (180-122147-5) and CCR-SP-1 (180-122147-6). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep_0: Ra-228 Batch 160-512478:

The following samples were prepared at a reduced aliquot due to Matrix: CCR-AP-9 (180-122147-1), CCR-LF-1 (180-122147-3) and CCR-LF-2 (180-122147-4). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep_0: Ra-228 Batch 160-512478:

During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: CCR-AP-9 (180-122147-1) and CCR-LF-1 (180-122147-3). This is an indicator of matrix interference.

Method PrecSep_0: Ra-228 Batch 160-512573:

During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: FD-PZ-1 (180-122147-9), FD-PZ-2 (180-122147-10), MH-1 (180-122147-11) and MH-2 (180-122147-12). This is an indicator of matrix interference.

Method PrecSep-21: Ra-226 Batch 160-512468:

Insufficient sample volume was available to perform a sample duplicate (DUP) for the following samples: CCR-AP-11 (180-122147-2), CCR-LF-3 (180-122147-5) and CCR-SP-1 (180-122147-6). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Method PrecSep-21: Ra-226 Batch 160-512468:

The following samples were prepared at a reduced aliquot due to Matrix: CCR-AP-9 (180-122147-1), CCR-LF-1 (180-122147-3) and CCR-LF-2 (180-122147-4). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead of a sample duplicate (DUP) to demonstrate batch precision.

Method PrecSep-21: Ra-226 Batch 160-512468:

During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: CCR-AP-9 (180-122147-1) and CCR-LF-1 (180-122147-3). This is an indicator of matrix interference.

Method PrecSep-21: Ra-226 Batch 160-512566:

During the in-growth process, the following samples needed to be filtered due to sediment present in the sample: FD-PZ-1 (180-122147-9), FD-PZ-2 (180-122147-10), MH-1 (180-122147-11) and MH-2 (180-122147-12). This is an indicator of matrix interference.

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

Metals

Method 6020A: The following samples were diluted to bring the concentration of target analytes within the calibration range: FD-PZ-2 (180-122147-10), MH-1 (180-122147-11) and MH-2 (180-122147-12). Elevated reporting limits (RLs) are provided.

Method 6020A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 180-359194 and analytical batch 180-359428 were outside the control limits for boron. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6020A: The serial dilution performed for the following sample associated with batch 180-359428 was outside the control limits for boron and cobalt: CCR-LF-2 (180-122147-4)

Case Narrative

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

Job ID: 180-122147-1
SDG: AB Brown

Job ID: 180-122147-1 (Continued)

Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

Method 6020A: The post digestion spike % recovery for arsenic and molybdenum associated with batch 180-359428 was outside the control limits. The associated sample is: CCR-LF-2 (180-122147-4).

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

General Chemistry

Method SM 2540C: The following samples were analyzed outside of analytical holding time due to analyst error. CCR-SP-1 (180-122147-6), CCR-SP-2 (180-122147-7), CCR-SP-3 (180-122147-8), FD-PZ-1 (180-122147-9), FD-PZ-2 (180-122147-10), MH-1 (180-122147-11), MH-2 (180-122147-12), BLIND DUPLICATE 3 (180-122147-14) and FIELD BLANK 3 (180-122147-17).

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: 180-122147-1
SDG: AB Brown

Qualifiers

HPLC/IC

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

Metals

Qualifier	Qualifier Description
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
H	Sample was prepped or analyzed beyond the specified holding time
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.
♠	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: 180-122147-1
 SDG: AB Brown

Laboratory: Eurofins TestAmerica, 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	06-27-21
California	State	2891	04-30-21 *
Connecticut	State	PH-0688	09-30-22
Florida	NELAP	E871008	06-30-21
Georgia	State	PA 02-00416	04-30-22
Illinois	NELAP	004375	06-16-21
Kansas	NELAP	E-10350	01-31-22
Kentucky (UST)	State	162013	04-30-22
Kentucky (WW)	State	KY98043	12-31-21
Louisiana	NELAP	04041	06-30-21
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-21
Nevada	State	PA00164	07-30-21
New Hampshire	NELAP	2030	04-05-22
New Jersey	NELAP	PA005	06-30-21
New York	NELAP	11182	04-01-22
North Carolina (WW/SW)	State	434	12-31-21
North Dakota	State	R-227	04-30-22
Oregon	NELAP	PA-2151	02-06-22
Pennsylvania	NELAP	02-00416	04-30-22
Rhode Island	State	LAO00362	12-31-21
South Carolina	State	89014	04-30-22
Texas	NELAP	T104704528	03-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-21 *
Virginia	NELAP	10043	09-14-21
West Virginia DEP	State	142	01-31-22
Wisconsin	State	998027800	08-31-21

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

Accreditation/Certification Summary

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

Job ID: 180-122147-1
 SDG: AB Brown

Laboratory: Eurofins TestAmerica, 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	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-21 *
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	07-01-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-21 *
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

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

Sample Summary

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

Job ID: 180-122147-1
SDG: AB Brown

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-122147-1	CCR-AP-9	Water	05/20/21 17:30	05/25/21 09:30
180-122147-2	CCR-AP-11	Water	05/20/21 15:30	05/25/21 09:30
180-122147-3	CCR-LF-1	Water	05/20/21 13:50	05/25/21 09:30
180-122147-4	CCR-LF-2	Water	05/20/21 11:15	05/25/21 09:30
180-122147-4 DU	CCR-LF-2	Water	05/20/21 11:15	05/25/21 09:30
180-122147-4 MS	CCR-LF-2	Water	05/20/21 11:15	05/25/21 09:30
180-122147-4 MSD	CCR-LF-2	Water	05/20/21 11:15	05/25/21 09:30
180-122147-5	CCR-LF-3	Water	05/20/21 12:15	05/25/21 09:30
180-122147-6	CCR-SP-1	Water	05/21/21 10:20	05/25/21 09:30
180-122147-7	CCR-SP-2	Water	05/21/21 11:30	05/25/21 09:30
180-122147-8	CCR-SP-3	Water	05/21/21 12:30	05/25/21 09:30
180-122147-9	FD-PZ-1	Water	05/21/21 13:45	05/25/21 09:30
180-122147-10	FD-PZ-2	Water	05/21/21 12:45	05/25/21 09:30
180-122147-11	MH-1	Water	05/21/21 13:10	05/25/21 09:30
180-122147-12	MH-2	Water	05/21/21 13:25	05/25/21 09:30
180-122147-13	BLIND DUPLICATE 2	Water	05/20/21 00:01	05/25/21 09:30
180-122147-14	BLIND DUPLICATE 3	Water	05/21/21 00:01	05/25/21 09:30
180-122147-15	FIELD BLANK 1	Water	05/20/21 17:00	05/25/21 09:30
180-122147-16	FIELD BLANK 2	Water	05/20/21 13:00	05/25/21 09:30
180-122147-17	FIELD BLANK 3	Water	05/21/21 12:00	05/25/21 09:30

Method Summary

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

Job ID: 180-122147-1
SDG: AB Brown

Method	Method Description	Protocol	Laboratory
EPA 9056A	Anions, Ion Chromatography	SW846	TAL PIT
EPA 6020A	Metals (ICP/MS)	SW846	TAL PIT
EPA 7470A	Mercury (CVAA)	SW846	TAL PIT
EPA 9040C	pH	SW846	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL PIT
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None

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.

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

Laboratory References:

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

TAL SL = Eurofins TestAmerica, 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: 180-122147-1
SDG: AB Brown

Client Sample ID: CCR-AP-9

Lab Sample ID: 180-122147-1

Date Collected: 05/20/21 17:30

Matrix: Water

Date Received: 05/25/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: CHICS2100B		5			359156	06/02/21 14:22	EPS	TAL PIT
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		5	1 mL	1.0 mL	359002	06/01/21 20:08	EPS	TAL PIT
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		50	1 mL	1.0 mL	359002	06/01/21 20:26	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	359194	06/02/21 10:16	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: NEMO		1			359428	06/03/21 12:26	RJR	TAL PIT
Total/NA	Prep	7470A			25 mL	25 mL	359685	06/07/21 08:56	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGY		1			359902	06/08/21 11:43	RJR	TAL PIT
Total/NA	Analysis	EPA 9040C Instrument ID: NOEQUIP		1			360114	06/09/21 16:01	ELS	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	10 mL	100 mL	358677	05/27/21 19:59	GRB	TAL PIT
Total/NA	Prep	PrecSep-21			750.95 mL	1.0 g	512468	06/02/21 11:50	MJ	TAL SL
Total/NA	Analysis	9315 Instrument ID: GFPCPURPLE		1			515888	06/24/21 07:13	SCB	TAL SL
Total/NA	Prep	PrecSep_0			750.95 mL	1.0 g	512478	06/02/21 12:57	MJ	TAL SL
Total/NA	Analysis	9320 Instrument ID: GFPCBLUE		1			515624	06/23/21 09:58	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228 Instrument ID: NOEQUIP		1			519856	07/22/21 22:02	SCB	TAL SL

Client Sample ID: CCR-AP-11

Lab Sample ID: 180-122147-2

Date Collected: 05/20/21 15:30

Matrix: Water

Date Received: 05/25/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		1	1 mL	1.0 mL	359002	06/02/21 03:53	EPS	TAL PIT
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		1			359608	06/06/21 03:40	SAT	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	359194	06/02/21 10:16	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: NEMO		1			359428	06/03/21 12:34	RJR	TAL PIT
Total/NA	Prep	7470A			25 mL	25 mL	359685	06/07/21 08:56	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGY		1			359902	06/08/21 11:44	RJR	TAL PIT
Total/NA	Analysis	EPA 9040C Instrument ID: NOEQUIP		1			360114	06/09/21 16:03	ELS	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	358677	05/27/21 19:59	GRB	TAL PIT

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

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

Job ID: 180-122147-1
SDG: AB Brown

Client Sample ID: CCR-AP-11

Lab Sample ID: 180-122147-2

Date Collected: 05/20/21 15:30

Matrix: Water

Date Received: 05/25/21 09:30

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			1001.81 mL	1.0 g	512468	06/02/21 11:50	MJ	TAL SL
Total/NA	Analysis	9315		1			515888	06/24/21 07:13	SCB	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			1001.81 mL	1.0 g	512478	06/02/21 12:57	MJ	TAL SL
Total/NA	Analysis	9320		1			515624	06/23/21 09:58	ANW	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			519856	07/22/21 22:02	SCB	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: CCR-LF-1

Lab Sample ID: 180-122147-3

Date Collected: 05/20/21 13:50

Matrix: Water

Date Received: 05/25/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1.0 mL	359002	06/02/21 01:30	EPS	TAL PIT
Instrument ID: INTEGRION										
Total/NA	Analysis	EPA 9056A		10	1 mL	1.0 mL	359002	06/02/21 01:48	EPS	TAL PIT
Instrument ID: INTEGRION										
Total/NA	Analysis	EPA 9056A		1			359608	06/06/21 03:58	SAT	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	359194	06/02/21 10:16	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359428	06/03/21 12:37	RJR	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	359685	06/07/21 08:56	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359902	06/08/21 11:45	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	EPA 9040C		1			360114	06/09/21 16:06	ELS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	358677	05/27/21 19:59	GRB	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			750.91 mL	1.0 g	512468	06/02/21 11:50	MJ	TAL SL
Total/NA	Analysis	9315		1			515888	06/24/21 07:13	SCB	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			750.91 mL	1.0 g	512478	06/02/21 12:57	MJ	TAL SL
Total/NA	Analysis	9320		1			515624	06/23/21 09:59	ANW	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			519856	07/22/21 22:02	SCB	TAL SL
Instrument ID: NOEQUIP										

Lab Chronicle

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

Job ID: 180-122147-1
SDG: AB Brown

Client Sample ID: CCR-LF-2

Lab Sample ID: 180-122147-4

Date Collected: 05/20/21 11:15

Matrix: Water

Date Received: 05/25/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: CHICS2100B		25			359156	06/02/21 15:27	EPS	TAL PIT
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		25	1 mL	1.0 mL	359002	06/01/21 18:03	EPS	TAL PIT
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		250	1 mL	1.0 mL	359002	06/01/21 18:21	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	359194	06/02/21 10:16	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: NEMO		1			359428	06/03/21 12:39	RJR	TAL PIT
Total/NA	Prep	7470A			25 mL	25 mL	359685	06/07/21 08:56	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGY		1			359902	06/08/21 11:46	RJR	TAL PIT
Total/NA	Analysis	EPA 9040C Instrument ID: NOEQUIP		1			360114	06/09/21 16:21	ELS	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	5 mL	100 mL	358677	05/27/21 19:59	GRB	TAL PIT
Total/NA	Prep	PrecSep-21			700.23 mL	1.0 g	516084	06/25/21 13:45	MJ	TAL SL
Total/NA	Analysis	9315 Instrument ID: GFPCRED		1			519170	07/19/21 13:56	SCB	TAL SL
Total/NA	Prep	PrecSep_0			700.23 mL	1.0 g	516150	06/25/21 16:33	MJ	TAL SL
Total/NA	Analysis	9320 Instrument ID: GFPCPURPLE		1			518279	07/12/21 13:11	AK	TAL SL
Total/NA	Analysis	Ra226_Ra228 Instrument ID: NOEQUIP		1			519856	07/22/21 22:02	SCB	TAL SL

Client Sample ID: CCR-LF-3

Lab Sample ID: 180-122147-5

Date Collected: 05/20/21 12:15

Matrix: Water

Date Received: 05/25/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		2.5	1 mL	1.0 mL	359002	06/01/21 23:43	EPS	TAL PIT
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		25	1 mL	1.0 mL	359002	06/02/21 00:00	EPS	TAL PIT
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		1			359608	06/06/21 02:47	SAT	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	359194	06/02/21 10:16	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: NEMO		1			359428	06/03/21 13:35	RJR	TAL PIT
Total/NA	Prep	7470A			25 mL	25 mL	359685	06/07/21 08:56	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGY		1			359902	06/08/21 11:51	RJR	TAL PIT
Total/NA	Analysis	EPA 9040C Instrument ID: NOEQUIP		1			360114	06/09/21 16:11	ELS	TAL PIT

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

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

Job ID: 180-122147-1
SDG: AB Brown

Client Sample ID: CCR-LF-3

Lab Sample ID: 180-122147-5

Date Collected: 05/20/21 12:15

Matrix: Water

Date Received: 05/25/21 09:30

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	25 mL	100 mL	358677	05/27/21 19:59	GRB	TAL PIT
Total/NA	Prep	PrecSep-21			1000.73 mL	1.0 g	512468	06/02/21 11:50	MJ	TAL SL
Total/NA	Analysis	9315		1			515862	06/24/21 09:16	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.73 mL	1.0 g	512478	06/02/21 12:57	MJ	TAL SL
Total/NA	Analysis	9320		1			515625	06/23/21 10:00	ANW	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			519856	07/22/21 22:02	SCB	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: CCR-SP-1

Lab Sample ID: 180-122147-6

Date Collected: 05/21/21 10:20

Matrix: Water

Date Received: 05/25/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1.0 mL	359002	06/02/21 00:54	EPS	TAL PIT
Instrument ID: INTEGRION										
Total/NA	Analysis	EPA 9056A		10	1 mL	1.0 mL	359002	06/02/21 01:12	EPS	TAL PIT
Instrument ID: INTEGRION										
Total/NA	Analysis	EPA 9056A		1			359608	06/06/21 04:16	SAT	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	359194	06/02/21 10:16	TLP	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359428	06/03/21 13:38	RJR	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	359685	06/07/21 08:56	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359902	06/08/21 11:52	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	EPA 9040C		1			360114	06/09/21 16:14	ELS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	359087	06/01/21 20:06	KMM	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			1000.36 mL	1.0 g	512468	06/02/21 11:50	MJ	TAL SL
Total/NA	Analysis	9315		1			515862	06/24/21 09:16	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			1000.36 mL	1.0 g	512478	06/02/21 12:57	MJ	TAL SL
Total/NA	Analysis	9320		1			515625	06/23/21 10:00	ANW	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			519856	07/22/21 22:02	SCB	TAL SL
Instrument ID: NOEQUIP										

Lab Chronicle

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

Job ID: 180-122147-1
 SDG: AB Brown

Client Sample ID: CCR-SP-2

Lab Sample ID: 180-122147-7

Date Collected: 05/21/21 11:30

Matrix: Water

Date Received: 05/25/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		1	1 mL	1.0 mL	359002	06/02/21 03:17	EPS	TAL PIT
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		5	1 mL	1.0 mL	359002	06/02/21 03:35	EPS	TAL PIT
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		1			359608	06/06/21 04:34	SAT	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	359228	06/03/21 09:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: NEMO		1			359546	06/04/21 11:25	RSK	TAL PIT
Total/NA	Prep	7470A			25 mL	25 mL	359685	06/07/21 08:56	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGY		1			359902	06/08/21 11:53	RJR	TAL PIT
Total/NA	Analysis	EPA 9040C Instrument ID: NOEQUIP		1			360114	06/09/21 16:26	ELS	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	359087	06/01/21 20:06	KMM	TAL PIT
Total/NA	Prep	PrecSep-21			1000.80 mL	1.0 g	512566	06/02/21 15:24	MJ	TAL SL
Total/NA	Analysis	9315 Instrument ID: GFPCPURPLE		1			515888	06/24/21 16:20	SCB	TAL SL
Total/NA	Prep	PrecSep_0			1000.80 mL	1.0 g	512573	06/02/21 16:08	MJ	TAL SL
Total/NA	Analysis	9320 Instrument ID: GFPCBLUE		1			515251	06/21/21 13:46	SCB	TAL SL
Total/NA	Analysis	Ra226_Ra228 Instrument ID: NOEQUIP		1			515929	06/24/21 22:51	SCB	TAL SL

Client Sample ID: CCR-SP-3

Lab Sample ID: 180-122147-8

Date Collected: 05/21/21 12:30

Matrix: Water

Date Received: 05/25/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		1	1 mL	1.0 mL	359002	06/02/21 05:04	EPS	TAL PIT
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		1			359608	06/06/21 05:27	SAT	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	359228	06/03/21 09:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: NEMO		1			359546	06/04/21 11:28	RSK	TAL PIT
Total/NA	Prep	7470A			25 mL	25 mL	359685	06/07/21 08:56	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGY		1			359902	06/08/21 11:54	RJR	TAL PIT
Total/NA	Analysis	EPA 9040C Instrument ID: NOEQUIP		1			360114	06/09/21 16:29	ELS	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	359087	06/01/21 20:06	KMM	TAL PIT

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

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

Job ID: 180-122147-1
SDG: AB Brown

Client Sample ID: CCR-SP-3

Lab Sample ID: 180-122147-8

Date Collected: 05/21/21 12:30

Matrix: Water

Date Received: 05/25/21 09:30

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			1000.28 mL	1.0 g	512566	06/02/21 15:24	MJ	TAL SL
Total/NA	Analysis	9315		1			515888	06/24/21 16:21	SCB	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			1000.28 mL	1.0 g	512573	06/02/21 16:08	MJ	TAL SL
Total/NA	Analysis	9320		1			515251	06/21/21 13:46	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			515929	06/24/21 22:51	SCB	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: FD-PZ-1

Lab Sample ID: 180-122147-9

Date Collected: 05/21/21 13:45

Matrix: Water

Date Received: 05/25/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1.0 mL	359002	06/02/21 04:28	EPS	TAL PIT
Instrument ID: INTEGRION										
Total/NA	Analysis	EPA 9056A		1			359608	06/06/21 04:52	SAT	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	359228	06/03/21 09:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359546	06/04/21 11:31	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	359685	06/07/21 08:56	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359902	06/08/21 11:55	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	EPA 9040C		1			360114	06/09/21 16:31	ELS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	359087	06/01/21 20:06	KMM	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			1000.57 mL	1.0 g	512566	06/02/21 15:24	MJ	TAL SL
Total/NA	Analysis	9315		1			515888	06/24/21 16:20	SCB	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			1000.57 mL	1.0 g	512573	06/02/21 16:08	MJ	TAL SL
Total/NA	Analysis	9320		1			515251	06/21/21 13:47	SCB	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			515929	06/24/21 22:51	SCB	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: FD-PZ-2

Lab Sample ID: 180-122147-10

Date Collected: 05/21/21 12:45

Matrix: Water

Date Received: 05/25/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			359156	06/02/21 14:38	EPS	TAL PIT
Instrument ID: CHICS2100B										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

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

Job ID: 180-122147-1
 SDG: AB Brown

Client Sample ID: FD-PZ-2

Lab Sample ID: 180-122147-10

Date Collected: 05/21/21 12:45

Matrix: Water

Date Received: 05/25/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5	1 mL	1.0 mL	359002	06/01/21 20:44	EPS	TAL PIT
Total/NA	Analysis	EPA 9056A		50	1 mL	1.0 mL	359002	06/01/21 21:02	EPS	TAL PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	359228	06/03/21 09:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359546	06/04/21 11:33	RSK	TAL PIT
		Instrument ID: NEMO								
Total Recoverable	Prep	3005A			50 mL	50 mL	359228	06/03/21 09:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		10			359546	06/04/21 12:42	RSK	TAL PIT
		Instrument ID: NEMO								
Total/NA	Prep	7470A			25 mL	25 mL	359685	06/07/21 08:56	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359902	06/08/21 11:56	RJR	TAL PIT
		Instrument ID: HGY								
Total/NA	Analysis	EPA 9040C		1			360114	06/09/21 16:34	ELS	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	359087	06/01/21 20:06	KMM	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			501.90 mL	1.0 g	512566	06/02/21 15:24	MJ	TAL SL
Total/NA	Analysis	9315		1			515888	06/24/21 16:21	SCB	TAL SL
		Instrument ID: GFPCPURPLE								
Total/NA	Prep	PrecSep_0			501.90 mL	1.0 g	512573	06/02/21 16:08	MJ	TAL SL
Total/NA	Analysis	9320		1			515251	06/21/21 13:47	SCB	TAL SL
		Instrument ID: GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228		1			515929	06/24/21 22:51	SCB	TAL SL
		Instrument ID: NOEQUIP								

Client Sample ID: MH-1

Lab Sample ID: 180-122147-11

Date Collected: 05/21/21 13:10

Matrix: Water

Date Received: 05/25/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			359156	06/02/21 14:54	EPS	TAL PIT
		Instrument ID: CHICS2100B								
Total/NA	Analysis	EPA 9056A		5	1 mL	1.0 mL	359002	06/01/21 21:20	EPS	TAL PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		50	1 mL	1.0 mL	359002	06/01/21 21:38	EPS	TAL PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	359228	06/03/21 09:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359546	06/04/21 11:44	RSK	TAL PIT
		Instrument ID: NEMO								
Total Recoverable	Prep	3005A			50 mL	50 mL	359228	06/03/21 09:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		10			359546	06/04/21 12:45	RSK	TAL PIT
		Instrument ID: NEMO								
Total/NA	Prep	7470A			25 mL	25 mL	359685	06/07/21 08:56	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359902	06/08/21 11:57	RJR	TAL PIT
		Instrument ID: HGY								

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

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

Job ID: 180-122147-1
SDG: AB Brown

Client Sample ID: MH-1
Date Collected: 05/21/21 13:10
Date Received: 05/25/21 09:30

Lab Sample ID: 180-122147-11
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 9040C		1			360114	06/09/21 16:36	ELS	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	25 mL	100 mL	359087	06/01/21 20:06	KMM	TAL PIT
Total/NA	Prep	PrecSep-21			1000.75 mL	1.0 g	512566	06/02/21 15:24	MJ	TAL SL
Total/NA	Analysis	9315 Instrument ID: GFPCPURPLE		1			515888	06/24/21 16:21	SCB	TAL SL
Total/NA	Prep	PrecSep_0			1000.75 mL	1.0 g	512573	06/02/21 16:08	MJ	TAL SL
Total/NA	Analysis	9320 Instrument ID: GFPCPURPLE		1			515250	06/21/21 13:48	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Instrument ID: NOEQUIP		1			515929	06/24/21 22:51	SCB	TAL SL

Client Sample ID: MH-2
Date Collected: 05/21/21 13:25
Date Received: 05/25/21 09:30

Lab Sample ID: 180-122147-12
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 Instrument ID: CHICS2100B		5			359156	06/02/21 15:11	EPS	TAL PIT
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		5	1 mL	1.0 mL	359002	06/01/21 21:56	EPS	TAL PIT
Total/NA	Analysis	EPA 9056A Instrument ID: INTEGRION		50	1 mL	1.0 mL	359002	06/01/21 22:13	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	359228	06/03/21 09:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: NEMO		1			359546	06/04/21 11:55	RSK	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	359228	06/03/21 09:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: NEMO		10			359546	06/04/21 12:47	RSK	TAL PIT
Total/NA	Prep	7470A			25 mL	25 mL	359685	06/07/21 08:56	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGY		1			359902	06/08/21 11:58	RJR	TAL PIT
Total/NA	Analysis	EPA 9040C Instrument ID: NOEQUIP		1			360114	06/09/21 16:39	ELS	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	25 mL	100 mL	359087	06/01/21 20:06	KMM	TAL PIT
Total/NA	Prep	PrecSep-21			1000.09 mL	1.0 g	512566	06/02/21 15:24	MJ	TAL SL
Total/NA	Analysis	9315 Instrument ID: GFPCPURPLE		1			515888	06/24/21 16:21	SCB	TAL SL
Total/NA	Prep	PrecSep_0			1000.09 mL	1.0 g	512573	06/02/21 16:08	MJ	TAL SL
Total/NA	Analysis	9320 Instrument ID: GFPCPURPLE		1			515250	06/21/21 13:49	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Instrument ID: NOEQUIP		1			515929	06/24/21 22:51	SCB	TAL SL

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

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

Job ID: 180-122147-1
 SDG: AB Brown

Client Sample ID: BLIND DUPLICATE 2

Lab Sample ID: 180-122147-13

Date Collected: 05/20/21 00:01

Matrix: Water

Date Received: 05/25/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		2.5	1 mL	1.0 mL	359002	06/02/21 02:05	EPS	TAL PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		25	1 mL	1.0 mL	359002	06/02/21 02:23	EPS	TAL PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		1			359608	06/06/21 03:05	SAT	TAL PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	359228	06/03/21 09:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359546	06/04/21 12:06	RSK	TAL PIT
		Instrument ID: NEMO								
Total/NA	Prep	7470A			25 mL	25 mL	359685	06/07/21 08:56	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359902	06/08/21 12:02	RJR	TAL PIT
		Instrument ID: HGY								
Total/NA	Analysis	EPA 9040C		1			360114	06/09/21 16:42	ELS	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	358677	05/27/21 19:59	GRB	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			1001.54 mL	1.0 g	512566	06/02/21 15:24	MJ	TAL SL
Total/NA	Analysis	9315		1			515888	06/24/21 16:22	SCB	TAL SL
		Instrument ID: GFPCPURPLE								
Total/NA	Prep	PrecSep_0			1001.54 mL	1.0 g	512573	06/02/21 16:08	MJ	TAL SL
Total/NA	Analysis	9320		1			515250	06/21/21 13:49	FLC	TAL SL
		Instrument ID: GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228		1			515929	06/24/21 22:51	SCB	TAL SL
		Instrument ID: NOEQUIP								

Client Sample ID: BLIND DUPLICATE 3

Lab Sample ID: 180-122147-14

Date Collected: 05/21/21 00:01

Matrix: Water

Date Received: 05/25/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1.0 mL	359002	06/02/21 00:18	EPS	TAL PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		10	1 mL	1.0 mL	359002	06/02/21 00:36	EPS	TAL PIT
		Instrument ID: INTEGRION								
Total/NA	Analysis	EPA 9056A		1			359608	06/06/21 05:10	SAT	TAL PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	359228	06/03/21 09:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359546	06/04/21 12:20	RSK	TAL PIT
		Instrument ID: NEMO								
Total/NA	Prep	7470A			25 mL	25 mL	359685	06/07/21 08:56	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359902	06/08/21 12:03	RJR	TAL PIT
		Instrument ID: HGY								
Total/NA	Analysis	EPA 9040C		1			360114	06/09/21 16:47	ELS	TAL PIT
		Instrument ID: NOEQUIP								

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

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

Job ID: 180-122147-1
 SDG: AB Brown

Client Sample ID: BLIND DUPLICATE 3

Lab Sample ID: 180-122147-14

Date Collected: 05/21/21 00:01

Matrix: Water

Date Received: 05/25/21 09:30

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	359087	06/01/21 20:06	KMM	TAL PIT
Total/NA	Prep	PrecSep-21			1000.79 mL	1.0 g	512566	06/02/21 15:24	MJ	TAL SL
Total/NA	Analysis	9315		1			515888	06/24/21 16:22	SCB	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			1000.79 mL	1.0 g	512573	06/02/21 16:08	MJ	TAL SL
Total/NA	Analysis	9320		1			515250	06/21/21 13:49	FLC	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			515929	06/24/21 22:51	SCB	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: FIELD BLANK 1

Lab Sample ID: 180-122147-15

Date Collected: 05/20/21 17:00

Matrix: Water

Date Received: 05/25/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			359156	06/02/21 20:21	EPS	TAL PIT
Instrument ID: CHICS2100B										
Total/NA	Analysis	EPA 9056A		1	1 mL	1.0 mL	359002	06/01/21 17:10	EPS	TAL PIT
Instrument ID: INTEGRION										
Total Recoverable	Prep	3005A			50 mL	50 mL	359228	06/03/21 09:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359546	06/04/21 12:23	RSK	TAL PIT
Instrument ID: NEMO										
Total/NA	Prep	7470A			25 mL	25 mL	359685	06/07/21 08:56	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359902	06/08/21 12:04	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	EPA 9040C		1			360114	06/09/21 16:52	ELS	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	358677	05/27/21 19:59	GRB	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			1001.04 mL	1.0 g	512566	06/02/21 15:24	MJ	TAL SL
Total/NA	Analysis	9315		1			515888	06/24/21 16:22	SCB	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			1001.04 mL	1.0 g	512573	06/02/21 16:08	MJ	TAL SL
Total/NA	Analysis	9320		1			515250	06/21/21 13:50	FLC	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Analysis	Ra226_Ra228		1			515929	06/24/21 22:51	SCB	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: FIELD BLANK 2

Lab Sample ID: 180-122147-16

Date Collected: 05/20/21 13:00

Matrix: Water

Date Received: 05/25/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			359156	06/02/21 20:38	EPS	TAL PIT
Instrument ID: CHICS2100B										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

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

Job ID: 180-122147-1
SDG: AB Brown

Client Sample ID: FIELD BLANK 2

Lab Sample ID: 180-122147-16

Date Collected: 05/20/21 13:00

Matrix: Water

Date Received: 05/25/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1.0 mL	359002	06/01/21 17:28	EPS	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	359228	06/03/21 09:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359546	06/04/21 12:25	RSK	TAL PIT
		Instrument ID: NEMO								
Total/NA	Prep	7470A			25 mL	25 mL	359685	06/07/21 08:56	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359902	06/08/21 12:05	RJR	TAL PIT
		Instrument ID: HGY								
Total/NA	Analysis	EPA 9040C		1			360114	06/09/21 16:54	ELS	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	358677	05/27/21 19:59	GRB	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			1000.64 mL	1.0 g	512566	06/02/21 15:24	MJ	TAL SL
Total/NA	Analysis	9315		1			515862	06/24/21 16:15	SCB	TAL SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.64 mL	1.0 g	512573	06/02/21 16:08	MJ	TAL SL
Total/NA	Analysis	9320		1			515250	06/21/21 13:49	FLC	TAL SL
		Instrument ID: GFPCPURPLE								
Total/NA	Analysis	Ra226_Ra228		1			515929	06/24/21 22:51	SCB	TAL SL
		Instrument ID: NOEQUIP								

Client Sample ID: FIELD BLANK 3

Lab Sample ID: 180-122147-17

Date Collected: 05/21/21 12:00

Matrix: Water

Date Received: 05/25/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			359156	06/02/21 20:54	EPS	TAL PIT
		Instrument ID: CHICS2100B								
Total/NA	Analysis	EPA 9056A		1	1 mL	1.0 mL	359002	06/01/21 17:45	EPS	TAL PIT
		Instrument ID: INTEGRION								
Total Recoverable	Prep	3005A			50 mL	50 mL	359228	06/03/21 09:43	KEM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			359546	06/04/21 12:28	RSK	TAL PIT
		Instrument ID: NEMO								
Total/NA	Prep	7470A			25 mL	25 mL	359685	06/07/21 08:56	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			359902	06/08/21 12:06	RJR	TAL PIT
		Instrument ID: HGY								
Total/NA	Analysis	EPA 9040C		1			360114	06/09/21 16:57	ELS	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	359087	06/01/21 20:06	KMM	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			1000.53 mL	1.0 g	512566	06/02/21 15:24	MJ	TAL SL
Total/NA	Analysis	9315		1			515862	06/24/21 16:15	SCB	TAL SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			1000.53 mL	1.0 g	512573	06/02/21 16:08	MJ	TAL SL
Total/NA	Analysis	9320		1			515250	06/21/21 13:49	FLC	TAL SL
		Instrument ID: GFPCPURPLE								

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

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

Job ID: 180-122147-1
SDG: AB Brown

Client Sample ID: FIELD BLANK 3

Lab Sample ID: 180-122147-17

Date Collected: 05/21/21 12:00

Matrix: Water

Date Received: 05/25/21 09:30

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			515929	06/24/21 22:51	SCB	TAL SL

Laboratory References:

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

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

Analyst References:

Lab: TAL PIT

Batch Type: Prep

KEM = Kimberly Mahoney

RJR = Ron Rosenbaum

TLP = Tara Peterson

Batch Type: Analysis

ELS = Edwin Shireman

EPS = Evan Scheuer

GRB = Gabriel Berghe

KMM = Kendric Moore

RJR = Ron Rosenbaum

RSK = Robert Kurtz

SAT = Stephen Tallam

Lab: TAL SL

Batch Type: Prep

MJ = Mary Johns

Batch Type: Analysis

AK = Amanda Kraus

ANW = Amber Woods

FLC = Fernando Cruz

SCB = Sarah Bernsen

Client Sample Results

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

Job ID: 180-122147-1
SDG: AB Brown

Client Sample ID: CCR-AP-9

Lab Sample ID: 180-122147-1

Date Collected: 05/20/21 17:30

Matrix: Water

Date Received: 05/25/21 09:30

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	440		5.0	3.6	mg/L			06/01/21 20:08	5
Fluoride	0.22	J	0.50	0.13	mg/L			06/02/21 14:22	5
Sulfate	2300		50	38	mg/L			06/01/21 20:26	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/02/21 10:16	06/03/21 12:26	1
Arsenic	0.016		0.0010	0.00031	mg/L		06/02/21 10:16	06/03/21 12:26	1
Barium	0.067		0.010	0.0016	mg/L		06/02/21 10:16	06/03/21 12:26	1
Beryllium	ND		0.0010	0.00018	mg/L		06/02/21 10:16	06/03/21 12:26	1
Boron	7.7		0.080	0.039	mg/L		06/02/21 10:16	06/03/21 12:26	1
Cadmium	ND		0.0010	0.00022	mg/L		06/02/21 10:16	06/03/21 12:26	1
Calcium	420		0.50	0.13	mg/L		06/02/21 10:16	06/03/21 12:26	1
Chromium	ND		0.0020	0.0015	mg/L		06/02/21 10:16	06/03/21 12:26	1
Cobalt	0.00031	J	0.00050	0.00013	mg/L		06/02/21 10:16	06/03/21 12:26	1
Lead	0.00035	J	0.0010	0.00013	mg/L		06/02/21 10:16	06/03/21 12:26	1
Lithium	0.029		0.0050	0.0034	mg/L		06/02/21 10:16	06/03/21 12:26	1
Molybdenum	0.0092		0.0050	0.00061	mg/L		06/02/21 10:16	06/03/21 12:26	1
Selenium	ND		0.0050	0.0015	mg/L		06/02/21 10:16	06/03/21 12:26	1
Thallium	ND		0.0010	0.00015	mg/L		06/02/21 10:16	06/03/21 12:26	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/07/21 08:56	06/08/21 11:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8800		100	100	mg/L			05/27/21 19:59	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.9	HF	0.1	0.1	SU			06/09/21 16:01	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.369		0.252	0.254	1.00	0.358	pCi/L	06/02/21 11:50	06/24/21 07:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.2		40 - 110					06/02/21 11:50	06/24/21 07:13	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.945		0.384	0.394	1.00	0.528	pCi/L	06/02/21 12:57	06/23/21 09:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	87.2		40 - 110					06/02/21 12:57	06/23/21 09:58	1
Y Carrier	83.7		40 - 110					06/02/21 12:57	06/23/21 09:58	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-122147-1
 SDG: AB Brown

Client Sample ID: CCR-AP-9

Lab Sample ID: 180-122147-1

Date Collected: 05/20/21 17:30

Matrix: Water

Date Received: 05/25/21 09:30

Method: 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	1.31		0.459	0.469	5.00	0.528	pCi/L		07/22/21 22:02	1

Client Sample ID: CCR-AP-11

Lab Sample ID: 180-122147-2

Date Collected: 05/20/21 15:30

Matrix: Water

Date Received: 05/25/21 09:30

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48		1.0	0.71	mg/L			06/02/21 03:53	1
Fluoride	0.15		0.10	0.026	mg/L			06/06/21 03:40	1
Sulfate	200		1.0	0.76	mg/L			06/02/21 03:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/02/21 10:16	06/03/21 12:34	1
Arsenic	0.00075	J	0.0010	0.00031	mg/L		06/02/21 10:16	06/03/21 12:34	1
Barium	0.043		0.010	0.0016	mg/L		06/02/21 10:16	06/03/21 12:34	1
Beryllium	ND		0.0010	0.00018	mg/L		06/02/21 10:16	06/03/21 12:34	1
Boron	0.81		0.080	0.039	mg/L		06/02/21 10:16	06/03/21 12:34	1
Cadmium	ND		0.0010	0.00022	mg/L		06/02/21 10:16	06/03/21 12:34	1
Calcium	120		0.50	0.13	mg/L		06/02/21 10:16	06/03/21 12:34	1
Chromium	ND		0.0020	0.0015	mg/L		06/02/21 10:16	06/03/21 12:34	1
Cobalt	0.00036	J	0.00050	0.00013	mg/L		06/02/21 10:16	06/03/21 12:34	1
Lead	0.00025	J	0.0010	0.00013	mg/L		06/02/21 10:16	06/03/21 12:34	1
Lithium	0.011		0.0050	0.0034	mg/L		06/02/21 10:16	06/03/21 12:34	1
Molybdenum	0.00077	J	0.0050	0.00061	mg/L		06/02/21 10:16	06/03/21 12:34	1
Selenium	0.0097		0.0050	0.0015	mg/L		06/02/21 10:16	06/03/21 12:34	1
Thallium	ND		0.0010	0.00015	mg/L		06/02/21 10:16	06/03/21 12:34	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/07/21 08:56	06/08/21 11:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	860		10	10	mg/L			05/27/21 19:59	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5	HF	0.1	0.1	SU			06/09/21 16:03	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	0.250	U	0.197	0.198	1.00	0.288	pCi/L	06/02/21 11:50	06/24/21 07:13	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	78.8		40 - 110	06/02/21 11:50	06/24/21 07:13	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-122147-1
SDG: AB Brown

Client Sample ID: CCR-AP-11

Lab Sample ID: 180-122147-2

Date Collected: 05/20/21 15:30

Matrix: Water

Date Received: 05/25/21 09:30

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.555		0.315	0.319	1.00	0.474	pCi/L	06/02/21 12:57	06/23/21 09:58	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.8		40 - 110					06/02/21 12:57	06/23/21 09:58	1
Y Carrier	85.2		40 - 110					06/02/21 12:57	06/23/21 09:58	1

Method: 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	0.805		0.372	0.375	5.00	0.474	pCi/L		07/22/21 22:02	1

Client Sample ID: CCR-LF-1

Lab Sample ID: 180-122147-3

Date Collected: 05/20/21 13:50

Matrix: Water

Date Received: 05/25/21 09:30

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23		1.0	0.71	mg/L			06/02/21 01:30	1
Fluoride	0.19		0.10	0.026	mg/L			06/06/21 03:58	1
Sulfate	1100		10	7.6	mg/L			06/02/21 01:48	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/02/21 10:16	06/03/21 12:37	1
Arsenic	0.00083	J	0.0010	0.00031	mg/L		06/02/21 10:16	06/03/21 12:37	1
Barium	0.056		0.010	0.0016	mg/L		06/02/21 10:16	06/03/21 12:37	1
Beryllium	ND		0.0010	0.00018	mg/L		06/02/21 10:16	06/03/21 12:37	1
Boron	0.058	J	0.080	0.039	mg/L		06/02/21 10:16	06/03/21 12:37	1
Cadmium	ND		0.0010	0.00022	mg/L		06/02/21 10:16	06/03/21 12:37	1
Calcium	290		0.50	0.13	mg/L		06/02/21 10:16	06/03/21 12:37	1
Chromium	0.0018	J	0.0020	0.0015	mg/L		06/02/21 10:16	06/03/21 12:37	1
Cobalt	0.00049	J	0.00050	0.00013	mg/L		06/02/21 10:16	06/03/21 12:37	1
Lead	0.00063	J	0.0010	0.00013	mg/L		06/02/21 10:16	06/03/21 12:37	1
Lithium	0.0043	J	0.0050	0.0034	mg/L		06/02/21 10:16	06/03/21 12:37	1
Molybdenum	0.00085	J	0.0050	0.00061	mg/L		06/02/21 10:16	06/03/21 12:37	1
Selenium	ND		0.0050	0.0015	mg/L		06/02/21 10:16	06/03/21 12:37	1
Thallium	ND		0.0010	0.00015	mg/L		06/02/21 10:16	06/03/21 12:37	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/07/21 08:56	06/08/21 11:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1900		10	10	mg/L			05/27/21 19:59	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.2	HF	0.1	0.1	SU			06/09/21 16:06	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-122147-1
 SDG: AB Brown

Client Sample ID: CCR-LF-1

Lab Sample ID: 180-122147-3

Date Collected: 05/20/21 13:50

Matrix: Water

Date Received: 05/25/21 09:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.638		0.300	0.305	1.00	0.364	pCi/L	06/02/21 11:50	06/24/21 07:13	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.6		40 - 110					06/02/21 11:50	06/24/21 07:13	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.497	U	0.335	0.338	1.00	0.514	pCi/L	06/02/21 12:57	06/23/21 09:59	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.6		40 - 110					06/02/21 12:57	06/23/21 09:59	1
Y Carrier	82.2		40 - 110					06/02/21 12:57	06/23/21 09:59	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.14		0.450	0.455	5.00	0.514	pCi/L		07/22/21 22:02	1

Client Sample ID: CCR-LF-2

Lab Sample ID: 180-122147-4

Date Collected: 05/20/21 11:15

Matrix: Water

Date Received: 05/25/21 09:30

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	370		25	18	mg/L			06/01/21 18:03	25
Fluoride	ND		2.5	0.65	mg/L			06/02/21 15:27	25
Sulfate	15000		250	190	mg/L			06/01/21 18:21	250

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/02/21 10:16	06/03/21 12:39	1
Arsenic	0.0015		0.0010	0.00031	mg/L		06/02/21 10:16	06/03/21 12:39	1
Barium	0.011		0.010	0.0016	mg/L		06/02/21 10:16	06/03/21 12:39	1
Beryllium	ND		0.0010	0.00018	mg/L		06/02/21 10:16	06/03/21 12:39	1
Boron	4.6	F1	0.080	0.039	mg/L		06/02/21 10:16	06/03/21 12:39	1
Cadmium	0.0048		0.0010	0.00022	mg/L		06/02/21 10:16	06/03/21 12:39	1
Calcium	370		0.50	0.13	mg/L		06/02/21 10:16	06/03/21 12:39	1
Chromium	ND		0.0020	0.0015	mg/L		06/02/21 10:16	06/03/21 12:39	1
Cobalt	0.013		0.00050	0.00013	mg/L		06/02/21 10:16	06/03/21 12:39	1
Lead	0.00019	J	0.0010	0.00013	mg/L		06/02/21 10:16	06/03/21 12:39	1
Lithium	0.017		0.0050	0.0034	mg/L		06/02/21 10:16	06/03/21 12:39	1
Molybdenum	0.0027	J	0.0050	0.00061	mg/L		06/02/21 10:16	06/03/21 12:39	1
Selenium	0.0056		0.0050	0.0015	mg/L		06/02/21 10:16	06/03/21 12:39	1
Thallium	0.00066	J	0.0010	0.00015	mg/L		06/02/21 10:16	06/03/21 12:39	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-122147-1
 SDG: AB Brown

Client Sample ID: CCR-LF-2

Lab Sample ID: 180-122147-4

Date Collected: 05/20/21 11:15

Matrix: Water

Date Received: 05/25/21 09:30

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/07/21 08:56	06/08/21 11:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	21000		200	200	mg/L			05/27/21 19:59	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.6	HF	0.1	0.1	SU			06/09/21 16:21	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.195		0.129	0.131	1.00	0.184	pCi/L	06/25/21 13:45	07/19/21 13:56	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.5		40 - 110					06/25/21 13:45	07/19/21 13:56	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.34		0.414	0.432	1.00	0.545	pCi/L	06/25/21 16:33	07/12/21 13:11	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	98.5		40 - 110					06/25/21 16:33	07/12/21 13:11	1
Y Carrier	92.0		40 - 110					06/25/21 16:33	07/12/21 13:11	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.54		0.434	0.451	5.00	0.545	pCi/L		07/22/21 22:02	1

Client Sample ID: CCR-LF-3

Lab Sample ID: 180-122147-5

Date Collected: 05/20/21 12:15

Matrix: Water

Date Received: 05/25/21 09:30

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	28		2.5	1.8	mg/L			06/01/21 23:43	2.5
Fluoride	0.094	J	0.10	0.026	mg/L			06/06/21 02:47	1
Sulfate	1500		25	19	mg/L			06/02/21 00:00	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/02/21 10:16	06/03/21 13:35	1
Arsenic	0.00040	J	0.0010	0.00031	mg/L		06/02/21 10:16	06/03/21 13:35	1
Barium	0.016		0.010	0.0016	mg/L		06/02/21 10:16	06/03/21 13:35	1
Beryllium	ND		0.0010	0.00018	mg/L		06/02/21 10:16	06/03/21 13:35	1
Boron	0.19		0.080	0.039	mg/L		06/02/21 10:16	06/03/21 13:35	1
Cadmium	ND		0.0010	0.00022	mg/L		06/02/21 10:16	06/03/21 13:35	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-122147-1
SDG: AB Brown

Client Sample ID: CCR-LF-3

Lab Sample ID: 180-122147-5

Date Collected: 05/20/21 12:15

Matrix: Water

Date Received: 05/25/21 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	350		0.50	0.13	mg/L		06/02/21 10:16	06/03/21 13:35	1
Chromium	0.0015	J	0.0020	0.0015	mg/L		06/02/21 10:16	06/03/21 13:35	1
Cobalt	ND		0.00050	0.00013	mg/L		06/02/21 10:16	06/03/21 13:35	1
Lead	ND		0.0010	0.00013	mg/L		06/02/21 10:16	06/03/21 13:35	1
Lithium	ND		0.0050	0.0034	mg/L		06/02/21 10:16	06/03/21 13:35	1
Molybdenum	0.0010	J	0.0050	0.00061	mg/L		06/02/21 10:16	06/03/21 13:35	1
Selenium	ND		0.0050	0.0015	mg/L		06/02/21 10:16	06/03/21 13:35	1
Thallium	ND		0.0010	0.00015	mg/L		06/02/21 10:16	06/03/21 13:35	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/07/21 08:56	06/08/21 11:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2100		40	40	mg/L			05/27/21 19:59	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.1	HF	0.1	0.1	SU			06/09/21 16:11	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0121	U	0.140	0.140	1.00	0.276	pCi/L	06/02/21 11:50	06/24/21 09:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.2		40 - 110					06/02/21 11:50	06/24/21 09:16	1

Method: 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	0.269	0.271	1.00	0.418	pCi/L	06/02/21 12:57	06/23/21 10:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	88.2		40 - 110					06/02/21 12:57	06/23/21 10:00	1
Y Carrier	85.2		40 - 110					06/02/21 12:57	06/23/21 10:00	1

Method: 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	0.403	U	0.303	0.305	5.00	0.418	pCi/L		07/22/21 22:02	1

Client Sample ID: CCR-SP-1

Lab Sample ID: 180-122147-6

Date Collected: 05/21/21 10:20

Matrix: Water

Date Received: 05/25/21 09:30

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	95		1.0	0.71	mg/L			06/02/21 00:54	1

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Client Sample Results

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

Job ID: 180-122147-1
 SDG: AB Brown

Client Sample ID: CCR-SP-1

Lab Sample ID: 180-122147-6

Date Collected: 05/21/21 10:20

Matrix: Water

Date Received: 05/25/21 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.16		0.10	0.026	mg/L			06/06/21 04:16	1
Sulfate	700		10	7.6	mg/L			06/02/21 01:12	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/02/21 10:16	06/03/21 13:38	1
Arsenic	0.0037		0.0010	0.00031	mg/L		06/02/21 10:16	06/03/21 13:38	1
Barium	0.051		0.010	0.0016	mg/L		06/02/21 10:16	06/03/21 13:38	1
Beryllium	ND		0.0010	0.00018	mg/L		06/02/21 10:16	06/03/21 13:38	1
Boron	0.36		0.080	0.039	mg/L		06/02/21 10:16	06/03/21 13:38	1
Cadmium	ND		0.0010	0.00022	mg/L		06/02/21 10:16	06/03/21 13:38	1
Calcium	190		0.50	0.13	mg/L		06/02/21 10:16	06/03/21 13:38	1
Chromium	ND		0.0020	0.0015	mg/L		06/02/21 10:16	06/03/21 13:38	1
Cobalt	0.0062		0.00050	0.00013	mg/L		06/02/21 10:16	06/03/21 13:38	1
Lead	ND		0.0010	0.00013	mg/L		06/02/21 10:16	06/03/21 13:38	1
Lithium	0.0036	J	0.0050	0.0034	mg/L		06/02/21 10:16	06/03/21 13:38	1
Molybdenum	0.0010	J	0.0050	0.00061	mg/L		06/02/21 10:16	06/03/21 13:38	1
Selenium	ND		0.0050	0.0015	mg/L		06/02/21 10:16	06/03/21 13:38	1
Thallium	ND		0.0010	0.00015	mg/L		06/02/21 10:16	06/03/21 13:38	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/07/21 08:56	06/08/21 11:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1600	H	10	10	mg/L			06/01/21 20:06	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.2	HF	0.1	0.1	SU			06/09/21 16:14	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.129	U	0.169	0.169	1.00	0.283	pCi/L	06/02/21 11:50	06/24/21 09:16	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.1		40 - 110					06/02/21 11:50	06/24/21 09:16	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0547	U	0.268	0.268	1.00	0.470	pCi/L	06/02/21 12:57	06/23/21 10:00	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.1		40 - 110					06/02/21 12:57	06/23/21 10:00	1
Y Carrier	84.9		40 - 110					06/02/21 12:57	06/23/21 10:00	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-122147-1
SDG: AB Brown

Client Sample ID: CCR-SP-1

Lab Sample ID: 180-122147-6

Date Collected: 05/21/21 10:20

Matrix: Water

Date Received: 05/25/21 09:30

Method: 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	0.317	0.317	5.00	0.470	pCi/L		07/22/21 22:02	1

Client Sample ID: CCR-SP-2

Lab Sample ID: 180-122147-7

Date Collected: 05/21/21 11:30

Matrix: Water

Date Received: 05/25/21 09:30

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	44		1.0	0.71	mg/L			06/02/21 03:17	1
Fluoride	0.20		0.10	0.026	mg/L			06/06/21 04:34	1
Sulfate	300		5.0	3.8	mg/L			06/02/21 03:35	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/03/21 09:43	06/04/21 11:25	1
Arsenic	0.011		0.0010	0.00031	mg/L		06/03/21 09:43	06/04/21 11:25	1
Barium	0.046		0.010	0.0016	mg/L		06/03/21 09:43	06/04/21 11:25	1
Beryllium	ND		0.0010	0.00018	mg/L		06/03/21 09:43	06/04/21 11:25	1
Boron	0.098		0.080	0.039	mg/L		06/03/21 09:43	06/04/21 11:25	1
Cadmium	ND		0.0010	0.00022	mg/L		06/03/21 09:43	06/04/21 11:25	1
Calcium	170		0.50	0.13	mg/L		06/03/21 09:43	06/04/21 11:25	1
Chromium	ND		0.0020	0.0015	mg/L		06/03/21 09:43	06/04/21 11:25	1
Cobalt	0.00037	J	0.00050	0.00013	mg/L		06/03/21 09:43	06/04/21 11:25	1
Lead	ND		0.0010	0.00013	mg/L		06/03/21 09:43	06/04/21 11:25	1
Lithium	ND		0.0050	0.0034	mg/L		06/03/21 09:43	06/04/21 11:25	1
Molybdenum	0.0012	J	0.0050	0.00061	mg/L		06/03/21 09:43	06/04/21 11:25	1
Selenium	ND		0.0050	0.0015	mg/L		06/03/21 09:43	06/04/21 11:25	1
Thallium	ND		0.0010	0.00015	mg/L		06/03/21 09:43	06/04/21 11:25	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/07/21 08:56	06/08/21 11:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	870	H	10	10	mg/L			06/01/21 20:06	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.2	HF	0.1	0.1	SU			06/09/21 16:26	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	0.153	U	0.126	0.127	1.00	0.189	pCi/L	06/02/21 15:24	06/24/21 16:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.5		40 - 110					06/02/21 15:24	06/24/21 16:20	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-122147-1
SDG: AB Brown

Client Sample ID: CCR-SP-2

Date Collected: 05/21/21 11:30

Date Received: 05/25/21 09:30

Lab Sample ID: 180-122147-7

Matrix: Water

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.352	U	0.288	0.290	1.00	0.455	pCi/L	06/02/21 16:08	06/21/21 13:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	78.5		40 - 110					06/02/21 16:08	06/21/21 13:46	1
Y Carrier	87.1		40 - 110					06/02/21 16:08	06/21/21 13:46	1

Method: 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	0.505		0.314	0.317	5.00	0.455	pCi/L		06/24/21 22:51	1

Client Sample ID: CCR-SP-3

Date Collected: 05/21/21 12:30

Date Received: 05/25/21 09:30

Lab Sample ID: 180-122147-8

Matrix: Water

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14		1.0	0.71	mg/L			06/02/21 05:04	1
Fluoride	0.33		0.10	0.026	mg/L			06/06/21 05:27	1
Sulfate	25		1.0	0.76	mg/L			06/02/21 05:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/03/21 09:43	06/04/21 11:28	1
Arsenic	0.0097		0.0010	0.00031	mg/L		06/03/21 09:43	06/04/21 11:28	1
Barium	0.074		0.010	0.0016	mg/L		06/03/21 09:43	06/04/21 11:28	1
Beryllium	ND		0.0010	0.00018	mg/L		06/03/21 09:43	06/04/21 11:28	1
Boron	ND		0.080	0.039	mg/L		06/03/21 09:43	06/04/21 11:28	1
Cadmium	ND		0.0010	0.00022	mg/L		06/03/21 09:43	06/04/21 11:28	1
Calcium	90		0.50	0.13	mg/L		06/03/21 09:43	06/04/21 11:28	1
Chromium	ND		0.0020	0.0015	mg/L		06/03/21 09:43	06/04/21 11:28	1
Cobalt	0.00065		0.00050	0.00013	mg/L		06/03/21 09:43	06/04/21 11:28	1
Lead	ND		0.0010	0.00013	mg/L		06/03/21 09:43	06/04/21 11:28	1
Lithium	ND		0.0050	0.0034	mg/L		06/03/21 09:43	06/04/21 11:28	1
Molybdenum	0.0034	J	0.0050	0.00061	mg/L		06/03/21 09:43	06/04/21 11:28	1
Selenium	ND		0.0050	0.0015	mg/L		06/03/21 09:43	06/04/21 11:28	1
Thallium	ND		0.0010	0.00015	mg/L		06/03/21 09:43	06/04/21 11:28	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/07/21 08:56	06/08/21 11:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	440	H	10	10	mg/L			06/01/21 20:06	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4	HF	0.1	0.1	SU			06/09/21 16:29	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-122147-1
 SDG: AB Brown

Client Sample ID: CCR-SP-3

Lab Sample ID: 180-122147-8

Date Collected: 05/21/21 12:30

Matrix: Water

Date Received: 05/25/21 09:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.216	U	0.175	0.176	1.00	0.265	pCi/L	06/02/21 15:24	06/24/21 16:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	62.9		40 - 110					06/02/21 15:24	06/24/21 16:21	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.364	U	0.384	0.386	1.00	0.628	pCi/L	06/02/21 16:08	06/21/21 13:46	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	62.9		40 - 110					06/02/21 16:08	06/21/21 13:46	1
Y Carrier	86.7		40 - 110					06/02/21 16:08	06/21/21 13:46	1

Method: 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	0.580	U	0.422	0.424	5.00	0.628	pCi/L		06/24/21 22:51	1

Client Sample ID: FD-PZ-1

Lab Sample ID: 180-122147-9

Date Collected: 05/21/21 13:45

Matrix: Water

Date Received: 05/25/21 09:30

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.1		1.0	0.71	mg/L			06/02/21 04:28	1
Fluoride	0.21		0.10	0.026	mg/L			06/06/21 04:52	1
Sulfate	25		1.0	0.76	mg/L			06/02/21 04:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/03/21 09:43	06/04/21 11:31	1
Arsenic	0.00058	J	0.0010	0.00031	mg/L		06/03/21 09:43	06/04/21 11:31	1
Barium	0.12		0.010	0.0016	mg/L		06/03/21 09:43	06/04/21 11:31	1
Beryllium	ND		0.0010	0.00018	mg/L		06/03/21 09:43	06/04/21 11:31	1
Boron	0.79		0.080	0.039	mg/L		06/03/21 09:43	06/04/21 11:31	1
Cadmium	ND		0.0010	0.00022	mg/L		06/03/21 09:43	06/04/21 11:31	1
Calcium	120		0.50	0.13	mg/L		06/03/21 09:43	06/04/21 11:31	1
Chromium	ND		0.0020	0.0015	mg/L		06/03/21 09:43	06/04/21 11:31	1
Cobalt	0.00093		0.00050	0.00013	mg/L		06/03/21 09:43	06/04/21 11:31	1
Lead	0.00034	J	0.0010	0.00013	mg/L		06/03/21 09:43	06/04/21 11:31	1
Lithium	0.0078		0.0050	0.0034	mg/L		06/03/21 09:43	06/04/21 11:31	1
Molybdenum	0.062		0.0050	0.00061	mg/L		06/03/21 09:43	06/04/21 11:31	1
Selenium	ND		0.0050	0.0015	mg/L		06/03/21 09:43	06/04/21 11:31	1
Thallium	ND		0.0010	0.00015	mg/L		06/03/21 09:43	06/04/21 11:31	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-122147-1
SDG: AB Brown

Client Sample ID: FD-PZ-1
Date Collected: 05/21/21 13:45
Date Received: 05/25/21 09:30

Lab Sample ID: 180-122147-9
Matrix: Water

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/07/21 08:56	06/08/21 11:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	510	H	10	10	mg/L			06/01/21 20:06	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4	HF	0.1	0.1	SU			06/09/21 16:31	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.136	U	0.128	0.128	1.00	0.200	pCi/L	06/02/21 15:24	06/24/21 16:20	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.9		40 - 110					06/02/21 15:24	06/24/21 16:20	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.582		0.298	0.303	1.00	0.434	pCi/L	06/02/21 16:08	06/21/21 13:47	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.9		40 - 110					06/02/21 16:08	06/21/21 13:47	1
Y Carrier	87.9		40 - 110					06/02/21 16:08	06/21/21 13:47	1

Method: 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	0.718		0.324	0.329	5.00	0.434	pCi/L		06/24/21 22:51	1

Client Sample ID: FD-PZ-2
Date Collected: 05/21/21 12:45
Date Received: 05/25/21 09:30

Lab Sample ID: 180-122147-10
Matrix: Water

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	610		5.0	3.6	mg/L			06/01/21 20:44	5
Fluoride	0.50		0.50	0.13	mg/L			06/02/21 14:38	5
Sulfate	3600		50	38	mg/L			06/01/21 21:02	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00066	J	0.0020	0.00038	mg/L		06/03/21 09:43	06/04/21 11:33	1
Arsenic	0.0041		0.0010	0.00031	mg/L		06/03/21 09:43	06/04/21 11:33	1
Barium	0.041		0.010	0.0016	mg/L		06/03/21 09:43	06/04/21 11:33	1
Beryllium	0.00018	J	0.0010	0.00018	mg/L		06/03/21 09:43	06/04/21 11:33	1
Boron	14		0.80	0.39	mg/L		06/03/21 09:43	06/04/21 12:42	10
Cadmium	0.00051	J	0.0010	0.00022	mg/L		06/03/21 09:43	06/04/21 11:33	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-122147-1
SDG: AB Brown

Client Sample ID: FD-PZ-2

Lab Sample ID: 180-122147-10

Date Collected: 05/21/21 12:45

Matrix: Water

Date Received: 05/25/21 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	350		0.50	0.13	mg/L		06/03/21 09:43	06/04/21 11:33	1
Chromium	0.0043		0.0020	0.0015	mg/L		06/03/21 09:43	06/04/21 11:33	1
Cobalt	0.0024		0.00050	0.00013	mg/L		06/03/21 09:43	06/04/21 11:33	1
Lead	0.0025		0.0010	0.00013	mg/L		06/03/21 09:43	06/04/21 11:33	1
Lithium	0.040		0.0050	0.0034	mg/L		06/03/21 09:43	06/04/21 11:33	1
Molybdenum	0.74		0.0050	0.00061	mg/L		06/03/21 09:43	06/04/21 11:33	1
Selenium	ND		0.0050	0.0015	mg/L		06/03/21 09:43	06/04/21 11:33	1
Thallium	ND		0.0010	0.00015	mg/L		06/03/21 09:43	06/04/21 11:33	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/07/21 08:56	06/08/21 11:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5600	H	40	40	mg/L			06/01/21 20:06	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.8	HF	0.1	0.1	SU			06/09/21 16:34	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.29		0.605	0.639	1.00	0.549	pCi/L	06/02/21 15:24	06/24/21 16:21	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	55.1		40 - 110	06/02/21 15:24	06/24/21 16:21	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.43	G	0.872	0.882	1.00	1.32	pCi/L	06/02/21 16:08	06/21/21 13:47	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	55.1		40 - 110	06/02/21 16:08	06/21/21 13:47	1
Y Carrier	88.2		40 - 110	06/02/21 16:08	06/21/21 13:47	1

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

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.71		1.06	1.09	5.00	1.32	pCi/L		06/24/21 22:51	1

Client Sample ID: MH-1

Lab Sample ID: 180-122147-11

Date Collected: 05/21/21 13:10

Matrix: Water

Date Received: 05/25/21 09:30

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	540		5.0	3.6	mg/L			06/01/21 21:20	5

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Client Sample Results

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

Job ID: 180-122147-1
SDG: AB Brown

Client Sample ID: MH-1
Date Collected: 05/21/21 13:10
Date Received: 05/25/21 09:30

Lab Sample ID: 180-122147-11
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.50		0.50	0.13	mg/L			06/02/21 14:54	5
Sulfate	3300		50	38	mg/L			06/01/21 21:38	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/03/21 09:43	06/04/21 11:44	1
Arsenic	0.00039	J	0.0010	0.00031	mg/L		06/03/21 09:43	06/04/21 11:44	1
Barium	0.015		0.010	0.0016	mg/L		06/03/21 09:43	06/04/21 11:44	1
Beryllium	ND		0.0010	0.00018	mg/L		06/03/21 09:43	06/04/21 11:44	1
Boron	13		0.80	0.39	mg/L		06/03/21 09:43	06/04/21 12:45	10
Cadmium	0.00084	J	0.0010	0.00022	mg/L		06/03/21 09:43	06/04/21 11:44	1
Calcium	340		0.50	0.13	mg/L		06/03/21 09:43	06/04/21 11:44	1
Chromium	ND		0.0020	0.0015	mg/L		06/03/21 09:43	06/04/21 11:44	1
Cobalt	0.0022		0.00050	0.00013	mg/L		06/03/21 09:43	06/04/21 11:44	1
Lead	ND		0.0010	0.00013	mg/L		06/03/21 09:43	06/04/21 11:44	1
Lithium	0.029		0.0050	0.0034	mg/L		06/03/21 09:43	06/04/21 11:44	1
Molybdenum	1.2		0.0050	0.00061	mg/L		06/03/21 09:43	06/04/21 11:44	1
Selenium	ND		0.0050	0.0015	mg/L		06/03/21 09:43	06/04/21 11:44	1
Thallium	ND		0.0010	0.00015	mg/L		06/03/21 09:43	06/04/21 11:44	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/07/21 08:56	06/08/21 11:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5300	H	40	40	mg/L			06/01/21 20:06	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.3	HF	0.1	0.1	SU			06/09/21 16:36	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0756	U	0.0930	0.0932	1.00	0.153	pCi/L	06/02/21 15:24	06/24/21 16:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.6		40 - 110					06/02/21 15:24	06/24/21 16:21	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.164	U	0.260	0.261	1.00	0.438	pCi/L	06/02/21 16:08	06/21/21 13:48	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.6		40 - 110					06/02/21 16:08	06/21/21 13:48	1
Y Carrier	87.9		40 - 110					06/02/21 16:08	06/21/21 13:48	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-122147-1
SDG: AB Brown

Client Sample ID: MH-1
Date Collected: 05/21/21 13:10
Date Received: 05/25/21 09:30

Lab Sample ID: 180-122147-11
Matrix: Water

Method: 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	0.276	0.277	5.00	0.438	pCi/L		06/24/21 22:51	1

Client Sample ID: MH-2
Date Collected: 05/21/21 13:25
Date Received: 05/25/21 09:30

Lab Sample ID: 180-122147-12
Matrix: Water

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	550		5.0	3.6	mg/L			06/01/21 21:56	5
Fluoride	0.48	J	0.50	0.13	mg/L			06/02/21 15:11	5
Sulfate	3300		50	38	mg/L			06/01/21 22:13	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/03/21 09:43	06/04/21 11:55	1
Arsenic	ND		0.0010	0.00031	mg/L		06/03/21 09:43	06/04/21 11:55	1
Barium	0.014		0.010	0.0016	mg/L		06/03/21 09:43	06/04/21 11:55	1
Beryllium	ND		0.0010	0.00018	mg/L		06/03/21 09:43	06/04/21 11:55	1
Boron	13		0.80	0.39	mg/L		06/03/21 09:43	06/04/21 12:47	10
Cadmium	0.00075	J	0.0010	0.00022	mg/L		06/03/21 09:43	06/04/21 11:55	1
Calcium	350		0.50	0.13	mg/L		06/03/21 09:43	06/04/21 11:55	1
Chromium	ND		0.0020	0.0015	mg/L		06/03/21 09:43	06/04/21 11:55	1
Cobalt	0.0020		0.00050	0.00013	mg/L		06/03/21 09:43	06/04/21 11:55	1
Lead	ND		0.0010	0.00013	mg/L		06/03/21 09:43	06/04/21 11:55	1
Lithium	0.029		0.0050	0.0034	mg/L		06/03/21 09:43	06/04/21 11:55	1
Molybdenum	1.2		0.0050	0.00061	mg/L		06/03/21 09:43	06/04/21 11:55	1
Selenium	ND		0.0050	0.0015	mg/L		06/03/21 09:43	06/04/21 11:55	1
Thallium	ND		0.0010	0.00015	mg/L		06/03/21 09:43	06/04/21 11:55	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/07/21 08:56	06/08/21 11:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5500	H	40	40	mg/L			06/01/21 20:06	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.3	HF	0.1	0.1	SU			06/09/21 16:39	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0686	U	0.0944	0.0946	1.00	0.159	pCi/L	06/02/21 15:24	06/24/21 16:21	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.8		40 - 110					06/02/21 15:24	06/24/21 16:21	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-122147-1
 SDG: AB Brown

Client Sample ID: MH-2
 Date Collected: 05/21/21 13:25
 Date Received: 05/25/21 09:30

Lab Sample ID: 180-122147-12
 Matrix: Water

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0162	U	0.244	0.244	1.00	0.433	pCi/L	06/02/21 16:08	06/21/21 13:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.8		40 - 110					06/02/21 16:08	06/21/21 13:49	1
Y Carrier	89.0		40 - 110					06/02/21 16:08	06/21/21 13:49	1

Method: 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	0.0847	U	0.262	0.262	5.00	0.433	pCi/L		06/24/21 22:51	1

Client Sample ID: BLIND DUPLICATE 2
 Date Collected: 05/20/21 00:01
 Date Received: 05/25/21 09:30

Lab Sample ID: 180-122147-13
 Matrix: Water

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	29		2.5	1.8	mg/L			06/02/21 02:05	2.5
Fluoride	0.091	J	0.10	0.026	mg/L			06/06/21 03:05	1
Sulfate	1500		25	19	mg/L			06/02/21 02:23	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/03/21 09:43	06/04/21 12:06	1
Arsenic	ND		0.0010	0.00031	mg/L		06/03/21 09:43	06/04/21 12:06	1
Barium	0.016		0.010	0.0016	mg/L		06/03/21 09:43	06/04/21 12:06	1
Beryllium	ND		0.0010	0.00018	mg/L		06/03/21 09:43	06/04/21 12:06	1
Boron	0.21		0.080	0.039	mg/L		06/03/21 09:43	06/04/21 12:06	1
Cadmium	ND		0.0010	0.00022	mg/L		06/03/21 09:43	06/04/21 12:06	1
Calcium	330		0.50	0.13	mg/L		06/03/21 09:43	06/04/21 12:06	1
Chromium	0.0015	J	0.0020	0.0015	mg/L		06/03/21 09:43	06/04/21 12:06	1
Cobalt	ND		0.00050	0.00013	mg/L		06/03/21 09:43	06/04/21 12:06	1
Lead	ND		0.0010	0.00013	mg/L		06/03/21 09:43	06/04/21 12:06	1
Lithium	ND		0.0050	0.0034	mg/L		06/03/21 09:43	06/04/21 12:06	1
Molybdenum	ND		0.0050	0.00061	mg/L		06/03/21 09:43	06/04/21 12:06	1
Selenium	ND		0.0050	0.0015	mg/L		06/03/21 09:43	06/04/21 12:06	1
Thallium	ND		0.0010	0.00015	mg/L		06/03/21 09:43	06/04/21 12:06	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/07/21 08:56	06/08/21 12:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2100		40	40	mg/L			05/27/21 19:59	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.5	HF	0.1	0.1	SU			06/09/21 16:42	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-122147-1
 SDG: AB Brown

Client Sample ID: BLIND DUPLICATE 2

Lab Sample ID: 180-122147-13

Date Collected: 05/20/21 00:01

Matrix: Water

Date Received: 05/25/21 09:30

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.118	U	0.113	0.113	1.00	0.175	pCi/L	06/02/21 15:24	06/24/21 16:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.0		40 - 110					06/02/21 15:24	06/24/21 16:22	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.255	U	0.284	0.285	1.00	0.467	pCi/L	06/02/21 16:08	06/21/21 13:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.0		40 - 110					06/02/21 16:08	06/21/21 13:49	1
Y Carrier	89.3		40 - 110					06/02/21 16:08	06/21/21 13:49	1

Method: 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	0.373	U	0.306	0.307	5.00	0.467	pCi/L		06/24/21 22:51	1

Client Sample ID: BLIND DUPLICATE 3

Lab Sample ID: 180-122147-14

Date Collected: 05/21/21 00:01

Matrix: Water

Date Received: 05/25/21 09:30

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	95		1.0	0.71	mg/L			06/02/21 00:18	1
Fluoride	0.17		0.10	0.026	mg/L			06/06/21 05:10	1
Sulfate	680		10	7.6	mg/L			06/02/21 00:36	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/03/21 09:43	06/04/21 12:20	1
Arsenic	0.0038		0.0010	0.00031	mg/L		06/03/21 09:43	06/04/21 12:20	1
Barium	0.055		0.010	0.0016	mg/L		06/03/21 09:43	06/04/21 12:20	1
Beryllium	ND		0.0010	0.00018	mg/L		06/03/21 09:43	06/04/21 12:20	1
Boron	0.38		0.080	0.039	mg/L		06/03/21 09:43	06/04/21 12:20	1
Cadmium	ND		0.0010	0.00022	mg/L		06/03/21 09:43	06/04/21 12:20	1
Calcium	200		0.50	0.13	mg/L		06/03/21 09:43	06/04/21 12:20	1
Chromium	ND		0.0020	0.0015	mg/L		06/03/21 09:43	06/04/21 12:20	1
Cobalt	0.0066		0.00050	0.00013	mg/L		06/03/21 09:43	06/04/21 12:20	1
Lead	ND		0.0010	0.00013	mg/L		06/03/21 09:43	06/04/21 12:20	1
Lithium	0.0039	J	0.0050	0.0034	mg/L		06/03/21 09:43	06/04/21 12:20	1
Molybdenum	ND		0.0050	0.00061	mg/L		06/03/21 09:43	06/04/21 12:20	1
Selenium	ND		0.0050	0.0015	mg/L		06/03/21 09:43	06/04/21 12:20	1
Thallium	ND		0.0010	0.00015	mg/L		06/03/21 09:43	06/04/21 12:20	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-122147-1
SDG: AB Brown

Client Sample ID: BLIND DUPLICATE 3

Lab Sample ID: 180-122147-14

Date Collected: 05/21/21 00:01

Matrix: Water

Date Received: 05/25/21 09:30

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/07/21 08:56	06/08/21 12:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1600	H	10	10	mg/L			06/01/21 20:06	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.5	HF	0.1	0.1	SU			06/09/21 16:47	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.179	U	0.131	0.132	1.00	0.188	pCi/L	06/02/21 15:24	06/24/21 16:22	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.0		40 - 110					06/02/21 15:24	06/24/21 16:22	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.206	U	0.300	0.300	1.00	0.502	pCi/L	06/02/21 16:08	06/21/21 13:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	81.0		40 - 110					06/02/21 16:08	06/21/21 13:49	1
Y Carrier	84.9		40 - 110					06/02/21 16:08	06/21/21 13:49	1

Method: 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	0.385	U	0.327	0.328	5.00	0.502	pCi/L		06/24/21 22:51	1

Client Sample ID: FIELD BLANK 1

Lab Sample ID: 180-122147-15

Date Collected: 05/20/21 17:00

Matrix: Water

Date Received: 05/25/21 09:30

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.71	mg/L			06/01/21 17:10	1
Fluoride	0.041	J	0.10	0.026	mg/L			06/02/21 20:21	1
Sulfate	ND		1.0	0.76	mg/L			06/01/21 17:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/03/21 09:43	06/04/21 12:23	1
Arsenic	ND		0.0010	0.00031	mg/L		06/03/21 09:43	06/04/21 12:23	1
Barium	ND		0.010	0.0016	mg/L		06/03/21 09:43	06/04/21 12:23	1
Beryllium	ND		0.0010	0.00018	mg/L		06/03/21 09:43	06/04/21 12:23	1
Boron	ND		0.080	0.039	mg/L		06/03/21 09:43	06/04/21 12:23	1
Cadmium	ND		0.0010	0.00022	mg/L		06/03/21 09:43	06/04/21 12:23	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-122147-1
SDG: AB Brown

Client Sample ID: FIELD BLANK 1

Lab Sample ID: 180-122147-15

Date Collected: 05/20/21 17:00

Matrix: Water

Date Received: 05/25/21 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND		0.50	0.13	mg/L		06/03/21 09:43	06/04/21 12:23	1
Chromium	ND		0.0020	0.0015	mg/L		06/03/21 09:43	06/04/21 12:23	1
Cobalt	ND		0.00050	0.00013	mg/L		06/03/21 09:43	06/04/21 12:23	1
Lead	ND		0.0010	0.00013	mg/L		06/03/21 09:43	06/04/21 12:23	1
Lithium	ND		0.0050	0.0034	mg/L		06/03/21 09:43	06/04/21 12:23	1
Molybdenum	ND		0.0050	0.00061	mg/L		06/03/21 09:43	06/04/21 12:23	1
Selenium	ND		0.0050	0.0015	mg/L		06/03/21 09:43	06/04/21 12:23	1
Thallium	ND		0.0010	0.00015	mg/L		06/03/21 09:43	06/04/21 12:23	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/07/21 08:56	06/08/21 12:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			05/27/21 19:59	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.0	HF	0.1	0.1	SU			06/09/21 16:52	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.00510	U	0.138	0.138	1.00	0.276	pCi/L	06/02/21 15:24	06/24/21 16:22	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	52.0		40 - 110	06/02/21 15:24	06/24/21 16:22	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.104	U	0.418	0.418	1.00	0.770	pCi/L	06/02/21 16:08	06/21/21 13:50	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	52.0		40 - 110	06/02/21 16:08	06/21/21 13:50	1
Y Carrier	85.6		40 - 110	06/02/21 16:08	06/21/21 13:50	1

Method: 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	-0.0988	U	0.440	0.440	5.00	0.770	pCi/L		06/24/21 22:51	1

Client Sample ID: FIELD BLANK 2

Lab Sample ID: 180-122147-16

Date Collected: 05/20/21 13:00

Matrix: Water

Date Received: 05/25/21 09:30

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.71	mg/L			06/01/21 17:28	1

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Client Sample Results

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

Job ID: 180-122147-1
SDG: AB Brown

Client Sample ID: FIELD BLANK 2

Lab Sample ID: 180-122147-16

Date Collected: 05/20/21 13:00

Matrix: Water

Date Received: 05/25/21 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.057	J	0.10	0.026	mg/L			06/02/21 20:38	1
Sulfate	ND		1.0	0.76	mg/L			06/01/21 17:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/03/21 09:43	06/04/21 12:25	1
Arsenic	ND		0.0010	0.00031	mg/L		06/03/21 09:43	06/04/21 12:25	1
Barium	ND		0.010	0.0016	mg/L		06/03/21 09:43	06/04/21 12:25	1
Beryllium	ND		0.0010	0.00018	mg/L		06/03/21 09:43	06/04/21 12:25	1
Boron	ND		0.080	0.039	mg/L		06/03/21 09:43	06/04/21 12:25	1
Cadmium	ND		0.0010	0.00022	mg/L		06/03/21 09:43	06/04/21 12:25	1
Calcium	ND		0.50	0.13	mg/L		06/03/21 09:43	06/04/21 12:25	1
Chromium	ND		0.0020	0.0015	mg/L		06/03/21 09:43	06/04/21 12:25	1
Cobalt	ND		0.00050	0.00013	mg/L		06/03/21 09:43	06/04/21 12:25	1
Lead	ND		0.0010	0.00013	mg/L		06/03/21 09:43	06/04/21 12:25	1
Lithium	ND		0.0050	0.0034	mg/L		06/03/21 09:43	06/04/21 12:25	1
Molybdenum	ND		0.0050	0.00061	mg/L		06/03/21 09:43	06/04/21 12:25	1
Selenium	ND		0.0050	0.0015	mg/L		06/03/21 09:43	06/04/21 12:25	1
Thallium	ND		0.0010	0.00015	mg/L		06/03/21 09:43	06/04/21 12:25	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/07/21 08:56	06/08/21 12:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			05/27/21 19:59	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.0	HF	0.1	0.1	SU			06/09/21 16:54	1

Method: 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	0.128	0.129	1.00	0.204	pCi/L	06/02/21 15:24	06/24/21 16:15	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	74.8		40 - 110	06/02/21 15:24	06/24/21 16:15	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.118	U	0.279	0.279	1.00	0.521	pCi/L	06/02/21 16:08	06/21/21 13:49	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	74.8		40 - 110	06/02/21 16:08	06/21/21 13:49	1
Y Carrier	89.0		40 - 110	06/02/21 16:08	06/21/21 13:49	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-122147-1
 SDG: AB Brown

Client Sample ID: FIELD BLANK 2

Lab Sample ID: 180-122147-16

Date Collected: 05/20/21 13:00

Matrix: Water

Date Received: 05/25/21 09:30

Method: 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	0.00545	U	0.307	0.307	5.00	0.521	pCi/L		06/24/21 22:51	1

Client Sample ID: FIELD BLANK 3

Lab Sample ID: 180-122147-17

Date Collected: 05/21/21 12:00

Matrix: Water

Date Received: 05/25/21 09:30

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.71	mg/L			06/01/21 17:45	1
Fluoride	0.053	J	0.10	0.026	mg/L			06/02/21 20:54	1
Sulfate	ND		1.0	0.76	mg/L			06/01/21 17:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/03/21 09:43	06/04/21 12:28	1
Arsenic	ND		0.0010	0.00031	mg/L		06/03/21 09:43	06/04/21 12:28	1
Barium	ND		0.010	0.0016	mg/L		06/03/21 09:43	06/04/21 12:28	1
Beryllium	ND		0.0010	0.00018	mg/L		06/03/21 09:43	06/04/21 12:28	1
Boron	ND		0.080	0.039	mg/L		06/03/21 09:43	06/04/21 12:28	1
Cadmium	ND		0.0010	0.00022	mg/L		06/03/21 09:43	06/04/21 12:28	1
Calcium	ND		0.50	0.13	mg/L		06/03/21 09:43	06/04/21 12:28	1
Chromium	ND		0.0020	0.0015	mg/L		06/03/21 09:43	06/04/21 12:28	1
Cobalt	ND		0.00050	0.00013	mg/L		06/03/21 09:43	06/04/21 12:28	1
Lead	ND		0.0010	0.00013	mg/L		06/03/21 09:43	06/04/21 12:28	1
Lithium	ND		0.0050	0.0034	mg/L		06/03/21 09:43	06/04/21 12:28	1
Molybdenum	ND		0.0050	0.00061	mg/L		06/03/21 09:43	06/04/21 12:28	1
Selenium	ND		0.0050	0.0015	mg/L		06/03/21 09:43	06/04/21 12:28	1
Thallium	ND		0.0010	0.00015	mg/L		06/03/21 09:43	06/04/21 12:28	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/07/21 08:56	06/08/21 12:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	H	10	10	mg/L			06/01/21 20:06	1
pH	4.6	HF	0.1	0.1	SU			06/09/21 16:57	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.175	U	0.150	0.151	1.00	0.227	pCi/L	06/02/21 15:24	06/24/21 16:15	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	64.8		40 - 110					06/02/21 15:24	06/24/21 16:15	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-122147-1
 SDG: AB Brown

Client Sample ID: FIELD BLANK 3

Lab Sample ID: 180-122147-17

Date Collected: 05/21/21 12:00

Matrix: Water

Date Received: 05/25/21 09:30

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.294	U	0.334	0.335	1.00	0.549	pCi/L	06/02/21 16:08	06/21/21 13:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	64.8		40 - 110					06/02/21 16:08	06/21/21 13:49	1
Y Carrier	86.4		40 - 110					06/02/21 16:08	06/21/21 13:49	1

Method: 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	0.469	U	0.366	0.367	5.00	0.549	pCi/L		06/24/21 22:51	1

QC Sample Results

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

Job ID: 180-122147-1
SDG: AB Brown

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-359002/6
Matrix: Water
Analysis Batch: 359002

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.71	mg/L			06/01/21 10:41	1
Sulfate	ND		1.0	0.76	mg/L			06/01/21 10:41	1

Lab Sample ID: LCS 180-359002/5
Matrix: Water
Analysis Batch: 359002

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	50.4		mg/L		101	80 - 120
Sulfate	50.0	50.3		mg/L		101	80 - 120

Lab Sample ID: 180-122147-4 MS
Matrix: Water
Analysis Batch: 359002

Client Sample ID: CCR-LF-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	360		12500	12800		mg/L		100	80 - 120
Sulfate	15000		12500	27200		mg/L		99	80 - 120

Lab Sample ID: 180-122147-4 MSD
Matrix: Water
Analysis Batch: 359002

Client Sample ID: CCR-LF-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chloride	360		12500	13000		mg/L		101	80 - 120	2	15
Sulfate	15000		12500	27900		mg/L		104	80 - 120	3	15

Lab Sample ID: MB 180-359156/6
Matrix: Water
Analysis Batch: 359156

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.026	mg/L			06/02/21 14:05	1

Lab Sample ID: LCS 180-359156/5
Matrix: Water
Analysis Batch: 359156

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.50	2.67		mg/L		107	80 - 120

Lab Sample ID: 180-122147-4 MS
Matrix: Water
Analysis Batch: 359156

Client Sample ID: CCR-LF-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	ND		625	638		mg/L		102	80 - 120

QC Sample Results

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

Job ID: 180-122147-1
SDG: AB Brown

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

Lab Sample ID: 180-122147-4 MSD
Matrix: Water
Analysis Batch: 359156

Client Sample ID: CCR-LF-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND		625	665		mg/L		106	80 - 120	4	15

Lab Sample ID: MB 180-359608/43
Matrix: Water
Analysis Batch: 359608

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.10	0.026	mg/L			06/06/21 00:06	1

Lab Sample ID: LCS 180-359608/42
Matrix: Water
Analysis Batch: 359608

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	2.50	2.47		mg/L		99	80 - 120

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

Lab Sample ID: MB 180-359194/1-A
Matrix: Water
Analysis Batch: 359428

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 359194

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/02/21 10:16	06/03/21 11:56	1
Arsenic	ND		0.0010	0.00031	mg/L		06/02/21 10:16	06/03/21 11:56	1
Barium	ND		0.010	0.0016	mg/L		06/02/21 10:16	06/03/21 11:56	1
Beryllium	ND		0.0010	0.00018	mg/L		06/02/21 10:16	06/03/21 11:56	1
Boron	ND		0.080	0.039	mg/L		06/02/21 10:16	06/03/21 11:56	1
Cadmium	ND		0.0010	0.00022	mg/L		06/02/21 10:16	06/03/21 11:56	1
Calcium	ND		0.50	0.13	mg/L		06/02/21 10:16	06/03/21 11:56	1
Chromium	ND		0.0020	0.0015	mg/L		06/02/21 10:16	06/03/21 11:56	1
Cobalt	ND		0.00050	0.00013	mg/L		06/02/21 10:16	06/03/21 11:56	1
Lead	ND		0.0010	0.00013	mg/L		06/02/21 10:16	06/03/21 11:56	1
Lithium	ND		0.0050	0.0034	mg/L		06/02/21 10:16	06/03/21 11:56	1
Molybdenum	ND		0.0050	0.00061	mg/L		06/02/21 10:16	06/03/21 11:56	1
Selenium	ND		0.0050	0.0015	mg/L		06/02/21 10:16	06/03/21 11:56	1
Thallium	ND		0.0010	0.00015	mg/L		06/02/21 10:16	06/03/21 11:56	1

Lab Sample ID: LCS 180-359194/2-A
Matrix: Water
Analysis Batch: 359428

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 359194

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.250	0.249		mg/L		99	80 - 120
Arsenic	1.00	1.02		mg/L		102	80 - 120
Barium	1.00	1.02		mg/L		102	80 - 120
Beryllium	0.500	0.515		mg/L		103	80 - 120
Boron	1.25	1.34		mg/L		107	80 - 120
Cadmium	0.500	0.531		mg/L		106	80 - 120
Calcium	25.0	29.1		mg/L		116	80 - 120

Eurofins TestAmerica, Pittsburgh

QC Sample Results

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

Job ID: 180-122147-1
 SDG: AB Brown

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

Lab Sample ID: LCS 180-359194/2-A
Matrix: Water
Analysis Batch: 359428

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 359194

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.500	0.504		mg/L		101	80 - 120
Cobalt	0.500	0.516		mg/L		103	80 - 120
Lead	0.500	0.504		mg/L		101	80 - 120
Lithium	0.500	0.479		mg/L		96	80 - 120
Molybdenum	0.500	0.537		mg/L		107	80 - 120
Selenium	1.00	1.03		mg/L		103	80 - 120
Thallium	1.00	1.01		mg/L		101	80 - 120

Lab Sample ID: 180-122147-4 MS
Matrix: Water
Analysis Batch: 359428

Client Sample ID: CCR-LF-2
Prep Type: Total Recoverable
Prep Batch: 359194

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		0.250	0.225		mg/L		90	75 - 125
Arsenic	0.0015		1.00	1.15		mg/L		114	75 - 125
Barium	0.011		1.00	0.977		mg/L		97	75 - 125
Beryllium	ND		0.500	0.452		mg/L		90	75 - 125
Boron	4.6	F1	1.25	5.62		mg/L		80	75 - 125
Cadmium	0.0048		0.500	0.436		mg/L		86	75 - 125
Calcium	370		25.0	389	4	mg/L		92	75 - 125
Chromium	ND		0.500	0.424		mg/L		85	75 - 125
Cobalt	0.013		0.500	0.546		mg/L		107	75 - 125
Lead	0.00019	J	0.500	0.471		mg/L		94	75 - 125
Lithium	0.017		0.500	0.498		mg/L		96	75 - 125
Molybdenum	0.0027	J	0.500	0.561		mg/L		112	75 - 125
Selenium	0.0056		1.00	1.01		mg/L		100	75 - 125
Thallium	0.00066	J	1.00	0.989		mg/L		99	75 - 125

Lab Sample ID: 180-122147-4 MSD
Matrix: Water
Analysis Batch: 359428

Client Sample ID: CCR-LF-2
Prep Type: Total Recoverable
Prep Batch: 359194

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Antimony	ND		0.250	0.213		mg/L		85	75 - 125	6	20
Arsenic	0.0015		1.00	1.05		mg/L		105	75 - 125	9	20
Barium	0.011		1.00	0.888		mg/L		88	75 - 125	10	20
Beryllium	ND		0.500	0.406		mg/L		81	75 - 125	11	20
Boron	4.6	F1	1.25	5.36	F1	mg/L		59	75 - 125	5	20
Cadmium	0.0048		0.500	0.399		mg/L		79	75 - 125	9	20
Calcium	370		25.0	368	4	mg/L		7	75 - 125	6	20
Chromium	ND		0.500	0.379		mg/L		76	75 - 125	11	20
Cobalt	0.013		0.500	0.499		mg/L		97	75 - 125	9	20
Lead	0.00019	J	0.500	0.442		mg/L		88	75 - 125	6	20
Lithium	0.017		0.500	0.436		mg/L		84	75 - 125	13	20
Molybdenum	0.0027	J	0.500	0.523		mg/L		104	75 - 125	7	20
Selenium	0.0056		1.00	0.892		mg/L		89	75 - 125	12	20
Thallium	0.00066	J	1.00	0.931		mg/L		93	75 - 125	6	20

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QC Sample Results

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

Job ID: 180-122147-1
 SDG: AB Brown

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

Lab Sample ID: MB 180-359228/1-A
Matrix: Water
Analysis Batch: 359546

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 359228

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		06/03/21 09:43	06/04/21 10:50	1
Arsenic	ND		0.0010	0.00031	mg/L		06/03/21 09:43	06/04/21 10:50	1
Barium	ND		0.010	0.0016	mg/L		06/03/21 09:43	06/04/21 10:50	1
Beryllium	ND		0.0010	0.00018	mg/L		06/03/21 09:43	06/04/21 10:50	1
Boron	ND		0.080	0.039	mg/L		06/03/21 09:43	06/04/21 10:50	1
Cadmium	ND		0.0010	0.00022	mg/L		06/03/21 09:43	06/04/21 10:50	1
Calcium	ND		0.50	0.13	mg/L		06/03/21 09:43	06/04/21 10:50	1
Chromium	ND		0.0020	0.0015	mg/L		06/03/21 09:43	06/04/21 10:50	1
Cobalt	ND		0.00050	0.00013	mg/L		06/03/21 09:43	06/04/21 10:50	1
Lead	ND		0.0010	0.00013	mg/L		06/03/21 09:43	06/04/21 10:50	1
Lithium	ND		0.0050	0.0034	mg/L		06/03/21 09:43	06/04/21 10:50	1
Molybdenum	ND		0.0050	0.00061	mg/L		06/03/21 09:43	06/04/21 10:50	1
Selenium	ND		0.0050	0.0015	mg/L		06/03/21 09:43	06/04/21 10:50	1
Thallium	ND		0.0010	0.00015	mg/L		06/03/21 09:43	06/04/21 10:50	1

Lab Sample ID: LCS 180-359228/2-A
Matrix: Water
Analysis Batch: 359546

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 359228

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	0.250	0.228		mg/L		91	80 - 120
Arsenic	1.00	0.934		mg/L		93	80 - 120
Barium	1.00	0.965		mg/L		96	80 - 120
Beryllium	0.500	0.471		mg/L		94	80 - 120
Boron	1.25	1.21		mg/L		97	80 - 120
Cadmium	0.500	0.478		mg/L		96	80 - 120
Calcium	25.0	26.2		mg/L		105	80 - 120
Chromium	0.500	0.490		mg/L		98	80 - 120
Cobalt	0.500	0.490		mg/L		98	80 - 120
Lead	0.500	0.491		mg/L		98	80 - 120
Lithium	0.500	0.477		mg/L		95	80 - 120
Molybdenum	0.500	0.475		mg/L		95	80 - 120
Selenium	1.00	0.976		mg/L		98	80 - 120
Thallium	1.00	0.992		mg/L		99	80 - 120

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-359685/1-A
Matrix: Water
Analysis Batch: 359902

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 359685

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		06/07/21 08:56	06/08/21 11:41	1

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QC Sample Results

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

Job ID: 180-122147-1
 SDG: AB Brown

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

Lab Sample ID: LCS 180-359685/2-A
Matrix: Water
Analysis Batch: 359902

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 359685
 %Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00250	0.00254		mg/L		101	80 - 120

Lab Sample ID: 180-122147-4 MS
Matrix: Water
Analysis Batch: 359902

Client Sample ID: CCR-LF-2
Prep Type: Total/NA
Prep Batch: 359685
 %Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	ND		0.00100	0.000820		mg/L		82	75 - 125

Lab Sample ID: 180-122147-4 MSD
Matrix: Water
Analysis Batch: 359902

Client Sample ID: CCR-LF-2
Prep Type: Total/NA
Prep Batch: 359685
 %Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	ND		0.00100	0.000835		mg/L		84	75 - 125	2	20

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-360114/1
Matrix: Water
Analysis Batch: 360114

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

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

Lab Sample ID: LCS 180-360114/27
Matrix: Water
Analysis Batch: 360114

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

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

Lab Sample ID: 180-122147-4 DU
Matrix: Water
Analysis Batch: 360114

Client Sample ID: CCR-LF-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	7.6	HF	7.6	HF	SU		0.1	2

Lab Sample ID: 180-122147-14 DU
Matrix: Water
Analysis Batch: 360114

Client Sample ID: BLIND DUPLICATE 3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	6.5	HF	6.5		SU		0.5	2

QC Sample Results

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

Job ID: 180-122147-1
 SDG: AB Brown

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

Lab Sample ID: MB 180-358677/2
Matrix: Water
Analysis Batch: 358677

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			05/27/21 19:59	1

Lab Sample ID: LCS 180-358677/1
Matrix: Water
Analysis Batch: 358677

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	683	698		mg/L		102	80 - 120

Lab Sample ID: 180-122147-4 DU
Matrix: Water
Analysis Batch: 358677

Client Sample ID: CCR-LF-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	21000		20900		mg/L		0.4	10

Lab Sample ID: 180-122147-5 DU
Matrix: Water
Analysis Batch: 358677

Client Sample ID: CCR-LF-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	2100		2040		mg/L		3	10

Lab Sample ID: MB 180-359087/2
Matrix: Water
Analysis Batch: 359087

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			06/01/21 20:06	1

Lab Sample ID: LCS 180-359087/1
Matrix: Water
Analysis Batch: 359087

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	683	710		mg/L		104	80 - 120

Lab Sample ID: 180-122147-11 DU
Matrix: Water
Analysis Batch: 359087

Client Sample ID: MH-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	5300	H	5510		mg/L		3	10

QC Sample Results

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

Job ID: 180-122147-1
 SDG: AB Brown

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-512468/23-A
Matrix: Water
Analysis Batch: 515888

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512468

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	-0.01279	U	0.127	0.127	1.00	0.270	pCi/L	06/02/21 11:50	06/24/21 09:21	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	79.1		40 - 110					06/02/21 11:50	06/24/21 09:21	1

Lab Sample ID: LCS 160-512468/1-A
Matrix: Water
Analysis Batch: 515862

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512468

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	10.27		1.30	1.00	0.307	pCi/L	91	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits		Prepared	Analyzed	Dil Fac		
Ba Carrier	74.1		40 - 110					06/02/21 11:50	06/24/21 09:21

Lab Sample ID: LCSD 160-512468/2-A
Matrix: Water
Analysis Batch: 515862

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 512468

Analyte	Spike Added	LCSD Result	LCSD Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits	RER	Limit
				Uncert. (2σ+/-)							
Radium-226	11.3	11.14		1.39	1.00	0.337	pCi/L	98	75 - 125	0.32	1
Carrier	LCSD %Yield	LCSD Qualifier	Limits		Prepared	Analyzed	Dil Fac				
Ba Carrier	75.7		40 - 110					06/02/21 11:50	06/24/21 09:21	1	

Lab Sample ID: MB 160-512566/23-A
Matrix: Water
Analysis Batch: 515888

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512566

Analyte	MB		Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	MB Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.1480	U	0.141	0.142	1.00	0.221	pCi/L	06/02/21 15:24	06/24/21 19:23	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	62.3		40 - 110					06/02/21 15:24	06/24/21 19:23	1

Lab Sample ID: LCS 160-512566/1-A
Matrix: Water
Analysis Batch: 515888

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512566

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-226	11.3	10.57		1.28	1.00	0.304	pCi/L	93	75 - 125

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QC Sample Results

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

Job ID: 180-122147-1
 SDG: AB Brown

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

Lab Sample ID: LCS 160-512566/1-A
Matrix: Water
Analysis Batch: 515888

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512566

	LCS	LCS	
Carrier	%Yield	Qualifier	Limits
Ba Carrier	55.5		40 - 110

Lab Sample ID: MB 160-516084/22-A
Matrix: Water
Analysis Batch: 519315

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 516084

Analyte	MB		Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier								
Radium-226	0.1162	U	0.108	0.108	1.00	0.170	pCi/L	06/25/21 13:45	07/20/21 07:56	1
Carrier	MB	MB	Limits			Prepared	Analyzed		Dil Fac	
Ba Carrier	76.8		40 - 110			06/25/21 13:45	07/20/21 07:56		1	

Lab Sample ID: LCS 160-516084/1-A
Matrix: Water
Analysis Batch: 519170

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 516084

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Carrier	LCS	LCS	Limits						
Ba Carrier	68.7		40 - 110						

Lab Sample ID: 180-122147-4 DU
Matrix: Water
Analysis Batch: 519170

Client Sample ID: CCR-LF-2
Prep Type: Total/NA
Prep Batch: 516084

Analyte	Sample		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
	Result	Qual								
Radium-226	0.195		0.3532		0.154	1.00	0.177	pCi/L	0.56	1
Carrier	DU	DU	Limits							
Ba Carrier	97.0		40 - 110							

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-512478/23-A
Matrix: Water
Analysis Batch: 515625

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512478

Analyte	MB		Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier								
Radium-228	0.3772	U	0.303	0.305	1.00	0.482	pCi/L	06/02/21 12:57	06/23/21 10:00	1
Carrier	MB	MB	Limits			Prepared	Analyzed		Dil Fac	
Ba Carrier	79.1		40 - 110			06/02/21 12:57	06/23/21 10:00		1	

Eurofins TestAmerica, Pittsburgh

QC Sample Results

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

Job ID: 180-122147-1
 SDG: AB Brown

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

Lab Sample ID: MB 160-512478/23-A
Matrix: Water
Analysis Batch: 515625

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512478

	<i>MB</i>	<i>MB</i>							
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>		<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>		
Y Carrier	88.6		40 - 110		06/02/21 12:57	06/23/21 10:00	1		

Lab Sample ID: LCS 160-512478/1-A
Matrix: Water
Analysis Batch: 515624

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512478

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qual</i>	<i>Total Uncert. (2σ+/-)</i>	<i>RL</i>	<i>MDC</i>	<i>Unit</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	
Radium-228	9.60	11.11		1.31	1.00	0.478	pCi/L	116	75 - 125	

	<i>LCS</i>	<i>LCS</i>		
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>	
Ba Carrier	74.1		40 - 110	
Y Carrier	89.3		40 - 110	

Lab Sample ID: LCSD 160-512478/2-A
Matrix: Water
Analysis Batch: 515624

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 512478

<i>Analyte</i>	<i>Spike Added</i>	<i>LCSD Result</i>	<i>LCSD Qual</i>	<i>Total Uncert. (2σ+/-)</i>	<i>RL</i>	<i>MDC</i>	<i>Unit</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RER</i>	<i>RER Limit</i>
Radium-228	9.60	10.89		1.28	1.00	0.441	pCi/L	113	75 - 125	0.09	1

	<i>LCSD</i>	<i>LCSD</i>		
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>	
Ba Carrier	75.7		40 - 110	
Y Carrier	89.7		40 - 110	

Lab Sample ID: MB 160-512573/23-A
Matrix: Water
Analysis Batch: 515249

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512573

<i>Analyte</i>	<i>MB Result</i>	<i>MB Qualifier</i>	<i>Count Uncert. (2σ+/-)</i>	<i>Total Uncert. (2σ+/-)</i>	<i>RL</i>	<i>MDC</i>	<i>Unit</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Radium-228	-0.01021	U	0.371	0.371	1.00	0.663	pCi/L	06/02/21 16:08	06/21/21 13:57	1

	<i>MB</i>	<i>MB</i>		
<i>Carrier</i>	<i>%Yield</i>	<i>Qualifier</i>	<i>Limits</i>	
Ba Carrier	62.3		40 - 110	
Y Carrier	92.3		40 - 110	

Lab Sample ID: LCS 160-512573/1-A
Matrix: Water
Analysis Batch: 515251

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512573

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qual</i>	<i>Total Uncert. (2σ+/-)</i>	<i>RL</i>	<i>MDC</i>	<i>Unit</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	
Radium-228	9.60	9.867		1.32	1.00	0.705	pCi/L	103	75 - 125	

Eurofins TestAmerica, Pittsburgh

QC Sample Results

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

Job ID: 180-122147-1
 SDG: AB Brown

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

Lab Sample ID: LCS 160-512573/1-A
Matrix: Water
Analysis Batch: 515251

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512573

Carrier	LCS LCS		Limits
	%Yield	Qualifier	
Ba Carrier	55.5		40 - 110
Y Carrier	89.7		40 - 110

Lab Sample ID: MB 160-516150/22-A
Matrix: Water
Analysis Batch: 518290

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 516150

Analyte	MB MB		Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier								
Radium-228	0.1101	U	0.273	0.273	1.00	0.470	pCi/L	06/25/21 16:33	07/12/21 13:09	1

Carrier	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Yield	Qualifier				
Ba Carrier	76.8		40 - 110	06/25/21 16:33	07/12/21 13:09	1
Y Carrier	96.1		40 - 110	06/25/21 16:33	07/12/21 13:09	1

Lab Sample ID: LCS 160-516150/1-A
Matrix: Water
Analysis Batch: 518279

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 516150

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits

Carrier	LCS LCS		Limits
	%Yield	Qualifier	
Ba Carrier	68.7		40 - 110
Y Carrier	91.1		40 - 110

Lab Sample ID: 180-122147-4 DU
Matrix: Water
Analysis Batch: 518279

Client Sample ID: CCR-LF-2
Prep Type: Total/NA
Prep Batch: 516150

Analyte	Sample Sample		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
	Result	Qual								
Radium-228	1.34		1.709		0.447	1.00	0.495	pCi/L	0.42	1

Carrier	DU DU		Limits
	%Yield	Qualifier	
Ba Carrier	97.0		40 - 110
Y Carrier	92.6		40 - 110

QC Sample Results

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

Job ID: 180-122147-1
 SDG: AB Brown

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

Lab Sample ID: 180-122147-4 DU
Matrix: Water
Analysis Batch: 519856

Client Sample ID: CCR-LF-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Combined Radium 226 + 228	1.54		2.063		0.473	5.00	0.495	pCi/L	0.57	

- 1
- 2
- 3
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- 13

QC Association Summary

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

Job ID: 180-122147-1
SDG: AB Brown

HPLC/IC

Analysis Batch: 359002

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-1	CCR-AP-9	Total/NA	Water	EPA 9056A	
180-122147-1	CCR-AP-9	Total/NA	Water	EPA 9056A	
180-122147-2	CCR-AP-11	Total/NA	Water	EPA 9056A	
180-122147-3	CCR-LF-1	Total/NA	Water	EPA 9056A	
180-122147-3	CCR-LF-1	Total/NA	Water	EPA 9056A	
180-122147-4	CCR-LF-2	Total/NA	Water	EPA 9056A	
180-122147-4	CCR-LF-2	Total/NA	Water	EPA 9056A	
180-122147-5	CCR-LF-3	Total/NA	Water	EPA 9056A	
180-122147-5	CCR-LF-3	Total/NA	Water	EPA 9056A	
180-122147-6	CCR-SP-1	Total/NA	Water	EPA 9056A	
180-122147-6	CCR-SP-1	Total/NA	Water	EPA 9056A	
180-122147-7	CCR-SP-2	Total/NA	Water	EPA 9056A	
180-122147-7	CCR-SP-2	Total/NA	Water	EPA 9056A	
180-122147-8	CCR-SP-3	Total/NA	Water	EPA 9056A	
180-122147-9	FD-PZ-1	Total/NA	Water	EPA 9056A	
180-122147-10	FD-PZ-2	Total/NA	Water	EPA 9056A	
180-122147-10	FD-PZ-2	Total/NA	Water	EPA 9056A	
180-122147-11	MH-1	Total/NA	Water	EPA 9056A	
180-122147-11	MH-1	Total/NA	Water	EPA 9056A	
180-122147-12	MH-2	Total/NA	Water	EPA 9056A	
180-122147-12	MH-2	Total/NA	Water	EPA 9056A	
180-122147-13	BLIND DUPLICATE 2	Total/NA	Water	EPA 9056A	
180-122147-13	BLIND DUPLICATE 2	Total/NA	Water	EPA 9056A	
180-122147-14	BLIND DUPLICATE 3	Total/NA	Water	EPA 9056A	
180-122147-14	BLIND DUPLICATE 3	Total/NA	Water	EPA 9056A	
180-122147-15	FIELD BLANK 1	Total/NA	Water	EPA 9056A	
180-122147-16	FIELD BLANK 2	Total/NA	Water	EPA 9056A	
180-122147-17	FIELD BLANK 3	Total/NA	Water	EPA 9056A	
MB 180-359002/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-359002/5	Lab Control Sample	Total/NA	Water	EPA 9056A	
180-122147-4 MS	CCR-LF-2	Total/NA	Water	EPA 9056A	
180-122147-4 MSD	CCR-LF-2	Total/NA	Water	EPA 9056A	

Analysis Batch: 359156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-1	CCR-AP-9	Total/NA	Water	EPA 9056A	
180-122147-4	CCR-LF-2	Total/NA	Water	EPA 9056A	
180-122147-10	FD-PZ-2	Total/NA	Water	EPA 9056A	
180-122147-11	MH-1	Total/NA	Water	EPA 9056A	
180-122147-12	MH-2	Total/NA	Water	EPA 9056A	
180-122147-15	FIELD BLANK 1	Total/NA	Water	EPA 9056A	
180-122147-16	FIELD BLANK 2	Total/NA	Water	EPA 9056A	
180-122147-17	FIELD BLANK 3	Total/NA	Water	EPA 9056A	
MB 180-359156/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-359156/5	Lab Control Sample	Total/NA	Water	EPA 9056A	
180-122147-4 MS	CCR-LF-2	Total/NA	Water	EPA 9056A	
180-122147-4 MSD	CCR-LF-2	Total/NA	Water	EPA 9056A	

Analysis Batch: 359608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-2	CCR-AP-11	Total/NA	Water	EPA 9056A	

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QC Association Summary

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

Job ID: 180-122147-1
SDG: AB Brown

HPLC/IC (Continued)

Analysis Batch: 359608 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-3	CCR-LF-1	Total/NA	Water	EPA 9056A	
180-122147-5	CCR-LF-3	Total/NA	Water	EPA 9056A	
180-122147-6	CCR-SP-1	Total/NA	Water	EPA 9056A	
180-122147-7	CCR-SP-2	Total/NA	Water	EPA 9056A	
180-122147-8	CCR-SP-3	Total/NA	Water	EPA 9056A	
180-122147-9	FD-PZ-1	Total/NA	Water	EPA 9056A	
180-122147-13	BLIND DUPLICATE 2	Total/NA	Water	EPA 9056A	
180-122147-14	BLIND DUPLICATE 3	Total/NA	Water	EPA 9056A	
MB 180-359608/43	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-359608/42	Lab Control Sample	Total/NA	Water	EPA 9056A	

Metals

Prep Batch: 359194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-1	CCR-AP-9	Total Recoverable	Water	3005A	
180-122147-2	CCR-AP-11	Total Recoverable	Water	3005A	
180-122147-3	CCR-LF-1	Total Recoverable	Water	3005A	
180-122147-4	CCR-LF-2	Total Recoverable	Water	3005A	
180-122147-5	CCR-LF-3	Total Recoverable	Water	3005A	
180-122147-6	CCR-SP-1	Total Recoverable	Water	3005A	
MB 180-359194/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-359194/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-122147-4 MS	CCR-LF-2	Total Recoverable	Water	3005A	
180-122147-4 MSD	CCR-LF-2	Total Recoverable	Water	3005A	

Prep Batch: 359228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-7	CCR-SP-2	Total Recoverable	Water	3005A	
180-122147-8	CCR-SP-3	Total Recoverable	Water	3005A	
180-122147-9	FD-PZ-1	Total Recoverable	Water	3005A	
180-122147-10	FD-PZ-2	Total Recoverable	Water	3005A	
180-122147-11	MH-1	Total Recoverable	Water	3005A	
180-122147-12	MH-2	Total Recoverable	Water	3005A	
180-122147-13	BLIND DUPLICATE 2	Total Recoverable	Water	3005A	
180-122147-14	BLIND DUPLICATE 3	Total Recoverable	Water	3005A	
180-122147-15	FIELD BLANK 1	Total Recoverable	Water	3005A	
180-122147-16	FIELD BLANK 2	Total Recoverable	Water	3005A	
180-122147-17	FIELD BLANK 3	Total Recoverable	Water	3005A	
MB 180-359228/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-359228/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 359428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-1	CCR-AP-9	Total Recoverable	Water	EPA 6020A	359194
180-122147-2	CCR-AP-11	Total Recoverable	Water	EPA 6020A	359194
180-122147-3	CCR-LF-1	Total Recoverable	Water	EPA 6020A	359194
180-122147-4	CCR-LF-2	Total Recoverable	Water	EPA 6020A	359194
180-122147-5	CCR-LF-3	Total Recoverable	Water	EPA 6020A	359194
180-122147-6	CCR-SP-1	Total Recoverable	Water	EPA 6020A	359194
MB 180-359194/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	359194

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QC Association Summary

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

Job ID: 180-122147-1
SDG: AB Brown

Metals (Continued)

Analysis Batch: 359428 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 180-359194/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	359194
180-122147-4 MS	CCR-LF-2	Total Recoverable	Water	EPA 6020A	359194
180-122147-4 MSD	CCR-LF-2	Total Recoverable	Water	EPA 6020A	359194

Analysis Batch: 359546

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-7	CCR-SP-2	Total Recoverable	Water	EPA 6020A	359228
180-122147-8	CCR-SP-3	Total Recoverable	Water	EPA 6020A	359228
180-122147-9	FD-PZ-1	Total Recoverable	Water	EPA 6020A	359228
180-122147-10	FD-PZ-2	Total Recoverable	Water	EPA 6020A	359228
180-122147-10	FD-PZ-2	Total Recoverable	Water	EPA 6020A	359228
180-122147-11	MH-1	Total Recoverable	Water	EPA 6020A	359228
180-122147-11	MH-1	Total Recoverable	Water	EPA 6020A	359228
180-122147-12	MH-2	Total Recoverable	Water	EPA 6020A	359228
180-122147-12	MH-2	Total Recoverable	Water	EPA 6020A	359228
180-122147-13	BLIND DUPLICATE 2	Total Recoverable	Water	EPA 6020A	359228
180-122147-14	BLIND DUPLICATE 3	Total Recoverable	Water	EPA 6020A	359228
180-122147-15	FIELD BLANK 1	Total Recoverable	Water	EPA 6020A	359228
180-122147-16	FIELD BLANK 2	Total Recoverable	Water	EPA 6020A	359228
180-122147-17	FIELD BLANK 3	Total Recoverable	Water	EPA 6020A	359228
MB 180-359228/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	359228
LCS 180-359228/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	359228

Prep Batch: 359685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-1	CCR-AP-9	Total/NA	Water	7470A	
180-122147-2	CCR-AP-11	Total/NA	Water	7470A	
180-122147-3	CCR-LF-1	Total/NA	Water	7470A	
180-122147-4	CCR-LF-2	Total/NA	Water	7470A	
180-122147-5	CCR-LF-3	Total/NA	Water	7470A	
180-122147-6	CCR-SP-1	Total/NA	Water	7470A	
180-122147-7	CCR-SP-2	Total/NA	Water	7470A	
180-122147-8	CCR-SP-3	Total/NA	Water	7470A	
180-122147-9	FD-PZ-1	Total/NA	Water	7470A	
180-122147-10	FD-PZ-2	Total/NA	Water	7470A	
180-122147-11	MH-1	Total/NA	Water	7470A	
180-122147-12	MH-2	Total/NA	Water	7470A	
180-122147-13	BLIND DUPLICATE 2	Total/NA	Water	7470A	
180-122147-14	BLIND DUPLICATE 3	Total/NA	Water	7470A	
180-122147-15	FIELD BLANK 1	Total/NA	Water	7470A	
180-122147-16	FIELD BLANK 2	Total/NA	Water	7470A	
180-122147-17	FIELD BLANK 3	Total/NA	Water	7470A	
MB 180-359685/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-359685/2-A	Lab Control Sample	Total/NA	Water	7470A	
180-122147-4 MS	CCR-LF-2	Total/NA	Water	7470A	
180-122147-4 MSD	CCR-LF-2	Total/NA	Water	7470A	

Analysis Batch: 359902

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-1	CCR-AP-9	Total/NA	Water	EPA 7470A	359685
180-122147-2	CCR-AP-11	Total/NA	Water	EPA 7470A	359685

Eurofins TestAmerica, Pittsburgh

QC Association Summary

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

Job ID: 180-122147-1
SDG: AB Brown

Metals (Continued)

Analysis Batch: 359902 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-3	CCR-LF-1	Total/NA	Water	EPA 7470A	359685
180-122147-4	CCR-LF-2	Total/NA	Water	EPA 7470A	359685
180-122147-5	CCR-LF-3	Total/NA	Water	EPA 7470A	359685
180-122147-6	CCR-SP-1	Total/NA	Water	EPA 7470A	359685
180-122147-7	CCR-SP-2	Total/NA	Water	EPA 7470A	359685
180-122147-8	CCR-SP-3	Total/NA	Water	EPA 7470A	359685
180-122147-9	FD-PZ-1	Total/NA	Water	EPA 7470A	359685
180-122147-10	FD-PZ-2	Total/NA	Water	EPA 7470A	359685
180-122147-11	MH-1	Total/NA	Water	EPA 7470A	359685
180-122147-12	MH-2	Total/NA	Water	EPA 7470A	359685
180-122147-13	BLIND DUPLICATE 2	Total/NA	Water	EPA 7470A	359685
180-122147-14	BLIND DUPLICATE 3	Total/NA	Water	EPA 7470A	359685
180-122147-15	FIELD BLANK 1	Total/NA	Water	EPA 7470A	359685
180-122147-16	FIELD BLANK 2	Total/NA	Water	EPA 7470A	359685
180-122147-17	FIELD BLANK 3	Total/NA	Water	EPA 7470A	359685
MB 180-359685/1-A	Method Blank	Total/NA	Water	EPA 7470A	359685
LCS 180-359685/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	359685
180-122147-4 MS	CCR-LF-2	Total/NA	Water	EPA 7470A	359685
180-122147-4 MSD	CCR-LF-2	Total/NA	Water	EPA 7470A	359685

General Chemistry

Analysis Batch: 358677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-1	CCR-AP-9	Total/NA	Water	SM 2540C	
180-122147-2	CCR-AP-11	Total/NA	Water	SM 2540C	
180-122147-3	CCR-LF-1	Total/NA	Water	SM 2540C	
180-122147-4	CCR-LF-2	Total/NA	Water	SM 2540C	
180-122147-5	CCR-LF-3	Total/NA	Water	SM 2540C	
180-122147-13	BLIND DUPLICATE 2	Total/NA	Water	SM 2540C	
180-122147-15	FIELD BLANK 1	Total/NA	Water	SM 2540C	
180-122147-16	FIELD BLANK 2	Total/NA	Water	SM 2540C	
MB 180-358677/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-358677/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-122147-4 DU	CCR-LF-2	Total/NA	Water	SM 2540C	
180-122147-5 DU	CCR-LF-3	Total/NA	Water	SM 2540C	

Analysis Batch: 359087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-6	CCR-SP-1	Total/NA	Water	SM 2540C	
180-122147-7	CCR-SP-2	Total/NA	Water	SM 2540C	
180-122147-8	CCR-SP-3	Total/NA	Water	SM 2540C	
180-122147-9	FD-PZ-1	Total/NA	Water	SM 2540C	
180-122147-10	FD-PZ-2	Total/NA	Water	SM 2540C	
180-122147-11	MH-1	Total/NA	Water	SM 2540C	
180-122147-12	MH-2	Total/NA	Water	SM 2540C	
180-122147-14	BLIND DUPLICATE 3	Total/NA	Water	SM 2540C	
180-122147-17	FIELD BLANK 3	Total/NA	Water	SM 2540C	
MB 180-359087/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-359087/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-122147-11 DU	MH-1	Total/NA	Water	SM 2540C	

Eurofins TestAmerica, Pittsburgh

QC Association Summary

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

Job ID: 180-122147-1
 SDG: AB Brown

General Chemistry

Analysis Batch: 360114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-1	CCR-AP-9	Total/NA	Water	EPA 9040C	
180-122147-2	CCR-AP-11	Total/NA	Water	EPA 9040C	
180-122147-3	CCR-LF-1	Total/NA	Water	EPA 9040C	
180-122147-4	CCR-LF-2	Total/NA	Water	EPA 9040C	
180-122147-5	CCR-LF-3	Total/NA	Water	EPA 9040C	
180-122147-6	CCR-SP-1	Total/NA	Water	EPA 9040C	
180-122147-7	CCR-SP-2	Total/NA	Water	EPA 9040C	
180-122147-8	CCR-SP-3	Total/NA	Water	EPA 9040C	
180-122147-9	FD-PZ-1	Total/NA	Water	EPA 9040C	
180-122147-10	FD-PZ-2	Total/NA	Water	EPA 9040C	
180-122147-11	MH-1	Total/NA	Water	EPA 9040C	
180-122147-12	MH-2	Total/NA	Water	EPA 9040C	
180-122147-13	BLIND DUPLICATE 2	Total/NA	Water	EPA 9040C	
180-122147-14	BLIND DUPLICATE 3	Total/NA	Water	EPA 9040C	
180-122147-15	FIELD BLANK 1	Total/NA	Water	EPA 9040C	
180-122147-16	FIELD BLANK 2	Total/NA	Water	EPA 9040C	
180-122147-17	FIELD BLANK 3	Total/NA	Water	EPA 9040C	
LCS 180-360114/1	Lab Control Sample	Total/NA	Water	EPA 9040C	
LCS 180-360114/27	Lab Control Sample	Total/NA	Water	EPA 9040C	
180-122147-4 DU	CCR-LF-2	Total/NA	Water	EPA 9040C	
180-122147-14 DU	BLIND DUPLICATE 3	Total/NA	Water	EPA 9040C	

Rad

Prep Batch: 512468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-1	CCR-AP-9	Total/NA	Water	PrecSep-21	
180-122147-2	CCR-AP-11	Total/NA	Water	PrecSep-21	
180-122147-3	CCR-LF-1	Total/NA	Water	PrecSep-21	
180-122147-5	CCR-LF-3	Total/NA	Water	PrecSep-21	
180-122147-6	CCR-SP-1	Total/NA	Water	PrecSep-21	
MB 160-512468/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-512468/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-512468/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 512478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-1	CCR-AP-9	Total/NA	Water	PrecSep_0	
180-122147-2	CCR-AP-11	Total/NA	Water	PrecSep_0	
180-122147-3	CCR-LF-1	Total/NA	Water	PrecSep_0	
180-122147-5	CCR-LF-3	Total/NA	Water	PrecSep_0	
180-122147-6	CCR-SP-1	Total/NA	Water	PrecSep_0	
MB 160-512478/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-512478/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-512478/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 512566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-7	CCR-SP-2	Total/NA	Water	PrecSep-21	
180-122147-8	CCR-SP-3	Total/NA	Water	PrecSep-21	
180-122147-9	FD-PZ-1	Total/NA	Water	PrecSep-21	

Eurofins TestAmerica, Pittsburgh

QC Association Summary

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

Job ID: 180-122147-1
SDG: AB Brown

Rad (Continued)

Prep Batch: 512566 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-10	FD-PZ-2	Total/NA	Water	PrecSep-21	
180-122147-11	MH-1	Total/NA	Water	PrecSep-21	
180-122147-12	MH-2	Total/NA	Water	PrecSep-21	
180-122147-13	BLIND DUPLICATE 2	Total/NA	Water	PrecSep-21	
180-122147-14	BLIND DUPLICATE 3	Total/NA	Water	PrecSep-21	
180-122147-15	FIELD BLANK 1	Total/NA	Water	PrecSep-21	
180-122147-16	FIELD BLANK 2	Total/NA	Water	PrecSep-21	
180-122147-17	FIELD BLANK 3	Total/NA	Water	PrecSep-21	
MB 160-512566/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-512566/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	

Prep Batch: 512573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-7	CCR-SP-2	Total/NA	Water	PrecSep_0	
180-122147-8	CCR-SP-3	Total/NA	Water	PrecSep_0	
180-122147-9	FD-PZ-1	Total/NA	Water	PrecSep_0	
180-122147-10	FD-PZ-2	Total/NA	Water	PrecSep_0	
180-122147-11	MH-1	Total/NA	Water	PrecSep_0	
180-122147-12	MH-2	Total/NA	Water	PrecSep_0	
180-122147-13	BLIND DUPLICATE 2	Total/NA	Water	PrecSep_0	
180-122147-14	BLIND DUPLICATE 3	Total/NA	Water	PrecSep_0	
180-122147-15	FIELD BLANK 1	Total/NA	Water	PrecSep_0	
180-122147-16	FIELD BLANK 2	Total/NA	Water	PrecSep_0	
180-122147-17	FIELD BLANK 3	Total/NA	Water	PrecSep_0	
MB 160-512573/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-512573/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Prep Batch: 516084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-4	CCR-LF-2	Total/NA	Water	PrecSep-21	
MB 160-516084/22-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-516084/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
180-122147-4 DU	CCR-LF-2	Total/NA	Water	PrecSep-21	

Prep Batch: 516150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-122147-4	CCR-LF-2	Total/NA	Water	PrecSep_0	
MB 160-516150/22-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-516150/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
180-122147-4 DU	CCR-LF-2	Total/NA	Water	PrecSep_0	

Chain of Custody Record

Client Information		Sampler: <u>Jacob Winsett</u>		Lab PM: <u>Bortot, Veronica</u>		Carrier Tracking No(s):		COC No: <u>180-52202-8058.1</u>	
Client Contact: <u>Angela Casbon Scheller</u>		Phone: <u>(317) 671-3730</u>		E-Mail: <u>veronica.bortot@testamericainc.com</u>				Page: <u>2</u> Page of: <u>2</u>	
Company: <u>Vectren Corporation</u>		Due Date Requested:		Analysis Requested				Job #:	
Address: <u>PO BOX 209</u>		TAT Requested (days):						Preservation Codes:	
City: <u>Evansville</u>		PO #:						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:	
State, Zip: <u>IN, 47702</u>		Purchase Order Requested						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 X - other (specify)	
Phone: <u>864-214-8750(Tel)</u>		WO #:						Total Number of Containers	
Email:		Project #:						Special Instructions/Note:	
Project Name: <u>CCR Groundwater Monitoring AB Brown</u>		18016014							
Site: <u>Ab Brown</u>		SSOW#:							

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=Tissue, As=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540C_Calcd - Local Method	9440C_9056A_ORGFM_28D	6010C_6020A_7470A	915_Ra226_9320_Ra228	D	N	D	N	Total Number of Containers	Special Instructions/Note:
MH-2	5-21-21	1325	G	Water	X	X	X	X	X	X	X	X	X	5		
MSMSD	5-20-21	1115	G	Water										10		
Binol Duplicate 2	↓	-	↓	Water										5		
Binol Duplicate 3	5-21-21	-	↓	Water										1		
Field blank 1	5-20-21	1700	↓	Water										1		
Field blank 2	↓	1300	↓	Water										1		
Field blank 3	5-21-21	1200	↓	Water										1		
				Water												
				Water												
				Water												

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Deliverable Requested: I, II, III Other (specify)

Empty Kit Relinquished by: _____ Date: _____

Relinquished by: Jacob Winsett Date/Time: 5-24-21 / 1900 Company: ATC

Relinquished by: _____ Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: Δ Yes Δ No Custody Seal No.: _____

Relinquished by: fedex Date/Time: 5/25/21 930 Company: ETAPH

Relinquished by: Mig Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Special Instructions/QC Requirements: _____

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Method of Shipment: _____

Cooler Temperature(s) °C and Other Remarks: _____



Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-122147-1

SDG Number: AB Brown

Login Number: 122147

List Number: 1

Creator: Abernathy, Eric

List Source: Eurofins TestAmerica, 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: 180-122147-1

SDG Number: AB Brown

Login Number: 122147

List Number: 2

Creator: Worthington, Sierra M

List Source: Eurofins TestAmerica, St. Louis

List Creation: 05/28/21 12:33 PM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	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: 180-122147-1

SDG Number: AB Brown

Login Number: 122147

List Number: 3

Creator: Korrinhizer, Micha L

List Source: Eurofins TestAmerica, St. Louis

List Creation: 06/23/21 06:06 PM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	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

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

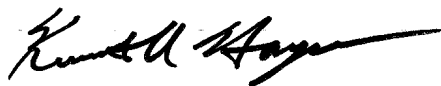
Laboratory Job ID: 180-130263-1

Laboratory Sample Delivery Group: AB Brown Station
Client Project/Site: CCR Groundwater Monitoring

For:

Haley & Aldrich, Inc.
465 Medford St
Suite 2200
Boston, Massachusetts 02129-0414

Attn: Mark Miesfeldt



Authorized for release by:
12/22/2021 10:48:46 AM

Ken Hayes, Project Manager II
(615)301-5035
Ken.Hayes@Eurofinset.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

PA Lab ID: 02-00416



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	5
Certification Summary	6
Sample Summary	8
Method Summary	9
Lab Chronicle	10
Client Sample Results	19
QC Sample Results	35
QC Association Summary	42
Chain of Custody	47
Receipt Checklists	49

Case Narrative

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

Job ID: 180-130263-1
SDG: AB Brown Station

Job ID: 180-130263-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative 180-130263-1

Comments

No additional comments.

Receipt

The samples were received on 11/19/2021 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 0.6° C, 1.0° C, 1.6° C and 2.2° C.

GC Semi VOA

Method 9056A: A dilution was performed on the sample due to the sample's conductivity reading which is an indication of the amount of anions present in the samples. Therefore, any non-detection will have elevated reporting levels.

CCR-AP-8 (180-130263-1), CCR-AP-2R (180-130263-3), CCR-AP-3R (180-130263-5), CCR-SP-1 (180-130263-7), CCR-SP-1 (180-130263-7[MSJ]), CCR-SP-1 (180-130263-7[MSD]) and (180-130263-C-7 DU)

Method 9056A: A dilution was performed on the sample due to the sample's conductivity reading which is an indication of the amount of anions present in the samples. Therefore, any non-detection will have elevated reporting levels. Even though the target anions were not detected in the dilution analysis, this is the lowest possible level of detection that can be obtained from the samples matrix because there are other non-target anions are present in this sample at these high levels which would contaminate the IC system, & render it non-operational for hours or even days. All non-detection anion data is reported at these elevated reporting levels:

CCR-AP-2R (180-130263-3)

Method 9056A: The method blank for analytical batch 180-380288 contained <AffectedAnalytes> above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or 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.

RAD

Method 9315: Radium 226 batch 538654

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-8 (180-130263-1), CCR-AP-2I (180-130263-2), CCR-AP-2R (180-130263-3), CCR-AP-3I (180-130263-4), CCR-AP-3R (180-130263-5), DUP-1 (180-130263-6), CCR-SP-1 (180-130263-7), CCR-SP-1 (180-130263-7[DU]), CCR-SP-2 (180-130263-8), CCR-SP-3 (180-130263-9), CCR-AP-6 (180-130263-10), CCR-LF-3 (180-130263-11), FIELD BLANK 2 (180-130263-12), DUP-2 (180-130263-13), (LCS 160-538654/1-A) and (MB 160-538654/20-A)

Method 9320: Radium 228 batch 538656

The LCS recovered at (137%). The limits in our LIMS system at 75-125 reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (61-138%) per method requirements. The LCS passes, no further action is required (LCS 160-538656/1-A)

Methods 904.0, 9320: Radium 228 batch 538656

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-8 (180-130263-1), CCR-AP-2I (180-130263-2), CCR-AP-2R (180-130263-3), CCR-AP-3I (180-130263-4), CCR-AP-3R (180-130263-5), DUP-1 (180-130263-6), CCR-SP-1 (180-130263-7), CCR-SP-1 (180-130263-7[DU]), CCR-SP-2 (180-130263-8), CCR-SP-3 (180-130263-9), CCR-AP-6 (180-130263-10), CCR-LF-3 (180-130263-11), FIELD BLANK 2 (180-130263-12), DUP-2 (180-130263-13), (LCS 160-538656/1-A) and (MB 160-538656/20-A)

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 barium associated with batch 180-380713 was outside of control limits. The

Case Narrative

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

Job ID: 180-130263-1
SDG: AB Brown Station

Job ID: 180-130263-1 (Continued)

Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

associated sample is: CCR-SP-1 (180-130263-7).

Method 6020A: The following samples were diluted to bring the concentration of target analytes within the calibration range: CCR-AP-2R (180-130263-3) and CCR-AP-3R (180-130263-5). 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.

General Chemistry

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

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Definitions/Glossary

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

Job ID: 180-130263-1
SDG: AB Brown Station

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

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

General Chemistry

Qualifier	Qualifier Description
HF	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: 180-130263-1
 SDG: AB Brown Station

Laboratory: Eurofins TestAmerica, 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	04-30-22
Connecticut	State	PH-0688	09-30-22
Florida	NELAP	E871008	06-30-22
Georgia	State	PA 02-00416	04-30-22
Illinois	NELAP	004375	06-30-22
Kansas	NELAP	E-10350	01-31-22
Kentucky (UST)	State	162013	04-30-22
Kentucky (WW)	State	KY98043	12-31-21
Louisiana	NELAP	04041	06-30-22
Maine	State	PA00164	03-06-22
Minnesota	NELAP	042-999-482	12-31-21
Nevada	State	PA00164	08-31-22
New Hampshire	NELAP	2030	04-05-22
New Jersey	NELAP	PA005	06-30-22
New York	NELAP	11182	04-01-22
North Carolina (WW/SW)	State	434	12-31-21
North Dakota	State	R-227	04-30-22
Oregon	NELAP	PA-2151	02-06-22
Pennsylvania	NELAP	02-00416	04-30-22
Rhode Island	State	LAO00362	12-31-21
South Carolina	State	89014	04-30-22
Texas	NELAP	T104704528	03-31-22
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-22
Virginia	NELAP	10043	09-15-22
West Virginia DEP	State	142	01-31-22
Wisconsin	State	998027800	12-19-21

Laboratory: Eurofins TestAmerica, 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	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21

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

Eurofins TestAmerica, Pittsburgh

Accreditation/Certification Summary

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

Job ID: 180-130263-1
 SDG: AB Brown Station

Laboratory: Eurofins TestAmerica, 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	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

Sample Summary

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

Job ID: 180-130263-1
SDG: AB Brown Station

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-130263-1	CCR-AP-8	Water	11/17/21 08:55	11/19/21 10:00
180-130263-2	CCR-AP-2I	Water	11/17/21 10:41	11/19/21 10:00
180-130263-3	CCR-AP-2R	Water	11/17/21 12:26	11/19/21 10:00
180-130263-4	CCR-AP-3I	Water	11/17/21 14:01	11/19/21 10:00
180-130263-5	CCR-AP-3R	Water	11/17/21 15:08	11/19/21 10:00
180-130263-6	DUP-1	Water	11/17/21 00:00	11/19/21 10:00
180-130263-7	CCR-SP-1	Water	11/18/21 08:44	11/19/21 10:00
180-130263-8	CCR-SP-2	Water	11/18/21 10:25	11/19/21 10:00
180-130263-9	CCR-SP-3	Water	11/18/21 11:35	11/19/21 10:00
180-130263-10	CCR-AP-6	Water	11/18/21 13:36	11/19/21 10:00
180-130263-11	CCR-LF-3	Water	11/18/21 14:48	11/19/21 10:00
180-130263-12	FIELD BLANK 2	Water	11/18/21 11:30	11/19/21 10:00
180-130263-13	DUP-2	Water	11/18/21 00:00	11/19/21 10:00



Method Summary

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

Job ID: 180-130263-1
SDG: AB Brown Station

Method	Method Description	Protocol	Laboratory
EPA 9056A	Anions, Ion Chromatography	SW846	TAL PIT
EPA 6020A	Metals (ICP/MS)	SW846	TAL PIT
EPA 7470A	Mercury (CVAA)	SW846	TAL PIT
EPA 9040C	pH	SW846	TAL PIT
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PIT
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL PIT
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None

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.

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

Laboratory References:

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

TAL SL = Eurofins TestAmerica, 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: 180-130263-1
SDG: AB Brown Station

Client Sample ID: CCR-AP-8

Lab Sample ID: 180-130263-1

Date Collected: 11/17/21 08:55

Matrix: Water

Date Received: 11/19/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: CHICS2100B		1			380288	11/27/21 15:32	JRB	TAL PIT
Total/NA	Analysis	EPA 9056A Instrument ID: CHICS2100B		10			380288	11/27/21 15:46	JRB	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	380198	11/26/21 08:31	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: A		1			380713	12/01/21 14:44	RSK	TAL PIT
Total/NA	Prep	7470A			25 mL	25 mL	379906	11/23/21 07:40	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGY		1			380541	11/30/21 13:15	RJR	TAL PIT
Total/NA	Analysis	EPA 9040C Instrument ID: OZ		1			380253	11/26/21 07:40	MJH	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	379868	11/22/21 16:42	KMM	TAL PIT
Total/NA	Prep	PrecSep-21			750.48 mL	1.0 g	538654	11/26/21 09:06	BMP	TAL SL
Total/NA	Analysis	9315 Instrument ID: GFPCBLUE		1			543041	12/20/21 20:49	MLK	TAL SL
Total/NA	Prep	PrecSep_0			750.48 mL	1.0 g	538656	11/26/21 09:45	BMP	TAL SL
Total/NA	Analysis	9320 Instrument ID: GFPCBLUE		1			542188	12/15/21 09:34	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228 Instrument ID: NOEQUIP		1			543277	12/21/21 22:22	EMH	TAL SL

Client Sample ID: CCR-AP-2I

Lab Sample ID: 180-130263-2

Date Collected: 11/17/21 10:41

Matrix: Water

Date Received: 11/19/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: CHICS2100B		1			380288	11/27/21 16:41	JRB	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	380198	11/26/21 08:31	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: A		1			380713	12/01/21 14:48	RSK	TAL PIT
Total/NA	Prep	7470A			25 mL	25 mL	379906	11/23/21 07:40	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGY		1			380541	11/30/21 13:16	RJR	TAL PIT
Total/NA	Analysis	EPA 9040C Instrument ID: OZ		1			380253	11/26/21 07:46	MJH	TAL PIT
Total/NA	Analysis	SM 2540C Instrument ID: NOEQUIP		1	100 mL	100 mL	379868	11/22/21 16:42	KMM	TAL PIT
Total/NA	Prep	PrecSep-21			1000.67 mL	1.0 g	538654	11/26/21 09:06	BMP	TAL SL
Total/NA	Analysis	9315 Instrument ID: GFPCBLUE		1			543041	12/20/21 20:49	MLK	TAL SL

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

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

Job ID: 180-130263-1
 SDG: AB Brown Station

Client Sample ID: CCR-AP-2I

Lab Sample ID: 180-130263-2

Date Collected: 11/17/21 10:41

Matrix: Water

Date Received: 11/19/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			1000.67 mL	1.0 g	538656	11/26/21 09:45	BMP	TAL SL
Total/NA	Analysis	9320		1			542188	12/15/21 09:34	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			543277	12/21/21 22:22	EMH	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: CCR-AP-2R

Lab Sample ID: 180-130263-3

Date Collected: 11/17/21 12:26

Matrix: Water

Date Received: 11/19/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			380288	11/27/21 17:35	JRB	TAL PIT
Instrument ID: CHICS2100B										
Total/NA	Analysis	EPA 9056A		50			380288	11/27/21 18:16	JRB	TAL PIT
Instrument ID: CHICS2100B										
Total Recoverable	Prep	3005A			50 mL	50 mL	380198	11/26/21 08:31	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			380713	12/01/21 14:51	RSK	TAL PIT
Instrument ID: A										
Total Recoverable	Prep	3005A			50 mL	50 mL	380198	11/26/21 08:31	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020A		10			380881	12/02/21 11:55	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			25 mL	25 mL	379906	11/23/21 07:40	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			380541	11/30/21 13:17	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	EPA 9040C		1			380253	11/26/21 07:50	MJH	TAL PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	379868	11/22/21 16:42	KMM	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			750.33 mL	1.0 g	538654	11/26/21 09:06	BMP	TAL SL
Total/NA	Analysis	9315		1			543041	12/20/21 20:50	MLK	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Prep	PrecSep_0			750.33 mL	1.0 g	538656	11/26/21 09:45	BMP	TAL SL
Total/NA	Analysis	9320		1			542188	12/15/21 09:34	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			543277	12/21/21 22:22	EMH	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: CCR-AP-3I

Lab Sample ID: 180-130263-4

Date Collected: 11/17/21 14:01

Matrix: Water

Date Received: 11/19/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			380288	11/27/21 18:30	JRB	TAL PIT
Instrument ID: CHICS2100B										

Lab Chronicle

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

Job ID: 180-130263-1
SDG: AB Brown Station

Client Sample ID: CCR-AP-3I

Lab Sample ID: 180-130263-4

Date Collected: 11/17/21 14:01

Matrix: Water

Date Received: 11/19/21 10:00

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	380198	11/26/21 08:31	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			380713	12/01/21 15:13	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Prep	7470A			25 mL	25 mL	379906	11/23/21 07:40	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			380541	11/30/21 13:18	RJR	TAL PIT
		Instrument ID: HGY								
Total/NA	Analysis	EPA 9040C		1			380253	11/26/21 07:56	MJH	TAL PIT
		Instrument ID: OZ								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	379868	11/22/21 16:42	KMM	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			750.19 mL	1.0 g	538654	11/26/21 09:06	BMP	TAL SL
Total/NA	Analysis	9315		1			543041	12/20/21 20:50	MLK	TAL SL
		Instrument ID: GFPCBLUE								
Total/NA	Prep	PrecSep_0			750.19 mL	1.0 g	538656	11/26/21 09:45	BMP	TAL SL
Total/NA	Analysis	9320		1			542188	12/15/21 09:35	FLC	TAL SL
		Instrument ID: GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228		1			543277	12/21/21 22:22	EMH	TAL SL
		Instrument ID: NOEQUIP								

Client Sample ID: CCR-AP-3R

Lab Sample ID: 180-130263-5

Date Collected: 11/17/21 15:08

Matrix: Water

Date Received: 11/19/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		5			380288	11/27/21 18:57	JRB	TAL PIT
		Instrument ID: CHICS2100B								
Total/NA	Analysis	EPA 9056A		50			380288	11/27/21 19:10	JRB	TAL PIT
		Instrument ID: CHICS2100B								
Total Recoverable	Prep	3005A			50 mL	50 mL	380198	11/26/21 08:31	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			380713	12/01/21 15:17	RSK	TAL PIT
		Instrument ID: A								
Total Recoverable	Prep	3005A			50 mL	50 mL	380198	11/26/21 08:31	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020A		10			380881	12/02/21 11:59	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Prep	7470A			25 mL	25 mL	379906	11/23/21 07:40	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			380541	11/30/21 13:19	RJR	TAL PIT
		Instrument ID: HGY								
Total/NA	Analysis	EPA 9040C		1			380253	11/26/21 08:02	MJH	TAL PIT
		Instrument ID: OZ								
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	379868	11/22/21 16:42	KMM	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			1000.30 mL	1.0 g	538654	11/26/21 09:06	BMP	TAL SL
Total/NA	Analysis	9315		1			543041	12/20/21 20:50	MLK	TAL SL
		Instrument ID: GFPCBLUE								

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

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

Job ID: 180-130263-1
 SDG: AB Brown Station

Client Sample ID: CCR-AP-3R

Lab Sample ID: 180-130263-5

Date Collected: 11/17/21 15:08

Matrix: Water

Date Received: 11/19/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			1000.30 mL	1.0 g	538656	11/26/21 09:45	BMP	TAL SL
Total/NA	Analysis	9320		1			542188	12/15/21 09:35	FLC	TAL SL
		Instrument ID: GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228		1			543277	12/21/21 22:22	EMH	TAL SL
		Instrument ID: NOEQUIP								

Client Sample ID: DUP-1

Lab Sample ID: 180-130263-6

Date Collected: 11/17/21 00:00

Matrix: Water

Date Received: 11/19/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			380288	11/27/21 17:08	JRB	TAL PIT
		Instrument ID: CHICS2100B								
Total Recoverable	Prep	3005A			50 mL	50 mL	380198	11/26/21 08:31	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			380713	12/01/21 15:31	RSK	TAL PIT
		Instrument ID: A								
Total/NA	Prep	7470A			25 mL	25 mL	379906	11/23/21 07:40	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			380541	11/30/21 13:20	RJR	TAL PIT
		Instrument ID: HGY								
Total/NA	Analysis	EPA 9040C		1			380253	11/26/21 08:07	MJH	TAL PIT
		Instrument ID: OZ								
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	379868	11/22/21 16:42	KMM	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Prep	PrecSep-21			750.74 mL	1.0 g	538654	11/26/21 09:06	BMP	TAL SL
Total/NA	Analysis	9315		1			543040	12/20/21 20:52	MLK	TAL SL
		Instrument ID: GFPCPURPLE								
Total/NA	Prep	PrecSep_0			750.74 mL	1.0 g	538656	11/26/21 09:45	BMP	TAL SL
Total/NA	Analysis	9320		1			542188	12/15/21 09:35	FLC	TAL SL
		Instrument ID: GFPCBLUE								
Total/NA	Analysis	Ra226_Ra228		1			543277	12/21/21 22:22	EMH	TAL SL
		Instrument ID: NOEQUIP								

Client Sample ID: CCR-SP-1

Lab Sample ID: 180-130263-7

Date Collected: 11/18/21 08:44

Matrix: Water

Date Received: 11/19/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			380288	11/27/21 11:53	JRB	TAL PIT
		Instrument ID: CHICS2100B								
Total/NA	Analysis	EPA 9056A		10			380288	11/27/21 12:48	JRB	TAL PIT
		Instrument ID: CHICS2100B								
Total Recoverable	Prep	3005A			50 mL	50 mL	380198	11/26/21 08:31	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			380713	12/01/21 15:35	RSK	TAL PIT
		Instrument ID: A								

Lab Chronicle

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

Job ID: 180-130263-1
 SDG: AB Brown Station

Client Sample ID: CCR-SP-1

Lab Sample ID: 180-130263-7

Date Collected: 11/18/21 08:44

Matrix: Water

Date Received: 11/19/21 10:00

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	379906	11/23/21 07:40	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			380541	11/30/21 13:21	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	EPA 9040C		1			380253	11/26/21 07:30	MJH	TAL PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	380132	11/24/21 12:41	KMM	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			999.23 mL	1.0 g	538654	11/26/21 09:06	BMP	TAL SL
Total/NA	Analysis	9315		1			543040	12/20/21 20:52	MLK	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			999.23 mL	1.0 g	538656	11/26/21 09:45	BMP	TAL SL
Total/NA	Analysis	9320		1			542188	12/15/21 09:35	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			543277	12/21/21 22:22	EMH	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: CCR-SP-2

Lab Sample ID: 180-130263-8

Date Collected: 11/18/21 10:25

Matrix: Water

Date Received: 11/19/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			380195	11/26/21 23:03	JRB	TAL PIT
Instrument ID: CHICS2100B										
Total/NA	Analysis	EPA 9056A		5			380195	11/26/21 23:17	JRB	TAL PIT
Instrument ID: CHICS2100B										
Total Recoverable	Prep	3005A			50 mL	50 mL	380198	11/26/21 08:31	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			380713	12/01/21 16:00	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			25 mL	25 mL	379906	11/23/21 07:40	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			380541	11/30/21 13:27	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	EPA 9040C		1			380253	11/26/21 08:12	MJH	TAL PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	380132	11/24/21 12:41	KMM	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			1000.57 mL	1.0 g	538654	11/26/21 09:06	BMP	TAL SL
Total/NA	Analysis	9315		1			543040	12/20/21 20:52	MLK	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			1000.57 mL	1.0 g	538656	11/26/21 09:45	BMP	TAL SL
Total/NA	Analysis	9320		1			542188	12/15/21 09:35	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			543277	12/21/21 22:22	EMH	TAL SL
Instrument ID: NOEQUIP										

Lab Chronicle

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

Job ID: 180-130263-1
 SDG: AB Brown Station

Client Sample ID: CCR-SP-3

Lab Sample ID: 180-130263-9

Date Collected: 11/18/21 11:35

Matrix: Water

Date Received: 11/19/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1	1 mL	1.0 mL	380195	11/26/21 21:14	JRB	TAL PIT
Instrument ID: CHICS2100B										
Total Recoverable	Prep	3005A			50 mL	50 mL	380198	11/26/21 08:31	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			380713	12/01/21 16:04	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			25 mL	25 mL	379906	11/23/21 07:40	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			380541	11/30/21 13:28	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	EPA 9040C		1			380253	11/26/21 08:18	MJH	TAL PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	380132	11/24/21 12:41	KMM	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			750.39 mL	1.0 g	538654	11/26/21 09:06	BMP	TAL SL
Total/NA	Analysis	9315		1			543040	12/20/21 20:53	MLK	TAL SL
Instrument ID: GFPCPURPLE										
Total/NA	Prep	PrecSep_0			750.39 mL	1.0 g	538656	11/26/21 09:45	BMP	TAL SL
Total/NA	Analysis	9320		1			542188	12/15/21 09:36	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			543277	12/21/21 22:22	EMH	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: CCR-AP-6

Lab Sample ID: 180-130263-10

Date Collected: 11/18/21 13:36

Matrix: Water

Date Received: 11/19/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		2.5			380195	11/26/21 22:09	JRB	TAL PIT
Instrument ID: CHICS2100B										
Total/NA	Analysis	EPA 9056A		25			380195	11/26/21 22:22	JRB	TAL PIT
Instrument ID: CHICS2100B										
Total Recoverable	Prep	3005A			50 mL	50 mL	380198	11/26/21 08:31	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			380713	12/01/21 16:08	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			25 mL	25 mL	379906	11/23/21 07:40	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			380541	11/30/21 13:29	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	EPA 9040C		1			380253	11/26/21 08:41	MJH	TAL PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	380132	11/24/21 12:41	KMM	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			1000.50 mL	1.0 g	538654	11/26/21 09:06	BMP	TAL SL
Total/NA	Analysis	9315		1			543040	12/20/21 20:53	MLK	TAL SL
Instrument ID: GFPCPURPLE										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

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

Job ID: 180-130263-1
SDG: AB Brown Station

Client Sample ID: CCR-AP-6

Lab Sample ID: 180-130263-10

Date Collected: 11/18/21 13:36

Matrix: Water

Date Received: 11/19/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep_0			1000.50 mL	1.0 g	538656	11/26/21 09:45	BMP	TAL SL
Total/NA	Analysis	9320		1			542188	12/15/21 09:36	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			543277	12/21/21 22:22	EMH	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: CCR-LF-3

Lab Sample ID: 180-130263-11

Date Collected: 11/18/21 14:48

Matrix: Water

Date Received: 11/19/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		2.5			380195	11/26/21 22:36	JRB	TAL PIT
Instrument ID: CHICS2100B										
Total/NA	Analysis	EPA 9056A		25			380195	11/26/21 22:50	JRB	TAL PIT
Instrument ID: CHICS2100B										
Total Recoverable	Prep	3005A			50 mL	50 mL	380198	11/26/21 08:31	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			380713	12/01/21 16:22	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			25 mL	25 mL	379906	11/23/21 07:40	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			380541	11/30/21 13:30	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	EPA 9040C		1			380253	11/26/21 08:46	MJH	TAL PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	380132	11/24/21 12:41	KMM	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			750.13 mL	1.0 g	538654	11/26/21 09:06	BMP	TAL SL
Total/NA	Analysis	9315		1			543110	12/21/21 08:26	FLC	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			750.13 mL	1.0 g	538656	11/26/21 09:45	BMP	TAL SL
Total/NA	Analysis	9320		1			542188	12/15/21 09:36	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			543277	12/21/21 22:22	EMH	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: FIELD BLANK 2

Lab Sample ID: 180-130263-12

Date Collected: 11/18/21 11:30

Matrix: Water

Date Received: 11/19/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			380195	11/26/21 20:06	JRB	TAL PIT
Instrument ID: CHICS2100B										
Total Recoverable	Prep	3005A			50 mL	50 mL	380198	11/26/21 08:31	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			380713	12/01/21 16:26	RSK	TAL PIT
Instrument ID: A										

Lab Chronicle

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

Job ID: 180-130263-1
 SDG: AB Brown Station

Client Sample ID: FIELD BLANK 2

Lab Sample ID: 180-130263-12

Date Collected: 11/18/21 11:30

Matrix: Water

Date Received: 11/19/21 10:00

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	379906	11/23/21 07:40	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			380541	11/30/21 13:31	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	EPA 9040C		1			380261	11/26/21 14:16	MJH	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	380132	11/24/21 12:41	KMM	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			1000.03 mL	1.0 g	538654	11/26/21 09:06	BMP	TAL SL
Total/NA	Analysis	9315		1			543110	12/21/21 08:26	FLC	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			1000.03 mL	1.0 g	538656	11/26/21 09:45	BMP	TAL SL
Total/NA	Analysis	9320		1			542188	12/15/21 09:36	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			543277	12/21/21 22:22	EMH	TAL SL
Instrument ID: NOEQUIP										

Client Sample ID: DUP-2

Lab Sample ID: 180-130263-13

Date Collected: 11/18/21 00:00

Matrix: Water

Date Received: 11/19/21 10:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			380195	11/26/21 20:19	JRB	TAL PIT
Instrument ID: CHICS2100B										
Total/NA	Analysis	EPA 9056A		5			380195	11/26/21 20:33	JRB	TAL PIT
Instrument ID: CHICS2100B										
Total Recoverable	Prep	3005A			50 mL	50 mL	380198	11/26/21 08:31	KFS	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1			380713	12/01/21 16:29	RSK	TAL PIT
Instrument ID: A										
Total/NA	Prep	7470A			25 mL	25 mL	379906	11/23/21 07:40	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			380541	11/30/21 13:32	RJR	TAL PIT
Instrument ID: HGY										
Total/NA	Analysis	EPA 9040C		1			380253	11/26/21 08:57	MJH	TAL PIT
Instrument ID: OZ										
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	380132	11/24/21 12:41	KMM	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Prep	PrecSep-21			999.98 mL	1.0 g	538654	11/26/21 09:06	BMP	TAL SL
Total/NA	Analysis	9315		1			543110	12/21/21 08:27	FLC	TAL SL
Instrument ID: GFPCRED										
Total/NA	Prep	PrecSep_0			999.98 mL	1.0 g	538656	11/26/21 09:45	BMP	TAL SL
Total/NA	Analysis	9320		1			542188	12/15/21 09:36	FLC	TAL SL
Instrument ID: GFPCBLUE										
Total/NA	Analysis	Ra226_Ra228		1			543277	12/21/21 22:22	EMH	TAL SL
Instrument ID: NOEQUIP										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

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

Job ID: 180-130263-1
SDG: AB Brown Station

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058
TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Analyst References:

Lab: TAL PIT

Batch Type: Prep

KFS = Kelly Shannon

RJR = Ron Rosenbaum

Batch Type: Analysis

JRB = James Burzio

KMM = Kendric Moore

MJH = Michael Houde

RJR = Ron Rosenbaum

RSK = Robert Kurtz

Lab: TAL SL

Batch Type: Prep

BMP = Bailey Pinette

Batch Type: Analysis

EMH = Elizabeth Hoerchler

FLC = Fernando Cruz

MLK = Micha Korrinhizer

Client Sample Results

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

Job ID: 180-130263-1
SDG: AB Brown Station

Client Sample ID: CCR-AP-8

Lab Sample ID: 180-130263-1

Date Collected: 11/17/21 08:55

Matrix: Water

Date Received: 11/19/21 10:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	100		1.0	0.71	mg/L			11/27/21 15:32	1
Fluoride	0.37	B	0.10	0.026	mg/L			11/27/21 15:32	1
Sulfate	900		10	7.6	mg/L			11/27/21 15:46	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		11/26/21 08:31	12/01/21 14:44	1
Arsenic	0.0010		0.0010	0.00031	mg/L		11/26/21 08:31	12/01/21 14:44	1
Barium	0.052		0.010	0.0016	mg/L		11/26/21 08:31	12/01/21 14:44	1
Beryllium	ND		0.0010	0.00018	mg/L		11/26/21 08:31	12/01/21 14:44	1
Boron	0.64		0.080	0.039	mg/L		11/26/21 08:31	12/01/21 14:44	1
Cadmium	ND		0.0010	0.00022	mg/L		11/26/21 08:31	12/01/21 14:44	1
Calcium	260		0.50	0.13	mg/L		11/26/21 08:31	12/01/21 14:44	1
Chromium	ND		0.0020	0.0015	mg/L		11/26/21 08:31	12/01/21 14:44	1
Cobalt	0.0041		0.00050	0.00013	mg/L		11/26/21 08:31	12/01/21 14:44	1
Lead	ND		0.0010	0.00013	mg/L		11/26/21 08:31	12/01/21 14:44	1
Lithium	0.013		0.0050	0.0034	mg/L		11/26/21 08:31	12/01/21 14:44	1
Molybdenum	ND		0.0050	0.00061	mg/L		11/26/21 08:31	12/01/21 14:44	1
Selenium	ND		0.0050	0.0015	mg/L		11/26/21 08:31	12/01/21 14:44	1
Thallium	ND		0.0010	0.00015	mg/L		11/26/21 08:31	12/01/21 14:44	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		11/23/21 07:40	11/30/21 13:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1800		10	10	mg/L			11/22/21 16:42	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.8	HF	0.1	0.1	SU			11/26/21 07:40	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.342		0.207	0.210	1.00	0.288	pCi/L	11/26/21 09:06	12/20/21 20:49	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	66.7		40 - 110					11/26/21 09:06	12/20/21 20:49	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.99		0.579	0.607	1.00	0.716	pCi/L	11/26/21 09:45	12/15/21 09:34	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	66.7		40 - 110					11/26/21 09:45	12/15/21 09:34	1
Y Carrier	75.5		40 - 110					11/26/21 09:45	12/15/21 09:34	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-130263-1
 SDG: AB Brown Station

Client Sample ID: CCR-AP-8

Lab Sample ID: 180-130263-1

Date Collected: 11/17/21 08:55

Matrix: Water

Date Received: 11/19/21 10:00

Method: 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	2.33		0.615	0.642	5.00	0.716	pCi/L		12/21/21 22:22	1

Client Sample ID: CCR-AP-2I

Lab Sample ID: 180-130263-2

Date Collected: 11/17/21 10:41

Matrix: Water

Date Received: 11/19/21 10:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	97		1.0	0.71	mg/L			11/27/21 16:41	1
Fluoride	1.1	B	0.10	0.026	mg/L			11/27/21 16:41	1
Sulfate	ND		1.0	0.76	mg/L			11/27/21 16:41	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		11/26/21 08:31	12/01/21 14:48	1
Arsenic	0.00055	J	0.0010	0.00031	mg/L		11/26/21 08:31	12/01/21 14:48	1
Barium	0.090		0.010	0.0016	mg/L		11/26/21 08:31	12/01/21 14:48	1
Beryllium	ND		0.0010	0.00018	mg/L		11/26/21 08:31	12/01/21 14:48	1
Boron	2.0		0.080	0.039	mg/L		11/26/21 08:31	12/01/21 14:48	1
Cadmium	ND		0.0010	0.00022	mg/L		11/26/21 08:31	12/01/21 14:48	1
Calcium	10		0.50	0.13	mg/L		11/26/21 08:31	12/01/21 14:48	1
Chromium	ND		0.0020	0.0015	mg/L		11/26/21 08:31	12/01/21 14:48	1
Cobalt	ND		0.00050	0.00013	mg/L		11/26/21 08:31	12/01/21 14:48	1
Lead	ND		0.0010	0.00013	mg/L		11/26/21 08:31	12/01/21 14:48	1
Lithium	0.020		0.0050	0.0034	mg/L		11/26/21 08:31	12/01/21 14:48	1
Molybdenum	ND		0.0050	0.00061	mg/L		11/26/21 08:31	12/01/21 14:48	1
Selenium	ND		0.0050	0.0015	mg/L		11/26/21 08:31	12/01/21 14:48	1
Thallium	ND		0.0010	0.00015	mg/L		11/26/21 08:31	12/01/21 14:48	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		11/23/21 07:40	11/30/21 13:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	700		10	10	mg/L			11/22/21 16:42	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.8	HF	0.1	0.1	SU			11/26/21 07:46	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.337		0.145	0.148	1.00	0.176	pCi/L	11/26/21 09:06	12/20/21 20:49	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110	11/26/21 09:06	12/20/21 20:49	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-130263-1
SDG: AB Brown Station

Client Sample ID: CCR-AP-2I

Lab Sample ID: 180-130263-2

Date Collected: 11/17/21 10:41

Matrix: Water

Date Received: 11/19/21 10:00

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.956		0.310	0.323	1.00	0.406	pCi/L	11/26/21 09:45	12/15/21 09:34	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	92.0		40 - 110					11/26/21 09:45	12/15/21 09:34	1
Y Carrier	77.4		40 - 110					11/26/21 09:45	12/15/21 09:34	1

Method: 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	1.29		0.342	0.355	5.00	0.406	pCi/L		12/21/21 22:22	1

Client Sample ID: CCR-AP-2R

Lab Sample ID: 180-130263-3

Date Collected: 11/17/21 12:26

Matrix: Water

Date Received: 11/19/21 10:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	500		5.0	3.6	mg/L			11/27/21 17:35	5
Fluoride	0.50	B	0.50	0.13	mg/L			11/27/21 17:35	5
Sulfate	2800		50	38	mg/L			11/27/21 18:16	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		11/26/21 08:31	12/01/21 14:51	1
Arsenic	0.00088	J	0.0010	0.00031	mg/L		11/26/21 08:31	12/01/21 14:51	1
Barium	0.044		0.010	0.0016	mg/L		11/26/21 08:31	12/01/21 14:51	1
Beryllium	ND		0.0010	0.00018	mg/L		11/26/21 08:31	12/01/21 14:51	1
Boron	11		0.80	0.39	mg/L		11/26/21 08:31	12/02/21 11:55	10
Cadmium	ND		0.0010	0.00022	mg/L		11/26/21 08:31	12/01/21 14:51	1
Calcium	330		0.50	0.13	mg/L		11/26/21 08:31	12/01/21 14:51	1
Chromium	ND		0.0020	0.0015	mg/L		11/26/21 08:31	12/01/21 14:51	1
Cobalt	0.0027		0.00050	0.00013	mg/L		11/26/21 08:31	12/01/21 14:51	1
Lead	0.00061	J	0.0010	0.00013	mg/L		11/26/21 08:31	12/01/21 14:51	1
Lithium	0.030		0.0050	0.0034	mg/L		11/26/21 08:31	12/01/21 14:51	1
Molybdenum	1.6		0.0050	0.00061	mg/L		11/26/21 08:31	12/01/21 14:51	1
Selenium	ND		0.0050	0.0015	mg/L		11/26/21 08:31	12/01/21 14:51	1
Thallium	ND		0.0010	0.00015	mg/L		11/26/21 08:31	12/01/21 14:51	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		11/23/21 07:40	11/30/21 13:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4500		40	40	mg/L			11/22/21 16:42	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.0	HF	0.1	0.1	SU			11/26/21 07:50	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-130263-1
SDG: AB Brown Station

Client Sample ID: CCR-AP-2R

Lab Sample ID: 180-130263-3

Date Collected: 11/17/21 12:26

Matrix: Water

Date Received: 11/19/21 10:00

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.161	U	0.146	0.147	1.00	0.227	pCi/L	11/26/21 09:06	12/20/21 20:50	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.5		40 - 110					11/26/21 09:06	12/20/21 20:50	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.38		0.437	0.455	1.00	0.574	pCi/L	11/26/21 09:45	12/15/21 09:34	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.5		40 - 110					11/26/21 09:45	12/15/21 09:34	1
Y Carrier	78.1		40 - 110					11/26/21 09:45	12/15/21 09:34	1

Method: 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	1.55		0.461	0.478	5.00	0.574	pCi/L		12/21/21 22:22	1

Client Sample ID: CCR-AP-3I

Lab Sample ID: 180-130263-4

Date Collected: 11/17/21 14:01

Matrix: Water

Date Received: 11/19/21 10:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		1.0	0.71	mg/L			11/27/21 18:30	1
Fluoride	1.6	B	0.10	0.026	mg/L			11/27/21 18:30	1
Sulfate	18		1.0	0.76	mg/L			11/27/21 18:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		11/26/21 08:31	12/01/21 15:13	1
Arsenic	0.00049	J	0.0010	0.00031	mg/L		11/26/21 08:31	12/01/21 15:13	1
Barium	0.13		0.010	0.0016	mg/L		11/26/21 08:31	12/01/21 15:13	1
Beryllium	ND		0.0010	0.00018	mg/L		11/26/21 08:31	12/01/21 15:13	1
Boron	1.8		0.080	0.039	mg/L		11/26/21 08:31	12/01/21 15:13	1
Cadmium	ND		0.0010	0.00022	mg/L		11/26/21 08:31	12/01/21 15:13	1
Calcium	19		0.50	0.13	mg/L		11/26/21 08:31	12/01/21 15:13	1
Chromium	ND		0.0020	0.0015	mg/L		11/26/21 08:31	12/01/21 15:13	1
Cobalt	0.00020	J	0.00050	0.00013	mg/L		11/26/21 08:31	12/01/21 15:13	1
Lead	0.00032	J	0.0010	0.00013	mg/L		11/26/21 08:31	12/01/21 15:13	1
Lithium	0.020		0.0050	0.0034	mg/L		11/26/21 08:31	12/01/21 15:13	1
Molybdenum	0.0037	J	0.0050	0.00061	mg/L		11/26/21 08:31	12/01/21 15:13	1
Selenium	ND		0.0050	0.0015	mg/L		11/26/21 08:31	12/01/21 15:13	1
Thallium	ND		0.0010	0.00015	mg/L		11/26/21 08:31	12/01/21 15:13	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-130263-1
SDG: AB Brown Station

Client Sample ID: CCR-AP-3I

Lab Sample ID: 180-130263-4

Date Collected: 11/17/21 14:01

Matrix: Water

Date Received: 11/19/21 10:00

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		11/23/21 07:40	11/30/21 13:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	730		10	10	mg/L			11/22/21 16:42	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.0	HF	0.1	0.1	SU			11/26/21 07:56	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.309		0.166	0.168	1.00	0.219	pCi/L	11/26/21 09:06	12/20/21 20:50	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
<i>Ba Carrier</i>	92.3		40 - 110					11/26/21 09:06	12/20/21 20:50	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.51		0.435	0.457	1.00	0.543	pCi/L	11/26/21 09:45	12/15/21 09:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
<i>Ba Carrier</i>	92.3		40 - 110					11/26/21 09:45	12/15/21 09:35	1
<i>Y Carrier</i>	75.5		40 - 110					11/26/21 09:45	12/15/21 09:35	1

Method: 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		0.466	0.487	5.00	0.543	pCi/L		12/21/21 22:22	1

Client Sample ID: CCR-AP-3R

Lab Sample ID: 180-130263-5

Date Collected: 11/17/21 15:08

Matrix: Water

Date Received: 11/19/21 10:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	570		5.0	3.6	mg/L			11/27/21 18:57	5
Fluoride	1.6	B	0.50	0.13	mg/L			11/27/21 18:57	5
Sulfate	2900		50	38	mg/L			11/27/21 19:10	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		11/26/21 08:31	12/01/21 15:17	1
Arsenic	ND		0.0010	0.00031	mg/L		11/26/21 08:31	12/01/21 15:17	1
Barium	0.013		0.010	0.0016	mg/L		11/26/21 08:31	12/01/21 15:17	1
Beryllium	ND		0.0010	0.00018	mg/L		11/26/21 08:31	12/01/21 15:17	1
Boron	12		0.80	0.39	mg/L		11/26/21 08:31	12/02/21 11:59	10
Cadmium	ND		0.0010	0.00022	mg/L		11/26/21 08:31	12/01/21 15:17	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-130263-1
SDG: AB Brown Station

Client Sample ID: CCR-AP-3R

Lab Sample ID: 180-130263-5

Date Collected: 11/17/21 15:08

Matrix: Water

Date Received: 11/19/21 10:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	250		0.50	0.13	mg/L		11/26/21 08:31	12/01/21 15:17	1
Chromium	ND		0.0020	0.0015	mg/L		11/26/21 08:31	12/01/21 15:17	1
Cobalt	0.00061		0.00050	0.00013	mg/L		11/26/21 08:31	12/01/21 15:17	1
Lead	ND		0.0010	0.00013	mg/L		11/26/21 08:31	12/01/21 15:17	1
Lithium	0.063		0.0050	0.0034	mg/L		11/26/21 08:31	12/01/21 15:17	1
Molybdenum	0.74		0.0050	0.00061	mg/L		11/26/21 08:31	12/01/21 15:17	1
Selenium	0.016		0.0050	0.0015	mg/L		11/26/21 08:31	12/01/21 15:17	1
Thallium	ND		0.0010	0.00015	mg/L		11/26/21 08:31	12/01/21 15:17	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		11/23/21 07:40	11/30/21 13:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5400		40	40	mg/L			11/22/21 16:42	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4	HF	0.1	0.1	SU			11/26/21 08:02	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.129	U	0.108	0.109	1.00	0.165	pCi/L	11/26/21 09:06	12/20/21 20:50	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.8		40 - 110					11/26/21 09:06	12/20/21 20:50	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.896		0.266	0.278	1.00	0.323	pCi/L	11/26/21 09:45	12/15/21 09:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.8		40 - 110					11/26/21 09:45	12/15/21 09:35	1
Y Carrier	77.4		40 - 110					11/26/21 09:45	12/15/21 09:35	1

Method: 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	1.03		0.287	0.299	5.00	0.323	pCi/L		12/21/21 22:22	1

Client Sample ID: DUP-1

Lab Sample ID: 180-130263-6

Date Collected: 11/17/21 00:00

Matrix: Water

Date Received: 11/19/21 10:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	140		1.0	0.71	mg/L			11/27/21 17:08	1

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Client Sample Results

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

Job ID: 180-130263-1
 SDG: AB Brown Station

Client Sample ID: DUP-1
Date Collected: 11/17/21 00:00
Date Received: 11/19/21 10:00

Lab Sample ID: 180-130263-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.4	B	0.10	0.026	mg/L			11/27/21 17:08	1
Sulfate	16		1.0	0.76	mg/L			11/27/21 17:08	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		11/26/21 08:31	12/01/21 15:31	1
Arsenic	0.00055	J	0.0010	0.00031	mg/L		11/26/21 08:31	12/01/21 15:31	1
Barium	0.14		0.010	0.0016	mg/L		11/26/21 08:31	12/01/21 15:31	1
Beryllium	ND		0.0010	0.00018	mg/L		11/26/21 08:31	12/01/21 15:31	1
Boron	1.9		0.080	0.039	mg/L		11/26/21 08:31	12/01/21 15:31	1
Cadmium	ND		0.0010	0.00022	mg/L		11/26/21 08:31	12/01/21 15:31	1
Calcium	21		0.50	0.13	mg/L		11/26/21 08:31	12/01/21 15:31	1
Chromium	ND		0.0020	0.0015	mg/L		11/26/21 08:31	12/01/21 15:31	1
Cobalt	0.00020	J	0.00050	0.00013	mg/L		11/26/21 08:31	12/01/21 15:31	1
Lead	0.00053	J	0.0010	0.00013	mg/L		11/26/21 08:31	12/01/21 15:31	1
Lithium	0.020		0.0050	0.0034	mg/L		11/26/21 08:31	12/01/21 15:31	1
Molybdenum	0.0036	J	0.0050	0.00061	mg/L		11/26/21 08:31	12/01/21 15:31	1
Selenium	ND		0.0050	0.0015	mg/L		11/26/21 08:31	12/01/21 15:31	1
Thallium	ND		0.0010	0.00015	mg/L		11/26/21 08:31	12/01/21 15:31	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		11/23/21 07:40	11/30/21 13:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	710		10	10	mg/L			11/22/21 16:42	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.9	HF	0.1	0.1	SU			11/26/21 08:07	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.356		0.163	0.167	1.00	0.201	pCi/L	11/26/21 09:06	12/20/21 20:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.3		40 - 110					11/26/21 09:06	12/20/21 20:52	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.44		0.427	0.447	1.00	0.536	pCi/L	11/26/21 09:45	12/15/21 09:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.3		40 - 110					11/26/21 09:45	12/15/21 09:35	1
Y Carrier	75.5		40 - 110					11/26/21 09:45	12/15/21 09:35	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-130263-1
 SDG: AB Brown Station

Client Sample ID: DUP-1
 Date Collected: 11/17/21 00:00
 Date Received: 11/19/21 10:00

Lab Sample ID: 180-130263-6
 Matrix: Water

Method: 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	1.80		0.457	0.477	5.00	0.536	pCi/L		12/21/21 22:22	1

Client Sample ID: CCR-SP-1
 Date Collected: 11/18/21 08:44
 Date Received: 11/19/21 10:00

Lab Sample ID: 180-130263-7
 Matrix: Water

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	95		1.0	0.71	mg/L			11/27/21 11:53	1
Fluoride	0.22	B	0.10	0.026	mg/L			11/27/21 11:53	1
Sulfate	710		10	7.6	mg/L			11/27/21 12:48	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		11/26/21 08:31	12/01/21 15:35	1
Arsenic	0.0033		0.0010	0.00031	mg/L		11/26/21 08:31	12/01/21 15:35	1
Barium	0.044		0.010	0.0016	mg/L		11/26/21 08:31	12/01/21 15:35	1
Beryllium	ND		0.0010	0.00018	mg/L		11/26/21 08:31	12/01/21 15:35	1
Boron	0.59		0.080	0.039	mg/L		11/26/21 08:31	12/01/21 15:35	1
Cadmium	ND		0.0010	0.00022	mg/L		11/26/21 08:31	12/01/21 15:35	1
Calcium	210		0.50	0.13	mg/L		11/26/21 08:31	12/01/21 15:35	1
Chromium	ND		0.0020	0.0015	mg/L		11/26/21 08:31	12/01/21 15:35	1
Cobalt	0.0068		0.00050	0.00013	mg/L		11/26/21 08:31	12/01/21 15:35	1
Lead	ND		0.0010	0.00013	mg/L		11/26/21 08:31	12/01/21 15:35	1
Lithium	0.0053		0.0050	0.0034	mg/L		11/26/21 08:31	12/01/21 15:35	1
Molybdenum	0.0011	J	0.0050	0.00061	mg/L		11/26/21 08:31	12/01/21 15:35	1
Selenium	ND		0.0050	0.0015	mg/L		11/26/21 08:31	12/01/21 15:35	1
Thallium	ND		0.0010	0.00015	mg/L		11/26/21 08:31	12/01/21 15:35	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		11/23/21 07:40	11/30/21 13:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1800		10	10	mg/L			11/24/21 12:41	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.7	HF	0.1	0.1	SU			11/26/21 07:30	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.164		0.106	0.107	1.00	0.150	pCi/L	11/26/21 09:06	12/20/21 20:52	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	93.3		40 - 110	11/26/21 09:06	12/20/21 20:52	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-130263-1
SDG: AB Brown Station

Client Sample ID: CCR-SP-1

Lab Sample ID: 180-130263-7

Date Collected: 11/18/21 08:44

Matrix: Water

Date Received: 11/19/21 10:00

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.810		0.278	0.288	1.00	0.365	pCi/L	11/26/21 09:45	12/15/21 09:35	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	93.3		40 - 110					11/26/21 09:45	12/15/21 09:35	1
Y Carrier	80.4		40 - 110					11/26/21 09:45	12/15/21 09:35	1

Method: 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	0.974		0.298	0.307	5.00	0.365	pCi/L		12/21/21 22:22	1

Client Sample ID: CCR-SP-2

Lab Sample ID: 180-130263-8

Date Collected: 11/18/21 10:25

Matrix: Water

Date Received: 11/19/21 10:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	68		1.0	0.71	mg/L			11/26/21 23:03	1
Fluoride	0.26		0.10	0.026	mg/L			11/26/21 23:03	1
Sulfate	350		5.0	3.8	mg/L			11/26/21 23:17	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		11/26/21 08:31	12/01/21 16:00	1
Arsenic	0.013		0.0010	0.00031	mg/L		11/26/21 08:31	12/01/21 16:00	1
Barium	0.066		0.010	0.0016	mg/L		11/26/21 08:31	12/01/21 16:00	1
Beryllium	ND		0.0010	0.00018	mg/L		11/26/21 08:31	12/01/21 16:00	1
Boron	0.24		0.080	0.039	mg/L		11/26/21 08:31	12/01/21 16:00	1
Cadmium	ND		0.0010	0.00022	mg/L		11/26/21 08:31	12/01/21 16:00	1
Calcium	180		0.50	0.13	mg/L		11/26/21 08:31	12/01/21 16:00	1
Chromium	ND		0.0020	0.0015	mg/L		11/26/21 08:31	12/01/21 16:00	1
Cobalt	0.00049	J	0.00050	0.00013	mg/L		11/26/21 08:31	12/01/21 16:00	1
Lead	ND		0.0010	0.00013	mg/L		11/26/21 08:31	12/01/21 16:00	1
Lithium	0.0054		0.0050	0.0034	mg/L		11/26/21 08:31	12/01/21 16:00	1
Molybdenum	0.0015	J	0.0050	0.00061	mg/L		11/26/21 08:31	12/01/21 16:00	1
Selenium	ND		0.0050	0.0015	mg/L		11/26/21 08:31	12/01/21 16:00	1
Thallium	0.00043	J	0.0010	0.00015	mg/L		11/26/21 08:31	12/01/21 16:00	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		11/23/21 07:40	11/30/21 13:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		10	10	mg/L			11/24/21 12:41	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.0	HF	0.1	0.1	SU			11/26/21 08:12	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-130263-1
SDG: AB Brown Station

Client Sample ID: CCR-SP-2

Lab Sample ID: 180-130263-8

Date Collected: 11/18/21 10:25

Matrix: Water

Date Received: 11/19/21 10:00

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.199		0.121	0.122	1.00	0.167	pCi/L	11/26/21 09:06	12/20/21 20:52	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.9		40 - 110					11/26/21 09:06	12/20/21 20:52	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.570		0.317	0.321	1.00	0.473	pCi/L	11/26/21 09:45	12/15/21 09:35	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	79.9		40 - 110					11/26/21 09:45	12/15/21 09:35	1
Y Carrier	78.5		40 - 110					11/26/21 09:45	12/15/21 09:35	1

Method: 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	0.769		0.339	0.343	5.00	0.473	pCi/L		12/21/21 22:22	1

Client Sample ID: CCR-SP-3

Lab Sample ID: 180-130263-9

Date Collected: 11/18/21 11:35

Matrix: Water

Date Received: 11/19/21 10:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.4		1.0	0.71	mg/L			11/26/21 21:14	1
Fluoride	0.31		0.10	0.026	mg/L			11/26/21 21:14	1
Sulfate	3.5		1.0	0.76	mg/L			11/26/21 21:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		11/26/21 08:31	12/01/21 16:04	1
Arsenic	0.0071		0.0010	0.00031	mg/L		11/26/21 08:31	12/01/21 16:04	1
Barium	0.068		0.010	0.0016	mg/L		11/26/21 08:31	12/01/21 16:04	1
Beryllium	ND		0.0010	0.00018	mg/L		11/26/21 08:31	12/01/21 16:04	1
Boron	0.11		0.080	0.039	mg/L		11/26/21 08:31	12/01/21 16:04	1
Cadmium	ND		0.0010	0.00022	mg/L		11/26/21 08:31	12/01/21 16:04	1
Calcium	78		0.50	0.13	mg/L		11/26/21 08:31	12/01/21 16:04	1
Chromium	ND		0.0020	0.0015	mg/L		11/26/21 08:31	12/01/21 16:04	1
Cobalt	0.00047	J	0.00050	0.00013	mg/L		11/26/21 08:31	12/01/21 16:04	1
Lead	0.00023	J	0.0010	0.00013	mg/L		11/26/21 08:31	12/01/21 16:04	1
Lithium	ND		0.0050	0.0034	mg/L		11/26/21 08:31	12/01/21 16:04	1
Molybdenum	0.0036	J	0.0050	0.00061	mg/L		11/26/21 08:31	12/01/21 16:04	1
Selenium	ND		0.0050	0.0015	mg/L		11/26/21 08:31	12/01/21 16:04	1
Thallium	0.00022	J	0.0010	0.00015	mg/L		11/26/21 08:31	12/01/21 16:04	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-130263-1
SDG: AB Brown Station

Client Sample ID: CCR-SP-3

Lab Sample ID: 180-130263-9

Date Collected: 11/18/21 11:35

Matrix: Water

Date Received: 11/19/21 10:00

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		11/23/21 07:40	11/30/21 13:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	420		10	10	mg/L			11/24/21 12:41	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.2	HF	0.1	0.1	SU			11/26/21 08:18	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0872	U	0.121	0.121	1.00	0.204	pCi/L	11/26/21 09:06	12/20/21 20:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.3		40 - 110					11/26/21 09:06	12/20/21 20:53	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.987		0.375	0.386	1.00	0.510	pCi/L	11/26/21 09:45	12/15/21 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	94.3		40 - 110					11/26/21 09:45	12/15/21 09:36	1
Y Carrier	78.9		40 - 110					11/26/21 09:45	12/15/21 09:36	1

Method: 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	1.07		0.394	0.405	5.00	0.510	pCi/L		12/21/21 22:22	1

Client Sample ID: CCR-AP-6

Lab Sample ID: 180-130263-10

Date Collected: 11/18/21 13:36

Matrix: Water

Date Received: 11/19/21 10:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	230		2.5	1.8	mg/L			11/26/21 22:09	2.5
Fluoride	0.31		0.25	0.065	mg/L			11/26/21 22:09	2.5
Sulfate	1300		25	19	mg/L			11/26/21 22:22	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		11/26/21 08:31	12/01/21 16:08	1
Arsenic	0.00085	J	0.0010	0.00031	mg/L		11/26/21 08:31	12/01/21 16:08	1
Barium	0.011		0.010	0.0016	mg/L		11/26/21 08:31	12/01/21 16:08	1
Beryllium	ND		0.0010	0.00018	mg/L		11/26/21 08:31	12/01/21 16:08	1
Boron	5.2		0.080	0.039	mg/L		11/26/21 08:31	12/01/21 16:08	1
Cadmium	ND		0.0010	0.00022	mg/L		11/26/21 08:31	12/01/21 16:08	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-130263-1
SDG: AB Brown Station

Client Sample ID: CCR-AP-6

Lab Sample ID: 180-130263-10

Date Collected: 11/18/21 13:36

Matrix: Water

Date Received: 11/19/21 10:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	240		0.50	0.13	mg/L		11/26/21 08:31	12/01/21 16:08	1
Chromium	ND		0.0020	0.0015	mg/L		11/26/21 08:31	12/01/21 16:08	1
Cobalt	0.00063		0.00050	0.00013	mg/L		11/26/21 08:31	12/01/21 16:08	1
Lead	ND		0.0010	0.00013	mg/L		11/26/21 08:31	12/01/21 16:08	1
Lithium	0.024		0.0050	0.0034	mg/L		11/26/21 08:31	12/01/21 16:08	1
Molybdenum	0.0039	J	0.0050	0.00061	mg/L		11/26/21 08:31	12/01/21 16:08	1
Selenium	ND		0.0050	0.0015	mg/L		11/26/21 08:31	12/01/21 16:08	1
Thallium	0.00020	J	0.0010	0.00015	mg/L		11/26/21 08:31	12/01/21 16:08	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		11/23/21 07:40	11/30/21 13:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2400		20	20	mg/L			11/24/21 12:41	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.1	HF	0.1	0.1	SU			11/26/21 08:41	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.119	U	0.0988	0.0994	1.00	0.148	pCi/L	11/26/21 09:06	12/20/21 20:53	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.8		40 - 110					11/26/21 09:06	12/20/21 20:53	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.412	U	0.311	0.313	1.00	0.487	pCi/L	11/26/21 09:45	12/15/21 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.8		40 - 110					11/26/21 09:45	12/15/21 09:36	1
Y Carrier	75.1		40 - 110					11/26/21 09:45	12/15/21 09:36	1

Method: 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	0.531		0.326	0.328	5.00	0.487	pCi/L		12/21/21 22:22	1

Client Sample ID: CCR-LF-3

Lab Sample ID: 180-130263-11

Date Collected: 11/18/21 14:48

Matrix: Water

Date Received: 11/19/21 10:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	29		2.5	1.8	mg/L			11/26/21 22:36	2.5

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Client Sample Results

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

Job ID: 180-130263-1
SDG: AB Brown Station

Client Sample ID: CCR-LF-3

Lab Sample ID: 180-130263-11

Date Collected: 11/18/21 14:48

Matrix: Water

Date Received: 11/19/21 10:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.34		0.25	0.065	mg/L			11/26/21 22:36	2.5
Sulfate	1500		25	19	mg/L			11/26/21 22:50	25

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		11/26/21 08:31	12/01/21 16:22	1
Arsenic	0.00031	J	0.0010	0.00031	mg/L		11/26/21 08:31	12/01/21 16:22	1
Barium	0.017		0.010	0.0016	mg/L		11/26/21 08:31	12/01/21 16:22	1
Beryllium	ND		0.0010	0.00018	mg/L		11/26/21 08:31	12/01/21 16:22	1
Boron	0.22		0.080	0.039	mg/L		11/26/21 08:31	12/01/21 16:22	1
Cadmium	ND		0.0010	0.00022	mg/L		11/26/21 08:31	12/01/21 16:22	1
Calcium	320		0.50	0.13	mg/L		11/26/21 08:31	12/01/21 16:22	1
Chromium	0.0015	J	0.0020	0.0015	mg/L		11/26/21 08:31	12/01/21 16:22	1
Cobalt	ND		0.00050	0.00013	mg/L		11/26/21 08:31	12/01/21 16:22	1
Lead	ND		0.0010	0.00013	mg/L		11/26/21 08:31	12/01/21 16:22	1
Lithium	ND		0.0050	0.0034	mg/L		11/26/21 08:31	12/01/21 16:22	1
Molybdenum	0.0010	J	0.0050	0.00061	mg/L		11/26/21 08:31	12/01/21 16:22	1
Selenium	ND		0.0050	0.0015	mg/L		11/26/21 08:31	12/01/21 16:22	1
Thallium	ND		0.0010	0.00015	mg/L		11/26/21 08:31	12/01/21 16:22	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		11/23/21 07:40	11/30/21 13:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2400		20	20	mg/L			11/24/21 12:41	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.1	HF	0.1	0.1	SU			11/26/21 08:46	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0571	U	0.0944	0.0945	1.00	0.165	pCi/L	11/26/21 09:06	12/21/21 08:26	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		40 - 110					11/26/21 09:06	12/21/21 08:26	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.62		0.513	0.534	1.00	0.687	pCi/L	11/26/21 09:45	12/15/21 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	90.3		40 - 110					11/26/21 09:45	12/15/21 09:36	1
Y Carrier	73.6		40 - 110					11/26/21 09:45	12/15/21 09:36	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

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

Job ID: 180-130263-1
 SDG: AB Brown Station

Client Sample ID: CCR-LF-3

Lab Sample ID: 180-130263-11

Date Collected: 11/18/21 14:48

Matrix: Water

Date Received: 11/19/21 10:00

Method: 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	1.68		0.522	0.542	5.00	0.687	pCi/L		12/21/21 22:22	1

Client Sample ID: FIELD BLANK 2

Lab Sample ID: 180-130263-12

Date Collected: 11/18/21 11:30

Matrix: Water

Date Received: 11/19/21 10:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.71	mg/L			11/26/21 20:06	1
Fluoride	0.032	J	0.10	0.026	mg/L			11/26/21 20:06	1
Sulfate	ND		1.0	0.76	mg/L			11/26/21 20:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		11/26/21 08:31	12/01/21 16:26	1
Arsenic	ND		0.0010	0.00031	mg/L		11/26/21 08:31	12/01/21 16:26	1
Barium	ND		0.010	0.0016	mg/L		11/26/21 08:31	12/01/21 16:26	1
Beryllium	ND		0.0010	0.00018	mg/L		11/26/21 08:31	12/01/21 16:26	1
Boron	0.062	J	0.080	0.039	mg/L		11/26/21 08:31	12/01/21 16:26	1
Cadmium	ND		0.0010	0.00022	mg/L		11/26/21 08:31	12/01/21 16:26	1
Calcium	ND		0.50	0.13	mg/L		11/26/21 08:31	12/01/21 16:26	1
Chromium	ND		0.0020	0.0015	mg/L		11/26/21 08:31	12/01/21 16:26	1
Cobalt	ND		0.00050	0.00013	mg/L		11/26/21 08:31	12/01/21 16:26	1
Lead	ND		0.0010	0.00013	mg/L		11/26/21 08:31	12/01/21 16:26	1
Lithium	ND		0.0050	0.0034	mg/L		11/26/21 08:31	12/01/21 16:26	1
Molybdenum	ND		0.0050	0.00061	mg/L		11/26/21 08:31	12/01/21 16:26	1
Selenium	ND		0.0050	0.0015	mg/L		11/26/21 08:31	12/01/21 16:26	1
Thallium	ND		0.0010	0.00015	mg/L		11/26/21 08:31	12/01/21 16:26	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		11/23/21 07:40	11/30/21 13:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			11/24/21 12:41	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.8	HF	0.1	0.1	SU			11/26/21 14:16	1

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0510	U	0.0724	0.0725	1.00	0.123	pCi/L	11/26/21 09:06	12/21/21 08:26	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		40 - 110	11/26/21 09:06	12/21/21 08:26	1

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Client Sample Results

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

Job ID: 180-130263-1
 SDG: AB Brown Station

Client Sample ID: FIELD BLANK 2

Lab Sample ID: 180-130263-12

Date Collected: 11/18/21 11:30

Matrix: Water

Date Received: 11/19/21 10:00

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.681		0.282	0.289	1.00	0.388	pCi/L	11/26/21 09:45	12/15/21 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	91.0		40 - 110					11/26/21 09:45	12/15/21 09:36	1
Y Carrier	76.3		40 - 110					11/26/21 09:45	12/15/21 09:36	1

Method: 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	0.732		0.291	0.298	5.00	0.388	pCi/L		12/21/21 22:22	1

Client Sample ID: DUP-2

Lab Sample ID: 180-130263-13

Date Collected: 11/18/21 00:00

Matrix: Water

Date Received: 11/19/21 10:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	73		1.0	0.71	mg/L			11/26/21 20:19	1
Fluoride	0.26		0.10	0.026	mg/L			11/26/21 20:19	1
Sulfate	360		5.0	3.8	mg/L			11/26/21 20:33	5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		11/26/21 08:31	12/01/21 16:29	1
Arsenic	0.013		0.0010	0.00031	mg/L		11/26/21 08:31	12/01/21 16:29	1
Barium	0.064		0.010	0.0016	mg/L		11/26/21 08:31	12/01/21 16:29	1
Beryllium	ND		0.0010	0.00018	mg/L		11/26/21 08:31	12/01/21 16:29	1
Boron	0.15		0.080	0.039	mg/L		11/26/21 08:31	12/01/21 16:29	1
Cadmium	ND		0.0010	0.00022	mg/L		11/26/21 08:31	12/01/21 16:29	1
Calcium	170		0.50	0.13	mg/L		11/26/21 08:31	12/01/21 16:29	1
Chromium	ND		0.0020	0.0015	mg/L		11/26/21 08:31	12/01/21 16:29	1
Cobalt	0.00042	J	0.00050	0.00013	mg/L		11/26/21 08:31	12/01/21 16:29	1
Lead	ND		0.0010	0.00013	mg/L		11/26/21 08:31	12/01/21 16:29	1
Lithium	0.0050		0.0050	0.0034	mg/L		11/26/21 08:31	12/01/21 16:29	1
Molybdenum	0.0012	J	0.0050	0.00061	mg/L		11/26/21 08:31	12/01/21 16:29	1
Selenium	ND		0.0050	0.0015	mg/L		11/26/21 08:31	12/01/21 16:29	1
Thallium	ND		0.0010	0.00015	mg/L		11/26/21 08:31	12/01/21 16:29	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		11/23/21 07:40	11/30/21 13:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1000		10	10	mg/L			11/24/21 12:41	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.0	HF	0.1	0.1	SU			11/26/21 08:57	1

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Client Sample Results

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

Job ID: 180-130263-1
 SDG: AB Brown Station

Client Sample ID: DUP-2
Date Collected: 11/18/21 00:00
Date Received: 11/19/21 10:00

Lab Sample ID: 180-130263-13
Matrix: Water

Method: 9315 - Radium-226 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.224		0.122	0.124	1.00	0.160	pCi/L	11/26/21 09:06	12/21/21 08:27	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.3		40 - 110					11/26/21 09:06	12/21/21 08:27	1

Method: 9320 - Radium-228 (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.640		0.301	0.306	1.00	0.426	pCi/L	11/26/21 09:45	12/15/21 09:36	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	80.3		40 - 110					11/26/21 09:45	12/15/21 09:36	1
Y Carrier	76.6		40 - 110					11/26/21 09:45	12/15/21 09:36	1

Method: 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	0.865		0.325	0.330	5.00	0.426	pCi/L		12/21/21 22:22	1

QC Sample Results

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

Job ID: 180-130263-1
 SDG: AB Brown Station

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-380195/20
Matrix: Water
Analysis Batch: 380195

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			11/26/21 12:57	1
Fluoride	ND		0.10	0.026	mg/L			11/26/21 12:57	1
Sulfate	ND		1.0	0.76	mg/L			11/26/21 12:57	1

Lab Sample ID: LCS 180-380195/19
Matrix: Water
Analysis Batch: 380195

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	50.3		mg/L		101	80 - 120
Fluoride	2.50	2.46		mg/L		98	80 - 120
Sulfate	50.0	49.2		mg/L		98	80 - 120

Lab Sample ID: 180-130263-9 MS
Matrix: Water
Analysis Batch: 380195

Client Sample ID: CCR-SP-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.4		250	247		mg/L		97	80 - 120
Fluoride	0.31		12.5	12.1		mg/L		94	80 - 120
Sulfate	3.5		250	238		mg/L		95	80 - 120

Lab Sample ID: 180-130263-9 MSD
Matrix: Water
Analysis Batch: 380195

Client Sample ID: CCR-SP-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.4		250	261		mg/L		103	80 - 120	5	15
Fluoride	0.31		12.5	12.9		mg/L		101	80 - 120	7	15
Sulfate	3.5		250	248		mg/L		99	80 - 120	4	15

Lab Sample ID: MB 180-380288/35
Matrix: Water
Analysis Batch: 380288

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			11/27/21 11:40	1
Fluoride	0.0267	J	0.10	0.026	mg/L			11/27/21 11:40	1
Sulfate	ND		1.0	0.76	mg/L			11/27/21 11:40	1

Lab Sample ID: LCS 180-380288/34
Matrix: Water
Analysis Batch: 380288

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	52.8		mg/L		106	80 - 120
Fluoride	2.50	2.67		mg/L		107	80 - 120
Sulfate	50.0	50.9		mg/L		102	80 - 120

QC Sample Results

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

Job ID: 180-130263-1
SDG: AB Brown Station

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

Lab Sample ID: 180-130263-7 MS
Matrix: Water
Analysis Batch: 380288

Client Sample ID: CCR-SP-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	95		50.0	143		mg/L		96	80 - 120
Fluoride	0.22	B	2.50	2.44		mg/L		89	80 - 120

Lab Sample ID: 180-130263-7 MS
Matrix: Water
Analysis Batch: 380288

Client Sample ID: CCR-SP-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	710		500	1220		mg/L		101	80 - 120

Lab Sample ID: 180-130263-7 MSD
Matrix: Water
Analysis Batch: 380288

Client Sample ID: CCR-SP-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	95		50.0	147		mg/L		103	80 - 120	3	15
Fluoride	0.22	B	2.50	2.50		mg/L		91	80 - 120	2	15

Lab Sample ID: 180-130263-7 MSD
Matrix: Water
Analysis Batch: 380288

Client Sample ID: CCR-SP-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	710		500	1240		mg/L		105	80 - 120	2	15

Lab Sample ID: 180-130263-7 DU
Matrix: Water
Analysis Batch: 380288

Client Sample ID: CCR-SP-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	95		99.6		mg/L		4	20
Fluoride	0.22	B	0.234		mg/L		6	20

Lab Sample ID: 180-130263-7 DU
Matrix: Water
Analysis Batch: 380288

Client Sample ID: CCR-SP-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	710		748		mg/L		5	20

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

Lab Sample ID: MB 180-380198/1-A
Matrix: Water
Analysis Batch: 380713

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 380198

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00038	mg/L		11/26/21 08:31	12/01/21 14:04	1
Arsenic	ND		0.0010	0.00031	mg/L		11/26/21 08:31	12/01/21 14:04	1
Barium	ND		0.010	0.0016	mg/L		11/26/21 08:31	12/01/21 14:04	1

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QC Sample Results

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

Job ID: 180-130263-1
SDG: AB Brown Station

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

Lab Sample ID: MB 180-380198/1-A
Matrix: Water
Analysis Batch: 380713

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 380198

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	0.00018	mg/L		11/26/21 08:31	12/01/21 14:04	1
Boron	ND		0.080	0.039	mg/L		11/26/21 08:31	12/01/21 14:04	1
Cadmium	ND		0.0010	0.00022	mg/L		11/26/21 08:31	12/01/21 14:04	1
Calcium	ND		0.50	0.13	mg/L		11/26/21 08:31	12/01/21 14:04	1
Chromium	ND		0.0020	0.0015	mg/L		11/26/21 08:31	12/01/21 14:04	1
Cobalt	ND		0.00050	0.00013	mg/L		11/26/21 08:31	12/01/21 14:04	1
Lead	ND		0.0010	0.00013	mg/L		11/26/21 08:31	12/01/21 14:04	1
Lithium	ND		0.0050	0.0034	mg/L		11/26/21 08:31	12/01/21 14:04	1
Molybdenum	ND		0.0050	0.00061	mg/L		11/26/21 08:31	12/01/21 14:04	1
Selenium	ND		0.0050	0.0015	mg/L		11/26/21 08:31	12/01/21 14:04	1
Thallium	ND		0.0010	0.00015	mg/L		11/26/21 08:31	12/01/21 14:04	1

Lab Sample ID: LCS 180-380198/2-A
Matrix: Water
Analysis Batch: 380713

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 380198

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.250	0.239		mg/L		96	80 - 120
Arsenic	1.00	0.961		mg/L		96	80 - 120
Barium	1.00	0.980		mg/L		98	80 - 120
Beryllium	0.500	0.472		mg/L		94	80 - 120
Boron	1.25	1.14		mg/L		91	80 - 120
Cadmium	0.500	0.487		mg/L		97	80 - 120
Calcium	25.0	26.5		mg/L		106	80 - 120
Chromium	0.500	0.486		mg/L		97	80 - 120
Cobalt	0.500	0.493		mg/L		99	80 - 120
Lead	0.500	0.492		mg/L		98	80 - 120
Lithium	0.500	0.468		mg/L		94	80 - 120
Molybdenum	0.500	0.497		mg/L		99	80 - 120
Selenium	1.00	0.988		mg/L		99	80 - 120
Thallium	1.00	0.994		mg/L		99	80 - 120

Lab Sample ID: 180-130263-7 MS
Matrix: Water
Analysis Batch: 380713

Client Sample ID: CCR-SP-1
Prep Type: Total Recoverable
Prep Batch: 380198

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		0.250	0.239		mg/L		96	75 - 125
Arsenic	0.0033		1.00	0.960		mg/L		96	75 - 125
Barium	0.044		1.00	1.01		mg/L		97	75 - 125
Beryllium	ND		0.500	0.466		mg/L		93	75 - 125
Boron	0.59		1.25	1.62		mg/L		83	75 - 125
Cadmium	ND		0.500	0.480		mg/L		96	75 - 125
Calcium	210		25.0	246	4	mg/L		127	75 - 125
Chromium	ND		0.500	0.482		mg/L		96	75 - 125
Cobalt	0.0068		0.500	0.487		mg/L		96	75 - 125
Lead	ND		0.500	0.486		mg/L		97	75 - 125
Lithium	0.0053		0.500	0.456		mg/L		90	75 - 125
Molybdenum	0.0011	J	0.500	0.498		mg/L		99	75 - 125

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QC Sample Results

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

Job ID: 180-130263-1
SDG: AB Brown Station

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

Lab Sample ID: 180-130263-7 MS
Matrix: Water
Analysis Batch: 380713

Client Sample ID: CCR-SP-1
Prep Type: Total Recoverable
Prep Batch: 380198

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	ND		1.00	0.979		mg/L		98	75 - 125
Thallium	ND		1.00	0.976		mg/L		98	75 - 125

Lab Sample ID: 180-130263-7 MSD
Matrix: Water
Analysis Batch: 380713

Client Sample ID: CCR-SP-1
Prep Type: Total Recoverable
Prep Batch: 380198

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		0.250	0.240		mg/L		96	75 - 125	0	20
Arsenic	0.0033		1.00	0.989		mg/L		99	75 - 125	3	20
Barium	0.044		1.00	1.05		mg/L		101	75 - 125	3	20
Beryllium	ND		0.500	0.474		mg/L		95	75 - 125	2	20
Boron	0.59		1.25	1.66		mg/L		85	75 - 125	2	20
Cadmium	ND		0.500	0.494		mg/L		99	75 - 125	3	20
Calcium	210		25.0	243	4	mg/L		113	75 - 125	1	20
Chromium	ND		0.500	0.495		mg/L		99	75 - 125	3	20
Cobalt	0.0068		0.500	0.502		mg/L		99	75 - 125	3	20
Lead	ND		0.500	0.504		mg/L		101	75 - 125	4	20
Lithium	0.0053		0.500	0.469		mg/L		93	75 - 125	3	20
Molybdenum	0.0011	J	0.500	0.513		mg/L		102	75 - 125	3	20
Selenium	ND		1.00	0.995		mg/L		99	75 - 125	2	20
Thallium	ND		1.00	1.02		mg/L		102	75 - 125	5	20

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-379906/1-A
Matrix: Water
Analysis Batch: 380541

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 379906

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		11/23/21 07:40	11/30/21 13:12	1

Lab Sample ID: LCS 180-379906/2-A
Matrix: Water
Analysis Batch: 380541

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 379906

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.00256		mg/L		102	80 - 120

Lab Sample ID: 180-130263-7 MS
Matrix: Water
Analysis Batch: 380541

Client Sample ID: CCR-SP-1
Prep Type: Total/NA
Prep Batch: 379906

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00100	0.000958		mg/L		96	75 - 125

QC Sample Results

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

Job ID: 180-130263-1
SDG: AB Brown Station

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

Lab Sample ID: 180-130263-7 MSD
Matrix: Water
Analysis Batch: 380541

Client Sample ID: CCR-SP-1
Prep Type: Total/NA
Prep Batch: 379906

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00100	0.000936		mg/L		94	75 - 125	2	20

Method: EPA 9040C - pH

Lab Sample ID: LCS 180-380253/1
Matrix: Water
Analysis Batch: 380253

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: 180-130263-7 DU
Matrix: Water
Analysis Batch: 380253

Client Sample ID: CCR-SP-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.7	HF	6.7	HF	SU		0	2

Lab Sample ID: LCS 180-380261/1
Matrix: Water
Analysis Batch: 380261

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 180-379868/2
Matrix: Water
Analysis Batch: 379868

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			11/22/21 16:42	1

Lab Sample ID: LCS 180-379868/1
Matrix: Water
Analysis Batch: 379868

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	422	428		mg/L		101	80 - 120

Lab Sample ID: MB 180-380132/2
Matrix: Water
Analysis Batch: 380132

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	10	mg/L			11/24/21 12:41	1

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QC Sample Results

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

Job ID: 180-130263-1
SDG: AB Brown Station

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

Lab Sample ID: LCS 180-380132/1
Matrix: Water
Analysis Batch: 380132

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	422	422		mg/L		100	80 - 120

Lab Sample ID: 180-130263-7 DU
Matrix: Water
Analysis Batch: 380132

Client Sample ID: CCR-SP-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1800		1730		mg/L		3	10

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-538654/20-A
Matrix: Water
Analysis Batch: 543110

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 538654

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04316	U	0.0639	0.0640	1.00	0.109	pCi/L	11/26/21 09:06	12/21/21 08:28	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	99.5		40 - 110					11/26/21 09:06	12/21/21 08:28	1

Lab Sample ID: LCS 160-538654/1-A
Matrix: Water
Analysis Batch: 543038

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 538654

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.3	9.963		1.08	1.00	0.121	pCi/L	88	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	92.3		40 - 110						

Lab Sample ID: 180-130263-7 DU
Matrix: Water
Analysis Batch: 543040

Client Sample ID: CCR-SP-1
Prep Type: Total/NA
Prep Batch: 538654

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.164		0.1221	U	0.101	1.00	0.152	pCi/L	0.20	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	90.5		40 - 110							

QC Sample Results

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

Job ID: 180-130263-1
 SDG: AB Brown Station

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-538656/20-A
Matrix: Water
Analysis Batch: 542187

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 538656

Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.04626	U	0.171	0.171	1.00	0.305	pCi/L	11/26/21 09:45	12/15/21 09:39	1
Carrier	MB %Yield	MB Qualifier	Limits		Prepared	Analyzed	Dil Fac			
Ba Carrier	99.5		40 - 110		11/26/21 09:45	12/15/21 09:39	1			
Y Carrier	78.9		40 - 110		11/26/21 09:45	12/15/21 09:39	1			

Lab Sample ID: LCS 160-538656/1-A
Matrix: Water
Analysis Batch: 542188

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 538656

Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec. Limits
				Uncert. (2σ+/-)					
Radium-228	9.06	12.40		1.45	1.00	0.468	pCi/L	137	75 - 125
Carrier	LCS %Yield	LCS Qualifier	Limits						
Ba Carrier	92.3		40 - 110						
Y Carrier	64.3		40 - 110						

Lab Sample ID: 180-130263-7 DU
Matrix: Water
Analysis Batch: 542188

Client Sample ID: CCR-SP-1
Prep Type: Total/NA
Prep Batch: 538656

Analyte	Sample	Sample	DU	DU	Total	RL	MDC	Unit	RER	RER
	Result	Qual	Result	Qual	Uncert. (2σ+/-)					Limit
Radium-228	0.810		0.6792		0.299	1.00	0.410	pCi/L	0.22	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	90.5		40 - 110							
Y Carrier	77.4		40 - 110							

QC Association Summary

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

Job ID: 180-130263-1
SDG: AB Brown Station

HPLC/IC

Analysis Batch: 380195

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-130263-8	CCR-SP-2	Total/NA	Water	EPA 9056A	
180-130263-8	CCR-SP-2	Total/NA	Water	EPA 9056A	
180-130263-9	CCR-SP-3	Total/NA	Water	EPA 9056A	
180-130263-10	CCR-AP-6	Total/NA	Water	EPA 9056A	
180-130263-10	CCR-AP-6	Total/NA	Water	EPA 9056A	
180-130263-11	CCR-LF-3	Total/NA	Water	EPA 9056A	
180-130263-11	CCR-LF-3	Total/NA	Water	EPA 9056A	
180-130263-12	FIELD BLANK 2	Total/NA	Water	EPA 9056A	
180-130263-13	DUP-2	Total/NA	Water	EPA 9056A	
180-130263-13	DUP-2	Total/NA	Water	EPA 9056A	
MB 180-380195/20	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-380195/19	Lab Control Sample	Total/NA	Water	EPA 9056A	
180-130263-9 MS	CCR-SP-3	Total/NA	Water	EPA 9056A	
180-130263-9 MSD	CCR-SP-3	Total/NA	Water	EPA 9056A	

Analysis Batch: 380288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-130263-1	CCR-AP-8	Total/NA	Water	EPA 9056A	
180-130263-1	CCR-AP-8	Total/NA	Water	EPA 9056A	
180-130263-2	CCR-AP-2I	Total/NA	Water	EPA 9056A	
180-130263-3	CCR-AP-2R	Total/NA	Water	EPA 9056A	
180-130263-3	CCR-AP-2R	Total/NA	Water	EPA 9056A	
180-130263-4	CCR-AP-3I	Total/NA	Water	EPA 9056A	
180-130263-5	CCR-AP-3R	Total/NA	Water	EPA 9056A	
180-130263-5	CCR-AP-3R	Total/NA	Water	EPA 9056A	
180-130263-6	DUP-1	Total/NA	Water	EPA 9056A	
180-130263-7	CCR-SP-1	Total/NA	Water	EPA 9056A	
180-130263-7	CCR-SP-1	Total/NA	Water	EPA 9056A	
MB 180-380288/35	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-380288/34	Lab Control Sample	Total/NA	Water	EPA 9056A	
180-130263-7 MS	CCR-SP-1	Total/NA	Water	EPA 9056A	
180-130263-7 MS	CCR-SP-1	Total/NA	Water	EPA 9056A	
180-130263-7 MSD	CCR-SP-1	Total/NA	Water	EPA 9056A	
180-130263-7 MSD	CCR-SP-1	Total/NA	Water	EPA 9056A	
180-130263-7 DU	CCR-SP-1	Total/NA	Water	EPA 9056A	
180-130263-7 DU	CCR-SP-1	Total/NA	Water	EPA 9056A	

Metals

Prep Batch: 379906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-130263-1	CCR-AP-8	Total/NA	Water	7470A	
180-130263-2	CCR-AP-2I	Total/NA	Water	7470A	
180-130263-3	CCR-AP-2R	Total/NA	Water	7470A	
180-130263-4	CCR-AP-3I	Total/NA	Water	7470A	
180-130263-5	CCR-AP-3R	Total/NA	Water	7470A	
180-130263-6	DUP-1	Total/NA	Water	7470A	
180-130263-7	CCR-SP-1	Total/NA	Water	7470A	
180-130263-8	CCR-SP-2	Total/NA	Water	7470A	
180-130263-9	CCR-SP-3	Total/NA	Water	7470A	
180-130263-10	CCR-AP-6	Total/NA	Water	7470A	

Eurofins TestAmerica, Pittsburgh

QC Association Summary

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

Job ID: 180-130263-1
SDG: AB Brown Station

Metals (Continued)

Prep Batch: 379906 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-130263-11	CCR-LF-3	Total/NA	Water	7470A	
180-130263-12	FIELD BLANK 2	Total/NA	Water	7470A	
180-130263-13	DUP-2	Total/NA	Water	7470A	
MB 180-379906/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-379906/2-A	Lab Control Sample	Total/NA	Water	7470A	
180-130263-7 MS	CCR-SP-1	Total/NA	Water	7470A	
180-130263-7 MSD	CCR-SP-1	Total/NA	Water	7470A	

Prep Batch: 380198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-130263-1	CCR-AP-8	Total Recoverable	Water	3005A	
180-130263-2	CCR-AP-2I	Total Recoverable	Water	3005A	
180-130263-3	CCR-AP-2R	Total Recoverable	Water	3005A	
180-130263-4	CCR-AP-3I	Total Recoverable	Water	3005A	
180-130263-5	CCR-AP-3R	Total Recoverable	Water	3005A	
180-130263-6	DUP-1	Total Recoverable	Water	3005A	
180-130263-7	CCR-SP-1	Total Recoverable	Water	3005A	
180-130263-8	CCR-SP-2	Total Recoverable	Water	3005A	
180-130263-9	CCR-SP-3	Total Recoverable	Water	3005A	
180-130263-10	CCR-AP-6	Total Recoverable	Water	3005A	
180-130263-11	CCR-LF-3	Total Recoverable	Water	3005A	
180-130263-12	FIELD BLANK 2	Total Recoverable	Water	3005A	
180-130263-13	DUP-2	Total Recoverable	Water	3005A	
MB 180-380198/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-380198/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-130263-7 MS	CCR-SP-1	Total Recoverable	Water	3005A	
180-130263-7 MSD	CCR-SP-1	Total Recoverable	Water	3005A	

Analysis Batch: 380541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-130263-1	CCR-AP-8	Total/NA	Water	EPA 7470A	379906
180-130263-2	CCR-AP-2I	Total/NA	Water	EPA 7470A	379906
180-130263-3	CCR-AP-2R	Total/NA	Water	EPA 7470A	379906
180-130263-4	CCR-AP-3I	Total/NA	Water	EPA 7470A	379906
180-130263-5	CCR-AP-3R	Total/NA	Water	EPA 7470A	379906
180-130263-6	DUP-1	Total/NA	Water	EPA 7470A	379906
180-130263-7	CCR-SP-1	Total/NA	Water	EPA 7470A	379906
180-130263-8	CCR-SP-2	Total/NA	Water	EPA 7470A	379906
180-130263-9	CCR-SP-3	Total/NA	Water	EPA 7470A	379906
180-130263-10	CCR-AP-6	Total/NA	Water	EPA 7470A	379906
180-130263-11	CCR-LF-3	Total/NA	Water	EPA 7470A	379906
180-130263-12	FIELD BLANK 2	Total/NA	Water	EPA 7470A	379906
180-130263-13	DUP-2	Total/NA	Water	EPA 7470A	379906
MB 180-379906/1-A	Method Blank	Total/NA	Water	EPA 7470A	379906
LCS 180-379906/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	379906
180-130263-7 MS	CCR-SP-1	Total/NA	Water	EPA 7470A	379906
180-130263-7 MSD	CCR-SP-1	Total/NA	Water	EPA 7470A	379906

Analysis Batch: 380713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-130263-1	CCR-AP-8	Total Recoverable	Water	EPA 6020A	380198

Eurofins TestAmerica, Pittsburgh

QC Association Summary

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

Job ID: 180-130263-1
SDG: AB Brown Station

Metals (Continued)

Analysis Batch: 380713 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-130263-2	CCR-AP-2I	Total Recoverable	Water	EPA 6020A	380198
180-130263-3	CCR-AP-2R	Total Recoverable	Water	EPA 6020A	380198
180-130263-4	CCR-AP-3I	Total Recoverable	Water	EPA 6020A	380198
180-130263-5	CCR-AP-3R	Total Recoverable	Water	EPA 6020A	380198
180-130263-6	DUP-1	Total Recoverable	Water	EPA 6020A	380198
180-130263-7	CCR-SP-1	Total Recoverable	Water	EPA 6020A	380198
180-130263-8	CCR-SP-2	Total Recoverable	Water	EPA 6020A	380198
180-130263-9	CCR-SP-3	Total Recoverable	Water	EPA 6020A	380198
180-130263-10	CCR-AP-6	Total Recoverable	Water	EPA 6020A	380198
180-130263-11	CCR-LF-3	Total Recoverable	Water	EPA 6020A	380198
180-130263-12	FIELD BLANK 2	Total Recoverable	Water	EPA 6020A	380198
180-130263-13	DUP-2	Total Recoverable	Water	EPA 6020A	380198
MB 180-380198/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	380198
LCS 180-380198/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	380198
180-130263-7 MS	CCR-SP-1	Total Recoverable	Water	EPA 6020A	380198
180-130263-7 MSD	CCR-SP-1	Total Recoverable	Water	EPA 6020A	380198

Analysis Batch: 380881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-130263-3	CCR-AP-2R	Total Recoverable	Water	EPA 6020A	380198
180-130263-5	CCR-AP-3R	Total Recoverable	Water	EPA 6020A	380198

General Chemistry

Analysis Batch: 379868

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-130263-1	CCR-AP-8	Total/NA	Water	SM 2540C	
180-130263-2	CCR-AP-2I	Total/NA	Water	SM 2540C	
180-130263-3	CCR-AP-2R	Total/NA	Water	SM 2540C	
180-130263-4	CCR-AP-3I	Total/NA	Water	SM 2540C	
180-130263-5	CCR-AP-3R	Total/NA	Water	SM 2540C	
180-130263-6	DUP-1	Total/NA	Water	SM 2540C	
MB 180-379868/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-379868/1	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 380132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-130263-7	CCR-SP-1	Total/NA	Water	SM 2540C	
180-130263-8	CCR-SP-2	Total/NA	Water	SM 2540C	
180-130263-9	CCR-SP-3	Total/NA	Water	SM 2540C	
180-130263-10	CCR-AP-6	Total/NA	Water	SM 2540C	
180-130263-11	CCR-LF-3	Total/NA	Water	SM 2540C	
180-130263-12	FIELD BLANK 2	Total/NA	Water	SM 2540C	
180-130263-13	DUP-2	Total/NA	Water	SM 2540C	
MB 180-380132/2	Method Blank	Total/NA	Water	SM 2540C	
LCS 180-380132/1	Lab Control Sample	Total/NA	Water	SM 2540C	
180-130263-7 DU	CCR-SP-1	Total/NA	Water	SM 2540C	

Analysis Batch: 380253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-130263-1	CCR-AP-8	Total/NA	Water	EPA 9040C	

Eurofins TestAmerica, Pittsburgh

QC Association Summary

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

Job ID: 180-130263-1
SDG: AB Brown Station

General Chemistry (Continued)

Analysis Batch: 380253 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-130263-2	CCR-AP-2I	Total/NA	Water	EPA 9040C	
180-130263-3	CCR-AP-2R	Total/NA	Water	EPA 9040C	
180-130263-4	CCR-AP-3I	Total/NA	Water	EPA 9040C	
180-130263-5	CCR-AP-3R	Total/NA	Water	EPA 9040C	
180-130263-6	DUP-1	Total/NA	Water	EPA 9040C	
180-130263-7	CCR-SP-1	Total/NA	Water	EPA 9040C	
180-130263-8	CCR-SP-2	Total/NA	Water	EPA 9040C	
180-130263-9	CCR-SP-3	Total/NA	Water	EPA 9040C	
180-130263-10	CCR-AP-6	Total/NA	Water	EPA 9040C	
180-130263-11	CCR-LF-3	Total/NA	Water	EPA 9040C	
180-130263-13	DUP-2	Total/NA	Water	EPA 9040C	
LCS 180-380253/1	Lab Control Sample	Total/NA	Water	EPA 9040C	
180-130263-7 DU	CCR-SP-1	Total/NA	Water	EPA 9040C	

Analysis Batch: 380261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-130263-12	FIELD BLANK 2	Total/NA	Water	EPA 9040C	
LCS 180-380261/1	Lab Control Sample	Total/NA	Water	EPA 9040C	

Rad

Prep Batch: 538654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-130263-1	CCR-AP-8	Total/NA	Water	PrecSep-21	
180-130263-2	CCR-AP-2I	Total/NA	Water	PrecSep-21	
180-130263-3	CCR-AP-2R	Total/NA	Water	PrecSep-21	
180-130263-4	CCR-AP-3I	Total/NA	Water	PrecSep-21	
180-130263-5	CCR-AP-3R	Total/NA	Water	PrecSep-21	
180-130263-6	DUP-1	Total/NA	Water	PrecSep-21	
180-130263-7	CCR-SP-1	Total/NA	Water	PrecSep-21	
180-130263-8	CCR-SP-2	Total/NA	Water	PrecSep-21	
180-130263-9	CCR-SP-3	Total/NA	Water	PrecSep-21	
180-130263-10	CCR-AP-6	Total/NA	Water	PrecSep-21	
180-130263-11	CCR-LF-3	Total/NA	Water	PrecSep-21	
180-130263-12	FIELD BLANK 2	Total/NA	Water	PrecSep-21	
180-130263-13	DUP-2	Total/NA	Water	PrecSep-21	
MB 160-538654/20-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-538654/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
180-130263-7 DU	CCR-SP-1	Total/NA	Water	PrecSep-21	

Prep Batch: 538656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-130263-1	CCR-AP-8	Total/NA	Water	PrecSep_0	
180-130263-2	CCR-AP-2I	Total/NA	Water	PrecSep_0	
180-130263-3	CCR-AP-2R	Total/NA	Water	PrecSep_0	
180-130263-4	CCR-AP-3I	Total/NA	Water	PrecSep_0	
180-130263-5	CCR-AP-3R	Total/NA	Water	PrecSep_0	
180-130263-6	DUP-1	Total/NA	Water	PrecSep_0	
180-130263-7	CCR-SP-1	Total/NA	Water	PrecSep_0	
180-130263-8	CCR-SP-2	Total/NA	Water	PrecSep_0	
180-130263-9	CCR-SP-3	Total/NA	Water	PrecSep_0	

Eurofins TestAmerica, Pittsburgh

QC Association Summary

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

Job ID: 180-130263-1
SDG: AB Brown Station

Rad (Continued)

Prep Batch: 538656 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-130263-10	CCR-AP-6	Total/NA	Water	PrecSep_0	
180-130263-11	CCR-LF-3	Total/NA	Water	PrecSep_0	
180-130263-12	FIELD BLANK 2	Total/NA	Water	PrecSep_0	
180-130263-13	DUP-2	Total/NA	Water	PrecSep_0	
MB 160-538656/20-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-538656/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
180-130263-7 DU	CCR-SP-1	Total/NA	Water	PrecSep_0	

Chain of Custody Record



Client Information		Sampler: <u>MARK BRETINO / ATIA</u>		Lab PM: Bortot, Veronica		Carrier Tracking No(s):		COC No: 180-52202-8058.1			
Client Contact: Angela Casbon Scheller		Phone: <u>317 313 8306</u>		E-Mail: veronica.bortot@testamericainc.com				Page: Page 1 of 1			
Company: Vectren Corporation		Due Date Requested: <u>Start (MS)</u>		Analysis Requested Total Number of Containers:		Job #: <u>170LE01118</u> Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify) Other:					
Address: PO BOX 209		TAT Requested (days): <u>Standard</u>									
City: Evansville											
State, Zip: IN, 47702											
Phone: 864-214-8750(Tel)		PO #: Purchase Order Requested									
Email:		WO #:									
Project Name: CCR Groundwater Monitoring AB Brown		Project #: 18016014									
Site: <u>AB Brown Station</u>		SSOW#:									
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Sediment, Overstabil, BT=Tissue, Air/Aq)	9315_Ra226, 9320_Ra228 9040C, 9056A_ORGFM_28D 6010C, 6020A, 7470A 2540C_Calcd - Local Method				Special Instructions/Note:	
						Preservation Code: D N D N					
CCR-AP-8		11/17/21	0855	G	Water	N	N	X	X	X	180-130263 Chain of Custody MS/MSD-2
CCR-AP-2I			1041		Water						
CCR-AP-2R			1226		Water						
CCR-AP-3I			1401		Water						
CCR-AP-3R			1508		Water						
DVP-1			0006		Water						
CCR-SP-1		11/18/21	0844		Water						
CCR-SP-2			1135	25	Water						
CCR-SP-3			1135		Water						
CCR-AP-6			1336		Water						
CCR-LF-3			1448		Water						
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:					
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:					
Relinquished by: <u>Mark Bretino</u>		Date/Time: <u>11/18/21 17:20</u>		Company: <u>ATIA</u>		Received by: <u>D Watson</u>		Date/Time: <u>11-19-21 10:00</u>		Company: <u>ATIA</u>	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:							

Login Sample Receipt Checklist

Client: Haley & Aldrich, Inc.

Job Number: 180-130263-1
SDG Number: AB Brown Station

Login Number: 130263

List Number: 1

Creator: Watson, Debbie

List Source: Eurofins TestAmerica, 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: 180-130263-1
SDG Number: AB Brown Station

Login Number: 130263

List Number: 2

Creator: Johnson, Autumn R

List Source: Eurofins TestAmerica, St. Louis

List Creation: 11/23/21 01:15 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	



ATTACHMENT 4
Statistical Analyses



HALEY & ALDRICH, INC.
400 Augusta Street
Suite 100
Greenville, SC 29601
864.214.8750

TECHNICAL MEMORANDUM

12 April 2021
Revised: 1 March 2022
File No. 129420

SUBJECT: Statistical Evaluation of the November 2020 Semi-annual Groundwater Assessment Monitoring Data
Southern Indiana Gas and Electric Company
Sedimentation Pond
A.B. Brown Generating Station; Posey 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 2020 semi-annual assessment monitoring event for the A.B. Brown Generating Station Sedimentation Pond. The statistical evaluation discussed in this memorandum was conducted to determine if Appendix IV groundwater monitoring constituents have been detected in downgradient wells at statistically significant levels (SSL) above Groundwater Protection Standards (GWPS) consistent with the requirements in 40 CFR § 257.95.

Data from the groundwater sampling event for the downgradient monitoring wells (CCR-SP-1 through CCR-SP-3) were compared to the GWPS established from the background dataset for the upgradient monitoring wells (CCR-BK-1 and CCR-BK-2) 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, regional screening level, 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)). The statistical method used for developing the background concentration for the GWPS is tolerance limit (TL), which was certified by Haley & Aldrich, Inc. 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 maximum contaminant level (MCL), regional screening level (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 November 2020 sampling event was above 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 U.S. Environmental Protection Agency's ProUCL 5.1 software, and a visual inspection of the data was performed using box plots and distribution plots for the downgradient sample data. No sample data were identified as outliers that warranted removal from the dataset.

BACKGROUND DISTRIBUTIONS

The groundwater analytical results for each sampling event from the background sample 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).

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 2020 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 an SSL above GWPS was not identified at the Sedimentation Pond. As a result, the Sedimentation Pond will remain in Assessment Monitoring.

Tables:

Table I – Summary of Assessment Monitoring Statistical Evaluation – November 2020

TABLE

Table I
A.B. Brown Generating Station
Sedimentation Pond
Detection Monitoring Statistical Analysis Summary - November 2020
Prepared: March 12, 2021

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	Outlier Detected	Outlier Removed	Trend	Distribution Group*	Distribution Well*	Inter-well Analysis					
																				November 2020 Concentrations (mg/L)	Detect?	Upper Tolerance Limit (mg/L)	Background Limit (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-BK-1	2/14	86%	0.002-0.002	0.0035	0.004	0.004	0.0009	7.866E-07	0.0012542	0.7166	0.006	mg/L	N	0	N	N	Stable	Non-parametric	Non-parametric		0.002	0.006			
CCR-BK-2	1/14	93%	0.002-0.002	0.00378	0.004	0.004	0.00096	3.178E-07	0.0007972	0.4216	0.006	mg/L	N	0	N	N	Stable	Non-parametric	Non-parametric						
CCR-SP-1	0/13	100%	0.002-0.002	0.004	0.004	0.004		0	0	0	0.006	mg/L	N	0	N	N	NA		NA	0.002	N			N	FALSE
CCR-SP-2	0/13	100%	0.002-0.002	0.004	0.004	0.004		0	0	0	0.006	mg/L	N	0	N	N	NA		NA	0.002	N			N	FALSE
CCR-SP-3	0/13	100%	0.002-0.002	0.004	0.004	0.004		0	0	0	0.006	mg/L	N	0	N	N	NA		NA	0.002	N			N	FALSE
CCR Appendix-IV: Arsenic, Total (mg/L)																									
CCR-BK-1	12/15	20%	0.001-0.001	0.00185	0.002	0.0041	0.005	6.454E-07	0.001136	1.2278	0.01	mg/L	N	0	Y	N	Stable	Non-parametric	Normal		0.0035	0.010			
CCR-BK-2	7/15	53%	0.001-0.001	0.00228	0.002	0.00637	0.007	1.4894E-06	0.001726	1.5096	0.01	mg/L	N	0	Y	N	Stable	Non-parametric	Log-transformed						
CCR-SP-1	15/15	0%	-	0.0103	0.009	0.02006	0.026	0.00001059	0.004602	0.8942	0.01	mg/L	Y	2	Y	N	Stable		Non-parametric	0.0039	Y			N	FALSE
CCR-SP-2	14/15	7%	0.001-0.001	0.00366	0.0028	0.01153	0.0154	0.000006884	0.00371	2.03	0.01	mg/L	N	0	N	N	Stable		Log-transformed	0.0034	Y			N	FALSE
CCR-SP-3	15/15	0%	-	0.033	0.032	0.0788	0.086	0.000284	0.02384	1.444	0.01	mg/L	Y	18	N	N	Decrease		Normal	0.0085	Y			N	FALSE
CCR Appendix-IV: Barium, Total (mg/L)																									
CCR-BK-1	15/15	0%	-	0.0802	0.074	0.1343	0.164	0.0003272	0.02558	0.6374	2	mg/L	N	0	Y	N	Stable	Non-parametric	Non-parametric		0.150	2.0			
CCR-BK-2	15/15	0%	-	0.0898	0.072	0.2082	0.3	0.0016842	0.05804	1.2916	2	mg/L	N	0	Y	N	Stable	Non-parametric	Non-parametric						
CCR-SP-1	15/15	0%	-	0.1694	0.17	0.222	0.24	0.0005328	0.03264	0.3852	2	mg/L	N	0	N	N	Stable		Normal	0.075	Y			N	FALSE
CCR-SP-2	15/15	0%	-	0.228	0.24	0.28	0.28	0.0007448	0.0386	0.3396	2	mg/L	N	0	N	N	Increase		Normal	0.100	Y			N	FALSE
CCR-SP-3	15/15	0%	-	0.1474	0.144	0.1921	0.22	0.000259	0.02276	0.309	2	mg/L	N	0	Y	N	Stable		Non-parametric	0.075	Y			N	FALSE
CCR Appendix-IV: Beryllium, Total (mg/L)																									
CCR-BK-1	1/14	93%	0.001-0.001	0.001874	0.002	0.002	0.00024	1.0654E-07	0.0004616	0.4926	0.004	mg/L	N	0	N	N	Stable	Non-parametric	Non-parametric		0.001	0.004			
CCR-BK-2	2/14	86%	0.001-0.001	0.001798	0.002	0.002	0.0008	1.3162E-07	0.000513	0.571	0.004	mg/L	N	0	N	N	Stable	Non-parametric	Non-parametric						
CCR-SP-1	0/13	100%	0.001-0.001	0.002	0.002	0.002		0	0	0	0.004	mg/L	N	0	N	N	NA		NA	0.001	N			N	FALSE
CCR-SP-2	0/13	100%	0.001-0.001	0.002	0.002	0.002		0	0	0	0.004	mg/L	N	0	N	N	NA		NA	0.001	N			N	FALSE
CCR-SP-3	1/13	92%	0.001-0.001	0.00189	0.002	0.002	0.00058	7.446E-08	0.0003858	0.4082	0.004	mg/L	N	0	N	N	Stable		Non-parametric	0.001	N			N	FALSE
CCR Appendix-IV: Cadmium, Total (mg/L)																									
CCR-BK-1	0/15	100%	0.001-0.001	0.002	0.002	0.002		0	0	0	0.005	mg/L	N	0	N	N	Stable	Non-parametric	Non-parametric		0.001	0.005			
CCR-BK-2	0/15	100%	0.001-0.001	0.002	0.002	0.002		0	0	0	0.005	mg/L	N	0	N	N	Stable	Non-parametric	Non-parametric						
CCR-SP-1	0/13	100%	0.001-0.001	0.002	0.002	0.002		0	0	0	0.005	mg/L	N	0	N	N	NA		NA	0.001	N			N	FALSE
CCR-SP-2	2/13	85%	0.001-0.001	0.001724	0.002	0.002	0.00022	2.174E-07	0.0006594	0.7648	0.005	mg/L	N	0	N	N	Stable		Non-parametric	0.001	N			N	FALSE
CCR-SP-3	1/13	92%	0.001-0.001	0.00187	0.002	0.002	0.0003	1.067E-07	0.000462	0.4942	0.005	mg/L	N	0	N	N	Stable		Non-parametric	0.001	N			N	FALSE
CCR Appendix-IV: Chromium, Total (mg/L)																									
CCR-BK-1	12/15	20%	0.002-0.002	0.00478	0.004	0.01106	0.0152	0.000005224	0.003232	1.353	0.1	mg/L	N	0	Y	N	Increase	Non-parametric	Normal		0.009	0.100			
CCR-BK-2	5/15	67%	0.002-0.002	0.00568	0.004	0.0138	0.0174	0.000007296	0.00382	1.3464	0.1	mg/L	N	0	Y	N	Stable	Non-parametric	Non-parametric						
CCR-SP-1	1/15	93%	0.0017-0.002	0.00402	0.004	0.00455	0.005	4.652E-08	0.000305	0.15152	0.1	mg/L	N	0	N	N	NA		NA	0.0020	N			N	FALSE
CCR-SP-2	6/15	60%	0.002-0.0021	0.00354	0.004	0.00431	0.0044	4.478E-07	0.0009464	0.5342	0.1	mg/L	N	0	N	N	Stable		Non-parametric	0.0020	N			N	FALSE
CCR-SP-3	2/15	87%	0.002-0.0023	0.00516	0.004	0.0129	0.0192	0.000007338	0.003832	1.485	0.1	mg/L	N	0	Y	N	Stable		Non-parametric	0.0020	N			N	FALSE
CCR Appendix-IV: Cobalt, Total (mg/L)																									
CCR-BK-1	14/15	7%	0.0005-0.0005	0.000807	0.00062	0.00238	0.0028	5.987E-07	0.0007738	0.9592	0.006	mg/L	N	0	Y	N	Stable	Non-parametric	Log-transformed		0.006	0.0062			
CCR-BK-2	8/15	47%	0.0005-0.0005	0.000887	0.0005	0.00291	0.0062	0.00002312	0.001521	1.714	0.006	mg/L	Y	1	Y	N	Stable	Non-parametric	Log-transformed						
CCR-SP-1	15/15	0%	-	0.00461	0.0033	0.00738	0.0078	0.000004091	0.002023	0.439	0.006	mg/L	Y	6	Y	N	Increase		Non-parametric	0.00650	Y			N	FALSE
CCR-SP-2	15/15	0%	-	0.00106	0.00086	0.00196	0.0021	2.448E-07	0.0004948	0.4683	0.006	mg/L	N	0	N	N	Stable		Normal	0.00150	Y			N	FALSE
CCR-SP-3	15/15	0%	-	0.00102	0.00075	0.00239	0.0054	0.00000151	0.001229	1.203	0.006	mg/L	N	0	Y	N	Decrease		Non-parametric	0.00063	Y			N	FALSE
CCR Appendix-III: Fluoride (mg/L)																									
CCR-BK-1	14/15	7%	0.23-0.23	2.584	2.8	3.04	3.04	0.020336	0.40336	1.2504	4	mg/L	N	0	N	N	Stable	Non-parametric	Normal		0.380	4.0			
CCR-BK-2	14/15	7%	0.12-0.12	1.192	1.12	1.68	1.68	0.009752	0.27928	1.8784	4	mg/L	N	0	N	N	Decrease	Non-parametric	Normal						
CCR-SP-1	12/15	20%	0.1-0.2	2.176	2.16	6.24	6.24	0.17144	1.1712	4.3056	4	mg/L	N	0	Y	N	Stable		Non-parametric	0.25	Y			N	FALSE
CCR-SP-2	15/15	0%	-	2.648	2.64	3.04	3.04	0.012528	0.31656	0.9576	4	mg/L	N	0	N	N	Decrease		Normal	0.33	Y			N	FALSE
CCR-SP-3	14/15	7%	0.25-0.25	2.784	3.04	4.16	4.16	0.049808	0.63128	1.8136	4	mg/L	N	0	N	N	Decrease		Normal	0.52	Y			N	FALSE
CCR Appendix-IV: Lead, Total (mg/L)																									
CCR-BK-1	14/15	7%	0.001-0.001	0.001068	0.00104	0.00211	0.0022	2.728E-07	0.0007386	1.3824	0.015	mg/L	N	0	N	N	Stable	Non-parametric	Normal		0.011	0.015			
CCR-BK-2	6/15	60%	0.001-0.001	0.00346	0.002	0.01462	0.022	0.00013656	0.005226	3.018	0.015	mg/L	N	0	Y	N	Stable	Non-parametric	Non-parametric						
CCR-SP-1	3/15	80%	0.001-0.001	0.001656	0.002	0.002	0.0004	2.462E-07	0.0007018	0.8476	0.015	mg/L	N	0	N	N	Stable		Non-parametric	0.00100	N			N	FALSE
CCR-SP-2	12/15	20%	0.001-0.001	0.001334	0.0016	0.002	0.00194	1.9966E-07	0.000632	0.9478	0.015	mg/L	N	0	N	N	Stable		Normal	0.00043	Y			N	FALSE
CCR-SP-3	8/15	47%	0.001-0.001	0.001912	0.002	0.00761	0.0122	0.000004248	0.002914	3.05	0.015	mg/L	N	0	Y	N	Stable		Non-parametric	0.00100	N			N	FALSE
CCR Appendix-IV: Lithium, Total (mg/L)																									
CCR-BK-1	3/15	80%	0.005-0.05	0.0292	0.05	0.05	0.0086	0.0005292	0.023	0.7869	0.04	mg/L	N	0	N	N	Stable	Non-parametric	Non-parametric		0.050	0.050			
CCR-BK-2	1/15	93%	0.005-0.05	0.0352	0.05	0.05	0.0036	0.0004704	0.02169	0.616	0.04	mg/L	N	0	N	N	Stable	Non-parametric	Non-parametric						
CCR-SP-1	5/15	67%	0.0064-0.05	0.0324	0.05	0.05	0.0066	0.0004998	0.02236	0.6907	0.04	mg/L	N	0	Y	N	Stable		Non-parametric	0.0053	Y			N	FALSE
CCR-SP-2	6/15	60%	0.0073-0.05	0.0301	0.05	0.05	0.011	0.0004838	0.02199	0.7296	0.04	mg/L	N	0	N	N									



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TECHNICAL MEMORANDUM

21 October 2021
Revised: 1 March 2022
File No. 129420

SUBJECT: Statistical Evaluation of the May 2021 Semi-annual Groundwater Assessment Monitoring Data
Southern Indiana Gas and Electric Company
Sedimentation Pond
A.B. Brown Generating Station; Posey 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 2021 semi-annual assessment monitoring event for the A.B. Brown Generating Station Sedimentation Pond. The statistical evaluation discussed in this memorandum was conducted to determine if Appendix IV groundwater monitoring constituents have been detected in downgradient wells at statistically significant levels (SSL) above Groundwater Protection Standards (GWPS) consistent with the requirements in 40 CFR § 257.95.

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TABLE

