

ROY S. NELSON PLANT

2022 Annual Groundwater Monitoring and Corrective Action Report

**PREPARED IN COMPLIANCE WITH THE
EPA FINAL RULE FOR THE DISPOSAL OF
COAL COMBUSTION RESIDUALS
TITLE 40 CODE OF FEDERAL REGULATIONS PART 257**



January 2023

**CCR UNIT
WESTLAKE, LA**

**2022 ANNUAL GROUNDWATER MONITORING
AND CORRECTIVE ACTION REPORT**

**Prepared for
Entergy Services, LLC
639 Loyola Ave.
Mail unit L-ENT 3D
New Orleans, LA 70113**

**Prepared By:

Pivotal Engineering LLC, and
Eagle Environmental**

January 2023

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- A Site Map and Groundwater Flow Direction Map
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1.0 EXECUTIVE SUMMARY

The Coal Ash Landfill (CCR Unit) was in operation throughout 2022. For the duration of the current annual reporting period (January 2022 through December 2022), the groundwater quality was monitored under a detection monitoring program. In line with historical trends at the site, statistically significant increases of calcium were detected in wells CCR- 5 and CCR-7. Entergy Louisiana LLC (Entergy) had previously performed alternate source demonstrations (ASD) demonstrating that the SSIs are the result of natural variation in the groundwater quality. In 2022, no corrective measures were initiated.

2.0 INTRODUCTION

Entergy Louisiana LLC (Entergy), operates a Coal Ash Landfill (CCR Unit) for the disposal of coal combustion residuals (CCR) at the Roy S. Nelson Plant located in Westlake, Louisiana, see Figure 1 in Appendix A. The CCR Unit receives CCR generated from the combustion of coal at the Nelson Plant. Management of the CCR at the CCR Unit is performed pursuant to national criteria established in Title 40 of the Code of Federal Regulations (40 CFR) Part 257 (CCR Rule), published by the United States Environmental Protection Agency (EPA) on April 17, 2015. Entergy has installed a groundwater monitoring system at the CCR Unit that is subject to the groundwater monitoring and corrective action requirements provided under §§257.90 through 257.98 of the CCR Rule. In accordance with §257.90(e) of the CCR Rule, Entergy must prepare an annual report that provides information regarding the groundwater monitoring and corrective action program at the CCR Unit. The first groundwater monitoring report was completed in January 2018. This document is intended to provide the required information for the year 2022. In accordance with 257.90 (e) (6), the following overview is provided.

This report is the sixth annual groundwater monitoring report required under the CCR Rule and is the summary and analysis of results from the monitoring period starting January 1, 2022 and ending December 31, 2022. The CCR Unit was in detection monitoring at the beginning and end of the monitoring period.

A statistically significant increase was detected for calcium in June and December 2022 in well CCR-7 and in June 2022 for well CCR-5. As discussed below in Section 6.0, the prior ASDs demonstrated that the SSIs for calcium in wells CCR-5 and CCR-7 are the result of natural variation in groundwater quality and the basis for the prior ASDs remain applicable. Accordingly, an assessment monitoring program or corrective action remedy was not required to be initiated.

3.0 GROUNDWATER MONITORING WELL NETWORK

Entergy's groundwater monitoring system consists of 14 monitoring wells as shown in Appendix A see Figure 2. Pursuant to §257.91(f) of the CCR Rule, a qualified professional engineer has certified that the groundwater monitoring system has been designed and constructed to meet the requirements of this section of §257.91.

4.0 INSTALLED OR DECOMMISSIONED MONITORING WELLS DURING 2022

No monitoring wells were installed or decommissioned during 2022 at the CCR Unit.

5.0 GROUNDWATER MONITORING DATA

In accordance with §257.90(e)(3), all the monitoring data obtained under §§257.90 through 257.98 are provided in Appendix B along with a summary of the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was collected as part of detection or assessment monitoring.

6.0 STATUS SUMMARY OF THE 2022 GROUNDWATER MONITORING PROGRAM

Groundwater monitoring was performed in accordance with the detection monitoring requirements of §257.94. A summary of activities related to the 2022 groundwater detection monitoring performed is provided below:

- In accordance with §257.94(b), detection monitoring sampling was performed during March, June, September, and December 2022 for analysis of Appendix III parameters.
- Appendix IV parameters were collected in March, June, September and December 2022 to enhance the background data set for those constituents. Sample collection for Radium 226/228 was not performed as these constituents were not detected in any of the background data. As noted above, the March, June, September and December 2022 Appendix IV data were collected for background purposes and are not required by the rule since the unit is in detection monitoring.
- Statistical evaluation of the detection monitoring data was performed in accordance with the statistical method certified by a qualified Louisiana-registered Professional Engineer. The certified statistical method has been posted to Entergy's CCR Rule Compliance Data and Information website.
- In 2018, Entergy completed a successful alternate source demonstration (ASD) per §257.94(e)(2) in response to statistically significant increases (SSIs) identified for calcium in well CCR-7 during the second half of 2017 detection monitoring event. The ASD, which demonstrated that the SSI is the result of natural variation in groundwater quality, was certified by a Louisiana-registered professional engineer and was placed into the facility's operating record. Based on the successful evaluation conducted and results presented in the ASD, Entergy continued with detection monitoring in accordance with §257.94.
- In 2018, Entergy completed a successful alternate source demonstration (ASD) per §257.94(e)(2) in response to statistically significant increases (SSIs) identified for calcium in well CCR-7 during the first half of 2018 detection monitoring event. The ASD, which demonstrated that the SSI is the result of natural variation in

groundwater quality, was certified by a Louisiana-registered professional engineer and were placed into the facility's operating record. Based on the successful evaluation conducted and results presented in the ASD, Entergy continued with detection monitoring in accordance with §257.94.

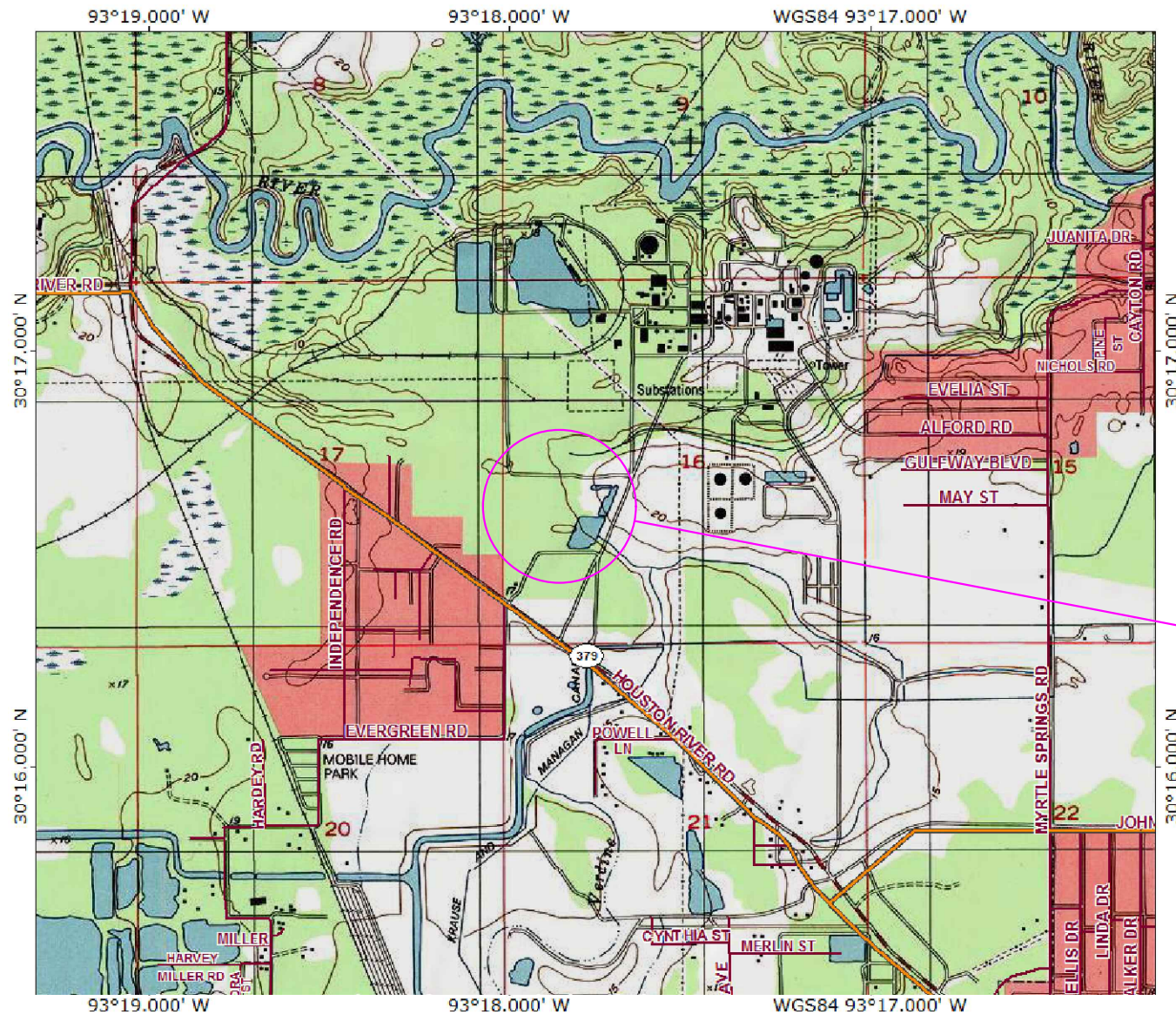
- In 2019, Entergy completed a successful alternate source demonstration (ASD) per §257.94(e)(2) in response to statistically significant increases (SSIs) identified for calcium in wells CCR-5 and CCR-7 during the second half of 2018 detection monitoring event. The ASD, which demonstrated that the SSIs are the result of natural variation in groundwater quality, was certified by a Louisiana-registered professional engineer and were placed into the facility's operating record. Based on the successful evaluation conducted and results presented in the ASD, Entergy continued with detection monitoring in accordance with §257.94.
- The 2022 detection monitoring sampling was performed during March, June, September, and December 2022. Results confirmed SSIs for calcium in June and December 2022 in well CCR-7 and in June 2022 for well CCR-5. The ASDs referenced above previously demonstrated that the SSIs for calcium in wells CCR-5 and CCR-7 are the result of natural variation in groundwater quality and the basis for the prior ASDs remain applicable.
- Groundwater flow direction in 2022 was west to east in the first continuous permeable zone beneath the landfill which is consistent with historical observations, refer to Figures 3 and 4 in Appendix A.
- Investigation activities have shown that the rate of groundwater flow in the vicinity of the CADL is 5.62×10^{-4} feet per day. The rate was determined from the hydraulic conductivity from the previous hydrogeologic investigations of the Lower Sand and from 2022 hydraulic gradient data. An average soil porosity of 0.3725 was utilized (Geotechdata.info, 2013).
- No problems were encountered during 2022 with regard to the groundwater monitoring system. Therefore, no actions were required to modify the system.
- The facility remained in detection monitoring for the duration of 2022 because no SSIs were detected that were not addressed by the prior ASDs.

7.0 PROJECTED ACTIVITIES FOR 2023

Semi-annual detection monitoring events are planned for June and December 2023.

APPENDIX A

SITE MAP AND GROUNDWATER FLOW DIRECTION



SITE LOCATION

COAL ASH DISPOSAL LANDFILL SITE LOCATION MAP

NELSON POWER GENERATING STATION
3500 HOUSTON RIVER ROAD, WESTLAKE, LOUISIANA

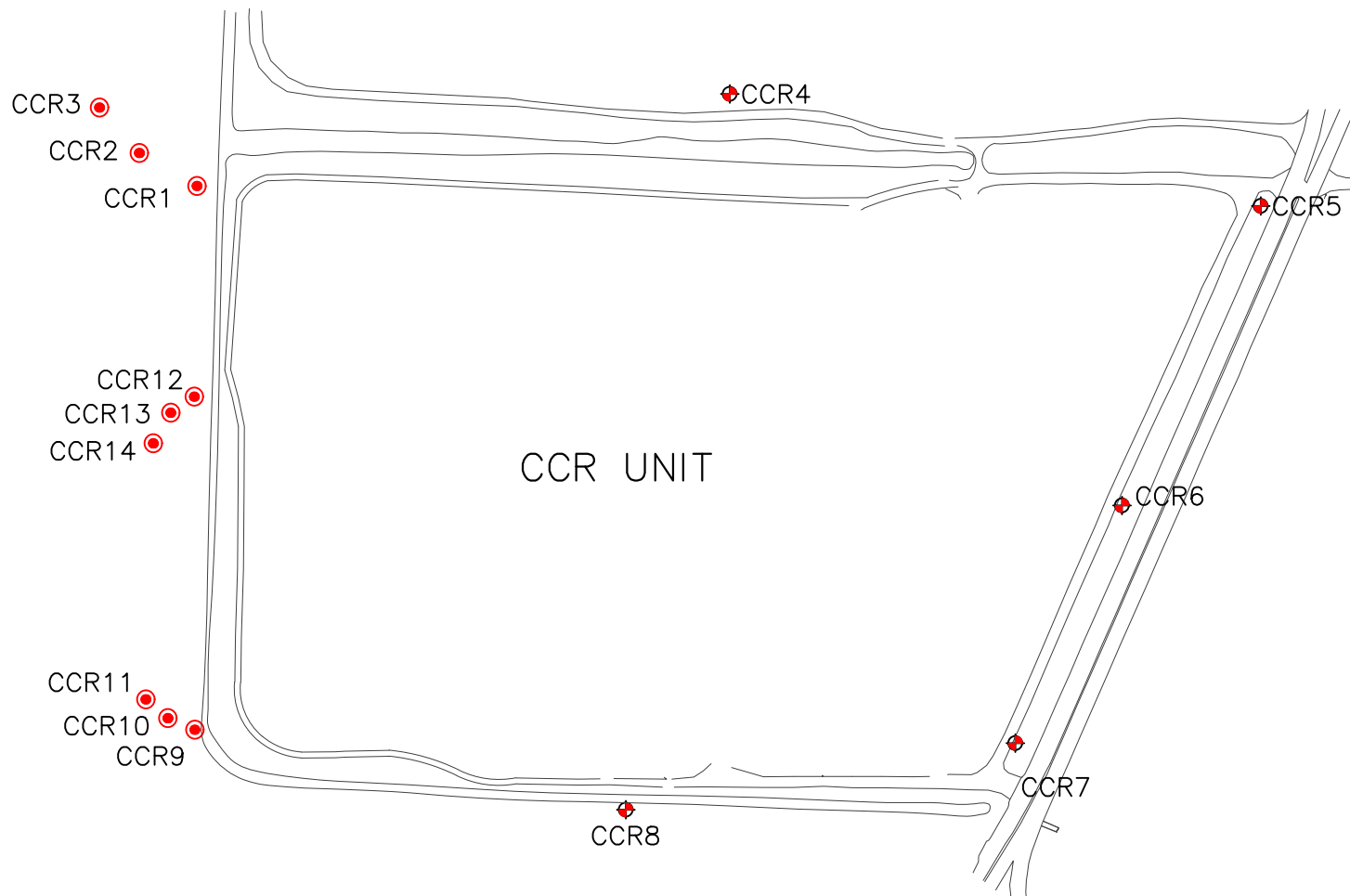


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CIVIL, ELECTRICAL, ENVIRONMENTAL & MECHANICAL ENGINEERING
1515 POYDRAS STREET, STE. 1875
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SCALE: NOT TO SCALE	DRAWN BY: Y.S.
DATE: JANUARY 4, 2015	CHECKED BY: T.E.
JOB NO. 15-125	

1
FIG. NO.

DATE	DESCRIPTION REVISIONS	BY



Legend

- Upgradient Well Location
- ⊕ Downgradient Well Location

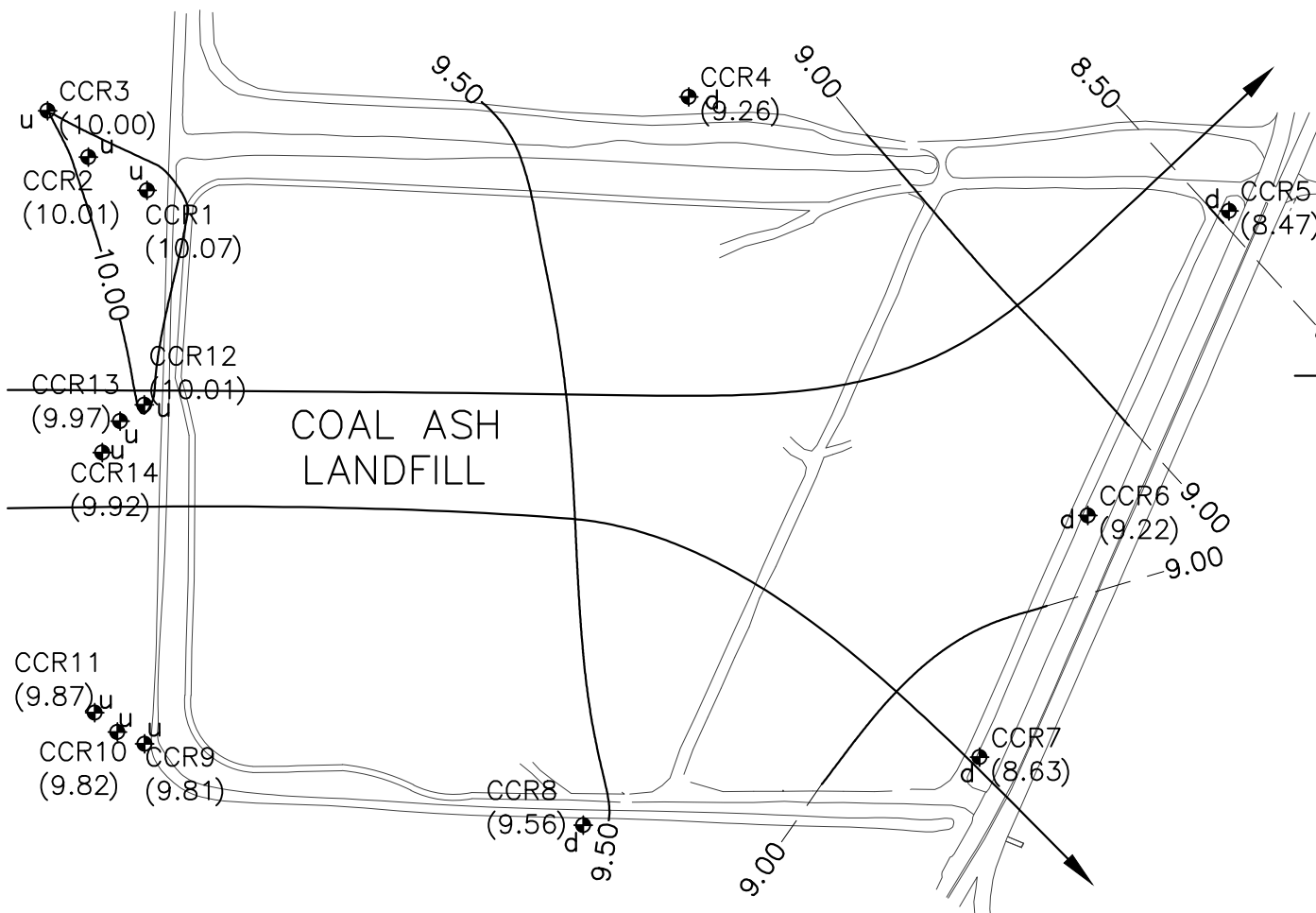
0 300
Feet
Scale

CCR UNIT SITE MAP

ENTERGY LOUISIANA, LLC
ROY S. NELSON PLANT
HOUSTON RIVER ROAD, WESTLAKE, LOUISIANA

DATE	DESCRIPTION REVISIONS	BY

SCALE: AS NOTED	DRAWN BY: B.S.	2 Fig. No.
DATE: JAN 06/16	CHECKED BY: T.E.	



Legend

- 13.00 — Ground Water Elevation Contour, ft
- - - Extrapolated Contour
- (12.30) Ground Water Elevation, ft NAVD 88
- Landfill Area
- ⊕ Well Location
- Direction of Ground Water Flow
- u UP GRADIENT
- d DOWN GRADIENT



Scale

COAL ASH LANDFILL POTENTIOMETRIC ELEVATION MAP JUNE 2022

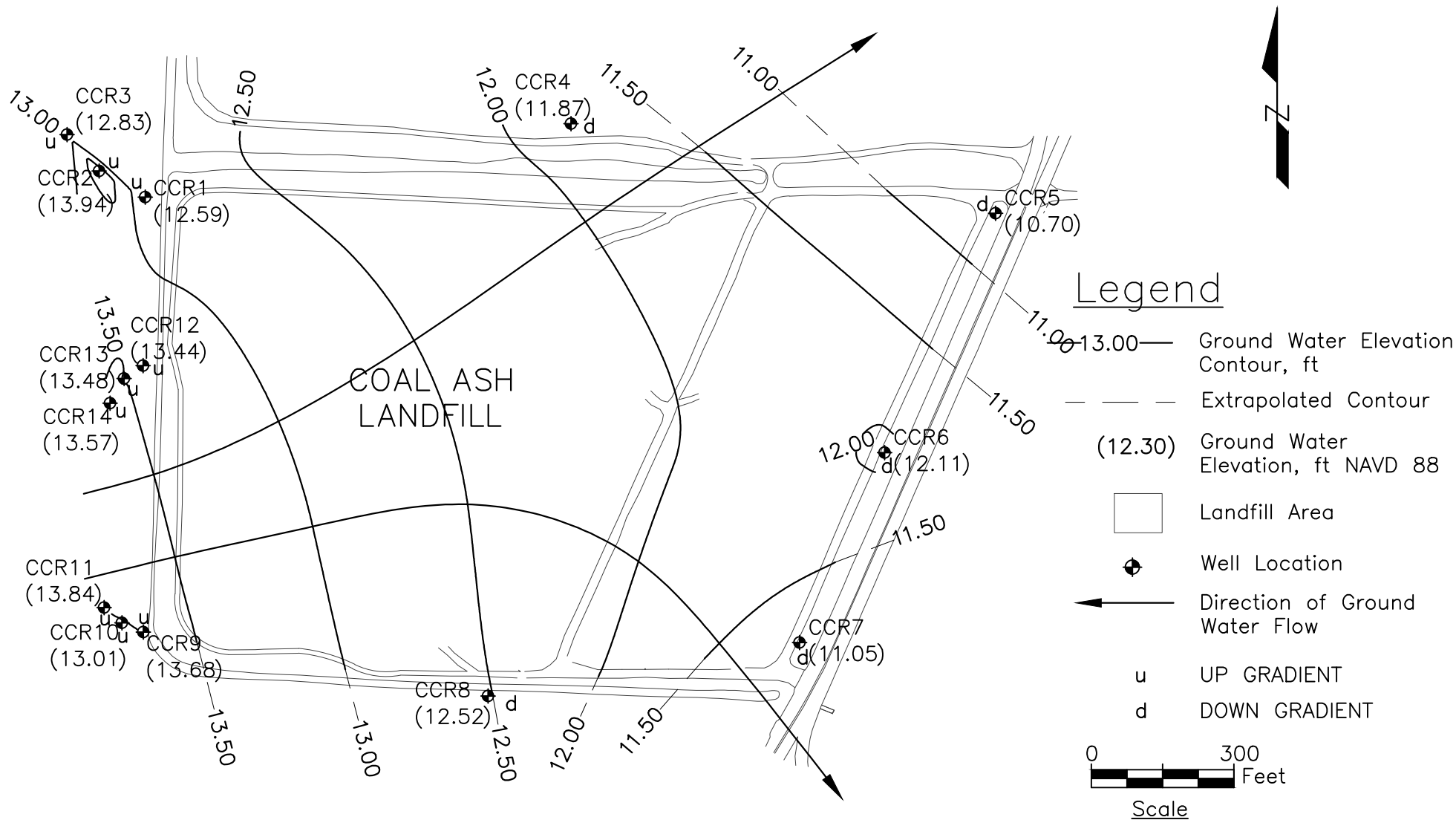
ENTERGY LOUISIANA, LLC
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DATE	DESCRIPTION	BY
	REVISIONS	

SCALE: AS NOTED	DRAWN BY: B.S.	3 FIG. NO.
DATE: JANUARY 5, 2023	CHECKED BY: T.E.	
JOB NO. 20-139		



**COAL ASH LANDFILL
POTENTIOMETRIC ELEVATION MAP
DECEMBER 2022**

ENTERGY LOUISIANA, LLC
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HOUSTON RIVER ROAD, WESTLAKE, LOUISIANA

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DATE	DESCRIPTION	BY
	REVISIONS	

SCALE: AS NOTED	DRAWN BY: B.S.	4 FIG. NO.
DATE: JANUARY 5, 2023	CHECKED BY: T.E.	
JOB NO. 20-139		

APPENDIX B

SAMPLING SCHEDULE AND ANALYTICAL DATA

Well	CCR-1 (BG)	CCR-2 (BG)	CCR-3 (BG)	CCR-4	CCR-5	CCR-6	CCR-7	CCR-8	CCR-9 (BG)	CCR-10 (BG)	CCR-11 (BG)	CCR-12 (BG)	CCR-13 (BG)	CCR-14 (BG)
Date	3/21/22	3/21/22	3/21/22	3/24/22	3/24/22	3/24/22	3/24/22	3/24/22	3/24/22	3/23/22	3/23/22	3/22/22	3/22/22	3/22/22
40 CFR 257 Appendix III Parameters*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
40 CFR 257 Appendix IV Parameters**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date	6/27/22	6/28/22	6/27/22	6/28/22	6/28/22	6/28/22	6/28/22	6/28/22	6/28/22	6/28/22	6/28/22	6/28/22	6/28/22	6/27/22
40 CFR 257 Appendix III Parameters*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
40 CFR 257 Appendix IV Parameters**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date	9/26/22	9/26/22	9/26/22	9/27/22	9/27/22	9/27/22	9/27/22	9/27/22	9/27/22	9/27/22	9/27/22	9/26/22	9/26/22	9/26/22
40 CFR 257 Appendix III Parameters*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
40 CFR 257 Appendix IV Parameters**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date	12/9/22	12/9/22	12/9/22	12/9/22	12/9/22	12/9/22	12/9/22	12/9/22	12/9/22	12/9/22	12/9/22	12/9/22	12/11/22	12/11/22
40 CFR 257 Appendix III Parameters*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
40 CFR 257 Appendix IV Parameters**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

*40 CFR 257 Appendix III Parameters collected on reference date and include Boron, Calcium, Chloride, Fluoride, pH, Sulfate, and Total Dissolved Solids. Laboratory reports to follow

**40 CFR 257 Appendix IV Parameters collected on reference date and include Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium and Thallium

Note: Detection monitoring results for pH are located on the next table.

Radium 226 and 228 combined were not analyzed in 2021 due to 100% non-detect in previous background analytical results



**pH and Sampling Date Summary
2022 Annual Report**

Entergy Services, Inc.
Nelson Coal Ash Landfill
Westlake, LA

Parameter/Well/ Date	pH in Standard Units (s.u.)							
	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
CCR-1 (BG)	3/21/22	6.80	6/27/22	6.76	9/26/22	6.86	12/9/22	6.81
CCR-2 (BG)	3/21/22	6.68	6/28/22	7.63	9/26/22	6.68	12/9/22	6.75
CCR-3 (BG)	3/21/22	6.94	6/27/22	6.53	9/26/22	6.85	12/9/22	6.90
CCR-4	3/24/22	7.16	6/28/22	7.45	9/27/22	6.79	12/9/22	6.84
CCR-5	3/24/22	7.11	6/28/22	7.67	9/27/22	6.96	12/9/22	7.08
CCR-6	3/24/22	6.96	6/28/22	7.56	9/27/22	6.90	12/9/22	7.09
CCR-7	3/24/22	6.94	6/28/22	7.45	9/27/22	7.05	12/9/22	7.08
CCR-8	3/24/22	6.58	6/28/22	7.36	9/27/22	6.50	12/9/22	6.60
CCR-9 (BG)	3/24/22	6.89	6/28/22	7.69	9/27/22	7.17	12/9/22	7.14
CCR-10 (BG)	3/23/22	7.16	6/28/22	7.43	9/27/22	7.17	12/9/22	7.17
CCR-11 (BG)	3/23/22	7.10	6/28/22	7.16	9/27/22	7.16	12/9/22	7.25
CCR-12 (BG)	3/22/22	6.16	6/28/22	7.50	9/26/22	6.28	12/9/22	6.58
CCR-13 (BG)	3/22/22	7.05	6/28/22	8.06	9/26/22	7.38	12/11/22	7.01
CCR-14 (BG)	3/22/22	6.56	6/27/22	6.80	9/26/22	6.57	12/11/22	6.70



Element Materials Technology Lafayette
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April 07, 2022

Terry Elnaggar
Pivotal Engineering LLC
1515 Poydras St., STE. 1875
New Orleans, LA 70112
TEL: (504) 799-3653
FAX

RE: Entergy: CCR Detection Monitoring

Order No.: 22031159

Dear Terry Elnaggar:

Element Materials Technology Lafayette received 16 sample(s) on 3/24/2022 for the analyses presented in the following report.

In accordance with your instructions, Element Lafayette either conducted or subcontracted these analyses. Subcontracted analyses will be identified in the accompanying case narrative. All relevant sampling information can be found on the attached Chain-of-Custody form. Unless otherwise noted, all analyses were conducted using EPA approved methodologies and all test results meet the applicable requirements of TNI. Reported results relate only to the items tested.

Where applicable, all soil data, except for 29-B, are reported on a wet-weight basis unless otherwise indicated in the units field as –dry.

LELAP Certification No.: 01997. TCEQ Certification No.: T104704261. LDHH Certification No.: LA023. ISDH Certification No.: C-LA-01. NDELCP Certification No.: R-226. A scope of accredited parameters is available upon request. A "#" by the test method or analyte indicates this parameter is outside the scope of accreditation. PA registration No.: 68-05967.

Estimated uncertainty is available upon request. This report shall not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions regarding these test results, please feel free to call.

A handwritten signature in blue ink, appearing to read 'Cristina Thibeaux'.

Cristina Thibeaux
Customer Service Supervisor



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Case Narrative

WO#: 22031159
Date: 4/7/2022

CLIENT: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

Unless specified by the client, a duplicate or MS/MSD, wherever applicable, is randomly selected and analyzed from each analytical batch provided sample volume is sufficient. The sample chosen for duplicate or MS/MSD may or may not be a sample submitted in this workorder. A method blank and/or a lab control sample (LCS)/lab control sample duplicate (LCSD), wherever applicable, are processed as a quality control check for each analytical batch. When the matrix QC data is not available due to insufficient sample volume or when the results indicate possible matrix effect, the validity of the batch is determined by the method blank and LCS/LCSD.

The results of the laboratory internal quality control data are provided in the QC Summary Report section of the report for your review. Laboratory-related QC exceptions that may impact the validity of data are discussed in the case narrative. Sample-related QC exceptions are flagged either in the results page(s) or in the QC report page(s). End users should consider QC exceptions when evaluating sample data against data quality objectives.

Any other exceptions associated with this report will be footnoted in the results page(s) or the QC summary page(s).



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Website: www.element.com

Analytical Report

(consolidated)

WO#: 22031159

Date Reported: 4/7/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/21/2022 5:10:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22031159-001 **Matrix:** AQUEOUS
Client Sample ID CCR-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Chloride	41.7	2.50		mg/L	10	3/26/2022 11:49:01 AM
Fluoride	0.279	0.0500		mg/L	1	3/26/2022 12:02:56 PM
Sulfate	3.18	0.250		mg/L	1	3/26/2022 12:02:56 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Boron	< 0.100	0.100		mg/L	1	3/28/2022 8:41:38 PM
Calcium	26.0	0.500		mg/L	1	3/28/2022 8:41:38 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	302	10.0		mg/L	1	3/26/2022 7:48:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

(consolidated)

WO#: 22031159

Date Reported: 4/7/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/21/2022 4:15:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22031159-002 **Matrix:** AQUEOUS
Client Sample ID CCR-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	55.5	2.50		mg/L	10	3/26/2022 12:16:50 PM
Fluoride	0.373	0.0500		mg/L	1	3/26/2022 12:30:45 PM
Sulfate	1.57	0.250		mg/L	1	3/26/2022 12:30:45 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRB
Boron	< 0.100	0.100		mg/L	1	3/28/2022 8:43:57 PM
Calcium	21.2	0.500		mg/L	1	3/28/2022 8:43:57 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	266	10.0		mg/L	1	3/26/2022 7:48:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

(consolidated)

WO#: 22031159

Date Reported: 4/7/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/21/2022 3:05:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22031159-003 **Matrix:** AQUEOUS
Client Sample ID CCR-3

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	134	5.00		mg/L	20	3/26/2022 12:44:40 PM
Fluoride	0.412	0.0500		mg/L	1	3/26/2022 12:58:34 PM
Sulfate	3.53	0.250		mg/L	1	3/26/2022 12:58:34 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRB
Boron	< 0.100	0.100		mg/L	1	3/28/2022 8:46:16 PM
Calcium	30.2	0.500		mg/L	1	3/28/2022 8:46:16 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	376	10.0		mg/L	1	3/26/2022 7:48:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

(consolidated)

WO#: 22031159

Date Reported: 4/7/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/24/2022 1:45:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22031159-004 **Matrix:** AQUEOUS
Client Sample ID CCR-4

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	44.6	2.50		mg/L	10	3/26/2022 1:12:29 PM
Fluoride	0.240	0.0500		mg/L	1	3/26/2022 1:54:14 PM
Sulfate	12.1	0.250		mg/L	1	3/26/2022 1:54:14 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRB
Boron	0.108	0.100		mg/L	1	3/28/2022 8:48:34 PM
Calcium	19.2	0.500		mg/L	1	3/28/2022 8:48:34 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	242	10.0		mg/L	1	3/26/2022 7:48:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

(consolidated)

WO#: 22031159

Date Reported: 4/7/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/24/2022 12:50:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22031159-005 **Matrix:** AQUEOUS
Client Sample ID CCR-5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	56.2	2.50		mg/L	10	3/26/2022 2:36:00 PM
Fluoride	0.258	0.0500		mg/L	1	3/26/2022 2:49:54 PM
Sulfate	< 0.250	0.250		mg/L	1	3/26/2022 2:49:54 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRB
Boron	0.118	0.100		mg/L	1	3/28/2022 9:00:05 PM
Calcium	33.7	0.500		mg/L	1	3/28/2022 9:00:05 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	402	10.0		mg/L	1	3/26/2022 7:48:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



Element Materials Technology Lafayette
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Analytical Report

(consolidated)

WO#: 22031159

Date Reported: 4/7/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/24/2022 12:00:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22031159-006 **Matrix:** AQUEOUS
Client Sample ID CCR-6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Chloride	89.9	2.50		mg/L	10	3/26/2022 3:03:48 PM
Fluoride	0.296	0.0500		mg/L	1	3/26/2022 3:17:43 PM
Sulfate	< 0.250	0.250		mg/L	1	3/26/2022 3:17:43 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Boron	0.103	0.100		mg/L	1	3/28/2022 9:02:24 PM
Calcium	29.8	0.500		mg/L	1	3/28/2022 9:02:24 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	320	10.0		mg/L	1	3/26/2022 7:48:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

(consolidated)

WO#: 22031159

Date Reported: 4/7/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/24/2022 11:10:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22031159-007 **Matrix:** AQUEOUS
Client Sample ID CCR-7

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Chloride	74.0	2.50		mg/L	10	3/26/2022 3:31:38 PM
Fluoride	0.306	0.0500		mg/L	1	3/26/2022 3:45:34 PM
Sulfate	< 0.250	0.250		mg/L	1	3/26/2022 3:45:34 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Boron	< 0.100	0.100		mg/L	1	3/28/2022 9:04:43 PM
Calcium	45.4	0.500		mg/L	1	3/28/2022 9:04:43 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	331	10.0		mg/L	1	3/26/2022 7:48:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22031159

Date Reported: 4/7/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/24/2022 10:10:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22031159-008 **Matrix:** AQUEOUS
Client Sample ID CCR-8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	87.6	2.50		mg/L	10	3/26/2022 3:59:28 PM
Fluoride	0.185	0.0500		mg/L	1	3/26/2022 4:13:23 PM
Sulfate	1.57	0.250		mg/L	1	3/26/2022 4:13:23 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRB
Boron	< 0.100	0.100		mg/L	1	3/28/2022 9:07:02 PM
Calcium	11.2	0.500		mg/L	1	3/28/2022 9:07:02 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	297	10.0		mg/L	1	3/26/2022 7:48:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22031159

Date Reported: 4/7/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/24/2022 9:05:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22031159-009 **Matrix:** AQUEOUS
Client Sample ID CCR-9

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	68.2	2.50		mg/L	10	3/26/2022 4:27:18 PM
Fluoride	0.616	0.0500		mg/L	1	3/26/2022 4:41:13 PM
Sulfate	6.47	0.250		mg/L	1	3/26/2022 4:41:13 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRB
Boron	< 0.100	0.100		mg/L	1	3/28/2022 9:09:20 PM
Calcium	30.7	0.500		mg/L	1	3/28/2022 9:09:20 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	337	10.0		mg/L	1	3/26/2022 7:48:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22031159

Date Reported: 4/7/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/23/2022 9:55:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22031159-010 **Matrix:** AQUEOUS
Client Sample ID CCR-10

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	42.4	2.50		mg/L	10	3/28/2022 11:35:02 AM
Fluoride	0.632	0.0500		mg/L	1	3/28/2022 11:48:41 AM
Sulfate	5.05	0.250		mg/L	1	3/28/2022 11:48:41 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRB
Boron	< 0.100	0.100		mg/L	1	3/28/2022 9:11:39 PM
Calcium	25.8	0.500		mg/L	1	3/28/2022 9:11:39 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	307	10.0		mg/L	1	3/26/2022 7:48:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22031159

Date Reported: 4/7/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/23/2022 9:05:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22031159-011 **Matrix:** AQUEOUS
Client Sample ID: CCR-11

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	26.8	2.50		mg/L	10	3/28/2022 12:02:35 PM
Fluoride	0.722	0.0500		mg/L	1	3/28/2022 12:16:30 PM
Sulfate	3.10	0.250		mg/L	1	3/28/2022 12:16:30 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRB
Boron	< 0.100	0.100		mg/L	1	3/28/2022 9:13:58 PM
Calcium	29.1	0.500		mg/L	1	3/28/2022 9:13:58 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	231	10.0		mg/L	1	3/26/2022 7:48:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22031159

Date Reported: 4/7/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/22/2022 6:15:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22031159-012 **Matrix:** AQUEOUS
Client Sample ID CCR-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	16.7	0.250		mg/L	1	3/28/2022 12:30:25 PM
Fluoride	0.144	0.0500		mg/L	1	3/28/2022 12:30:25 PM
Sulfate	15.3	0.250		mg/L	1	3/28/2022 12:30:25 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRB
Boron	< 0.100	0.100		mg/L	1	3/28/2022 9:16:17 PM
Calcium	20.5	0.500		mg/L	1	3/28/2022 9:16:17 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	163	10.0		mg/L	1	3/26/2022 7:48:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22031159

Date Reported: 4/7/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/22/2022 5:20:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22031159-013 **Matrix:** AQUEOUS
Client Sample ID: CCR-13

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	11.4	0.250		mg/L	1	3/28/2022 12:44:19 PM
Fluoride	0.249	0.0500		mg/L	1	3/28/2022 12:44:19 PM
Sulfate	1.51	0.250		mg/L	1	3/28/2022 12:44:19 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRB
Boron	< 0.100	0.100		mg/L	1	3/28/2022 9:18:36 PM
Calcium	27.8	0.500		mg/L	1	3/28/2022 9:18:36 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	211	10.0		mg/L	1	3/26/2022 7:48:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22031159

Date Reported: 4/7/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/24/2022 4:15:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22031159-014 **Matrix:** AQUEOUS
Client Sample ID CCR-14

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	10.9	0.250		mg/L	1	3/28/2022 12:58:15 PM
Fluoride	0.168	0.0500		mg/L	1	3/28/2022 12:58:15 PM
Sulfate	0.888	0.250		mg/L	1	3/28/2022 12:58:15 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRB
Boron	< 0.100	0.100		mg/L	1	3/28/2022 9:25:31 PM
Calcium	16.7	0.500		mg/L	1	3/28/2022 9:25:31 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	148	10.0		mg/L	1	3/26/2022 7:48:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22031159

Date Reported: 4/7/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/24/2022 1:56:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22031159-015 **Matrix:** AQUEOUS
Client Sample ID Duplicate

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Chloride	43.4	2.50		mg/L	10	3/28/2022 1:12:09 PM
Fluoride	0.235	0.0500		mg/L	1	3/28/2022 1:26:05 PM
Sulfate	12.4	0.250		mg/L	1	3/28/2022 1:26:05 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Boron	0.110	0.100		mg/L	1	3/28/2022 9:27:50 PM
Calcium	19.6	0.500		mg/L	1	3/28/2022 9:27:50 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	629	10.0		mg/L	1	3/26/2022 7:48:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22031159

Date Reported: 4/7/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/24/2022 1:55:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22031159-016 **Matrix:** AQUEOUS
Client Sample ID Field Blank 1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Chloride	< 0.250	0.250		mg/L	1	3/28/2022 2:07:49 PM
Fluoride	< 0.0500	0.0500		mg/L	1	3/28/2022 2:07:49 PM
Sulfate	< 0.250	0.250		mg/L	1	3/28/2022 2:07:49 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Boron	< 0.100	0.100		mg/L	1	3/28/2022 9:30:08 PM
Calcium	< 0.500	0.500		mg/L	1	3/28/2022 9:30:08 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	< 10.0	10.0		mg/L	1	3/26/2022 7:48:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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QC SUMMARY REPORT

WO#: 22031159
07-Apr-22

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: 43165-2

Sample ID	22031159-004BMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 3/28/2022	RunNo: 108301					
Client ID: CCR-4	Batch ID: 43165-2	TestNo: SW6010B	Analysis Date: 3/31/2022	SeqNo: 2674186							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.663	0.100	0.5000	0.1084	111	75	125	0.6563	1.06	20	
Calcium	71.3	0.500	50.00	19.15	104	75	125	71.51	0.263	20	

Sample ID	22031159-004BMS	SampType: MS	TestCode: 6010_W		Units: mg/L	Prep Date: 3/28/2022				RunNo: 108301		
Client ID:	CCR-4	Batch ID: 43165-2	TestNo: SW6010B			Analysis Date: 3/31/2022				SeqNo: 2674187		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.656	0.100	0.5000	0.1084	110	75	125				
Calcium		71.5	0.500	50.00	19.15	105	75	125				

Qualifiers:

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22031159

07-Apr-22

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: 43165-2

Sample ID	MB-43165	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	3/25/2022	RunNo:	108249			
Client ID:	PBW	Batch ID:	43165-2	TestNo:	SW6010B			Analysis Date:	3/28/2022	SeqNo:	2664653			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		< 0.100		0.100										
Calcium		< 0.500		0.500										

Sample ID	LCS-43165	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	3/25/2022	RunNo:	108249	
Client ID:	LCSW	Batch ID:	43165-2	TestNo:	SW6010B			Analysis Date:	3/28/2022	SeqNo:	2664654	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.485	0.100	0.5000	0	97.1	80	120				
Calcium		49.9	0.500	50.00	0	99.7	80	120				

Sample ID	LCSD-43165	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	3/25/2022	RunNo:	108249	
Client ID:	LCSS02	Batch ID:	43165-2	TestNo:	SW6010B			Analysis Date:	3/28/2022	SeqNo:	2664655	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.505	0.100	0.5000	0	101	80	120	0.4853	3.89	20	
Calcium		48.8	0.500	50.00	0	97.5	80	120	49.86	2.22	20	

Qualifiers:

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22031159
07-Apr-22

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R108160

Sample ID	MB-R108160	SampType:	MBLK	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	108160		
Client ID:	PBW	Batch ID:	R108160	TestNo:	SM2540C			Analysis Date:	3/26/2022	SeqNo:	2661424		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) < 10.0 10.0

Sample ID	LCS-R108160	SampType:	LCS	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	108160		
Client ID:	LCSW	Batch ID:	R108160	TestNo:	SM2540C			Analysis Date:	3/26/2022	SeqNo:	2661427		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) 1,010 10.0 1,000 0 101 85 115

Sample ID	LCSD-R108160	SampType:	LCSD	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	108160		
Client ID:	LCSS02	Batch ID:	R108160	TestNo:	SM2540C			Analysis Date:	3/26/2022	SeqNo:	2661428		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) 1,000 10.0 1,000 0 100 85 115 1,008 0.597 10

Sample ID	22031157-004adup	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	108160		
Client ID:	ZZZZZZ	Batch ID:	R108160	TestNo:	SM2540C			Analysis Date:	3/26/2022	SeqNo:	2661465		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) 239 10.0 242.0 1.25 10

Qualifiers:

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit
SDL Sample detection limit



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Website: www.element.com

QC SUMMARY REPORT

WO#: 22031159
07-Apr-22

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R108160

Sample ID	22031157-004adup	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	108160
Client ID:	ZZZZZZ	Batch ID:	R108160	TestNo:	SM2540C			Analysis Date:	3/26/2022	SeqNo:	2661465
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Sample ID	22031157-015adup	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	108160
Client ID:	ZZZZZZ	Batch ID:	R108160	TestNo:	SM2540C			Analysis Date:	3/26/2022	SeqNo:	2661467
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Total Dissolved Solids (Residue, Filterable)		258		10.0						260.0	0.772 10

Qualifiers:

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22031159

07-Apr-22

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R108171

Sample ID	MBLK	SampType:	MBLK	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	108171	
Client ID:	PBW	Batch ID:	R108171	TestNo:	E 300.0			Analysis Date:	3/26/2022	SeqNo:	2661907	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		< 0.250	0.250									
Fluoride		< 0.0500	0.0500									
Sulfate		< 0.250	0.250									

Sample ID	LCS	SampType:	LCS	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	108171	
Client ID:	LCSW	Batch ID:	R108171	TestNo:	E 300.0			Analysis Date:	3/26/2022	SeqNo:	2661908	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		10.3	0.250	10.00	0	103	90	110				
Fluoride		2.16	0.0500	2.000	0	108	90	110				
Sulfate		10.2	0.250	10.00	0	102	90	110				

Sample ID	LCSD	SampType:	LCSD	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	108171			
Client ID:	LCSS02	Batch ID:	R108171	TestNo:	E 300.0			Analysis Date:	3/26/2022	SeqNo:	2661909			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		10.2		0.250	10.00	0		102	90	110	10.30	0.737	15	
Fluoride		2.16		0.0500	2.000	0		108	90	110	2.159	0.135	15	
Sulfate		10.2		0.250	10.00	0		102	90	110	10.22	0.293	15	

Qualifiers:

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22031159
07-Apr-22

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R108171

Sample ID	22031159-004AMS	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 108171					
Client ID:	CCR-4	Batch ID: R108171	TestNo: E 300.0	Analysis Date: 3/26/2022	SeqNo: 2661919						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	93.2	2.50	50.00	44.60	97.3	80	120				
Fluoride	11.1	0.500	10.00	0	111	80	120				
Sulfate	63.7	2.50	50.00	13.09	101	80	120				

Sample ID	22031159-004AMSD	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 108171					
Client ID:	CCR-4	Batch ID: R108171	TestNo: E 300.0	Analysis Date: 3/26/2022	SeqNo: 2661920						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	93.9	2.50	50.00	44.60	98.5	80	120	93.24	0.675	15	
Fluoride	11.3	0.500	10.00	0	113	80	120	11.11	1.65	15	
Sulfate	63.3	2.50	50.00	13.09	100	80	120	63.74	0.656	15	

Sample ID	22031157-016AMS	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 108171					
Client ID:	ZZZZZZ	Batch ID: R108171	TestNo: E 300.0	Analysis Date: 3/26/2022	SeqNo: 2661946						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	5.03	0.250	5.000	0	101	80	120				
Fluoride	0.977	0.0500	1.000	0	97.7	80	120				
Sulfate	5.06	0.250	5.000	0	101	80	120				

Qualifiers:

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22031159
07-Apr-22

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R108171

Sample ID	22031157-016AMSD	SampType:	MSD	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	108171
Client ID:	ZZZZZZ	Batch ID:	R108171	TestNo:	E 300.0			Analysis Date:	3/26/2022	SeqNo:	2661947
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	5.06	0.250	5.000	0	101	80	120	5.029	0.557	15	
Fluoride	0.983	0.0500	1.000	0	98.3	80	120	0.9765	0.646	15	
Sulfate	5.06	0.250	5.000	0	101	80	120	5.061	0.0745	15	

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Matrix Interference	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode		



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QC SUMMARY REPORT

WO#: 22031159
07-Apr-22

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R108195

Sample ID	MBLK	SampType:	MBLK	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	108195	
Client ID:	PBW	Batch ID:	R108195	TestNo:	E 300.0			Analysis Date:	3/28/2022	SeqNo:	2663041	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		< 0.250	0.250									
Fluoride		< 0.0500	0.0500									
Sulfate		< 0.250	0.250									

Sample ID	LCS	SampType:	LCS	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	108195	
Client ID:	LCSW	Batch ID:	R108195	TestNo:	E 300.0			Analysis Date:	3/28/2022	SeqNo:	2663042	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		9.96	0.250	10.00	0	99.6	90	110				
Fluoride		2.13	0.0500	2.000	0	106	90	110				
Sulfate		10.1	0.250	10.00	0	101	90	110				

Sample ID	LCSD	SampType:	LCSD	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	108195	
Client ID:	LCSS02	Batch ID:	R108195	TestNo:	E 300.0			Analysis Date:	3/28/2022	SeqNo:	2663043	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		10.0	0.250	10.00	0	100	90	110	9.961	0.531	15	
Fluoride		2.13	0.0500	2.000	0	106	90	110	2.127	0.0121	15	
Sulfate		10.1	0.250	10.00	0	101	90	110	10.12	0.152	15	

Qualifiers:

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22031159
07-Apr-22

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R108195

Sample ID	22031159-016AMS	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 108195					
Client ID:	Field Blank 1	Batch ID: R108195	TestNo: E 300.0	Analysis Date: 3/28/2022	SeqNo: 2663057						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.88	0.250	5.000	0	97.6	80	120				
Fluoride	0.923	0.0500	1.000	0	92.3	80	120				
Sulfate	5.16	0.250	5.000	0	103	80	120				

Sample ID	22031159-016AMSD	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 108195					
Client ID:	Field Blank 1	Batch ID: R108195	TestNo: E 300.0	Analysis Date: 3/28/2022	SeqNo: 2663058						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.95	0.250	5.000	0	99.1	80	120	4.880	1.48	15	
Fluoride	0.944	0.0500	1.000	0	94.4	80	120	0.9228	2.27	15	
Sulfate	5.24	0.250	5.000	0	105	80	120	5.156	1.69	15	

Qualifiers:

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit
SDL Sample detection limit



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Sample Log-In Check List

Client Name: **PIVOTAL_ENGINEERIN**

Work Order Number: **22031159**

RcptNo: **1**

Logged by: **Tammy Thibodeaux** **3/24/2022 6:57:00 PM**

Completed By: **Tammy Thibodeaux** **3/25/2022 8:27:37 AM**

Reviewed By: **Cristina Thibeaux** **4/3/2022 12:45:54 PM**

Tammy Thibodeaux
Tammy Thibodeaux
Cristina Thibeaux

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☒ Not Present ☐
2. How was the sample delivered? Client

Log In

3. Coolers are present? Yes ☒ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☒ No ☐
Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☒
No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
6. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☒ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
10. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☒
12. Were any sample containers received broken? Yes ☐ No ☒
13. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
15. Is it clear what analyses were requested? Yes ☒ No ☐
16. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: Date
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

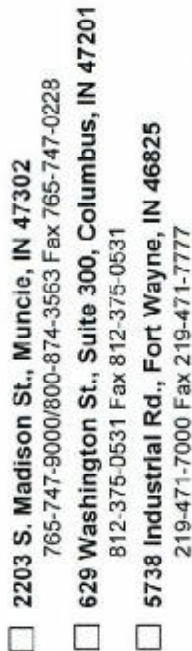
18. Additional remarks:

No sampler's signature by client

Added year of collection to COC as per sample received. Improper error correction(s) made by client.

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.0	Good	Not Present			



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Page 1 of 2

Client Name: Pivotal Engineering LLC	Contact Name: Terry Elnaggar	Project: CCR Detection Monitoring	Sample Identification / Description				Preserv.	Number / Type of Container	Matrix Code	Test Requested				Comments / Remarks	
			Collection		Grab	Comp				TDS	300: Cl, F, SO4	6010 metals*			
			Date	Time											
Quote #: 6786							HCl HNO ₃ H ₂ SO ₄							*6010 Metals: B, C, a	
Sampler's Signature:							NaOH Na ₂ S ₂ O ₃								
			C	C	R	-	1	None/ HNO ₃ 2 Plastic	Aq	X	X	X			
			C	C	R	-	2	None/ HNO ₃ 2 Plastic	Aq	X	X	X			
			C	C	R	-	3	None/ HNO ₃ 2 Plastic	Aq	X	X	X			
			C	C	R	-	4	None/ HNO ₃ 2 Plastic	Aq	X	X	X			
			C	C	R	-	5	None/ HNO ₃ 2 Plastic	Aq	X	X	X			
			C	C	R	-	6	None/ HNO ₃ 2 Plastic	Aq	X	X	X			
			C	C	R	-	7	None/ HNO ₃ 2 Plastic	Aq	X	X	X			
			C	C	R	-	8	None/ HNO ₃ 2 Plastic	Aq	X	X	X			
			C	C	R	-	9	None/ HNO ₃ 2 Plastic	Aq	X	X	X			
			C	C	R	-	10	None/ HNO ₃ 2 Plastic	Aq	X	X	X			

All samples submitted to Element Materials Technology for analysis are accepted on a custodial basis only. Ownership of the samples, with the client submitting the samples, Element Materials Technology reserves the right to return unused sample portions.

Received by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
<i>[Signature]</i>	3/24	1500	<i>[Signature]</i>	3/24/02	1857
Received by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
<i>[Signature]</i>			<i>[Signature]</i>		

Matrix Codes	Container Types	Shipping Conditions	Requested TAT	Thank-you for using Element Materials Technology
DW = Drinking Water AQ = Aqueous GW = Ground Water O = Oil W = Waste Water SO = Soil	G = Glass P = Plastic V = Vial	☒ Iced Temp. <u>50°</u> ☐ Ambient	☐ 24-Hr. ☐ 72-Hr. ☐ 48-Hr. ☒ Standard ☐ Other	

Page 29 of 30

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812-375-0531 Fax 812-375-0531
- ☐ 5738 Industrial Rd., Fort Wayne, IN 46825
219-471-7000 Fax 219-471-7777

- ☒ 2417 W. Pinhook Rd, Lafayette, LA 70508
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Fax 337-233-6540
- ☐ 3445 S Sheridan, Tulsa, OK 74145
918-828-9977/800324-5757
Fax 918-828-7756

Chain of Custody Record

Page 2 of 2

Client Name: Pivotal Engineering LLC		Project: CCR Detection Monitoring		Laboratory Number: 2203159	
Contact Name: Terry Elnaggar		Quote #: 6786		Test Requested	
Phone/Fax: (504) 799-3653		Sampler's Signature:		Comments / Remarks	
Sample Identification / Description		Preserv.		Matrix Code	
Collection		Number / Type of Container		TDS	
Date	Time	Comp	HCl HNO ₃ H ₂ SO ₄ NaOH Na ₂ S ₂ O ₃	300: Cl, F, SO ₄	6010 metals*
3/24/20	9:05	X	None/ HNO ₃ 2 Plastic	X	X
3/24/20	6:05pm	X	None/ HNO ₃ 2 Plastic	X	X
3/24/20	17:20	X	None/ HNO ₃ 2 Plastic	X	X
3/24/20	16:15	X	None/ HNO ₃ 2 Plastic	X	X
3/24/20	14:00	X	None/ HNO ₃ 2 Plastic	X	X
3/24/20	14:20	X	None/ HNO ₃ 2 Plastic	X	X
3/24/20	15:00/13:00	X	None/ HNO ₃ 2 Plastic	X	X
3/24/20	13:55	X	None/ HNO ₃ 2 Plastic	X	X
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C C R - 1 3		Aq		X	
C C R - 1 4		Aq		X	
M S (CCR- 4)		Aq		X	
M S D (CCR- 4)		Aq		X	
D U P		Aq		X	
F B 1		Aq		X	
Sample Identification / Description		Number / Type of Container		TDS	
C C R - 1 1		Aq		X	
C C R - 1 2		Aq		X	
C					



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April 12, 2022

Terry Elnaggar
Pivotal Engineering LLC
1515 Poydras St., STE. 1875
New Orleans, LA 70112
TEL: (504) 799-3653
FAX

RE: Entergy: CCR Assessment Monitoring

Order No.: 22031158

Dear Terry Elnaggar:

Element Materials Technology Lafayette received 16 sample(s) on 3/24/2022 for the analyses presented in the following report.

In accordance with your instructions, Element Lafayette either conducted or subcontracted these analyses. Subcontracted analyses will be identified in the accompanying case narrative. All relevant sampling information can be found on the attached Chain-of-Custody form. Unless otherwise noted, all analyses were conducted using EPA approved methodologies and all test results meet the applicable requirements of TNI. Reported results relate only to the items tested.

Where applicable, all soil data, except for 29-B, are reported on a wet-weight basis unless otherwise indicated in the units field as –dry.

LELAP Certification No.: 01997. TCEQ Certification No.: T104704261. LDHH Certification No.: LA023. ISDH Certification No.: C-LA-01. NDELCP Certification No.: R-226. A scope of accredited parameters is available upon request. A "#" by the test method or analyte indicates this parameter is outside the scope of accreditation. PA registration No.: 68-05967.

Estimated uncertainty is available upon request. This report shall not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions regarding these test results, please feel free to call.

A handwritten signature in blue ink, appearing to read 'Cristina Thibeaux'.

Cristina Thibeaux
Customer Service Supervisor



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Case Narrative

WO#: 22031158
Date: 4/12/2022

CLIENT: Pivotal Engineering LLC

Project: Entergy: CCR Assessment Monitoring

Unless specified by the client, a duplicate or MS/MSD, wherever applicable, is randomly selected and analyzed from each analytical batch provided sample volume is sufficient. The sample chosen for duplicate or MS/MSD may or may not be a sample submitted in this workorder. A method blank and/or a lab control sample (LCS)/lab control sample duplicate (LCSD), wherever applicable, are processed as a quality control check for each analytical batch. When the matrix QC data is not available due to insufficient sample volume or when the results indicate possible matrix effect, the validity of the batch is determined by the method blank and LCS/LCSD.

The results of the laboratory internal quality control data are provided in the QC Summary Report section of the report for your review. Laboratory-related QC exceptions that may impact the validity of data are discussed in the case narrative. Sample-related QC exceptions are flagged either in the results page(s) or in the QC report page(s). End users should consider QC exceptions when evaluating sample data against data quality objectives.

Any other exceptions associated with this report will be footnoted in the results page(s) or the QC summary page(s).

The Lithium (6020A) analyses were subcontracted to SGS North American Inc - Scott. Their report is attached in its entirety.



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Analytical Report

(consolidated)

WO#: 22031158

Date Reported: 4/12/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/21/2022 5:10:00 PM
Project: Entergy: CCR Assessment Monitoring
Lab ID: 22031158-001 **Matrix:** AQUEOUS
Client Sample ID CCR-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	3/31/2022 8:21:14 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.279	0.0500		mg/L	1	3/26/2022 12:02:56 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Barium	0.180	0.0100		mg/L	1	3/28/2022 8:41:38 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/28/2022 8:41:38 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/28/2022 8:41:38 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/28/2022 8:41:38 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/28/2022 8:41:38 PM
Lead	< 0.0100	0.0100		mg/L	1	3/28/2022 8:41:38 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/28/2022 8:41:38 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/28/2022 8:41:38 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	3/30/2022 11:40:33 AM
Arsenic	< 10.0	10.0		µg/L	1	3/30/2022 11:40:33 AM
Thallium	< 0.250	0.250		µg/L	1	3/30/2022 11:40:33 AM

Qualifiers:

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

E Value above quantitation range
M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

(consolidated)

WO#: 22031158

Date Reported: 4/12/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/21/2022 4:15:00 PM
Project: Entergy: CCR Assessment Monitoring
Lab ID: 22031158-002 **Matrix:** AQUEOUS
Client Sample ID CCR-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	3/31/2022 8:24:01 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.373	0.0500		mg/L	1	3/26/2022 12:30:45 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Barium	0.148	0.0100		mg/L	1	3/28/2022 8:43:57 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/28/2022 8:43:57 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/28/2022 8:43:57 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/28/2022 8:43:57 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/28/2022 8:43:57 PM
Lead	< 0.0100	0.0100		mg/L	1	3/28/2022 8:43:57 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/28/2022 8:43:57 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/28/2022 8:43:57 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	3/30/2022 11:43:21 AM
Arsenic	< 10.0	10.0		µg/L	1	3/30/2022 11:43:21 AM
Thallium	< 0.250	0.250		µg/L	1	3/30/2022 11:43:21 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22031158

Date Reported: 4/12/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/21/2022 3:05:00 PM
Project: Entergy: CCR Assessment Monitoring
Lab ID: 22031158-003 **Matrix:** AQUEOUS
Client Sample ID CCR-3

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	3/31/2022 8:26:19 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.412	0.0500		mg/L	1	3/26/2022 12:58:34 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Barium	0.278	0.0100		mg/L	1	3/28/2022 8:46:16 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/28/2022 8:46:16 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/28/2022 8:46:16 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/28/2022 8:46:16 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/28/2022 8:46:16 PM
Lead	< 0.0100	0.0100		mg/L	1	3/28/2022 8:46:16 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/28/2022 8:46:16 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/28/2022 8:46:16 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	3/30/2022 11:46:09 AM
Arsenic	< 10.0	10.0		µg/L	1	3/30/2022 11:46:09 AM
Thallium	< 0.250	0.250		µg/L	1	3/30/2022 11:46:09 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22031158

Date Reported: 4/12/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/24/2022 1:45:00 PM
Project: Entergy: CCR Assessment Monitoring
Lab ID: 22031158-004 **Matrix:** AQUEOUS
Client Sample ID CCR-4

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	3/31/2022 8:28:37 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.240	0.0500		mg/L	1	3/26/2022 1:54:14 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Barium	0.108	0.0100		mg/L	1	3/28/2022 8:48:34 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/28/2022 8:48:34 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/28/2022 8:48:34 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/28/2022 8:48:34 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/28/2022 8:48:34 PM
Lead	< 0.0100	0.0100		mg/L	1	3/28/2022 8:48:34 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/28/2022 8:48:34 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/28/2022 8:48:34 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	3/30/2022 11:48:57 AM
Arsenic	< 10.0	10.0		µg/L	1	3/30/2022 11:48:57 AM
Thallium	< 0.250	0.250		µg/L	1	3/30/2022 11:48:57 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22031158

Date Reported: 4/12/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/24/2022 12:50:00 PM
Project: Entergy: CCR Assessment Monitoring
Lab ID: 22031158-005 **Matrix:** AQUEOUS
Client Sample ID CCR-5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	3/31/2022 8:44:08 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.258	0.0500		mg/L	1	3/26/2022 2:49:54 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Barium	0.223	0.0100		mg/L	1	3/28/2022 9:00:05 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/28/2022 9:00:05 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/28/2022 9:00:05 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/28/2022 9:00:05 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/28/2022 9:00:05 PM
Lead	< 0.0100	0.0100		mg/L	1	3/28/2022 9:00:05 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/28/2022 9:00:05 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/28/2022 9:00:05 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	3/31/2022 12:12:49 PM
Arsenic	< 10.0	10.0		µg/L	1	3/31/2022 12:12:49 PM
Thallium	< 0.250	0.250		µg/L	1	3/31/2022 12:12:49 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



Element Materials Technology Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 235-0483 FAX: (337) 233-6540
Website: www.element.com

Analytical Report

(consolidated)

WO#: 22031158

Date Reported: 4/12/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/24/2022 12:00:00 PM
Project: Entergy: CCR Assessment Monitoring
Lab ID: 22031158-006 **Matrix:** AQUEOUS
Client Sample ID CCR-6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	3/31/2022 8:46:25 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.296	0.0500		mg/L	1	3/26/2022 3:17:43 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Barium	0.197	0.0100		mg/L	1	3/28/2022 9:02:24 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/28/2022 9:02:24 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/28/2022 9:02:24 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/28/2022 9:02:24 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/28/2022 9:02:24 PM
Lead	< 0.0100	0.0100		mg/L	1	3/28/2022 9:02:24 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/28/2022 9:02:24 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/28/2022 9:02:24 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	3/31/2022 12:15:37 PM
Arsenic	< 10.0	10.0		µg/L	1	3/31/2022 12:15:37 PM
Thallium	< 0.250	0.250		µg/L	1	3/31/2022 12:15:37 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22031158

Date Reported: 4/12/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/24/2022 11:10:00 AM
Project: Entergy: CCR Assessment Monitoring
Lab ID: 22031158-007 **Matrix:** AQUEOUS
Client Sample ID CCR-7

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	3/31/2022 8:48:44 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.306	0.0500		mg/L	1	3/26/2022 3:45:34 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Barium	0.218	0.0100		mg/L	1	3/28/2022 9:04:43 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/28/2022 9:04:43 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/28/2022 9:04:43 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/28/2022 9:04:43 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/28/2022 9:04:43 PM
Lead	< 0.0100	0.0100		mg/L	1	3/28/2022 9:04:43 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/28/2022 9:04:43 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/28/2022 9:04:43 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	3/31/2022 12:18:25 PM
Arsenic	< 10.0	10.0		µg/L	1	3/31/2022 12:18:25 PM
Thallium	< 0.250	0.250		µg/L	1	3/31/2022 12:18:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Limit
SDL	Sample detection limit
W	Sample container temperature is out of limit as specified at testcode

E	Value above quantitation range
M	Matrix Interference
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
U	Analyte not detected



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Analytical Report

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WO#: 22031158

Date Reported: 4/12/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/24/2022 10:10:00 AM
Project: Entergy: CCR Assessment Monitoring
Lab ID: 22031158-008 **Matrix:** AQUEOUS
Client Sample ID CCR-8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	3/31/2022 8:51:02 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.185	0.0500		mg/L	1	3/26/2022 4:13:23 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Barium	0.107	0.0100		mg/L	1	3/28/2022 9:07:02 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/28/2022 9:07:02 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/28/2022 9:07:02 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/28/2022 9:07:02 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/28/2022 9:07:02 PM
Lead	< 0.0100	0.0100		mg/L	1	3/28/2022 9:07:02 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/28/2022 9:07:02 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/28/2022 9:07:02 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	3/31/2022 12:21:13 PM
Arsenic	< 10.0	10.0		µg/L	1	3/31/2022 12:21:13 PM
Thallium	< 0.250	0.250		µg/L	1	3/31/2022 12:21:13 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22031158

Date Reported: 4/12/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/24/2022 9:05:00 AM
Project: Entergy: CCR Assessment Monitoring
Lab ID: 22031158-009 **Matrix:** AQUEOUS
Client Sample ID CCR-9

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	3/31/2022 8:53:20 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.616	0.0500		mg/L	1	3/26/2022 4:41:13 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Barium	0.242	0.0100		mg/L	1	3/28/2022 9:09:20 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/28/2022 9:09:20 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/28/2022 9:09:20 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/28/2022 9:09:20 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/28/2022 9:09:20 PM
Lead	< 0.0100	0.0100		mg/L	1	3/28/2022 9:09:20 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/28/2022 9:09:20 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/28/2022 9:09:20 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	3/31/2022 12:24:01 PM
Arsenic	< 10.0	10.0		µg/L	1	3/31/2022 12:24:01 PM
Thallium	< 0.250	0.250		µg/L	1	3/31/2022 12:24:01 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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WO#: 22031158

Date Reported: 4/12/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/23/2022 9:55:00 AM
Project: Entergy: CCR Assessment Monitoring
Lab ID: 22031158-010 **Matrix:** AQUEOUS
Client Sample ID CCR-10

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	3/31/2022 8:55:38 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.632	0.0500		mg/L	1	3/28/2022 11:48:41 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Barium	0.234	0.0100		mg/L	1	3/28/2022 9:11:39 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/28/2022 9:11:39 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/28/2022 9:11:39 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/28/2022 9:11:39 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/28/2022 9:11:39 PM
Lead	< 0.0100	0.0100		mg/L	1	3/28/2022 9:11:39 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/28/2022 9:11:39 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/28/2022 9:11:39 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	3/31/2022 12:26:49 PM
Arsenic	< 10.0	10.0		µg/L	1	3/31/2022 12:26:49 PM
Thallium	< 0.250	0.250		µg/L	1	3/31/2022 12:26:49 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22031158

Date Reported: 4/12/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/23/2022 9:05:00 AM
Project: Entergy: CCR Assessment Monitoring
Lab ID: 22031158-011 **Matrix:** AQUEOUS
Client Sample ID CCR-11

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	3/31/2022 8:57:56 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.722	0.0500		mg/L	1	3/28/2022 12:16:30 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Barium	0.152	0.0100		mg/L	1	3/28/2022 9:13:58 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/28/2022 9:13:58 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/28/2022 9:13:58 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/28/2022 9:13:58 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/28/2022 9:13:58 PM
Lead	< 0.0100	0.0100		mg/L	1	3/28/2022 9:13:58 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/28/2022 9:13:58 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/28/2022 9:13:58 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	3/31/2022 12:29:36 PM
Arsenic	< 10.0	10.0		µg/L	1	3/31/2022 12:29:36 PM
Thallium	< 0.250	0.250		µg/L	1	3/31/2022 12:29:36 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22031158

Date Reported: 4/12/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/22/2022 6:15:00 PM
Project: Entergy: CCR Assessment Monitoring
Lab ID: 22031158-012 **Matrix:** AQUEOUS
Client Sample ID CCR-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	3/31/2022 9:00:15 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.144	0.0500		mg/L	1	3/28/2022 12:30:25 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Barium	0.187	0.0100		mg/L	1	3/28/2022 9:16:17 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/28/2022 9:16:17 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/28/2022 9:16:17 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/28/2022 9:16:17 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/28/2022 9:16:17 PM
Lead	< 0.0100	0.0100		mg/L	1	3/28/2022 9:16:17 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/28/2022 9:16:17 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/28/2022 9:16:17 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	3/31/2022 12:43:39 PM
Arsenic	< 10.0	10.0		µg/L	1	3/31/2022 12:43:39 PM
Thallium	< 0.250	0.250		µg/L	1	3/31/2022 12:43:39 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22031158

Date Reported: 4/12/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/22/2022 5:20:00 PM
Project: Entergy: CCR Assessment Monitoring
Lab ID: 22031158-013 **Matrix:** AQUEOUS
Client Sample ID CCR-13

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	3/31/2022 9:07:47 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.249	0.0500		mg/L	1	3/28/2022 12:44:19 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Barium	0.102	0.0100		mg/L	1	3/28/2022 9:18:36 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/28/2022 9:18:36 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/28/2022 9:18:36 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/28/2022 9:18:36 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/28/2022 9:18:36 PM
Lead	< 0.0100	0.0100		mg/L	1	3/28/2022 9:18:36 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/28/2022 9:18:36 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/28/2022 9:18:36 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	3/31/2022 12:46:28 PM
Arsenic	< 10.0	10.0		µg/L	1	3/31/2022 12:46:28 PM
Thallium	< 0.250	0.250		µg/L	1	3/31/2022 12:46:28 PM

Qualifiers:

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

E Value above quantitation range
M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

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WO#: 22031158

Date Reported: 4/12/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/22/2022 4:15:00 PM
Project: Entergy: CCR Assessment Monitoring
Lab ID: 22031158-014 **Matrix:** AQUEOUS
Client Sample ID CCR-14

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	3/31/2022 9:10:09 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.168	0.0500		mg/L	1	3/28/2022 12:58:15 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Barium	0.0754	0.0100		mg/L	1	3/28/2022 9:25:31 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/28/2022 9:25:31 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/28/2022 9:25:31 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/28/2022 9:25:31 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/28/2022 9:25:31 PM
Lead	< 0.0100	0.0100		mg/L	1	3/28/2022 9:25:31 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/28/2022 9:25:31 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/28/2022 9:25:31 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	3/31/2022 12:49:16 PM
Arsenic	< 10.0	10.0		µg/L	1	3/31/2022 12:49:16 PM
Thallium	< 0.250	0.250		µg/L	1	3/31/2022 12:49:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Limit
SDL	Sample detection limit
W	Sample container temperature is out of limit as specified at testcode

E	Value above quantitation range
M	Matrix Interference
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
U	Analyte not detected



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Analytical Report

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WO#: 22031158

Date Reported: 4/12/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/24/2022 1:56:00 PM
Project: Entergy: CCR Assessment Monitoring
Lab ID: 22031158-015 **Matrix:** AQUEOUS
Client Sample ID Duplicate

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	3/31/2022 9:12:27 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.235	0.0500		mg/L	1	3/28/2022 1:26:05 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Barium	0.110	0.0100		mg/L	1	3/28/2022 9:27:50 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/28/2022 9:27:50 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/28/2022 9:27:50 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/28/2022 9:27:50 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/28/2022 9:27:50 PM
Lead	< 0.0100	0.0100		mg/L	1	3/28/2022 9:27:50 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/28/2022 9:27:50 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/28/2022 9:27:50 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	3/31/2022 12:52:03 PM
Arsenic	< 10.0	10.0		µg/L	1	3/31/2022 12:52:03 PM
Thallium	< 0.250	0.250		µg/L	1	3/31/2022 12:52:03 PM

Qualifiers:

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

E Value above quantitation range
M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

(consolidated)

WO#: 22031158

Date Reported: 4/12/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/24/2022 1:55:00 PM
Project: Entergy: CCR Assessment Monitoring
Lab ID: 22031158-016 **Matrix:** AQUEOUS
Client Sample ID: Field Blank 1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	3/31/2022 9:14:44 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	< 0.0500	0.0500		mg/L	1	3/28/2022 2:07:49 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRB	
Barium	< 0.0100	0.0100		mg/L	1	3/28/2022 9:30:08 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/28/2022 9:30:08 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/28/2022 9:30:08 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/28/2022 9:30:08 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/28/2022 9:30:08 PM
Lead	< 0.0100	0.0100		mg/L	1	3/28/2022 9:30:08 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/28/2022 9:30:08 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/28/2022 9:30:08 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	3/31/2022 12:54:51 PM
Arsenic	< 10.0	10.0		µg/L	1	3/31/2022 12:54:51 PM
Thallium	< 0.250	0.250		µg/L	1	3/31/2022 12:54:51 PM

Qualifiers:

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

E Value above quantitation range
M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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QC SUMMARY REPORT

WO#: 22031158
12-Apr-22

Client: Pivotal Engineering LLC
Project: Entergy: CCR Assessment Monitoring

BatchID: 43165-1

Sample ID	22031158-004BMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	3/25/2022	RunNo:	108301
Client ID:	CCR-4	Batch ID:	43165-1	TestNo:	SW6010B			Analysis Date:	3/31/2022	SeqNo:	2674146
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.629	0.0100	0.5000	0.1076	104	75	125				
Beryllium	0.518	0.00100	0.5000	0	104	75	125				
Cadmium	0.509	0.00500	0.5000	0	102	75	125				
Chromium	0.510	0.0100	0.5000	0	102	75	125				
Cobalt	0.514	0.0100	0.5000	0	103	75	125				
Lead	0.505	0.0100	0.5000	0	101	75	125				
Molybdenum	0.502	0.0100	0.5000	0	100	75	125				
Selenium	0.503	0.0200	0.5000	0	101	75	125				

Sample ID	22031158-004BMSD	SampType:	MSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	3/25/2022	RunNo:	108301
Client ID:	CCR-4	Batch ID:	43165-1	TestNo:	SW6010B			Analysis Date:	3/31/2022	SeqNo:	2674147
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.625	0.0100	0.5000	0.1076	103	75	125	0.6292	0.716	20	
Beryllium	0.514	0.00100	0.5000	0	103	75	125	0.5184	0.810	20	
Cadmium	0.503	0.00500	0.5000	0	101	75	125	0.5087	1.12	20	
Chromium	0.505	0.0100	0.5000	0	101	75	125	0.5100	1.07	20	
Cobalt	0.507	0.0100	0.5000	0	101	75	125	0.5143	1.45	20	
Lead	0.497	0.0100	0.5000	0	99.3	75	125	0.5049	1.66	20	
Molybdenum	0.500	0.0100	0.5000	0	100	75	125	0.5015	0.238	20	
Selenium	0.502	0.0200	0.5000	0	100	75	125	0.5029	0.269	20	

Qualifiers:

B Analyte detected in the associated Method Blank
M Matrix Interference
RL Reporting Limit
U Analyte not detected

E Value above quantitation range
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22031158
12-Apr-22

Client: Pivotal Engineering LLC
Project: Entergy: CCR Assessment Monitoring

BatchID: 43165-1

Sample ID	MB-43165	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	3/25/2022	RunNo:	108246
Client ID:	PBW	Batch ID:	43165-1	TestNo:	SW6010B			Analysis Date:	3/28/2022	SeqNo:	2664445
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	< 0.0100	0.0100									
Beryllium	< 0.00100	0.00100									
Cadmium	< 0.00500	0.00500									
Chromium	< 0.0100	0.0100									
Cobalt	< 0.0100	0.0100									
Lead	< 0.0100	0.0100									
Molybdenum	< 0.0100	0.0100									
Selenium	< 0.0200	0.0200									

Sample ID	LCS-43165	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	3/25/2022	RunNo:	108246
Client ID:	LCSW	Batch ID:	43165-1	TestNo:	SW6010B			Analysis Date:	3/28/2022	SeqNo:	2664445
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.485	0.0100	0.5000	0	97.1	80	120				
Beryllium	0.473	0.00100	0.5000	0	94.6	80	120				
Cadmium	0.464	0.00500	0.5000	0	92.9	80	120				
Chromium	0.484	0.0100	0.5000	0	96.8	80	120				
Cobalt	0.487	0.0100	0.5000	0	97.5	80	120				
Lead	0.475	0.0100	0.5000	0	94.9	80	120				
Molybdenum	0.472	0.0100	0.5000	0	94.5	80	120				
Selenium	0.470	0.0200	0.5000	0	94.1	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
M Matrix Interference
RL Reporting Limit
U Analyte not detected

E Value above quantitation range
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22031158
12-Apr-22

Client: Pivotal Engineering LLC
Project: Entergy: CCR Assessment Monitoring

BatchID: 43165-1

Sample ID	LCSD-43165	SampType: LCSD	TestCode: 6010_W	Units: mg/L	Prep Date: 3/25/2022	RunNo: 108246					
Client ID:	LCSS02	Batch ID: 43165-1	TestNo: SW6010B	Analysis Date: 3/28/2022	SeqNo: 2664447						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.491	0.0100	0.5000	0	98.1	80	120	0.4853	1.09	20	
Beryllium	0.478	0.00100	0.5000	0	95.7	80	120	0.4732	1.06	20	
Cadmium	0.465	0.00500	0.5000	0	93.0	80	120	0.4643	0.181	20	
Chromium	0.490	0.0100	0.5000	0	98.1	80	120	0.4842	1.28	20	
Cobalt	0.493	0.0100	0.5000	0	98.6	80	120	0.4873	1.20	20	
Lead	0.484	0.0100	0.5000	0	96.9	80	120	0.4745	2.03	20	
Molybdenum	0.477	0.0100	0.5000	0	95.3	80	120	0.4724	0.894	20	
Selenium	0.477	0.0200	0.5000	0	95.5	80	120	0.4705	1.47	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
M	Matrix Interference	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode		



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QC SUMMARY REPORT

WO#: 22031158
12-Apr-22

Client: Pivotal Engineering LLC
Project: Entergy: CCR Assessment Monitoring

BatchID: 43166-1

Sample ID	MB-43166	SampType:	MBLK	TestCode:	6020A_W	Units:	µg/L	Prep Date:	3/25/2022	RunNo:	108479			
Client ID:	PBW	Batch ID:	43166-1	TestNo:	SW6020A			Analysis Date:	3/30/2022	SeqNo:	2674065			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony		< 0.250		0.250										
Arsenic		< 0.250		0.250										
Thallium		< 0.250		0.250										

Sample ID	LCS-43166	SampType:	LCS	TestCode:	6020A_W	Units:	µg/L	Prep Date:	3/25/2022	RunNo:	108479			
Client ID:	LCSW	Batch ID:	43166-1	TestNo:	SW6020A			Analysis Date:	3/30/2022	SeqNo:	2674066			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony		469		5.00	500.0	0		93.8	80	120				
Arsenic		455		5.00	500.0	0		90.9	80	120				
Thallium		506		5.00	500.0	0		101	80	120				

Sample ID	LCSD-43166	SampType:	LCSD	TestCode:	6020A_W	Units:	µg/L	Prep Date:	3/25/2022	RunNo:	108479			
Client ID:	LCSS02	Batch ID:	43166-1	TestNo:	SW6020A			Analysis Date:	3/30/2022	SeqNo:	2674067			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony		478		5.00	500.0	0		95.5	80	120	468.9	1.83	20	
Arsenic		463		5.00	500.0	0		92.6	80	120	454.7	1.82	20	
Thallium		497		5.00	500.0	0		99.4	80	120	505.9	1.72	20	

Qualifiers:

B Analyte detected in the associated Method Blank
M Matrix Interference
RL Reporting Limit
U Analyte not detected

E Value above quantitation range
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22031158
12-Apr-22

Client: Pivotal Engineering LLC
Project: Entergy: CCR Assessment Monitoring

BatchID: 43166-1

Sample ID	22031158-004BMS	SampType: MS	TestCode: 6020A_W	Units: µg/L	Prep Date: 3/25/2022	RunNo: 108479					
Client ID: CCR-4	Batch ID: 43166-1	TestNo: SW6020A	Analysis Date: 3/30/2022	SeqNo: 2674080							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	504	5.00	500.0	0.03535	101	75	125				
Arsenic	495	5.00	500.0	0.4810	98.9	75	125				
Thallium	533	5.00	500.0	0	107	75	125				

Sample ID	22031158-004BMSD	SampType: MSD	TestCode: 6020A_W	Units: µg/L	Prep Date: 3/25/2022	RunNo: 108479					
Client ID: CCR-4	Batch ID: 43166-1	TestNo: SW6020A	Analysis Date: 3/30/2022	SeqNo: 2674081							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	482	5.00	500.0	0.03535	96.3	75	125	503.9	4.51	20	
Arsenic	478	5.00	500.0	0.4810	95.5	75	125	494.8	3.49	20	
Thallium	508	5.00	500.0	0	102	75	125	532.7	4.81	20	

Qualifiers:

B Analyte detected in the associated Method Blank
M Matrix Interference
RL Reporting Limit
U Analyte not detected

E Value above quantitation range
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22031158
12-Apr-22

Client: Pivotal Engineering LLC
Project: Entergy: CCR Assessment Monitoring

BatchID: 43195

Sample ID	MB-43195	SampType:	MBLK	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	3/30/2022	RunNo:	108281			
Client ID:	PBW	Batch ID:	43195	TestNo:	SW7470A			Analysis Date:	3/31/2022	SeqNo:	2666156			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		< 0.000200		0.000200										

Sample ID	LCS-43195	SampType:	LCS	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	3/30/2022	RunNo:	108281			
Client ID:	LCSW	Batch ID:	43195	TestNo:	SW7470A			Analysis Date:	3/31/2022	SeqNo:	2666159			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.0105		0.000200	0.01000	0		105	80	120				

Sample ID	LCSD-43195	SampType:	LCSD	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	3/30/2022	RunNo:	108281			
Client ID:	LCSS02	Batch ID:	43195	TestNo:	SW7470A			Analysis Date:	3/31/2022	SeqNo:	2666161			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.0105		0.000200	0.01000	0		105	80	120	0.01052	0.216	20	

Sample ID	22031158-004BMS	SampType:	MS	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	3/30/2022	RunNo:	108281			
Client ID:	CCR-4	Batch ID:	43195	TestNo:	SW7470A			Analysis Date:	3/31/2022	SeqNo:	2666179			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.0101		0.000200	0.01000	0.00009601		100	75	125				

Qualifiers:

B Analyte detected in the associated Method Blank
M Matrix Interference
RL Reporting Limit
U Analyte not detected

E Value above quantitation range
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22031158
12-Apr-22

Client: Pivotal Engineering LLC
Project: Entergy: CCR Assessment Monitoring

BatchID: 43195

Sample ID	22031158-004BMSD	SampType: MSD	TestCode: HG_W_7470		Units: mg/L	Prep Date: 3/30/2022				RunNo: 108281		
Client ID:	CCR-4	Batch ID: 43195	TestNo: SW7470A			Analysis Date: 3/31/2022				SeqNo: 2666181		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.0101	0.000200	0.01000	0.00009601	99.9	75	125	0.01014	0.602	20	

Qualifiers:

B Analyte detected in the associated Method Blank
M Matrix Interference
RL Reporting Limit
U Analyte not detected

E Value above quantitation range
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22031158
12-Apr-22

Client: Pivotal Engineering LLC
Project: Entergy: CCR Assessment Monitoring

BatchID: R108163

Sample ID	MBLK	SampType:	MBLK	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	108163
Client ID:	PBW	Batch ID:	R108163	TestNo:	E 300.0			Analysis Date:	3/26/2022	SeqNo:	2661733
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Fluoride		< 0.0500		0.0500							

Sample ID	LCS	SampType:	LCS	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	108163
Client ID:	LCSW	Batch ID:	R108163	TestNo:	E 300.0			Analysis Date:	3/26/2022	SeqNo:	2661734
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Fluoride		2.16		0.0500	2.000	0	108	90	110		

Sample ID	LCSD	SampType:	LCSD	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	108163
Client ID:	LCSS02	Batch ID:	R108163	TestNo:	E 300.0			Analysis Date:	3/26/2022	SeqNo:	2661735
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Fluoride		2.16		0.0500	2.000	0	108	90	110	2.159	0.135 15

Sample ID	22031158-004AMS	SampType:	MS	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	108163
Client ID:	CCR-4	Batch ID:	R108163	TestNo:	E 300.0			Analysis Date:	3/26/2022	SeqNo:	2661745
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Fluoride		11.1		0.500	10.00	0	111	80	120		

Qualifiers:

B Analyte detected in the associated Method Blank
M Matrix Interference
RL Reporting Limit
U Analyte not detected

E Value above quantitation range
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22031158
12-Apr-22

Client: Pivotal Engineering LLC
Project: Entergy: CCR Assessment Monitoring

BatchID: R108163

Sample ID	22031158-004AMSD	SampType: MSD	TestCode: 300.0		Units: mg/L		Prep Date:			RunNo: 108163		
Client ID:	CCR-4	Batch ID: R108163	TestNo: E 300.0		Analysis Date: 3/26/2022				SeqNo: 2661746			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		11.3	0.500	10.00	0	113	80	120	11.11	1.65	15	

Sample ID	22031157-016AMS	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 108163					
Client ID: ZZZZZZ	Batch ID: R108163	TestNo: E 300.0	Analysis Date: 3/26/2022	SeqNo: 2661772							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.977	0.0500	1.000	0	97.7	80	120				

Sample ID	22031157-016AMSD	SampType: MSD	TestCode: 300.0		Units: mg/L	Prep Date:			RunNo: 108163			
Client ID:	ZZZZZZ	Batch ID: R108163	TestNo: E 300.0		Analysis Date: 3/26/2022			SeqNo: 2661773				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		0.983	0.0500	1.000	0	98.3	80	120	0.9765	0.646	15	

Qualifiers:

B Analyte detected in the associated Method Blank
M Matrix Interference
RL Reporting Limit
U Analyte not detected

E Value above quantitation range
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit



Element Materials Technology Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 235-0483 FAX: (337) 233-6540
Website: www.element.com

QC SUMMARY REPORT

WO#: 22031158
12-Apr-22

Client: Pivotal Engineering LLC
Project: Entergy: CCR Assessment Monitoring

BatchID: R108193

Sample ID	MBLK	SampType:	MBLK	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	108193
Client ID:	PBW	Batch ID:	R108193	TestNo:	E 300.0			Analysis Date:	3/28/2022	SeqNo:	2662923
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Fluoride		< 0.0500		0.0500							

Sample ID	LCS	SampType:	LCS	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	108193
Client ID:	LCSW	Batch ID:	R108193	TestNo:	E 300.0			Analysis Date:	3/28/2022	SeqNo:	2662924
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Fluoride		2.13		0.0500	2.000	0	106	90	110		

Sample ID	LCSD	SampType:	LCSD	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	108193
Client ID:	LCSS02	Batch ID:	R108193	TestNo:	E 300.0			Analysis Date:	3/28/2022	SeqNo:	2662925
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Fluoride		2.13		0.0500	2.000	0	106	90	110	2.127	0.0121 15

Sample ID	22031158-016AMS	SampType:	MS	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	108193
Client ID:	Field Blank 1	Batch ID:	R108193	TestNo:	E 300.0			Analysis Date:	3/28/2022	SeqNo:	2662940
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Fluoride		0.923		0.0500	1.000	0	92.3	80	120		

Qualifiers:

B Analyte detected in the associated Method Blank
M Matrix Interference
RL Reporting Limit
U Analyte not detected

E Value above quantitation range
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit



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2417 W. Pinhook Road
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QC SUMMARY REPORT

WO#: 22031158
12-Apr-22

Client: Pivotal Engineering LLC
Project: Entergy: CCR Assessment Monitoring

BatchID: R108193

Sample ID	22031158-016AMSD	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 108193					
Client ID:	Field Blank 1	Batch ID: R108193	TestNo: E 300.0	Analysis Date: 3/28/2022	SeqNo: 2662942						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.944	0.0500	1.000	0	94.4	80	120	0.9228	2.27	15	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
M	Matrix Interference	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode		



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Sample Log-In Check List

Client Name: **PIVOTAL_ENGINEERIN**

Work Order Number: **22031158**

RcptNo: **1**

Logged by: **Tammy Thibodeaux** **3/24/2022 6:57:00 PM**

Tammy Thibodeaux

Completed By: **Tammy Thibodeaux** **3/25/2022 8:06:58 AM**

Tammy Thibodeaux

Reviewed By: **Cristina Thibeaux** **4/3/2022 12:40:58 PM**

Cristina Thibeaux

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☒ Not Present ☐
2. How was the sample delivered? Client

Log In

3. Coolers are present? Yes ☒ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☒ No ☐
Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☒
No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
6. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☒ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
10. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☒
12. Were any sample containers received broken? Yes ☐ No ☒
13. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
15. Is it clear what analyses were requested? Yes ☒ No ☐
16. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: Date
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

No sampler's signature by client

Added year of collection to COC as per sample received. Improper error correction(s) made by client.

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.0	Good	Not Present			

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Element Materials Technology

Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA
22031158

SGS Job Number: LA77747

Sampling Dates: 03/21/22 - 03/24/22

Report to:

Element Materials Technology
2417 West Pinhook Rd
Lafayette, LA 70508
annie.reedy@element.com; rhonda.david@element.com;
cristina.thibeaux@element.com; buffy.hudson@element.com;
ATTN: Annie Reedy

Total number of pages in report: 40



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Ron Benjamin
Lab Director

Client Service contact: Penny Cormier 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-18-16), WV(257)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

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Sample Summary

Element Materials Technology

Job No: LA77747

Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA
Project No: 22031158

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
LA77747-1	03/21/22	17:10	03/25/22	AQ	Water	CCR-1
LA77747-2	03/21/22	16:15	03/25/22	AQ	Water	CCR-2
LA77747-3	03/21/22	15:05	03/25/22	AQ	Water	CCR-3
LA77747-4	03/24/22	13:45	03/25/22	AQ	Water	CCR-4
LA77747-4D	03/24/22	13:45	03/25/22	AQ	Water Dup/MSD	CCR-4
LA77747-4S	03/24/22	13:45	03/25/22	AQ	Water Matrix Spike	CCR-4
LA77747-5	03/24/22	12:50	03/25/22	AQ	Water	CCR-5
LA77747-6	03/24/22	12:00	03/25/22	AQ	Water	CCR-6
LA77747-7	03/24/22	11:10	03/25/22	AQ	Water	CCR-7
LA77747-8	03/24/22	10:10	03/25/22	AQ	Water	CCR-8
LA77747-9	03/24/22	09:05	03/25/22	AQ	Water	CCR-9
LA77747-10	03/23/22	09:55	03/25/22	AQ	Water	CCR-10
LA77747-11	03/23/22	09:05	03/25/22	AQ	Water	CCR-11



Sample Summary
(continued)

Element Materials Technology

Job No: LA77747

Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA
Project No: 22031158

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
LA77747-12	03/22/22	18:15	03/25/22	AQ	Water	CCR-12
LA77747-13	03/22/22	17:20	03/25/22	AQ	Water	CCR-13
LA77747-14	03/22/22	16:15	03/25/22	AQ	Water	CCR-14
LA77747-15	03/24/22	13:56	03/25/22	AQ	Water	DUPLICATE
LA77747-16	03/24/22	13:55	03/25/22	AQ	Field Blank Water	FIELD BLANK

Summary of Hits

Page 1 of 2

Job Number: LA77747

Account: Element Materials Technology

Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

Collected: 03/21/22 thru 03/24/22

2

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
LA77747-1	CCR-1					
Lithium		20.6	2.0		ug/l	SW846 6020A
LA77747-2	CCR-2					
Lithium		19.9	2.0		ug/l	SW846 6020A
LA77747-3	CCR-3					
Lithium		30.8	2.0		ug/l	SW846 6020A
LA77747-4	CCR-4					
Lithium		97.4	2.0		ug/l	SW846 6020A
LA77747-5	CCR-5					
Lithium		18.9	2.0		ug/l	SW846 6020A
LA77747-6	CCR-6					
Lithium		13.4	2.0		ug/l	SW846 6020A
LA77747-7	CCR-7					
Lithium		11.1	2.0		ug/l	SW846 6020A
LA77747-8	CCR-8					
Lithium		34.6	2.0		ug/l	SW846 6020A
LA77747-9	CCR-9					
Lithium		10.9	2.0		ug/l	SW846 6020A
LA77747-10	CCR-10					
Lithium		7.0	2.0		ug/l	SW846 6020A
LA77747-11	CCR-11					
Lithium		7.2	2.0		ug/l	SW846 6020A

Summary of Hits

Page 2 of 2

Job Number: LA77747

Account: Element Materials Technology

Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

Collected: 03/21/22 thru 03/24/22

2

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
LA77747-12	CCR-12					
Lithium		21.9	2.0		ug/l	SW846 6020A
LA77747-13	CCR-13					
Lithium		14.1	2.0		ug/l	SW846 6020A
LA77747-14	CCR-14					
Lithium		14.6	2.0		ug/l	SW846 6020A
LA77747-15	DUPLICATE					
Lithium		16.8	2.0		ug/l	SW846 6020A
LA77747-16	FIELD BLANK					

No hits reported in this sample.



Scott, LA

Section 3



Sample Results

Report of Analysis

Report of Analysis

Page 1 of 1

3.1

3

Client Sample ID:	CCR-1	Date Sampled:	03/21/22
Lab Sample ID:	LA77747-1	Date Received:	03/25/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	20.6	2.0	ug/l	1	03/28/22	03/31/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA23597

(2) Prep QC Batch: MP23755

RL = Reporting Limit

Report of Analysis

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3.2

3

Client Sample ID:	CCR-2	Date Sampled:	03/21/22
Lab Sample ID:	LA77747-2	Date Received:	03/25/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	19.9	2.0	ug/l	1	03/28/22	03/31/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA23597

(2) Prep QC Batch: MP23755

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3

3

Client Sample ID:	CCR-3	Date Sampled:	03/21/22
Lab Sample ID:	LA77747-3	Date Received:	03/25/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	30.8	2.0	ug/l	1	03/28/22	03/31/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA23597

(2) Prep QC Batch: MP23755

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CCR-4	Date Sampled:	03/24/22
Lab Sample ID:	LA77747-4	Date Received:	03/25/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	97.4	2.0	ug/l	1	03/28/22	03/31/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA23597

(2) Prep QC Batch: MP23755

RL = Reporting Limit

Report of Analysis

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3.5

3

Client Sample ID:	CCR-5	Date Sampled:	03/24/22
Lab Sample ID:	LA77747-5	Date Received:	03/25/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	18.9	2.0	ug/l	1	03/28/22	03/31/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA23597

(2) Prep QC Batch: MP23755

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.6

3

Client Sample ID:	CCR-6	Date Sampled:	03/24/22
Lab Sample ID:	LA77747-6	Date Received:	03/25/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	13.4	2.0	ug/l	1	03/28/22	03/31/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA23597

(2) Prep QC Batch: MP23755

RL = Reporting Limit

Report of Analysis

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3.7
3

Client Sample ID:	CCR-7	Date Sampled:	03/24/22
Lab Sample ID:	LA77747-7	Date Received:	03/25/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	11.1	2.0	ug/l	1	03/28/22	03/31/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA23597

(2) Prep QC Batch: MP23755

RL = Reporting Limit

Report of Analysis

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3.8

3

Client Sample ID:	CCR-8	Date Sampled:	03/24/22
Lab Sample ID:	LA77747-8	Date Received:	03/25/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	34.6	2.0	ug/l	1	03/28/22	03/31/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA23597

(2) Prep QC Batch: MP23755

RL = Reporting Limit

Report of Analysis

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3.9

3

Client Sample ID:	CCR-9	Date Sampled:	03/24/22
Lab Sample ID:	LA77747-9	Date Received:	03/25/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	10.9	2.0	ug/l	1	03/28/22	03/31/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA23597

(2) Prep QC Batch: MP23755

RL = Reporting Limit

Report of Analysis

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3.10

3

Client Sample ID:	CCR-10	Date Sampled:	03/23/22
Lab Sample ID:	LA77747-10	Date Received:	03/25/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	7.0	2.0	ug/l	1	03/28/22	03/31/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA23597

(2) Prep QC Batch: MP23755

RL = Reporting Limit

Report of Analysis

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3.11

3

Client Sample ID:	CCR-11	Date Sampled:	03/23/22
Lab Sample ID:	LA77747-11	Date Received:	03/25/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	7.2	2.0	ug/l	1	03/28/22	03/31/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA23597

(2) Prep QC Batch: MP23755

RL = Reporting Limit

Report of Analysis

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3.12
3

Client Sample ID:	CCR-12	Date Sampled:	03/22/22
Lab Sample ID:	LA77747-12	Date Received:	03/25/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	21.9	2.0	ug/l	1	03/28/22	03/31/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA23597

(2) Prep QC Batch: MP23755

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.13
3

Client Sample ID:	CCR-13	Date Sampled:	03/22/22
Lab Sample ID:	LA77747-13	Date Received:	03/25/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	14.1	2.0	ug/l	1	03/28/22	03/31/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA23597

(2) Prep QC Batch: MP23755

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.14

3

Client Sample ID:	CCR-14	Date Sampled:	03/22/22
Lab Sample ID:	LA77747-14	Date Received:	03/25/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	14.6	2.0	ug/l	1	03/28/22	03/31/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA23597

(2) Prep QC Batch: MP23755

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.15

3

Client Sample ID:	DUPLICATE	Date Sampled:	03/24/22
Lab Sample ID:	LA77747-15	Date Received:	03/25/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	16.8	2.0	ug/l	1	03/28/22	03/31/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA23597

(2) Prep QC Batch: MP23755

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.16

3

Client Sample ID:	FIELD BLANK	Date Sampled:	03/24/22
Lab Sample ID:	LA77747-16	Date Received:	03/25/22
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	< 2.0	2.0	ug/l	1	03/28/22	03/31/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA23597

(2) Prep QC Batch: MP23755

RL = Reporting Limit



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY RECORD

Omega COCID 11532

PAGE: 1

OF: 2

ADDRESS

Element Materials Technology
Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 235-0483
FAX: (337) 233-6540
Website: www.element.com

LA 77747

SUB CONTRACTOR: ACCUTEST_LAF	COMPANY: SGS- Accutest Lafayette Labor	SPECIAL INSTRUCTIONS / COMMENTS:
ADDRESS: 500 Ambassador Caffery Parkway		Lithium
CITY, STATE, ZIP: Scott, LA 70583		
PHONE: (337) 237-4775 FAX: (337) 237-8005 EMAIL:		
ACCOUNT #		

ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights; HOT Sample Notation, Additional Sample Description.
1	22031158-001C 6020_W_SUB (SW6020A)	CCR-1	250HDPEHNO3	Aqueous	3/21/2022 5:10:00 PM	1	
2	22031158-002C 6020_W_SUB (SW6020A)	CCR-2	250HDPEHNO3	Aqueous	3/21/2022 4:15:00 PM	1	
3	22031158-003C 6020_W_SUB (SW6020A)	CCR-3	250HDPEHNO3	Aqueous	3/21/2022 3:05:00 PM	1	
4	22031158-004C 6020_W_SUB (SW6020A)	CCR-4	250HDPEHNO3	Aqueous	3/24/2022 1:45:00 PM	3	
5	22031158-005C 6020_W_SUB (SW6020A)	CCR-5	250HDPEHNO3	Aqueous	3/24/2022 12:50:00 PM	1	
6	22031158-006C 6020_W_SUB (SW6020A)	CCR-6	250HDPEHNO3	Aqueous	3/24/2022 12:00:00 PM	1	
7	22031158-007C 6020_W_SUB (SW6020A)	CCR-7	250HDPEHNO3	Aqueous	3/24/2022 11:10:00 AM	1	
8	22031158-008C 6020_W_SUB (SW6020A)	CCR-8	250HDPEHNO3	Aqueous	3/24/2022 10:10:00 AM	1	
9	22031158-009C 6020_W_SUB (SW6020A)	CCR-9	250HDPEHNO3	Aqueous	3/24/2022 9:05:00 AM	1	

Relinquished By: <i>James of Houston</i>	Date: <i>3/23/22</i>	Time: <i>12:45</i>	Received By: <i>Jameson</i>	Date: <i>3/23/22</i>	Time: <i>12:45</i>	REPORT TRANSMITTAL DESIRED: ☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE
Relinquished By: <i>Jameson</i>	Date: <i>3/23/22</i>	Time: <i>13:09</i>	Received By: <i>Mark Reul</i>	Date: <i>3/23/22</i>	Time: <i>13:09</i>	
TAT: Standard ☐ RUSH ☐ Next BD ☐ 2nd BD ☐ 3rd BD ☐						FOR LAB USE ONLY Temp of samples <i>2-4</i> °C Attempt to Cool? ☐ Comments: <i>D462</i>
Note: RUSH requests will incur surcharges!						

LA77747: Chain of Custody

Page 1 of 3





CHAIN OF CUSTODY RECORD

Omega COCID 11532

PAGE: 2

OF: 2

ADDRESS

Element Materials Technology
Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 235-0483
FAX: (337) 233-6540
Website: www.element.com

LA 77747

SUB CONTRACTOR: ACCUTEST_LAF		COMPANY: SGS- Accutest Lafayette Labor		SPECIAL INSTRUCTIONS / COMMENTS:			
ADDRESS: 500 Ambassador Caffery Parkway				Lithium			
CITY, STATE, ZIP: Scott, LA 70583							
PHONE: (337) 237-4775		FAX: (337) 237-8005		EMAIL:			
ACCOUNT #:							

ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description
10	22031158-010C 6020_W_SUB (SW6020A)	CCR-10	250HDPEHNO3	Aqueous	3/23/2022 9:55:00 AM	1	
11	22031158-011C 6020_W_SUB (SW6020A)	CCR-11	250HDPEHNO3	Aqueous	3/23/2022 9:05:00 AM	1	
12	22031158-012C 6020_W_SUB (SW6020A)	CCR-12	250HDPEHNO3	Aqueous	3/22/2022 6:15:00 PM	1	
13	22031158-013C 6020_W_SUB (SW6020A)	CCR-13	250HDPEHNO3	Aqueous	3/22/2022 5:20:00 PM	1	
14	22031158-014C 6020_W_SUB (SW6020A)	CCR-14	250HDPEHNO3	Aqueous	3/22/2022 4:15:00 PM	1	
15	22031158-015C 6020_W_SUB (SW6020A)	Duplicate	250HDPEHNO3	Aqueous	3/24/2022 1:56:00 PM	1	
16	22031158-016C 6020_W_SUB (SW6020A)	Field Blank	250HDPEHNO3	Aqueous	3/24/2022 1:55:00 PM	1	

Relinquished By: <i>[Signature]</i>	Date: 3/25/22	Time: 12:45	Received By: <i>[Signature]</i>	Date: 3/25/22	Time: 12:45
Relinquished By: <i>[Signature]</i>	Date: 3/25/22	Time: 13:09	Received By: <i>[Signature]</i>	Date: 3/25/22	Time: 13:09
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
TAT: Standard ☐ RUSH ☐			Next BD ☐ 2nd BD ☐ 3rd BD ☐		
Note: RUSH requests will incur surcharges!					

REPORT TRANSMITTAL DESIRED:	
☐ HARDCOPY (extra cost)	☐ FAX ☐ EMAIL ☐ ONLINE
FOR LAB USE ONLY	
Temp of samples 2.4 °C	Attempt to Cool ?
Comments: <i>[Signature]</i>	

LA77747: Chain of Custody

Page 2 of 3



SGS Sample Receipt Summary

Job Number: LA77747

Client: ELEMENT

Project: ELEMENT

Date / Time Received: 3/25/2022 1:09:00 PM

Delivery Method: Client

Airbill #'s: _____

Cooler Temps (Initial/Adjusted): #1: (2.4/1.4); DV462

Cooler Security

Y or N

1. Custody Seals Present: ☐ ☒
2. Custody Seals Intact: ☐ ☒

3. COC Present: ☒ ☐
4. Smpl Dates/Time OK ☒ ☐

Cooler Temperature

Y or N

1. Temp criteria achieved: ☒ ☐
2. Thermometer ID: DV462;
3. Cooler media: Ice (direct contact)
4. No. Coolers: _____

Quality Control Preservation

Y or N N/A

1. Trip Blank present / cooler: ☐ ☐ ☒
2. Trip Blank listed on COC: ☐ ☐ ☒
3. Samples preserved properly: ☒ ☐
4. VOCs headspace free: ☐ ☐ ☒

Sample Integrity - Documentation

Y or N

1. Sample labels present on bottles: ☒ ☐
2. Container labeling complete: ☒ ☐
3. Sample container label / COC agree: ☒ ☐

Sample Integrity - Condition

Y or N

1. Sample recvd within HT: ☒ ☐
2. All containers accounted for: ☒ ☐
3. Condition of sample: Intact

Sample Integrity - Instructions

Y or N N/A

1. Analysis requested is clear: ☒ ☐
2. Bottles received for unspecified tests: ☐ ☒
3. Sufficient volume recvd for analysis: ☒ ☐
4. Compositing instructions clear: ☐ ☐ ☒
5. Filtering instructions clear: ☐ ☐ ☒

Comments

4.1
4

LA77747: Chain of Custody
Page 3 of 3



Metals Analysis

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA77747
Account: SLLAL - Element Materials Technology
Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP23755
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 03/28/22

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	.44	49		
Antimony	1.0	.0012	.79		
Arsenic	1.0	.0057	.57		
Barium	1.0	.0037	.63		
Beryllium	1.0	.002	.75		
Boron	20	.29	6.3		
Cadmium	0.50	.0014	.49		
Calcium	200	36	110		
Cerium	1.0	.0004	.76		
Chromium	1.0	.014	.53		
Cobalt	1.0	.026	.66		
Copper	1.0	.017	.41		
Iron	100	.1	45		
Lithium	2.0	.015	.78	0.0	<2.0
Lead	1.0	.024	.72		
Lanthanum	1.0		.72		
Magnesium	100	.14	33		
Manganese	2.0	.022	.57		
Molybdenum	1.0	.003	.61		
Nickel	1.0	.021	.52		
Potassium	100	2.5	65		
Selenium	5.0	.14	2.8		
Silver	1.0	.0016	.38		
Silicon	500	7.3	93		
Sodium	100	1.9	37		
Strontium	2.0	.0083	.42		
Thallium	1.0	.0029	.79		
Tin	2.0	.028	.56		
Titanium	1.0	.053	.57		
Uranium	1.0	.0005	.42		
Vanadium	1.0	.0074	.36		
Zinc	5.0	.13	2.4		

Associated samples MP23755: LA77747-1, LA77747-2, LA77747-3, LA77747-4, LA77747-5, LA77747-6, LA77747-7, LA77747-8, LA77747-9, LA77747-10, LA77747-11, LA77747-12, LA77747-13, LA77747-14, LA77747-15, LA77747-16

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA77747
Account: SLLAL - Element Materials Technology
Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP23755
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 03/28/22

Metal	RL	IDL	MDL	MB raw	final

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

5.1.1
5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA77747
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP23755
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 03/28/22

Metal	LA77747-4 Original MS	Spikelot MPICPMS6 % Rec	QC Limits
Aluminum			
Antimony			
Arsenic			
Barium			
Beryllium			
Boron			
Cadmium			
Calcium			
Cerium			
Chromium			
Cobalt			
Copper			
Iron			
Lithium	97.4 97.9	100	0.5N (a) 75-125
Lead	anr		
Lanthanum			
Magnesium			
Manganese			
Molybdenum			
Nickel			
Potassium			
Selenium			
Silver			
Silicon			
Sodium			
Strontium			
Thallium			
Tin			
Titanium			
Uranium			
Vanadium			
Zinc			

Associated samples MP23755: LA77747-1, LA77747-2, LA77747-3, LA77747-4, LA77747-5, LA77747-6, LA77747-7, LA77747-8, LA77747-9, LA77747-10, LA77747-11, LA77747-12, LA77747-13, LA77747-14, LA77747-15, LA77747-16

5.1.2
5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA77747

Account: SLLAL - Element Materials Technology

Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP23755

Methods: SW846 6020A

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

03/28/22

Metal	LA77747-4 Original MS	Spikelot MPICPMS6 % Rec	QC Limits

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike recovery indicates possible matrix interference or sample non-homogeneity.

5.1.2

5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA77747
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP23755
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 03/28/22

Metal	LA77747-4 Original MSD	SpikeLot MPICPMS6 % Rec	MSD RPD	QC Limit
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Cerium				
Chromium				
Cobalt				
Copper				
Iron				
Lithium	97.4	17.4	100	-80.0N(a) 139.6 (b)20
Lead	anr			
Lanthanum				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Silicon				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP23755: LA77747-1, LA77747-2, LA77747-3, LA77747-4, LA77747-5, LA77747-6, LA77747-7, LA77747-8, LA77747-9, LA77747-10, LA77747-11, LA77747-12, LA77747-13, LA77747-14, LA77747-15, LA77747-16

5.1.2
5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA77747
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP23755
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date:

03/28/22

Metal	LA77747-4 Original MSD	Spikelot MPICPMS6 % Rec	MSD RPD	QC Limit

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike recovery indicates possible matrix interference or sample non-homogeneity.

(b) High RPD due to possible sample nonhomogeneity or matrix interference.

5.1.2

5

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA77747
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP23755
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 03/28/22

Metal	BSP Result	SpikeLot MPICPMS6	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Cerium				
Chromium				
Cobalt				
Copper				
Iron				
Lithium	92.0	100	92.0	80-120
Lead	anr			
Lanthanum				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Silicon				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP23755: LA77747-1, LA77747-2, LA77747-3, LA77747-4, LA77747-5, LA77747-6, LA77747-7, LA77747-8, LA77747-9, LA77747-10, LA77747-11, LA77747-12, LA77747-13, LA77747-14, LA77747-15, LA77747-16

5.1.3
5

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA77747

Account: SLLAL - Element Materials Technology

Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP23755

Methods: SW846 6020A

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

03/28/22

Metal	BSP Result	Spikelet MPICPMS6 % Rec	QC Limits

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

5.1.3

5

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA77747
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP23755
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 03/28/22

LA77747-4		QC	
Metal	Original SDL 1:5	%DIF	Limits
Aluminum			
Antimony			
Arsenic			
Barium			
Beryllium			
Boron			
Cadmium			
Calcium			
Cerium			
Chromium			
Cobalt			
Copper			
Iron			
Lithium	97.4	117	20.5*(a) 0-10
Lead	anr		
Lanthanum			
Magnesium			
Manganese			
Molybdenum			
Nickel			
Potassium			
Selenium			
Silver			
Silicon			
Sodium			
Strontium			
Thallium			
Tin			
Titanium			
Uranium			
Vanadium			
Zinc			

Associated samples MP23755: LA77747-1, LA77747-2, LA77747-3, LA77747-4, LA77747-5, LA77747-6, LA77747-7, LA77747-8, LA77747-9, LA77747-10, LA77747-11, LA77747-12, LA77747-13, LA77747-14, LA77747-15, LA77747-16

5.1.4
5

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA77747
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP23755
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 03/28/22

Metal	LA77747-4	QC
	Original SDL 1:5 %DIF	Limits

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested
 (a) Serial dilution indicates possible matrix interference.

5.1.4
 5

POST DIGESTATE SPIKE SUMMARY

Login Number: LA77747
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP23755
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date:

03/28/22

Metal	Sample ml	Final ml	LA77747-4 Raw	PS Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Boron										
Cadmium										
Calcium										
Cerium										
Chromium										
Cobalt										
Copper										
Iron										
Lithium	2	10	97.414	19.4828	117.605	0.1	10	100	98.1	75-125
Lead										
Lanthanum										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silver										
Silicon										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Uranium										
Vanadium										
Zinc										

Associated samples MP23755: LA77747-1, LA77747-2, LA77747-3, LA77747-4, LA77747-5, LA77747-6, LA77747-7, LA77747-8, LA77747-9, LA77747-10, LA77747-11, LA77747-12, LA77747-13, LA77747-14, LA77747-15, LA77747-16

POST DIGESTATE SPIKE SUMMARY

Login Number: LA77747
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP23755
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date:

03/28/22

Metal	Sample ml	Final ml	LA77747-4 Raw	PS Corr.** ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (**) Corr. sample result = Raw * (sample volume / final volume)
 (anr) Analyte not requested

5.1.5

5

☐ **2203 S. Madison St., Muncie, IN 47302**
765-747-9000/800-874-3563 Fax 765-747-9000

☐ **629 Washington St., Suite 300, Columbus, IN 47201**
812-375-0531 Fax 812-375-0531

☐ **5738 Industrial Rd., Fort Wayne, IN 46815**
219-471-7000 Fax 219-471-7777

☒ **2417 W. Pinhook Rd, Lafayette, LA 70508**
337-235-0483/800-737-2378
Fax 337-233-6540

☐ **3445 S Sheridan, Tulsa, OK 74145**
918-828-9977/800-324-5757
Fax 918-828-7756

Chain of Custody Record

Page 1 of 2Page 1 of 2
Client Name: Pivotal Engineering LLC

Project: CCR Assessment Monitoring

Contact Name: Terry Elnaggar

Quote #: 6786

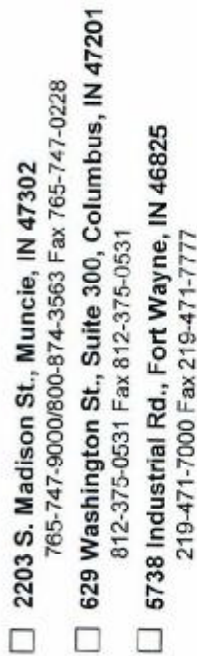
Phone/Fax: (504) 799-3653

Sampler's Signature:

Collection		Grab	Comp	Sample Identification / Description
Date	Time			
3/2/23	1710	X		C C R - 1
3/2/23	1615	X		C C R - 2
3/2/23	1505	X		C C R - 3
3/2/23	1345	X		C C R - 4
3/2/23	1250	X		C C R - 5
3/2/23	1200	X		C C R - 6
3/2/23	1110	X		C C R - 7
3/2/23	1010	X		C C R - 8
3/2/23	0905	X		C C R - 9
3/2/23	0955	X		C C R - 10

All samples submitted to Element Materials Technology for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the samples. Element Materials Technology reserves the right to return unused sample portions.

Relinquished by: (Signature)						Received by: (Signature)		Date	Time
<i>[Signature]</i>						<i>[Signature]</i>		<i>3/24/17</i>	<i>1557</i>
Relinquished by: (Signature)						Relinquished by: (Signature)		Date	Time
Matrix Codes						Container Types		Shipping Conditions	
DW = Drinking Water		AQ = Aqueous		LIQ = Liquid		G = Glass		☒ Iced	
GW = Ground Water		O = Oil		SLD = Solid		P = Plastic		Temp. <i>50°F</i>	
WW = Waste Water		SO = Soil		SL = Sludge		V = Vial		☐ Ambient <i>24</i>	
Relinquished by: (Signature)						Received by: (Signature)		Date	Time
Relinquished by: (Signature)						Relinquished by: (Signature)		Date	Time
Requested TAT									
☐ 24-Hr.								☐ 72-Hr.	
☐ 48-Hr.								☒ Standard	
☐ Other _____									
Thank-you for using Element Materials Technology									



☒ 2417 W. Pinhook Rd. Lafayette, LA 70508
337-235-0483/800-737-2378
Fax 337-233-6540

☐ 3445 S Sheridan, Tulsa, OK 74145
918-828-9977/800324-5757
Fax 918-828-7756

Chain of Custody Record

Page 2 of 2

Laboratory Number 2031158

Client Name: Pivotal Engineering LLC			Project: CCR Assessment Monitoring			Test Requested			Comments / Remarks
Contact Name: Terry Ehnaggar			Quote #: 6786						
Phone/Fax: (504) 799-3653			Sampler's Signature:						
Collection		Comp	Sample Identification / Description				Matrix Code		
Date	Time	Grab	C	C	R	-	1	1	300: Fluoride
3/22/19	05	X	C	C	R	-	1	1	X
3/22/19	18	X	C	C	R	-	1	2	X
3/22/19	20	X	C	C	R	-	1	3	X
3/22/19	15	X	C	C	R	-	1	4	X
3/24/19	10	X	M	S		(CCR- 4)			X
3/24/19	20	X	M	S	D	(CCR- 4)			X
3/24/19	35	X	D	U	P				X
3/24/19	35	X	F	B	1				X
All samples submitted to Element Materials Technology for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the samples. Element Materials Technology reserves the right to return unused sample portions.									
Relinquished by: (Signature)		Received by: (Signature)		Date		Time		Relinquished by: (Signature)	
[Signature]		[Signature]		3/24		1500		[Signature]	
Relinquished by: (Signature)		Received by: (Signature)		Date		Time		Relinquished by: (Signature)	
[Signature]		[Signature]		3/24		1557		[Signature]	
Matrix Codes		Container Types		Shipping Conditions		Requested TAT		Thank-you for using Element Materials Technology	
DW = Drinking Water AQ = Aqueous LIQ = Liquid		G = Glass		☒ Iced		☐ 24-Hr.			
GW = Ground Water O = Oil SLD = Solid		P = Plastic		Temp. 50°		☐ 48-Hr.			
WW = Waste Water SO = Soil SL = Sludge		V = Vial		☐ Ambient		☐ Other			



Element Materials Technology Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 235-0483 FAX: (337) 233-6540
Website: www.element.com

July 13, 2022

Terry Elnaggar
Pivotal Engineering LLC
1515 Poydras St., STE. 1875
New Orleans, LA 70112
TEL: (504) 799-3653
FAX

RE: CCR Detection Monitoring

Order No.: 22061331

Dear Terry Elnaggar:

Element Materials Technology Lafayette received 16 sample(s) on 6/29/2022 for the analyses presented in the following report.

In accordance with your instructions, Element Lafayette either conducted or subcontracted these analyses. Subcontracted analyses will be identified in the accompanying case narrative. All relevant sampling information can be found on the attached Chain-of-Custody form. Unless otherwise noted, all analyses were conducted using EPA approved methodologies and all test results meet the applicable requirements of TNI. Reported results relate only to the items tested.

Where applicable, all soil data, except for 29-B, are reported on a wet-weight basis unless otherwise indicated in the units field as –dry.

LELAP Certification No.: 01997. TCEQ Certification No.: T104704261. LDHH Certification No.: LA023. ISDH Certification No.: C-LA-01. NDELCP Certification No.: R-226. A scope of accredited parameters is available upon request. A "#" by the test method or analyte indicates this parameter is outside the scope of accreditation. PA registration No.: 68-05967.

Estimated uncertainty is available upon request. This report shall not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions regarding these test results, please feel free to call.

A handwritten signature in blue ink, appearing to read 'Cristina Thibeaux'.

Cristina Thibeaux
Customer Service Supervisor



Element Materials Technology Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 235-0483 FAX: (337) 233-6540
Website: www.element.com

Case Narrative

WO#: 22061331

Date: 7/13/2022

CLIENT: Pivotal Engineering LLC

Project: CCR Detection Monitoring

Unless specified by the client, a duplicate or MS/MSD, wherever applicable, is randomly selected and analyzed from each analytical batch provided sample volume is sufficient. The sample chosen for duplicate or MS/MSD may or may not be a sample submitted in this workorder. A method blank and/or a lab control sample (LCS)/lab control sample duplicate (LCSD), wherever applicable, are processed as a quality control check for each analytical batch. When the matrix QC data is not available due to insufficient sample volume or when the results indicate possible matrix effect, the validity of the batch is determined by the method blank and LCS/LCSD.

The results of the laboratory internal quality control data are provided in the QC Summary Report section of the report for your review. Laboratory-related QC exceptions that may impact the validity of data are discussed in the case narrative. Sample-related QC exceptions are flagged either in the results page(s) or in the QC report page(s). End users should consider QC exceptions when evaluating sample data against data quality objectives.

Any other exceptions associated with this report will be footnoted in the results page(s) or the QC summary page(s).



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Analytical Report

(consolidated)

WO#: 22061331

Date Reported: 7/13/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/27/2022 4:40:00 PM
Project: CCR Detection Monitoring
Lab ID: 22061331-001 **Matrix:** AQUEOUS
Client Sample ID: CCR-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	43.5	2.50		mg/L	10	6/30/2022 2:35:19 PM
Fluoride	0.248	0.0500		mg/L	1	6/30/2022 7:38:42 PM
Sulfate	2.42	0.250		mg/L	1	6/30/2022 7:38:42 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Boron	< 0.100	0.100		mg/L	1	7/7/2022 10:46:26 AM
Calcium	25.5	0.500		mg/L	1	7/7/2022 10:46:26 AM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: HXW
Total Dissolved Solids (Residue, Filterable)	281	10.0		mg/L	1	7/1/2022 9:51:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22061331

Date Reported: 7/13/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 5:20:00 PM
Project: CCR Detection Monitoring
Lab ID: 22061331-002 **Matrix:** AQUEOUS
Client Sample ID: CCR-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Chloride	54.2	2.50		mg/L	10	6/30/2022 2:49:06 PM
Fluoride	0.309	0.0500		mg/L	1	6/30/2022 7:52:28 PM
Sulfate	3.83	0.250		mg/L	1	6/30/2022 7:52:28 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	7/7/2022 10:48:43 AM
Calcium	21.6	0.500		mg/L	1	7/7/2022 10:48:43 AM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	276	10.0		mg/L	1	7/5/2022 6:51:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22061331

Date Reported: 7/13/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/27/2022 3:00:00 PM
Project: CCR Detection Monitoring
Lab ID: 22061331-003 **Matrix:** AQUEOUS
Client Sample ID: CCR-3

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	111	5.00		mg/L	20	6/30/2022 3:02:54 PM
Fluoride	0.355	0.0500		mg/L	1	6/30/2022 8:06:16 PM
Sulfate	2.87	0.250		mg/L	1	6/30/2022 8:06:16 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Boron	< 0.100	0.100		mg/L	1	7/7/2022 10:51:00 AM
Calcium	29.2	0.500		mg/L	1	7/7/2022 10:51:00 AM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: HXW
Total Dissolved Solids (Residue, Filterable)	380	10.0		mg/L	1	7/1/2022 9:51:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22061331

Date Reported: 7/13/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 4:25:00 PM
Project: CCR Detection Monitoring
Lab ID: 22061331-004 **Matrix:** AQUEOUS
Client Sample ID CCR-4

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Chloride	41.3	2.50		mg/L	10	6/30/2022 3:16:42 PM
Fluoride	0.192	0.0500		mg/L	1	6/30/2022 8:20:03 PM
Sulfate	8.87	0.250		mg/L	1	6/30/2022 8:20:03 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	0.107	0.100		mg/L	1	7/7/2022 10:53:17 AM
Calcium	19.8	0.500		mg/L	1	7/7/2022 10:53:17 AM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	292	10.0		mg/L	1	7/5/2022 6:51:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22061331

Date Reported: 7/13/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 3:40:00 PM
Project: CCR Detection Monitoring
Lab ID: 22061331-005 **Matrix:** AQUEOUS
Client Sample ID CCR-5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Chloride	65.5	5.00		mg/L	20	6/30/2022 3:58:03 PM
Fluoride	0.218	0.0500		mg/L	1	6/30/2022 9:01:26 PM
Sulfate	< 0.250	0.250		mg/L	1	6/30/2022 9:01:26 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	0.109	0.100		mg/L	1	7/7/2022 11:00:09 AM
Calcium	37.3	0.500		mg/L	1	7/7/2022 11:00:09 AM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	409	10.0		mg/L	1	7/5/2022 6:51:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22061331

Date Reported: 7/13/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 2:40:00 PM
Project: CCR Detection Monitoring
Lab ID: 22061331-006 **Matrix:** AQUEOUS
Client Sample ID: CCR-6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Chloride	83.2	2.50		mg/L	10	6/30/2022 4:11:51 PM
Fluoride	0.235	0.0500		mg/L	1	6/30/2022 9:15:14 PM
Sulfate	< 0.250	0.250		mg/L	1	6/30/2022 9:15:14 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	7/7/2022 11:07:01 AM
Calcium	30.0	0.500		mg/L	1	7/7/2022 11:07:01 AM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	333	10.0		mg/L	1	7/5/2022 6:51:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22061331

Date Reported: 7/13/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 1:50:00 PM
Project: CCR Detection Monitoring
Lab ID: 22061331-007 **Matrix:** AQUEOUS
Client Sample ID: CCR-7

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Chloride	78.5	2.50		mg/L	10	6/30/2022 4:25:39 PM
Fluoride	0.253	0.0500		mg/L	1	6/30/2022 9:29:01 PM
Sulfate	< 0.250	0.250		mg/L	1	6/30/2022 9:29:01 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	7/7/2022 11:09:18 AM
Calcium	45.3	0.500		mg/L	1	7/7/2022 11:09:18 AM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	350	10.0		mg/L	1	7/5/2022 6:51:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22061331

Date Reported: 7/13/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 1:05:00 PM
Project: CCR Detection Monitoring
Lab ID: 22061331-008 **Matrix:** AQUEOUS
Client Sample ID: CCR-8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Chloride	80.4	2.50		mg/L	10	6/30/2022 4:39:25 PM
Fluoride	0.121	0.0500		mg/L	1	6/30/2022 9:42:49 PM
Sulfate	0.664	0.250		mg/L	1	6/30/2022 9:42:49 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	7/7/2022 11:11:35 AM
Calcium	11.7	0.500		mg/L	1	7/7/2022 11:11:35 AM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	303	10.0		mg/L	1	7/5/2022 6:51:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22061331

Date Reported: 7/13/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 12:15:00 PM
Project: CCR Detection Monitoring
Lab ID: 22061331-009 **Matrix:** AQUEOUS
Client Sample ID: CCR-9

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Chloride	68.2	2.50		mg/L	10	6/30/2022 4:53:13 PM
Fluoride	0.535	0.0500		mg/L	1	6/30/2022 9:56:37 PM
Sulfate	6.30	0.250		mg/L	1	6/30/2022 9:56:37 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	7/7/2022 11:13:52 AM
Calcium	30.4	0.500		mg/L	1	7/7/2022 11:13:52 AM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	357	10.0		mg/L	1	7/5/2022 6:51:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22061331

Date Reported: 7/13/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 11:30:00 AM
Project: CCR Detection Monitoring
Lab ID: 22061331-010 **Matrix:** AQUEOUS
Client Sample ID: CCR-10

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Chloride	43.2	2.50		mg/L	10	6/30/2022 5:07:01 PM
Fluoride	0.555	0.0500		mg/L	1	6/30/2022 10:10:24 PM
Sulfate	5.73	0.250		mg/L	1	6/30/2022 10:10:24 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	7/7/2022 11:16:09 AM
Calcium	26.5	0.500		mg/L	1	7/7/2022 11:16:09 AM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	338	10.0		mg/L	1	7/5/2022 6:51:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22061331

Date Reported: 7/13/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 10:40:00 AM
Project: CCR Detection Monitoring
Lab ID: 22061331-011 **Matrix:** AQUEOUS
Client Sample ID CCR-11

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Chloride	29.1	2.50		mg/L	10	6/30/2022 5:48:23 PM
Fluoride	0.647	0.0500		mg/L	1	6/30/2022 10:24:11 PM
Sulfate	1.93	0.250		mg/L	1	6/30/2022 10:24:11 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	7/7/2022 11:18:26 AM
Calcium	29.3	0.500		mg/L	1	7/7/2022 11:18:26 AM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	257	10.0		mg/L	1	7/5/2022 6:51:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22061331

Date Reported: 7/13/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 6:50:00 PM
Project: CCR Detection Monitoring
Lab ID: 22061331-012 **Matrix:** AQUEOUS
Client Sample ID CCR-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	17.6	0.250		mg/L	1	6/30/2022 6:02:10 PM
Fluoride	0.110	0.0500		mg/L	1	6/30/2022 6:02:10 PM
Sulfate	13.6	0.250		mg/L	1	6/30/2022 6:02:10 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Boron	< 0.100	0.100		mg/L	1	7/7/2022 11:20:44 AM
Calcium	20.4	0.500		mg/L	1	7/7/2022 11:20:44 AM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	208	10.0		mg/L	1	7/5/2022 6:51:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22061331

Date Reported: 7/13/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 6:00:00 PM
Project: CCR Detection Monitoring
Lab ID: 22061331-013 **Matrix:** AQUEOUS
Client Sample ID: CCR-13

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Chloride	11.9	0.250		mg/L	1	6/30/2022 6:15:57 PM
Fluoride	0.197	0.0500		mg/L	1	6/30/2022 6:15:57 PM
Sulfate	1.17	0.250		mg/L	1	6/30/2022 6:15:57 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	7/7/2022 11:23:01 AM
Calcium	33.0	0.500		mg/L	1	7/7/2022 11:23:01 AM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	206	10.0		mg/L	1	7/5/2022 6:51:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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WO#: 22061331

Date Reported: 7/13/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/27/2022 5:30:00 PM
Project: CCR Detection Monitoring
Lab ID: 22061331-014 **Matrix:** AQUEOUS
Client Sample ID: CCR-14

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	10.9	0.250		mg/L	1	6/30/2022 6:29:45 PM
Fluoride	0.120	0.0500		mg/L	1	6/30/2022 6:29:45 PM
Sulfate	0.706	0.250		mg/L	1	6/30/2022 6:29:45 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Boron	< 0.100	0.100		mg/L	1	7/7/2022 11:25:20 AM
Calcium	17.6	0.500		mg/L	1	7/7/2022 11:25:20 AM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: HXW
Total Dissolved Solids (Residue, Filterable)	166	10.0		mg/L	1	7/1/2022 9:51:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22061331

Date Reported: 7/13/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 4:36:00 PM
Project: CCR Detection Monitoring
Lab ID: 22061331-015 **Matrix:** AQUEOUS
Client Sample ID Dup

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC			E 300.0		Analyst: SGP	
Chloride	48.5	2.50		mg/L	10	6/30/2022 6:43:32 PM
Fluoride	0.195	0.0500		mg/L	1	6/30/2022 10:37:59 PM
Sulfate	8.87	0.250		mg/L	1	6/30/2022 10:37:59 PM
METALS IN WATER BY ICP, TOTALS			SW6010B		Analyst: MRM	
Boron	0.104	0.100		mg/L	1	7/7/2022 11:27:37 AM
Calcium	19.5	0.500		mg/L	1	7/7/2022 11:27:37 AM
TOTAL DISSOLVED SOLIDS			SM2540C		Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	274	10.0		mg/L	1	7/5/2022 6:51:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22061331

Date Reported: 7/13/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 7:01:00 PM
Project: CCR Detection Monitoring
Lab ID: 22061331-016 **Matrix:** AQUEOUS
Client Sample ID FB 1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	< 0.250	0.250		mg/L	1	6/30/2022 6:57:20 PM
Fluoride	< 0.0500	0.0500		mg/L	1	6/30/2022 6:57:20 PM
Sulfate	< 0.250	0.250		mg/L	1	6/30/2022 6:57:20 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Boron	< 0.100	0.100		mg/L	1	7/7/2022 11:34:29 AM
Calcium	< 0.500	0.500		mg/L	1	7/7/2022 11:34:29 AM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	< 10.0	10.0		mg/L	1	7/5/2022 6:51:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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QC SUMMARY REPORT

WO#: 22061331
13-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Detection Monitoring

BatchID: 44291

Sample ID	MB-44291	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/30/2022	RunNo:	111187			
Client ID:	PBW	Batch ID:	44291	TestNo:	SW6010B			Analysis Date:	7/7/2022	SeqNo:	2745982			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		< 0.100		0.100										
Calcium		< 0.500		0.500										

Sample ID	LCS-44291	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/30/2022	RunNo:	111187	
Client ID:	LCSW	Batch ID:	44291	TestNo:	SW6010B			Analysis Date:	7/7/2022	SeqNo:	2745983	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.492	0.100	0.5000	0	98.3	80	120				
Calcium		49.2	0.500	50.00	0	98.4	80	120				

Sample ID	LCSD-44291	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/30/2022	RunNo:	111187	
Client ID:	LCSS02	Batch ID:	44291	TestNo:	SW6010B			Analysis Date:	7/7/2022	SeqNo:	2745984	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.491	0.100	0.5000	0	98.2	80	120	0.4917	0.193	20	
Calcium		49.7	0.500	50.00	0	99.3	80	120	49.21	0.948	20	

Sample ID	22061331-004BMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/30/2022	RunNo:	111187	
Client ID:	CCR-4	Batch ID:	44291	TestNo:	SW6010B			Analysis Date:	7/7/2022	SeqNo:	2745989	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.625	0.100	0.5000	0.1072	104	75	125				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
SDL Sample detection limit

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



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QC SUMMARY REPORT

WO#: 22061331
13-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Detection Monitoring

BatchID: 44291

Sample ID	22061331-004BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 6/30/2022	RunNo: 111187					
Client ID:	CCR-4	Batch ID: 44291	TestNo: SW6010B	Analysis Date: 7/7/2022	SeqNo: 2745989						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	70.2	0.500	50.00	19.80	101	75	125				

Sample ID	22061331-004BMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 6/30/2022	RunNo: 111187					
Client ID:	CCR-4	Batch ID: 44291	TestNo: SW6010B	Analysis Date: 7/7/2022	SeqNo: 2745990						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.605	0.100	0.5000	0.1072	99.6	75	125	0.6251	3.19	20	
Calcium	69.7	0.500	50.00	19.80	99.8	75	125	70.20	0.707	20	

Sample ID	22061332-004BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 6/30/2022	RunNo: 111187					
Client ID:	ZZZZZZ	Batch ID: 44291	TestNo: SW6010B	Analysis Date: 7/7/2022	SeqNo: 2746027						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.612	0.100	0.5000	0.1048	101	75	125				
Calcium	69.6	0.500	50.00	19.70	99.8	75	125				

Sample ID	22061332-004BMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 6/30/2022	RunNo: 111187					
Client ID:	ZZZZZZ	Batch ID: 44291	TestNo: SW6010B	Analysis Date: 7/7/2022	SeqNo: 2746029						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.586	0.100	0.5000	0.1048	96.1	75	125	0.6123	4.47	20	
Calcium	67.1	0.500	50.00	19.70	94.8	75	125	69.60	3.65	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
SDL Sample detection limit

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



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QC SUMMARY REPORT

WO#: 22061331
13-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Detection Monitoring

BatchID: 44291

Sample ID	22061332-004BMSD	SampType:	MSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/30/2022	RunNo:	111187
Client ID:	ZZZZZZ	Batch ID:	44291	TestNo:	SW6010B			Analysis Date:	7/7/2022	SeqNo:	2746029
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Qualifiers:

B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
ND	Not Detected at the Reporting Limit	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
SDL	Sample detection limit	U	Analyte not detected	W	Sample container temperature is out of limit as sp



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QC SUMMARY REPORT

WO#: 22061331
13-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Detection Monitoring

BatchID: R111050

Sample ID	MB-R111050	SampType:	MBLK	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	111050
Client ID:	PBW	Batch ID:	R111050	TestNo:	SM2540C			Analysis Date:	7/1/2022	SeqNo:	2743372
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Total Dissolved Solids (Residue, Filterable) < 10.0 10.0

Sample ID	LCS-R111050	SampType:	LCS	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	111050
Client ID:	LCSW	Batch ID:	R111050	TestNo:	SM2540C			Analysis Date:	7/1/2022	SeqNo:	2743373
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Total Dissolved Solids (Residue, Filterable) 994 10.0 1,000 0 99.4 85 115

Sample ID	22061331-003ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	111050
Client ID:	CCR-3	Batch ID:	R111050	TestNo:	SM2540C			Analysis Date:	7/1/2022	SeqNo:	2743378
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Total Dissolved Solids (Residue, Filterable) 380 10.0 380.0 0 10

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
SDL Sample detection limit

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



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QC SUMMARY REPORT

WO#: 22061331
13-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Detection Monitoring

BatchID: R111051

Sample ID	MBLK	SampType:	MBLK	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	111051	
Client ID:	PBW	Batch ID:	R111051	TestNo:	E 300.0			Analysis Date:	6/30/2022	SeqNo:	2742370	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		< 0.250	0.250									
Fluoride		< 0.0500	0.0500									
Sulfate		< 0.250	0.250									

Sample ID	LCS	SampType: LCS	TestCode: 300.0		Units: mg/L		Prep Date:			RunNo: 111051		
Client ID:	LCSW	Batch ID: R111051	TestNo: E 300.0		Analysis Date: 6/30/2022				SeqNo: 2742371			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		9.54	0.250	10.00	0	95.4	90	110				
Fluoride		1.81	0.0500	2.000	0	90.3	90	110				
Sulfate		9.14	0.250	10.00	0	91.4	90	110				

Sample ID	LCSD	SampType:	LCSD	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	111051	
Client ID:	LCSS02	Batch ID:	R111051	TestNo:	E 300.0			Analysis Date:	6/30/2022	SeqNo:	2742372	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		10.2	0.250	10.00	0	102	90	110	9.538	6.91	15	
Fluoride		1.93	0.0500	2.000	0	96.3	90	110	1.806	6.50	15	
Sulfate		9.91	0.250	10.00	0	99.1	90	110	9.138	8.11	15	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
SDL Sample detection limit

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



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QC SUMMARY REPORT

WO#: 22061331
13-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Detection Monitoring

BatchID: R111051

Sample ID	22061331-004AMS	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 111051					
Client ID:	CCR-4	Batch ID: R111051	TestNo: E 300.0	Analysis Date: 6/30/2022	SeqNo: 2742377						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	90.3	2.50	50.00	41.31	97.9	80	120				
Fluoride	9.44	0.500	10.00	0	94.4	80	120				
Sulfate	54.3	2.50	50.00	6.324	95.9	80	120				

Sample ID	22061331-004AMSD	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 111051					
Client ID:	CCR-4	Batch ID: R111051	TestNo: E 300.0	Analysis Date: 6/30/2022	SeqNo: 2742378						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	91.9	2.50	50.00	41.31	101	80	120	90.25	1.76	15	
Fluoride	9.99	0.500	10.00	0	99.9	80	120	9.445	5.64	15	
Sulfate	54.4	2.50	50.00	6.324	96.1	80	120	54.27	0.213	15	

Sample ID	22061331-016AMS	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 111051					
Client ID:	Field Blank	Batch ID: R111051	TestNo: E 300.0	Analysis Date: 6/30/2022	SeqNo: 2742393						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.71	0.250	5.000	0	94.1	80	120				
Fluoride	0.895	0.0500	1.000	0	89.5	80	120				
Sulfate	4.41	0.250	5.000	0	88.1	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
SDL Sample detection limit

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



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QC SUMMARY REPORT

WO#: 22061331
13-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Detection Monitoring

BatchID: R111051

Sample ID	22061331-016AMSD	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 111051					
Client ID:	Field Blank	Batch ID: R111051	TestNo: E 300.0	Analysis Date: 6/30/2022	SeqNo: 2742394						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.99	0.250	5.000	0	99.9	80	120	4.707	5.93	15	
Fluoride	0.951	0.0500	1.000	0	95.1	80	120	0.8950	6.12	15	
Sulfate	4.64	0.250	5.000	0	92.7	80	120	4.406	5.08	15	

Qualifiers:

B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
ND	Not Detected at the Reporting Limit	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
SDL	Sample detection limit	U	Analyte not detected	W	Sample container temperature is out of limit as sp



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QC SUMMARY REPORT

WO#: 22061331
13-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Detection Monitoring

BatchID: R111091

Sample ID	MB-R111091	SampType:	MBLK	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	111091		
Client ID:	PBW	Batch ID:	R111091	TestNo:	SM2540C			Analysis Date:	7/5/2022	SeqNo:	2744533		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) < 10.0 10.0

Sample ID	LCS-R111091	SampType:	LCS	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	111091		
Client ID:	LCSW	Batch ID:	R111091	TestNo:	SM2540C			Analysis Date:	7/5/2022	SeqNo:	2744534		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) 1,010 10.0 1,000 0 101 85 115

Sample ID	LCSD-R111091	SampType:	LCSD	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	111091		
Client ID:	LCSS02	Batch ID:	R111091	TestNo:	SM2540C			Analysis Date:	7/5/2022	SeqNo:	2744535		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) 1,010 10.0 1,000 0 101 85 115 1,014 0.296 10

Sample ID	22061331-004ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	111091		
Client ID:	CCR-4	Batch ID:	R111091	TestNo:	SM2540C			Analysis Date:	7/5/2022	SeqNo:	2744541		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) 275 10.0 292.0 6.00 10

Qualifiers:

B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
ND	Not Detected at the Reporting Limit	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
SDL	Sample detection limit	U	Analyte not detected	W	Sample container temperature is out of limit as sp



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QC SUMMARY REPORT

WO#: 22061331
13-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Detection Monitoring

BatchID: R111091

Sample ID	22061331-004ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	111091
Client ID:	CCR-4	Batch ID:	R111091	TestNo:	SM2540C			Analysis Date:	7/5/2022	SeqNo:	2744541
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Sample ID	22061331-009ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	111091
Client ID:	CCR-9	Batch ID:	R111091	TestNo:	SM2540C			Analysis Date:	7/5/2022	SeqNo:	2744557
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Total Dissolved Solids (Residue, Filterable)		354		10.0						357.0	0.844 10

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
SDL Sample detection limit

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



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Sample Log-In Check List

Client Name: **PIVOTAL_ENGINEERIN**

Work Order Number: **22061331**

RcptNo: **1**

Logged by: **Tammy Thibodeaux** **6/29/2022 2:45:00 PM**

Completed By: **Tammy Thibodeaux** **6/29/2022 5:09:25 PM**

Reviewed By: **Buffy Bryant** **7/13/2022 5:04:52 PM**

Tammy Thibodeaux
Tammy Thibodeaux
Buffy Bryant

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☒ Not Present ☐
2. How was the sample delivered? Client

Log In

3. Coolers are present? Yes ☒ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☒ No ☐
Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☒
No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
6. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☒ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
10. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☒
12. Were any sample containers received broken? Yes ☐ No ☒
13. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
15. Is it clear what analyses were requested? Yes ☒ No ☐
16. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: Date
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

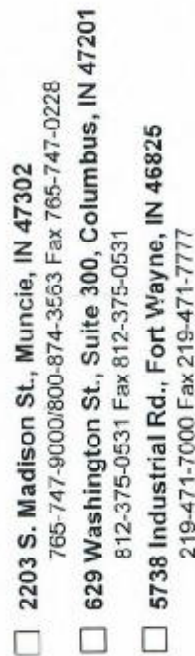
18. Additional remarks:

No sampler's signature by client.

Added year of collection to COC as per samples received.

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	Good	Not Present			



☒ 2417 W. Pinhook Rd, Lafayette, LA 70508
337-235-0483/800-737-2378
Fax 337-233-6540

☐ 3445 S Sheridan, Tulsa, OK 74145
918-828-9977/800324-5757
Fax 918-828-7756

Date 1 of 2

Page 1 of 2		Client Name: Pivotal Engineering LLC		Project: CCR Detection Monitoring		Sample Identification / Description		Test Requested		Comments / Remarks
Date	Time	Grab	Comp	Sample Identification / Description	Preserv.	Number / Type of Container	Matrix Code	TDS	300: Cl, F, SO4	
Contact Name: Terry Elmaggar				Quote #: 6786						
Phone/Fax: (504) 799-3653				Sampler's Signature:						
6/27/18	16:40	X		C C R - 1	HCl HNO ₃ H ₂ SO ₄	2 Plastic	Aq	X	X	X
6/28/18	17:20	X		C C R - 2	None/ HNO ₃	2 Plastic	Aq	X	X	X
6/27/18	15:00	X		C C R - 3	None/ HNO ₃	2 Plastic	Aq	X	X	X
6/28/18	16:25	X		C C R - 4	None/ HNO ₃	2 Plastic	Aq	X	X	X
6/28/18	15:40	X		C C R - 5	None/ HNO ₃	2 Plastic	Aq	X	X	X
6/28/18	14:40	X		C C R - 6	None/ HNO ₃	2 Plastic	Aq	X	X	X
6/28/18	13:50	X		C C R - 7	None/ HNO ₃	2 Plastic	Aq	X	X	X
6/28/18	13:05	X		C C R - 8	None/ HNO ₃	2 Plastic	Aq	X	X	X
6/28/18	12:15	X		C C R - 9	None/ HNO ₃	2 Plastic	Aq	X	X	X
6/28/18	11:30	X		C C R - 10	None/ HNO ₃	2 Plastic	Aq	X	X	X

All samples submitted to Element Materials Technology for analysis are accepted on a custodial basis only. Ownership of the samples remains with the client submitting the samples. Element Materials Technology reserves the right to return unused sample portions.

with the client submitting the samples. Element Materials Technology reserves the right to return unused samples for analysis.		Received by (Signature)		Date	Time
Relinquished by: (Signature)	Date	Time	Relinquished by: (Signature)	Date	Time
<i>hals</i>	6/29	2:45		6/29/00	1445
Relinquished by: (Signature)	Date	Time	Relinquished by: (Signature)	Date	Time

Thank-you for using Element Materials
Technology

Requested TAT
 Hr. ☐ 72-Hr.
 Hr. ☒ Standard

Shipping Conditions
☒ Iced
 Temp. 3.5
☐ Ambient

Container Types
G = Glass
P = Plastic
V = Vial

LIQ = Liquid
SLD = Solid
SLD = Slides

Matrix Codes
 - AQ = Aqueous
 O = Oil

DW = Drinking Water
GW = Ground Water



Element Materials Technology Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 235-0483 FAX: (337) 233-6540
Website: www.element.com

July 25, 2022

Terry Elnaggar
Pivotal Engineering LLC
1515 Poydras St., STE. 1875
New Orleans, LA 70112
TEL: (504) 799-3653
FAX:

RE: CCR Assessment Monitoring

Order No.: 22061332

Dear Terry Elnaggar:

Element Materials Technology Lafayette received 16 sample(s) on 6/29/2022 for the analyses presented in the following report.

In accordance with your instructions, Element Lafayette either conducted or subcontracted these analyses. Subcontracted analyses will be identified in the accompanying case narrative. All relevant sampling information can be found on the attached Chain-of-Custody form. Unless otherwise noted, all analyses were conducted using EPA approved methodologies and all test results meet the applicable requirements of TNI. Reported results relate only to the items tested.

Where applicable, all soil data, except for 29-B, are reported on a wet-weight basis unless otherwise indicated in the units field as –dry.

LELAP Certification No.: 01997. TCEQ Certification No.: T104704261. LDHH Certification No.: LA023. ISDH Certification No.: C-LA-01. NDELCP Certification No.: R-226. A scope of accredited parameters is available upon request. A "#" by the test method or analyte indicates this parameter is outside the scope of accreditation. PA registration No.: 68-05967.

Estimated uncertainty is available upon request. This report shall not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions regarding these test results, please feel free to call.

A handwritten signature in blue ink, appearing to read 'Cristina Thibeaux'.

Cristina Thibeaux
Customer Service Supervisor



Element Materials Technology Lafayette
2417 W. Pinhook Road
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Website: www.element.com

Case Narrative

WO#: 22061332
Date: 7/25/2022

CLIENT: Pivotal Engineering LLC

Project: CCR Assessment Monitoring

Unless specified by the client, a duplicate or MS/MSD, wherever applicable, is randomly selected and analyzed from each analytical batch provided sample volume is sufficient. The sample chosen for duplicate or MS/MSD may or may not be a sample submitted in this workorder. A method blank and/or a lab control sample (LCS)/lab control sample duplicate (LCSD), wherever applicable, are processed as a quality control check for each analytical batch. When the matrix QC data is not available due to insufficient sample volume or when the results indicate possible matrix effect, the validity of the batch is determined by the method blank and LCS/LCSD.

The results of the laboratory internal quality control data are provided in the QC Summary Report section of the report for your review. Laboratory-related QC exceptions that may impact the validity of data are discussed in the case narrative. Sample-related QC exceptions are flagged either in the results page(s) or in the QC report page(s). End users should consider QC exceptions when evaluating sample data against data quality objectives.

Any other exceptions associated with this report will be footnoted in the results page(s) or the QC summary page(s).

The Lithium (6020B) analyses were subcontracted to Pace Analytical. Their report is attached in its entirety.



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Analytical Report

(consolidated)

WO#: 22061332

Date Reported: 7/25/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/27/2022 4:40:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22061332-001 **Matrix:** AQUEOUS
Client Sample ID: CCR-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	7/1/2022 7:58:40 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.248	0.0500		mg/L	1	6/30/2022 7:38:42 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.202	0.0100		mg/L	1	7/7/2022 11:41:20 AM
Beryllium	< 0.00100	0.00100		mg/L	1	7/7/2022 11:41:20 AM
Cadmium	< 0.00500	0.00500		mg/L	1	7/7/2022 11:41:20 AM
Chromium	< 0.0100	0.0100		mg/L	1	7/7/2022 11:41:20 AM
Cobalt	< 0.0100	0.0100		mg/L	1	7/7/2022 11:41:20 AM
Lead	< 0.0100	0.0100		mg/L	1	7/7/2022 11:41:20 AM
Molybdenum	< 0.0100	0.0100		mg/L	1	7/7/2022 11:41:20 AM
Selenium	< 0.0200	0.0200		mg/L	1	7/7/2022 11:41:20 AM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	7/6/2022 9:54:07 AM
Arsenic	< 10.0	10.0		µg/L	1	7/6/2022 9:54:07 AM
Thallium	< 0.250	0.250		µg/L	1	7/6/2022 9:54:07 AM

Qualifiers:

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

E Value above quantitation range
M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

(consolidated)

WO#: 22061332

Date Reported: 7/25/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 5:20:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22061332-002 **Matrix:** AQUEOUS
Client Sample ID CCR-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	7/1/2022 8:06:13 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.309	0.0500		mg/L	1	6/30/2022 7:52:28 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.165	0.0100		mg/L	1	7/7/2022 11:43:36 AM
Beryllium	< 0.00100	0.00100		mg/L	1	7/7/2022 11:43:36 AM
Cadmium	< 0.00500	0.00500		mg/L	1	7/7/2022 11:43:36 AM
Chromium	< 0.0100	0.0100		mg/L	1	7/7/2022 11:43:36 AM
Cobalt	< 0.0100	0.0100		mg/L	1	7/7/2022 11:43:36 AM
Lead	< 0.0100	0.0100		mg/L	1	7/7/2022 11:43:36 AM
Molybdenum	< 0.0100	0.0100		mg/L	1	7/7/2022 11:43:36 AM
Selenium	< 0.0200	0.0200		mg/L	1	7/7/2022 11:43:36 AM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	7/6/2022 9:56:55 AM
Arsenic	< 10.0	10.0		µg/L	1	7/6/2022 9:56:55 AM
Thallium	< 0.250	0.250		µg/L	1	7/6/2022 9:56:55 AM

Qualifiers:

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

E Value above quantitation range
M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

(consolidated)

WO#: 22061332

Date Reported: 7/25/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/27/2022 3:00:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22061332-003 **Matrix:** AQUEOUS
Client Sample ID: CCR-3

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	7/1/2022 8:08:32 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.355	0.0500		mg/L	1	6/30/2022 8:06:16 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.283	0.0100		mg/L	1	7/7/2022 11:45:54 AM
Beryllium	< 0.00100	0.00100		mg/L	1	7/7/2022 11:45:54 AM
Cadmium	< 0.00500	0.00500		mg/L	1	7/7/2022 11:45:54 AM
Chromium	< 0.0100	0.0100		mg/L	1	7/7/2022 11:45:54 AM
Cobalt	< 0.0100	0.0100		mg/L	1	7/7/2022 11:45:54 AM
Lead	< 0.0100	0.0100		mg/L	1	7/7/2022 11:45:54 AM
Molybdenum	< 0.0100	0.0100		mg/L	1	7/7/2022 11:45:54 AM
Selenium	< 0.0200	0.0200		mg/L	1	7/7/2022 11:45:54 AM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	7/6/2022 9:59:43 AM
Arsenic	< 10.0	10.0		µg/L	1	7/6/2022 9:59:43 AM
Thallium	< 0.250	0.250		µg/L	1	7/6/2022 9:59:43 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22061332

Date Reported: 7/25/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 4:25:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22061332-004 **Matrix:** AQUEOUS
Client Sample ID CCR-4

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	7/25/2022 7:04:36 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.192	0.0500		mg/L	1	6/30/2022 8:20:03 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.135	0.0100		mg/L	1	7/7/2022 11:48:11 AM
Beryllium	< 0.00100	0.00100		mg/L	1	7/7/2022 11:48:11 AM
Cadmium	< 0.00500	0.00500		mg/L	1	7/7/2022 11:48:11 AM
Chromium	< 0.0100	0.0100		mg/L	1	7/7/2022 11:48:11 AM
Cobalt	< 0.0100	0.0100		mg/L	1	7/7/2022 11:48:11 AM
Lead	< 0.0100	0.0100		mg/L	1	7/7/2022 11:48:11 AM
Molybdenum	< 0.0100	0.0100		mg/L	1	7/7/2022 11:48:11 AM
Selenium	< 0.0200	0.0200		mg/L	1	7/7/2022 11:48:11 AM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	7/6/2022 10:02:31 AM
Arsenic	< 10.0	10.0		µg/L	1	7/6/2022 10:02:31 AM
Thallium	< 0.250	0.250		µg/L	1	7/6/2022 10:02:31 AM

Qualifiers:

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

E Value above quantitation range
M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

(consolidated)

WO#: 22061332

Date Reported: 7/25/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 3:40:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22061332-005 **Matrix:** AQUEOUS
Client Sample ID: CCR-5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	7/1/2022 8:13:08 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.218	0.0500		mg/L	1	6/30/2022 9:01:26 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.248	0.0100		mg/L	1	7/7/2022 11:55:03 AM
Beryllium	< 0.00100	0.00100		mg/L	1	7/7/2022 11:55:03 AM
Cadmium	< 0.00500	0.00500		mg/L	1	7/7/2022 11:55:03 AM
Chromium	< 0.0100	0.0100		mg/L	1	7/7/2022 11:55:03 AM
Cobalt	< 0.0100	0.0100		mg/L	1	7/7/2022 11:55:03 AM
Lead	< 0.0100	0.0100		mg/L	1	7/7/2022 11:55:03 AM
Molybdenum	< 0.0100	0.0100		mg/L	1	7/7/2022 11:55:03 AM
Selenium	< 0.0200	0.0200		mg/L	1	7/7/2022 11:55:03 AM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	7/6/2022 10:24:59 AM
Arsenic	< 10.0	10.0		µg/L	1	7/6/2022 10:24:59 AM
Thallium	< 0.250	0.250		µg/L	1	7/6/2022 10:24:59 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22061332

Date Reported: 7/25/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 2:40:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22061332-006 **Matrix:** AQUEOUS
Client Sample ID: CCR-6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	7/1/2022 8:15:26 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.235	0.0500		mg/L	1	6/30/2022 9:15:14 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.218	0.0100		mg/L	1	7/7/2022 12:01:54 PM
Beryllium	< 0.00100	0.00100		mg/L	1	7/7/2022 12:01:54 PM
Cadmium	< 0.00500	0.00500		mg/L	1	7/7/2022 12:01:54 PM
Chromium	< 0.0100	0.0100		mg/L	1	7/7/2022 12:01:54 PM
Cobalt	< 0.0100	0.0100		mg/L	1	7/7/2022 12:01:54 PM
Lead	< 0.0100	0.0100		mg/L	1	7/7/2022 12:01:54 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	7/7/2022 12:01:54 PM
Selenium	< 0.0200	0.0200		mg/L	1	7/7/2022 12:01:54 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	7/6/2022 10:27:46 AM
Arsenic	< 10.0	10.0		µg/L	1	7/6/2022 10:27:46 AM
Thallium	< 0.250	0.250		µg/L	1	7/6/2022 10:27:46 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22061332

Date Reported: 7/25/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 1:50:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22061332-007 **Matrix:** AQUEOUS
Client Sample ID CCR-7

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	7/1/2022 8:17:48 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.253	0.0500		mg/L	1	6/30/2022 9:29:01 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.235	0.0100		mg/L	1	7/7/2022 12:04:11 PM
Beryllium	< 0.00100	0.00100		mg/L	1	7/7/2022 12:04:11 PM
Cadmium	< 0.00500	0.00500		mg/L	1	7/7/2022 12:04:11 PM
Chromium	< 0.0100	0.0100		mg/L	1	7/7/2022 12:04:11 PM
Cobalt	< 0.0100	0.0100		mg/L	1	7/7/2022 12:04:11 PM
Lead	< 0.0100	0.0100		mg/L	1	7/7/2022 12:04:11 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	7/7/2022 12:04:11 PM
Selenium	< 0.0200	0.0200		mg/L	1	7/7/2022 12:04:11 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	7/6/2022 10:30:34 AM
Arsenic	< 10.0	10.0		µg/L	1	7/6/2022 10:30:34 AM
Thallium	< 0.250	0.250		µg/L	1	7/6/2022 10:30:34 AM

Qualifiers:

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

E Value above quantitation range
M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

(consolidated)

WO#: 22061332

Date Reported: 7/25/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 1:05:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22061332-008 **Matrix:** AQUEOUS
Client Sample ID CCR-8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	7/1/2022 8:20:06 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.121	0.0500		mg/L	1	6/30/2022 9:42:49 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.128	0.0100		mg/L	1	7/7/2022 12:06:28 PM
Beryllium	< 0.00100	0.00100		mg/L	1	7/7/2022 12:06:28 PM
Cadmium	< 0.00500	0.00500		mg/L	1	7/7/2022 12:06:28 PM
Chromium	< 0.0100	0.0100		mg/L	1	7/7/2022 12:06:28 PM
Cobalt	< 0.0100	0.0100		mg/L	1	7/7/2022 12:06:28 PM
Lead	< 0.0100	0.0100		mg/L	1	7/7/2022 12:06:28 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	7/7/2022 12:06:28 PM
Selenium	< 0.0200	0.0200		mg/L	1	7/7/2022 12:06:28 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	7/6/2022 10:33:22 AM
Arsenic	< 10.0	10.0		µg/L	1	7/6/2022 10:33:22 AM
Thallium	< 0.250	0.250		µg/L	1	7/6/2022 10:33:22 AM

Qualifiers:

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

E Value above quantitation range
M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



Element Materials Technology Lafayette
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Website: www.element.com

Analytical Report

(consolidated)

WO#: 22061332

Date Reported: 7/25/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 12:15:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22061332-009 **Matrix:** AQUEOUS
Client Sample ID CCR-9

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	7/1/2022 8:22:23 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.535	0.0500		mg/L	1	6/30/2022 9:56:37 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.213	0.0100		mg/L	1	7/7/2022 12:08:45 PM
Beryllium	< 0.00100	0.00100		mg/L	1	7/7/2022 12:08:45 PM
Cadmium	< 0.00500	0.00500		mg/L	1	7/7/2022 12:08:45 PM
Chromium	< 0.0100	0.0100		mg/L	1	7/7/2022 12:08:45 PM
Cobalt	< 0.0100	0.0100		mg/L	1	7/7/2022 12:08:45 PM
Lead	< 0.0100	0.0100		mg/L	1	7/7/2022 12:08:45 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	7/7/2022 12:08:45 PM
Selenium	< 0.0200	0.0200		mg/L	1	7/7/2022 12:08:45 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	7/6/2022 10:36:10 AM
Arsenic	< 10.0	10.0		µg/L	1	7/6/2022 10:36:10 AM
Thallium	< 0.250	0.250		µg/L	1	7/6/2022 10:36:10 AM

Qualifiers:

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

E Value above quantitation range
M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

(consolidated)

WO#: 22061332

Date Reported: 7/25/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 11:30:00 AM
Project: CCR Assessment Monitoring
Lab ID: 22061332-010 **Matrix:** AQUEOUS
Client Sample ID: CCR-10

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	7/1/2022 8:24:41 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.555	0.0500		mg/L	1	6/30/2022 10:10:24 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.262	0.0100		mg/L	1	7/7/2022 12:11:02 PM
Beryllium	< 0.00100	0.00100		mg/L	1	7/7/2022 12:11:02 PM
Cadmium	< 0.00500	0.00500		mg/L	1	7/7/2022 12:11:02 PM
Chromium	< 0.0100	0.0100		mg/L	1	7/7/2022 12:11:02 PM
Cobalt	< 0.0100	0.0100		mg/L	1	7/7/2022 12:11:02 PM
Lead	< 0.0100	0.0100		mg/L	1	7/7/2022 12:11:02 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	7/7/2022 12:11:02 PM
Selenium	< 0.0200	0.0200		mg/L	1	7/7/2022 12:11:02 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	7/6/2022 10:38:58 AM
Arsenic	< 10.0	10.0		µg/L	1	7/6/2022 10:38:58 AM
Thallium	< 0.250	0.250		µg/L	1	7/6/2022 10:38:58 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22061332

Date Reported: 7/25/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 10:40:00 AM
Project: CCR Assessment Monitoring
Lab ID: 22061332-011 **Matrix:** AQUEOUS
Client Sample ID: CCR-11

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	7/1/2022 8:26:59 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.647	0.0500		mg/L	1	6/30/2022 10:24:11 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.158	0.0100		mg/L	1	7/7/2022 12:13:20 PM
Beryllium	< 0.00100	0.00100		mg/L	1	7/7/2022 12:13:20 PM
Cadmium	< 0.00500	0.00500		mg/L	1	7/7/2022 12:13:20 PM
Chromium	< 0.0100	0.0100		mg/L	1	7/7/2022 12:13:20 PM
Cobalt	< 0.0100	0.0100		mg/L	1	7/7/2022 12:13:20 PM
Lead	< 0.0100	0.0100		mg/L	1	7/7/2022 12:13:20 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	7/7/2022 12:13:20 PM
Selenium	< 0.0200	0.0200		mg/L	1	7/7/2022 12:13:20 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	7/6/2022 10:41:46 AM
Arsenic	< 10.0	10.0		µg/L	1	7/6/2022 10:41:46 AM
Thallium	< 0.250	0.250		µg/L	1	7/6/2022 10:41:46 AM

Qualifiers:

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

E Value above quantitation range
M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

(consolidated)

WO#: 22061332

Date Reported: 7/25/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 6:50:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22061332-012 **Matrix:** AQUEOUS
Client Sample ID: CCR-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	7/1/2022 8:34:32 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.110	0.0500		mg/L	1	6/30/2022 6:02:10 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.198	0.0100		mg/L	1	7/7/2022 12:15:37 PM
Beryllium	< 0.00100	0.00100		mg/L	1	7/7/2022 12:15:37 PM
Cadmium	< 0.00500	0.00500		mg/L	1	7/7/2022 12:15:37 PM
Chromium	< 0.0100	0.0100		mg/L	1	7/7/2022 12:15:37 PM
Cobalt	< 0.0100	0.0100		mg/L	1	7/7/2022 12:15:37 PM
Lead	< 0.0100	0.0100		mg/L	1	7/7/2022 12:15:37 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	7/7/2022 12:15:37 PM
Selenium	< 0.0200	0.0200		mg/L	1	7/7/2022 12:15:37 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	7/6/2022 10:44:33 AM
Arsenic	< 10.0	10.0		µg/L	1	7/6/2022 10:44:33 AM
Thallium	< 0.250	0.250		µg/L	1	7/6/2022 10:44:33 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22061332

Date Reported: 7/25/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 6:00:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22061332-013 **Matrix:** AQUEOUS
Client Sample ID: CCR-13

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	7/1/2022 8:36:50 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.197	0.0500		mg/L	1	6/30/2022 6:15:57 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.122	0.0100		mg/L	1	7/7/2022 12:17:54 PM
Beryllium	< 0.00100	0.00100		mg/L	1	7/7/2022 12:17:54 PM
Cadmium	< 0.00500	0.00500		mg/L	1	7/7/2022 12:17:54 PM
Chromium	< 0.0100	0.0100		mg/L	1	7/7/2022 12:17:54 PM
Cobalt	< 0.0100	0.0100		mg/L	1	7/7/2022 12:17:54 PM
Lead	< 0.0100	0.0100		mg/L	1	7/7/2022 12:17:54 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	7/7/2022 12:17:54 PM
Selenium	< 0.0200	0.0200		mg/L	1	7/7/2022 12:17:54 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	7/6/2022 10:58:36 AM
Arsenic	< 10.0	10.0		µg/L	1	7/6/2022 10:58:36 AM
Thallium	< 0.250	0.250		µg/L	1	7/6/2022 10:58:36 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22061332

Date Reported: 7/25/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/27/2022 5:30:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22061332-014 **Matrix:** AQUEOUS
Client Sample ID: CCR-14

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	7/1/2022 8:39:08 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.120	0.0500		mg/L	1	6/30/2022 6:29:45 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.0807	0.0100		mg/L	1	7/7/2022 12:20:12 PM
Beryllium	< 0.00100	0.00100		mg/L	1	7/7/2022 12:20:12 PM
Cadmium	< 0.00500	0.00500		mg/L	1	7/7/2022 12:20:12 PM
Chromium	< 0.0100	0.0100		mg/L	1	7/7/2022 12:20:12 PM
Cobalt	< 0.0100	0.0100		mg/L	1	7/7/2022 12:20:12 PM
Lead	< 0.0100	0.0100		mg/L	1	7/7/2022 12:20:12 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	7/7/2022 12:20:12 PM
Selenium	< 0.0200	0.0200		mg/L	1	7/7/2022 12:20:12 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	7/6/2022 11:01:26 AM
Arsenic	< 10.0	10.0		µg/L	1	7/6/2022 11:01:26 AM
Thallium	< 0.250	0.250		µg/L	1	7/6/2022 11:01:26 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22061332

Date Reported: 7/25/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 4:36:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22061332-015 **Matrix:** AQUEOUS
Client Sample ID Duplicate

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	7/1/2022 8:41:27 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.195	0.0500		mg/L	1	6/30/2022 10:37:59 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.115	0.0100		mg/L	1	7/7/2022 12:22:29 PM
Beryllium	< 0.00100	0.00100		mg/L	1	7/7/2022 12:22:29 PM
Cadmium	< 0.00500	0.00500		mg/L	1	7/7/2022 12:22:29 PM
Chromium	< 0.0100	0.0100		mg/L	1	7/7/2022 12:22:29 PM
Cobalt	< 0.0100	0.0100		mg/L	1	7/7/2022 12:22:29 PM
Lead	< 0.0100	0.0100		mg/L	1	7/7/2022 12:22:29 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	7/7/2022 12:22:29 PM
Selenium	< 0.0200	0.0200		mg/L	1	7/7/2022 12:22:29 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	7/6/2022 11:04:14 AM
Arsenic	< 10.0	10.0		µg/L	1	7/6/2022 11:04:14 AM
Thallium	< 0.250	0.250		µg/L	1	7/6/2022 11:04:14 AM

Qualifiers:

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

E Value above quantitation range
M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

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WO#: 22061332

Date Reported: 7/25/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/28/2022 7:01:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22061332-016 **Matrix:** AQUEOUS
Client Sample ID: Field Blank

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: BXB	
Mercury	< 0.000200	0.000200		mg/L	1	7/1/2022 7:43:48 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	< 0.0500	0.0500		mg/L	1	6/30/2022 6:57:20 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	< 0.0100	0.0100		mg/L	1	7/7/2022 12:31:39 PM
Beryllium	< 0.00100	0.00100		mg/L	1	7/7/2022 12:31:39 PM
Cadmium	< 0.00500	0.00500		mg/L	1	7/7/2022 12:31:39 PM
Chromium	< 0.0100	0.0100		mg/L	1	7/7/2022 12:31:39 PM
Cobalt	< 0.0100	0.0100		mg/L	1	7/7/2022 12:31:39 PM
Lead	< 0.0100	0.0100		mg/L	1	7/7/2022 12:31:39 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	7/7/2022 12:31:39 PM
Selenium	< 0.0200	0.0200		mg/L	1	7/7/2022 12:31:39 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	7/6/2022 11:07:01 AM
Arsenic	< 10.0	10.0		µg/L	1	7/6/2022 11:07:01 AM
Thallium	< 0.250	0.250		µg/L	1	7/6/2022 11:07:01 AM

Qualifiers:

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

E Value above quantitation range
M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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QC SUMMARY REPORT

WO#: 22061332
25-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 44289

Sample ID: MB-44289	SampType: MBLK	TestCode: HG_W_7470A	Units: mg/L	Prep Date: 6/30/2022	RunNo: 111044
Client ID: PBW	Batch ID: 44289	TestNo: SW7470A		Analysis Date: 7/1/2022	SeqNo: 2741976
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury < 0.000200 0.000200

Sample ID: LCS-44289	SampType: LCS	TestCode: HG_W_7470A	Units: mg/L	Prep Date: 6/30/2022	RunNo: 111044
Client ID: LCSW	Batch ID: 44289	TestNo: SW7470A		Analysis Date: 7/1/2022	SeqNo: 2741977
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury 0.00877 0.000200 0.01000 0 87.7 80 120

Sample ID: LCSD-44289	SampType: LCSD	TestCode: HG_W_7470A	Units: mg/L	Prep Date: 6/30/2022	RunNo: 111044
Client ID: LCSS02	Batch ID: 44289	TestNo: SW7470A		Analysis Date: 7/1/2022	SeqNo: 2741978
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury 0.00881 0.000200 0.01000 0 88.1 80 120 0.008774 0.416 20

Sample ID: 22061332-016BMS	SampType: MS	TestCode: HG_W_7470A	Units: mg/L	Prep Date: 6/30/2022	RunNo: 111044
Client ID: Field Blank	Batch ID: 44289	TestNo: SW7470A		Analysis Date: 7/1/2022	SeqNo: 2741980
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury 0.00856 0.000200 0.01000 0 85.6 75 125

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
M	Matrix Interference	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode

H	Holding times for preparation or analysis exceed
R	RPD outside accepted recovery limits
SDL	Sample detection limit



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QC SUMMARY REPORT

WO#: 22061332
25-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 44289

Sample ID: 22061332-016BMSD	SampType: MSD	TestCode: HG_W_7470A	Units: mg/L	Prep Date: 6/30/2022	RunNo: 111044						
Client ID: Field Blank	Batch ID: 44289	TestNo: SW7470A	Analysis Date: 7/1/2022	SeqNo: 2741981							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00852	0.000200	0.01000	0	85.2	75	125	0.008560	0.470	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceed
M	Matrix Interference	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode		



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QC SUMMARY REPORT

WO#: 22061332
25-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 44290

Sample ID: MB-44290	SampType: MBLK	TestCode: 6020A_W	Units: µg/L	Prep Date: 6/30/2022	RunNo: 111154						
Client ID: PBW	Batch ID: 44290	TestNo: SW6020A		Analysis Date: 7/6/2022	SeqNo: 2744579						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	< 0.250	0.250									
Arsenic	< 0.250	0.250									
Thallium	< 0.250	0.250									

Sample ID: LCS-44290	SampType: LCS	TestCode: 6020A_W	Units: µg/L	Prep Date: 6/30/2022	RunNo: 111154						
Client ID: LCSW	Batch ID: 44290	TestNo: SW6020A		Analysis Date: 7/6/2022	SeqNo: 2744580						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	516	5.00	500.0	0	103	80	120				
Arsenic	518	5.00	500.0	0	104	80	120				
Thallium	523	5.00	500.0	0	105	80	120				

Sample ID: LCSD-44290	SampType: LCSD	TestCode: 6020A_W	Units: µg/L	Prep Date: 6/30/2022	RunNo: 111154						
Client ID: LCSS02	Batch ID: 44290	TestNo: SW6020A		Analysis Date: 7/6/2022	SeqNo: 2744581						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	507	5.00	500.0	0	101	80	120	516.1	1.73	20	
Arsenic	515	5.00	500.0	0	103	80	120	518.0	0.552	20	
Thallium	511	5.00	500.0	0	102	80	120	523.2	2.40	20	

Qualifiers:

B Analyte detected in the associated Method Blank
M Matrix Interference
RL Reporting Limit
U Analyte not detected

E Value above quantitation range
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceed
R RPD outside accepted recovery limits
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22061332
25-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 44290

Sample ID: 22061332-004BMS	SampType: MS	TestCode: 6020A_W	Units: µg/L	Prep Date: 6/30/2022	RunNo: 111154						
Client ID: CCR-4	Batch ID: 44290	TestNo: SW6020A		Analysis Date: 7/6/2022	SeqNo: 2744591						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	507	5.00	500.0	0.02835	101	75	125				
Arsenic	508	5.00	500.0	0.1809	102	75	125				
Thallium	515	5.00	500.0	0.01072	103	75	125				

Sample ID: 22061332-004BMSD	SampType: MSD	TestCode: 6020A_W	Units: µg/L	Prep Date: 6/30/2022	RunNo: 111154						
Client ID: CCR-4	Batch ID: 44290	TestNo: SW6020A		Analysis Date: 7/6/2022	SeqNo: 2744592						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	499	5.00	500.0	0.02835	99.7	75	125	507.0	1.68	20	
Arsenic	507	5.00	500.0	0.1809	101	75	125	507.8	0.133	20	
Thallium	508	5.00	500.0	0.01072	102	75	125	515.5	1.49	20	

Qualifiers:

B Analyte detected in the associated Method Blank
M Matrix Interference
RL Reporting Limit
U Analyte not detected

E Value above quantitation range
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22061332
25-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 44291

Sample ID: MB-44291	SampType: MBLK	TestCode: 6010_W	Units: mg/L	Prep Date: 6/30/2022	RunNo: 111187						
Client ID: PBW	Batch ID: 44291	TestNo: SW6010B		Analysis Date: 7/7/2022	SeqNo: 2745982						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	< 0.0100	0.0100									
Beryllium	< 0.00100	0.00100									
Cadmium	< 0.00500	0.00500									
Chromium	< 0.0100	0.0100									
Cobalt	< 0.0100	0.0100									
Lead	< 0.0100	0.0100									
Molybdenum	< 0.0100	0.0100									
Selenium	< 0.0200	0.0200									

Sample ID: LCS-44291	SampType: LCS	TestCode: 6010_W	Units: mg/L	Prep Date: 6/30/2022	RunNo: 111187						
Client ID: LCSW	Batch ID: 44291	TestNo: SW6010B		Analysis Date: 7/7/2022	SeqNo: 2745983						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.493	0.0100	0.5000	0	98.5	80	120				
Beryllium	0.490	0.00100	0.5000	0	97.9	80	120				
Cadmium	0.481	0.00500	0.5000	0	96.2	80	120				
Chromium	0.487	0.0100	0.5000	0	97.3	80	120				
Cobalt	0.490	0.0100	0.5000	0	97.9	80	120				
Lead	0.479	0.0100	0.5000	0	95.7	80	120				
Molybdenum	0.475	0.0100	0.5000	0	95.0	80	120				
Selenium	0.475	0.0200	0.5000	0	95.1	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
M	Matrix Interference	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode

H	Holding times for preparation or analysis exceed
R	RPD outside accepted recovery limits
SDL	Sample detection limit



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QC SUMMARY REPORT

WO#: 22061332
25-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 44291

Sample ID: LCSD-44291	SampType: LCSD	TestCode: 6010_W	Units: mg/L	Prep Date: 6/30/2022	RunNo: 111187						
Client ID: LCSS02	Batch ID: 44291	TestNo: SW6010B		Analysis Date: 7/7/2022	SeqNo: 2745984						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.495	0.0100	0.5000	0	98.9	80	120	0.4926	0.442	20	
Beryllium	0.494	0.00100	0.5000	0	98.7	80	120	0.4896	0.842	20	
Cadmium	0.485	0.00500	0.5000	0	97.0	80	120	0.4812	0.787	20	
Chromium	0.490	0.0100	0.5000	0	98.0	80	120	0.4866	0.660	20	
Cobalt	0.494	0.0100	0.5000	0	98.9	80	120	0.4897	0.980	20	
Lead	0.479	0.0100	0.5000	0	95.9	80	120	0.4786	0.140	20	
Molybdenum	0.480	0.0100	0.5000	0	95.9	80	120	0.4748	1.00	20	
Selenium	0.473	0.0200	0.5000	0	94.6	80	120	0.4755	0.529	20	

Sample ID: 22061331-004BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 6/30/2022	RunNo: 111187						
Client ID: ZZZZZZ	Batch ID: 44291	TestNo: SW6010B		Analysis Date: 7/7/2022	SeqNo: 2745989						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.616	0.0100	0.5000	0.1365	95.8	75	125				
Beryllium	0.500	0.00100	0.5000	0	100	75	125				
Cadmium	0.493	0.00500	0.5000	0	98.6	75	125				
Chromium	0.496	0.0100	0.5000	0.001330	99.0	75	125				
Cobalt	0.495	0.0100	0.5000	0	98.9	75	125				
Lead	0.481	0.0100	0.5000	0	96.3	75	125				
Molybdenum	0.483	0.0100	0.5000	0	96.5	75	125				
Selenium	0.490	0.0200	0.5000	0	98.0	75	125				

Qualifiers:

B Analyte detected in the associated Method Blank
M Matrix Interference
RL Reporting Limit
U Analyte not detected

E Value above quantitation range
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceed
R RPD outside accepted recovery limits
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22061332
25-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 44291

Sample ID: 22061331-004BMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 6/30/2022	RunNo: 111187						
Client ID: ZZZZZZ	Batch ID: 44291	TestNo: SW6010B		Analysis Date: 7/7/2022	SeqNo: 2745990						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.611	0.0100	0.5000	0.1365	94.8	75	125	0.6157	0.824	20	
Beryllium	0.495	0.00100	0.5000	0	99.0	75	125	0.5004	1.04	20	
Cadmium	0.489	0.00500	0.5000	0	97.8	75	125	0.4931	0.798	20	
Chromium	0.492	0.0100	0.5000	0.001330	98.2	75	125	0.4964	0.829	20	
Cobalt	0.492	0.0100	0.5000	0	98.3	75	125	0.4947	0.647	20	
Lead	0.478	0.0100	0.5000	0	95.6	75	125	0.4814	0.742	20	
Molybdenum	0.477	0.0100	0.5000	0	95.5	75	125	0.4827	1.13	20	
Selenium	0.488	0.0200	0.5000	0	97.6	75	125	0.4898	0.415	20	

Sample ID: 22061332-004BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 6/30/2022	RunNo: 111187						
Client ID: CCR-4	Batch ID: 44291	TestNo: SW6010B		Analysis Date: 7/7/2022	SeqNo: 2746027						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.608	0.0100	0.5000	0.1353	94.6	75	125				
Beryllium	0.493	0.00100	0.5000	0	98.6	75	125				
Cadmium	0.487	0.00500	0.5000	0	97.5	75	125				
Chromium	0.490	0.0100	0.5000	0.001340	97.8	75	125				
Cobalt	0.490	0.0100	0.5000	0	97.9	75	125				
Lead	0.473	0.0100	0.5000	0	94.6	75	125				
Molybdenum	0.475	0.0100	0.5000	0.004030	94.2	75	125				
Selenium	0.477	0.0200	0.5000	0	95.4	75	125				

Qualifiers:

B Analyte detected in the associated Method Blank
M Matrix Interference
RL Reporting Limit
U Analyte not detected

E Value above quantitation range
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceed
R RPD outside accepted recovery limits
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22061332
25-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 44291

Sample ID: 22061332-004BMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 6/30/2022	RunNo: 111187						
Client ID: CCR-4	Batch ID: 44291	TestNo: SW6010B		Analysis Date: 7/7/2022	SeqNo: 2746029						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.588	0.0100	0.5000	0.1353	90.6	75	125	0.6080	3.34	20	
Beryllium	0.478	0.00100	0.5000	0	95.6	75	125	0.4931	3.15	20	
Cadmium	0.472	0.00500	0.5000	0	94.3	75	125	0.4873	3.26	20	
Chromium	0.473	0.0100	0.5000	0.001340	94.4	75	125	0.4904	3.59	20	
Cobalt	0.473	0.0100	0.5000	0	94.6	75	125	0.4896	3.50	20	
Lead	0.464	0.0100	0.5000	0	92.8	75	125	0.4728	1.91	20	
Molybdenum	0.461	0.0100	0.5000	0.004030	91.4	75	125	0.4750	2.98	20	
Selenium	0.463	0.0200	0.5000	0	92.6	75	125	0.4771	3.00	20	

Qualifiers:

B Analyte detected in the associated Method Blank
M Matrix Interference
RL Reporting Limit
U Analyte not detected

E Value above quantitation range
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22061332
25-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 44550

Sample ID: MB-44550	SampType: MBLK	TestCode: HG_W_7470A	Units: mg/L	Prep Date: 7/22/2022	RunNo: 111685
Client ID: PBW	Batch ID: 44550	TestNo: SW7470A		Analysis Date: 7/25/2022	SeqNo: 2758484
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury < 0.000200 0.000200

Sample ID: LCS-44550	SampType: LCS	TestCode: HG_W_7470A	Units: mg/L	Prep Date: 7/22/2022	RunNo: 111685
Client ID: LCSW	Batch ID: 44550	TestNo: SW7470A		Analysis Date: 7/25/2022	SeqNo: 2758485
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury 0.0108 0.000200 0.01000 0 108 80 120

Sample ID: LCSD-44550	SampType: LCSD	TestCode: HG_W_7470A	Units: mg/L	Prep Date: 7/22/2022	RunNo: 111685
Client ID: LCSS02	Batch ID: 44550	TestNo: SW7470A		Analysis Date: 7/25/2022	SeqNo: 2758486
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury 0.0108 0.000200 0.01000 0 108 80 120 0.01083 0.185 20

Sample ID: 22061332-004BMS	SampType: MS	TestCode: HG_W_7470A	Units: mg/L	Prep Date: 7/24/2022	RunNo: 111685
Client ID: CCR-4	Batch ID: 44550	TestNo: SW7470A		Analysis Date: 7/25/2022	SeqNo: 2758488
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Mercury 0.0101 0.000200 0.01000 0 101 75 125

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
M	Matrix Interference	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode

H	Holding times for preparation or analysis exceed
R	RPD outside accepted recovery limits
SDL	Sample detection limit



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QC SUMMARY REPORT

WO#: 22061332
25-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 44550

Sample ID: 22061332-004BMSD	SampType: MSD	TestCode: HG_W_7470A	Units: mg/L	Prep Date: 7/25/2022	RunNo: 111685						
Client ID: CCR-4	Batch ID: 44550	TestNo: SW7470A		Analysis Date: 7/25/2022	SeqNo: 2758491						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0102	0.000200	0.01000	0	102	75	125	0.01014	0.207	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
M	Matrix Interference	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode		



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QC SUMMARY REPORT

WO#: 22061332
25-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R111053

Sample ID: MBLK	SampType: MBLK	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 111053						
Client ID: PBW	Batch ID: R111053	TestNo: E 300.0		Analysis Date: 6/30/2022	SeqNo: 2742453						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Fluoride < 0.0500 0.0500

Sample ID: LCS	SampType: LCS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 111053						
Client ID: LCSW	Batch ID: R111053	TestNo: E 300.0		Analysis Date: 6/30/2022	SeqNo: 2742454						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Fluoride 1.81 0.0500 2.000 0 90.3 90 110

Sample ID: LCSD	SampType: LCSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 111053						
Client ID: LCSS02	Batch ID: R111053	TestNo: E 300.0		Analysis Date: 6/30/2022	SeqNo: 2742455						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Fluoride 1.93 0.0500 2.000 0 96.3 90 110 0 0 15

Sample ID: 22061332-004AMS	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 111053						
Client ID: CCR-4	Batch ID: R111053	TestNo: E 300.0		Analysis Date: 6/30/2022	SeqNo: 2742460						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Fluoride 9.44 0.500 10.00 0 94.4 80 120

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
M	Matrix Interference	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode

H	Holding times for preparation or analysis exceed
R	RPD outside accepted recovery limits
SDL	Sample detection limit



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QC SUMMARY REPORT

WO#: 22061332
25-Jul-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R111053

Sample ID: 22061332-004AMSD	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 111053						
Client ID: CCR-4	Batch ID: R111053	TestNo: E 300.0		Analysis Date: 6/30/2022	SeqNo: 2742461						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.99	0.500	10.00	0	99.9	80	120	9.445	5.64	15	

Sample ID: 22061332-016AMS	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 111053						
Client ID: Field Blank	Batch ID: R111053	TestNo: E 300.0		Analysis Date: 6/30/2022	SeqNo: 2742476						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.895	0.0500	1.000	0	89.5	80	120				

Sample ID: 22061332-016AMSD	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 111053						
Client ID: Field Blank	Batch ID: R111053	TestNo: E 300.0		Analysis Date: 6/30/2022	SeqNo: 2742477						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.951	0.0500	1.000	0	95.1	80	120	0.8950	6.12	15	

Qualifiers:

B Analyte detected in the associated Method Blank
M Matrix Interference
RL Reporting Limit
U Analyte not detected

E Value above quantitation range
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit



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Lafayette, LA 70508-3344
TEL: (337) 235-0483 FAX: (337) 233-6540
Website: www.element.com

Sample Log-In Check List

Client Name: PIVOTAL_ENGINEERIN

Work Order Number: 22061332

RcptNo: 1

Logged by: Tammy Thibodeaux 6/29/2022 2:45:00 PM

Tammy Thibodeaux

Completed By: Tammy Thibodeaux 6/29/2022 5:20:12 PM

Tammy Thibodeaux

Reviewed By: Lindsay Roussel 7/21/2022 8:51:21 AM

Lindsay Roussel

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☒ Not Present ☐
2. How was the sample delivered? Client

Log In

3. Coolers are present? Yes ☒ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☒ No ☐
Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☒
No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☒ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
10. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☒
12. Were any sample containers received broken? Yes ☐ No ☒
13. Does paperwork match bottle labels? Yes ☒ No ☐
(Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
15. Is it clear what analyses were requested? Yes ☒ No ☐
16. Were all holding times able to be met? Yes ☒ No ☐
(If no, notify customer for authorization.)

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

No sampler's signature by client.

Added year of collection to COC as per samples received.

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	Good	Not Present			



LELAP CERTIFICATE NUMBER: 01955
DOD-ELAP ACCREDITATION NUMBER: 74960

ANALYTICAL RESULTS

PERFORMED BY

Pace Analytical Gulf Coast
7979 Innovation Park Dr.
Baton Rouge, LA 70820
(225) 769-4900

Report Date 07/11/2022

Report # 222063062



Project 22061332

Samples Collected 6/27/22 - 6/28/22

Deliver To

Annie Reedy

Element Materials Technology
2417 W Pinhook Rd
Lafayette, LA 70508
800-737-2378

Additional Recipients

Cristina Thibeaux, Element Materials
Technology

Lindsay Roussel, Element Materials Technology
Buffy Bryant, Element Materials Technology
Kelli Foreman, Element Materials Technology



Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with Pace Gulf Coast's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
NO	Indicates the sample did not ignite when preliminary test performed for EPA Method 1030
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
CF	HPLC or GC Confirmation
00:01	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

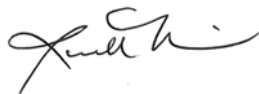
J or I	Indicates the result is between the MDL and LOQ
J	DOD flag on analyte in the parent sample for MS/MSD outside acceptance criteria
U	Indicates the compound was analyzed for but not detected
B or V	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*	Indicates a non-compliant or not applicable QC recovery or RPD – see narrative
E	Organics - The result is estimated because it exceeded the instrument calibration range
E	Metals - % difference for the serial dilution is > 10%
L	Reporting Limits adjusted to meet risk-based limit.
P	RPD between primary and confirmation result is greater than 40
DL	Diluted analysis – when appended to Client Sample ID

Sample receipt at Pace Gulf Coast is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of Pace Gulf Coast. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with The NELAC Institute (TNI) Standard 2009 and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.



Authorized Signature
Pace Gulf Coast Report 222063062

Certifications

Certification	Certification Number
DOD ELAP	74960
Alabama	01955
Arkansas	88-0655
Colorado	01955
Delaware	01955
Florida	E87854
Georgia	01955
Hawaii	01955
Idaho	01955
Illinois	200048
Indiana	01955
Kansas	E-10354
Kentucky	95
Louisiana	01955
Maryland	01955
Massachusetts	01955
Michigan	01955
Mississippi	01955
Missouri	01955
Montana	N/A
Nebraska	01955
New Mexico	01955
North Carolina	618
North Dakota	R-195
Oklahoma	9403
South Carolina	73006001
South Dakota	01955
Tennessee	01955
Texas	T104704178
Vermont	01955
Virginia	460215
Washington	C929
USDA Soil Permit	P330-16-00234

Case Narrative

Client: Element Materials Technology **Report:** 222063062

Pace Analytical Gulf Coast received and analyzed the sample(s) listed on the Report Sample Summary page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

No anomalies were found for the analyzed sample(s).

Sample Summary

Lab ID	Client ID	Matrix	Collect Date	Receive Date
22206306201	CCR-1	Water	6/27/22 16:40	6/30/22 09:21
22206306202	CCR-2	Water	6/28/22 17:20	6/30/22 09:21
22206306203	CCR-3	Water	6/27/22 15:00	6/30/22 09:21
22206306204	CCR-4	Water	6/28/22 14:25	6/30/22 09:21
22206306205	CCR-4-MS	Water	6/28/22 14:25	6/30/22 09:21
22206306206	CCR-4-MSD	Water	6/28/22 14:25	6/30/22 09:21
22206306207	CCR-5	Water	6/28/22 15:40	6/30/22 09:21
22206306208	CCR-6	Water	6/28/22 14:40	6/30/22 09:21
22206306209	CCR-7	Water	6/28/22 13:50	6/30/22 09:21
22206306210	CCR-8	Water	6/28/22 13:05	6/30/22 09:21
22206306211	CCR-9	Water	6/28/22 12:15	6/30/22 09:21
22206306212	CCR-10	Water	6/28/22 11:30	6/30/22 09:21
22206306213	CCR-11	Water	6/28/22 10:40	6/30/22 09:21
22206306214	CCR-12	Water	6/28/22 18:50	6/30/22 09:21
22206306215	CCR-13	Water	6/28/22 18:00	6/30/22 09:21
22206306216	CCR-14	Water	6/27/22 17:30	6/30/22 09:21
22206306217	DUPLICATE	Water	6/28/22 16:30	6/30/22 09:21
22206306218	FIELD BLANK	Water	6/28/22 19:01	6/30/22 09:21

Sample Results

CCR-1	Collect Date	06/27/2022 16:40	Lab ID	22206306201
	Receive Date	06/30/2022 09:21	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
07/01/22 07:15	744446	EPA 3010A	1	07/07/22 12:34	744865	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 21.5	LOQ 5.00			Units ug/L

CCR-2	Collect Date	06/28/2022 17:20	Lab ID	22206306202
	Receive Date	06/30/2022 09:21	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
07/01/22 07:15	744446	EPA 3010A	1	07/07/22 12:37	744865	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 21.9	LOQ 5.00			Units ug/L

CCR-3	Collect Date	06/27/2022 15:00	Lab ID	22206306203
	Receive Date	06/30/2022 09:21	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
07/01/22 07:15	744446	EPA 3010A	1	07/07/22 12:41	744865	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 28.8	LOQ 5.00			Units ug/L

CCR-4	Collect Date	06/28/2022 14:25	Lab ID	22206306204
	Receive Date	06/30/2022 09:21	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
07/01/22 07:15	744446	EPA 3010A	1	07/07/22 12:44	744865	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 15.6	LOQ 5.00			Units ug/L

Sample Results

CCR-4-MS	Collect Date	06/28/2022 14:25	Lab ID	22206306205
	Receive Date	06/30/2022 09:21	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
07/01/22 07:15	744446	EPA 3010A	1	07/07/22 12:48	744865	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 248	LOQ 5.00			Units ug/L

CCR-4-MSD	Collect Date	06/28/2022 14:25	Lab ID	22206306206
	Receive Date	06/30/2022 09:21	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
07/01/22 07:15	744446	EPA 3010A	1	07/07/22 12:51	744865	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 239	LOQ 5.00			Units ug/L

CCR-5	Collect Date	06/28/2022 15:40	Lab ID	22206306207
	Receive Date	06/30/2022 09:21	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
07/01/22 07:15	744446	EPA 3010A	1	07/07/22 13:02	744865	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 17.2	LOQ 5.00			Units ug/L

CCR-6	Collect Date	06/28/2022 14:40	Lab ID	22206306208
	Receive Date	06/30/2022 09:21	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
07/01/22 07:15	744446	EPA 3010A	1	07/07/22 13:05	744865	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 11.6	LOQ 5.00			Units ug/L

Sample Results

CCR-7	Collect Date	06/28/2022 13:50	Lab ID	22206306209
	Receive Date	06/30/2022 09:21	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
07/01/22 07:15	744446	EPA 3010A	1	07/07/22 13:09	744865	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 11.9	LOQ 5.00			Units ug/L

CCR-8	Collect Date	06/28/2022 13:05	Lab ID	22206306210
	Receive Date	06/30/2022 09:21	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
07/01/22 07:15	744446	EPA 3010A	1	07/07/22 13:12	744865	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 33.3	LOQ 5.00			Units ug/L

CCR-9	Collect Date	06/28/2022 12:15	Lab ID	22206306211
	Receive Date	06/30/2022 09:21	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
07/01/22 07:15	744446	EPA 3010A	1	07/08/22 15:27	745001	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 20.0	LOQ 5.00			Units ug/L

CCR-10	Collect Date	06/28/2022 11:30	Lab ID	22206306212
	Receive Date	06/30/2022 09:21	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
07/01/22 07:15	744446	EPA 3010A	1	07/08/22 15:30	745001	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 14.9	LOQ 5.00			Units ug/L

Sample Results

CCR-11	Collect Date	06/28/2022 10:40	Lab ID	22206306213
	Receive Date	06/30/2022 09:21	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
07/01/22 07:15	744446	EPA 3010A	1	07/08/22 15:34	745001	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 7.97	LOQ 5.00			Units ug/L

CCR-12	Collect Date	06/28/2022 18:50	Lab ID	22206306214
	Receive Date	06/30/2022 09:21	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
07/01/22 07:15	744446	EPA 3010A	1	07/08/22 15:37	745001	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 25.7	LOQ 5.00			Units ug/L

CCR-13	Collect Date	06/28/2022 18:00	Lab ID	22206306215
	Receive Date	06/30/2022 09:21	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
07/01/22 07:15	744446	EPA 3010A	1	07/08/22 15:41	745001	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 31.3	LOQ 5.00			Units ug/L

CCR-14	Collect Date	06/27/2022 17:30	Lab ID	22206306216
	Receive Date	06/30/2022 09:21	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
07/01/22 07:15	744446	EPA 3010A	1	07/08/22 15:44	745001	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 17.1	LOQ 5.00			Units ug/L



Report#: 222063062
Project ID: 22061332

Report Date: 07/11/2022

Sample Results

DUPLICATE	Collect Date	06/28/2022 16:30	Lab ID	22206306217
	Receive Date	06/30/2022 09:21	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
07/01/22 07:15	744446	EPA 3010A	1	07/08/22 15:48	745001	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 18.0	LOQ 5.00			Units ug/L

FIELD BLANK	Collect Date	06/28/2022 19:01	Lab ID	22206306218
	Receive Date	06/30/2022 09:21	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
07/01/22 07:15	744446	EPA 3010A	1	07/08/22 15:51	745001	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result ND	LOQ 5.00			Units ug/L

Inorganics QC Summary

Analytical Batch		Client ID	MB744446	LCS744446				
744865		Lab ID	2365533	2365534				
Prep Batch		Sample Type	MB	LCS				
744446		Prep Date	07/01/22 07:15	07/01/22 07:15				
Prep Method		Analysis Date	07/07/22 12:27	07/07/22 12:30				
EPA 3010A		Matrix	Water	Water				
EPA 6020B			Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R
Lithium	7439-93-2		ND	5.00	250	243	97	80 - 120

Analytical Batch		Client ID	CCR-4		CCR-4-MS				CCR-4-MSD				
744865		Lab ID	22206306204		22206306205				22206306206				
Prep Batch		Sample Type	SAMPLE		MS				MSD				
744446		Prep Date	07/01/2022 07:15		07/01/22 07:15				07/01/22 07:15				
Prep Method		Analysis Date	07/07/2022 12:44		07/07/22 12:48				07/07/22 12:51				
EPA 3010A		Matrix	Water		Water				Water				
EPA 6020B			Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Lithium	7439-93-2		15.6	5.00	250	248	93	80 - 120	250	239	89	4	20



CHAIN OF CUSTODY RECORD

Omega COCID 11937

PAGE:

Client ID: 4462 - Element Materials Technology

SDG: 222063062

PM: JLM



TEL: (337) 233-0463

FAX: (337) 233-6540

Website: www.element.com

SUB CONTRACTOR: GCAL		COMPANY: Pace Analytical Gulf Coast		SPECIAL INSTRUCTIONS / COMMENTS:			
ADDRESS: 7979 Innovation Park Drive		6020 for Lithium only. Client specified MS/MSD on 22061332-004C					
CITY, STATE, ZIP: Baton Rouge, LA 70820							
PHONE: (225) 769-4900 FAX: (225) 767-5717 EMAIL:							
ACCOUNT #:							
ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description.
1	22061332-001C SW6020A	CCR-1	250HDPEHNO3	Aqueous	6/27/2022 4:40:00 PM	1	1
2	22061332-002C SW6020A	CCR-2	250HDPEHNO3	Aqueous	6/28/2022 5:20:00 PM	1	2
3	22061332-003C SW6020A	CCR-3	250HDPEHNO3	Aqueous	6/27/2022 3:00:00 PM	1	3
4	22061332-004C SW6020A	CCR-4	250HDPEHNO3	Aqueous	6/28/2022 4:25:00 PM	3	MS/MSD NEEDED 4.5.6
5	22061332-005C SW6020A	CCR-5	250HDPEHNO3	Aqueous	6/28/2022 3:40:00 PM	1	7
6	22061332-006C SW6020A	CCR-6	250HDPEHNO3	Aqueous	6/28/2022 2:40:00 PM	1	8
7	22061332-007C SW6020A	CCR-7	250HDPEHNO3	Aqueous	6/28/2022 1:50:00 PM	1	9
8	22061332-008C SW6020A	CCR-8	250HDPEHNO3	Aqueous	6/28/2022 1:05:00 PM	1	10
9	22061332-009C SW6020A	CCR-9	250HDPEHNO3	Aqueous	6/28/2022 12:15:00 PM	1	11

Relinquished By: <i>[Signature]</i>	Date: <i>6/30/22</i>	Time: <i>0705</i>	Received By: <i>[Signature]</i>	Date: <i>6-30-22</i>	Time: <i>0705</i>	REPORT TRANSMITTAL DESIRED: ☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE
Relinquished By: <i>[Signature]</i>	Date: <i>6/30/22</i>	Time:	Received By: <i>[Signature]</i>	Date: <i>6/30/22</i>	Time: <i>9:41</i>	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
TAT: Standard ☐ RUSH ☐ Next BD ☐ 2nd BD ☐ 3rd BD ☐						FOR LAB USE ONLY Temp of samples <i>0.2</i> °C Attempt to Cool ? _____ Comments: _____
Note: RUSH requests will incur surcharges!						



CHAIN OF CUSTODY RECORD

Omega COCID 11937

PAGE:

Client ID: 4462 - Element Materials Technology

SDG: 222063062

PM: JLM



TEL: (337) 233-6100

FAX: (337) 233-6540

Website: www.element.com

SUB CONTRACTOR: GCAL		COMPANY: Pace Analytical Gulf Coast		SPECIAL INSTRUCTIONS / COMMENTS:			
ADDRESS: 7979 Innovation Park Drive				6020 for Lithium only. Client specified MS/MSD on 22061332-004C			
CITY, STATE, ZIP: Baton Rouge, LA 70820							
PHONE: (225) 769-4900 FAX: (225) 767-5717 EMAIL:							
ACCOUNT #:							
ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description.
10	22061332-010C SW6020A	CCR-10	250HDPEHNO3	Aqueous	6/28/2022 11:30:00 AM	1	12
11	22061332-011C SW6020A	CCR-11	250HDPEHNO3	Aqueous	6/28/2022 10:40:00 AM	1	13
12	22061332-012C SW6020A	CCR-12	250HDPEHNO3	Aqueous	6/28/2022 6:50:00 PM	1	14
13	22061332-013C SW6020A	CCR-13	250HDPEHNO3	Aqueous	6/28/2022 6:00:00 PM	1	15
14	22061332-014C SW6020A	CCR-14	250HDPEHNO3	Aqueous	6/27/2022 5:30:00 PM	1	16
15	22061332-015C SW6020A	Duplicate	250HDPEHNO3	Aqueous	6/28/2022 4:36:00 PM	1	17
16	22061332-016C SW6020A	Field Blank	250HDPEHNO3	Aqueous	6/28/2022 7:01:00 PM	1	18

Relinquished By: <i>[Signature]</i>	Date: 6-30-22	Time: 0705	Received By: <i>[Signature]</i>	Date: 6-30-22	Time: 0705	REPORT TRANSMITTAL DESIRED: ☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE
Relinquished By: <i>[Signature]</i>	Date: 6-30-22	Time:	Received By: <i>[Signature]</i>	Date: 6/30/22	Time: 7:21	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
TAT: Standard ☐ RUSH ☒ Next BD ☐ 2nd BD ☐ 3rd BD ☐						FOR LAB USE ONLY Temp of samples 0.2 497 Attempt to Cool ? _____ Comments: _____
Note: RUSH requests will incur surcharges!						

Page 14 of 14



- ☐ 2203 S. Madison St., Muncie, IN 47302
765-747-9000/800-874-3563 Fax 765-747-0228
- ☐ 629 Washington St., Suite 300, Columbus, IN 47201
812-375-0531 Fax 812-375-0531
- ☐ 5738 Industrial Rd., Fort Wayne, IN 46825
219-471-7000 Fax 219-471-7777

- ☒ 2417 W. Pinhook Rd, Lafayette, LA 70508
337-235-0483/800-737-2378
Fax 337-233-6540
- ☐ 3445 S Sheridan, Tulsa, OK 74145
918-828-9977/800324-5757
Fax 918-828-7756

Page 1 of 2

Chain of Custody Record

Laboratory Number 22061332

Client Name: Pivotal Engineering LLC				Project: CCR Assessment Monitoring				Preserv. HCl HNO ₃ H ₂ SO ₄ NaOH Na ₂ S ₂ O ₃	Number / Type of Container	Matrix Code	Test Requested								Comments / Remarks		
Contact Name: Terry Elnaggar				Quote #: 6786							300: Fluoride	*6010/**6020 metals	***6020 Sub	7470 Mercury							
Phone/Fax: (504) 799-3653				Sampler's Signature:																	
Collection		Grab	Comp	Sample Identification / Description				HCl HNO ₃ H ₂ SO ₄ NaOH Na ₂ S ₂ O ₃	Number / Type of Container	Matrix Code	Test Requested								Comments / Remarks		
Date	Time										300: Fluoride	*6010/**6020 metals	***6020 Sub	7470 Mercury							
6/27/22	16:40	X		C	C	R	- 1	None/ HNO ₃	3 Plastic	Aq	X	X	X	X							*6010 Metals: Ba, Be, Cd, Cr, Co, Pb, Mo, Se
6/28/22	17:20	X		C	C	R	- 2	None/ HNO ₃	3 Plastic	Aq	X	X	X	X							
6/27/22	15:00	X		C	C	R	- 3	None/ HNO ₃	3 Plastic	Aq	X	X	X	X							**6020 Metals: As, Sb, Ti
6/28/22	16:25	X		C	C	R	- 4	None/ HNO ₃	3 Plastic	Aq	X	X	X	X							
6/28/22	15:40	X		C	C	R	- 5	None/ HNO ₃	3 Plastic	Aq	X	X	X	X							***6020 Sub Metal: Li
6/28/22	14:40	X		C	C	R	- 6	None/ HNO ₃	3 Plastic	Aq	X	X	X	X							
6/28/22	13:50	X		C	C	R	- 7	None/ HNO ₃	3 Plastic	Aq	X	X	X	X							
6/28/22	13:05	X		C	C	R	- 8	None/ HNO ₃	3 Plastic	Aq	X	X	X	X							
6/28/22	12:15	X		C	C	R	- 9	None/ HNO ₃	3 Plastic	Aq	X	X	X	X							
6/28/22	11:30	X		C	C	R	- 10	None/ HNO ₃	3 Plastic	Aq	X	X	X	X							UPS / FedEx Airborne / Element Hand / Mail

All samples submitted to Element Materials Technology for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the samples. Element Materials Technology reserves the right to return unused sample portions.

P.O. Number

Relinquished by: (Signature) <i>Paul</i>		Received by: (Signature)		Date 6/29	Time 2:45	Relinquished by: (Signature)		Received by: (Signature)		Date	Time
Relinquished by: (Signature)		Received by: (Signature)		Date	Time	Relinquished by: (Signature)		Received by Laboratory: (Signature) <i>Martin</i>		Date 6/29/22	Time 1445
Matrix Codes DW = Drinking Water AQ = Aqueous LIQ = Liquid GW = Ground Water O = Oil SLD = Solid WW = Waste Water SO = Soil SL = Sludge				Container Types G = Glass P = Plastic V = Vial		Shipping Conditions ☒ Iced Temp. <u>2.0°</u> ☐ Ambient		Requested TAT ☐ 24-Hr. ☐ 72-Hr. ☐ 48-Hr. ☒ Standard ☐ Other		Thank-you for using Element Materials Technology	



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October 14, 2022

Terry Elnaggar
Pivotal Engineering LLC
1515 Poydras St., STE. 1875
New Orleans, LA 70112
TEL: (504) 799-3653
FAX

RE: Entergy: CCR Detection Monitoring

Order No.: 22091248

Dear Terry Elnaggar:

Element Materials Technology Lafayette received 16 sample(s) on 9/28/2022 for the analyses presented in the following report.

In accordance with your instructions, Element Lafayette either conducted or subcontracted these analyses. Subcontracted analyses will be identified in the accompanying case narrative. All relevant sampling information can be found on the attached Chain-of-Custody form. Unless otherwise noted, all analyses were conducted using EPA approved methodologies and all test results meet the applicable requirements of TNI. Reported results relate only to the items tested.

Where applicable, all soil data, except for 29-B, are reported on a wet-weight basis unless otherwise indicated in the units field as –dry.

LELAP Certification No.: 01997. TCEQ Certification No.: T104704261. LDHH Certification No.: LA023. ISDH Certification No.: C-LA-01. NDELCP Certification No.: R-226. A scope of accredited parameters is available upon request. A "#" by the test method or analyte indicates this parameter is outside the scope of accreditation. PA registration No.: 68-05967.

Estimated uncertainty is available upon request. This report shall not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions regarding these test results, please feel free to call.

A handwritten signature in blue ink, appearing to read 'Cristina Thibeaux'.

Cristina Thibeaux
Customer Service Supervisor



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Case Narrative

WO#: 22091248
Date: 10/14/2022

CLIENT: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

Unless specified by the client, a duplicate or MS/MSD, wherever applicable, is randomly selected and analyzed from each analytical batch provided sample volume is sufficient. The sample chosen for duplicate or MS/MSD may or may not be a sample submitted in this workorder. A method blank and/or a lab control sample (LCS)/lab control sample duplicate (LCSD), wherever applicable, are processed as a quality control check for each analytical batch. When the matrix QC data is not available due to insufficient sample volume or when the results indicate possible matrix effect, the validity of the batch is determined by the method blank and LCS/LCSD.

The results of the laboratory internal quality control data are provided in the QC Summary Report section of the report for your review. Laboratory-related QC exceptions that may impact the validity of data are discussed in the case narrative. Sample-related QC exceptions are flagged either in the results page(s) or in the QC report page(s). End users should consider QC exceptions when evaluating sample data against data quality objectives.

Any other exceptions associated with this report will be footnoted in the results page(s) or the QC summary page(s).



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Analytical Report

(consolidated)

WO#: 22091248

Date Reported: 10/14/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/26/2022 2:35:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22091248-001 **Matrix:** AQUEOUS
Client Sample ID CCR-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Chloride	120	5.00		mg/L	20	9/29/2022 8:12:16 PM
Fluoride	0.363	0.0500		mg/L	1	9/30/2022 12:34:26 AM
Sulfate	3.61	0.250		mg/L	1	9/30/2022 12:34:26 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	10/3/2022 1:26:00 PM
Calcium	29.8	0.500		mg/L	1	10/3/2022 1:26:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	426	10.0		mg/L	1	9/29/2022 8:59:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

(consolidated)

WO#: 22091248

Date Reported: 10/14/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/26/2022 3:10:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22091248-002 **Matrix:** AQUEOUS
Client Sample ID CCR-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	56.4	2.50		mg/L	10	9/29/2022 8:26:05 PM
Fluoride	0.320	0.0500		mg/L	1	9/30/2022 12:48:15 AM
Sulfate	1.64	0.250		mg/L	1	9/30/2022 12:48:15 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Boron	< 0.100	0.100		mg/L	1	10/3/2022 1:33:00 PM
Calcium	21.0	0.500		mg/L	1	10/3/2022 1:33:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	294	10.0		mg/L	1	9/29/2022 8:59:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

(consolidated)

WO#: 22091248

Date Reported: 10/14/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/26/2022 4:15:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22091248-003 **Matrix:** AQUEOUS
Client Sample ID CCR-3

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	44.2	2.50		mg/L	10	9/29/2022 8:39:52 PM
Fluoride	0.257	0.0500		mg/L	1	9/30/2022 1:02:03 AM
Sulfate	3.34	0.250		mg/L	1	9/30/2022 1:02:03 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Boron	< 0.100	0.100		mg/L	1	10/3/2022 1:35:00 PM
Calcium	25.7	0.500		mg/L	1	10/3/2022 1:35:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	306	10.0		mg/L	1	9/29/2022 8:59:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22091248

Date Reported: 10/14/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 3:10:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22091248-004 **Matrix:** AQUEOUS
Client Sample ID CCR-4

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	42.2	2.50		mg/L	10	9/29/2022 9:21:14 PM
Fluoride	0.203	0.0500		mg/L	1	9/30/2022 1:15:50 AM
Sulfate	11.2	0.250		mg/L	1	9/30/2022 1:15:50 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Boron	< 0.100	0.100		mg/L	1	10/3/2022 1:38:00 PM
Calcium	19.6	0.500		mg/L	1	10/3/2022 1:38:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	288	10.0		mg/L	1	9/29/2022 8:59:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22091248

Date Reported: 10/14/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 2:20:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22091248-005 **Matrix:** AQUEOUS
Client Sample ID CCR-5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	60.5	5.00		mg/L	20	9/29/2022 9:35:03 PM
Fluoride	0.229	0.0500		mg/L	1	9/30/2022 1:29:38 AM
Sulfate	< 0.250	0.250		mg/L	1	9/30/2022 1:29:38 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Boron	< 0.100	0.100		mg/L	1	10/3/2022 1:40:00 PM
Calcium	33.4	0.500		mg/L	1	10/3/2022 1:40:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	536	10.0		mg/L	1	9/29/2022 8:59:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22091248

Date Reported: 10/14/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 1:40:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22091248-006 **Matrix:** AQUEOUS
Client Sample ID CCR-6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	77.0	2.50		mg/L	10	9/29/2022 9:48:51 PM
Fluoride	0.240	0.0500		mg/L	1	9/30/2022 1:43:26 AM
Sulfate	< 0.250	0.250		mg/L	1	9/30/2022 1:43:26 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Boron	< 0.100	0.100		mg/L	1	10/3/2022 1:42:00 PM
Calcium	30.4	0.500		mg/L	1	10/3/2022 1:42:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	351	10.0		mg/L	1	9/29/2022 8:59:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22091248

Date Reported: 10/14/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 1:00:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22091248-007 **Matrix:** AQUEOUS
Client Sample ID CCR-7

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	86.4	2.50		mg/L	10	9/29/2022 10:30:16 PM
Fluoride	0.257	0.0500		mg/L	1	9/30/2022 1:57:14 AM
Sulfate	< 0.250	0.250		mg/L	1	9/30/2022 1:57:14 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Boron	< 0.100	0.100		mg/L	1	10/3/2022 1:45:00 PM
Calcium	46.5	0.500		mg/L	1	10/3/2022 1:45:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	376	10.0		mg/L	1	9/29/2022 8:59:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22091248

Date Reported: 10/14/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 11:05:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22091248-008 **Matrix:** AQUEOUS
Client Sample ID CCR-8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Chloride	79.5	2.50		mg/L	10	9/29/2022 10:44:03 PM
Fluoride	0.140	0.0500		mg/L	1	9/30/2022 2:11:02 AM
Sulfate	1.34	0.250		mg/L	1	9/30/2022 2:11:02 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	10/3/2022 1:47:00 PM
Calcium	11.6	0.500		mg/L	1	10/3/2022 1:47:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	328	10.0		mg/L	1	9/29/2022 8:59:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

(consolidated)

WO#: 22091248

Date Reported: 10/14/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 10:15:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22091248-009 **Matrix:** AQUEOUS
Client Sample ID CCR-9

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Chloride	64.1	5.00		mg/L	20	9/29/2022 10:57:51 PM
Fluoride	0.525	0.0500		mg/L	1	9/30/2022 2:24:51 AM
Sulfate	6.50	0.250		mg/L	1	9/30/2022 2:24:51 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	10/3/2022 1:54:00 PM
Calcium	30.9	0.500		mg/L	1	10/3/2022 1:54:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	371	10.0		mg/L	1	9/29/2022 8:59:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

(consolidated)

WO#: 22091248

Date Reported: 10/14/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 9:30:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22091248-010 **Matrix:** AQUEOUS
Client Sample ID: CCR-10

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	70.6	2.50		mg/L	10	9/29/2022 11:11:39 PM
Fluoride	0.563	0.0500		mg/L	1	9/30/2022 2:38:39 AM
Sulfate	5.60	0.250		mg/L	1	9/30/2022 2:38:39 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Boron	< 0.100	0.100		mg/L	1	10/3/2022 2:01:00 PM
Calcium	27.9	0.500		mg/L	1	10/3/2022 2:01:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	334	10.0		mg/L	1	9/29/2022 8:59:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

(consolidated)

WO#: 22091248

Date Reported: 10/14/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 8:55:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22091248-011 **Matrix:** AQUEOUS
Client Sample ID: CCR-11

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	38.1	2.50		mg/L	10	9/29/2022 11:25:26 PM
Fluoride	0.652	0.0500		mg/L	1	9/30/2022 3:20:02 AM
Sulfate	2.89	0.250		mg/L	1	9/30/2022 3:20:02 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Boron	< 0.100	0.100		mg/L	1	10/3/2022 2:03:00 PM
Calcium	29.3	0.500		mg/L	1	10/3/2022 2:03:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	285	10.0		mg/L	1	9/29/2022 8:59:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22091248

Date Reported: 10/14/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/26/2022 6:30:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22091248-012 **Matrix:** AQUEOUS
Client Sample ID CCR-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	17.7	0.250		mg/L	1	9/29/2022 11:39:14 PM
Fluoride	0.121	0.0500		mg/L	1	9/29/2022 11:39:14 PM
Sulfate	16.4	0.250		mg/L	1	9/29/2022 11:39:14 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Boron	< 0.100	0.100		mg/L	1	10/3/2022 2:05:00 PM
Calcium	20.9	0.500		mg/L	1	10/3/2022 2:05:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	213	10.0		mg/L	1	9/29/2022 8:59:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

(consolidated)

WO#: 22091248

Date Reported: 10/14/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/26/2022 5:40:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22091248-013 **Matrix:** AQUEOUS
Client Sample ID CCR-13

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	12.1	0.250		mg/L	1	9/29/2022 11:53:02 PM
Fluoride	0.206	0.0500		mg/L	1	9/29/2022 11:53:02 PM
Sulfate	1.41	0.250		mg/L	1	9/29/2022 11:53:02 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Boron	< 0.100	0.100		mg/L	1	10/3/2022 2:07:00 PM
Calcium	31.5	0.500		mg/L	1	10/3/2022 2:07:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	245	10.0		mg/L	1	9/29/2022 8:59:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

(consolidated)

WO#: 22091248

Date Reported: 10/14/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/26/2022 5:10:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22091248-014 **Matrix:** AQUEOUS
Client Sample ID: CCR-14

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	11.5	0.250		mg/L	1	9/30/2022 9:46:00 AM
Fluoride	0.165	0.0500		mg/L	1	9/30/2022 9:46:00 AM
Sulfate	0.889	0.250		mg/L	1	9/30/2022 9:46:00 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Boron	< 0.100	0.100		mg/L	1	10/3/2022 2:10:00 PM
Calcium	16.5	0.500		mg/L	1	10/3/2022 2:10:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	183	10.0		mg/L	1	9/29/2022 8:59:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

(consolidated)

WO#: 22091248

Date Reported: 10/14/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 3:30:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22091248-015 **Matrix:** AQUEOUS
Client Sample ID Duplicate

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Chloride	55.8	2.50		mg/L	10	9/30/2022 10:00:11 AM
Fluoride	0.209	0.0500		mg/L	1	9/30/2022 10:55:14 AM
Sulfate	11.3	0.250		mg/L	1	9/30/2022 10:55:14 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	0.101	0.100		mg/L	1	10/3/2022 2:12:00 PM
Calcium	20.0	0.500		mg/L	1	10/3/2022 2:12:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	302	10.0		mg/L	1	9/29/2022 8:59:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

(consolidated)

WO#: 22091248

Date Reported: 10/14/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 3:45:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 22091248-016 **Matrix:** AQUEOUS
Client Sample ID: Field Blank

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Chloride	5.83	0.250		mg/L	1	9/30/2022 11:09:02 AM
Fluoride	< 0.0500	0.0500		mg/L	1	9/30/2022 11:09:02 AM
Sulfate	12.0	0.250		mg/L	1	9/30/2022 11:09:02 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Boron	< 0.100	0.100		mg/L	1	10/3/2022 2:14:00 PM
Calcium	59.4	0.500		mg/L	1	10/3/2022 2:14:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	272	10.0		mg/L	1	9/29/2022 8:59:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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QC SUMMARY REPORT

WO#: 22091248
14-Oct-22

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: 45280-2

Sample ID	MB-45280	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/29/2022	RunNo:	113750			
Client ID:	PBW	Batch ID:	45280-2	TestNo:	SW6010B			Analysis Date:	10/3/2022	SeqNo:	2812779			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		< 0.100		0.100										
Calcium		< 0.500		0.500										

Sample ID	LCS-45280	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/29/2022	RunNo:	113750	
Client ID:	LCSW	Batch ID:	45280-2	TestNo:	SW6010B			Analysis Date:	10/3/2022	SeqNo:	2812780	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.519	0.100	0.5000	0	104	80	120				
Calcium		53.2	0.500	50.00	0	106	80	120				

Sample ID	LCSD-45280	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/29/2022	RunNo:	113750	
Client ID:	LCSS02	Batch ID:	45280-2	TestNo:	SW6010B			Analysis Date:	10/3/2022	SeqNo:	2812781	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.523	0.100	0.5000	0	105	80	120	0.5187	0.850	20	
Calcium		54.2	0.500	50.00	0	108	80	120	53.17	1.82	20	

Sample ID	22091248-008BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 9/29/2022	RunNo: 113750					
Client ID: CCR-8	Batch ID: 45280-2	TestNo: SW6010B	Analysis Date: 10/3/2022	SeqNo: 2812793							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.533	0.100	0.5000	0	107	75	125				

Qualifiers:

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
U Analyte not detected

M Matrix Interference
RL Reporting Limit
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22091248
14-Oct-22

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: 45280-2

Sample ID	22091248-008BMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/29/2022	RunNo:	113750
Client ID:	CCR-8	Batch ID:	45280-2	TestNo:	SW6010B			Analysis Date:	10/3/2022	SeqNo:	2812793
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Calcium		65.6		0.500	50.00	11.64	108	75	125		

Sample ID	22091248-008BMSD	SampType:	MSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/29/2022	RunNo:	113750
Client ID:	CCR-8	Batch ID:	45280-2	TestNo:	SW6010B			Analysis Date:	10/3/2022	SeqNo:	2812794
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Boron		0.528		0.100	0.5000	0	106	75	125	0.5330	1.04 20
Calcium		65.5		0.500	50.00	11.64	108	75	125	65.59	0.105 20

Qualifiers:

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
U Analyte not detected

M Matrix Interference
RL Reporting Limit
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22091248
14-Oct-22

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R113641

Sample ID	mblk	SampType: MBLK	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113641					
Client ID: PBW	Batch ID: R113641	TestNo: E 300.0	Analysis Date: 9/29/2022	SeqNo: 2809640							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 0.250	0.250									
Fluoride	< 0.0500	0.0500									
Sulfate	< 0.250	0.250									

Sample ID	Ics	SampType: LCS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113641					
Client ID:	LCSW	Batch ID: R113641	TestNo: E 300.0	Analysis Date: 9/29/2022	SeqNo: 2809641						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	9.73	0.250	10.00	0	97.3	90	110				
Fluoride	1.89	0.0500	2.000	0	94.3	90	110				
Sulfate	10.0	0.250	10.00	0	100	90	110				

Sample ID	Icsd	SampType: LCSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113641					
Client ID:	LCSS02	Batch ID: R113641	TestNo: E 300.0	Analysis Date: 9/29/2022	SeqNo: 2809642						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	9.71	0.250	10.00	0	97.1	90	110	9.728	0.227	15	
Fluoride	1.87	0.0500	2.000	0	93.3	90	110	1.887	1.13	15	
Sulfate	9.99	0.250	10.00	0	99.9	90	110	10.03	0.468	15	

Qualifiers:

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
U Analyte not detected

M Matrix Interference
RL Reporting Limit
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22091248
14-Oct-22

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R113641

Sample ID	22091054-025ams	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113641					
Client ID:	ZZZZZZ	Batch ID: R113641	TestNo: E 300.0	Analysis Date: 9/29/2022	SeqNo: 2809650						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2,170	25.0	500.0	1,715	91.4	80	120				
Fluoride	101	5.00	100.0	2.581	98.7	80	120				
Sulfate	511	25.0	500.0	13.40	99.4	80	120				

Sample ID	22091054-025amsd	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113641					
Client ID:	ZZZZZZ	Batch ID: R113641	TestNo: E 300.0	Analysis Date: 9/29/2022	SeqNo: 2809651						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2,180	25.0	500.0	1,715	93.5	80	120	2,172	0.502	15	
Fluoride	105	5.00	100.0	2.581	103	80	120	101.3	3.85	15	
Sulfate	511	25.0	500.0	13.40	99.5	80	120	510.5	0.0504	15	

Sample ID	22091248-006ams	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113641					
Client ID:	CCR-6	Batch ID: R113641	TestNo: E 300.0	Analysis Date: 9/29/2022	SeqNo: 2809660						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	125	2.50	50.00	77.05	96.8	80	120				
Fluoride	9.62	0.500	10.00	0.06386	95.5	80	120				
Sulfate	49.2	2.50	50.00	0	98.4	80	120				

Qualifiers:

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
U Analyte not detected

M Matrix Interference
RL Reporting Limit
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22091248
14-Oct-22

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R113641

Sample ID	22091248-006amsd	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113641					
Client ID:	CCR-6	Batch ID: R113641	TestNo: E 300.0	Analysis Date: 9/29/2022	SeqNo: 2809661						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	125	2.50	50.00	77.05	95.9	80	120	125.4	0.372	15	
Fluoride	9.57	0.500	10.00	0.06386	95.0	80	120	9.617	0.532	15	
Sulfate	49.3	2.50	50.00	0	98.5	80	120	49.20	0.143	15	

Qualifiers:

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
U Analyte not detected

M Matrix Interference
RL Reporting Limit
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22091248
14-Oct-22

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R113646

Sample ID	MB-R113646	SampType:	MBLK	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	113646			
Client ID:	PBW	Batch ID:	R113646	TestNo:	SM2540C			Analysis Date:	9/29/2022	SeqNo:	2813641			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) < 10.0 10.0

Sample ID	LCS-R113646	SampType:	LCS	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	113646			
Client ID:	LCSW	Batch ID:	R113646	TestNo:	SM2540C			Analysis Date:	9/29/2022	SeqNo:	2813642			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) 1,040 10.0 1,000 0 104 85 115

Sample ID	LCSD-R113646	SampType:	LCSD	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	113646			
Client ID:	LCSS02	Batch ID:	R113646	TestNo:	SM2540C			Analysis Date:	9/29/2022	SeqNo:	2813643			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) 1,030 10.0 1,000 0 103 85 115 1,037 0.580 10

Sample ID	22091248-001ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	113646			
Client ID:	CCR-1	Batch ID:	R113646	TestNo:	SM2540C			Analysis Date:	9/29/2022	SeqNo:	2813660			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) 421 10.0 426.0 1.18 10

Qualifiers:

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
U Analyte not detected

M Matrix Interference
RL Reporting Limit
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22091248
14-Oct-22

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R113646

Sample ID	22091248-001ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	113646
Client ID:	CCR-1	Batch ID:	R113646	TestNo:	SM2540C			Analysis Date:	9/29/2022	SeqNo:	2813660
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Sample ID	22091248-005ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	113646
Client ID:	CCR-5	Batch ID:	R113646	TestNo:	SM2540C			Analysis Date:	9/29/2022	SeqNo:	2813661
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Total Dissolved Solids (Residue, Filterable)		430		10.0						536.0	21.9 10 R

NOTES:

R - High RPD due to suspected sample non-homogeneity. The method is in control as indicated by the LCS/LCSD.

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Matrix Interference	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	SDL	Sample detection limit
U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode		



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QC SUMMARY REPORT

WO#: 22091248
14-Oct-22

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R113698

Sample ID	mblk	SampType: MBLK	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113698					
Client ID:	PBW	Batch ID: R113698	TestNo: E 300.0	Analysis Date: 9/30/2022	SeqNo: 2811250						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 0.250	0.250									
Fluoride	< 0.0500	0.0500									
Sulfate	< 0.250	0.250									

Sample ID	Ics	SampType: LCS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113698					
Client ID:	LCSSW	Batch ID: R113698	TestNo: E 300.0	Analysis Date: 9/30/2022	SeqNo: 2811251						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	9.77	0.250	10.00	0	97.7	90	110				
Fluoride	1.88	0.0500	2.000	0	93.9	90	110				
Sulfate	10.0	0.250	10.00	0	100	90	110				

Sample ID	Icsd	SampType: LCSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113698					
Client ID:	LCSS02	Batch ID: R113698	TestNo: E 300.0	Analysis Date: 9/30/2022	SeqNo: 2811252						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	9.76	0.250	10.00	0	97.6	90	110	9.771	0.129	15	
Fluoride	1.89	0.0500	2.000	0	94.3	90	110	1.878	0.438	15	
Sulfate	10.0	0.250	10.00	0	100	90	110	10.01	0.145	15	

Qualifiers:

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
U Analyte not detected

M Matrix Interference
RL Reporting Limit
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22091248
14-Oct-22

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R113698

Sample ID	22091248-016AMS	SampType: MS	TestCode: 300.0		Units: mg/L		Prep Date:			RunNo: 113698		
Client ID:	Field Blank	Batch ID: R113698	TestNo: E 300.0		Analysis Date: 9/30/2022				SeqNo: 2811261			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		56.7	2.50	50.00	7.286	98.9	80	120				
Fluoride		9.66	0.500	10.00	0	96.6	80	120				
Sulfate		64.8	2.50	50.00	12.26	105	80	120				

Sample ID	22091248-016AMSD	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113698					
Client ID:	Field Blank	Batch ID: R113698	TestNo: E 300.0	Analysis Date: 9/30/2022	SeqNo: 2811262						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	57.4	2.50	50.00	7.286	100	80	120	56.73	1.26	15	
Fluoride	10.1	0.500	10.00	0	101	80	120	9.658	4.04	15	
Sulfate	65.2	2.50	50.00	12.26	106	80	120	64.82	0.652	15	

Qualifiers:

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
U Analyte not detected

M Matrix Interference
RL Reporting Limit
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit
SDL Sample detection limit



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Lafayette, LA 70508-3344
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Website: www.element.com

Sample Log-In Check List

Client Name: **PIVOTAL_ENGINEERIN**

Work Order Number: **22091248**

RcptNo: **1**

Logged by: **Tammy Thibodeaux** **9/28/2022 3:01:00 PM**
Completed By: **Tammy Thibodeaux** **9/28/2022 5:07:26 PM**
Reviewed By: **Cristina Thibeaux** **10/14/2022 11:25:18 AM**

Tammy Thibodeaux
Tammy Thibodeaux
Cristina Thibeaux

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☒ Not Present ☐
2. How was the sample delivered? Element

Log In

3. Coolers are present? Yes ☒ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☒ No ☐
Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☒
No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
6. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☒ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
10. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☒
12. Were any sample containers received broken? Yes ☐ No ☒
13. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
15. Is it clear what analyses were requested? Yes ☒ No ☐
16. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: Date
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Added year of collection to COC as per samples received. NO MS/MSD sample.

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.3	Good	Not Present			



- ☐ 2203 S. Madison St., Muncie, IN 47302
765-747-9000/800-874-3563 Fax 765-747-0228
- ☐ 629 Washington St., Suite 300, Columbus, IN 47201
812-375-0531 Fax 812-375-0531
- ☐ 5738 Industrial Rd., Fort Wayne, IN 46825
219-471-7000 Fax 219-471-7777

- ☒ 2417 W. Pinhook Rd, Lafayette, LA 70508
337-235-0483/800-737-2378
Fax 337-233-6540
- ☐ 3445 S Sheridan, Tulsa, OK 74145
918-828-9977/800324-5757
Fax 918-828-7756

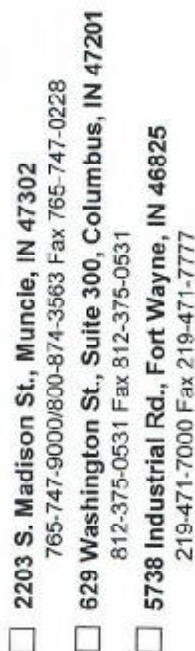
Chain of Custody Record

Page 1 of 2

Client Name: Pivotal Engineering LLC		Project: CCR Detection Monitoring		Laboratory Number: 22091248	
Contact Name: Terry Elmaggar		Quote #: 6786		Test Requested	
Phone/Fax: (504) 799-3653		Sampler's Signature: <i>Terry Elmaggar</i>		TDS	
Sample Identification / Description		Preserv.		Matrix Code	
Collection Date		Grab		Number / Type of Container	
Time		Comp		NaOH Na ₂ S ₂ O ₃	
9/26/2014 3:35		X		None/ HNO ₃	
9/26/2014 5:10		X		None/ HNO ₃	
9/26/2014 6:15		X		None/ HNO ₃	
9/27/2014 5:10		X		None/ HNO ₃	
9/27/2014 14:10		X		None/ HNO ₃	
9/27/2014 13:40		X		None/ HNO ₃	
9/27/2014 3:08		X		None/ HNO ₃	
9/27/2014 11:09		X		None/ HNO ₃	
9/27/2014 10:15		X		None/ HNO ₃	
9/27/2014 9:30		X		None/ HNO ₃	
Comments / Remarks		6010 metals*		300: Cl, F, SO ₄	
*6010 Metals: B, Ca					
UPS / FedEx Airborne Element Hand / Mail					

All samples submitted to Element Materials Technology for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the samples. Element Materials Technology reserves the right to return unused sample portions.

Relinquished by: (Signature) <i>Bay B. B.</i>	Received by: (Signature) <i>Bay B. B.</i>	Date: 9/28/22	Time: 11:50
Relinquished by: (Signature)	Received by: (Signature)	Date: 9/28/22	Time: 15:01
Matrix Codes		Shipping Conditions	
DW = Drinking Water	AQ = Aqueous	☒ Iced	2.3c
GW = Ground Water	O = Oil	☐ Temp.	
VW = Waste Water	SO = Soil	☐ Ambient	
Container Types		Requested TAT	
G = Glass	LIQ = Liquid	☐ 24-Hr.	☐ 72-Hr.
P = Plastic	SLD = Solid	☐ 48-Hr.	☒ Standard
V = Vial	SL = Sludge	Other	
Thank-you for using Element Materials Technology			



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Fax 337-233-6540

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Fax 918-828-7756

Page 2 of 2Page 2 of 2

Client Name: Pivotal Engineering LLC

Project: CCR Detection Monitoring

Contact Name: Terry Elnaggar

Quote #: 6786

Phone/Fax: (504) 799-3653

Sampler's Signature:

Collection		Comp	Sample Identification / Description
Date	Time		
9/27	08:55	X	C C R - 1 1
9/26	18:30	X	C C R - 1 2
9/26	17:40	X	C C R - 1 3
9/26	17:10	X	C C R - 1 4
		X	M S (CCR-) No Sample
		X	M S D (CCR-) No Sample
9/27	15:30	X	D U P
9/27	15:45	X	F B 1

All samples submitted to Element Materials Technology for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the samples. Element Materials Technology reserves the right to return unused sample portions.

Relinquished by: (Signature)		Received by: (Signature)	Date	Time
[Signature]		[Signature]	09/28/22	1150
Relinquished by: (Signature)		Received by: (Signature)	Date	Time
[Signature]		[Signature]	09/28/22	1500

Matrix Codes		Container Types	Shipping Conditions	Requested TAT
DIW = Drinking Water	AO = Aqueous	G = Glass	☒ Iced	☐ 24-Hr.
GW = Ground Water	O = Oil	P = Plastic	Temp. <u>2.3C</u>	☐ 48-Hr.
WW = Waste Water	SO = Soil	V = Vial	☐ Ambient	☒ Standard
			☐ Other	

Thank-you for using Element Materials Technology

Thank-you for using Element Materials
Technology

31218



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October 31, 2022

Terry Elnaggar
Pivotal Engineering LLC
1515 Poydras St., STE. 1875
New Orleans, LA 70112
TEL: (504) 799-3653
FAX

RE: CCR Assessment Monitoring

Order No.: 22091245

Dear Terry Elnaggar:

Element Materials Technology Lafayette received 16 sample(s) on 9/28/2022 for the analyses presented in the following report.

In accordance with your instructions, Element Lafayette either conducted or subcontracted these analyses. Subcontracted analyses will be identified in the accompanying case narrative. All relevant sampling information can be found on the attached Chain-of-Custody form. Unless otherwise noted, all analyses were conducted using EPA approved methodologies and all test results meet the applicable requirements of TNI. Reported results relate only to the items tested.

Where applicable, all soil data, except for 29-B, are reported on a wet-weight basis unless otherwise indicated in the units field as –dry.

LELAP Certification No.: 01997. TCEQ Certification No.: T104704261. LDHH Certification No.: LA023. ISDH Certification No.: C-LA-01. NDELCP Certification No.: R-226. A scope of accredited parameters is available upon request. A "#" by the test method or analyte indicates this parameter is outside the scope of accreditation. PA registration No.: 68-05967.

Estimated uncertainty is available upon request. This report shall not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions regarding these test results, please feel free to call.

A handwritten signature in blue ink, appearing to read 'Cristina Thibeaux'.

Cristina Thibeaux
Customer Service Supervisor



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Case Narrative

WO#: 22091245
Date: 10/31/2022

CLIENT: Pivotal Engineering LLC

Project: CCR Assessment Monitoring

Unless specified by the client, a duplicate or MS/MSD, wherever applicable, is randomly selected and analyzed from each analytical batch provided sample volume is sufficient. The sample chosen for duplicate or MS/MSD may or may not be a sample submitted in this workorder. A method blank and/or a lab control sample (LCS)/lab control sample duplicate (LCSD), wherever applicable, are processed as a quality control check for each analytical batch. When the matrix QC data is not available due to insufficient sample volume or when the results indicate possible matrix effect, the validity of the batch is determined by the method blank and LCS/LCSD.

The results of the laboratory internal quality control data are provided in the QC Summary Report section of the report for your review. Laboratory-related QC exceptions that may impact the validity of data are discussed in the case narrative. Sample-related QC exceptions are flagged either in the results page(s) or in the QC report page(s). End users should consider QC exceptions when evaluating sample data against data quality objectives.

Any other exceptions associated with this report will be footnoted in the results page(s) or the QC summary page(s).

The 6020A metals and 7470A Mercury analyses were subcontracted to SGS North American Inc - Scott. Their reports are attached in their entirety.



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Analytical Report

(consolidated)

WO#: 22091245

Date Reported: 10/31/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/26/2022 2:35:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22091245-001 **Matrix:** AQUEOUS
Client Sample ID CCR-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Fluoride	0.363	0.0500		mg/L	1	9/30/2022 12:34:26 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Barium	0.289	0.0200		mg/L	1	10/3/2022 1:26:45 PM
Beryllium	< 0.00100	0.00100		mg/L	1	10/3/2022 1:26:45 PM
Cadmium	< 0.00500	0.00500		mg/L	1	10/3/2022 1:26:45 PM
Chromium	< 0.0100	0.0100		mg/L	1	10/3/2022 1:26:45 PM
Cobalt	< 0.0100	0.0100		mg/L	1	10/3/2022 1:26:45 PM
Lead	< 0.0100	0.0100		mg/L	1	10/3/2022 1:26:45 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	10/3/2022 1:26:45 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2022 1:26:45 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	10/3/2022 12:55:39 PM
Arsenic	< 10.0	10.0		µg/L	1	10/3/2022 12:55:39 PM
Thallium	< 0.250	0.250		µg/L	1	10/3/2022 12:55:39 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22091245

Date Reported: 10/31/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/26/2022 3:10:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22091245-002 **Matrix:** AQUEOUS
Client Sample ID CCR-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Fluoride	0.320	0.0500		mg/L	1	9/30/2022 12:48:15 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Barium	0.177	0.0200		mg/L	1	10/3/2022 1:33:37 PM
Beryllium	< 0.00100	0.00100		mg/L	1	10/3/2022 1:33:37 PM
Cadmium	< 0.00500	0.00500		mg/L	1	10/3/2022 1:33:37 PM
Chromium	< 0.0100	0.0100		mg/L	1	10/3/2022 1:33:37 PM
Cobalt	< 0.0100	0.0100		mg/L	1	10/3/2022 1:33:37 PM
Lead	< 0.0100	0.0100		mg/L	1	10/3/2022 1:33:37 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	10/3/2022 1:33:37 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2022 1:33:37 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	10/3/2022 12:58:27 PM
Arsenic	< 10.0	10.0		µg/L	1	10/3/2022 12:58:27 PM
Thallium	< 0.250	0.250		µg/L	1	10/3/2022 12:58:27 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22091245

Date Reported: 10/31/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/26/2022 4:15:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22091245-003 **Matrix:** AQUEOUS
Client Sample ID CCR-3

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Fluoride	0.257	0.0500		mg/L	1	9/30/2022 1:02:03 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Barium	0.230	0.0200		mg/L	1	10/3/2022 1:35:55 PM
Beryllium	< 0.00100	0.00100		mg/L	1	10/3/2022 1:35:55 PM
Cadmium	< 0.00500	0.00500		mg/L	1	10/3/2022 1:35:55 PM
Chromium	< 0.0100	0.0100		mg/L	1	10/3/2022 1:35:55 PM
Cobalt	< 0.0100	0.0100		mg/L	1	10/3/2022 1:35:55 PM
Lead	< 0.0100	0.0100		mg/L	1	10/3/2022 1:35:55 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	10/3/2022 1:35:55 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2022 1:35:55 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	10/3/2022 1:01:14 PM
Arsenic	< 10.0	10.0		µg/L	1	10/3/2022 1:01:14 PM
Thallium	< 0.250	0.250		µg/L	1	10/3/2022 1:01:14 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22091245

Date Reported: 10/31/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 3:10:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22091245-004 **Matrix:** AQUEOUS
Client Sample ID CCR-4

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Fluoride	0.203	0.0500		mg/L	1	9/30/2022 1:15:50 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Barium	0.115	0.0200		mg/L	1	10/3/2022 1:38:12 PM
Beryllium	< 0.00100	0.00100		mg/L	1	10/3/2022 1:38:12 PM
Cadmium	< 0.00500	0.00500		mg/L	1	10/3/2022 1:38:12 PM
Chromium	< 0.0100	0.0100		mg/L	1	10/3/2022 1:38:12 PM
Cobalt	< 0.0100	0.0100		mg/L	1	10/3/2022 1:38:12 PM
Lead	< 0.0100	0.0100		mg/L	1	10/3/2022 1:38:12 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	10/3/2022 1:38:12 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2022 1:38:12 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	10/3/2022 1:04:02 PM
Arsenic	< 10.0	10.0		µg/L	1	10/3/2022 1:04:02 PM
Thallium	< 0.250	0.250		µg/L	1	10/3/2022 1:04:02 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22091245

Date Reported: 10/31/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 2:20:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22091245-005 **Matrix:** AQUEOUS
Client Sample ID CCR-5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.229	0.0500		mg/L	1	9/30/2022 1:29:38 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.222	0.0200		mg/L	1	10/3/2022 1:40:29 PM
Beryllium	< 0.00100	0.00100		mg/L	1	10/3/2022 1:40:29 PM
Cadmium	< 0.00500	0.00500		mg/L	1	10/3/2022 1:40:29 PM
Chromium	< 0.0100	0.0100		mg/L	1	10/3/2022 1:40:29 PM
Cobalt	< 0.0100	0.0100		mg/L	1	10/3/2022 1:40:29 PM
Lead	< 0.0100	0.0100		mg/L	1	10/3/2022 1:40:29 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	10/3/2022 1:40:29 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2022 1:40:29 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	10/3/2022 1:06:50 PM
Arsenic	< 10.0	10.0		µg/L	1	10/3/2022 1:06:50 PM
Thallium	< 0.250	0.250		µg/L	1	10/3/2022 1:06:50 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Website: www.element.com

Analytical Report

(consolidated)

WO#: 22091245

Date Reported: 10/31/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 1:40:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22091245-006 **Matrix:** AQUEOUS
Client Sample ID CCR-6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Fluoride	0.240	0.0500		mg/L	1	9/30/2022 1:43:26 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Barium	0.209	0.0200		mg/L	1	10/3/2022 1:42:45 PM
Beryllium	< 0.00100	0.00100		mg/L	1	10/3/2022 1:42:45 PM
Cadmium	< 0.00500	0.00500		mg/L	1	10/3/2022 1:42:45 PM
Chromium	< 0.0100	0.0100		mg/L	1	10/3/2022 1:42:45 PM
Cobalt	< 0.0100	0.0100		mg/L	1	10/3/2022 1:42:45 PM
Lead	< 0.0100	0.0100		mg/L	1	10/3/2022 1:42:45 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	10/3/2022 1:42:45 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2022 1:42:45 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	10/3/2022 1:18:04 PM
Arsenic	< 10.0	10.0		µg/L	1	10/3/2022 1:18:04 PM
Thallium	< 0.250	0.250		µg/L	1	10/3/2022 1:18:04 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



Element Materials Technology Lafayette
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TEL: (337) 235-0483 FAX: (337) 233-6540
Website: www.element.com

Analytical Report

(consolidated)

WO#: 22091245

Date Reported: 10/31/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 1:00:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22091245-007 **Matrix:** AQUEOUS
Client Sample ID CCR-7

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Fluoride	0.257	0.0500		mg/L	1	9/30/2022 1:57:14 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Barium	0.229	0.0200		mg/L	1	10/3/2022 1:45:02 PM
Beryllium	< 0.00100	0.00100		mg/L	1	10/3/2022 1:45:02 PM
Cadmium	< 0.00500	0.00500		mg/L	1	10/3/2022 1:45:02 PM
Chromium	< 0.0100	0.0100		mg/L	1	10/3/2022 1:45:02 PM
Cobalt	< 0.0100	0.0100		mg/L	1	10/3/2022 1:45:02 PM
Lead	< 0.0100	0.0100		mg/L	1	10/3/2022 1:45:02 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	10/3/2022 1:45:02 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2022 1:45:02 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	10/3/2022 1:20:54 PM
Arsenic	< 10.0	10.0		µg/L	1	10/3/2022 1:20:54 PM
Thallium	< 0.250	0.250		µg/L	1	10/3/2022 1:20:54 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22091245

Date Reported: 10/31/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 11:05:00 AM
Project: CCR Assessment Monitoring
Lab ID: 22091245-008 **Matrix:** AQUEOUS
Client Sample ID CCR-8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Fluoride	0.140	0.0500		mg/L	1	9/30/2022 2:11:02 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Barium	0.120	0.0200		mg/L	1	10/3/2022 1:47:19 PM
Beryllium	< 0.00100	0.00100		mg/L	1	10/3/2022 1:47:19 PM
Cadmium	< 0.00500	0.00500		mg/L	1	10/3/2022 1:47:19 PM
Chromium	< 0.0100	0.0100		mg/L	1	10/3/2022 1:47:19 PM
Cobalt	< 0.0100	0.0100		mg/L	1	10/3/2022 1:47:19 PM
Lead	< 0.0100	0.0100		mg/L	1	10/3/2022 1:47:19 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	10/3/2022 1:47:19 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2022 1:47:19 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	10/3/2022 1:23:42 PM
Arsenic	< 10.0	10.0		µg/L	1	10/3/2022 1:23:42 PM
Thallium	< 0.250	0.250		µg/L	1	10/3/2022 1:23:42 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22091245

Date Reported: 10/31/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 10:15:00 AM
Project: CCR Assessment Monitoring
Lab ID: 22091245-009 **Matrix:** AQUEOUS
Client Sample ID CCR-9

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Fluoride	0.525	0.0500		mg/L	1	9/30/2022 2:24:51 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Barium	0.240	0.0200		mg/L	1	10/3/2022 1:54:11 PM
Beryllium	< 0.00100	0.00100		mg/L	1	10/3/2022 1:54:11 PM
Cadmium	< 0.00500	0.00500		mg/L	1	10/3/2022 1:54:11 PM
Chromium	< 0.0100	0.0100		mg/L	1	10/3/2022 1:54:11 PM
Cobalt	< 0.0100	0.0100		mg/L	1	10/3/2022 1:54:11 PM
Lead	< 0.0100	0.0100		mg/L	1	10/3/2022 1:54:11 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	10/3/2022 1:54:11 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2022 1:54:11 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	10/3/2022 1:34:53 PM
Arsenic	< 10.0	10.0		µg/L	1	10/3/2022 1:34:53 PM
Thallium	< 0.250	0.250		µg/L	1	10/3/2022 1:34:53 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22091245

Date Reported: 10/31/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 9:30:00 AM
Project: CCR Assessment Monitoring
Lab ID: 22091245-010 **Matrix:** AQUEOUS
Client Sample ID: CCR-10

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Fluoride	0.563	0.0500		mg/L	1	9/30/2022 2:38:39 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Barium	0.351	0.0200		mg/L	1	10/3/2022 2:01:02 PM
Beryllium	< 0.00100	0.00100		mg/L	1	10/3/2022 2:01:02 PM
Cadmium	< 0.00500	0.00500		mg/L	1	10/3/2022 2:01:02 PM
Chromium	< 0.0100	0.0100		mg/L	1	10/3/2022 2:01:02 PM
Cobalt	< 0.0100	0.0100		mg/L	1	10/3/2022 2:01:02 PM
Lead	< 0.0100	0.0100		mg/L	1	10/3/2022 2:01:02 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	10/3/2022 2:01:02 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2022 2:01:02 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	10/3/2022 1:37:41 PM
Arsenic	< 10.0	10.0		µg/L	1	10/3/2022 1:37:41 PM
Thallium	< 0.250	0.250		µg/L	1	10/3/2022 1:37:41 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22091245

Date Reported: 10/31/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 8:55:00 AM
Project: CCR Assessment Monitoring
Lab ID: 22091245-011 **Matrix:** AQUEOUS
Client Sample ID: CCR-11

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Fluoride	0.652	0.0500		mg/L	1	9/30/2022 3:20:02 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Barium	0.158	0.0200		mg/L	1	10/3/2022 2:03:19 PM
Beryllium	< 0.00100	0.00100		mg/L	1	10/3/2022 2:03:19 PM
Cadmium	< 0.00500	0.00500		mg/L	1	10/3/2022 2:03:19 PM
Chromium	< 0.0100	0.0100		mg/L	1	10/3/2022 2:03:19 PM
Cobalt	< 0.0100	0.0100		mg/L	1	10/3/2022 2:03:19 PM
Lead	< 0.0100	0.0100		mg/L	1	10/3/2022 2:03:19 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	10/3/2022 2:03:19 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2022 2:03:19 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	10/3/2022 1:40:28 PM
Arsenic	< 10.0	10.0		µg/L	1	10/3/2022 1:40:28 PM
Thallium	< 0.250	0.250		µg/L	1	10/3/2022 1:40:28 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22091245

Date Reported: 10/31/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/26/2022 6:30:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22091245-012 **Matrix:** AQUEOUS
Client Sample ID CCR-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: SGP	
Fluoride	0.121	0.0500		mg/L	1	9/29/2022 11:39:14 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.216	0.0200		mg/L	1	10/3/2022 2:05:36 PM
Beryllium	< 0.00100	0.00100		mg/L	1	10/3/2022 2:05:36 PM
Cadmium	< 0.00500	0.00500		mg/L	1	10/3/2022 2:05:36 PM
Chromium	< 0.0100	0.0100		mg/L	1	10/3/2022 2:05:36 PM
Cobalt	< 0.0100	0.0100		mg/L	1	10/3/2022 2:05:36 PM
Lead	< 0.0100	0.0100		mg/L	1	10/3/2022 2:05:36 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	10/3/2022 2:05:36 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2022 2:05:36 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	10/3/2022 1:43:16 PM
Arsenic	< 10.0	10.0		µg/L	1	10/3/2022 1:43:16 PM
Thallium	< 0.250	0.250		µg/L	1	10/3/2022 1:43:16 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22091245

Date Reported: 10/31/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/26/2022 5:40:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22091245-013 **Matrix:** AQUEOUS
Client Sample ID CCR-13

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: SGP
Fluoride	0.206	0.0500		mg/L	1	9/29/2022 11:53:02 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Barium	0.133	0.0200		mg/L	1	10/3/2022 2:07:54 PM
Beryllium	< 0.00100	0.00100		mg/L	1	10/3/2022 2:07:54 PM
Cadmium	< 0.00500	0.00500		mg/L	1	10/3/2022 2:07:54 PM
Chromium	< 0.0100	0.0100		mg/L	1	10/3/2022 2:07:54 PM
Cobalt	< 0.0100	0.0100		mg/L	1	10/3/2022 2:07:54 PM
Lead	< 0.0100	0.0100		mg/L	1	10/3/2022 2:07:54 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	10/3/2022 2:07:54 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2022 2:07:54 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	10/3/2022 1:54:30 PM
Arsenic	< 10.0	10.0		µg/L	1	10/3/2022 1:54:30 PM
Thallium	< 0.250	0.250		µg/L	1	10/3/2022 1:54:30 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22091245

Date Reported: 10/31/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/26/2022 5:10:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22091245-014 **Matrix:** AQUEOUS
Client Sample ID CCR-14

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: BXB
Fluoride	0.165	0.0500		mg/L	1	9/30/2022 9:46:00 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Barium	0.0791	0.0200		mg/L	1	10/3/2022 2:10:10 PM
Beryllium	< 0.00100	0.00100		mg/L	1	10/3/2022 2:10:10 PM
Cadmium	< 0.00500	0.00500		mg/L	1	10/3/2022 2:10:10 PM
Chromium	0.0393	0.0100		mg/L	1	10/3/2022 2:10:10 PM
Cobalt	< 0.0100	0.0100		mg/L	1	10/3/2022 2:10:10 PM
Lead	< 0.0100	0.0100		mg/L	1	10/3/2022 2:10:10 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	10/3/2022 2:10:10 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2022 2:10:10 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	10/3/2022 1:57:20 PM
Arsenic	< 10.0	10.0		µg/L	1	10/3/2022 1:57:20 PM
Thallium	< 0.250	0.250		µg/L	1	10/3/2022 1:57:20 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22091245

Date Reported: 10/31/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 3:30:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22091245-015 **Matrix:** AQUEOUS
Client Sample ID Duplicate

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: BXB
Fluoride	0.209	0.0500		mg/L	1	9/30/2022 10:55:14 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Barium	0.127	0.0200		mg/L	1	10/3/2022 2:12:27 PM
Beryllium	< 0.00100	0.00100		mg/L	1	10/3/2022 2:12:27 PM
Cadmium	< 0.00500	0.00500		mg/L	1	10/3/2022 2:12:27 PM
Chromium	< 0.0100	0.0100		mg/L	1	10/3/2022 2:12:27 PM
Cobalt	< 0.0100	0.0100		mg/L	1	10/3/2022 2:12:27 PM
Lead	< 0.0100	0.0100		mg/L	1	10/3/2022 2:12:27 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	10/3/2022 2:12:27 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2022 2:12:27 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	10/3/2022 2:00:07 PM
Arsenic	< 10.0	10.0		µg/L	1	10/3/2022 2:00:07 PM
Thallium	< 0.250	0.250		µg/L	1	10/3/2022 2:00:07 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

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WO#: 22091245

Date Reported: 10/31/2022

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/27/2022 3:45:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22091245-016 **Matrix:** AQUEOUS
Client Sample ID Field Blank

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	< 0.0500	0.0500		mg/L	1	9/30/2022 11:09:02 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.0223	0.0100		mg/L	1	10/28/2022 5:55:52 PM
Beryllium	< 0.00100	0.00100		mg/L	1	10/3/2022 2:14:44 PM
Cadmium	< 0.00500	0.00500		mg/L	1	10/3/2022 2:14:44 PM
Chromium	< 0.0100	0.0100		mg/L	1	10/3/2022 2:14:44 PM
Cobalt	< 0.0100	0.0100		mg/L	1	10/3/2022 2:14:44 PM
Lead	< 0.0100	0.0100		mg/L	1	10/3/2022 2:14:44 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	10/3/2022 2:14:44 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2022 2:14:44 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	0.699	0.250		µg/L	1	10/3/2022 2:02:55 PM
Arsenic	< 10.0	10.0		µg/L	1	10/3/2022 2:02:55 PM
Thallium	< 0.250	0.250		µg/L	1	10/3/2022 2:02:55 PM

Qualifiers: B Analyte detected in the associated Method Blank
M Matrix Interference
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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QC SUMMARY REPORT

WO#: 22091245
31-Oct-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 45280

Sample ID	MB-45280	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/29/2022	RunNo:	113731
Client ID:	PBW	Batch ID:	45280	TestNo:	SW6010B			Analysis Date:	10/3/2022	SeqNo:	2811963
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	< 0.0200	0.0200									
Beryllium	< 0.00100	0.00100									
Cadmium	< 0.00500	0.00500									
Chromium	< 0.0100	0.0100									
Cobalt	< 0.0100	0.0100									
Lead	< 0.0100	0.0100									
Molybdenum	< 0.0100	0.0100									
Selenium	< 0.0200	0.0200									

Sample ID	LCS-45280	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/29/2022	RunNo:	113731
Client ID:	LCSW	Batch ID:	45280	TestNo:	SW6010B			Analysis Date:	10/3/2022	SeqNo:	2811964
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.487	0.0200	0.5000	0	97.5	80	120				
Beryllium	0.480	0.00100	0.5000	0	95.9	80	120				
Cadmium	0.474	0.00500	0.5000	0	94.7	80	120				
Chromium	0.487	0.0100	0.5000	0	97.4	80	120				
Cobalt	0.493	0.0100	0.5000	0	98.6	80	120				
Lead	0.478	0.0100	0.5000	0	95.6	80	120				
Molybdenum	0.477	0.0100	0.5000	0	95.4	80	120				
Selenium	0.478	0.0200	0.5000	0	95.6	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
SDL Sample detection limit

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



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Website: www.element.com

QC SUMMARY REPORT

WO#: 22091245
31-Oct-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 45280

Sample ID	LCSD-45280	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/29/2022	RunNo:	113731
Client ID:	LCSS02	Batch ID:	45280	TestNo:	SW6010B			Analysis Date:	10/3/2022	SeqNo:	2811965
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.525	0.0200	0.5000	0	105	80	120	0.4874	7.42	20	
Beryllium	0.492	0.00100	0.5000	0	98.4	80	120	0.4796	2.58	20	
Cadmium	0.483	0.00500	0.5000	0	96.7	80	120	0.4736	2.01	20	
Chromium	0.498	0.0100	0.5000	0	99.5	80	120	0.4871	2.11	20	
Cobalt	0.505	0.0100	0.5000	0	101	80	120	0.4931	2.32	20	
Lead	0.492	0.0100	0.5000	0	98.3	80	120	0.4778	2.88	20	
Molybdenum	0.489	0.0100	0.5000	0	97.8	80	120	0.4772	2.40	20	
Selenium	0.506	0.0200	0.5000	0	101	80	120	0.4779	5.72	20	

Sample ID	22091245-008BMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/29/2022	RunNo:	113731
Client ID:	CCR-8	Batch ID:	45280	TestNo:	SW6010B			Analysis Date:	10/3/2022	SeqNo:	2811976
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.614	0.0200	0.5000	0.1201	98.7	75	125				
Beryllium	0.487	0.00100	0.5000	0	97.3	75	125				
Cadmium	0.484	0.00500	0.5000	0	96.8	75	125				
Chromium	0.493	0.0100	0.5000	0	98.6	75	125				
Cobalt	0.503	0.0100	0.5000	0	101	75	125				
Lead	0.484	0.0100	0.5000	0	96.7	75	125				
Molybdenum	0.493	0.0100	0.5000	0	98.6	75	125				
Selenium	0.480	0.0200	0.5000	0.009830	94.0	75	125				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
SDL Sample detection limit

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



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QC SUMMARY REPORT

WO#: 22091245
31-Oct-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 45280

Sample ID	22091245-008BMSD	SampType:	MSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/29/2022	RunNo:	113731
Client ID:	CCR-8	Batch ID:	45280	TestNo:	SW6010B			Analysis Date:	10/3/2022	SeqNo:	2811977
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.604	0.0200	0.5000	0.1201	96.8	75	125	0.6138	1.62	20	
Beryllium	0.482	0.00100	0.5000	0	96.4	75	125	0.4867	0.977	20	
Cadmium	0.480	0.00500	0.5000	0	96.1	75	125	0.4838	0.728	20	
Chromium	0.488	0.0100	0.5000	0	97.7	75	125	0.4930	0.944	20	
Cobalt	0.497	0.0100	0.5000	0	99.5	75	125	0.5031	1.14	20	
Lead	0.480	0.0100	0.5000	0	96.0	75	125	0.4837	0.726	20	
Molybdenum	0.482	0.0100	0.5000	0	96.3	75	125	0.4930	2.36	20	
Selenium	0.498	0.0200	0.5000	0.009830	97.5	75	125	0.4797	3.65	20	

Qualifiers:

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ND Not Detected at the Reporting Limit
SDL Sample detection limit

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QC SUMMARY REPORT

WO#: 22091245
31-Oct-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 45281

Sample ID	MB-45281	SampType:	MBLK	TestCode:	6020A_W	Units:	µg/L	Prep Date:	9/29/2022	RunNo:	113721			
Client ID:	PBW	Batch ID:	45281	TestNo:	SW6020A			Analysis Date:	10/3/2022	SeqNo:	2811726			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony		< 0.250		0.250										
Arsenic		< 0.250		0.250										
Thallium		< 0.250		0.250										

Sample ID	LCS-45281	SampType:	LCS	TestCode:	6020A_W	Units:	µg/L	Prep Date:	9/29/2022	RunNo:	113721			
Client ID:	LCSW	Batch ID:	45281	TestNo:	SW6020A			Analysis Date:	10/3/2022	SeqNo:	2811727			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony		494		5.00	500.0	0		98.9	80	120				
Arsenic		490		5.00	500.0	0		97.9	80	120				
Thallium		502		5.00	500.0	0		100	80	120				

Sample ID	LCSD-45281	SampType:	LCSD	TestCode:	6020A_W	Units:	µg/L	Prep Date:	9/29/2022	RunNo:	113721			
Client ID:	LCSS02	Batch ID:	45281	TestNo:	SW6020A			Analysis Date:	10/3/2022	SeqNo:	2811728			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony		499		5.00	500.0	0		99.7	80	120	494.5	0.832	20	
Arsenic		501		5.00	500.0	0		100	80	120	489.6	2.36	20	
Thallium		504		5.00	500.0	0		101	80	120	501.8	0.474	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
SDL Sample detection limit

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
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QC SUMMARY REPORT

WO#: 22091245
31-Oct-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 45281

Sample ID	22091245-008BMS	SampType: MS	TestCode: 6020A_W	Units: µg/L	Prep Date: 9/29/2022	RunNo: 113721					
Client ID:	CCR-8	Batch ID: 45281	TestNo: SW6020A		Analysis Date: 10/3/2022	SeqNo: 2811741					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	488	5.00	500.0	0.05842	97.6	75	125				
Arsenic	485	5.00	500.0	0	97.1	75	125				
Thallium	506	5.00	500.0	0	101	75	125				

Sample ID	22091245-008BMSD	SampType: MSD	TestCode: 6020A_W	Units: µg/L	Prep Date: 9/29/2022	RunNo: 113721					
Client ID:	CCR-8	Batch ID: 45281	TestNo: SW6020A		Analysis Date: 10/3/2022	SeqNo: 2811742					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	485	5.00	500.0	0.05842	97.0	75	125	488.3	0.626	20	
Arsenic	483	5.00	500.0	0	96.5	75	125	485.5	0.611	20	
Thallium	500	5.00	500.0	0	100	75	125	505.6	1.07	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
SDL Sample detection limit

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RL Reporting Limit
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QC SUMMARY REPORT

WO#: 22091245
31-Oct-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 45612

Sample ID	MB-45612	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	10/26/2022	RunNo:	114462			
Client ID:	PBW	Batch ID:	45612	TestNo:	SW6010B			Analysis Date:	10/28/2022	SeqNo:	2832938			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium		< 0.0100		0.0100										

Sample ID	LCS-45612	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	10/26/2022	RunNo:	114462	
Client ID:	LCSW	Batch ID:	45612	TestNo:	SW6010B			Analysis Date:	10/28/2022	SeqNo:	2833081	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium		0.469	0.0100	0.5000	0	93.8	80	120				

Sample ID	LCSD-45612	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	10/26/2022	RunNo:	114462	
Client ID:	LCSS02	Batch ID:	45612	TestNo:	SW6010B			Analysis Date:	10/28/2022	SeqNo:	2833082	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium		0.468	0.0100	0.5000	0	93.7	80	120	0.4692	0.192	20	

Sample ID	22090207-001AMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	10/26/2022	RunNo:	114462	
Client ID:	ZZZZZZ	Batch ID:	45612	TestNo:	SW6010B			Analysis Date:	10/28/2022	SeqNo:	2833084	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium		0.613	0.0100	0.5000	0.1459	93.5	75	125				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
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QC SUMMARY REPORT

WO#: 22091245
31-Oct-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 45612

Sample ID	22090207-001AMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 10/26/2022	RunNo: 114462					
Client ID: ZZZZZZ	Batch ID: 45612	TestNo: SW6010B	Analysis Date: 10/28/2022	SeqNo: 2833087							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.621	0.0100	0.5000	0.1459	95.0	75	125	0.6134	1.22	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
SDL Sample detection limit

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



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QC SUMMARY REPORT

WO#: 22091245
31-Oct-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R113640

Sample ID	mblk	SampType:	MBLK	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	113640	
Client ID:	PBW	Batch ID:	R113640	TestNo:	E 300.0			Analysis Date:	9/29/2022	SeqNo:	2809556	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		< 0.0500	0.0500									

Sample ID	Ics	SampType: LCS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113640					
Client ID:	LCSW	Batch ID: R113640	TestNo: E 300.0	Analysis Date: 9/29/2022	SeqNo: 2809557						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.89	0.0500	2.000	0	94.3	90	110				

Sample ID	Icsd	SampType: LCSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113640					
Client ID:	LCSS02	Batch ID: R113640	TestNo: E 300.0	Analysis Date: 9/29/2022	SeqNo: 2809558						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.87	0.0500	2.000	0	93.3	90	110	1.887	1.13	15	

Sample ID	22091054-025ams	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113640					
Client ID:	ZZZZZZ	Batch ID: R113640	TestNo: E 300.0	Analysis Date: 9/29/2022	SeqNo: 2809566						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	101	5.00	100.0	2.581	98.7	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
SDL Sample detection limit

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RL Reporting Limit
U Analyte not detected

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QC SUMMARY REPORT

WO#: 22091245
31-Oct-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R113640

Sample ID	22091054-025amsd	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113640					
Client ID: ZZZZZZ	Batch ID: R113640	TestNo: E 300.0	Analysis Date: 9/29/2022	SeqNo: 2809567							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	105	5.00	100.0	2.581	103	80	120	101.3	3.85	15	

Sample ID	22091245-006ams	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113640					
Client ID: CCR-6	Batch ID: R113640	TestNo: E 300.0	Analysis Date: 9/29/2022	SeqNo: 2809576							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.62	0.500	10.00	0.06386	95.5	80	120				

Sample ID	22091245-006amsd	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113640					
Client ID: CCR-6	Batch ID: R113640	TestNo: E 300.0	Analysis Date: 9/29/2022	SeqNo: 2809577							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.57	0.500	10.00	0.06386	95.0	80	120	9.617	0.532	15	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
SDL Sample detection limit

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



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QC SUMMARY REPORT

WO#: 22091245
31-Oct-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R113690

Sample ID	mblk	SampType:	MBLK	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	113690	
Client ID:	PBW	Batch ID:	R113690	TestNo:	E 300.0			Analysis Date:	9/30/2022	SeqNo:	2810877	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		< 0.0500	0.0500									

Sample ID	Ics	SampType: LCS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113690					
Client ID:	LCSW	Batch ID: R113690	TestNo: E 300.0	Analysis Date: 9/30/2022	SeqNo: 2810878						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.88	0.0500	2.000	0	93.9	90	110				

Sample ID	Icsd	SampType: LCSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113690					
Client ID:	LCSS02	Batch ID: R113690	TestNo: E 300.0	Analysis Date: 9/30/2022	SeqNo: 2810879						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.89	0.0500	2.000	0	94.3	90	110	1.878	0.438	15	

Sample ID	22091245-016ams	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113690					
Client ID:	Field Blank	Batch ID: R113690	TestNo: E 300.0	Analysis Date: 9/30/2022	SeqNo: 2810888						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.66	0.500	10.00	0	96.6	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
SDL Sample detection limit

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U Analyte not detected

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QC SUMMARY REPORT

WO#: 22091245
31-Oct-22

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R113690

Sample ID	22091245-016amsd	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 113690					
Client ID:	Field Blank	Batch ID: R113690	TestNo: E 300.0	Analysis Date: 9/30/2022	SeqNo: 2810889						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	10.1	0.500	10.00	0	101	80	120	9.658	4.04	15	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
SDL Sample detection limit

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Sample Log-In Check List

Client Name: **PIVOTAL_ENGINEERIN**

Work Order Number: **22091245**

RcptNo: **1**

Logged by: **Tammy Thibodeaux** **9/28/2022 3:01:00 PM**
Completed By: **Tammy Thibodeaux** **9/28/2022 4:52:14 PM**
Reviewed By: **Cristina Thibeaux** **10/14/2022 11:21:19 AM**

Tammy Thibodeaux
Tammy Thibodeaux
Cristina Thibeaux

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☒ Not Present ☐
2. How was the sample delivered? Element

Log In

3. Coolers are present? Yes ☒ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☒ No ☐
Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☒
No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
6. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☒ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
10. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☒
12. Were any sample containers received broken? Yes ☐ No ☒
13. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
15. Is it clear what analyses were requested? Yes ☒ No ☐
16. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: Date
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Improper error correction(s) made by client.

Added year of collection to COC as per samples received. NO MS/MSD sample.

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.3	Good	Not Present			

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Element Materials Technology

Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA
22091245

SGS Job Number: LA83742

Sampling Dates: 09/26/22 - 09/27/22

Report to:

Element Materials Technology
2417 West Pinhook Rd
Lafayette, LA 70508
annie.reedy@element.com; rhonda.david@element.com;
cristina.thibeaux@element.com; buffy.hudson@element.com;
ATTN: Annie Reedy

Total number of pages in report: 38



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Ron Benjamin
Lab Director

Client Service contact: Ralph Frye 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-18-16), WV(257)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

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Sample Summary

Element Materials Technology

Job No: LA83742

Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA
Project No: 22091245

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
LA83742-1	09/26/22	14:35	09/29/22	AQ	Water	CCR-1
LA83742-2	09/26/22	15:10	09/29/22	AQ	Water	CCR-2
LA83742-3	09/26/22	16:15	09/29/22	AQ	Water	CCR-3
LA83742-4	09/27/22	15:10	09/29/22	AQ	Water	CCR-4
LA83742-5	09/27/22	14:20	09/29/22	AQ	Water	CCR-5
LA83742-6	09/27/22	13:40	09/29/22	AQ	Water	CCR-6
LA83742-7	09/27/22	13:00	09/29/22	AQ	Water	CCR-7
LA83742-8	09/27/22	11:05	09/29/22	AQ	Water	CCR-8
LA83742-9	09/27/22	10:15	09/29/22	AQ	Water	CCR-9
LA83742-10	09/27/22	09:30	09/29/22	AQ	Water	CCR-10
LA83742-11	09/27/22	08:55	09/29/22	AQ	Water	CCR-11
LA83742-12	09/26/22	18:30	09/29/22	AQ	Water	CCR-12
LA83742-13	09/26/22	17:40	09/29/22	AQ	Water	CCR-13



Sample Summary
(continued)

Element Materials Technology

Job No: LA83742

Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA
Project No: 22091245

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
LA83742-14	09/26/22	17:10	09/29/22	AQ	Water	CCR-14
LA83742-15	09/27/22	15:30	09/29/22	AQ	Water	DUPLICATE
LA83742-16	09/27/22	15:45	09/29/22	AQ	Field Blank Water	FIELD BLANK

Summary of Hits

Page 1 of 2

Job Number: LA83742

Account: Element Materials Technology

Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

Collected: 09/26/22 thru 09/27/22

2

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
LA83742-1	CCR-1					
Lithium		25.1	2.0		ug/l	SW846 6020A
LA83742-2	CCR-2					
Lithium		20.9	2.0		ug/l	SW846 6020A
LA83742-3	CCR-3					
Lithium		19.6	2.0		ug/l	SW846 6020A
LA83742-4	CCR-4					
Lithium		15.9	2.0		ug/l	SW846 6020A
LA83742-5	CCR-5					
Lithium		18.9	2.0		ug/l	SW846 6020A
LA83742-6	CCR-6					
Lithium		12.5	2.0		ug/l	SW846 6020A
LA83742-7	CCR-7					
Lithium		12.3	2.0		ug/l	SW846 6020A
LA83742-8	CCR-8					
Lithium		32.1	2.0		ug/l	SW846 6020A
LA83742-9	CCR-9					
Lithium		10.2	2.0		ug/l	SW846 6020A
LA83742-10	CCR-10					
Lithium		11.4	2.0		ug/l	SW846 6020A
LA83742-11	CCR-11					
Lithium		7.3	2.0		ug/l	SW846 6020A

Summary of Hits

Page 2 of 2

Job Number: LA83742

Account: Element Materials Technology

Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

Collected: 09/26/22 thru 09/27/22

2

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
LA83742-12	CCR-12					
Lithium		24.3	2.0		ug/l	SW846 6020A
LA83742-13	CCR-13					
Lithium		17.0	2.0		ug/l	SW846 6020A
LA83742-14	CCR-14					
Lithium		14.4	2.0		ug/l	SW846 6020A
LA83742-15	DUPLICATE					
Lithium		15.4	2.0		ug/l	SW846 6020A
LA83742-16	FIELD BLANK					

No hits reported in this sample.



Scott, LA

Section 3



Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	CCR-1	Date Sampled:	09/26/22
Lab Sample ID:	LA83742-1	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	25.1	2.0	ug/l	1	10/03/22	10/04/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA24773

(2) Prep QC Batch: MP25147

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.2

3

Client Sample ID:	CCR-2	Date Sampled:	09/26/22
Lab Sample ID:	LA83742-2	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	20.9	2.0	ug/l	1	10/03/22	10/04/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA24773

(2) Prep QC Batch: MP25147

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3

3

Client Sample ID:	CCR-3	Date Sampled:	09/26/22
Lab Sample ID:	LA83742-3	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	19.6	2.0	ug/l	1	10/03/22	10/04/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA24773

(2) Prep QC Batch: MP25147

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.4
3

Client Sample ID:	CCR-4	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-4	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	15.9	2.0	ug/l	1	10/03/22	10/04/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA24773

(2) Prep QC Batch: MP25147

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.5

3

Client Sample ID:	CCR-5	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-5	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	18.9	2.0	ug/l	1	10/03/22	10/04/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA24773

(2) Prep QC Batch: MP25147

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.6

3

Client Sample ID:	CCR-6	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-6	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	12.5	2.0	ug/l	1	10/03/22	10/04/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA24773

(2) Prep QC Batch: MP25147

RL = Reporting Limit

Report of Analysis

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3.7
3

Client Sample ID:	CCR-7	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-7	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	12.3	2.0	ug/l	1	10/03/22	10/04/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA24773

(2) Prep QC Batch: MP25147

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.8

3

Client Sample ID:	CCR-8	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-8	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	32.1	2.0	ug/l	1	10/03/22	10/04/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA24773

(2) Prep QC Batch: MP25147

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.9

3

Client Sample ID:	CCR-9	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-9	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	10.2	2.0	ug/l	1	10/03/22	10/04/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA24773

(2) Prep QC Batch: MP25147

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.10

3

Client Sample ID:	CCR-10	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-10	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	11.4	2.0	ug/l	1	10/03/22	10/04/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA24773

(2) Prep QC Batch: MP25147

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CCR-11	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-11	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	7.3	2.0	ug/l	1	10/03/22	10/04/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA24773

(2) Prep QC Batch: MP25147

RL = Reporting Limit

Report of Analysis

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3.12
3

Client Sample ID:	CCR-12	Date Sampled:	09/26/22
Lab Sample ID:	LA83742-12	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	24.3	2.0	ug/l	1	10/03/22	10/04/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA24773

(2) Prep QC Batch: MP25147

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CCR-13	Date Sampled:	09/26/22
Lab Sample ID:	LA83742-13	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	17.0	2.0	ug/l	1	10/03/22	10/04/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA24773

(2) Prep QC Batch: MP25147

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CCR-14	Date Sampled:	09/26/22
Lab Sample ID:	LA83742-14	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	14.4	2.0	ug/l	1	10/03/22	10/04/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA24773

(2) Prep QC Batch: MP25147

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.15
3

Client Sample ID:	DUPLICATE	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-15	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	15.4	2.0	ug/l	1	10/03/22	10/04/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA24773

(2) Prep QC Batch: MP25147

RL = Reporting Limit

Report of Analysis

Client Sample ID:	FIELD BLANK	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-16	Date Received:	09/29/22
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	< 2.0	2.0	ug/l	1	10/03/22	10/04/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA24773

(2) Prep QC Batch: MP25147

RL = Reporting Limit



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY RECORD

Omega COCID 12352

PAGE: 1

OF: 2

ADDRESS

Element Materials Technology
Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 233-0483
FAX: (337) 233-6540
Website: www.element.com

LA 83742

SUB CONTRACTOR: ACCUTEST_LAF COMPANY: SGS- Accutest Lafayette Labor		SPECIAL INSTRUCTIONS / COMMENTS:
ADDRESS: 500 Ambassador Caffery Parkway		Lithium by 6020/////ELA043833PO
CITY, STATE, ZIP: Scott, LA 70583		
PHONE: (337) 237-4775 FAX: (337) 237-8005 EMAIL:		
ACCOUNT #:		

ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description.
1	22091245-001C 6020_W_SUB (SW6020A)	CCR-1	250HDPEHNO3	Aqueous	9/26/2022 4:15:00 PM	1	/
2	22091245-002C 6020_W_SUB (SW6020A)	CCR-2	250HDPEHNO3	Aqueous	9/26/2022 3:10:00 PM	1	/
3	22091245-003C 6020_W_SUB (SW6020A)	CCR-3	250HDPEHNO3	Aqueous	9/26/2022 4:15:00 PM	1	/
4	22091245-004C 6020_W_SUB (SW6020A)	CCR-4	250HDPEHNO3	Aqueous	9/27/2022 3:10:00 PM	1	/
5	22091245-005C 6020_W_SUB (SW6020A)	CCR-5	250HDPEHNO3	Aqueous	9/27/2022 2:20:00 PM	1	/
6	22091245-006C 6020_W_SUB (SW6020A)	CCR-6	250HDPEHNO3	Aqueous	9/27/2022 1:40:00 PM	1	/
7	22091245-007C 6020_W_SUB (SW6020A)	CCR-7	250HDPEHNO3	Aqueous	9/27/2022 1:00:00 PM	1	/
8	22091245-008C 6020_W_SUB (SW6020A)	CCR-8	250HDPEHNO3	Aqueous	9/27/2022 11:05:00 AM	1	/
9	22091245-009C 6020_W_SUB (SW6020A)	CCR-9	250HDPEHNO3	Aqueous	9/27/2022 10:15:00 AM	1	/

Relinquished By: <i>[Signature]</i>	Date: <i>9/27/22</i>	Time: <i>0709</i>	Received By: <i>R. K. F. L.</i>	Date: <i>9/27/22</i>	Time: <i>0709</i>	REPORT TRANSMITTAL DESIRED: ☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE
Relinquished By: <i>R. K. F. L.</i>	Date: <i>9/27/22</i>	Time: <i>1203</i>	Received By: <i>[Signature]</i>	Date: <i>9/27/22</i>	Time: <i>1203</i>	FOR LAB USE ONLY Temp of samples <i>32</i> °C Attempt to Cool ? Comments: <i>Thos 1</i>
TAT: Standard ☐ RUSH ☐ Next BD ☐ 2nd BD ☐ 3rd BD ☐ Note: RUSH requests will incur surcharges!						
<i>Nowak Bwz Chest d/6</i>						

LA83742: Chain of Custody
Page 1 of 3



CHAIN OF CUSTODY RECORD

Omega COCID 12352

PAGE: 2

OF: 2

ADDRESS

Element Materials Technology
Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 235-0483
FAX: (337) 233-6540
Website: www.element.com

LA 83742

SUB CONTRACTOR: ACCUTEST_LAF		COMPANY: SGS- Accutest Lafayette Labor		SPECIAL INSTRUCTIONS / COMMENTS:	
ADDRESS: 500 Ambassador Caffery Parkway				Lithium by 6020/////ELA043833PO	
CITY, STATE, ZIP: Scott, LA 70583					
PHONE: (337) 237-4775		FAX: (337) 237-8005		EMAIL:	
ACCOUNT #:					

ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description.
10	22091245-010C 6020_W_SUB (SW6020A)	CCR-10	250HDPEHNO3	Aqueous	9/27/2022 9:30:00 AM	1	
11	22091245-011C 6020_W_SUB (SW6020A)	CCR-11	250HDPEHNO3	Aqueous	9/27/2022 8:55:00 AM	1	
12	22091245-012C 6020_W_SUB (SW6020A)	CCR-12	250HDPEHNO3	Aqueous	9/26/2022 6:30:00 PM	1	
13	22091245-013C 6020_W_SUB (SW6020A)	CCR-13	250HDPEHNO3	Aqueous	9/26/2022 5:40:00 PM	1	
14	22091245-014C 6020_W_SUB (SW6020A)	CCR-14	250HDPEHNO3	Aqueous	9/26/2022 5:10:00 PM	1	
15	22091245-015C 6020_W_SUB (SW6020A)	Duplicate	250HDPEHNO3	Aqueous	9/27/2022 3:30:00 PM	1	
16	22091245-016C 6020_W_SUB (SW6020A)	Field Blank	250HDPEHNO3	Aqueous	9/27/2022 3:45:00 PM	1	

Relinquished By: <i>[Signature]</i>	Date: 9-29-22	Time: 0709	Received By: <i>R. Kufel</i>	Date: 9-29-22	Time: 0709	REPORT TRANSMITTAL DESIRED:	
Relinquished By: <i>R. Kufel</i>	Date: 9-29-22	Time: 1203	Received By: <i>Mark Reed</i>	Date: 9/29/22	Time: 12-05	☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE	
TAT: Standard ☐ RUSH ☐ Next BD ☐ 2nd BD ☐ 3rd BD ☐						FOR LAB USE ONLY	
Note: RUSH requests will incur surcharges!						Temp of samples 3.2 °C Attempt to Cool ?	
						Comments: <i>TR001</i>	

LA83742: Chain of Custody

Page 2 of 3

SGS SAMPLE RECEIPT SUMMARY

JOB NUMBER:	LA 83742	CLIENT:	Element
DATE/TIME RECEIVED:	9/29/22 12:03	DELIVERY METHOD:	Client
PROJECT:	Element	NO. COOLERS:	1
COOLER TEMPS (Initial/Adjusted):	3.2 IR001		
AIRBILL #s:			

COOLER SECURITY	Y	OR	N
1. Custody Seals Present:	☐		☒
2. Custody Seals Intact:	☒		☐
3. COC present:	☒		☐
4. Sample Dates/Time OK?	☒		☐

COOLER TEMPERATURE	Y	OR	N
1. Temp criteria achieved:	☒		☐
2. Cooler temp verification:	☐		☐
3. Cooler media:	☐		☐

QUALITY CONTROL PRESERVATION	Y	OR	N	N/A
1. Trip Blank present / cooler:	☐		☒	☐
2. Trip Blank listed on COC:	☐		☒	☐
3. Samples preserved properly:	☒		☐	☐
4. VOCs headspace free:	☐		☒	☐

SAMPLE INTEGRITY - DOCUMENTATION	Y	OR	N
1. Sample labels present on bottles:	☒		☐
2. Container labeling complete:	☒		☐
3. Sample container label/COC agree:	☒		☐

SAMPLE INTEGRITY - CONDITION	Y	OR	N
1. Sample within HT:	☒		☐
2. All containers accounted for:	☒		☐
3. Condition of sample:	☒		☐

SAMPLE INTEGRITY - INSTRUCTIONS	Y	OR	N	N/A
1. Analysis requested is clear:	☒		☐	☐
2. Bottles received for unspecified test:	☒		☐	☐
3. Sufficient Volume rec'd for analysis:	☒		☐	☐
4. Compositing instructions clear:	☒		☐	☐
5. Filtering instructions clear:	☒		☐	☐

LA83742: Chain of Custody

Page 3 of 3

Metals Analysis

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA83742
Account: SLLAL - Element Materials Technology
Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25147
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/03/22

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	.29	49		
Antimony	1.0	.0017	.79		
Arsenic	1.0	.011	.57		
Barium	1.0	.0069	.63		
Beryllium	1.0	.0043	.75		
Boron	20	1.1	6.3		
Cadmium	0.50	.0009	.49		
Calcium	200	28	110		
Cerium	1.0	.0004	.76		
Chromium	1.0	.021	.53		
Cobalt	1.0	.0027	.66		
Copper	1.0	.037	.41		
Iron	100	.87	45		
Lithium	2.0	.0095	.78	0.0050	<2.0
Lead	1.0	.0022	.72		
Lanthanum	1.0	.0004	.72		
Magnesium	100	.27	33		
Manganese	2.0	.019	.57		
Molybdenum	1.0	.002	.61		
Nickel	1.0	.013	.52		
Potassium	100	2.2	65		
Selenium	5.0	.14	2.8		
Silver	1.0	.0016	.38		
Silicon	500	2.5	93		
Sodium	100	2.1	37		
Strontium	2.0	.013	.42		
Thallium	1.0	.001	.79		
Tin	2.0	.044	.56		
Titanium	1.0	.045	.57		
Uranium	1.0		.42		
Vanadium	1.0	.0096	.36		
Zinc	5.0	.1	2.4		

Associated samples MP25147: LA83742-1, LA83742-2, LA83742-3, LA83742-4, LA83742-5, LA83742-6, LA83742-7, LA83742-8, LA83742-9, LA83742-10, LA83742-11, LA83742-12, LA83742-13, LA83742-14, LA83742-15, LA83742-16

5.1.1

5

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA83742
Account: SLLAL - Element Materials Technology
Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25147
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/03/22

Metal	RL	IDL	MDL	MB raw	final

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

5.1.1
5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA83742
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25147
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 10/03/22

Metal	LA83742-1 Original MS		Spikelet MPICPMS6 % Rec		QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Cerium					
Chromium					
Cobalt					
Copper					
Iron					
Lithium	25.1	112	100	86.9	75-125
Lead					
Lanthanum					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Silicon					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP25147: LA83742-1, LA83742-2, LA83742-3, LA83742-4, LA83742-5, LA83742-6, LA83742-7, LA83742-8, LA83742-9, LA83742-10, LA83742-11, LA83742-12, LA83742-13, LA83742-14, LA83742-15, LA83742-16

5.1.2
5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA83742
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25147
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 10/03/22

Metal	LA83742-1 Original MS	Spike lot MPICPMS6 % Rec	QC Limits

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

5.1.2

5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA83742
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25147
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 10/03/22

Metal	LA83742-1 Original MSD		Spikelet MPICPMS6 % Rec		MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Cerium						
Chromium						
Cobalt						
Copper						
Iron						
Lithium	25.1	111	100	85.9	0.9	20
Lead						
Lanthanum						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Silicon						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP25147: LA83742-1, LA83742-2, LA83742-3, LA83742-4, LA83742-5, LA83742-6, LA83742-7, LA83742-8, LA83742-9, LA83742-10, LA83742-11, LA83742-12, LA83742-13, LA83742-14, LA83742-15, LA83742-16

5.1.2
5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA83742
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25147
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 10/03/22

Metal	LA83742-1 Original MSD	Spielot MPICPMS6 % Rec	MSD RPD	QC Limit

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

5.1.2

5

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA83742
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25147
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 10/03/22

Metal	BSP Result	Spike lot MPICPMS6	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Cerium				
Chromium				
Cobalt				
Copper				
Iron				
Lithium	93.5	100	93.5	80-120
Lead				
Lanthanum				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Silicon				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP25147: LA83742-1, LA83742-2, LA83742-3, LA83742-4, LA83742-5, LA83742-6, LA83742-7, LA83742-8, LA83742-9, LA83742-10, LA83742-11, LA83742-12, LA83742-13, LA83742-14, LA83742-15, LA83742-16

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA83742

Account: SLLAL - Element Materials Technology

Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25147

Methods: SW846 6020A

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

10/03/22

Metal	BSP Result	Spikelet MPICPMS6 % Rec	QC Limits

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

5.1.3

5

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA83742
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25147
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 10/03/22

Metal	LA83742-1 Original SDL 1:5		%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Cerium				
Chromium				
Cobalt				
Copper				
Iron				
Lithium	25.1	27.1	7.9	0-10
Lead				
Lanthanum				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Silicon				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP25147: LA83742-1, LA83742-2, LA83742-3, LA83742-4, LA83742-5, LA83742-6, LA83742-7, LA83742-8, LA83742-9, LA83742-10, LA83742-11, LA83742-12, LA83742-13, LA83742-14, LA83742-15, LA83742-16

5.1.4
5

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA83742
Account: SLLAL - Element Materials Technology
Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25147
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 10/03/22

Metal	LA83742-1 Original SDL 1:5	%DIF	QC Limits

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

5.1.4
5

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Element Materials Technology

Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA
22091245

SGS Job Number: LA83742A

Sampling Dates: 09/26/22 - 09/27/22

Report to:

Element Materials Technology
2417 West Pinhook Rd
Lafayette, LA 70508
annie.reedy@element.com; rhonda.david@element.com;
cristina.thibeaux@element.com; buffy.hudson@element.com;
ATTN: Annie Reedy

Total number of pages in report: 35



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Ron Benjamin
Lab Director

Client Service contact: Ralph Frye 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-18-16), WV(257)

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Test results relate only to samples analyzed.

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Sample Summary

Element Materials Technology

Job No: LA83742A

Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA
Project No: 22091245

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
LA83742-1A	09/26/22	14:35	09/29/22	AQ	Water	CCR-1
LA83742-2A	09/26/22	15:10	09/29/22	AQ	Water	CCR-2
LA83742-3A	09/26/22	16:15	09/29/22	AQ	Water	CCR-3
LA83742-4A	09/27/22	15:10	09/29/22	AQ	Water	CCR-4
LA83742-5A	09/27/22	14:20	09/29/22	AQ	Water	CCR-5
LA83742-6A	09/27/22	13:40	09/29/22	AQ	Water	CCR-6
LA83742-7A	09/27/22	13:00	09/29/22	AQ	Water	CCR-7
LA83742-8A	09/27/22	11:05	09/29/22	AQ	Water	CCR-8
LA83742-9A	09/27/22	10:15	09/29/22	AQ	Water	CCR-9
LA83742-10A	09/27/22	09:30	09/29/22	AQ	Water	CCR-10
LA83742-11A	09/27/22	08:55	09/29/22	AQ	Water	CCR-11
LA83742-12A	09/26/22	18:30	09/29/22	AQ	Water	CCR-12
LA83742-13A	09/26/22	17:40	09/29/22	AQ	Water	CCR-13



Sample Summary
(continued)

Element Materials Technology

Job No: LA83742A

Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA
Project No: 22091245

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
LA83742-14A	09/26/22	17:10	09/29/22	AQ	Water	CCR-14
LA83742-15A	09/27/22	15:30	09/29/22	AQ	Water	DUPLICATE
LA83742-16A	09/27/22	15:45	09/29/22	AQ	Field Blank Water	FIELD BLANK

Summary of Hits

Page 1 of 2

Job Number: LA83742A

Account: Element Materials Technology

Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

Collected: 09/26/22 thru 09/27/22

2

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method

LA83742-1A CCR-1

No hits reported in this sample.

LA83742-2A CCR-2

No hits reported in this sample.

LA83742-3A CCR-3

No hits reported in this sample.

LA83742-4A CCR-4

No hits reported in this sample.

LA83742-5A CCR-5

No hits reported in this sample.

LA83742-6A CCR-6

No hits reported in this sample.

LA83742-7A CCR-7

No hits reported in this sample.

LA83742-8A CCR-8

No hits reported in this sample.

LA83742-9A CCR-9

No hits reported in this sample.

LA83742-10A CCR-10

No hits reported in this sample.

LA83742-11A CCR-11

No hits reported in this sample.

Summary of Hits

Job Number: LA83742A
Account: Element Materials Technology
Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA
Collected: 09/26/22 thru 09/27/22

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method

LA83742-12A CCR-12

No hits reported in this sample.

LA83742-13A CCR-13

No hits reported in this sample.

LA83742-14A CCR-14

No hits reported in this sample.

LA83742-15A DUPLICATE

No hits reported in this sample.

LA83742-16A FIELD BLANK

No hits reported in this sample.



Scott, LA

Section 3



Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	CCR-1	Date Sampled:	09/26/22
Lab Sample ID:	LA83742-1A	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	10/11/22	10/11/22 SA	SW846 7470A ¹	SW846 7470A ²

(1) Instrument QC Batch: MA24821

(2) Prep QC Batch: MP25195

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CCR-2	Date Sampled:	09/26/22
Lab Sample ID:	LA83742-2A	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	10/11/22	10/11/22 SA	SW846 7470A ¹	SW846 7470A ²

(1) Instrument QC Batch: MA24821
(2) Prep QC Batch: MP25195

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3

3

Client Sample ID:	CCR-3	Date Sampled:	09/26/22
Lab Sample ID:	LA83742-3A	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	10/11/22	10/11/22 SA	SW846 7470A ¹	SW846 7470A ²

(1) Instrument QC Batch: MA24821

(2) Prep QC Batch: MP25195

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.4
3

Client Sample ID:	CCR-4	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-4A	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	10/11/22	10/11/22 SA	SW846 7470A ¹	SW846 7470A ²

(1) Instrument QC Batch: MA24821

(2) Prep QC Batch: MP25195

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CCR-5	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-5A	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	10/11/22	10/11/22 SA	SW846 7470A ¹	SW846 7470A ²

(1) Instrument QC Batch: MA24821

(2) Prep QC Batch: MP25195

RL = Reporting Limit

Report of Analysis

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3.6

3

Client Sample ID:	CCR-6	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-6A	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	10/11/22	10/11/22 SA	SW846 7470A ¹	SW846 7470A ²

(1) Instrument QC Batch: MA24821

(2) Prep QC Batch: MP25195

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CCR-7	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-7A	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	10/11/22	10/11/22 SA	SW846 7470A ¹	SW846 7470A ²

(1) Instrument QC Batch: MA24821

(2) Prep QC Batch: MP25195

RL = Reporting Limit

Report of Analysis

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3.8

3

Client Sample ID:	CCR-8	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-8A	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	10/11/22	10/11/22 SA	SW846 7470A ¹	SW846 7470A ²

(1) Instrument QC Batch: MA24821

(2) Prep QC Batch: MP25195

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CCR-9	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-9A	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	10/11/22	10/11/22 SA	SW846 7470A ¹	SW846 7470A ²

(1) Instrument QC Batch: MA24821

(2) Prep QC Batch: MP25195

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CCR-10	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-10A	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	10/11/22	10/11/22 SA	SW846 7470A ¹	SW846 7470A ²

(1) Instrument QC Batch: MA24821

(2) Prep QC Batch: MP25195

RL = Reporting Limit

Report of Analysis

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3.11

3

Client Sample ID:	CCR-11	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-11A	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	10/11/22	10/11/22 SA	SW846 7470A ¹	SW846 7470A ²

(1) Instrument QC Batch: MA24821

(2) Prep QC Batch: MP25195

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.12
3

Client Sample ID:	CCR-12	Date Sampled:	09/26/22
Lab Sample ID:	LA83742-12A	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	10/11/22	10/11/22 SA	SW846 7470A ¹	SW846 7470A ²

(1) Instrument QC Batch: MA24821

(2) Prep QC Batch: MP25195

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CCR-13	Date Sampled:	09/26/22
Lab Sample ID:	LA83742-13A	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	10/11/22	10/11/22 SA	SW846 7470A ¹	SW846 7470A ²

(1) Instrument QC Batch: MA24821

(2) Prep QC Batch: MP25195

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CCR-14	Date Sampled:	09/26/22
Lab Sample ID:	LA83742-14A	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	10/11/22	10/11/22 SA	SW846 7470A ¹	SW846 7470A ²

(1) Instrument QC Batch: MA24821

(2) Prep QC Batch: MP25195

RL = Reporting Limit

Report of Analysis

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3.15

3

Client Sample ID:	DUPLICATE	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-15A	Date Received:	09/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	10/11/22	10/11/22 SA	SW846 7470A ¹	SW846 7470A ²

(1) Instrument QC Batch: MA24821

(2) Prep QC Batch: MP25195

RL = Reporting Limit

Report of Analysis

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3.16

3

Client Sample ID:	FIELD BLANK	Date Sampled:	09/27/22
Lab Sample ID:	LA83742-16A	Date Received:	09/29/22
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	10/11/22	10/11/22 SA	SW846 7470A ¹	SW846 7470A ²

(1) Instrument QC Batch: MA24821

(2) Prep QC Batch: MP25195

RL = Reporting Limit



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY RECORD

Omega COCID 12352

PAGE: 1

OF: 2

ADDRESS

Element Materials Technology
Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 233-0483
FAX: (337) 233-6540
Website: www.element.com

LA 83742

SUB CONTRACTOR: ACCUTEST_LAF COMPANY: SGS- Accutest Lafayette Labor		SPECIAL INSTRUCTIONS / COMMENTS:	
ADDRESS: 500 Ambassador Caffery Parkway		Lithium by 6020/////ELA043833PO	
CITY, STATE, ZIP: Scott, LA 70583			
PHONE: (337) 237-4775 FAX: (337) 237-8005 EMAIL:			
ACCOUNT #:			

ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description.
1	22091245-001C 6020_W_SUB (SW6020A)	CCR-1	250HDPEHNO3	Aqueous	9/26/2022 4:15:00 PM	1	/
2	22091245-002C 6020_W_SUB (SW6020A)	CCR-2	250HDPEHNO3	Aqueous	9/26/2022 3:10:00 PM	1	/
3	22091245-003C 6020_W_SUB (SW6020A)	CCR-3	250HDPEHNO3	Aqueous	9/26/2022 4:15:00 PM	1	/
4	22091245-004C 6020_W_SUB (SW6020A)	CCR-4	250HDPEHNO3	Aqueous	9/27/2022 3:10:00 PM	1	/
5	22091245-005C 6020_W_SUB (SW6020A)	CCR-5	250HDPEHNO3	Aqueous	9/27/2022 2:20:00 PM	1	/
6	22091245-006C 6020_W_SUB (SW6020A)	CCR-6	250HDPEHNO3	Aqueous	9/27/2022 1:40:00 PM	1	/
7	22091245-007C 6020_W_SUB (SW6020A)	CCR-7	250HDPEHNO3	Aqueous	9/27/2022 1:00:00 PM	1	/
8	22091245-008C 6020_W_SUB (SW6020A)	CCR-8	250HDPEHNO3	Aqueous	9/27/2022 11:05:00 AM	1	/
9	22091245-009C 6020_W_SUB (SW6020A)	CCR-9	250HDPEHNO3	Aqueous	9/27/2022 10:15:00 AM	1	/

Relinquished By: <i>[Signature]</i>	Date: 9/22/2022	Time: 0709	Received By: <i>R. K. G. L.</i>	Date: 9/23/2022	Time: 0709
Relinquished By: <i>R. K. G. L.</i>	Date: 9/23/22	Time: 1203	Received By: <i>[Signature]</i>	Date: 9/23/22	Time: 1203
TAT: Standard ☐ RUSH ☐			Next BD ☐ 2nd BD ☐ 3rd BD ☐		
Note: RUSH requests will incur surcharges!					
REPORT TRANSMITTAL DESIRED: ☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE					
FOR LAB USE ONLY					
Temp of samples 32 °C Attempt to Cool ?					
Comments: <i>Thos 1</i>					
<i>Nowak Bwz Chest d/6</i>					

LA83742A: Chain of Custody
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CHAIN OF CUSTODY RECORD

Omega COCID 12352

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ADDRESS

Element Materials Technology
Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 235-0483
FAX: (337) 233-6540
Website: www.element.com

LA 83742

SUB CONTRACTOR: ACCUTEST_LAF		COMPANY: SGS- Accutest Lafayette Labor		SPECIAL INSTRUCTIONS / COMMENTS:	
ADDRESS: 500 Ambassador Caffery Parkway				Lithium by 6020/////ELA04383PO	
CITY, STATE, ZIP: Scott, LA 70583					
PHONE: (337) 237-4775		FAX: (337) 237-8005		EMAIL:	
ACCOUNT #:					

ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description
10	22091245-010C 6020_W_SUB (SW6020A)	CCR-10	250HDPEHNO3	Aqueous	9/27/2022 9:30:00 AM	1	
11	22091245-011C 6020_W_SUB (SW6020A)	CCR-11	250HDPEHNO3	Aqueous	9/27/2022 8:55:00 AM	1	
12	22091245-012C 6020_W_SUB (SW6020A)	CCR-12	250HDPEHNO3	Aqueous	9/26/2022 6:30:00 PM	1	
13	22091245-013C 6020_W_SUB (SW6020A)	CCR-13	250HDPEHNO3	Aqueous	9/26/2022 5:40:00 PM	1	
14	22091245-014C 6020_W_SUB (SW6020A)	CCR-14	250HDPEHNO3	Aqueous	9/26/2022 5:10:00 PM	1	
15	22091245-015C 6020_W_SUB (SW6020A)	Duplicate	250HDPEHNO3	Aqueous	9/27/2022 3:30:00 PM	1	
16	22091245-016C 6020_W_SUB (SW6020A)	Field Blank	250HDPEHNO3	Aqueous	9/27/2022 3:45:00 PM	1	

Relinquished By: <i>[Signature]</i>	Date: 9-29-22	Time: 0709	Received By: <i>R. Kufel</i>	Date: 9-29-22	Time: 0709	REPORT TRANSMITTAL DESIRED:	
Relinquished By: <i>R. Kufel</i>	Date: 9-29-22	Time: 1203	Received By: <i>Mark Reed</i>	Date: 9/29/22	Time: 12-05	☐ HARD COPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE	
TAT: Standard ☐ RUSH ☐ Next BD ☐ 2nd BD ☐ 3rd BD ☐						FOR LAB USE ONLY	
Note: RUSH requests will incur surcharges!						Temp of samples 3.2 °C Attempt to Cool ?	
						Comments: <i>TR001</i>	

LA83742A: Chain of Custody

Page 2 of 5

SGS SAMPLE RECEIPT SUMMARY

JOB NUMBER:	LA 83742	CLIENT:	Element
DATE/TIME RECEIVED:	9/29/22 12:03	DELIVERY METHOD:	Client
PROJECT:	Element	NO. COOLERS:	1
COOLER TEMPS (Initial/Adjusted):	3.2 IR001		
AIRBILL #s:			

COOLER SECURITY	Y	OR	N
1. Custody Seals Present:	☐		☒
2. Custody Seals Intact:	☒		☐
3. COC present:	☒		☐
4. Sample Dates/Time OK?	☒		☐

COOLER TEMPERATURE	Y	OR	N
1. Temp criteria achieved:	☒		☐
2. Cooler temp verification:	☐		☐
3. Cooler media:	☐		☐

QUALITY CONTROL PRESERVATION	Y	OR	N	N/A
1. Trip Blank present / cooler:	☐		☒	☐
2. Trip Blank listed on COC:	☐		☒	☐
3. Samples preserved properly:	☒		☐	☐
4. VOCs headspace free:	☐		☒	☐

SAMPLE INTEGRITY - DOCUMENTATION	Y	OR	N
1. Sample labels present on bottles:	☒		☐
2. Container labeling complete:	☒		☐
3. Sample container label/COC agree:	☒		☐

SAMPLE INTEGRITY - CONDITION	Y	OR	N
1. Sample within HT:	☒		☐
2. All containers accounted for:	☒		☐
3. Condition of sample:	☒		☐

SAMPLE INTEGRITY - INSTRUCTIONS	Y	OR	N	N/A
1. Analysis requested is clear:	☒		☐	☐
2. Bottles received for unspecified test:	☒		☐	☐
3. Sufficient Volume rec'd for analysis:	☒		☐	☐
4. Compositing instructions clear:	☒		☐	☐
5. Filtering instructions clear:	☒		☐	☐

LA83742A: Chain of Custody

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CHAIN OF CUSTODY RECORD

Omega COCID 12467

PAGE: 1

OF: 2

ADDRESS

Element Materials Technology
Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 235-0483
FAX: (337) 233-6540
Website: www.element.com

SUB CONTRACTOR: ACCUTEST_LAF		COMPANY: SGS- Accutest Lafayette Labor		SPECIAL INSTRUCTIONS / COMMENTS:			
ADDRESS: 500 Ambassador Caffery Parkway		Total Mercury needed. SGS already has sample in house that they ran 6020 Li on. Please use that sample volume for this additional testing.					
CITY, STATE, ZIP: Scott, LA 70583							
PHONE: (337) 237-4775 FAX: (337) 237-8005 EMAIL:							
ACCOUNT #:							
ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description.
1	22091245-001B HG_W_7470A (SW7470A)	CCR-1	250HDPEHNO3	Aqueous	9/26/2022 4:15:00 PM	1	
2	22091245-002B HG_W_7470A (SW7470A)	CCR-2	250HDPEHNO3	Aqueous	9/26/2022 3:10:00 PM	1	
3	22091245-003B HG_W_7470A (SW7470A)	CCR-3	250HDPEHNO3	Aqueous	9/26/2022 4:15:00 PM	1	
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5	22091245-005B HG_W_7470A (SW7470A)	CCR-5	250HDPEHNO3	Aqueous	9/27/2022 2:20:00 PM	1	
6	22091245-006B HG_W_7470A (SW7470A)	CCR-6	250HDPEHNO3	Aqueous	9/27/2022 1:40:00 PM	1	
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9	22091245-009B HG_W_7470A (SW7470A)	CCR-9	250HDPEHNO3	Aqueous	9/27/2022 10:15:00 AM	1	
Relinquished By: _____ Date: _____ Time: _____ Received By: _____ Date: _____ Time: _____							
REPORT TRANSMITTAL DESIRED: ☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE							
FOR LAB USE ONLY							
Temp of samples _____ °C Attempt to Cool ? _____							
Comments: _____							
TAT: Standard ☐ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐							
Note: RUSH requests will incur surcharges!							

LA83742A: Chain of Custody

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CHAIN OF CUSTODY RECORD

Omega COCID 12467

PAGE: 2

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ADDRESS

Element Materials Technology
Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 235-0483
FAX: (337) 233-6540
Website: www.element.com

SUB CONTRACTOR: ACCUTEST_LAF COMPANY: SGS- Accutest Lafayette Labor					SPECIAL INSTRUCTIONS / COMMENTS: Total Mercury needed. SGS already has sample in house that they ran 6020 Li on. Please use that sample volume for this additional testing.		
ADDRESS: 500 Ambassador Caffery Parkway							
CITY, STATE, ZIP: Scott, LA 70583							
PHONE: (337) 237-4775 FAX: (337) 237-8005 EMAIL:							
ACCOUNT #:							
ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Methanol Preserved Weights HOT Sample Notation, Additional Sample Description.
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16	22091245-016B HG_W_7470A (SW7470A)	Field Blank	250HDPEHNO3	Aqueous	9/27/2022 3:45:00 PM	1	

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	REPORT TRANSMITTAL DESIRED: ☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
TAT: Standard ☐ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐ Note: RUSH requests will incur surcharges!						FOR LAB USE ONLY Temp of samples _____°C Attempt to Cool? _____ Comments: _____

LA83742A: Chain of Custody
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Metals Analysis

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA83742A
Account: SLLAL - Element Materials Technology
Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25195
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 10/11/22

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.011	.076	0.023	<0.20

Associated samples MP25195: LA83742-1A, LA83742-2A, LA83742-3A, LA83742-4A, LA83742-5A, LA83742-6A, LA83742-7A, LA83742-8A, LA83742-9A, LA83742-10A, LA83742-11A, LA83742-12A, LA83742-13A, LA83742-14A, LA83742-15A, LA83742-16A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

5.1.1
5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA83742A
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25195
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 10/11/22

Metal	LA83742-2A Original MS	Spikelot HGSPike1 % Rec	QC Limits
Mercury	0.015 5.1	5 101.7	75-125

Associated samples MP25195: LA83742-1A, LA83742-2A, LA83742-3A, LA83742-4A, LA83742-5A, LA83742-6A, LA83742-7A, LA83742-8A, LA83742-9A, LA83742-10A, LA83742-11A, LA83742-12A, LA83742-13A, LA83742-14A, LA83742-15A, LA83742-16A

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

5.1.2
 5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA83742A
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25195 Methods: SW846 7470A
 Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/11/22

Metal	LA83742-2A Original MSD	Spikelot HGSPike1 % Rec	MSD RPD	QC Limit
Mercury	0.015 4.9	5 97.7	4.0	20

Associated samples MP25195: LA83742-1A, LA83742-2A, LA83742-3A, LA83742-4A, LA83742-5A, LA83742-6A, LA83742-7A, LA83742-8A, LA83742-9A, LA83742-10A, LA83742-11A, LA83742-12A, LA83742-13A, LA83742-14A, LA83742-15A, LA83742-16A

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

5.1.2
5

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA83742A
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25195
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 10/11/22

Metal	BSP Result	Spikelot HGSPIKE1	% Rec	QC Limits
Mercury	5.1	5	102.0	80-120

Associated samples MP25195: LA83742-1A, LA83742-2A, LA83742-3A, LA83742-4A, LA83742-5A, LA83742-6A, LA83742-7A, LA83742-8A, LA83742-9A, LA83742-10A, LA83742-11A, LA83742-12A, LA83742-13A, LA83742-14A, LA83742-15A, LA83742-16A

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA83742A
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25195
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 10/11/22

Metal	LA83742-2A		QC	
	Original	SDL 1:5	%DIF	Limits

Mercury 0.0146 0.00 100.0(a) 0-

Associated samples MP25195: LA83742-1A, LA83742-2A, LA83742-3A, LA83742-4A, LA83742-5A, LA83742-6A, LA83742-7A, LA83742-8A, LA83742-9A, LA83742-10A, LA83742-11A, LA83742-12A, LA83742-13A, LA83742-14A, LA83742-15A, LA83742-16A

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

5.1.4
5



- ☐ 2203 S. Madison St., Muncie, IN 47302
765-747-9000/800-874-3563 Fax 765-747-0228
- ☐ 629 Washington St., Suite 300, Columbus, IN 47201
812-375-0531 Fax 812-375-0531
- ☐ 5738 Industrial Rd., Fort Wayne, IN 46825
219-471-7000 Fax 219-471-7777

- ☒ 2417 W. Pinhook Rd, Lafayette, LA 70508
337-235-0483/800-737-2378
- ☐ 3445 S Sheridan, Tulsa, OK 74145
918-828-9977/800324-5757
Fax 918-828-7756

Chain of Custody Record

Page 1 of 2		Laboratory Number 2209125	
Client Name: Pivotal Engineering LLC		Project: CCR Assessment Monitoring	
Contact Name: Terry Elnaggar		Quote #: 6786	
Phone/Fax: (504) 799-3653		Sampler's Signature: <i>Terry Elnaggar</i>	
Collection Date/Time		Sample Identification / Description	
Date		Comp	
9/26/14 3:35		C C R - 1	
9/26/14 5:10		C C R - 2	
9/26/14 6:15		C C R - 3	
9/27/14 5:10		C C R - 4	
9/27/14 14:20		C C R - 5	
9/27/14 3:40		C C R - 6	
9/27/14 3:20		C C R - 7	
9/27/14 11:05		C C R - 8	
9/27/14 10:15		C C R - 9	
9/27/14 9:30		C C R - 10	
Grab		X	
Matrix Code		Aq	
Preserv.		None/ HNO ₃ H ₂ SO ₄	
Number / Type of Container		3 Plastic	
300: Fluoride		X	
***6020 Sub		X	
7470 Mercury		X	
Test Requested		X	
Comments / Remarks		*6010 Metals: Ba, Be, Cd, Cr, Co, Pb, Mo, Se	
		**6020 Metals: As, Sb, Ti	
		***6020 Sub Metal: Li	
UPS / FedEx / Element Hand / Mail		X	
Relinquished by: (Signature) <i>Terry Elnaggar</i>		Received by: (Signature) <i>Theresa</i>	
Relinquished by: (Signature)		Received by: (Signature)	
Date		Date	
9/28/14		9/28/14	
Time		Time	
11:50		1:50	
Shipping Conditions		Requested IAT	
☒ Iced		☐ 24-Hr. ☐ 72-Hr.	
Temp. 2.30		☐ 48-Hr. ☒ Standard	
☐ Ambient		☐ Other	
Container Types		Thank-you for using Element Materials Technology	
G = Glass			
P = Plastic			
V = Vial			
Matrix Codes			
AQ = Aqueous			
O = Oil			
SL = Sludge			
SO = Soil			
LIQ = Liquid			
SLD = Solid			
SL = Sludge			
SO = Soil			



- ☐ 2203 S. Madison St., Muncie, IN 47302
765-747-9000/800-874-3563 Fax 765-747-0228
- ☐ 629 Washington St., Suite 300, Columbus, IN 47201
812-375-0531 Fax 812-375-0531
- ☐ 5738 Industrial Rd., Fort Wayne, IN 46825
219-471-7000 Fax 219-471-7777

- ☒ 2417 W. Pinhook Rd, Lafayette, LA 70508
337-235-0483/800-737-2378

- ☐ 3445 S Sheridan, Tulsa, OK 74145
918-828-9977/800324-5757
Fax 918-828-7756

Chain of Custody Record

Page <u>2</u> of <u>2</u>		Laboratory Number <u>2201245</u>	
Client Name: Pivotal Engineering LLC		Project: CCR Assessment Monitoring	
Contact Name: Terry Elnaggar		Quote #: 6786	
Phone/Fax: (504) 799-3653		Sampler's Signature: <u>[Signature]</u>	
Collection Date/Time		Sample Identification / Description	
Date	Time	Comp	Grab
9/27/08	08:55	X	C C R - 1 1
9/26/08	10:30	X	C C R - 1 2
9/26/08	17:40	X	C C R - 1 3
9/26/08	17:10	X	C C R - 1 4
		X	M S (CCR-)
		X	M S D (CCR-)
9/27/08	15:30	X	D U P
9/27/08	15:45	X	F B 1
Comments / Remarks		P.O. Number	
*6010 Metals: Ba, Be, Cd, Cr, Co, Pb, Mn, Se		7470 Mercury	
6020 Metals: As, Sb, Ti		*6020 Sub	
***5020 Sub Metal Li		300: Fluoride	
UPS / FedEx Airborne / Element Hand / Mail		Received by: (Signature) <u>[Signature]</u> Date <u>9/28/08</u> Time <u>15:51</u>	
All samples submitted to Element Materials Technology for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the samples. Element Materials Technology reserves the right to return unused sample portions.		Relinquished by: (Signature) <u>[Signature]</u> Date <u>9/28/08</u> Time <u>11:50</u>	
Relinquished by: (Signature) <u>[Signature]</u> Date <u>9/28/08</u> Time <u>11:50</u>		Relinquished by: (Signature) <u>[Signature]</u> Date <u>9/28/08</u> Time <u>11:50</u>	
Matrix Codes DW = Drinking Water AQ = Aqueous GW = Ground Water O = Oil WW = Waste Water SO = Soil		Container Types G = Glass P = Plastic V = Vial	
Shipping Conditions ☒ Iced Temp. <u>23C</u> ☐ Ambient		Requested TAT ☐ 24-Hr. ☐ 72-Hr. ☐ 48-Hr. ☒ Standard ☐ Other	
Thank-you for using Element Materials Technology			



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January 06, 2023

Terry Elnaggar
Pivotal Engineering LLC
1515 Poydras St., STE. 1875
New Orleans, LA 70112
TEL: (504) 799-3653
FAX

RE: CCR Detection Monitoring

Order No.: 22120556

Dear Terry Elnaggar:

Element Materials Technology Lafayette received 16 sample(s) on 12/12/2022 for the analyses presented in the following report.

In accordance with your instructions, Element Lafayette either conducted or subcontracted these analyses. Subcontracted analyses will be identified in the accompanying case narrative. All relevant sampling information can be found on the attached Chain-of-Custody form. Unless otherwise noted, all analyses were conducted using EPA approved methodologies and all test results meet the applicable requirements of TNI. Reported results relate only to the items tested.

Where applicable, all soil data, except for 29-B, are reported on a wet-weight basis unless otherwise indicated in the units field as –dry.

LELAP Certification No.: 01997. TCEQ Certification No.: T104704261. MNELAP Certification No.: 2414959. LDHH Certification No.: LA023. ISDH Certification No.: C-LA-01. NDELCP Certification No.: R-226. A scope of accredited parameters is available upon request. A "#" by the test method or analyte indicates this parameter is outside the scope of accreditation. PA registration No.: 68-05967.

Estimated uncertainty is available upon request. This report shall not be reproduced, except in full, without the written approval of the laboratory.

A handwritten signature in blue ink, appearing to read 'Cristina Thibeaux'.

Cristina Thibeaux
Customer Service Supervisor



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Case Narrative

WO#: 22120556
Date: 1/6/2023

CLIENT: Pivotal Engineering LLC
Project: CCR Detection Monitoring

Unless specified by the client, a duplicate or MS/MSD, wherever applicable, is randomly selected and analyzed from each analytical batch provided sample volume is sufficient. The sample chosen for duplicate or MS/MSD may or may not be a sample submitted in this workorder. A method blank and/or a lab control sample (LCS)/lab control sample duplicate (LCSD), wherever applicable, are processed as a quality control check for each analytical batch. When the matrix QC data is not available due to insufficient sample volume or when the results indicate possible matrix effect, the validity of the batch is determined by the method blank and LCS/LCSD.

The results of the laboratory internal quality control data are provided in the QC Summary Report section of the report for your review. Laboratory-related QC exceptions that may impact the validity of data are discussed in the case narrative. Sample-related QC exceptions are flagged either in the results page(s) or in the QC report page(s). End users should consider QC exceptions when evaluating sample data against data quality objectives.

Any other exceptions associated with this report will be footnoted in the results page(s) or the QC summary page(s).



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Analytical Report

(consolidated)

WO#: 22120556

Date Reported: 1/6/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 8:55:00 AM
Project: CCR Detection Monitoring
Lab ID: 22120556-001 **Matrix:** AQUEOUS
Client Sample ID: CCR-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Chloride	44.4	2.50		mg/L	10	12/13/2022 5:05:44 PM
Fluoride	0.326	0.0500		mg/L	1	12/30/2022 6:09:13 PM
Sulfate	2.87	0.250		mg/L	1	12/30/2022 6:09:13 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	12/15/2022 3:47:00 PM
Calcium	25.4	0.500		mg/L	1	12/15/2022 3:47:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	280	10.0		mg/L	1	12/13/2022 6:20:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

(consolidated)

WO#: 22120556

Date Reported: 1/6/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 9:50:00 AM
Project: CCR Detection Monitoring
Lab ID: 22120556-002 **Matrix:** AQUEOUS
Client Sample ID: CCR-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: BXB
Chloride	58.1	2.50		mg/L	10	12/13/2022 5:19:32 PM
Fluoride	0.390	0.0500		mg/L	1	12/30/2022 6:23:00 PM
Sulfate	1.20	0.250		mg/L	1	12/30/2022 6:23:00 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Boron	< 0.100	0.100		mg/L	1	12/15/2022 3:50:00 PM
Calcium	20.8	0.500		mg/L	1	12/15/2022 3:50:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	262	10.0		mg/L	1	12/13/2022 6:20:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

(consolidated)

WO#: 22120556

Date Reported: 1/6/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 10:35:00 AM
Project: CCR Detection Monitoring
Lab ID: 22120556-003 **Matrix:** AQUEOUS
Client Sample ID: CCR-3

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Chloride	125	5.00		mg/L	20	12/13/2022 5:33:20 PM
Fluoride	0.425	0.0500		mg/L	1	12/30/2022 6:36:49 PM
Sulfate	3.18	0.250		mg/L	1	12/30/2022 6:36:49 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	12/15/2022 3:52:00 PM
Calcium	28.9	0.500		mg/L	1	12/15/2022 3:52:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	391	10.0		mg/L	1	12/13/2022 6:20:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22120556

Date Reported: 1/6/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 11:25:00 AM
Project: CCR Detection Monitoring
Lab ID: 22120556-004 **Matrix:** AQUEOUS
Client Sample ID: CCR-4

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Chloride	42.7	2.50		mg/L	10	12/13/2022 5:47:09 PM
Fluoride	0.258	0.0500		mg/L	1	12/30/2022 6:50:36 PM
Sulfate	11.8	2.50		mg/L	10	12/13/2022 5:47:09 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	0.106	0.100		mg/L	1	12/15/2022 3:54:00 PM
Calcium	19.8	0.500		mg/L	1	12/15/2022 3:54:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	277	10.0		mg/L	1	12/13/2022 6:20:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22120556

Date Reported: 1/6/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 12:10:00 PM
Project: CCR Detection Monitoring
Lab ID: 22120556-005 **Matrix:** AQUEOUS
Client Sample ID: CCR-5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Chloride	57.1	5.00		mg/L	20	12/13/2022 6:28:33 PM
Fluoride	0.291	0.0500		mg/L	1	12/30/2022 7:04:24 PM
Sulfate	< 0.250	0.250		mg/L	1	12/30/2022 7:04:24 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	12/15/2022 3:56:00 PM
Calcium	32.3	0.500		mg/L	1	12/15/2022 3:56:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	401	10.0		mg/L	1	12/13/2022 6:20:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22120556

Date Reported: 1/6/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 12:55:00 PM
Project: CCR Detection Monitoring
Lab ID: 22120556-006 **Matrix:** AQUEOUS
Client Sample ID: CCR-6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Chloride	84.1	2.50		mg/L	10	12/13/2022 6:42:20 PM
Fluoride	0.306	0.0500		mg/L	1	12/30/2022 7:18:12 PM
Sulfate	< 0.250	0.250		mg/L	1	12/30/2022 7:18:12 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	12/15/2022 3:59:00 PM
Calcium	29.6	0.500		mg/L	1	12/15/2022 3:59:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	323	10.0		mg/L	1	12/13/2022 6:20:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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WO#: 22120556

Date Reported: 1/6/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 1:30:00 PM
Project: CCR Detection Monitoring
Lab ID: 22120556-007 **Matrix:** AQUEOUS
Client Sample ID CCR-7

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Chloride	79.1	2.50		mg/L	10	12/13/2022 6:56:07 PM
Fluoride	0.315	0.0500		mg/L	1	12/30/2022 7:31:59 PM
Sulfate	< 0.250	0.250		mg/L	1	12/30/2022 7:31:59 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	12/15/2022 4:01:00 PM
Calcium	44.2	0.500		mg/L	1	12/15/2022 4:01:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	338	10.0		mg/L	1	12/13/2022 6:20:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22120556

Date Reported: 1/6/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 2:10:00 PM
Project: CCR Detection Monitoring
Lab ID: 22120556-008 **Matrix:** AQUEOUS
Client Sample ID CCR-8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Chloride	81.9	2.50		mg/L	10	12/13/2022 7:09:55 PM
Fluoride	0.202	0.0500		mg/L	1	12/30/2022 7:45:47 PM
Sulfate	1.07	0.250		mg/L	1	12/30/2022 7:45:47 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	12/15/2022 4:03:00 PM
Calcium	11.5	0.500		mg/L	1	12/15/2022 4:03:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	293	10.0		mg/L	1	12/13/2022 6:20:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22120556

Date Reported: 1/6/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 2:55:00 PM
Project: CCR Detection Monitoring
Lab ID: 22120556-009 **Matrix:** AQUEOUS
Client Sample ID: CCR-9

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Chloride	63.7	2.50		mg/L	10	12/13/2022 7:23:43 PM
Fluoride	0.585	0.0500		mg/L	1	12/30/2022 7:59:34 PM
Sulfate	4.63	2.50		mg/L	10	12/13/2022 7:23:43 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	12/15/2022 4:06:00 PM
Calcium	29.8	0.500		mg/L	1	12/15/2022 4:06:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	342	10.0		mg/L	1	12/13/2022 6:20:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

(consolidated)

WO#: 22120556

Date Reported: 1/6/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 3:35:00 PM
Project: CCR Detection Monitoring
Lab ID: 22120556-010 **Matrix:** AQUEOUS
Client Sample ID CCR-10

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Chloride	42.0	2.50		mg/L	10	12/13/2022 7:37:30 PM
Fluoride	0.533	0.500		mg/L	10	12/13/2022 7:37:30 PM
Sulfate	3.94	2.50		mg/L	10	12/13/2022 7:37:30 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	12/15/2022 4:12:00 PM
Calcium	25.0	0.500		mg/L	1	12/15/2022 4:12:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	319	10.0		mg/L	1	12/13/2022 6:20:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22120556

Date Reported: 1/6/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 4:20:00 PM
Project: CCR Detection Monitoring
Lab ID: 22120556-011 **Matrix:** AQUEOUS
Client Sample ID: CCR-11

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Chloride	26.9	2.50		mg/L	10	12/13/2022 7:51:17 PM
Fluoride	0.626	0.500		mg/L	10	12/13/2022 7:51:17 PM
Sulfate	< 2.50	2.50		mg/L	10	12/13/2022 7:51:17 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	12/15/2022 4:15:00 PM
Calcium	29.1	0.500		mg/L	1	12/15/2022 4:15:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	260	10.0		mg/L	1	12/13/2022 6:20:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22120556

Date Reported: 1/6/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 5:00:00 PM
Project: CCR Detection Monitoring
Lab ID: 22120556-012 **Matrix:** AQUEOUS
Client Sample ID: CCR-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Chloride	17.0	1.25		mg/L	5	12/13/2022 8:05:05 PM
Fluoride	0.158	0.0500		mg/L	1	12/30/2022 8:40:57 PM
Sulfate	13.6	1.25		mg/L	5	12/13/2022 8:05:05 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	12/15/2022 4:17:00 PM
Calcium	20.7	0.500		mg/L	1	12/15/2022 4:17:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	174	10.0		mg/L	1	12/13/2022 6:20:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

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WO#: 22120556

Date Reported: 1/6/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/11/2022 9:20:00 AM
Project: CCR Detection Monitoring
Lab ID: 22120556-013 **Matrix:** AQUEOUS
Client Sample ID: CCR-13

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Chloride	11.6	1.25		mg/L	5	12/13/2022 9:14:01 PM
Fluoride	0.251	0.0500		mg/L	1	12/30/2022 9:22:18 PM
Sulfate	0.918	0.250		mg/L	1	12/30/2022 9:22:18 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	12/15/2022 4:24:00 PM
Calcium	23.6	0.500		mg/L	1	12/15/2022 4:24:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	166	10.0		mg/L	1	12/13/2022 6:20:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



Element Materials Technology Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 235-0483 FAX: (337) 233-6540
Website: www.element.com

Analytical Report

(consolidated)

WO#: 22120556

Date Reported: 1/6/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/11/2022 10:20:00 AM
Project: CCR Detection Monitoring
Lab ID: 22120556-014 **Matrix:** AQUEOUS
Client Sample ID: CCR-14

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Chloride	11.3	1.25		mg/L	5	12/13/2022 9:27:49 PM
Fluoride	0.207	0.0500		mg/L	1	12/30/2022 9:36:07 PM
Sulfate	1.15	0.250		mg/L	1	12/30/2022 9:36:07 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	12/15/2022 4:26:00 PM
Calcium	17.0	0.500		mg/L	1	12/15/2022 4:26:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	146	10.0		mg/L	1	12/13/2022 6:20:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

(consolidated)

WO#: 22120556

Date Reported: 1/6/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/11/2022 9:25:00 AM
Project: CCR Detection Monitoring
Lab ID: 22120556-015 **Matrix:** AQUEOUS
Client Sample ID Duplicate

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Chloride	12.2	1.25		mg/L	5	12/13/2022 9:41:37 PM
Fluoride	0.244	0.0500		mg/L	1	12/30/2022 9:49:53 PM
Sulfate	0.801	0.250		mg/L	1	12/30/2022 9:49:53 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Boron	< 0.100	0.100		mg/L	1	12/15/2022 4:28:00 PM
Calcium	22.3	0.500		mg/L	1	12/15/2022 4:28:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	171	10.0		mg/L	1	12/13/2022 6:20:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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Analytical Report

(consolidated)

WO#: 22120556

Date Reported: 1/6/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/11/2022 10:30:00 AM
Project: CCR Detection Monitoring
Lab ID: 22120556-016 **Matrix:** AQUEOUS
Client Sample ID: Field Blank

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: BXB
Chloride	< 0.250	0.250		mg/L	1	12/13/2022 9:55:24 PM
Fluoride	< 0.0500	0.0500		mg/L	1	12/13/2022 9:55:24 PM
Sulfate	< 0.250	0.250		mg/L	1	12/13/2022 9:55:24 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Boron	< 0.100	0.100		mg/L	1	12/15/2022 4:31:00 PM
Calcium	< 0.500	0.500		mg/L	1	12/15/2022 4:31:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	< 10.0	10.0		mg/L	1	12/13/2022 6:20:00 AM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
	U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode



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QC SUMMARY REPORT

WO#: 22120556

06-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Detection Monitoring

BatchID: 46207-1

Sample ID	MB-46207	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	115979	
Client ID:	PBW	Batch ID:	46207-1	TestNo:	SW6010B			Analysis Date:	12/15/2022	SeqNo:	2876248	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		< 0.100	0.100									
Calcium		< 0.500	0.500									

Sample ID	LCS-46207	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	115979	
Client ID:	LCSW	Batch ID:	46207-1	TestNo:	SW6010B			Analysis Date:	12/15/2022	SeqNo:	2876249	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.448	0.100	0.5000	0	89.6	80	120				
Calcium		50.4	0.500	50.00	0	101	80	120				

Sample ID	LCSD-46207	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	115979	
Client ID:	LCSS02	Batch ID:	46207-1	TestNo:	SW6010B			Analysis Date:	12/15/2022	SeqNo:	2876250	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.471	0.100	0.5000	0	94.2	80	120	0.4480	4.98	20	
Calcium		51.9	0.500	50.00	0	104	80	120	50.37	3.04	20	

Sample ID	22120556-012BMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	115979	
Client ID:	CCR-12	Batch ID:	46207-1	TestNo:	SW6010B			Analysis Date:	12/15/2022	SeqNo:	2876322	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.529	0.100	0.5000	0	106	75	125				

Qualifiers:

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22120556
06-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Detection Monitoring

BatchID: 46207-1

Sample ID	22120556-012BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 12/13/2022	RunNo: 115979					
Client ID: CCR-12	Batch ID: 46207-1	TestNo: SW6010B	Analysis Date: 12/15/2022	SeqNo: 2876322							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	72.3	0.500	50.00	20.65	103	75	125				

Sample ID	22120556-012BMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 12/13/2022	RunNo: 115979					
Client ID: CCR-12	Batch ID: 46207-1	TestNo: SW6010B	Analysis Date: 12/15/2022	SeqNo: 2876323							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.545	0.100	0.5000	0	109	75	125	0.5288	3.02	20	
Calcium	73.6	0.500	50.00	20.65	106	75	125	72.30	1.77	20	

Qualifiers:

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22120556
06-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Detection Monitoring

BatchID: R115820

Sample ID	MB-R115820	SampType:	MBLK	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	115820
Client ID:	PBW	Batch ID:	R115820	TestNo:	SM2540C			Analysis Date:	12/13/2022	SeqNo:	2874480
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Total Dissolved Solids (Residue, Filterable) < 10.0 10.0

Sample ID	LCS-R115820	SampType:	LCS	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	115820
Client ID:	LCSW	Batch ID:	R115820	TestNo:	SM2540C			Analysis Date:	12/13/2022	SeqNo:	2874481
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Total Dissolved Solids (Residue, Filterable) 989 10.0 1,000 0 98.9 85 115

Sample ID	LCSD-R115820	SampType:	LCSD	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	115820
Client ID:	LCSS02	Batch ID:	R115820	TestNo:	SM2540C			Analysis Date:	12/13/2022	SeqNo:	2874482
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Total Dissolved Solids (Residue, Filterable) 1,010 10.0 1,000 0 101 85 115 989.0 1.80 10

Sample ID	22120556-003ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	115820
Client ID:	CCR-3	Batch ID:	R115820	TestNo:	SM2540C			Analysis Date:	12/13/2022	SeqNo:	2874503
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Total Dissolved Solids (Residue, Filterable) 391 10.0 391.0 0 10

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Matrix Interference	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode		



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QC SUMMARY REPORT

WO#: 22120556
06-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Detection Monitoring

BatchID: R115820

Sample ID	22120556-003ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	115820
Client ID:	CCR-3	Batch ID:	R115820	TestNo:	SM2540C			Analysis Date:	12/13/2022	SeqNo:	2874503
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Sample ID	22120556-012ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	115820
Client ID:	CCR-12	Batch ID:	R115820	TestNo:	SM2540C			Analysis Date:	12/13/2022	SeqNo:	2874504
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Total Dissolved Solids (Residue, Filterable)		177		10.0						174.0	1.71 10

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Matrix Interference	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode		



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QC SUMMARY REPORT

WO#: 22120556
06-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Detection Monitoring

BatchID: R115864

Sample ID	mblk	SampType: MBLK	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 115864					
Client ID:	PBW	Batch ID: R115864	TestNo: E 300.0		Analysis Date: 12/13/2022	SeqNo: 2873155					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	< 0.250	0.250									
Fluoride	< 0.0500	0.0500									
Sulfate	< 0.250	0.250									

Sample ID	Ics	SampType: LCS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 115864					
Client ID:	LCSW	Batch ID: R115864	TestNo: E 300.0		Analysis Date: 12/13/2022	SeqNo: 2873156					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	10.1	0.250	10.00	0	101	90	110				
Fluoride	2.03	0.0500	2.000	0	102	90	110				
Sulfate	10.2	0.250	10.00	0	102	90	110				

Sample ID	Icsd	SampType: LCSD	TestCode: 300.0	Units: mg/L	Prep Date:				RunNo: 115864		
Client ID:	LCSS02	Batch ID: R115864	TestNo: E 300.0	Analysis Date: 12/13/2022				SeqNo: 2873157			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	10.0	0.250	10.00	0	100	90	110	10.08	0.738	15	
Fluoride	2.04	0.0500	2.000	0	102	90	110	2.033	0.320	15	
Sulfate	9.98	0.250	10.00	0	99.8	90	110	10.21	2.28	15	

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Matrix Interference	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode		



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QC SUMMARY REPORT

WO#: 22120556
06-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Detection Monitoring

BatchID: R115864

Sample ID	22120556-012ams	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 115864					
Client ID:	CCR-12	Batch ID: R115864	TestNo: E 300.0	Analysis Date: 12/13/2022	SeqNo: 2873172						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	41.6	1.25	25.00	17.02	98.4	80	120				
Fluoride	5.16	0.250	5.000	0	103	80	120				
Sulfate	38.0	1.25	25.00	13.63	97.5	80	120				

Sample ID	22120556-012amsd	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 115864					
Client ID:	CCR-12	Batch ID: R115864	TestNo: E 300.0	Analysis Date: 12/13/2022	SeqNo: 2873173						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	41.8	1.25	25.00	17.02	99.1	80	120	41.61	0.458	15	
Fluoride	5.19	0.250	5.000	0	104	80	120	5.162	0.538	15	
Sulfate	38.1	1.25	25.00	13.63	98.0	80	120	37.99	0.333	15	

Sample ID	22120556-016ams	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 115864					
Client ID:	Field Blank	Batch ID: R115864	TestNo: E 300.0	Analysis Date: 12/13/2022	SeqNo: 2873180						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.96	0.250	5.000	0	99.3	80	120				
Fluoride	1.01	0.0500	1.000	0	101	80	120				
Sulfate	4.95	0.250	5.000	0	99.0	80	120				

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Matrix Interference	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode		



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QC SUMMARY REPORT

WO#: 22120556
06-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Detection Monitoring

BatchID: R115864

Sample ID	22120556-016amsd	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 115864					
Client ID:	Field Blank	Batch ID: R115864	TestNo: E 300.0	Analysis Date: 12/13/2022	SeqNo: 2873181						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	5.04	0.250	5.000	0	101	80	120	4.963	1.51	15	
Fluoride	1.03	0.0500	1.000	0	103	80	120	1.008	2.25	15	
Sulfate	5.01	0.250	5.000	0	100	80	120	4.948	1.30	15	

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Matrix Interference	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode		



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QC SUMMARY REPORT

WO#: 22120556
06-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Detection Monitoring

BatchID: R116419

Sample ID	mblk	SampType:	MBLK		TestCode:	300.0		Units:	mg/L		Prep Date:			RunNo:	116419	
Client ID:	PBW	Batch ID:	R116419		TestNo:	E 300.0					Analysis Date:	12/30/2022		SeqNo:	2890432	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val		%RPD	RPDLimit	Qual			
Fluoride		< 0.0500	0.0500													
Sulfate		< 0.250	0.250													

Sample ID	Ics	SampType: LCS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 116419					
Client ID:	LCSW	Batch ID: R116419	TestNo: E 300.0	Analysis Date: 12/30/2022	SeqNo: 2890433						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.10	0.0500	2.000	0	105	90	110				
Sulfate	10.3	0.250	10.00	0	103	90	110				

Sample ID	Icsd	SampType: LCSD	TestCode: 300.0		Units: mg/L		Prep Date:			RunNo: 116419		
Client ID:	LCSS02	Batch ID: R116419	TestNo: E 300.0		Analysis Date: 12/30/2022				SeqNo: 2890434			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		2.12	0.0500	2.000	0	106	90	110	2.103	0.660	15	
Sulfate		10.2	0.250	10.00	0	102	90	110	10.27	0.577	15	

Sample ID	22120556-012AMS	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 116419					
Client ID:	CCR-12	Batch ID: R116419	TestNo: E 300.0	Analysis Date: 12/30/2022	SeqNo: 2890447						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.24	0.0500	1.000	0	124	80	120				S

Qualifiers:

H Holding times for preparation or analysis exceeded
RL Reporting Limit
U Analyte not detected

M Matrix Interference
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as specified at testcode

ND Not Detected at the Reporting Limit
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 22120556
06-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Detection Monitoring

BatchID: R116419

Sample ID	22120556-012AMS	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 116419					
Client ID:	CCR-12	Batch ID: R116419	TestNo: E 300.0	Analysis Date: 12/30/2022	SeqNo: 2890447						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	20.1	0.250	5.000	13.63	129	80	120				S

Sample ID	22120556-012AMSD	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 116419					
Client ID:	CCR-12	Batch ID: R116419	TestNo: E 300.0	Analysis Date: 12/30/2022	SeqNo: 2890448						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.23	0.0500	1.000	0	123	80	120	1.237	0.785	15	S
Sulfate	20.1	0.250	5.000	13.63	129	80	120	20.10	0.0509	15	S

NOTES:

S - Spike recovery indicates matrix interference. The method is in control as indicated by the Lab Control Sample.

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Matrix Interference	ND	Not Detected at the Reporting Limit
RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits	SDL	Sample detection limit
U	Analyte not detected	W	Sample container temperature is out of limit as specified at testcode		



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Sample Log-In Check List

Client Name: **PIVOTAL_ENGINEERIN**

Work Order Number: **22120556**

RcptNo: **1**

Logged by: **Tammy Thibodeaux** **12/12/2022 6:00:00 AM**

Tammy Thibodeaux

Completed By: **Tammy Thibodeaux** **12/12/2022 7:24:27 AM**

Tammy Thibodeaux

Reviewed By: **Cristina Thibeaux** **12/16/2022 1:08:36 PM**

Cristina Thibeaux

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☒ Not Present ☐
2. How was the sample delivered? Drop Off Box

Log In

3. Coolers are present? Yes ☒ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☒ No ☐
Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☒
No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
6. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☒ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
10. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☒
12. Were any sample containers received broken? Yes ☐ No ☒
13. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
15. Is it clear what analyses were requested? Yes ☒ No ☐
16. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: Date
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Added year of collection to COC as per sample received.

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.5	Good	Not Present			
2	5.0	Good	Not Present			



- ☐ 2203 S. Madison St., Muncie, IN 47302
 765-747-9000/800-374-3563 Fax 765-747-0228
☐ 629 Washington St., Suite 300, Columbus, IN 47201
 812-375-0531 Fax 812-375-0531
☐ 5738 Industrial Rd., Fort Wayne, IN 46825
 219-471-7000 Fax 219-471-7777
- ☒ 2417 W. Pinhook Rd, Lafayette, LA 70508
 337-235-0483/800-737-2378
 Fax 337-233-6540
☐ 3445 S Sheridan, Tulsa, OK 74145
 918-828-9977/800-324-5757
 Fax 918-828-7756

Chain of Custody Record

Page 1 of 2

Client Name: Pivotal Engineering LLC

Contact Name: Terry Elnaggar

Phone/Fax: (504) 799-3653

Project: CCR Detection Monitoring

Sampler's Signature: *[Signature]*

Collection		Comp	Grab	Sample Identification / Description	Preserv.	Number / Type of Container	Matrix Code	Test Requested				Comments / Remarks
Date	Time							TDS	300: Cl, F, SO4	6010 metals*		
12/19/18	8:55	X		C C R - 1	None/ HNO3	2 Plastic	Aq	X	X	X		*6010 Metals: B, Ca
	9:50	X		C C R - 2	None/ HNO3	2 Plastic	Aq	X	X	X		
	10:35	X		C C R - 3	None/ HNO3	2 Plastic	Aq	X	X	X		
	11:25	X		C C R - 4	None/ HNO3	2 Plastic	Aq	X	X	X		
	12:10	X		C C R - 5	None/ HNO3	2 Plastic	Aq	X	X	X		
	12:55	X		C C R - 6	None/ HNO3	2 Plastic	Aq	X	X	X		
	13:30	X		C C R - 7	None/ HNO3	2 Plastic	Aq	X	X	X		
	14:10	X		C C R - 8	None/ HNO3	2 Plastic	Aq	X	X	X		
	14:55	X		C C R - 9	None/ HNO3	2 Plastic	Aq	X	X	X		
✓	15:35	X		C C R - 10	None/ HNO3	2 Plastic	Aq	X	X	X		

UPS / FedEx / Airborne / Element Hand / Mail

All samples submitted to Element Materials Technology for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the samples. Element Materials Technology reserves the right to return unused sample portions.

Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Date 12/11/18	Time 9:00 AM	Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Date 12/11/18	Time 9:00 AM
Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Date 12/11/18	Time 9:00 AM	Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Date 12/11/18	Time 9:00 AM

Shipping Conditions
☒ Iced 5:5
☐ Ambient 5:5
☐ 24-Hr.
☐ 48-Hr.
☐ Other

Container Types
 G = Glass
 P = Plastic
 V = Vial

Matrix Codes
 DW = Drinking Water AQ = Aqueous LIQ = Liquid
 GW = Ground Water O = Oil SLD = Solid
 WW = Waste Water SO = Soil SL = Sludge

Requested TAT
☐ 24-Hr.
☐ 48-Hr.
☒ Standard

Thank-you for using Element Materials Technology



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 918-828-9977/800324-5757
 Fax 918-828-7756

Chain of Custody Record

Page <u>2</u> of <u>2</u>		Laboratory Number <u>22120550</u>	
Client Name: Pivotal Engineering LLC		Project: CCR Detection Monitoring	
Contact Name: Terry Elhaggar		Sampler's Signature: <i>[Signature]</i>	
Phone/Fax: (504) 799-3653		Sample Identification / Description	
Collection Date	Time	Comp	Grab
12/9/11	1620	X	
12/9/11	1700	X	
12/11/11	1020	X	
12/11/11	1705	X	
12/11/11	1710	X	
12/11/11	1925	X	
12/11/11	1030	X	
Sample ID		Sample Description	
CCR-1	CCR-1	CCR-1	CCR-1
CCR-2	CCR-2	CCR-2	CCR-2
CCR-3	CCR-3	CCR-3	CCR-3
CCR-4	CCR-4	CCR-4	CCR-4
CCR-5	CCR-5	CCR-5	CCR-5
CCR-6	CCR-6	CCR-6	CCR-6
CCR-7	CCR-7	CCR-7	CCR-7
CCR-8	CCR-8	CCR-8	CCR-8
CCR-9	CCR-9	CCR-9	CCR-9
CCR-10	CCR-10	CCR-10	CCR-10
CCR-11	CCR-11	CCR-11	CCR-11
CCR-12	CCR-12	CCR-12	CCR-12
CCR-13	CCR-13	CCR-13	CCR-13
CCR-14	CCR-14	CCR-14	CCR-14
CCR-15	CCR-15	CCR-15	CCR-15
CCR-16	CCR-16	CCR-16	CCR-16
CCR-17	CCR-17	CCR-17	CCR-17
CCR-18	CCR-18	CCR-18	CCR-18
CCR-19	CCR-19	CCR-19	CCR-19
CCR-20	CCR-20	CCR-20	CCR-20
CCR-21	CCR-21	CCR-21	CCR-21
CCR-22	CCR-22	CCR-22	CCR-22
CCR-23	CCR-23	CCR-23	CCR-23
CCR-24	CCR-24	CCR-24	CCR-24
CCR-25	CCR-25	CCR-25	CCR-25
CCR-26	CCR-26	CCR-26	CCR-26
CCR-27	CCR-27	CCR-27	CCR-27
CCR-28	CCR-28	CCR-28	CCR-28
CCR-29	CCR-29	CCR-29	CCR-29
CCR-30	CCR-30	CCR-30	CCR-30
CCR-31	CCR-31	CCR-31	CCR-31
CCR-32	CCR-32	CCR-32	CCR-32
CCR-33	CCR-33	CCR-33	CCR-33
CCR-34	CCR-34	CCR-34	CCR-34
CCR-35	CCR-35	CCR-35	CCR-35
CCR-36	CCR-36	CCR-36	CCR-36
CCR-37	CCR-37	CCR-37	CCR-37
CCR-38	CCR-38	CCR-38	CCR-38
CCR-39	CCR-39	CCR-39	CCR-39
CCR-40	CCR-40	CCR-40	CCR-40
CCR-41	CCR-41	CCR-41	CCR-41
CCR-42	CCR-42	CCR-42	CCR-42
CCR-43	CCR-43	CCR-43	CCR-43
CCR-44	CCR-44	CCR-44	CCR-44
CCR-45	CCR-45	CCR-45	CCR-45
CCR-46	CCR-46	CCR-46	CCR-46
CCR-47	CCR-47	CCR-47	CCR-47
CCR-48	CCR-48	CCR-48	CCR-48
CCR-49	CCR-49	CCR-49	CCR-49
CCR-50	CCR-50	CCR-50	CCR-50
CCR-51	CCR-51	CCR-51	CCR-51
CCR-52	CCR-52	CCR-52	CCR-52
CCR-53	CCR-53	CCR-53	CCR-53
CCR-54	CCR-54	CCR-54	CCR-54
CCR-55	CCR-55	CCR-55	CCR-55
CCR-56	CCR-56	CCR-56	CCR-56
CCR-57	CCR-57	CCR-57	CCR-57
CCR-58	CCR-58	CCR-58	CCR-58
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CCR-60	CCR-60	CCR-60	CCR-60
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CCR-65	CCR-65	CCR-65	CCR-65
CCR-66	CCR-66	CCR-66	CCR-66
CCR-67	CCR-67	CCR-67	CCR-67
CCR-68	CCR-68	CCR-68	CCR-68
CCR-69	CCR-69	CCR-69	CCR-69
CCR-70	CCR-70	CCR-70	CCR-70
CCR-71	CCR-71	CCR-71	CCR-71
CCR-72	CCR-72	CCR-72	CCR-72
CCR-73	CCR-73	CCR-73	CCR-73
CCR-74	CCR-74	CCR-74	CCR-74
CCR-75	CCR-75	CCR-75	CCR-75
CCR-76	CCR-76	CCR-76	CCR-76
CCR-77	CCR-77	CCR-77	CCR-77
CCR-78	CCR-78	CCR-78	CCR-78
CCR-79	CCR-79	CCR-79	CCR-79
CCR-80	CCR-80	CCR-80	CCR-80
CCR-81	CCR-81	CCR-81	CCR-81
CCR-82	CCR-82	CCR-82	CCR-82
CCR-83	CCR-83	CCR-83	CCR-83
CCR-84	CCR-84	CCR-84	CCR-84
CCR-85	CCR-85	CCR-85	CCR-85
CCR-86	CCR-86	CCR-86	CCR-86
CCR-87	CCR-87	CCR-87	CCR-87
CCR-88	CCR-88	CCR-88	CCR-88
CCR-89	CCR-89	CCR-89	CCR-89
CCR-90	CCR-90	CCR-90	CCR-90
CCR-91	CCR-91	CCR-91	CCR-91
CCR-92	CCR-92	CCR-92	CCR-92
CCR-93	CCR-93	CCR-93	CCR-93
CCR-94	CCR-94	CCR-94	CCR-94
CCR-95	CCR-95	CCR-95	CCR-95
CCR-96	CCR-96	CCR-96	CCR-96
CCR-97	CCR-97	CCR-97	CCR-97
CCR-98	CCR-98	CCR-98	CCR-98
CCR-99	CCR-99	CCR-99	CCR-99
CCR-100	CCR-100	CCR-100	CCR-100

All samples submitted to Element Materials Technology for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the samples. Element Materials Technology reserves the right to return unused sample portions.		P.O. Number	
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
<i>[Signature]</i>	<i>[Signature]</i>	12/11	9:00 AM
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
<i>[Signature]</i>	<i>[Signature]</i>	12/11	9:00 AM
Matrix Codes	Container Types	Shipping Conditions	Requested TAT
DW = Drinking Water AQ = Aqueous LIQ = Liquid	G = Glass	☒ Iced <u>50</u>	☐ 24-Hr. ☐ 72-Hr.
GW = Ground Water O = Oil SLD = Solid	P = Plastic	Temp. <u>5.5</u>	☐ 48-Hr. ☒ Standard
WW = Waste Water SO = Soil	V = Vial	☐ Ambient	Other
Thank-you for using Element Materials Technology			



Element Materials Technology Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 235-0483 FAX: (337) 233-6540
Website: www.element.com

January 04, 2023

Terry Elnaggar
Pivotal Engineering LLC
1515 Poydras St., STE. 1875
New Orleans, LA 70112
TEL: (504) 799-3653
FAX

RE: CCR Assessment Monitoring

Order No.: 22120555

Dear Terry Elnaggar:

Element Materials Technology Lafayette received 16 sample(s) on 12/12/2022 for the analyses presented in the following report.

In accordance with your instructions, Element Lafayette either conducted or subcontracted these analyses. Subcontracted analyses will be identified in the accompanying case narrative. All relevant sampling information can be found on the attached Chain-of-Custody form. Unless otherwise noted, all analyses were conducted using EPA approved methodologies and all test results meet the applicable requirements of TNI. Reported results relate only to the items tested.

Where applicable, all soil data, except for 29-B, are reported on a wet-weight basis unless otherwise indicated in the units field as –dry.

LELAP Certification No.: 01997. TCEQ Certification No.: T104704261. MNELAP Certification No.: 2414959. LDHH Certification No.: LA023. ISDH Certification No.: C-LA-01. NDELCP Certification No.: R-226. A scope of accredited parameters is available upon request. A "#" by the test method or analyte indicates this parameter is outside the scope of accreditation. PA registration No.: 68-05967.

Estimated uncertainty is available upon request. This report shall not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions regarding these test results, please feel free to call.

A handwritten signature in blue ink, appearing to read 'Christine Johnson'.

Cristina Thibeaux
Customer Service Supervisor



Element Materials Technology Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 235-0483 FAX: (337) 233-6540
Website: www.element.com

Case Narrative

WO#: 22120555
Date: 1/4/2023

CLIENT: Pivotal Engineering LLC

Project: CCR Assessment Monitoring

Unless specified by the client, a duplicate or MS/MSD, wherever applicable, is randomly selected and analyzed from each analytical batch provided sample volume is sufficient. The sample chosen for duplicate or MS/MSD may or may not be a sample submitted in this workorder. A method blank and/or a lab control sample (LCS)/lab control sample duplicate (LCSD), wherever applicable, are processed as a quality control check for each analytical batch. When the matrix QC data is not available due to insufficient sample volume or when the results indicate possible matrix effect, the validity of the batch is determined by the method blank and LCS/LCSD.

The results of the laboratory internal quality control data are provided in the QC Summary Report section of the report for your review. Laboratory-related QC exceptions that may impact the validity of data are discussed in the case narrative. Sample-related QC exceptions are flagged either in the results page(s) or in the QC report page(s). End users should consider QC exceptions when evaluating sample data against data quality objectives.

Any other exceptions associated with this report will be footnoted in the results page(s) or the QC summary page(s).

The Lithium (6020A) analyses were subcontracted to SGS North American Inc - Scott. Their report is attached in its entirety.



Element Materials Technology Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 235-0483 FAX: (337) 233-6540
Website: www.element.com

Analytical Report

(consolidated)

WO#: 22120555

Date Reported: 1/4/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 8:55:00 AM
Project: CCR Assessment Monitoring
Lab ID: 22120555-001 **Matrix:** AQUEOUS
Client Sample ID: CCR-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: KML	
Mercury	< 0.000200	0.000200		mg/L	1	12/15/2022 4:30:58 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.326	0.0500		mg/L	1	12/30/2022 6:09:13 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.179	0.0100		mg/L	1	12/15/2022 3:47:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/15/2022 3:47:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/15/2022 3:47:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/15/2022 3:47:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/15/2022 3:47:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/15/2022 3:47:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/15/2022 3:47:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/15/2022 3:47:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/21/2022 12:45:09 PM
Arsenic	< 10.0	10.0		µg/L	1	12/21/2022 12:45:09 PM
Thallium	< 0.250	0.250		µg/L	1	12/21/2022 12:45:09 PM

Qualifiers: H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

(consolidated)

WO#: 22120555

Date Reported: 1/4/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 9:50:00 AM
Project: CCR Assessment Monitoring
Lab ID: 22120555-002 **Matrix:** AQUEOUS
Client Sample ID CCR-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: KML	
Mercury	< 0.000200	0.000200		mg/L	1	12/15/2022 4:34:15 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.390	0.0500		mg/L	1	12/30/2022 6:23:00 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.147	0.0100		mg/L	1	12/15/2022 3:50:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/15/2022 3:50:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/15/2022 3:50:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/15/2022 3:50:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/15/2022 3:50:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/15/2022 3:50:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/15/2022 3:50:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/15/2022 3:50:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/21/2022 12:47:59 PM
Arsenic	< 10.0	10.0		µg/L	1	12/21/2022 12:47:59 PM
Thallium	< 0.250	0.250		µg/L	1	12/21/2022 12:47:59 PM

Qualifiers: H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Lafayette, LA 70508-3344
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Analytical Report

(consolidated)

WO#: 22120555

Date Reported: 1/4/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 10:35:00 AM
Project: CCR Assessment Monitoring
Lab ID: 22120555-003 **Matrix:** AQUEOUS
Client Sample ID CCR-3

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: KML	
Mercury	< 0.000200	0.000200		mg/L	1	12/15/2022 4:37:32 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.425	0.0500		mg/L	1	12/30/2022 6:36:49 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.272	0.0100		mg/L	1	12/15/2022 3:52:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/15/2022 3:52:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/15/2022 3:52:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/15/2022 3:52:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/15/2022 3:52:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/15/2022 3:52:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/15/2022 3:52:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/15/2022 3:52:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/21/2022 12:50:46 PM
Arsenic	< 10.0	10.0		µg/L	1	12/21/2022 12:50:46 PM
Thallium	< 0.250	0.250		µg/L	1	12/21/2022 12:50:46 PM

Qualifiers:	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike Recovery outside accepted recovery limits
	SDL	Sample detection limit	U	Analyte not detected
	W	Sample container temperature is out of limit as specified at testcode		



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Analytical Report

(consolidated)

WO#: 22120555

Date Reported: 1/4/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 11:25:00 AM
Project: CCR Assessment Monitoring
Lab ID: 22120555-004 **Matrix:** AQUEOUS
Client Sample ID CCR-4

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: KML	
Mercury	< 0.000200	0.000200		mg/L	1	12/15/2022 4:40:49 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.258	0.0500		mg/L	1	12/30/2022 6:50:36 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.113	0.0100		mg/L	1	12/15/2022 3:54:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/15/2022 3:54:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/15/2022 3:54:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/15/2022 3:54:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/15/2022 3:54:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/15/2022 3:54:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/15/2022 3:54:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/15/2022 3:54:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/21/2022 12:53:34 PM
Arsenic	< 10.0	10.0		µg/L	1	12/21/2022 12:53:34 PM
Thallium	< 0.250	0.250		µg/L	1	12/21/2022 12:53:34 PM

Qualifiers: H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



Element Materials Technology Lafayette
2417 W. Pinhook Road
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TEL: (337) 235-0483 FAX: (337) 233-6540
Website: www.element.com

Analytical Report

(consolidated)

WO#: 22120555

Date Reported: 1/4/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 12:10:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22120555-005 **Matrix:** AQUEOUS
Client Sample ID CCR-5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: KML	
Mercury	< 0.000200	0.000200		mg/L	1	12/15/2022 4:44:06 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.291	0.0500		mg/L	1	12/30/2022 7:04:24 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.213	0.0100		mg/L	1	12/15/2022 3:56:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/15/2022 3:56:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/15/2022 3:56:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/15/2022 3:56:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/15/2022 3:56:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/15/2022 3:56:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/15/2022 3:56:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/15/2022 3:56:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/21/2022 12:56:21 PM
Arsenic	< 10.0	10.0		µg/L	1	12/21/2022 12:56:21 PM
Thallium	< 0.250	0.250		µg/L	1	12/21/2022 12:56:21 PM

Qualifiers: H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

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WO#: 22120555

Date Reported: 1/4/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 12:55:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22120555-006 **Matrix:** AQUEOUS
Client Sample ID CCR-6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: KML	
Mercury	< 0.000200	0.000200		mg/L	1	12/15/2022 4:54:29 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.306	0.0500		mg/L	1	12/30/2022 7:18:12 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.196	0.0100		mg/L	1	12/15/2022 3:59:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/15/2022 3:59:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/15/2022 3:59:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/15/2022 3:59:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/15/2022 3:59:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/15/2022 3:59:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/15/2022 3:59:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/15/2022 3:59:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/21/2022 12:59:09 PM
Arsenic	< 10.0	10.0		µg/L	1	12/21/2022 12:59:09 PM
Thallium	< 0.250	0.250		µg/L	1	12/21/2022 12:59:09 PM

Qualifiers: H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

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WO#: 22120555

Date Reported: 1/4/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 1:30:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22120555-007 **Matrix:** AQUEOUS
Client Sample ID CCR-7

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL					SW7470A	Analyst: KML
Mercury	< 0.000200	0.000200		mg/L	1	12/15/2022 4:58:16 PM
INORGANIC ANIONS IN WATER BY IC					E 300.0	Analyst: BXB
Fluoride	0.315	0.0500		mg/L	1	12/30/2022 7:31:59 PM
METALS IN WATER BY ICP, TOTALS					SW6010B	Analyst: MRM
Barium	0.218	0.0100		mg/L	1	12/15/2022 4:01:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/15/2022 4:01:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/15/2022 4:01:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/15/2022 4:01:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/15/2022 4:01:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/15/2022 4:01:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/15/2022 4:01:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/15/2022 4:01:00 PM
METALS IN WATER BY ICP-MS, TOTAL					SW6020A	Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	12/21/2022 1:01:57 PM
Arsenic	< 10.0	10.0		µg/L	1	12/21/2022 1:01:57 PM
Thallium	< 0.250	0.250		µg/L	1	12/21/2022 1:01:57 PM

Qualifiers: H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
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Analytical Report

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WO#: 22120555

Date Reported: 1/4/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 2:10:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22120555-008 **Matrix:** AQUEOUS
Client Sample ID CCR-8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: KML	
Mercury	< 0.000200	0.000200		mg/L	1	12/15/2022 5:02:04 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.202	0.0500		mg/L	1	12/30/2022 7:45:47 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.111	0.0100		mg/L	1	12/15/2022 4:03:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/15/2022 4:03:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/15/2022 4:03:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/15/2022 4:03:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/15/2022 4:03:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/15/2022 4:03:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/15/2022 4:03:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/15/2022 4:03:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/21/2022 1:04:45 PM
Arsenic	< 10.0	10.0		µg/L	1	12/21/2022 1:04:45 PM
Thallium	< 0.250	0.250		µg/L	1	12/21/2022 1:04:45 PM

Qualifiers: H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

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WO#: 22120555

Date Reported: 1/4/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 2:55:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22120555-009 **Matrix:** AQUEOUS
Client Sample ID CCR-9

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL			SW7470A		Analyst: KML	
Mercury	< 0.000200	0.000200		mg/L	1	12/15/2022 5:05:52 PM
INORGANIC ANIONS IN WATER BY IC			E 300.0		Analyst: BXB	
Fluoride	0.585	0.0500		mg/L	1	12/30/2022 7:59:34 PM
METALS IN WATER BY ICP, TOTALS			SW6010B		Analyst: MRM	
Barium	0.226	0.0100		mg/L	1	12/15/2022 4:06:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/15/2022 4:06:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/15/2022 4:06:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/15/2022 4:06:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/15/2022 4:06:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/15/2022 4:06:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/15/2022 4:06:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/15/2022 4:06:00 PM
METALS IN WATER BY ICP-MS, TOTAL			SW6020A		Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/21/2022 1:18:47 PM
Arsenic	< 10.0	10.0		µg/L	1	12/21/2022 1:18:47 PM
Thallium	< 0.250	0.250		µg/L	1	12/21/2022 1:18:47 PM

Qualifiers: H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
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S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

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WO#: 22120555

Date Reported: 1/4/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 3:35:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22120555-010 **Matrix:** AQUEOUS
Client Sample ID: CCR-10

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: KML	
Mercury	< 0.000200	0.000200		mg/L	1	12/15/2022 5:09:09 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.533	0.500		mg/L	10	12/13/2022 7:37:30 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.240	0.0100		mg/L	1	12/15/2022 4:12:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/15/2022 4:12:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/15/2022 4:12:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/15/2022 4:12:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/15/2022 4:12:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/15/2022 4:12:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/15/2022 4:12:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/15/2022 4:12:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/21/2022 1:21:37 PM
Arsenic	< 10.0	10.0		µg/L	1	12/21/2022 1:21:37 PM
Thallium	< 0.250	0.250		µg/L	1	12/21/2022 1:21:37 PM

Qualifiers: H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

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WO#: 22120555

Date Reported: 1/4/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 4:20:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22120555-011 **Matrix:** AQUEOUS
Client Sample ID CCR-11

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: KML	
Mercury	< 0.000200	0.000200		mg/L	1	12/15/2022 5:12:57 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.626	0.500		mg/L	10	12/13/2022 7:51:17 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.153	0.0100		mg/L	1	12/15/2022 4:15:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/15/2022 4:15:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/15/2022 4:15:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/15/2022 4:15:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/15/2022 4:15:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/15/2022 4:15:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/15/2022 4:15:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/15/2022 4:15:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/21/2022 1:24:25 PM
Arsenic	< 10.0	10.0		µg/L	1	12/21/2022 1:24:25 PM
Thallium	< 0.250	0.250		µg/L	1	12/21/2022 1:24:25 PM

Qualifiers: H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

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WO#: 22120555

Date Reported: 1/4/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/9/2022 5:00:00 PM
Project: CCR Assessment Monitoring
Lab ID: 22120555-012 **Matrix:** AQUEOUS
Client Sample ID CCR-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A		Analyst: KML
Mercury	< 0.000200	0.000200		mg/L	1	12/15/2022 4:16:47 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: BXB
Fluoride	0.158	0.0500		mg/L	1	12/30/2022 8:40:57 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: MRM
Barium	0.191	0.0100		mg/L	1	12/15/2022 4:17:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/15/2022 4:17:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/15/2022 4:17:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/15/2022 4:17:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/15/2022 4:17:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/15/2022 4:17:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/15/2022 4:17:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/15/2022 4:17:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	12/21/2022 1:27:12 PM
Arsenic	< 10.0	10.0		µg/L	1	12/21/2022 1:27:12 PM
Thallium	< 0.250	0.250		µg/L	1	12/21/2022 1:27:12 PM

Qualifiers: H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

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WO#: 22120555

Date Reported: 1/4/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/11/2022 9:20:00 AM
Project: CCR Assessment Monitoring
Lab ID: 22120555-013 **Matrix:** AQUEOUS
Client Sample ID CCR-13

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL			SW7470A		Analyst: KML	
Mercury	< 0.000200	0.000200		mg/L	1	12/15/2022 5:16:17 PM
INORGANIC ANIONS IN WATER BY IC			E 300.0		Analyst: BXB	
Fluoride	0.251	0.0500		mg/L	1	12/30/2022 9:22:18 PM
METALS IN WATER BY ICP, TOTALS			SW6010B		Analyst: MRM	
Barium	0.0972	0.0100		mg/L	1	12/15/2022 4:24:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/15/2022 4:24:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/15/2022 4:24:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/15/2022 4:24:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/15/2022 4:24:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/15/2022 4:24:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/15/2022 4:24:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/15/2022 4:24:00 PM
METALS IN WATER BY ICP-MS, TOTAL			SW6020A		Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/21/2022 1:38:23 PM
Arsenic	< 10.0	10.0		µg/L	1	12/21/2022 1:38:23 PM
Thallium	< 0.250	0.250		µg/L	1	12/21/2022 1:38:23 PM

Qualifiers: H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

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WO#: 22120555

Date Reported: 1/4/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/11/2022 10:20:00 AM
Project: CCR Assessment Monitoring
Lab ID: 22120555-014 **Matrix:** AQUEOUS
Client Sample ID CCR-14

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: KML	
Mercury	< 0.000200	0.000200		mg/L	1	12/15/2022 5:19:33 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.207	0.0500		mg/L	1	12/30/2022 9:36:07 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.0802	0.0100		mg/L	1	12/15/2022 4:26:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/15/2022 4:26:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/15/2022 4:26:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/15/2022 4:26:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/15/2022 4:26:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/15/2022 4:26:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/15/2022 4:26:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/15/2022 4:26:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/21/2022 1:41:11 PM
Arsenic	< 10.0	10.0		µg/L	1	12/21/2022 1:41:11 PM
Thallium	< 0.250	0.250		µg/L	1	12/21/2022 1:41:11 PM

Qualifiers: H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Website: www.element.com

Analytical Report

(consolidated)

WO#: 22120555

Date Reported: 1/4/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/11/2022 9:25:00 AM
Project: CCR Assessment Monitoring
Lab ID: 22120555-015 **Matrix:** AQUEOUS
Client Sample ID Duplicate

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: KML	
Mercury	< 0.000200	0.000200		mg/L	1	12/15/2022 5:22:50 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.244	0.0500		mg/L	1	12/30/2022 9:49:53 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: MRM	
Barium	0.0944	0.0100		mg/L	1	12/15/2022 4:28:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/15/2022 4:28:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/15/2022 4:28:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/15/2022 4:28:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/15/2022 4:28:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/15/2022 4:28:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/15/2022 4:28:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/15/2022 4:28:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/21/2022 1:43:58 PM
Arsenic	< 10.0	10.0		µg/L	1	12/21/2022 1:43:58 PM
Thallium	< 0.250	0.250		µg/L	1	12/21/2022 1:43:58 PM

Qualifiers: H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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Analytical Report

(consolidated)

WO#: 22120555

Date Reported: 1/4/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/11/2022 10:30:00 AM
Project: CCR Assessment Monitoring
Lab ID: 22120555-016 **Matrix:** AQUEOUS
Client Sample ID Field Blank

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL					SW7470A	Analyst: KML
Mercury	< 0.000200	0.000200		mg/L	1	12/15/2022 5:26:07 PM
INORGANIC ANIONS IN WATER BY IC					E 300.0	Analyst: BXB
Fluoride	< 0.0500	0.0500		mg/L	1	12/13/2022 9:55:24 PM
METALS IN WATER BY ICP, TOTALS					SW6010B	Analyst: MRM
Barium	< 0.0100	0.0100		mg/L	1	12/15/2022 4:31:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/15/2022 4:31:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/15/2022 4:31:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/15/2022 4:31:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/15/2022 4:31:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/15/2022 4:31:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/15/2022 4:31:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/15/2022 4:31:00 PM
METALS IN WATER BY ICP-MS, TOTAL					SW6020A	Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	12/21/2022 1:58:00 PM
Arsenic	< 10.0	10.0		µg/L	1	12/21/2022 1:58:00 PM
Thallium	< 0.250	0.250		µg/L	1	12/21/2022 1:58:00 PM

Qualifiers: H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
RL Reporting Limit
SDL Sample detection limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits
U Analyte not detected



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QC SUMMARY REPORT

WO#: 22120555
04-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 46207

Sample ID	MB-46207	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	115977	
Client ID:	PBW	Batch ID:	46207	TestNo:	SW6010B			Analysis Date:	12/15/2022	SeqNo:	2876198	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium		< 0.0100	0.0100									
Beryllium		< 0.00100	0.00100									
Cadmium		< 0.00500	0.00500									
Chromium		< 0.0100	0.0100									
Cobalt		< 0.0100	0.0100									
Lead		< 0.0100	0.0100									
Molybdenum		< 0.0100	0.0100									
Selenium		< 0.0200	0.0200									

Sample ID	LCS-46207	SampType: LCS	TestCode: 6010_W	Units: mg/L	Prep Date: 12/13/2022	RunNo: 115977					
Client ID:	LCSW	Batch ID: 46207	TestNo: SW6010B		Analysis Date: 12/15/2022	SeqNo: 2876199					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.454	0.0100	0.5000	0	90.8	80	120				
Beryllium	0.463	0.00100	0.5000	0	92.6	80	120				
Cadmium	0.451	0.00500	0.5000	0	90.1	80	120				
Chromium	0.455	0.0100	0.5000	0	90.9	80	120				
Cobalt	0.459	0.0100	0.5000	0	91.8	80	120				
Lead	0.442	0.0100	0.5000	0	88.5	80	120				
Molybdenum	0.449	0.0100	0.5000	0	89.8	80	120				
Selenium	0.424	0.0200	0.5000	0	84.9	80	120				

Qualifiers:
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit

M Matrix Interference
RL Reporting Limit
U Analyte not detected

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



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QC SUMMARY REPORT

WO#: 22120555
04-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 46207

Sample ID	LCSD-46207	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	115977
Client ID:	LCSS02	Batch ID:	46207	TestNo:	SW6010B			Analysis Date:	12/15/2022	SeqNo:	2876200
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.473	0.0100	0.5000	0	94.6	80	120	0.4540	4.06	20	
Beryllium	0.479	0.00100	0.5000	0	95.8	80	120	0.4632	3.38	20	
Cadmium	0.470	0.00500	0.5000	0	93.9	80	120	0.4505	4.14	20	
Chromium	0.472	0.0100	0.5000	0	94.4	80	120	0.4546	3.74	20	
Cobalt	0.479	0.0100	0.5000	0	95.8	80	120	0.4591	4.27	20	
Lead	0.462	0.0100	0.5000	0	92.3	80	120	0.4423	4.26	20	
Molybdenum	0.465	0.0100	0.5000	0	93.0	80	120	0.4492	3.50	20	
Selenium	0.437	0.0200	0.5000	0	87.4	80	120	0.4245	2.92	20	

Sample ID	22120555-012BMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	115977
Client ID:	CCR-12	Batch ID:	46207	TestNo:	SW6010B			Analysis Date:	12/15/2022	SeqNo:	2876232
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.665	0.0100	0.5000	0.1914	94.6	75	125				
Beryllium	0.487	0.00100	0.5000	0	97.4	75	125				
Cadmium	0.475	0.00500	0.5000	0	95.1	75	125				
Chromium	0.480	0.0100	0.5000	0	96.0	75	125				
Cobalt	0.480	0.0100	0.5000	0	95.9	75	125				
Lead	0.467	0.0100	0.5000	0	93.4	75	125				
Molybdenum	0.467	0.0100	0.5000	0	93.3	75	125				
Selenium	0.445	0.0200	0.5000	0	88.9	75	125				

Qualifiers: H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit

M Matrix Interference
RL Reporting Limit
U Analyte not detected

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



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QC SUMMARY REPORT

WO#: 22120555
04-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 46207

Sample ID	22120555-012BMSD	SampType:	MSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	115977
Client ID:	CCR-12	Batch ID:	46207	TestNo:	SW6010B			Analysis Date:	12/15/2022	SeqNo:	2876233
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.670	0.0100	0.5000	0.1914	95.7	75	125	0.6646	0.827	20	
Beryllium	0.493	0.00100	0.5000	0	98.5	75	125	0.4868	1.17	20	
Cadmium	0.480	0.00500	0.5000	0	96.1	75	125	0.4754	1.02	20	
Chromium	0.483	0.0100	0.5000	0	96.6	75	125	0.4802	0.571	20	
Cobalt	0.484	0.0100	0.5000	0	96.7	75	125	0.4796	0.843	20	
Lead	0.472	0.0100	0.5000	0	94.5	75	125	0.4669	1.17	20	
Molybdenum	0.470	0.0100	0.5000	0	94.0	75	125	0.4667	0.654	20	
Selenium	0.453	0.0200	0.5000	0	90.6	75	125	0.4446	1.88	20	

Qualifiers:
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit

M Matrix Interference
RL Reporting Limit
U Analyte not detected

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S Spike Recovery outside accepted recovery limits
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QC SUMMARY REPORT

WO#: 22120555
04-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 46208

Sample ID	MB-46208	SampType:	MBLK	TestCode:	6020A_W	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	116161			
Client ID:	PBW	Batch ID:	46208	TestNo:	SW6020A			Analysis Date:	12/21/2022	SeqNo:	2881871			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony		< 0.250		0.250										
Arsenic		< 0.250		0.250										
Thallium		< 0.250		0.250										

Sample ID	LCS-46208	SampType:	LCS	TestCode:	6020A_W	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	116161			
Client ID:	LCSW	Batch ID:	46208	TestNo:	SW6020A			Analysis Date:	12/21/2022	SeqNo:	2881872			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony		488		5.00	500.0	0		97.6	80	120				
Arsenic		497		5.00	500.0	0		99.4	80	120				
Thallium		482		5.00	500.0	0		96.5	80	120				

Sample ID	LCSD-46208	SampType:	LCSD	TestCode:	6020A_W	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	116161			
Client ID:	LCSS02	Batch ID:	46208	TestNo:	SW6020A			Analysis Date:	12/21/2022	SeqNo:	2881873			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony		495		5.00	500.0	0		98.9	80	120	488.0	1.37	20	
Arsenic		506		5.00	500.0	0		101	80	120	497.2	1.66	20	
Thallium		494		5.00	500.0	0		98.7	80	120	482.3	2.35	20	

Qualifiers: H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit

M Matrix Interference
RL Reporting Limit
U Analyte not detected

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



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QC SUMMARY REPORT

WO#: 22120555
04-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 46208

Sample ID	22120555-012BMS	SampType: MS	TestCode: 6020A_W	Units: µg/L	Prep Date: 12/13/2022	RunNo: 116161					
Client ID:	CCR-12	Batch ID: 46208	TestNo: SW6020A	Analysis Date: 12/21/2022	SeqNo: 2881896						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	511	5.00	500.0	0	102	75	125				
Arsenic	519	5.00	500.0	0.8274	104	75	125				
Thallium	495	5.00	500.0	0	98.9	75	125				

Sample ID	22120555-012BMSD	SampType: MSD	TestCode: 6020A_W	Units: µg/L	Prep Date: 12/13/2022	RunNo: 116161					
Client ID:	CCR-12	Batch ID: 46208	TestNo: SW6020A	Analysis Date: 12/21/2022	SeqNo: 2881897						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	515	5.00	500.0	0	103	75	125	510.9	0.866	20	
Arsenic	524	5.00	500.0	0.8274	105	75	125	519.1	0.957	20	
Thallium	494	5.00	500.0	0	98.8	75	125	494.6	0.130	20	

Qualifiers:
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit

M Matrix Interference
RL Reporting Limit
U Analyte not detected

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



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QC SUMMARY REPORT

WO#: 22120555
04-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 46242

Sample ID	MB-46242	SampType:	MBLK	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	12/15/2022	RunNo:	115959			
Client ID:	PBW	Batch ID:	46242	TestNo:	SW7470A			Analysis Date:	12/15/2022	SeqNo:	2875641			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		< 0.000200		0.000200										

Sample ID	LCS-46242	SampType:	LCS	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	12/15/2022	RunNo:	115959	
Client ID:	LCSW	Batch ID:	46242	TestNo:	SW7470A			Analysis Date:	12/15/2022	SeqNo:	2875642	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.0108	0.000200	0.01000	0	108	80	120				

Sample ID	LCSD-46242	SampType:	LCSD	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	12/15/2022	RunNo:	115959	
Client ID:	LCSS02	Batch ID:	46242	TestNo:	SW7470A			Analysis Date:	12/15/2022	SeqNo:	2875645	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.0108	0.000200	0.01000	0	108	80	120	0.01085	0.00690	20	

Sample ID	22120555-012BMS	SampType: MS	TestCode: HG_W_7470	Units: mg/L	Prep Date: 12/15/2022	RunNo: 115959					
Client ID: CCR-12	Batch ID: 46242	TestNo: SW7470A	Analysis Date: 12/15/2022	SeqNo: 2875648							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0106	0.000200	0.01000	0.00007523	106	75	125				

Qualifiers:
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit

M Matrix Interference
RL Reporting Limit
U Analyte not detected

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



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QC SUMMARY REPORT

WO#: 22120555
04-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 46242

Sample ID	22120555-012BMSD	SampType: MSD	TestCode: HG_W_7470		Units: mg/L	Prep Date: 12/15/2022				RunNo: 115959		
Client ID:	CCR-12	Batch ID: 46242	TestNo: SW7470A			Analysis Date: 12/15/2022				SeqNo: 2875649		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.0107	0.000200	0.01000	0.00007523	106	75	125	0.01063	0.845	20	

Qualifiers:

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit

M Matrix Interference
RL Reporting Limit
U Analyte not detected

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



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QC SUMMARY REPORT

WO#: 22120555
04-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R115882

Sample ID	mblk	SampType: MBLK	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 115882					
Client ID: PBW	Batch ID: R115882	TestNo: E 300.0	Analysis Date: 12/13/2022	SeqNo: 2873696							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	< 0.0500	0.0500									

Sample ID	Ics	SampType: LCS	TestCode: 300.0		Units: mg/L	Prep Date:				RunNo: 115882		
Client ID:	LCSW	Batch ID: R115882	TestNo: E 300.0			Analysis Date: 12/13/2022				SeqNo: 2873697		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		2.03	0.0500	2.000	0	102	90	110				

Sample ID	Icsd	SampType: LCSD	TestCode: 300.0		Units: mg/L		Prep Date:			RunNo: 115882		
Client ID:	LCSS02	Batch ID: R115882	TestNo: E 300.0		Analysis Date: 12/13/2022				SeqNo: 2873698			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		2.04	0.0500	2.000	0	102	90	110	2.033	0.320	15	

Sample ID	22120555-012AMS	SampType:	MS	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	115882	
Client ID:	CCR-12	Batch ID:	R115882	TestNo:	E 300.0			Analysis Date:	12/13/2022	SeqNo:	2873713	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		5.16	0.250	5.000	0	103	80	120				

Qualifiers:
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit

M Matrix Interference
RL Reporting Limit
U Analyte not detected

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



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QC SUMMARY REPORT

WO#: 22120555
04-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R115882

Sample ID	22120555-012AMSD	SampType: MSD	TestCode: 300.0		Units: mg/L		Prep Date:			RunNo: 115882		
Client ID:	CCR-12	Batch ID: R115882	TestNo: E 300.0		Analysis Date: 12/13/2022				SeqNo: 2873714			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		5.19	0.250	5.000	0	104	80	120	5.162	0.538	15	

Sample ID	22120555-016AMS	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 115882					
Client ID: Field Blank	Batch ID: R115882	TestNo: E 300.0	Analysis Date: 12/13/2022	SeqNo: 2873721							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.01	0.0500	1.000	0	101	80	120				

Sample ID	22120555-016AMSD	SampType: MSD	TestCode: 300.0		Units: mg/L		Prep Date:			RunNo: 115882		
Client ID:	Field Blank	Batch ID: R115882	TestNo: E 300.0		Analysis Date: 12/13/2022				SeqNo: 2873722			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		1.03	0.0500	1.000	0	103	80	120	1.008	2.25	15	

Qualifiers: H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit

M Matrix Interference
RL Reporting Limit
U Analyte not detected

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



Element Materials Technology Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 235-0483 FAX: (337) 233-6540
Website: www.element.com

QC SUMMARY REPORT

WO#: 22120555
04-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R116418

Sample ID	mblk	SampType:	MBLK	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	116418
Client ID:	PBW	Batch ID:	R116418	TestNo:	E 300.0			Analysis Date:	12/30/2022	SeqNo:	2890371
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Fluoride		< 0.0500		0.0500							

Sample ID	lcs	SampType:	LCS	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	116418
Client ID:	LCSW	Batch ID:	R116418	TestNo:	E 300.0			Analysis Date:	12/30/2022	SeqNo:	2890372
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Fluoride		2.10		0.0500	2.000	0	105	90	110		

Sample ID	lcsd	SampType:	LCSD	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	116418
Client ID:	LCSS02	Batch ID:	R116418	TestNo:	E 300.0			Analysis Date:	12/30/2022	SeqNo:	2890373
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Fluoride		2.12		0.0500	2.000	0	106	90	110	2.103	0.660 15

Sample ID	22120555-012ams	SampType:	MS	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	116418
Client ID:	CCR-12	Batch ID:	R116418	TestNo:	E 300.0			Analysis Date:	12/30/2022	SeqNo:	2890386
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Fluoride		1.24		0.0500	1.000	0	124	80	120		S

Qualifiers:
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit

M Matrix Interference
RL Reporting Limit
U Analyte not detected

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



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QC SUMMARY REPORT

WO#: 22120555
04-Jan-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R116418

Sample ID	22120555-012amsd	SampType: MSD	TestCode: 300.0		Units: mg/L	Prep Date:				RunNo: 116418		
Client ID:	CCR-12	Batch ID: R116418	TestNo: E 300.0		Analysis Date: 12/30/2022				SeqNo: 2890387			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		1.23	0.0500	1.000	0	123	80	120	1.237	0.785	15	S

NOTES:

S - Spike recovery indicates matrix interference. The method is in control as indicated by the Lab Control Sample.

Qualifiers:

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit

M Matrix Interference
RL Reporting Limit
U Analyte not detected

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits
W Sample container temperature is out of limit as sp



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Sample Log-In Check List

Client Name: **PIVOTAL_ENGINEERIN**

Work Order Number: **22120555**

RcptNo: **1**

Logged by: **Tammy Thibodeaux** **12/12/2022 6:00:00 AM**

Completed By: **Tammy Thibodeaux** **12/12/2022 6:43:44 AM**

Reviewed By: **Cristina Thibeaux** **12/16/2022 1:06:18 PM**

Tammy Thibodeaux
Tammy Thibodeaux
Cristina Thibeaux

Chain of Custody

1. Is Chain of Custody complete? Yes ☐ No ☒ Not Present ☐
2. How was the sample delivered? Drop Off Box

Log In

3. Coolers are present? Yes ☒ No ☐ NA ☐
4. Shipping container/cooler in good condition? Yes ☒ No ☐
Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☒
No. Seal Date: Signed By:
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
6. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☒ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
10. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes ☐ No ☐ No VOA Vials ☒
12. Were any sample containers received broken? Yes ☐ No ☒
13. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
15. Is it clear what analyses were requested? Yes ☒ No ☐
16. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: Date
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

18. Additional remarks:

Added year of collection to COC as per sample received.

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.5	Good	Not Present			
2	5.0	Good	Not Present			

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Element Materials Technology

Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA
22120555

SGS Job Number: LA86065

Sampling Dates: 12/09/22 - 12/11/22

Report to:

Element Materials Technology
2417 West Pinhook Rd
Lafayette, LA 70508
annie.reedy@element.com; rhonda.david@element.com;
cristina.thibeaux@element.com; buffy.hudson@element.com;
ATTN: Annie Reedy

Total number of pages in report: 40



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Ron Benjamin
Lab Director

Client Service contact: Ralph Frye 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-18-16), WV(257)

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Test results relate only to samples analyzed.



December 16, 2022

Element Materials Technology
2417 West Pinhook Rd
Lafayette, LA 70508

RE: SGS Job #LA86065
22120555

The final report for SGS job number above has been edited to reflect changes to your data package. These edits have been incorporated into the revised report which is attached.

The sample ID's have been corrected to reflect CCR.

Our apologies for any inconvenience the above issue may have caused you. Please contact me at 337-237-4775 if I may be of further assistance in this matter, or if you have any further questions regarding this data report.

Sincerely,

Ralph Frye
Environment, Health and Safety
Project Manager
SGS Accutest

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Sample Summary

Element Materials Technology

Job No: LA86065

Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

Project No: 22120555

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
LA86065-1	12/09/22	08:55	12/12/22	AQ	Water	CCR-1 22120555-001C
LA86065-2	12/09/22	09:50	12/12/22	AQ	Water	CCR-2 22120555-002C
LA86065-3	12/09/22	10:35	12/12/22	AQ	Water	CCR-3 22120555-003C
LA86065-4	12/09/22	11:25	12/12/22	AQ	Water	CCR-4 22120555-004C
LA86065-5	12/09/22	12:10	12/12/22	AQ	Water	CCR-5 22120555-005C
LA86065-6	12/09/22	12:55	12/12/22	AQ	Water	CCR-6 22120555-006C
LA86065-7	12/09/22	13:30	12/12/22	AQ	Water	CCR-7 22120555-007C
LA86065-8	12/09/22	14:10	12/12/22	AQ	Water	CCR-8 22120555-008C
LA86065-9	12/09/22	14:55	12/12/22	AQ	Water	CCR-9 22120555-009C
LA86065-10	12/09/22	15:35	12/12/22	AQ	Water	CCR-10 22120555-010C
LA86065-11	12/09/22	16:20	12/12/22	AQ	Water	CCR-11 22120555-011C
LA86065-12	12/09/22	17:00	12/12/22	AQ	Water	CCR-12 22120555-012C
LA86065-12D	12/09/22	17:00	12/12/22	AQ	Water Dup/MSD	CCR-12 22120555-012C



Sample Summary
(continued)

Element Materials Technology

Job No: LA86065

Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA
Project No: 22120555

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
LA86065-12S	12/09/22	17:00	12/12/22	AQ	Water Matrix Spike	CCR-12 22120555-012C
LA86065-13	12/11/22	09:20	12/12/22	AQ	Water	CCR-13 22120555-013C
LA86065-14	12/11/22	10:20	12/12/22	AQ	Water	CCR-14 22120555-014C
LA86065-15	12/11/22	09:25	12/12/22	AQ	Water	DUPLICATE 22120555-015C
LA86065-16	12/11/22	10:30	12/12/22	AQ	Water	FIELD BLANK 22120555-016C

Summary of Hits

Page 1 of 2

Job Number: LA86065

Account: Element Materials Technology

Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

Collected: 12/09/22 thru 12/11/22

2

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
LA86065-1	CCR-1 22120555-001C					
Lithium		0.0201	0.0020		mg/l	SW846 6020A
LA86065-2	CCR-2 22120555-002C					
Lithium		0.0202	0.0020		mg/l	SW846 6020A
LA86065-3	CCR-3 22120555-003C					
Lithium		0.0242	0.0020		mg/l	SW846 6020A
LA86065-4	CCR-4 22120555-004C					
Lithium		0.0159	0.0020		mg/l	SW846 6020A
LA86065-5	CCR-5 22120555-005C					
Lithium		0.0183	0.0020		mg/l	SW846 6020A
LA86065-6	CCR-6 22120555-006C					
Lithium		0.0124	0.0020		mg/l	SW846 6020A
LA86065-7	CCR-7 22120555-007C					
Lithium		0.0102	0.0020		mg/l	SW846 6020A
LA86065-8	CCR-8 22120555-008C					
Lithium		0.0328	0.0020		mg/l	SW846 6020A
LA86065-9	CCR-9 22120555-009C					
Lithium		0.0094	0.0020		mg/l	SW846 6020A
LA86065-10	CCR-10 22120555-010C					
Lithium		0.0084	0.0020		mg/l	SW846 6020A
LA86065-11	CCR-11 22120555-011C					
Lithium		0.0073	0.0020		mg/l	SW846 6020A

Summary of Hits

Page 2 of 2

Job Number: LA86065
Account: Element Materials Technology
Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA
Collected: 12/09/22 thru 12/11/22

2

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
LA86065-12	CCR-12 22120555-012C					
Lithium		0.0236	0.0020		mg/l	SW846 6020A
LA86065-13	CCR-13 22120555-013C					
Lithium		0.0147	0.0020		mg/l	SW846 6020A
LA86065-14	CCR-14 22120555-014C					
Lithium		0.0139	0.0020		mg/l	SW846 6020A
LA86065-15	DUPLICATE 22120555-015C					
Lithium		0.0166	0.0020		mg/l	SW846 6020A
LA86065-16	FIELD BLANK 22120555-016C					

No hits reported in this sample.



Scott, LA

Section 3



Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	CCR-1 22120555-001C	Date Sampled:	12/09/22
Lab Sample ID:	LA86065-1	Date Received:	12/12/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	0.0201	0.0020	mg/l	1	12/13/22	12/15/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA25156
(2) Prep QC Batch: MP25551

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CCR-2 22120555-002C	Date Sampled:	12/09/22
Lab Sample ID:	LA86065-2	Date Received:	12/12/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	0.0202	0.0020	mg/l	1	12/13/22	12/15/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA25156

(2) Prep QC Batch: MP25551

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3

3

Client Sample ID:	CCR-3 22120555-003C	Date Sampled:	12/09/22
Lab Sample ID:	LA86065-3	Date Received:	12/12/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	0.0242	0.0020	mg/l	1	12/13/22	12/15/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA25156

(2) Prep QC Batch: MP25551

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.4
3

Client Sample ID:	CCR-4 2120555-004C	Date Sampled:	12/09/22
Lab Sample ID:	LA86065-4	Date Received:	12/12/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	0.0159	0.0020	mg/l	1	12/13/22	12/15/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA25156

(2) Prep QC Batch: MP25551

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CCR-5 22120555-005C	Date Sampled:	12/09/22
Lab Sample ID:	LA86065-5	Date Received:	12/12/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	0.0183	0.0020	mg/l	1	12/13/22	12/15/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA25156

(2) Prep QC Batch: MP25551

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CCR-6 22120555-006C	Date Sampled:	12/09/22
Lab Sample ID:	LA86065-6	Date Received:	12/12/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	0.0124	0.0020	mg/l	1	12/13/22	12/15/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA25156
(2) Prep QC Batch: MP25551

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CCR-7 22120555-007C	Date Sampled:	12/09/22
Lab Sample ID:	LA86065-7	Date Received:	12/12/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	0.0102	0.0020	mg/l	1	12/13/22	12/15/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA25156
(2) Prep QC Batch: MP25551

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.8

3

Client Sample ID:	CCR-8 22120555-008C	Date Sampled:	12/09/22
Lab Sample ID:	LA86065-8	Date Received:	12/12/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	0.0328	0.0020	mg/l	1	12/13/22	12/15/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA25156

(2) Prep QC Batch: MP25551

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.9

3

Client Sample ID:	CCR-9 22120555-009C	Date Sampled:	12/09/22
Lab Sample ID:	LA86065-9	Date Received:	12/12/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	0.0094	0.0020	mg/l	1	12/13/22	12/15/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA25156

(2) Prep QC Batch: MP25551

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CCR-10 22120555-010C	Date Sampled:	12/09/22
Lab Sample ID:	LA86065-10	Date Received:	12/12/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	0.0084	0.0020	mg/l	1	12/13/22	12/15/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA25156

(2) Prep QC Batch: MP25551

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CCR-11 22120555-011C	Date Sampled:	12/09/22
Lab Sample ID:	LA86065-11	Date Received:	12/12/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	0.0073	0.0020	mg/l	1	12/13/22	12/15/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA25156
(2) Prep QC Batch: MP25551

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CCR-12 22120555-012C	Date Sampled:	12/09/22
Lab Sample ID:	LA86065-12	Date Received:	12/12/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	0.0236	0.0020	mg/l	1	12/13/22	12/15/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA25156
(2) Prep QC Batch: MP25551

RL = Reporting Limit

Report of Analysis

Client Sample ID:	CCR-13 22120555-013C	Date Sampled:	12/11/22
Lab Sample ID:	LA86065-13	Date Received:	12/12/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	0.0147	0.0020	mg/l	1	12/13/22	12/15/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA25156

(2) Prep QC Batch: MP25551

RL = Reporting Limit

Report of Analysis

Page 1 of 1

3.14

3

Client Sample ID:	CCR-14 22120555-014C	Date Sampled:	12/11/22
Lab Sample ID:	LA86065-14	Date Received:	12/12/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	0.0139	0.0020	mg/l	1	12/13/22	12/15/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA25156

(2) Prep QC Batch: MP25551

RL = Reporting Limit

Report of Analysis

Client Sample ID:	DUPLICATE 22120555-015C			Date Sampled:	12/11/22
Lab Sample ID:	LA86065-15			Date Received:	12/12/22
Matrix:	AQ - Water			Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA				

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	0.0166	0.0020	mg/l	1	12/13/22	12/15/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA25156
(2) Prep QC Batch: MP25551

RL = Reporting Limit

Report of Analysis

Client Sample ID:	FIELD BLANK 22120555-016C	Date Sampled:	12/11/22
Lab Sample ID:	LA86065-16	Date Received:	12/12/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lithium	< 0.0020	0.0020	mg/l	1	12/13/22	12/15/22 AG	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA25156
(2) Prep QC Batch: MP25551

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY RECORD

Omega COCID 12795

PAGE: 1

OF: 2

ADDRESS

Element Materials Technology
Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 233-4483
FAX: (337) 233-6540
Website: www.element.com

LA86065

SUB-CONTRACTOR: ACCUTEST_LAF		COMPANY: SCS- Accutest Lafayette Labor		SPECIAL INSTRUCTIONS / COMMENTS: 6020_Sub for Lithium>>>ELA 044823PO			
ADDRESS: 500 Ambassador Caffery Parkway							
CITY, STATE, ZIP: Scott, LA 70583							
PHONE: (337) 237-4775		FAX: (337) 237-8005		EMAIL:			
ACCOUNT #:							

ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Method Preserved Weights, DOT Sample Notation, Additional Sample Description
1	22120555-001C 6020_W_SUB (SW6020A)	CCR-1	250HDPHNO3	Aqueous	12/9/2022 8:55:00 AM	1	
2	22120555-002C 6020_W_SUB (SW6020A)	CCR-2	250HDPHNO3	Aqueous	12/9/2022 9:50:00 AM	1	
3	22120555-003C 6020_W_SUB (SW6020A)	CCR-3	250HDPHNO3	Aqueous	12/9/2022 10:15:00 AM	1	
4	22120555-004C 6020_W_SUB (SW6020A)	CCR-4	250HDPHNO3	Aqueous	12/9/2022 11:25:00 AM	1	
5	22120555-005C 6020_W_SUB (SW6020A)	CCR-5	250HDPHNO3	Aqueous	12/9/2022 12:10:00 PM	1	
6	22120555-006C 6020_W_SUB (SW6020A)	CCR-6	250HDPHNO3	Aqueous	12/9/2022 12:55:00 PM	1	
7	22120555-007C 6020_W_SUB (SW6020A)	CCR-7	250HDPHNO3	Aqueous	12/9/2022 1:30:00 PM	1	
8	22120555-008C 6020_W_SUB (SW6020A)	CCR-8	250HDPHNO3	Aqueous	12/9/2022 2:10:00 PM	1	
9	22120555-009C 6020_W_SUB (SW6020A)	CCR-9	250HDPHNO3	Aqueous	12/9/2022 2:55:00 PM	1	

NOCs Client D/O T64 (Innoc) (3W2)

Relinquished By: [Signature]	Date: 12-12-22	Time: 7530	Received By: [Signature]	Date: 12-12-22	Time: 7530
Relinquished By: [Signature]	Date: 12-12-22	Time: 7605	Received By: [Signature]	Date: 12-12-22	Time: 7605

TAT: Standard ☐ RUSH ☐		Note: RUSH requests will incur surcharges!	

REPORT TRANSMITTAL DESIRED: ☐ HARD COPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE	
FOR LAB USE ONLY Temp of sample: _____ °C Assay to Cool? ☐	
Comments: _____	

LA86065: Chain of Custody

Page 1 of 4



CHAIN OF CUSTODY RECORD

Omega COCID 12795

PAGE: 2

OF: 2

ADDRESS

Element Materials Technology
Lafayette
2417 W. Pinhook Road
Lafayette, LA 70508-3344
TEL: (337) 233-0483
FAX: (337) 233-6540
Website: www.element.com

LA86065

SUB-CONTRACTOR	ACCUTEST_LAF	CC#000027	SGS- Accutest Lafayette Labs	SPECIAL INSTRUCTIONS / COMMENTS:
ADDRESS:	500 Ambassador Caffery Parkway			6020_Sub for Lithium<>>ELA 044823PO
CITY, STATE, ZIP	Scott, LA 70583			
PHONE:	(337) 237-4775	FAX:	(337) 237-8005	EMAIL:
ACCOUNT #				

ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Method Preserved Weight (NOT Sample Volume, Addressed Sample Description)
10	22120555-010C 6020_W_SUB (SW6020A)	CCR-10	250HDPEHNO3	Aqueous	12/9/2022 3:35:00 PM	1	1
11	22120555-011C 6020_W_SUB (SW6020A)	CCR-11	250HDPEHNO3	Aqueous	12/9/2022 4:20:00 PM	1	1
12	22120555-012C 6020_W_SUB (SW6020A)	CCR-12	250HDPEHNO3	Aqueous	12/9/2022 5:00:00 PM	3	3
13	22120555-013C 6020_W_SUB (SW6020A)	CCR-13	250HDPEHNO3	Aqueous	12/11/2022 9:20:00 AM	1	1
14	22120555-014C 6020_W_SUB (SW6020A)	CCR-14	250HDPEHNO3	Aqueous	12/11/2022 10:20:00 AM	1	1
15	22120555-015C 6020_W_SUB (SW6020A)	Duplicate	250HDPEHNO3	Aqueous	12/11/2022 9:25:00 AM	1	1
16	22120555-016C 6020_W_SUB (SW6020A)	Field Blank	250HDPEHNO3	Aqueous	12/11/2022 10:30:00 AM	1	1

T.4 (Inbox)

Released By: <i>[Signature]</i>	Date: 12-12-22	Time: 7:53	Received By: <i>[Signature]</i>	Date: 12-12-22	Time: 7:53
Released By: <i>[Signature]</i>	Date: 12-12-22	Time: 7:05	Received By: <i>[Signature]</i>	Date: 12-12-22	Time: 7:05
TAT: Standard ☐ RUSH ☐			New BD ☐ 3rd BD ☐ 1st BD ☐		
Note: RUSH requests will incur surcharges!					
REPORT TRANSMITTAL DESIRED: ☐ HARD COPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE					
FOR LAB USE ONLY: Temp of sample: _____ °C Always to Cool? _____ Comments: _____					

LA86065: Chain of Custody

Page 2 of 4

SGS Sample Receipt Summary

Job Number: LA86065

Client: ELEMENT

Project: _____

Date / Time Received: 12/12/2022 4:05:00 PM

Delivery Method: CLIENT DROP-OFF

Airbill #s: _____

Cooler Temps (Initial/Adjusted): # : (. / .) :

Cooler Security

Y or N

1. Custody Seals Present: ☒ ☐
2. Custody Seals Intact: ☒ ☐

3. COC Present: ☒ ☐
4. Smpl Dates/Time OK ☒ ☐

Y or N

Cooler Temperature

Y or N

1. Temp criteria achieved: ☒ ☐
2. Thermometer ID: IR002;
3. Cooler media: Ice (direct contact)
4. No. Coolers: _____

Quality Control Preservation

Y or N

N/A

1. Trip Blank present / cooler: ☐ ☐ ☒
2. Trip Blank listed on COC: ☐ ☐ ☒
3. Samples preserved properly: ☒ ☐
4. VOCs headspace free: ☐ ☐ ☒

Sample Integrity - Documentation

Y or N

1. Sample labels present on bottles: ☒ ☐
2. Container labeling complete: ☒ ☐
3. Sample container label / COC agree: ☒ ☐

Sample Integrity - Condition

Y or N

1. Sample recvd within HT: ☒ ☐
2. All containers accounted for: ☒ ☐
3. Condition of sample: _____

Intact

Sample Integrity - Instructions

Y or N

N/A

1. Analysis requested is clear: ☒ ☐
2. Bottles received for unspecified tests: ☐ ☒
3. Sufficient volume recvd for analysis: ☒ ☐
4. Compositing instructions clear: ☐ ☐ ☒
5. Filtering instructions clear: ☐ ☐ ☒

Comments

4.1
4

LA86065: Chain of Custody
Page 3 of 4

Problem Resolution

Page 2 of 2

Job Number: LA86065

CSR: _____

Response Date: _____

Response:

4.1
4

LA86065: Chain of Custody
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LA86065

Metals Analysis

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA86065
Account: SLLAL - Element Materials Technology
Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25551
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 12/13/22

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	.29	49		
Antimony	1.0	.0017	.79		
Arsenic	1.0	.011	.57		
Barium	1.0	.0069	.63		
Beryllium	1.0	.0043	.75		
Boron	20	1.1	6.3		
Cadmium	0.50	.0009	.49		
Calcium	200	28	110		
Cerium	1.0	.0004	.76		
Chromium	1.0	.021	.53		
Cobalt	1.0	.0027	.66		
Copper	1.0	.037	.41		
Iron	100	.87	45		
Lithium	2.0	.0095	.78	0.046	<2.0
Lead	1.0	.0022	.72		
Lanthanum	1.0	.0004	.72		
Magnesium	100	.27	33		
Manganese	2.0	.019	.57		
Molybdenum	1.0	.002	.61		
Nickel	1.0	.013	.52		
Potassium	100	2.2	65		
Selenium	5.0	.14	2.8		
Silver	1.0	.0016	.38		
Silicon	500	2.5	93		
Sodium	100	2.1	37		
Strontium	2.0	.013	.42		
Thallium	1.0	.001	.79		
Tin	2.0	.044	.56		
Titanium	1.0	.045	.57		
Uranium	1.0		.42		
Vanadium	1.0	.0096	.36		
Zinc	5.0	.1	2.4		

Associated samples MP25551: LA86065-1, LA86065-2, LA86065-3, LA86065-4, LA86065-5, LA86065-6, LA86065-7, LA86065-8, LA86065-9, LA86065-10, LA86065-11, LA86065-12, LA86065-13, LA86065-14, LA86065-15, LA86065-16

5.1.1

5

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA86065
Account: SLLAL - Element Materials Technology
Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25551
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 12/13/22

Metal	RL	IDL	MDL	MB raw	final

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

5.1.1
5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA86065
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25551
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 12/13/22

Metal	LA86065-12 Original MS	SpikeLot MPICPMS6 % Rec			QC Limits
Aluminum	anr				
Antimony	anr				
Arsenic	anr				
Barium	anr				
Beryllium	anr				
Boron					
Cadmium	anr				
Calcium					
Cerium					
Chromium	anr				
Cobalt	anr				
Copper	anr				
Iron					
Lithium	23.6	109	100	85.4	75-125
Lead	anr				
Lanthanum					
Magnesium					
Manganese					
Molybdenum					
Nickel	anr				
Potassium					
Selenium	anr				
Silver	anr				
Silicon					
Sodium					
Strontium					
Thallium	anr				
Tin					
Titanium					
Uranium					
Vanadium	anr				
Zinc	anr				

Associated samples MP25551: LA86065-1, LA86065-2, LA86065-3, LA86065-4, LA86065-5, LA86065-6, LA86065-7, LA86065-8, LA86065-9, LA86065-10, LA86065-11, LA86065-12, LA86065-13, LA86065-14, LA86065-15, LA86065-16

5.1.2
5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA86065
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25551
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 12/13/22

Metal	LA86065-12 Original MS	Spikelot MPICPMS6 % Rec	QC Limits

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

5.1.2
5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA86065
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25551
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 12/13/22

Metal	LA86065-12 Original MSD	SpikeLot MPICPMS6 % Rec			MSD RPD	QC Limit
Aluminum	anr					
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Boron						
Cadmium	anr					
Calcium						
Cerium						
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron						
Lithium	23.6	111	100	87.4	1.8	20
Lead	anr					
Lanthanum						
Magnesium						
Manganese						
Molybdenum						
Nickel	anr					
Potassium						
Selenium	anr					
Silver	anr					
Silicon						
Sodium						
Strontium						
Thallium	anr					
Tin						
Titanium						
Uranium						
Vanadium	anr					
Zinc	anr					

Associated samples MP25551: LA86065-1, LA86065-2, LA86065-3, LA86065-4, LA86065-5, LA86065-6, LA86065-7, LA86065-8, LA86065-9, LA86065-10, LA86065-11, LA86065-12, LA86065-13, LA86065-14, LA86065-15, LA86065-16

5.1.2
5

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA86065
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25551
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 12/13/22

Metal	LA86065-12 Original MSD	Spielot MPICPMS6 % Rec	MSD RPD	QC Limit

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

5.1.2
5

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA86065
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25551
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 12/13/22

Metal	BSP Result	Spikelet MPICPMS6 % Rec	QC Limits
Aluminum	anr		
Antimony	anr		
Arsenic	anr		
Barium	anr		
Beryllium	anr		
Boron			
Cadmium	anr		
Calcium			
Cerium			
Chromium	anr		
Cobalt	anr		
Copper	anr		
Iron			
Lithium	93.7	100	93.7 80-120
Lead	anr		
Lanthanum			
Magnesium			
Manganese			
Molybdenum			
Nickel	anr		
Potassium			
Selenium	anr		
Silver	anr		
Silicon			
Sodium			
Strontium			
Thallium	anr		
Tin			
Titanium			
Uranium			
Vanadium	anr		
Zinc	anr		

Associated samples MP25551: LA86065-1, LA86065-2, LA86065-3, LA86065-4, LA86065-5, LA86065-6, LA86065-7, LA86065-8, LA86065-9, LA86065-10, LA86065-11, LA86065-12, LA86065-13, LA86065-14, LA86065-15, LA86065-16

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA86065

Account: SLLAL - Element Materials Technology

Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25551

Methods: SW846 6020A

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

12/13/22

Metal	BSP Result	Spikelet MPICPMS6 % Rec	QC Limits

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

5.1.3

5

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA86065
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25551
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 12/13/22

Metal	LA86065-12 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Boron				
Cadmium	anr			
Calcium				
Cerium				
Chromium	anr			
Cobalt	anr			
Copper	anr			
Iron				
Lithium	23.6	26.5	12.3*(a)	0-10
Lead	anr			
Lanthanum				
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Potassium				
Selenium	anr			
Silver	anr			
Silicon				
Sodium				
Strontium				
Thallium	anr			
Tin				
Titanium				
Uranium				
Vanadium	anr			
Zinc	anr			

Associated samples MP25551: LA86065-1, LA86065-2, LA86065-3, LA86065-4, LA86065-5, LA86065-6, LA86065-7, LA86065-8, LA86065-9, LA86065-10, LA86065-11, LA86065-12, LA86065-13, LA86065-14, LA86065-15, LA86065-16

5.1.4
5

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA86065
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP25551
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 12/13/22

Metal	LA86065-12	QC
	Original SDL 1:5 %DIF	Limits

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested
 (a) Serial dilution indicates possible matrix interference.

5.1.4
 5



- ☐ 2203 S. Madison St., Muncie, IN 47302
765-747-9000/800-874-3563 Fax 765-747-0228
- ☐ 629 Washington St., Suite 300, Columbus, IN 47201
812-375-0531 Fax 812-375-0531
- ☐ 5738 Industrial Rd., Fort Wayne, IN 46825
219-471-7000 Fax 219-471-7777

- ☒ 2417 W. Pinhook Rd, Lafayette, LA 70508
337-235-0483/800-737-2378
- Fax 337-233-6540
- ☐ 3445 S Sheridan, Tulsa, OK 74145
918-828-9977/800324-5757
- Fax 918-828-7756

Chain of Custody Record

Page 1 of 2

Laboratory Number 2220555

Client Name: Pivotal Engineering LLC		Project: CCR Assessment Monitoring		Preserv.		Matrix Code		Test Requested		Comments / Remarks	
Contact Name: Terry Elnaggar		Sample Identification / Description		HCl HNO ₃ H ₂ SO ₄		Number / Type of Container		300: Fluoride		*6010 Metals: Ba, Be, Cd, Cr, Co, Pb, Mn, Se	
Phone/Fax: (504) 799-3653		Sampler's Signature: <i>Terry Elnaggar</i>		None/ HNO ₃		3 Plastic		***6020 Sub		**6020 Metals: As, Sb, Ti	
Collection		Comp		Grab		Aq		X		***6020 Sub Metal/Li	
Date	Time										
12/19/2005	12:55	C C R - 1		X		Aq		X		*6010 Metals: Ba, Be, Cd, Cr, Co, Pb, Mn, Se	
	1450	C C R - 2		X		Aq		X		***6020 Sub	
	1035	C C R - 3		X		Aq		X		*6010 Metals: Ba, Be, Cd, Cr, Co, Pb, Mn, Se	
	1125	C C R - 4		X		Aq		X		***6020 Sub	
	1210	C C R - 5		X		Aq		X		*6010 Metals: Ba, Be, Cd, Cr, Co, Pb, Mn, Se	
	1255	C C R - 6		X		Aq		X		***6020 Sub	
	1330	C C R - 7		X		Aq		X		*6010 Metals: Ba, Be, Cd, Cr, Co, Pb, Mn, Se	
	1410	C C R - 8		X		Aq		X		***6020 Sub	
	1455	C C R - 9		X		Aq		X		*6010 Metals: Ba, Be, Cd, Cr, Co, Pb, Mn, Se	
	1535	C C R - 10		X		Aq		X		***6020 Sub	

All samples submitted to Element Materials Technology for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the samples. Element Materials Technology reserves the right to return unused sample portions.

Relinquished by: (Signature) <i>Terry Elnaggar</i>	Received by: (Signature)	Date 12/19	Time 12:55	Relinquished by: (Signature)	Received by: (Signature)	Date 12/19	Time 12:55
Relinquished by: (Signature)	Received by: (Signature)	Date	Time	Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Matrix Codes		Shipping Conditions		Requested TAT		Thank-you for using Element Materials Technology	
DW = Drinking Water	AQ = Aqueous	☒ Iced		24-Hr. ☐ 72-Hr. ☒ Standard			
GW = Ground Water	O = Oil	Temp: 50°F		Other			
WW = Waste Water	SO = Soil	Ambient					

☐ 2203 S. Madison St., Muncie, IN 47302
765-747-9000/800-874-3563 Fax 765-747-0228

☐ 629 Washington St., Suite 300, Columbus, IN 47201
812-375-0531 Fax 812-375-0531

☐ 5738 Industrial Rd., Fort Wayne, IN 46825
219-471-7000 Fax 219-471-7777

☒ 2417 W. Pinhook Rd, Lafayette, LA 70508
337-235-0483/800-737-2378
Fax 337-233-6540

☐ 3445 S Sheridan, Tulsa, OK 74145
918-828-9977/800324-5757
Fax 918-828-7756

Chain of Custody Record

[illegible]