

ROY S. NELSON PLANT

2023 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 2024

**CCR UNIT
WESTLAKE, LA**

**2023 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 2024

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

The Coal Ash Landfill (CCR Unit) was in operation throughout 2023. For the duration of the current annual reporting period (January 2023 through December 2023), 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 2023, 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 2023. In accordance with 257.90 (e) (6), the following overview is provided.

This report is the seventh annual groundwater monitoring report required under the CCR Rule and is the summary and analysis of results from the monitoring period starting January 1, 2023 and ending December 31, 2023. 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 2023 in well CCR-7 and in December 2023 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 2023

No monitoring wells were installed or decommissioned during 2023 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 2023 GROUNDWATER MONITORING PROGRAM

Groundwater monitoring was performed in accordance with the detection monitoring requirements of §257.94. A summary of activities related to the 2023 groundwater detection monitoring performed is provided below:

- In accordance with §257.94(b), detection monitoring sampling was performed during March, June, September, and December 2023 for analysis of Appendix III parameters.
- Appendix IV parameters were collected in March, June, September and December 2023 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 2023 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.

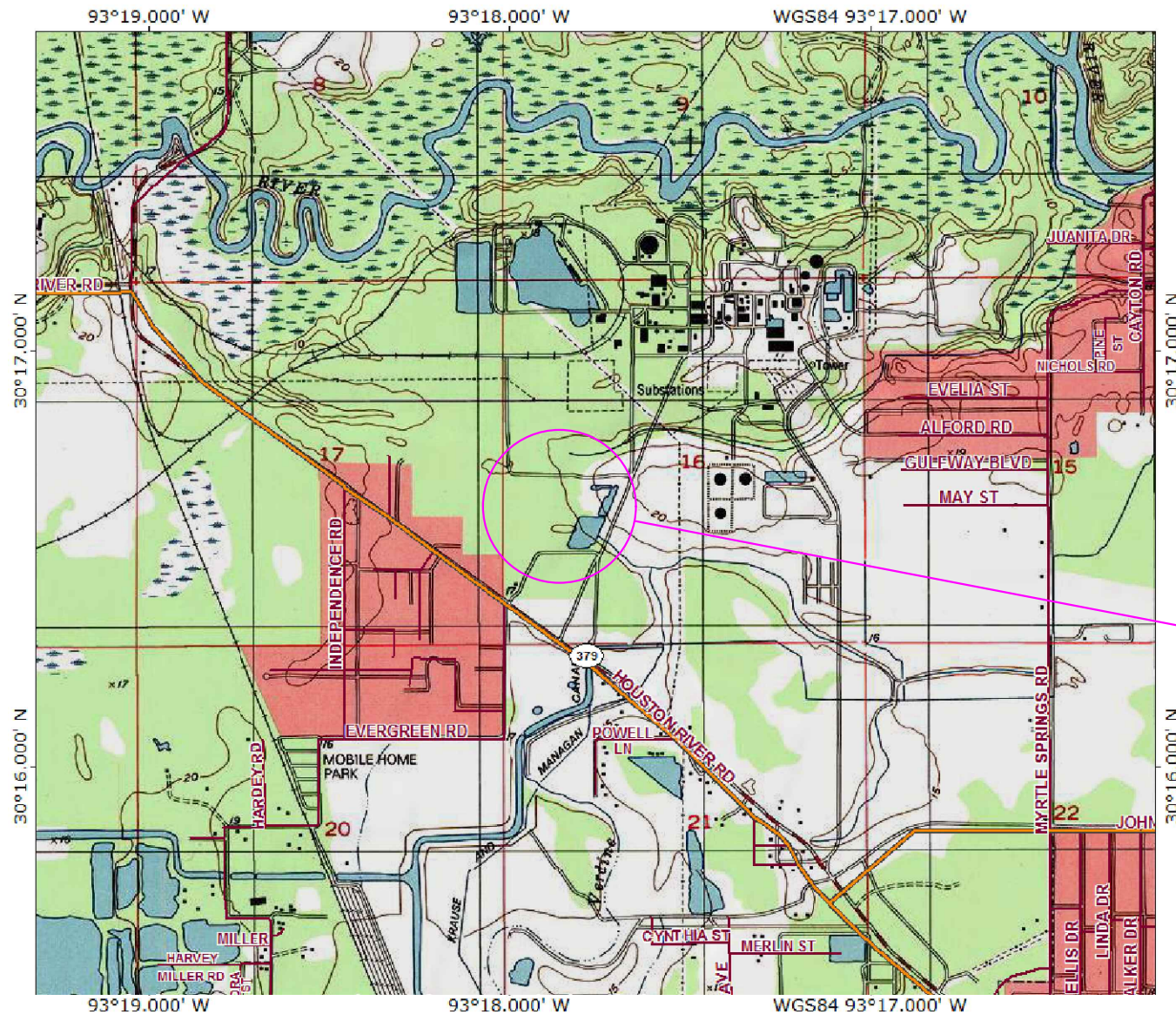
- In 2019, Entergy completed a successful alternate source demonstration (ASD) per §257.94(e)(2) in response to statistically significant increases (SSIs) identified for calcium in wells CCR-5 and CCR-7 during the second half of 2018 detection monitoring event. The ASD, which demonstrated that the SSIs 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 2023 detection monitoring sampling was performed during March, June, September, and December 2023. Results confirmed SSIs for calcium in June and December 2023 in well CCR-7 and in December 2023 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 2023 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 2.13×10^{-4} feet per day. The rate was determined from the hydraulic conductivity from the previous hydrogeologic investigations of the Lower Sand and from December 2023 hydraulic gradient data. Average soil porosity was determined to be 0.3725 (Geotechdata.info, 2013).
- No problems were encountered during 2023 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 2023 because no SSIs were detected that were not addressed by the prior ASDs.

7.0 PROJECTED ACTIVITIES FOR 2024

Semi-annual detection monitoring events are planned for June and December 2024.

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

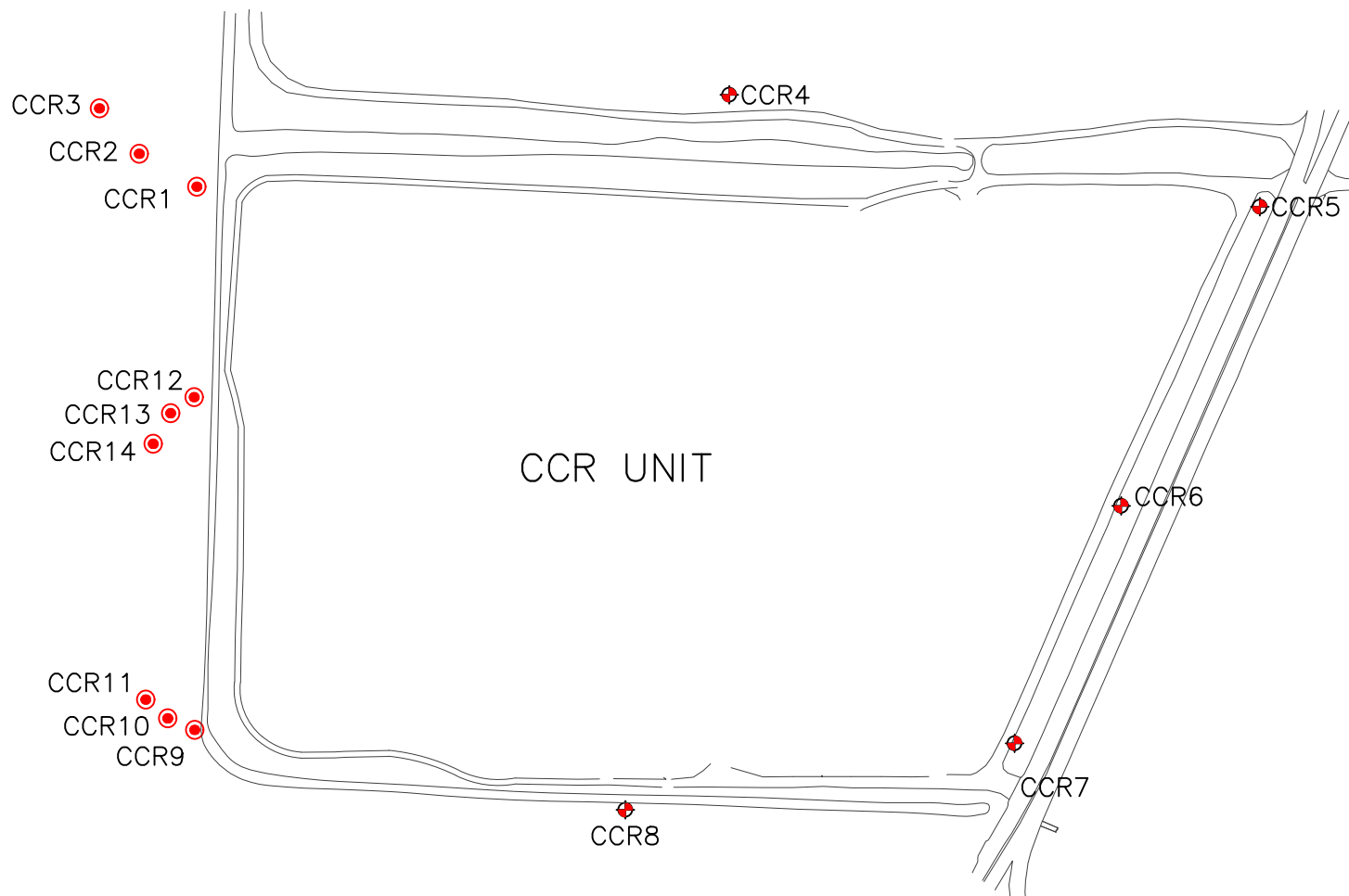


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CIVIL, ELECTRICAL, ENVIRONMENTAL & MECHANICAL ENGINEERING
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NEW ORLEANS, LA. 70112
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SCALE: NOT TO SCALE	DRAWN BY: Y.S.
DATE: JANUARY 4, 2015	CHECKED BY: T.E.
JOB NO. 15-125	

1
FIG. NO.

DATE	DESCRIPTION REVISIONS	BY



Legend

- Upgradient Well Location
- ⊕ Downgradient Well Location

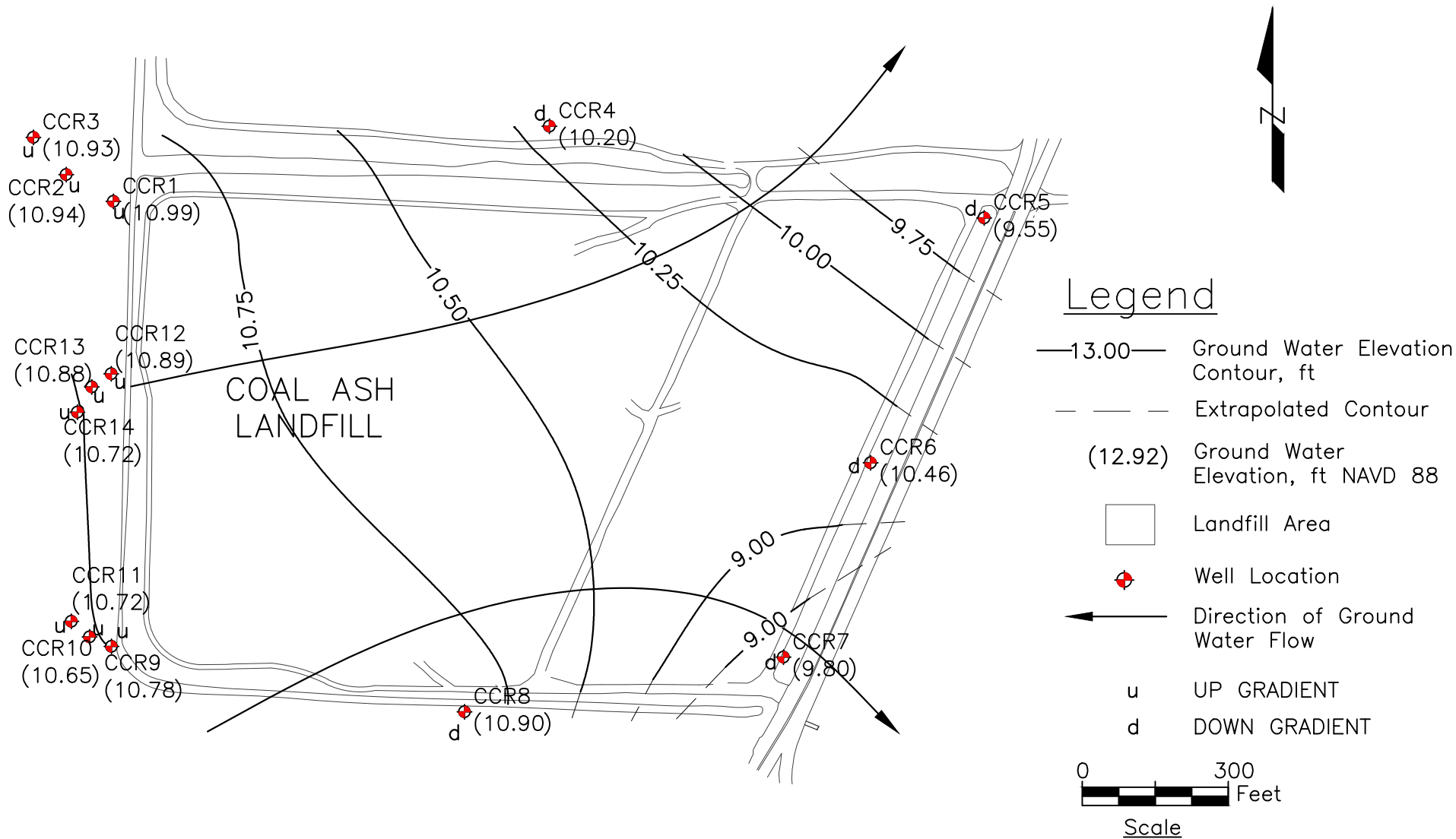
0 300 Feet
Scale

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.	



**COAL ASH LANDFILL
POTENTIOMETRIC ELEVATION MAP
JUNE 16, 2023**

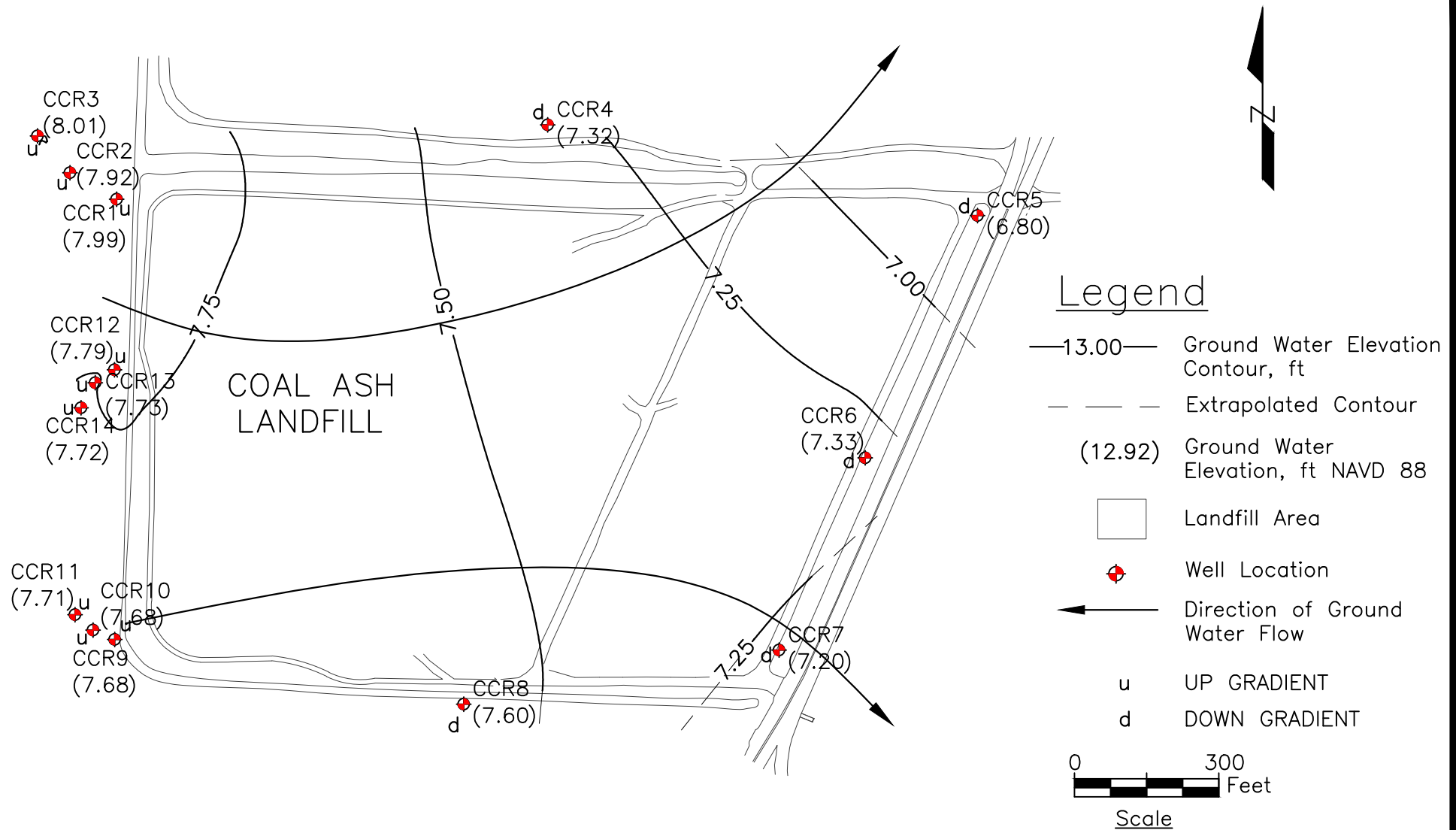
ENTERGY LOUISIANA, LLC
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DATE	DESCRIPTION	BY
	REVISIONS	

SCALE: AS NOTED	DRAWN BY: B.S.	3 FIG. NO.
DATE: January 12, 2024	CHECKED BY: T.E.	
JOB NO. 20-139		



**COAL ASH LANDFILL
POTENTIOMETRIC ELEVATION MAP
DECEMBER 8, 2023**

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DATE	DESCRIPTION	BY
	REVISIONS	

SCALE: AS NOTED	DRAWN BY: B.S.	4 FIG. NO.
DATE: January 12, 2024	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	3/10/23	3/10/23	3/10/23	3/10/23	3/10/23	3/10/23	3/10/23	3/10/23	3/10/23	3/10/23	3/10/23	3/10/23	3/10/23	3/11/23
40 CFR 257 Appendix III Parameters*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
40 CFR 257 Appendix IV Parameters**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date	6/16/23	6/16/23	6/16/23	6/16/23	6/16/23	6/16/23	6/16/23	6/16/23	6/16/23	6/16/23	6/16/23	6/16/23	6/16/23	6/16/23
40 CFR 257 Appendix III Parameters*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
40 CFR 257 Appendix IV Parameters**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date	9/8/23	9/8/23	9/8/23	9/8/23	9/8/23	9/8/23	9/8/23	9/8/23	9/8/23	9/8/23	9/8/23	9/8/23	9/8/23	9/8/23
40 CFR 257 Appendix III Parameters*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
40 CFR 257 Appendix IV Parameters**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Date	12/8/23	12/8/23	12/8/23	12/8/23	12/8/23	12/8/23	12/8/23	12/8/23	12/8/23	12/8/23	12/8/23	12/8/23	12/8/23	12/8/23
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 2023 due to 100% non-detect in previous background analytical results



pH and Sampling Date Summary
2023 Annual Report

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

Parameter/Well/ Date	pH in Standard Units (S.U.)							
	3/10/23		6/16/23		9/8/23		12/8/23	
CCR-1 (BG)		6.75		6.76		6.83		6.91
CCR-2 (BG)		6.76		6.8		6.73		6.68
CCR-3 (BG)		6.85		6.94		6.87		6.82
CCR-4		6.9		6.9		6.82		6.75
CCR-5		7.04		7.18		7.17		6.99
CCR-6		7.07		7.22		7.18		6.94
CCR-7		7.04		7.31		7.21		6.91
CCR-8		6.59		6.8		6.6		6.6
CCR-9 (BG)		7.1		7.43		7.37		7.17
CCR-10 (BG)		7.1		7.29		7.38		7.2
CCR-11 (BG)		7.23		7.37		7.48		7.22
CCR-12 (BG)		6.5		6.72		6.62		6.57
CCR-13 (BG)		7.04		7.55		7.59		7.58
CCR-14 (BG)		7.38		7.5		6.87		6.55



Element Materials Technology Lafayette
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March 24, 2023

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.: 23030615

Dear Terry Elnaggar:

Element Materials Technology Lafayette received 16 sample(s) on 3/13/2023 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



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#: 23030615
Date: 3/24/2023

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#: 23030615

Date Reported: 3/24/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 9:50:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23030615-001 **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	45.0	2.50		mg/L	10	3/21/2023 10:53:46 AM
Fluoride	0.284	0.0500		mg/L	1	3/21/2023 10:39:59 AM
Sulfate	4.30	0.250		mg/L	1	3/21/2023 10:39:59 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Boron	< 0.100	0.100		mg/L	1	3/15/2023 7:21:00 PM
Calcium	27.5	0.500		mg/L	1	3/15/2023 7:21:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: HXW
Total Dissolved Solids (Residue, Filterable)	327	10.0		mg/L	1	3/13/2023 12:47:00 PM

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#: 23030615

Date Reported: 3/24/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 10:35:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23030615-002 **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	58.0	2.50		mg/L	10	3/21/2023 11:21:20 AM
Fluoride	0.332	0.0500		mg/L	1	3/21/2023 11:07:34 AM
Sulfate	1.82	0.250		mg/L	1	3/21/2023 11:07:34 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	3/15/2023 7:24:00 PM
Calcium	22.6	0.500		mg/L	1	3/15/2023 7:24:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: HXW	
Total Dissolved Solids (Residue, Filterable)	256	10.0		mg/L	1	3/13/2023 12:47:00 PM

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#: 23030615

Date Reported: 3/24/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 11:15:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23030615-003 **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	126	5.00		mg/L	20	3/21/2023 11:48:56 AM
Fluoride	0.379	0.0500		mg/L	1	3/21/2023 11:35:08 AM
Sulfate	3.67	0.250		mg/L	1	3/21/2023 11:35:08 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	3/15/2023 7:26:00 PM
Calcium	34.2	0.500		mg/L	1	3/15/2023 7:26:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: HXW	
Total Dissolved Solids (Residue, Filterable)	387	10.0		mg/L	1	3/13/2023 12:47:00 PM

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#: 23030615

Date Reported: 3/24/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 12:00:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23030615-004 **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	43.5	2.50		mg/L	10	3/21/2023 12:16:31 PM
Fluoride	0.212	0.0500		mg/L	1	3/21/2023 12:02:43 PM
Sulfate	12.6	0.250		mg/L	1	3/21/2023 12:02:43 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	0.106	0.100		mg/L	1	3/15/2023 7:28:00 PM
Calcium	21.6	0.500		mg/L	1	3/15/2023 7:28:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: HXW	
Total Dissolved Solids (Residue, Filterable)	277	10.0		mg/L	1	3/13/2023 12:47:00 PM

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#: 23030615

Date Reported: 3/24/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 12:45:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23030615-005 **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	60.2	5.00		mg/L	20	3/21/2023 12:44:06 PM
Fluoride	0.240	0.0500		mg/L	1	3/21/2023 12:30:19 PM
Sulfate	0.354	0.250		mg/L	1	3/21/2023 12:30:19 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	0.105	0.100		mg/L	1	3/15/2023 7:31:00 PM
Calcium	36.3	0.500		mg/L	1	3/15/2023 7:31:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: HXW	
Total Dissolved Solids (Residue, Filterable)	389	10.0		mg/L	1	3/13/2023 12:47:00 PM

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#: 23030615

Date Reported: 3/24/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 1:25:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23030615-006 **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	86.7	2.50		mg/L	10	3/21/2023 1:11:40 PM
Fluoride	0.258	0.0500		mg/L	1	3/21/2023 12:57:53 PM
Sulfate	13.1	2.50		mg/L	10	3/21/2023 1:11:40 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	0.112	0.100		mg/L	1	3/15/2023 7:33:00 PM
Calcium	32.1	0.500		mg/L	1	3/15/2023 7:33:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: HXW	
Total Dissolved Solids (Residue, Filterable)	327	10.0		mg/L	1	3/13/2023 12:47:00 PM

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#: 23030615

Date Reported: 3/24/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 2:10:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23030615-007 **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	83.9	2.50		mg/L	10	3/21/2023 1:39:15 PM
Fluoride	0.265	0.0500		mg/L	1	3/21/2023 1:25:28 PM
Sulfate	< 0.250	0.250		mg/L	1	3/21/2023 1:25:28 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	3/15/2023 7:35:00 PM
Calcium	49.6	0.500		mg/L	1	3/15/2023 7:35:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: HXW	
Total Dissolved Solids (Residue, Filterable)	363	10.0		mg/L	1	3/13/2023 12:47:00 PM

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#: 23030615

Date Reported: 3/24/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 2:55:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23030615-008 **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	89.0	2.50		mg/L	10	3/21/2023 2:06:50 PM
Fluoride	0.143	0.0500		mg/L	1	3/21/2023 1:53:02 PM
Sulfate	1.93	0.250		mg/L	1	3/21/2023 1:53:02 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	3/15/2023 7:38:00 PM
Calcium	12.2	0.500		mg/L	1	3/15/2023 7:38:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: HXW	
Total Dissolved Solids (Residue, Filterable)	314	10.0		mg/L	1	3/13/2023 12:47:00 PM

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#: 23030615

Date Reported: 3/24/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 3:40:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23030615-009 **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	65.6	2.50		mg/L	10	3/21/2023 2:34:25 PM
Fluoride	0.575	0.0500		mg/L	1	3/21/2023 2:20:38 PM
Sulfate	6.60	0.250		mg/L	1	3/21/2023 2:20:38 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	3/15/2023 7:44:00 PM
Calcium	32.9	0.500		mg/L	1	3/15/2023 7:44:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: HXW	
Total Dissolved Solids (Residue, Filterable)	345	10.0		mg/L	1	3/13/2023 12:47:00 PM

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#: 23030615

Date Reported: 3/24/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 4:20:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23030615-010 **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	45.0	2.50		mg/L	10	3/21/2023 3:02:00 PM
Fluoride	0.619	0.0500		mg/L	1	3/21/2023 2:48:13 PM
Sulfate	4.87	0.250		mg/L	1	3/21/2023 2:48:13 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Boron	< 0.100	0.100		mg/L	1	3/15/2023 7:47:00 PM
Calcium	27.5	0.500		mg/L	1	3/15/2023 7:47:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: HXW
Total Dissolved Solids (Residue, Filterable)	186	10.0		mg/L	1	3/13/2023 12:47:00 PM

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#: 23030615

Date Reported: 3/24/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 5:00:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23030615-011 **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	29.5	2.50		mg/L	10	3/21/2023 3:57:11 PM
Fluoride	0.707	0.0500		mg/L	1	3/21/2023 3:43:23 PM
Sulfate	3.13	0.250		mg/L	1	3/21/2023 3:43:23 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	3/15/2023 7:49:00 PM
Calcium	30.8	0.500		mg/L	1	3/15/2023 7:49:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: HXW	
Total Dissolved Solids (Residue, Filterable)	268	10.0		mg/L	1	3/13/2023 12:47:00 PM

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#: 23030615

Date Reported: 3/24/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 5:45:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23030615-012 **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	18.3	0.250		mg/L	1	3/21/2023 4:10:58 PM
Fluoride	0.121	0.0500		mg/L	1	3/21/2023 4:10:58 PM
Sulfate	17.2	0.250		mg/L	1	3/21/2023 4:10:58 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Boron	< 0.100	0.100		mg/L	1	3/15/2023 7:51:00 PM
Calcium	21.6	0.500		mg/L	1	3/15/2023 7:51:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: HXW
Total Dissolved Solids (Residue, Filterable)	196	10.0		mg/L	1	3/13/2023 12:47:00 PM

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#: 23030615

Date Reported: 3/24/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 6:30:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23030615-013 **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	16.0	0.250		mg/L	1	3/21/2023 4:38:34 PM
Fluoride	0.282	0.0500		mg/L	1	3/21/2023 4:38:34 PM
Sulfate	3.11	0.250		mg/L	1	3/21/2023 4:38:34 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Boron	< 0.100	0.100		mg/L	1	3/15/2023 7:54:00 PM
Calcium	30.0	0.500		mg/L	1	3/15/2023 7:54:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: HXW
Total Dissolved Solids (Residue, Filterable)	217	10.0		mg/L	1	3/13/2023 12:47:00 PM

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#: 23030615

Date Reported: 3/24/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/11/2023 8:55:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23030615-014 **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	12.0	0.250		mg/L	1	3/21/2023 5:06:08 PM
Fluoride	0.155	0.0500		mg/L	1	3/21/2023 5:06:08 PM
Sulfate	1.20	0.250		mg/L	1	3/21/2023 5:06:08 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Boron	< 0.100	0.100		mg/L	1	3/15/2023 7:56:00 PM
Calcium	17.7	0.500		mg/L	1	3/15/2023 7:56:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: HXW
Total Dissolved Solids (Residue, Filterable)	157	10.0		mg/L	1	3/13/2023 12:47:00 PM

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#: 23030615

Date Reported: 3/24/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023
Project: Entergy: CCR Detection Monitoring
Lab ID: 23030615-015 **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	15.7	0.250		mg/L	1	3/21/2023 6:01:18 PM
Fluoride	0.286	0.0500		mg/L	1	3/21/2023 6:01:18 PM
Sulfate	2.84	0.250		mg/L	1	3/21/2023 6:01:18 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Boron	< 0.100	0.100		mg/L	1	3/15/2023 8:03:00 PM
Calcium	29.6	0.500		mg/L	1	3/15/2023 8:03:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: HXW
Total Dissolved Solids (Residue, Filterable)	207	10.0		mg/L	1	3/13/2023 12:47:00 PM

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#: 23030615

Date Reported: 3/24/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/11/2023 9:15:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23030615-016 **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	3/21/2023 6:28:53 PM
Fluoride	< 0.0500	0.0500		mg/L	1	3/21/2023 6:28:53 PM
Sulfate	< 0.250	0.250		mg/L	1	3/21/2023 6:28:53 PM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Boron	< 0.100	0.100		mg/L	1	3/15/2023 8:05:00 PM
Calcium	< 0.500	0.500		mg/L	1	3/15/2023 8:05:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	< 10.0	10.0	H	mg/L	1	3/23/2023 7:42:00 AM

NOTES:

H: Sample was analyzed 5 days outside of defined 7 day hold time due to reanalysis.

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#: 23030615

24-Mar-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: 47287

Sample ID	MB-47287	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	3/13/2023	RunNo:	118673			
Client ID:	PBW	Batch ID:	47287	TestNo:	SW6010B			Analysis Date:	3/15/2023	SeqNo:	2954253			
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-47287	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	3/13/2023	RunNo:	118673	
Client ID:	LCSW	Batch ID:	47287	TestNo:	SW6010B			Analysis Date:	3/15/2023	SeqNo:	2954256	
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				
Calcium		52.4	0.500	50.00	0	105	80	120				

Sample ID	LCSD-47287	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	3/13/2023	RunNo:	118673			
Client ID:	LCSS02	Batch ID:	47287	TestNo:	SW6010B			Analysis Date:	3/15/2023	SeqNo:	2954257			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.512		0.100	0.5000	0		102	80	120	0.5046	1.52	20	
Calcium		52.4		0.500	50.00	0		105	80	120	52.39	0.0442	20	

Sample ID	23030615-014BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 3/13/2023	RunNo: 118673					
Client ID: CCR-14	Batch ID: 47287	TestNo: SW6010B	Analysis Date: 3/15/2023	SeqNo: 2954274							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.561	0.100	0.5000	0	112	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#: 23030615

24-Mar-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: 47287

Sample ID	23030615-014BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 3/13/2023	RunNo: 118673					
Client ID:	CCR-14	Batch ID: 47287	TestNo: SW6010B		Analysis Date: 3/15/2023	SeqNo: 2954274					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	69.7	0.500	50.00	17.71	104	75	125				

Sample ID	23030615-014BMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 3/13/2023	RunNo: 118673					
Client ID:	CCR-14	Batch ID: 47287	TestNo: SW6010B		Analysis Date: 3/15/2023	SeqNo: 2954275					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.546	0.100	0.5000	0	109	75	125	0.5611	2.74	20	
Calcium	68.8	0.500	50.00	17.71	102	75	125	69.68	1.32	20	

Sample ID	23030616-014BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 3/13/2023	RunNo: 118673					
Client ID:	ZZZZZZ	Batch ID: 47287	TestNo: SW6010B		Analysis Date: 3/15/2023	SeqNo: 2954342					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.561	0.100	0.5000	0	112	75	125				
Calcium	69.7	0.500	50.00	17.71	104	75	125				

Sample ID	23030617-014BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 3/13/2023	RunNo: 118673					
Client ID: ZZZZZZ	Batch ID: 47287	TestNo: SW6010B	Analysis Date: 3/15/2023	SeqNo: 2954343							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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#: 23030615

24-Mar-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: 47287

Sample ID	23030617-014BMS	SampType: MS	TestCode: 6010_W		Units: mg/L	Prep Date: 3/13/2023				RunNo: 118673		
Client ID:	ZZZZZZ	Batch ID: 47287	TestNo: SW6010B			Analysis Date: 3/15/2023				SeqNo: 2954343		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.561	0.100	0.5000	0	112	75	125				
Calcium		69.7	0.500	50.00	17.71	104	75	125				

Sample ID	23030616-014BMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 3/13/2023	RunNo: 118673					
Client ID: ZZZZZZ	Batch ID: 47287	TestNo: SW6010B	Analysis Date: 3/15/2023	SeqNo: 2954344							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.546	0.100	0.5000	0	109	75	125	0.5611	2.74	20	
Calcium	68.8	0.500	50.00	17.71	102	75	125	69.68	1.32	20	

Sample ID	23030617-014BMSD	SampType: MSD	TestCode: 6010_W		Units: mg/L	Prep Date: 3/13/2023			RunNo: 118673			
Client ID:	ZZZZZZ	Batch ID: 47287	TestNo: SW6010B			Analysis Date: 3/15/2023			SeqNo: 2954345			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.546	0.100	0.5000	0	109	75	125	0.5611	2.74	20	
Calcium		68.8	0.500	50.00	17.71	102	75	125	69.68	1.32	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



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#: 23030615

24-Mar-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R118542

Sample ID	MB-R118542	SampType:	MBLK	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	118542		
Client ID:	PBW	Batch ID:	R118542	TestNo:	SM2540C			Analysis Date:	3/13/2023	SeqNo:	2951282		
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-R118542	SampType:	LCS	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	118542		
Client ID:	LCSW	Batch ID:	R118542	TestNo:	SM2540C			Analysis Date:	3/13/2023	SeqNo:	2951283		
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

Sample ID	LCSD-R118542	SampType:	LCSD	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	118542		
Client ID:	LCSS02	Batch ID:	R118542	TestNo:	SM2540C			Analysis Date:	3/13/2023	SeqNo:	2951284		
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 1,002 0.0999 10

Sample ID	23030615-014ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	118542		
Client ID:	CCR-14	Batch ID:	R118542	TestNo:	SM2540C			Analysis Date:	3/13/2023	SeqNo:	2951299		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) 151 10.0 157.0 3.90 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#: 23030615

24-Mar-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R118542

Sample ID	23030615-014ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	118542		
Client ID:	CCR-14	Batch ID:	R118542	TestNo:	SM2540C			Analysis Date:	3/13/2023	SeqNo:	2951299		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID	23030200-001BDUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	118542			
Client ID:	ZZZZZZ	Batch ID:	R118542	TestNo:	SM2540C			Analysis Date:	3/13/2023	SeqNo:	2951304			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filterable)		13,000		1,000							12,900	0.772	10	H

Sample ID	23030617-014ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	118542			
Client ID:	ZZZZZZ	Batch ID:	R118542	TestNo:	SM2540C			Analysis Date:	3/13/2023	SeqNo:	2953099			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filterable)		151		10.0							157.0	3.90	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#: 23030615

24-Mar-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R118803

Sample ID	mblk	SampType: MBLK	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 118803					
Client ID:	PBW	Batch ID: R118803	TestNo: E 300.0	Analysis Date: 3/21/2023	SeqNo: 2957863						
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: 118803		
Client ID:	LCSW	Batch ID: R118803	TestNo: E 300.0		Analysis Date: 3/21/2023				SeqNo: 2957864			
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				
Fluoride		2.04	0.0500	2.000	0	102	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: 118803			
Client ID:	LCSS02	Batch ID: R118803	TestNo: E 300.0			Analysis Date: 3/21/2023			SeqNo: 2957865			
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	10.05	0.0948	15	
Fluoride		2.05	0.0500	2.000	0	102	90	110	2.040	0.398	15	
Sulfate		10.1	0.250	10.00	0	101	90	110	10.27	1.19	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#: 23030615

24-Mar-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R118803

Sample ID	23030615-014ams	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 118803					
Client ID:	CCR-14	Batch ID: R118803	TestNo: E 300.0	Analysis Date: 3/21/2023	SeqNo: 2957896						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	36.8	1.25	25.00	11.98	99.4	80	120				
Fluoride	5.18	0.250	5.000	0.1551	100	80	120				
Sulfate	26.9	1.25	25.00	1.198	103	80	120				

Sample ID	23030615-014amsd	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 118803					
Client ID:	CCR-14	Batch ID: R118803	TestNo: E 300.0	Analysis Date: 3/21/2023	SeqNo: 2957897						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	37.0	1.25	25.00	11.98	100	80	120	36.82	0.593	15	
Fluoride	5.23	0.250	5.000	0.1551	102	80	120	5.178	1.06	15	
Sulfate	27.3	1.25	25.00	1.198	104	80	120	26.90	1.41	15	

Sample ID	23030615-016ams	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 118803					
Client ID:	Field Blank	Batch ID: R118803	TestNo: E 300.0	Analysis Date: 3/21/2023	SeqNo: 2957901						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.94	0.250	5.000	0	98.8	80	120				
Fluoride	0.993	0.0500	1.000	0	99.3	80	120				
Sulfate	5.04	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#: 23030615

24-Mar-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R118803

Sample ID	23030615-016amsd	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 118803					
Client ID:	Field Blank	Batch ID: R118803	TestNo: E 300.0	Analysis Date: 3/21/2023	SeqNo: 2957902						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	5.01	0.250	5.000	0	100	80	120	4.942	1.45	15	
Fluoride	1.01	0.0500	1.000	0	101	80	120	0.9932	1.30	15	
Sulfate	5.18	0.250	5.000	0	104	80	120	5.038	2.84	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#: 23030615

24-Mar-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R118850

Sample ID	MB-R118850	SampType:	MBLK	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	118850		
Client ID:	PBW	Batch ID:	R118850	TestNo:	SM2540C			Analysis Date:	3/23/2023	SeqNo:	2959728		
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-R118850	SampType:	LCS	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	118850		
Client ID:	LCSW	Batch ID:	R118850	TestNo:	SM2540C			Analysis Date:	3/23/2023	SeqNo:	2959729		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) 993 10.0 1,000 0 99.3 85 115

Sample ID	LCSD-R118850	SampType:	LCSD	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	118850		
Client ID:	LCSS02	Batch ID:	R118850	TestNo:	SM2540C			Analysis Date:	3/23/2023	SeqNo:	2959730		
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 85 115 993.0 0.802 10

Sample ID	23030811-001GDUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	118850		
Client ID:	ZZZZZZ	Batch ID:	R118850	TestNo:	SM2540C			Analysis Date:	3/23/2023	SeqNo:	2959735		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) 5,230 100 5,190 0.768 10 H

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#: 23030615

24-Mar-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R118850

Sample ID	23030811-001GDUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	118850		
Client ID:	ZZZZZZ	Batch ID:	R118850	TestNo:	SM2540C			Analysis Date:	3/23/2023	SeqNo:	2959735		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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: **23030615**

RcptNo: **1**

Logged by: **Martin Lee** **3/13/2023 7:00:00 AM**

Martin Lee

Completed By: **Martin Lee** **3/13/2023 9:07:18 AM**

Martin Lee

Reviewed By: **Cristina Thibeaux** **3/14/2023 3:01:23 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: Terry Elnaggar Date 3/24/2023
By Whom: Cristina Thibeaux Via: ☒ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: TDS HT missed on FB sample due to lab error
Client Instructions:

18. Additional remarks:

No sampler's and relinquished signature by client on page 2. Add year to collection date.

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.0	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

Page 1 of 2

Chain of Custody Record

Client Name: Pivotal Engineering LLC		Project: CCR Detection Monitoring		Laboratory Number: 23030615	
Contact Name: Terry Elnaggar		Sampler's Signature: <i>Terry Elnaggar</i>		Test Requested	
Phone/Fax: (504) 799-3653		Sample Identification / Description		Comments / Remarks	
Collection	Grab	Comp	Sample Identification / Description	Comments / Remarks	
Date	Time				
3/10/16	950	X	C C R - 1		
	1035	X	C C R - 2		
	1115	X	C C R - 3		
	1200	X	C C R - 4		
	1245	X	C C R - 5		
	1325	X	C C R - 6		
	1410	X	C C R - 7		
	1455	X	C C R - 8		
	1540	X	C C R - 9		
	1620	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.			P.O. Number		
Relinquished by: (Signature) <i>Terry Elnaggar</i>			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		
Date			Date		
Time			Time		
3/12/16 2130			3/12/16 2130		
Shipping Conditions			Requested TAT		
☒ Iced			☐ 24-Hr. ☐ 72-Hr.		
Temp. 3.0°			☐ 48-Hr. ☒ Standard		
☐ Ambient			☐ Other		
Container Types			Matrix Codes		
G = Glass			LIQ = Liquid		
P = Plastic			SLD = Solid		
V = Vial			SL = Sludge		
Matrix Codes			Matrix Codes		
DW = Drinking Water AO = Aqueous			LIQ = Liquid		
GW = Ground Water O = Oil			SLD = Solid		
WW = Waste Water SO = Soil			SL = Sludge		



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219-471-7000 Fax 219-471-7777

- ☒ 2417 W. Pinhook Rd, Lafayette, LA 70508
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Fax 337-233-5540
- ☐ 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 23030615

Contact Name: Terry Elhaggar

Phone/Fax: (504) 799-3653

Sampler's Signature: _____

Collection		Comp	Tab	Sample Identification / Description	Preserv.	Number / Type of Container	Matrix Code	Test Requested				Comments / Remarks
Date	Time							TDS	300: Cl, F, SO ₄	6010 Metals*		
3/10/23	1700	X		C C R - 1 1	None/ HNO ₃ H ₂ SO ₄	2 Plastic	Aq	X	X	X		
3/10/23	1715	X		C C R - 1 2	None/ HNO ₃ H ₂ SO ₄	2 Plastic	Aq	X	X	X		
3/10/23	1830	X		C C R - 1 3	None/ HNO ₃ H ₂ SO ₄	2 Plastic	Aq	X	X	X		
3/10/23	855	X		C C R - 1 4	None/ HNO ₃ H ₂ SO ₄	2 Plastic	Aq	X	X	X		
3/11/23	905	X		M S (CCR-14)	None/ HNO ₃ H ₂ SO ₄	2 Plastic	Aq	X	X	X		
3/11/23	910	X		M S D (CCR-14)	None/ HNO ₃ H ₂ SO ₄	2 Plastic	Aq	X	X	X		
3/10/23	—	X		D U P	None/ HNO ₃ H ₂ SO ₄	2 Plastic	Aq	X	X	X		
3/11/23	915	X		F B 1	None/ HNO ₃ H ₂ SO ₄	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)	Received by: (Signature)	Date	Time
		3/12/23	2130
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
		3/13/23	0900
Matrix Codes DW = Drinking Water AQ = Aqueous LIQ = Liquid GW = Ground Water O = Oil SLD = Solid WW = Waste Water SO = Soil SL = Sludge		Shipping Conditions ☒ Iced Temp. _____ ☐ Ambient	
Container Types G = Glass P = Plastic V = Vial		Requested TAT ☐ 24-Hr. ☐ 72-Hr. ☐ 48-Hr. ☒ Standard ☐ 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

March 27, 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.: 23030616

Dear Terry Elnaggar:

Element Materials Technology Lafayette received 16 sample(s) on 3/13/2023 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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Website: www.element.com

Case Narrative

WO#: 23030616
Date: 3/27/2023

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 Sb, As, Tl, Li (6020B) analyses were subcontracted to Pace Gulf Coast (Baton Rouge, LA). Their report is attached in its entirety.



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Analytical Report

(consolidated)

WO#: 23030616

Date Reported: 3/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 9:50:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23030616-001 **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	3/21/2023 11:36:16 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.284	0.0500		mg/L	1	3/21/2023 10:39:59 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.184	0.0100		mg/L	1	3/15/2023 7:21:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/15/2023 7:21:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/15/2023 7:21:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/15/2023 7:21:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/15/2023 7:21:00 PM
Lead	< 0.0100	0.0100		mg/L	1	3/15/2023 7:21:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/15/2023 7:21:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/15/2023 7:21:00 PM

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#: 23030616

Date Reported: 3/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 10:35:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23030616-002 **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	3/21/2023 11:39:34 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.332	0.0500		mg/L	1	3/21/2023 11:07:34 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.149	0.0100		mg/L	1	3/15/2023 7:24:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/15/2023 7:24:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/15/2023 7:24:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/15/2023 7:24:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/15/2023 7:24:00 PM
Lead	< 0.0100	0.0100		mg/L	1	3/15/2023 7:24:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/15/2023 7:24:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/15/2023 7:24:00 PM

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#: 23030616

Date Reported: 3/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 11:15:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23030616-003 **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	3/21/2023 11:50:25 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.379	0.0500		mg/L	1	3/21/2023 11:35:08 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.297	0.0100		mg/L	1	3/15/2023 7:26:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/15/2023 7:26:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/15/2023 7:26:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/15/2023 7:26:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/15/2023 7:26:00 PM
Lead	< 0.0100	0.0100		mg/L	1	3/15/2023 7:26:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/15/2023 7:26:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/15/2023 7:26:00 PM

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#: 23030616

Date Reported: 3/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 12:00:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23030616-004 **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	3/21/2023 11:53:43 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.212	0.0500		mg/L	1	3/21/2023 12:02:43 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.112	0.0100		mg/L	1	3/15/2023 7:28:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/15/2023 7:28:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/15/2023 7:28:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/15/2023 7:28:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/15/2023 7:28:00 PM
Lead	< 0.0100	0.0100		mg/L	1	3/15/2023 7:28:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/15/2023 7:28:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/15/2023 7:28:00 PM

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#: 23030616

Date Reported: 3/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 12:45:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23030616-005 **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	3/21/2023 11:57:00 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.240	0.0500		mg/L	1	3/21/2023 12:30:19 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.219	0.0100		mg/L	1	3/15/2023 7:31:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/15/2023 7:31:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/15/2023 7:31:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/15/2023 7:31:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/15/2023 7:31:00 PM
Lead	< 0.0100	0.0100		mg/L	1	3/15/2023 7:31:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/15/2023 7:31:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/15/2023 7:31:00 PM

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#: 23030616

Date Reported: 3/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 1:25:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23030616-006 **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	3/21/2023 12:00:18 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.258	0.0500		mg/L	1	3/21/2023 12:57:53 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.200	0.0100		mg/L	1	3/15/2023 7:33:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/15/2023 7:33:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/15/2023 7:33:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/15/2023 7:33:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/15/2023 7:33:00 PM
Lead	< 0.0100	0.0100		mg/L	1	3/15/2023 7:33:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/15/2023 7:33:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/15/2023 7:33:00 PM

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#: 23030616

Date Reported: 3/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 2:10:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23030616-007 **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	3/21/2023 12:03:35 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.265	0.0500		mg/L	1	3/21/2023 1:25:28 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.223	0.0100		mg/L	1	3/15/2023 7:35:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/15/2023 7:35:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/15/2023 7:35:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/15/2023 7:35:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/15/2023 7:35:00 PM
Lead	< 0.0100	0.0100		mg/L	1	3/15/2023 7:35:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/15/2023 7:35:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/15/2023 7:35:00 PM

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#: 23030616

Date Reported: 3/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 2:55:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23030616-008 **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	3/21/2023 12:06:52 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.143	0.0500		mg/L	1	3/21/2023 1:53:02 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.109	0.0100		mg/L	1	3/15/2023 7:38:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/15/2023 7:38:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/15/2023 7:38:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/15/2023 7:38:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/15/2023 7:38:00 PM
Lead	< 0.0100	0.0100		mg/L	1	3/15/2023 7:38:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/15/2023 7:38:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/15/2023 7:38:00 PM

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#: 23030616

Date Reported: 3/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 3:40:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23030616-009 **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	3/21/2023 12:10:12 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.575	0.0500		mg/L	1	3/21/2023 2:20:38 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.234	0.0100		mg/L	1	3/15/2023 7:44:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/15/2023 7:44:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/15/2023 7:44:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/15/2023 7:44:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/15/2023 7:44:00 PM
Lead	< 0.0100	0.0100		mg/L	1	3/15/2023 7:44:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/15/2023 7:44:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/15/2023 7:44:00 PM

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#: 23030616

Date Reported: 3/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 4:20:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23030616-010 **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	3/21/2023 12:13:28 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.619	0.0500		mg/L	1	3/21/2023 2:48:13 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.245	0.0100		mg/L	1	3/15/2023 7:47:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/15/2023 7:47:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/15/2023 7:47:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/15/2023 7:47:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/15/2023 7:47:00 PM
Lead	< 0.0100	0.0100		mg/L	1	3/15/2023 7:47:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/15/2023 7:47:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/15/2023 7:47:00 PM

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#: 23030616

Date Reported: 3/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 5:00:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23030616-011 **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	3/21/2023 12:16:46 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.707	0.0500		mg/L	1	3/21/2023 3:43:23 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.153	0.0100		mg/L	1	3/15/2023 7:49:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/15/2023 7:49:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/15/2023 7:49:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/15/2023 7:49:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/15/2023 7:49:00 PM
Lead	< 0.0100	0.0100		mg/L	1	3/15/2023 7:49:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/15/2023 7:49:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/15/2023 7:49:00 PM

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#: 23030616

Date Reported: 3/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 5:45:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23030616-012 **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	3/21/2023 12:20:04 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.121	0.0500		mg/L	1	3/21/2023 4:10:58 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.191	0.0100		mg/L	1	3/15/2023 7:51:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/15/2023 7:51:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/15/2023 7:51:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/15/2023 7:51:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/15/2023 7:51:00 PM
Lead	< 0.0100	0.0100		mg/L	1	3/15/2023 7:51:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/15/2023 7:51:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/15/2023 7:51:00 PM

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#: 23030616

Date Reported: 3/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023 6:30:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23030616-013 **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	3/21/2023 12:30:54 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.282	0.0500		mg/L	1	3/21/2023 4:38:34 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.0691	0.0100		mg/L	1	3/15/2023 7:54:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/15/2023 7:54:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/15/2023 7:54:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/15/2023 7:54:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/15/2023 7:54:00 PM
Lead	< 0.0100	0.0100		mg/L	1	3/15/2023 7:54:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/15/2023 7:54:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/15/2023 7:54:00 PM

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#: 23030616

Date Reported: 3/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/11/2023 8:55:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23030616-014 **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	3/21/2023 12:34:12 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.155	0.0500		mg/L	1	3/21/2023 5:06:08 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.0717	0.0100		mg/L	1	3/15/2023 7:56:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/15/2023 7:56:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/15/2023 7:56:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/15/2023 7:56:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/15/2023 7:56:00 PM
Lead	< 0.0100	0.0100		mg/L	1	3/15/2023 7:56:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/15/2023 7:56:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/15/2023 7:56:00 PM

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#: 23030616

Date Reported: 3/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/10/2023
Project: CCR Assessment Monitoring
Lab ID: 23030616-015 **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	3/21/2023 12:48:24 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.286	0.0500		mg/L	1	3/21/2023 6:01:18 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.0694	0.0100		mg/L	1	3/15/2023 8:03:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/15/2023 8:03:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/15/2023 8:03:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/15/2023 8:03:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/15/2023 8:03:00 PM
Lead	< 0.0100	0.0100		mg/L	1	3/15/2023 8:03:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/15/2023 8:03:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/15/2023 8:03:00 PM

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#: 23030616

Date Reported: 3/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 3/11/2023 9:15:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23030616-016 **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	3/21/2023 12:51:41 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	< 0.0500	0.0500		mg/L	1	3/21/2023 6:28:53 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	< 0.0100	0.0100		mg/L	1	3/15/2023 8:05:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	3/15/2023 8:05:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	3/15/2023 8:05:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	3/15/2023 8:05:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	3/15/2023 8:05:00 PM
Lead	< 0.0100	0.0100		mg/L	1	3/15/2023 8:05:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	3/15/2023 8:05:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	3/15/2023 8:05:00 PM

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#: 23030616

27-Mar-23

Client: Pivotal Engineering LLC

Project: CCR Assessment Monitoring

BatchID: 47287

Sample ID	MB-47287	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	3/13/2023	RunNo:	118673	
Client ID:	PBW	Batch ID:	47287	TestNo:	SW6010B			Analysis Date:	3/15/2023	SeqNo:	2954253	
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-47287	SampType: LCS	TestCode: 6010_W	Units: mg/L	Prep Date: 3/13/2023	RunNo: 118673					
Client ID:	LCSW	Batch ID: 47287	TestNo: SW6010B		Analysis Date: 3/15/2023	SeqNo: 2954256					
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	98.3	80	120				
Beryllium	0.499	0.00100	0.5000	0	99.8	80	120				
Cadmium	0.477	0.00500	0.5000	0	95.3	80	120				
Chromium	0.488	0.0100	0.5000	0	97.6	80	120				
Cobalt	0.488	0.0100	0.5000	0	97.7	80	120				
Lead	0.492	0.0100	0.5000	0	98.3	80	120				
Molybdenum	0.497	0.0100	0.5000	0	99.5	80	120				
Selenium	0.495	0.0200	0.5000	0	98.9	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#: 23030616

27-Mar-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 47287

Sample ID	LCSD-47287	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	3/13/2023	RunNo:	118673
Client ID:	LCSS02	Batch ID:	47287	TestNo:	SW6010B			Analysis Date:	3/15/2023	SeqNo:	2954257
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.499	0.0100	0.5000	0	99.8	80	120	0.4914	1.53	20	
Beryllium	0.503	0.00100	0.5000	0	101	80	120	0.4990	0.886	20	
Cadmium	0.483	0.00500	0.5000	0	96.6	80	120	0.4767	1.36	20	
Chromium	0.494	0.0100	0.5000	0	98.8	80	120	0.4881	1.22	20	
Cobalt	0.494	0.0100	0.5000	0	98.8	80	120	0.4884	1.16	20	
Lead	0.498	0.0100	0.5000	0	99.5	80	120	0.4916	1.20	20	
Molybdenum	0.505	0.0100	0.5000	0	101	80	120	0.4974	1.48	20	
Selenium	0.505	0.0200	0.5000	0	101	80	120	0.4945	2.06	20	

Sample ID	23030615-014BMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	3/13/2023	RunNo:	118673
Client ID:	ZZZZZZ	Batch ID:	47287	TestNo:	SW6010B			Analysis Date:	3/15/2023	SeqNo:	2954274
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.564	0.0100	0.5000	0.07168	98.5	75	125				
Beryllium	0.500	0.00100	0.5000	0	100	75	125				
Cadmium	0.475	0.00500	0.5000	0	95.0	75	125				
Chromium	0.488	0.0100	0.5000	0	97.6	75	125				
Cobalt	0.482	0.0100	0.5000	0	96.4	75	125				
Lead	0.487	0.0100	0.5000	0	97.5	75	125				
Molybdenum	0.495	0.0100	0.5000	0	99.0	75	125				
Selenium	0.497	0.0200	0.5000	0.007660	97.8	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#: 23030616

27-Mar-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 47287

Sample ID	23030615-014BMSD	SampType:	MSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	3/13/2023	RunNo:	118673
Client ID:	ZZZZZZ	Batch ID:	47287	TestNo:	SW6010B			Analysis Date:	3/15/2023	SeqNo:	2954275
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.562	0.0100	0.5000	0.07168	98.0	75	125	0.5643	0.440	20	
Beryllium	0.498	0.00100	0.5000	0	99.7	75	125	0.5000	0.335	20	
Cadmium	0.475	0.00500	0.5000	0	95.0	75	125	0.4750	0.00421	20	
Chromium	0.487	0.0100	0.5000	0	97.3	75	125	0.4880	0.308	20	
Cobalt	0.482	0.0100	0.5000	0	96.4	75	125	0.4819	0.0124	20	
Lead	0.476	0.0100	0.5000	0	95.3	75	125	0.4874	2.27	20	
Molybdenum	0.494	0.0100	0.5000	0	98.7	75	125	0.4950	0.305	20	
Selenium	0.489	0.0200	0.5000	0.007660	96.3	75	125	0.4966	1.54	20	

Sample ID	23030616-014BMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	3/13/2023	RunNo:	118673
Client ID:	CCR-14	Batch ID:	47287	TestNo:	SW6010B			Analysis Date:	3/15/2023	SeqNo:	2954342
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.564	0.0100	0.5000	0.07168	98.5	75	125				
Beryllium	0.500	0.00100	0.5000	0	100	75	125				
Cadmium	0.475	0.00500	0.5000	0	95.0	75	125				
Chromium	0.488	0.0100	0.5000	0	97.6	75	125				
Cobalt	0.482	0.0100	0.5000	0	96.4	75	125				
Lead	0.487	0.0100	0.5000	0	97.5	75	125				
Molybdenum	0.495	0.0100	0.5000	0	99.0	75	125				
Selenium	0.497	0.0200	0.5000	0.007660	97.8	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#: 23030616

27-Mar-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 47287

Sample ID	23030617-014BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 3/13/2023	RunNo: 118673					
Client ID: ZZZZZZ	Batch ID: 47287	TestNo: SW6010B	Analysis Date: 3/15/2023	SeqNo: 2954343							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.564	0.0100	0.5000	0.07168	98.5	75	125				
Beryllium	0.500	0.00100	0.5000	0	100	75	125				
Cadmium	0.475	0.00500	0.5000	0	95.0	75	125				
Chromium	0.488	0.0100	0.5000	0	97.6	75	125				
Cobalt	0.482	0.0100	0.5000	0	96.4	75	125				
Lead	0.487	0.0100	0.5000	0	97.5	75	125				
Molybdenum	0.495	0.0100	0.5000	0	99.0	75	125				
Selenium	0.497	0.0200	0.5000	0.007660	97.8	75	125				

Sample ID	23030616-014BMSD	SampType: MSD	TestCode: 6010_W		Units: mg/L	Prep Date: 3/13/2023			RunNo: 118673		
Client ID:	CCR-14	Batch ID: 47287	TestNo: SW6010B			Analysis Date: 3/15/2023			SeqNo: 2954344		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.562	0.0100	0.5000	0.07168	98.0	75	125	0.5643	0.440	20	
Beryllium	0.498	0.00100	0.5000	0	99.7	75	125	0.5000	0.335	20	
Cadmium	0.475	0.00500	0.5000	0	95.0	75	125	0.4750	0.00421	20	
Chromium	0.487	0.0100	0.5000	0	97.3	75	125	0.4880	0.308	20	
Cobalt	0.482	0.0100	0.5000	0	96.4	75	125	0.4819	0.0124	20	
Lead	0.476	0.0100	0.5000	0	95.3	75	125	0.4874	2.27	20	
Molybdenum	0.494	0.0100	0.5000	0	98.7	75	125	0.4950	0.305	20	
Selenium	0.489	0.0200	0.5000	0.007660	96.3	75	125	0.4966	1.54	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#: 23030616

27-Mar-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 47287

Sample ID	23030617-014BMSD	SampType:	MSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	3/13/2023	RunNo:	118673
Client ID:	ZZZZZZ	Batch ID:	47287	TestNo:	SW6010B			Analysis Date:	3/15/2023	SeqNo:	2954345
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.562	0.0100	0.5000	0.07168	98.0	75	125	0.5643	0.440	20	
Beryllium	0.498	0.00100	0.5000	0	99.7	75	125	0.5000	0.335	20	
Cadmium	0.475	0.00500	0.5000	0	95.0	75	125	0.4750	0.00421	20	
Chromium	0.487	0.0100	0.5000	0	97.3	75	125	0.4880	0.308	20	
Cobalt	0.482	0.0100	0.5000	0	96.4	75	125	0.4819	0.0124	20	
Lead	0.476	0.0100	0.5000	0	95.3	75	125	0.4874	2.27	20	
Molybdenum	0.494	0.0100	0.5000	0	98.7	75	125	0.4950	0.305	20	
Selenium	0.489	0.0200	0.5000	0.007660	96.3	75	125	0.4966	1.54	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#: 23030616

27-Mar-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 47308

Sample ID	MB-47308	SampType:	MBLK	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	3/15/2023	RunNo:	118808			
Client ID:	PBW	Batch ID:	47308	TestNo:	SW7470A			Analysis Date:	3/21/2023	SeqNo:	2957824			
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-47308	SampType:	LCS	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	3/15/2023	RunNo:	118808			
Client ID:	LCSW	Batch ID:	47308	TestNo:	SW7470A			Analysis Date:	3/21/2023	SeqNo:	2957825			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.00990		0.000200	0.01000	0		99.0	80	120				

Sample ID	LCSD-47308	SampType:	LCSD	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	3/15/2023	RunNo:	118808			
Client ID:	LCSS02	Batch ID:	47308	TestNo:	SW7470A			Analysis Date:	3/21/2023	SeqNo:	2957826			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.00993		0.000200	0.01000	0		99.3	80	120	0.009898	0.367	20	

Sample ID	23030616-014BMS	SampType:	MS	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	3/15/2023	RunNo:	118808	
Client ID:	CCR-14	Batch ID:	47308	TestNo:	SW7470A			Analysis Date:	3/21/2023	SeqNo:	2957846	
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	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



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#: 23030616
27-Mar-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 47308

Sample ID	23030616-014BMSD	SampType: MSD	TestCode: HG_W_7470	Units: mg/L	Prep Date: 3/15/2023	RunNo: 118808					
Client ID: CCR-14	Batch ID: 47308	TestNo: SW7470A	Analysis Date: 3/21/2023	SeqNo: 2957847							
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	107	75	125	0.01061	0.958	20	

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#: 23030616

27-Mar-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R118810

Sample ID	mblk	SampType:	MBLK	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	118810
Client ID:	PBW	Batch ID:	R118810	TestNo:	E 300.0			Analysis Date:	3/21/2023	SeqNo:	2957919
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:	118810
Client ID:	LCSW	Batch ID:	R118810	TestNo:	E 300.0			Analysis Date:	3/21/2023	SeqNo:	2957920
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		

Sample ID	lcsd	SampType:	LCSD	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	118810
Client ID:	LCSS02	Batch ID:	R118810	TestNo:	E 300.0			Analysis Date:	3/21/2023	SeqNo:	2957921
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Fluoride		2.05		0.0500	2.000	0	102	90	110	2.040	0.398 15

Sample ID	23030616-014AMS	SampType:	MS	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	118810
Client ID:	CCR-14	Batch ID:	R118810	TestNo:	E 300.0			Analysis Date:	3/21/2023	SeqNo:	2957952
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Fluoride		5.18		0.250	5.000	0.1551	100	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#: 23030616

27-Mar-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R118810

Sample ID	23030616-014AMSD	SampType: MSD	TestCode: 300.0		Units: mg/L		Prep Date:			RunNo: 118810		
Client ID:	CCR-14	Batch ID: R118810	TestNo: E 300.0		Analysis Date: 3/21/2023				SeqNo: 2957953			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		5.23	0.250	5.000	0.1551	102	80	120	5.178	1.06	15	

Sample ID	23030616-016AMS	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 118810					
Client ID: Field Blank	Batch ID: R118810	TestNo: E 300.0	Analysis Date: 3/21/2023	SeqNo: 2957957							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.993	0.0500	1.000	0	99.3	80	120				

Sample ID	23030616-016AMSD	SampType: MSD	TestCode: 300.0		Units: mg/L	Prep Date:				RunNo: 118810		
Client ID:	Field Blank	Batch ID: R118810	TestNo: E 300.0			Analysis Date: 3/21/2023				SeqNo: 2957958		
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	0.9932	1.30	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: **23030616**

RcptNo: **1**

Logged by: **Martin Lee** **3/13/2023 7:00:00 AM**

Martin Lee

Completed By: **Martin Lee** **3/13/2023 9:30:16 AM**

Martin Lee

Reviewed By: **Cristina Thibeaux** **3/14/2023 2:30:05 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:

No sampler's and relinquished signature by client on page 2. Add year to collection date.

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.0	Good	Not Present			



LELAP Certificate Number: 01955
A2LA Accredited (DoD ELAP-QSM 5.4) Certificate Number: 6429.01

ANALYTICAL RESULTS

PERFORMED BY

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

Report Date 03/24/2023

Report # 223031705



Project 23030616

Samples Collected 3/10/23 - 3/11/23

<i>Deliver To</i>	<i>Additional Recipients</i>
Annie Reedy	Cristina Thibaux, Element Materials Technology
Element Materials Technology	Lindsay Roussel, Element Materials Technology
2417 W Pinhook Rd	Buffy Bryant, Element Materials Technology
Lafayette, LA 70508	Kelli Foreman, Element Materials Technology
800-737-2378	





Report#: 223031705

Project ID: 23030616

Report Date: 03/24/2023

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 223031705

**Report#:** 223031705**Project ID:** 23030616**Report Date:** 03/24/2023

Certifications

Certification	Certification Number
A2LA Accredited (DoD ELAP-QSM 5.4)	6429.01
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



Report#: 223031705

Project ID: 23030616

Report Date: 03/24/2023

Case Narrative

Client: Element Materials Technology **Report:** 223031705

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).

**Report#:** 223031705**Project ID:** 23030616**Report Date:** 03/24/2023

Sample Summary

Lab ID	Client ID	Matrix	Collect Date	Receive Date
22303170501	CCR-1	Water	3/10/23 09:50	3/16/23 11:10
22303170502	CCR-2	Water	3/10/23 10:35	3/16/23 11:10
22303170503	CCR-3	Water	3/10/23 11:15	3/16/23 11:10
22303170504	CCR-4	Water	3/10/23 12:00	3/16/23 11:10
22303170505	CCR-5	Water	3/10/23 12:45	3/16/23 11:10
22303170506	CCR-6	Water	3/10/23 13:25	3/16/23 11:10
22303170507	CCR-7	Water	3/10/23 14:10	3/16/23 11:10
22303170508	CCR-8	Water	3/10/23 14:55	3/16/23 11:10
22303170509	CCR-9	Water	3/10/23 15:40	3/16/23 11:10
22303170510	CCR-10	Water	3/10/23 16:20	3/16/23 11:10
22303170511	CCR-11	Water	3/10/23 17:00	3/16/23 11:10
22303170512	CCR-12	Water	3/10/23 17:45	3/16/23 11:10
22303170513	CCR-13	Water	3/10/23 18:30	3/16/23 11:10
22303170514	CCR-14	Water	3/11/23 08:55	3/16/23 11:10
22303170515	CCR-14 MS	Water	3/11/23 08:55	3/16/23 11:10
22303170516	CCR-14 MSD	Water	3/11/23 08:55	3/16/23 11:10
22303170517	DUPLICATE	Water	3/10/23 00:01	3/16/23 11:10
22303170518	FIELD BLANK	Water	3/11/23 09:15	3/16/23 11:10



Report#: 223031705
Project ID: 23030616

Report Date: 03/24/2023

Sample Results

CCR-1	Collect Date	03/10/2023 09:50	Lab ID	22303170501
	Receive Date	03/16/2023 11:10	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/21/23 17:13	762214	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7440-36-0	Antimony	ND	2.00	ug/L
7440-38-2	Arsenic	ND	1.00	ug/L
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/23/23 15:09	762390	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	25.5	5.00	ug/L

CCR-2	Collect Date	03/10/2023 10:35	Lab ID	22303170502
	Receive Date	03/16/2023 11:10	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/21/23 17:17	762214	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7440-36-0	Antimony	ND	2.00	ug/L
7440-38-2	Arsenic	ND	1.00	ug/L
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/23/23 15:13	762390	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	26.0	5.00	ug/L



Report#: 223031705
Project ID: 23030616

Report Date: 03/24/2023

Sample Results

CCR-3	Collect Date	03/10/2023 11:15	Lab ID	22303170503
	Receive Date	03/16/2023 11:10	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/21/23 17:20	762214	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7440-36-0	Antimony	ND	2.00	ug/L
7440-38-2	Arsenic	5.20	1.00	ug/L
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/23/23 15:16	762390	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	34.3	5.00	ug/L

CCR-4	Collect Date	03/10/2023 12:00	Lab ID	22303170504
	Receive Date	03/16/2023 11:10	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/21/23 17:24	762214	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7440-36-0	Antimony	ND	2.00	ug/L
7440-38-2	Arsenic	ND	1.00	ug/L
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/23/23 15:20	762390	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	21.2	5.00	ug/L



Report#: 223031705

Project ID: 23030616

Report Date: 03/24/2023

Sample Results

CCR-5	Collect Date	03/10/2023 12:45	Lab ID	22303170505
	Receive Date	03/16/2023 11:10	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/21/23 17:27	762214	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7440-36-0	Antimony	ND	2.00	ug/L
7440-38-2	Arsenic	ND	1.00	ug/L
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/23/23 15:23	762390	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	24.7	5.00	ug/L

CCR-6	Collect Date	03/10/2023 13:25	Lab ID	22303170506
	Receive Date	03/16/2023 11:10	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/21/23 17:31	762214	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7440-36-0	Antimony	ND	2.00	ug/L
7440-38-2	Arsenic	ND	1.00	ug/L
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/23/23 15:27	762390	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	18.4	5.00	ug/L



Report#: 223031705

Project ID: 23030616

Report Date: 03/24/2023

Sample Results

CCR-7	Collect Date	03/10/2023 14:10	Lab ID	22303170507
	Receive Date	03/16/2023 11:10	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/21/23 17:34	762214	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7440-36-0	Antimony	ND	2.00	ug/L
7440-38-2	Arsenic	ND	1.00	ug/L
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/23/23 15:30	762390	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	15.4	5.00	ug/L

CCR-8	Collect Date	03/10/2023 14:55	Lab ID	22303170508
	Receive Date	03/16/2023 11:10	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/21/23 17:38	762214	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7440-36-0	Antimony	ND	2.00	ug/L
7440-38-2	Arsenic	ND	1.00	ug/L
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/23/23 15:33	762390	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	43.6	5.00	ug/L



Report#: 223031705
Project ID: 23030616

Report Date: 03/24/2023

Sample Results

CCR-9	Collect Date	03/10/2023 15:40	Lab ID	22303170509
	Receive Date	03/16/2023 11:10	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/21/23 17:41	762214	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7440-36-0	Antimony	ND	2.00	ug/L
7440-38-2	Arsenic	ND	1.00	ug/L
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/23/23 15:37	762390	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	13.7	5.00	ug/L

CCR-10	Collect Date	03/10/2023 16:20	Lab ID	22303170510
	Receive Date	03/16/2023 11:10	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/21/23 17:45	762214	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7440-36-0	Antimony	ND	2.00	ug/L
7440-38-2	Arsenic	1.36	1.00	ug/L
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/23/23 15:40	762390	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	10.6	5.00	ug/L



Report#: 223031705

Project ID: 23030616

Report Date: 03/24/2023

Sample Results

CCR-11

Collect Date 03/10/2023 17:00
Receive Date 03/16/2023 11:10Lab ID 22303170511
Matrix Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/21/23 17:55	762214	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7440-36-0	Antimony	ND	2.00	ug/L
7440-38-2	Arsenic	1.10	1.00	ug/L
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/23/23 15:51	762390	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	10.2	5.00	ug/L

CCR-12

Collect Date 03/10/2023 17:45
Receive Date 03/16/2023 11:10Lab ID 22303170512
Matrix Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/21/23 17:58	762214	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7440-36-0	Antimony	ND	2.00	ug/L
7440-38-2	Arsenic	1.14	1.00	ug/L
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/23/23 15:54	762390	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	31.8	5.00	ug/L



Report#: 223031705
Project ID: 23030616

Report Date: 03/24/2023

Sample Results

CCR-13	Collect Date	03/10/2023 18:30	Lab ID	22303170513
	Receive Date	03/16/2023 11:10	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/21/23 18:02	762214	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7440-36-0	Antimony	ND	2.00	ug/L
7440-38-2	Arsenic	ND	1.00	ug/L
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/23/23 15:58	762390	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	45.5	5.00	ug/L

CCR-14	Collect Date	03/11/2023 08:55	Lab ID	22303170514
	Receive Date	03/16/2023 11:10	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/21/23 18:05	762214	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7440-36-0	Antimony	ND	2.00	ug/L
7440-38-2	Arsenic	ND	1.00	ug/L
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/23/23 16:01	762390	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	19.4	5.00	ug/L



Report#: 223031705
Project ID: 23030616

Report Date: 03/24/2023

Sample Results

CCR-14 MS	Collect Date	03/11/2023 08:55	Lab ID	22303170515
	Receive Date	03/16/2023 11:10	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/21/23 18:09	762214	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7440-36-0	Antimony	104	2.00	ug/L
7440-38-2	Arsenic	50.2	1.00	ug/L
7440-28-0	Thallium	49.3	1.00	ug/L

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/23/23 16:05	762390	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	298	5.00	ug/L

CCR-14 MSD	Collect Date	03/11/2023 08:55	Lab ID	22303170516
	Receive Date	03/16/2023 11:10	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/21/23 18:13	762214	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7440-36-0	Antimony	104	2.00	ug/L
7440-38-2	Arsenic	50.4	1.00	ug/L
7440-28-0	Thallium	48.5	1.00	ug/L

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/23/23 16:09	762390	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	293	5.00	ug/L



Report#: 223031705

Project ID: 23030616

Report Date: 03/24/2023

Sample Results

DUPLICATE

Collect Date 03/10/2023 00:01

Lab ID 22303170517

Receive Date 03/16/2023 11:10

Matrix Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/21/23 18:23	762214	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7440-36-0	Antimony	ND	2.00	ug/L
7440-38-2	Arsenic	ND	1.00	ug/L
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/23/23 16:20	762390	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	47.0	5.00	ug/L

FIELD BLANK

Collect Date 03/11/2023 09:15

Lab ID 22303170518

Receive Date 03/16/2023 11:10

Matrix Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/21/23 18:26	762214	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7440-36-0	Antimony	ND	2.00	ug/L
7440-38-2	Arsenic	ND	1.00	ug/L
7440-28-0	Thallium	ND	1.00	ug/L

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
03/20/23 06:00	761967	EPA 3010A	1	03/23/23 16:23	762390	TDM	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	ND	5.00	ug/L



Report#: 223031705

Project ID: 23030616

Report Date: 03/24/2023

Inorganics QC Summary

Analytical Batch		Client ID	MB761967		LCS761967			
762214		Lab ID	2462748		2462749			
Prep Batch		Sample Type	MB		LCS			
761967		Prep Date	03/20/23 06:00		03/20/23 06:00			
Prep Method		Analysis Date	03/21/23 17:06		03/21/23 17:10			
EPA 3010A		Matrix	Water		Water			
EPA 6020B			Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R
Antimony	7440-36-0		ND	2.00	100	110	110	80 - 120
Arsenic	7440-38-2		ND	1.00	50.0	53.5	107	80 - 120
Thallium	7440-28-0		ND	1.00	50.0	52.3	105	80 - 120

Analytical Batch		Client ID	CCR-14		CCR-14 MS			CCR-14 MSD					
762214		Lab ID	22303170514		22303170515			22303170516					
Prep Batch		Sample Type	SAMPLE		MS			MSD					
761967		Prep Date	03/20/2023 06:00		03/20/23 06:00			03/20/23 06:00					
Prep Method		Analysis Date	03/21/2023 18:05		03/21/23 18:09			03/21/23 18:13					
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
Antimony	7440-36-0		0.0	2.00	100	104	104	80 - 120	100	104	104	0	20
Arsenic	7440-38-2		0.75	1.00	50.0	50.2	99	80 - 120	50.0	50.4	99	0	20
Thallium	7440-28-0		0.0	1.00	50.0	49.3	99	80 - 120	50.0	48.5	97	2	20



CHAIN OF CUSTODY RECORD

Omega CODIC 13227

PAGE

Client ID: 4462 - Element Materials Technology

SDG: 223031705

PM: JLM



TEL: (337) 233-0483

FAX: (337) 233-6540

Website: www.element.com

SUB CONTRACTOR: GCAL		COMPANY: Pace Analytical Gulf Coast		SPECIAL INSTRUCTIONS / COMMENTS:			
ADDRESS: 7979 Innovation Park Drive				SPECIAL INSTRUCTIONS / COMMENTS:			
CITY, STATE, ZIP: Baton Rouge, LA 70820				Client specified MS/ MSD on -014.			
PHONE: (225) 769-4900 FAX: (225) 767-5717		FAX: (225) 767-5717		6020 for Lithium, Arsenic, Antimony, Thallium			
ACCOUNT #:				Reference ELA045898PO on the invoice			
				EXCEL EDD NEEDED WITH FINAL REPORT			
ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Method Preserved Weights HOV Sample Notation, Additional Sample Description
1	23030616-001C SW6020A	CCR-1	250HDPHMC3	Aqueous	3/10/2023 9:50:00 AM	1	1
2	23030616-002C SW6020A	CCR-2	250HDPHMC3	Aqueous	3/10/2023 10:35:00 AM	1	2
3	23030616-003C SW6020A	CCR-3	250HDPHMC3	Aqueous	3/10/2023 11:15:00 AM	1	3
4	23030616-004C SW6020A	CCR-4	250HDPHMC3	Aqueous	3/10/2023 12:00:00 PM	1	4
5	23030616-005C SW6020A	CCR-5	250HDPHMC3	Aqueous	3/10/2023 12:45:00 PM	1	5
6	23030616-006C SW6020A	CCR-6	250HDPHMC3	Aqueous	3/10/2023 1:25:00 PM	1	6
7	23030616-007C SW6020A	CCR-7	250HDPHMC3	Aqueous	3/10/2023 2:10:00 PM	1	7
8	23030616-008C SW6020A	CCR-8	250HDPHMC3	Aqueous	3/10/2023 2:55:00 PM	1	8
9	23030616-009C SW6020A	CCR-9	250HDPHMC3	Aqueous	3/10/2023 3:40:00 PM	1	9

TAT: Standard ☐ RUSH ☐		RUSH		Next BD ☐ 2nd BD ☐ 3rd BD ☐		Note: RUSH requests will incur charges	
Received By: <i>[Signature]</i>	Time: 3:45:23	Received By: <i>[Signature]</i>	Time: 0700	Received By: <i>[Signature]</i>	Time: 0700	REPORT TRANSMITTAL DESIRED: ☐ HARD COPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE	
Refused By: <i>[Signature]</i>	Time: 3:45:23	Refused By: <i>[Signature]</i>	Time: 0700	Refused By: <i>[Signature]</i>	Time: 0700	FOR LAB USE ONLY Tong samples: <i>0.1538</i> Attempt to Cool? ☐ Comments: <i>0.1538</i>	



CHAIN OF CUSTODY RECORD

Omega COCTD 13227

PAGE

Client ID: 4462 - Element Materials Technology

SDG: 223031705

PMB: JLM

Tel: (337) 233-0483

Fax: (337) 233-6540

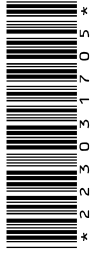
Website: www.element.com

SUB CONTRACTOR: GCAL		COMPANY: Pace Analytical Gulf Coast		SPECIAL INSTRUCTIONS / COMMENTS:			
ADDRESS: 7979 Innovation Park Drive				SPECIAL INSTRUCTIONS / COMMENTS:			
CITY, STATE, ZIP: Baton Rouge, LA 70820				Client specified MS/ MSD on -014.			
PHONE: (225) 769-4900 FAX: (225) 767-5717 EMAIL:				6020 for Lithium, Arsenic, Antimony, Thallium			
ACCOUNT #:				Reference LA045898PC on the invoice			
				EXCEL EDD NEEDED WITH FINAL REPORT			
ITEM #	SAMPLE ID	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	DATE COLLECTED	NUMBER OF CONTAINERS	COMMENTS: Method Preserved Weight: HOT Sample Notation, Additional Sample Description.
10	23030616-010C SW6020A	CCR-10	250HDPETHN03	Aqueous	3/10/2023 4:20:00 PM	1	18
11	23030616-011C SW6020A	CCR-11	250HDPETHN03	Aqueous	3/10/2023 5:00:00 PM	1	11
12	23030616-012C SW6020A	CCR-12	250HDPETHN03	Aqueous	3/10/2023 5:45:00 PM	1	12
13	23030616-013C SW6020A	CCR-13	250HDPETHN03	Aqueous	3/10/2023 6:30:00 PM	1	13
14	23030616-014C SW6020A	CCR-14	250HDPETHN03	Aqueous	3/11/2023 8:55:00 AM	3	MS, MSD 14, 15, 16
15	23030616-015C SW6020A	Duplicate	250HDPETHN03	Aqueous	3/10/2023	1	17
16	23030616-016C SW6020A	Field Blank	250HDPETHN03	Aqueous	3/11/2023 9:15:00 AM	1	18

Received By: <i>[Signature]</i>	Date: 3/15/23	Time: 0700	Received By: <i>[Signature]</i>	Date: 3/15/23	Time: 0700
Relinquished By: <i>[Signature]</i>	Date: 3/15/23	Time: 1110	Relinquished By: <i>[Signature]</i>	Date: 3/15/23	Time: 1110
TAT: Standard ☐ RUSH ☐			FOR LAB USE ONLY		
TAT: 3rd BD ☐			Temp. of Sample: 0.66°C		
TAT: 2nd BD ☐			Attempt to Cool? _____		
TAT: 1st BD ☐			Comments: _____		
Note: RUSH requests will incur recharged.					



SAMPLE RECEIVING CHECKLIST



SAMPLE DELIVERY GROUP 223031705		CHECKLIST		YES	NO
Client PM JLM 4462 - Element Materials Technology	Transport Method CUSTOMER	Samples received with proper thermal preservation?		☒	☐
Profile Number 271810	Received By McQuine, Dodie N	Radioactivity is <1600 cpm? If no, record cpm value in notes section.		☒	☐
Line Item(s) 13 - LI	Receive Date(s) 03/16/23	COC relinquished and complete (including sampleIDs, collect times, and sampler)?		☒	☐
		All containers received in good condition and within hold time?		☒	☐
		All sample labels and containers received match the chain of custody?		☒	☐
		Preservative added to any containers?		☐	☒
		If received, was headspace for VOC water containers < 6mm?		☒	☐
		Samples collected in containers provided by Pace Gulf Coast?		☐	☒
COOLERS		DISCREPANCIES		LAB PRESERVATIONS	
Airbill	Thermometer ID: E38	Temp °C 0.6	None	None	
NOTES					

Revision 1.6

Page 1 of 1



- ☐ 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

Client Name: Pivotal Engineering LLC		Project: CCR Assessment Monitoring		Laboratory Number <u>23030616</u>									
Contact Name: Terry Elnaggar		Sampler's Signature: <u>Terry Elnaggar</u>											
Phone/Fax: (504) 799-3653													
Collection Date	Time	Comp	Grb	Sample Identification / Description	Preserv.	Matrix Code	Number / Type of Container	300: Fluoride	**6010**6020 metals	***6020 Sub	7470 Mercury	Test Requested	Comments / Remarks
3/10/19	950	X		C C R - 1	None/ HNO ₃ H ₂ SO ₄	Aq	3 Plastic	X	X	X	X		*6010 Metals: Ba, Be, Cd, Cr, Co, Pb, Mo, Se
	1035	X		C C R - 2	None/ HNO ₃ H ₂ SO ₄	Aq	3 Plastic	X	X	X	X		
	1115	X		C C R - 3	None/ HNO ₃ H ₂ SO ₄	Aq	3 Plastic	X	X	X	X		**6020 Metals: As, Sb, Ti
	1200	X		C C R - 4	None/ HNO ₃ H ₂ SO ₄	Aq	3 Plastic	X	X	X	X		
	1245	X		C C R - 5	None/ HNO ₃ H ₂ SO ₄	Aq	3 Plastic	X	X	X	X		***6020 Sub Metal: Li
	1325	X		C C R - 6	None/ HNO ₃ H ₂ SO ₄	Aq	3 Plastic	X	X	X	X		
	1410	X		C C R - 7	None/ HNO ₃ H ₂ SO ₄	Aq	3 Plastic	X	X	X	X		
	1455	X		C C R - 8	None/ HNO ₃ H ₂ SO ₄	Aq	3 Plastic	X	X	X	X		
	1540	X		C C R - 9	None/ HNO ₃ H ₂ SO ₄	Aq	3 Plastic	X	X	X	X		
	1620	X		C C R - 10	None/ HNO ₃ H ₂ SO ₄	Aq	3 Plastic	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.													
Relinquished by: (Signature) <u>Terry Elnaggar</u>		Received by: (Signature)		Date <u>3/12/19</u> Time <u>12:30</u>		Relinquished by: (Signature)		Received by: (Signature)		Date		Time	
Relinquished by: (Signature)		Received by: (Signature)		Date		Relinquished by: (Signature)		Received by: (Signature)		Date		Time	
Matrix Codes DW = Drinking Water AO = Aqueous GW = Ground Water O = Oil WW = Waste Water SO = Soil		Container Types G = Glass P = Plastic V = Vial		Shipping Conditions ☒ Ice ☒ Temp <u>3.0</u> ☐ Ambient		Requested TAT ☐ 24-Hr. ☐ 72-Hr. ☒ 48-Hr. ☐ Standard ☐ Other		Thank-you for using Element Materials Technology		P.O. Number			



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, 2023

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.: 23060877

Dear Terry Elnaggar:

Element Materials Technology Lafayette received 16 sample(s) on 6/19/2023 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.

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#: 23060877
Date: 7/25/2023

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).



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#: 23060877

Date Reported: 7/25/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 8:45:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23060877-001 **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	41.9	2.50		mg/L	10	6/28/2023 10:53:35 AM
Fluoride	0.258	0.0500		mg/L	1	6/29/2023 3:42:35 AM
Sulfate	3.09	0.250		mg/L	1	6/29/2023 3:42:35 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Boron	< 0.100	0.100		mg/L	1	7/23/2023 1:09:00 PM
Calcium	26.2	0.500		mg/L	1	6/20/2023 6:01:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	285	10.0		mg/L	1	6/19/2023 11:37:00 AM

Qualifiers:	E	Value above quantitation range	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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Website: www.element.com

Analytical Report

(consolidated)

WO#: 23060877

Date Reported: 7/25/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 9:25:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23060877-002 **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	55.7	2.50		mg/L	10	6/28/2023 11:07:23 AM
Fluoride	0.334	0.0500		mg/L	1	6/29/2023 3:56:15 AM
Sulfate	1.58	0.250		mg/L	1	6/29/2023 3:56:15 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Boron	< 0.100	0.100		mg/L	1	7/23/2023 1:12:00 PM
Calcium	22.3	0.500		mg/L	1	6/20/2023 6:03:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	264	10.0		mg/L	1	6/19/2023 11:37:00 AM

Qualifiers:	E	Value above quantitation range	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#: 23060877

Date Reported: 7/25/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 10:05:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23060877-003 **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	128	5.00		mg/L	20	7/11/2023 8:33:12 AM
Fluoride	0.374	0.0500		mg/L	1	6/29/2023 4:10:03 AM
Sulfate	3.31	0.250		mg/L	1	6/29/2023 4:10:03 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	7/23/2023 1:14:00 PM
Calcium	29.9	0.500		mg/L	1	6/20/2023 6:06:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	390	10.0		mg/L	1	6/19/2023 11:37:00 AM

Qualifiers:	E	Value above quantitation range	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#: 23060877

Date Reported: 7/25/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 10:45:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23060877-004 **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	54.4	2.50		mg/L	10	7/11/2023 8:46:59 AM
Fluoride	0.217	0.0500		mg/L	1	6/29/2023 4:23:50 AM
Sulfate	12.9	0.250		mg/L	1	6/29/2023 4:23:50 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Boron	< 0.100	0.100		mg/L	1	7/23/2023 1:16:00 PM
Calcium	19.9	0.500		mg/L	1	6/20/2023 6:08:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	268	10.0		mg/L	1	6/19/2023 11:37:00 AM

Qualifiers:	E	Value above quantitation range	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#: 23060877

Date Reported: 7/25/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 11:25:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23060877-005 **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	57.8	5.00		mg/L	20	6/28/2023 11:48:45 AM
Fluoride	0.220	0.0500		mg/L	1	6/29/2023 4:37:37 AM
Sulfate	< 0.250	0.250		mg/L	1	6/29/2023 4:37:37 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	0.101	0.100		mg/L	1	7/23/2023 1:18:00 PM
Calcium	33.4	0.500		mg/L	1	6/20/2023 6:10:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	402	10.0		mg/L	1	6/19/2023 11:37:00 AM

Qualifiers:	E	Value above quantitation range	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#: 23060877

Date Reported: 7/25/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 12:05:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23060877-006 **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	82.3	2.50		mg/L	10	6/28/2023 12:30:06 PM
Fluoride	0.240	0.0500		mg/L	1	6/29/2023 4:51:24 AM
Sulfate	< 0.250	0.250		mg/L	1	6/29/2023 4:51:24 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Boron	< 0.100	0.100		mg/L	1	7/23/2023 1:21:00 PM
Calcium	29.5	0.500		mg/L	1	6/20/2023 6:13:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	329	10.0		mg/L	1	6/19/2023 11:37:00 AM

Qualifiers:	E	Value above quantitation range	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#: 23060877

Date Reported: 7/25/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 12:45:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23060877-007 **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	79.6	2.50		mg/L	10	6/28/2023 12:43:53 PM
Fluoride	0.296	0.0500		mg/L	1	6/29/2023 5:05:12 AM
Sulfate	< 0.250	0.250		mg/L	1	6/29/2023 5:05:12 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Boron	< 0.100	0.100		mg/L	1	7/23/2023 1:23:00 PM
Calcium	45.2	0.500		mg/L	1	6/20/2023 6:15:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	369	10.0		mg/L	1	6/19/2023 11:37:00 AM

Qualifiers:	E	Value above quantitation range	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#: 23060877

Date Reported: 7/25/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 1:25:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23060877-008 **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	80.9	2.50		mg/L	10	6/28/2023 12:57:41 PM
Fluoride	0.148	0.0500		mg/L	1	6/29/2023 5:19:01 AM
Sulfate	1.54	0.250		mg/L	1	6/29/2023 5:19:01 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	7/23/2023 1:25:00 PM
Calcium	10.6	0.500		mg/L	1	6/20/2023 6:17:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	296	10.0		mg/L	1	6/19/2023 11:37:00 AM

Qualifiers:	E	Value above quantitation range	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#: 23060877

Date Reported: 7/25/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 2:05:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23060877-009 **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	68.6	2.50		mg/L	10	6/28/2023 1:11:28 PM
Fluoride	0.542	0.0500		mg/L	1	6/29/2023 5:32:49 AM
Sulfate	6.43	0.250		mg/L	1	6/29/2023 5:32:49 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Boron	< 0.100	0.100		mg/L	1	7/23/2023 1:32:00 PM
Calcium	30.2	0.500		mg/L	1	6/20/2023 6:19:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	351	10.0		mg/L	1	6/19/2023 11:37:00 AM

Qualifiers:	E	Value above quantitation range	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#: 23060877

Date Reported: 7/25/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 2:45:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23060877-010 **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	43.3	2.50		mg/L	10	6/28/2023 1:25:15 PM
Fluoride	0.603	0.0500		mg/L	1	6/29/2023 5:46:36 AM
Sulfate	4.70	0.250		mg/L	1	6/29/2023 5:46:36 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Boron	< 0.100	0.100		mg/L	1	7/23/2023 1:34:00 PM
Calcium	27.5	0.500		mg/L	1	6/20/2023 6:22:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	312	10.0		mg/L	1	6/19/2023 11:37:00 AM

Qualifiers:	E	Value above quantitation range	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#: 23060877

Date Reported: 7/25/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 3:40:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23060877-011 **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	27.9	2.50		mg/L	10	6/28/2023 2:06:37 PM
Fluoride	0.656	0.0500		mg/L	1	6/29/2023 6:27:58 AM
Sulfate	2.30	0.250		mg/L	1	6/29/2023 6:27:58 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	7/23/2023 1:37:00 PM
Calcium	29.8	0.500		mg/L	1	6/20/2023 6:29:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	244	10.0		mg/L	1	6/19/2023 11:37:00 AM

Qualifiers:	E	Value above quantitation range	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#: 23060877

Date Reported: 7/25/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 4:25:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23060877-012 **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	18.2	0.250		mg/L	1	6/29/2023 6:41:47 AM
Fluoride	0.111	0.0500		mg/L	1	6/29/2023 6:41:47 AM
Sulfate	17.9	0.250		mg/L	1	6/29/2023 6:41:47 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Boron	< 0.100	0.100		mg/L	1	7/23/2023 1:39:00 PM
Calcium	20.7	0.500		mg/L	1	6/20/2023 6:31:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	175	10.0		mg/L	1	6/19/2023 11:37:00 AM

Qualifiers:	E	Value above quantitation range	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#: 23060877

Date Reported: 7/25/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 5:35:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23060877-013 **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	15.5	1.25		mg/L	5	6/28/2023 3:01:47 PM
Fluoride	0.296	0.0500		mg/L	1	6/29/2023 6:55:34 AM
Sulfate	2.90	0.250		mg/L	1	6/29/2023 6:55:34 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	7/23/2023 1:46:00 PM
Calcium	18.6	0.500		mg/L	1	6/20/2023 6:38:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	146	10.0		mg/L	1	6/19/2023 11:37:00 AM

Qualifiers:	E	Value above quantitation range	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#: 23060877

Date Reported: 7/25/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 6:15:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23060877-014 **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	11.2	1.25		mg/L	5	6/28/2023 3:15:35 PM
Fluoride	0.154	0.0500		mg/L	1	6/29/2023 7:09:22 AM
Sulfate	0.941	0.250		mg/L	1	6/29/2023 7:09:22 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	7/23/2023 1:48:00 PM
Calcium	16.6	0.500		mg/L	1	6/20/2023 6:40:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	154	10.0		mg/L	1	6/19/2023 11:37:00 AM

Qualifiers:	E	Value above quantitation range	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#: 23060877

Date Reported: 7/25/2023

CLIENT: Pivotal Engineering LLC

Collection Date: 6/16/2023

Project: Entergy: CCR Detection Monitoring

Lab ID: 23060877-015

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	28.7	2.50		mg/L	10	6/28/2023 3:29:22 PM
Fluoride	0.650	0.0500		mg/L	1	6/29/2023 7:23:15 AM
Sulfate	2.35	0.250		mg/L	1	6/29/2023 7:23:15 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	7/23/2023 1:51:00 PM
Calcium	30.0	0.500		mg/L	1	6/20/2023 6:42:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	243	10.0		mg/L	1	6/19/2023 11:37:00 AM

Qualifiers:	E	Value above quantitation range	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#: 23060877

Date Reported: 7/25/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 8:40:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23060877-016 **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	6/28/2023 3:43:09 PM
Fluoride	< 0.0500	0.0500		mg/L	1	6/28/2023 3:43:09 PM
Sulfate	< 0.250	0.250		mg/L	1	6/28/2023 3:43:09 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	7/23/2023 1:53:00 PM
Calcium	< 0.500	0.500		mg/L	1	6/20/2023 6:45:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	< 10.0	10.0		mg/L	1	6/19/2023 11:37:00 AM

Qualifiers:	E	Value above quantitation range	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

QC SUMMARY REPORT

WO#: 23060877
25-Jul-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: 48570

Sample ID	MB-48570	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/19/2023	RunNo:	122755	
Client ID:	PBW	Batch ID:	48570	TestNo:	SW6010B			Analysis Date:	6/20/2023	SeqNo:	3075508	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium		< 0.500	0.500									

Sample ID	LCS-48570	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/19/2023	RunNo:	122755	
Client ID:	LCSW	Batch ID:	48570	TestNo:	SW6010B			Analysis Date:	6/20/2023	SeqNo:	3075509	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium		51.0	0.500	50.00	0	102	80	120				

Sample ID	LCSD-48570	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/19/2023	RunNo:	122755			
Client ID:	LCSS02	Batch ID:	48570	TestNo:	SW6010B			Analysis Date:	6/20/2023	SeqNo:	3075510			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium		51.1		0.500	50.00	0		102	80	120	51.01	0.169	20	

Sample ID	23060877-012BMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/19/2023	RunNo:	122755	
Client ID:	CCR-12	Batch ID:	48570	TestNo:	SW6010B			Analysis Date:	6/20/2023	SeqNo:	3075527	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium		71.4	0.500	50.00	20.71	101	75	125				

Qualifiers:

E Value above quantitation range
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 sq



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QC SUMMARY REPORT

WO#: 23060877
25-Jul-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: 48570

Sample ID	23060877-012BMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 6/19/2023	RunNo: 122755					
Client ID: CCR-12	Batch ID: 48570	TestNo: SW6010B	Analysis Date: 6/20/2023	SeqNo: 3075528							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	71.9	0.500	50.00	20.71	102	75	125	71.41	0.690	20	

Qualifiers:

E Value above quantitation range
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 s



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QC SUMMARY REPORT

WO#: 23060877
25-Jul-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: 48570

Sample ID	MB-48570	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/19/2023	RunNo:	121868			
Client ID:	PBW	Batch ID:	48570	TestNo:	SW6010B			Analysis Date:	6/20/2023	SeqNo:	3048060			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium		< 0.500		0.500										

Sample ID	LCS-48570	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/19/2023	RunNo:	121868	
Client ID:	LCSW	Batch ID:	48570	TestNo:	SW6010B			Analysis Date:	6/20/2023	SeqNo:	3048061	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium		51.0	0.500	50.00	0	102	80	120				

Sample ID	LCSD-48570	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/19/2023	RunNo:	121868			
Client ID:	LCSS02	Batch ID:	48570	TestNo:	SW6010B			Analysis Date:	6/20/2023	SeqNo:	3048062			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium		51.1		0.500	50.00	0		102	80	120	51.01	0.169	20	

Sample ID	23060875-012BMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/19/2023	RunNo:	121868	
Client ID:	ZZZZZZ	Batch ID:	48570	TestNo:	SW6010B			Analysis Date:	6/20/2023	SeqNo:	3048082	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium		71.4	0.500	50.00	20.71	101	75	125				

Qualifiers:

E Value above quantitation range
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 sq



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QC SUMMARY REPORT

WO#: 23060877
25-Jul-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: 48570

Sample ID	23060875-012BMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 6/19/2023	RunNo: 121868					
Client ID:	ZZZZZZ	Batch ID: 48570	TestNo: SW6010B	Analysis Date: 6/20/2023	SeqNo: 3048083						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	71.9	0.500	50.00	20.71	102	75	125	71.41	0.690	20	

Sample ID	23060869-001AMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 6/19/2023	RunNo: 121868					
Client ID:	ZZZZZZ	Batch ID: 48570	TestNo: SW6010B	Analysis Date: 6/20/2023	SeqNo: 3048097						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	883	10.0	50.00	798.4	169	75	125				S

NOTES:

S - Spike recovery outside of recovery limits due to dilution and/or high native concentration. The method is in control as indicated by the LCS/LCSD results.

Sample ID	23060869-001AMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 6/19/2023	RunNo: 121868					
Client ID:	ZZZZZZ	Batch ID: 48570	TestNo: SW6010B	Analysis Date: 6/20/2023	SeqNo: 3048100						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	890	10.0	50.00	798.4	183	75	125	882.6	0.795	20	S

Qualifiers:

E Value above quantitation range
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 sj



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QC SUMMARY REPORT

WO#: 23060877
25-Jul-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: 49018

Sample ID	MB-49018	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	7/20/2023	RunNo:	122934			
Client ID:	PBW	Batch ID:	49018	TestNo:	SW6010B			Analysis Date:	7/23/2023	SeqNo:	3081218			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		< 0.100		0.100										

Sample ID	LCS-49018	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	7/20/2023	RunNo:	122934	
Client ID:	LCSW	Batch ID:	49018	TestNo:	SW6010B			Analysis Date:	7/23/2023	SeqNo:	3081221	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.494	0.100	0.5000	0	98.9	80	120				

Sample ID	LCSD-49018	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	7/20/2023	RunNo:	122934			
Client ID:	LCSS02	Batch ID:	49018	TestNo:	SW6010B			Analysis Date:	7/23/2023	SeqNo:	3081222			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.511		0.100	0.5000	0		102	80	120	0.4943	3.30	20	

Sample ID	23060877-012BMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	7/20/2023	RunNo:	122934	
Client ID:	CCR-12	Batch ID:	49018	TestNo:	SW6010B			Analysis Date:	7/23/2023	SeqNo:	3081237	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.564	0.100	0.5000	0	113	75	125				

Qualifiers:

E Value above quantitation range
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 sq



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QC SUMMARY REPORT

WO#: 23060877
25-Jul-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: 49018

Sample ID	23060877-012BMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 7/20/2023	RunNo: 122934					
Client ID: CCR-12	Batch ID: 49018	TestNo: SW6010B	Analysis Date: 7/23/2023	SeqNo: 3081238							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.570	0.100	0.5000	0	114	75	125	0.5641	1.08	20	

Qualifiers:

E Value above quantitation range
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 sq



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QC SUMMARY REPORT

WO#: 23060877
25-Jul-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R121806

Sample ID	MB-R121806	SampType:	MBLK	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	121806
Client ID:	PBW	Batch ID:	R121806	TestNo:	SM2540C			Analysis Date:	6/19/2023	SeqNo:	3046099
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-R121806	SampType:	LCS	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	121806
Client ID:	LCSW	Batch ID:	R121806	TestNo:	SM2540C			Analysis Date:	6/19/2023	SeqNo:	3046100
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		

Sample ID	LCSD-R121806	SampType:	LCSD	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	121806
Client ID:	LCSS02	Batch ID:	R121806	TestNo:	SM2540C			Analysis Date:	6/19/2023	SeqNo:	3046101
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	1,004	0.199 10

Sample ID	23060877-012ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	121806
Client ID:	CCR-12	Batch ID:	R121806	TestNo:	SM2540C			Analysis Date:	6/19/2023	SeqNo:	3046114
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						175.0	1.14 10

Qualifiers:

E Value above quantitation range
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 sq



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QC SUMMARY REPORT

WO#: 23060877
25-Jul-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R121806

Sample ID	23060877-012ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	121806
Client ID:	CCR-12	Batch ID:	R121806	TestNo:	SM2540C			Analysis Date:	6/19/2023	SeqNo:	3046114
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Sample ID	23060877-005ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	121806
Client ID:	CCR-5	Batch ID:	R121806	TestNo:	SM2540C			Analysis Date:	6/19/2023	SeqNo:	3046119
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Total Dissolved Solids (Residue, Filterable)		401		10.0						402.0	0.249 10

Qualifiers:

E Value above quantitation range
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#: 23060877
25-Jul-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R122153

Sample ID	mblk	SampType:	MBLK	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	122153	
Client ID:	PBW	Batch ID:	R122153	TestNo:	E 300.0			Analysis Date:	6/28/2023	SeqNo:	3057680	
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: 122153		
Client ID:	LCSW	Batch ID: R122153	TestNo: E 300.0		Analysis Date: 6/28/2023				SeqNo: 3057681			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		9.91	0.250	10.00	0	99.1	90	110				
Fluoride		2.04	0.0500	2.000	0	102	90	110				
Sulfate		9.88	0.250	10.00	0	98.8	90	110				

Sample ID	lcsd	SampType: LCSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 122153					
Client ID:	LCSS02	Batch ID: R122153	TestNo: E 300.0	Analysis Date: 6/28/2023	SeqNo: 3057682						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	9.94	0.250	10.00	0	99.4	90	110	9.906	0.297	15	
Fluoride	2.05	0.0500	2.000	0	103	90	110	2.042	0.428	15	
Sulfate	9.81	0.250	10.00	0	98.1	90	110	9.877	0.708	15	

Qualifiers:

E Value above quantitation range
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 sq



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QC SUMMARY REPORT

WO#: 23060877
25-Jul-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R122153

Sample ID	23060877-005AMS	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 122153					
Client ID:	CCR-5	Batch ID: R122153	TestNo: E 300.0	Analysis Date: 6/28/2023	SeqNo: 3057688						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	151	5.00	100.0	57.84	93.2	80	120				
Fluoride	18.6	1.00	20.00	0	93.0	80	120				
Sulfate	88.7	5.00	100.0	0	88.7	80	120				

Sample ID	23060877-005AMSD	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 122153					
Client ID:	CCR-5	Batch ID: R122153	TestNo: E 300.0	Analysis Date: 6/28/2023	SeqNo: 3057689						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	154	5.00	100.0	57.84	96.0	80	120	151.1	1.82	15	
Fluoride	18.8	1.00	20.00	0	94.2	80	120	18.59	1.38	15	
Sulfate	91.8	5.00	100.0	0	91.8	80	120	88.67	3.51	15	

Sample ID	23060877-012AMS	SampType: MS	TestCode: 300.0		Units: mg/L	Prep Date:			RunNo: 122153		
Client ID:	CCR-12	Batch ID: R122153	TestNo: E 300.0		Analysis Date: 6/28/2023			SeqNo: 3057699			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	43.6	1.25	25.00	18.10	102	80	120				
Fluoride	5.08	0.250	5.000	0	102	80	120				
Sulfate	41.7	1.25	25.00	15.86	103	80	120				

Qualifiers:

E Value above quantitation range
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 sq



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QC SUMMARY REPORT

WO#: 23060877
25-Jul-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R122153

Sample ID	23060877-012AMSD	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 122153					
Client ID:	CCR-12	Batch ID: R122153	TestNo: E 300.0	Analysis Date: 6/28/2023	SeqNo: 3057700						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	43.8	1.25	25.00	18.10	103	80	120	43.56	0.433	15	
Fluoride	5.10	0.250	5.000	0	102	80	120	5.081	0.442	15	
Sulfate	42.0	1.25	25.00	15.86	105	80	120	41.71	0.782	15	

Qualifiers:

E Value above quantitation range
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 s



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QC SUMMARY REPORT

WO#: 23060877
25-Jul-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R122564

Sample ID	mblk	SampType:	MBLK	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	122564
Client ID:	PBW	Batch ID:	R122564	TestNo:	E 300.0			Analysis Date:	7/11/2023	SeqNo:	3069907
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Chloride		< 0.250		0.250							

Sample ID	lcs	SampType:	LCS	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	122564
Client ID:	LCSW	Batch ID:	R122564	TestNo:	E 300.0			Analysis Date:	7/11/2023	SeqNo:	3069908
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		

Sample ID	lcsd	SampType:	LCSD	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	122564
Client ID:	LCSS02	Batch ID:	R122564	TestNo:	E 300.0			Analysis Date:	7/11/2023	SeqNo:	3069909
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Chloride		9.91		0.250	10.00	0	99.1	90	110	9.732	1.83 15

Sample ID	23060877-003ams	SampType:	MS	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	122564
Client ID:	CCR-3	Batch ID:	R122564	TestNo:	E 300.0			Analysis Date:	7/12/2023	SeqNo:	3069983
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Chloride		221		5.00	100.0	127.5	93.0	80	120		

Qualifiers:

E Value above quantitation range
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 sq



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2417 W. Pinhook Road
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QC SUMMARY REPORT

WO#: 23060877
25-Jul-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R122564

Sample ID	23060877-003amsd	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 122564					
Client ID:	CCR-3	Batch ID: R122564	TestNo: E 300.0	Analysis Date: 7/12/2023	SeqNo: 3069984						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	214	5.00	100.0	127.5	86.9	80	120	220.6	2.81	15	

Qualifiers:

E Value above quantitation range
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 s



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Sample Log-In Check List

Client Name: **PIVOTAL_ENGINEERIN**

Work Order Number: **23060877**

RcptNo: **1**

Logged by: **Martin Lee** **6/19/2023 7:10:00 AM**

Martin Lee

Completed By: **Martin Lee** **6/19/2023 9:52:29 AM**

Martin Lee

Reviewed By: **Buffy Bryant** **7/8/2023 12:46:22 PM**

Buffy Bryant

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:

No sampler's signature by client on page 2

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.5	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

Page 1 of 2

Chain of Custody Record

Laboratory
Number 23060877

Client Name: Pivotal Engineering LLC		Project: CCR Detection Monitoring		Preserv.		Number / Type of Container	Matrix Code	Test Requested										Comments / Remarks		
Contact Name: Terry Elnaggar				HCl HNO ₃ H ₂ SO ₄ NaOH Na ₂ S ₂ O ₃				TDS	300: Cl, F, SO ₄	6010 metals*										
Phone/Fax: (504) 799-3653		Sampler's Signature <u>[Signature]</u>																		
Collection		Grab	Comp	Sample Identification / Description																
Date	Time																			
6/16/23	845	X		C	C	R	-	1	None/ HNO ₃	2 Plastic	Aq	X	X	X						
	925	X		C	C	R	-	2	None/ HNO ₃	2 Plastic	Aq	X	X	X						*6010 Metals: B, Ca
	1005	X		C	C	R	-	3	None/ HNO ₃	2 Plastic	Aq	X	X	X						
	1045	X		C	C	R	-	4	None/ HNO ₃	2 Plastic	Aq	X	X	X						
	1125	X		C	C	R	-	5	None/ HNO ₃	2 Plastic	Aq	X	X	X						
	1205	X		C	C	R	-	6	None/ HNO ₃	2 Plastic	Aq	X	X	X						
	1245	X		C	C	R	-	7	None/ HNO ₃	2 Plastic	Aq	X	X	X						
	1325	X		C	C	R	-	8	None/ HNO ₃	2 Plastic	Aq	X	X	X						
	1405	X		C	C	R	-	9	None/ HNO ₃	2 Plastic	Aq	X	X	X						
	1445	X		C	C	R	-	10	None/ HNO ₃	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.																		P.O. Number		
Relinquished by: (Signature) <u>[Signature]</u>		Received by: (Signature) <u>Drop Box</u>		Date <u>6/18/23</u> Time <u>2:30</u>		Relinquished by: (Signature)		Received by: (Signature)		Date		Time								
Relinquished by: (Signature)		Received by: (Signature)		Date		Time		Relinquished by: (Signature)		Received by Laboratory: (Signature) <u>[Signature]</u>		Date <u>6/19/23</u> Time <u>0710</u>								
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 <u>mg</u> Temp. <u>2.5</u> ☐ Ambient		Requested TAT ☐ 24-Hr. ☐ 72-Hr. ☐ 48-Hr. ☒ Standard ☐ Other				Thank-you for using Element Materials Technology								



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Page 2 of 2

Chain of Custody Record

Laboratory
Number 23060877

Client Name: Pivotal Engineering LLC		Project: CCR Detection Monitoring		Preserv.		Number / Type of Container	Matrix Code	Test Requested										Comments / Remarks		
Contact Name: Terry Elnaggar		Sampler's Signature:		HCl	HNO ₃			H ₂ SO ₄	NaOH	Na ₂ S ₂ O ₃	TDS	300: Cl, F, SO ₄	6010 metals*							
Phone/Fax: (504) 799-3653		Collection Date	Time	Grab	Comp	Sample Identification / Description														
		6/16/15	1540	X		C C R - 1 1		None/ HNO ₃	2 Plastic	Aq	X	X	X							
			1625	X		C C R - 1 2		None/ HNO ₃	2 Plastic	Aq	X	X	X							*6010 Metals: B, Ca
			1735	X		C C R - 1 3		None/ HNO ₃	2 Plastic	Aq	X	X	X							
			1815	X		C C R - 1 4		None/ HNO ₃	2 Plastic	Aq	X	X	X							
			1630	X		M S (CCR- 012)		None/ HNO ₃	2 Plastic	Aq	X	X	X							
			1635	X		M S D (CCR- 012)		None/ HNO ₃	2 Plastic	Aq	X	X	X							
			→	X		D U P		None/ HNO ₃	2 Plastic	Aq	X	X	X							
			2040	X		F B 1		None/ HNO ₃	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.										P.O. Number										
Relinquished by: (Signature)		Received by: (Signature)		Date		Time		Relinquished by: (Signature)		Received by: (Signature)		Date		Time						
		<u>Drop Box</u>		6/18/23		21:30														
Relinquished by: (Signature)		Received by: (Signature)		Date		Time		Relinquished by: (Signature)		Received by Laboratory: (Signature)		Date		Time						
								<u>Drop Box</u>		<u>Martini</u>		6/19/23		0710						
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 <u>my</u> Temp. <u>2.5</u> ☐ Ambient		Requested TAT ☐ 24-Hr. ☐ 72-Hr. ☐ 48-Hr. ☒ Standard ☐ Other		Thank-you for using Element Materials Technology										



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Website: www.element.com

July 26, 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.: 23060875

Dear Terry Elnaggar:

Element Materials Technology Lafayette received 16 sample(s) on 6/19/2023 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



Element Materials Technology Lafayette
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Lafayette, LA 70508-3344
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Website: www.element.com

Case Narrative

WO#: 23060875
Date: 7/26/2023

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 (6020) analysis was subcontracted to Pace Gulf Coast (Baton Rouge, LA). Their report is attached in its entirety.



Element Materials Technology Lafayette
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Analytical Report

(consolidated)

WO#: 23060875

Date Reported: 7/26/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 8:45:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23060875-001 **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	6/21/2023 8:18:44 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: BXB
Fluoride	0.258	0.0500		mg/L	1	6/29/2023 3:42:35 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Barium	0.176	0.0100		mg/L	1	6/20/2023 6:01:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	6/20/2023 6:01:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	6/20/2023 6:01:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	6/20/2023 6:01:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	6/20/2023 6:01:00 PM
Lead	< 0.0100	0.0100		mg/L	1	6/20/2023 6:01:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	6/20/2023 6:01:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	6/20/2023 6:01:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM
Arsenic	< 10.0	10.0		µg/L	1	6/22/2023 10:15:00 AM
Thallium	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM

Qualifiers:	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#: 23060875

Date Reported: 7/26/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 9:25:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23060875-002 **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	6/21/2023 8:22:00 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.334	0.0500		mg/L	1	6/29/2023 3:56:15 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.150	0.0100		mg/L	1	6/20/2023 6:03:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	6/20/2023 6:03:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	6/20/2023 6:03:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	6/20/2023 6:03:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	6/20/2023 6:03:00 PM
Lead	< 0.0100	0.0100		mg/L	1	6/20/2023 6:03:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	6/20/2023 6:03:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	6/20/2023 6:03:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM
Arsenic	< 10.0	10.0		µg/L	1	6/22/2023 10:15:00 AM
Thallium	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM

Qualifiers:	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#: 23060875

Date Reported: 7/26/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 10:05:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23060875-003 **Matrix:** AQUEOUS
Client Sample ID CCR-3

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: BXB	
Mercury	0.000225	0.000200		mg/L	1	6/21/2023 8:33:21 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.374	0.0500		mg/L	1	6/29/2023 4:10:03 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.273	0.0100		mg/L	1	6/20/2023 6:06:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	6/20/2023 6:06:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	6/20/2023 6:06:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	6/20/2023 6:06:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	6/20/2023 6:06:00 PM
Lead	< 0.0100	0.0100		mg/L	1	6/20/2023 6:06:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	6/20/2023 6:06:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	6/20/2023 6:06:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM
Arsenic	< 10.0	10.0		µg/L	1	6/22/2023 10:15:00 AM
Thallium	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM

Qualifiers:	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#: 23060875

Date Reported: 7/26/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 10:45:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23060875-004 **Matrix:** AQUEOUS
Client Sample ID CCR-4

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: BXB	
Mercury	0.000228	0.000200		mg/L	1	6/21/2023 8:37:09 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.217	0.0500		mg/L	1	6/29/2023 4:23:50 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.108	0.0100		mg/L	1	6/20/2023 6:08:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	6/20/2023 6:08:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	6/20/2023 6:08:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	6/20/2023 6:08:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	6/20/2023 6:08:00 PM
Lead	< 0.0100	0.0100		mg/L	1	6/20/2023 6:08:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	6/20/2023 6:08:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	6/20/2023 6:08:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM
Arsenic	< 10.0	10.0		µg/L	1	6/22/2023 10:15:00 AM
Thallium	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM

Qualifiers:	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#: 23060875

Date Reported: 7/26/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 11:25:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23060875-005 **Matrix:** AQUEOUS
Client Sample ID: CCR-5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER, TOTAL				SW7470A	Analyst: BXB	
Mercury	0.000267	0.000200		mg/L	1	6/21/2023 8:40:57 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.220	0.0500		mg/L	1	6/29/2023 4:37:37 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.207	0.0100		mg/L	1	6/20/2023 6:10:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	6/20/2023 6:10:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	6/20/2023 6:10:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	6/20/2023 6:10:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	6/20/2023 6:10:00 PM
Lead	< 0.0100	0.0100		mg/L	1	6/20/2023 6:10:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	6/20/2023 6:10:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	6/20/2023 6:10:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM
Arsenic	< 10.0	10.0		µg/L	1	6/22/2023 10:15:00 AM
Thallium	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM

Qualifiers:	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
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TEL: (337) 235-0483 FAX: (337) 233-6540
Website: www.element.com

Analytical Report

(consolidated)

WO#: 23060875

Date Reported: 7/26/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 12:05:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23060875-006 **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	6/21/2023 8:44:47 AM
INORGANIC ANIONS IN WATER BY IC		E 300.0			Analyst: BXB	
Fluoride	0.240	0.0500		mg/L	1	6/29/2023 4:51:24 AM
METALS IN WATER BY ICP, TOTALS		SW6010B			Analyst: IO	
Barium	0.186	0.0100		mg/L	1	6/20/2023 6:13:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	6/20/2023 6:13:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	6/20/2023 6:13:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	6/20/2023 6:13:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	6/20/2023 6:13:00 PM
Lead	< 0.0100	0.0100		mg/L	1	6/20/2023 6:13:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	6/20/2023 6:13:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	6/20/2023 6:13:00 PM
METALS IN WATER BY ICP-MS, TOTAL		SW6020A			Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM
Arsenic	< 10.0	10.0		µg/L	1	6/22/2023 10:15:00 AM
Thallium	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM

Qualifiers:	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#: 23060875

Date Reported: 7/26/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 12:45:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23060875-007 **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	6/21/2023 8:48:35 AM
INORGANIC ANIONS IN WATER BY IC		E 300.0			Analyst: BXB	
Fluoride	0.296	0.0500		mg/L	1	6/29/2023 5:05:12 AM
METALS IN WATER BY ICP, TOTALS		SW6010B			Analyst: IO	
Barium	0.201	0.0100		mg/L	1	6/20/2023 6:15:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	6/20/2023 6:15:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	6/20/2023 6:15:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	6/20/2023 6:15:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	6/20/2023 6:15:00 PM
Lead	< 0.0100	0.0100		mg/L	1	6/20/2023 6:15:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	6/20/2023 6:15:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	6/20/2023 6:15:00 PM
METALS IN WATER BY ICP-MS, TOTAL		SW6020A			Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM
Arsenic	< 10.0	10.0		µg/L	1	6/22/2023 10:15:00 AM
Thallium	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM

Qualifiers:	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#: 23060875

Date Reported: 7/26/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 1:25:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23060875-008 **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	6/21/2023 8:52:24 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: BXB
Fluoride	0.148	0.0500		mg/L	1	6/29/2023 5:19:01 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Barium	0.0972	0.0100		mg/L	1	6/20/2023 6:17:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	6/20/2023 6:17:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	6/20/2023 6:17:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	6/20/2023 6:17:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	6/20/2023 6:17:00 PM
Lead	< 0.0100	0.0100		mg/L	1	6/20/2023 6:17:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	6/20/2023 6:17:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	6/20/2023 6:17:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM
Arsenic	< 10.0	10.0		µg/L	1	6/22/2023 10:15:00 AM
Thallium	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM

Qualifiers:	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#: 23060875

Date Reported: 7/26/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 2:05:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23060875-009 **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	6/21/2023 8:55:44 AM
INORGANIC ANIONS IN WATER BY IC		E 300.0			Analyst: BXB	
Fluoride	0.542	0.0500		mg/L	1	6/29/2023 5:32:49 AM
METALS IN WATER BY ICP, TOTALS		SW6010B			Analyst: IO	
Barium	0.212	0.0100		mg/L	1	6/20/2023 6:19:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	6/20/2023 6:19:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	6/20/2023 6:19:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	6/20/2023 6:19:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	6/20/2023 6:19:00 PM
Lead	< 0.0100	0.0100		mg/L	1	6/20/2023 6:19:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	6/20/2023 6:19:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	6/20/2023 6:19:00 PM
METALS IN WATER BY ICP-MS, TOTAL		SW6020A			Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM
Arsenic	< 10.0	10.0		µg/L	1	6/22/2023 10:15:00 AM
Thallium	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM

Qualifiers:	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#: 23060875

Date Reported: 7/26/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 2:45:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23060875-010 **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	6/23/2023 11:03:37 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: BXB
Fluoride	0.603	0.0500		mg/L	1	6/29/2023 5:46:36 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Barium	0.252	0.0100		mg/L	1	6/20/2023 6:22:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	6/20/2023 6:22:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	6/20/2023 6:22:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	6/20/2023 6:22:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	6/20/2023 6:22:00 PM
Lead	< 0.0100	0.0100		mg/L	1	6/20/2023 6:22:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	6/20/2023 6:22:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	6/20/2023 6:22:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM
Arsenic	< 10.0	10.0		µg/L	1	6/22/2023 10:15:00 AM
Thallium	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM

Qualifiers:	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#: 23060875

Date Reported: 7/26/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 3:40:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23060875-011 **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	6/23/2023 11:06:54 AM
INORGANIC ANIONS IN WATER BY IC		E 300.0			Analyst: BXB	
Fluoride	0.656	0.0500		mg/L	1	6/29/2023 6:27:58 AM
METALS IN WATER BY ICP, TOTALS		SW6010B			Analyst: IO	
Barium	0.148	0.0100		mg/L	1	6/20/2023 6:29:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	6/20/2023 6:29:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	6/20/2023 6:29:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	6/20/2023 6:29:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	6/20/2023 6:29:00 PM
Lead	< 0.0100	0.0100		mg/L	1	6/20/2023 6:29:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	6/20/2023 6:29:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	6/20/2023 6:29:00 PM
METALS IN WATER BY ICP-MS, TOTAL		SW6020A			Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM
Arsenic	< 10.0	10.0		µg/L	1	6/22/2023 10:15:00 AM
Thallium	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM

Qualifiers:	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#: 23060875

Date Reported: 7/26/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 4:25:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23060875-012 **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	6/23/2023 10:45:43 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.111	0.0500		mg/L	1	6/29/2023 6:41:47 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.183	0.0100		mg/L	1	6/20/2023 6:31:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	6/20/2023 6:31:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	6/20/2023 6:31:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	6/20/2023 6:31:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	6/20/2023 6:31:00 PM
Lead	< 0.0100	0.0100		mg/L	1	6/20/2023 6:31:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	6/20/2023 6:31:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	6/20/2023 6:31:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM
Arsenic	< 10.0	10.0		µg/L	1	6/22/2023 10:15:00 AM
Thallium	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM

Qualifiers:	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#: 23060875

Date Reported: 7/26/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 5:35:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23060875-013 **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	6/23/2023 11:21:30 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: BXB
Fluoride	0.296	0.0500		mg/L	1	6/29/2023 6:55:34 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Barium	0.0471	0.0100		mg/L	1	6/20/2023 6:38:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	6/20/2023 6:38:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	6/20/2023 6:38:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	6/20/2023 6:38:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	6/20/2023 6:38:00 PM
Lead	< 0.0100	0.0100		mg/L	1	6/20/2023 6:38:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	6/20/2023 6:38:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	6/20/2023 6:38:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM
Arsenic	< 10.0	10.0		µg/L	1	6/22/2023 10:15:00 AM
Thallium	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM

Qualifiers:	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#: 23060875

Date Reported: 7/26/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 6:15:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23060875-014 **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	6/23/2023 11:24:47 AM
INORGANIC ANIONS IN WATER BY IC		E 300.0			Analyst: BXB	
Fluoride	0.154	0.0500		mg/L	1	6/29/2023 7:09:22 AM
METALS IN WATER BY ICP, TOTALS		SW6010B			Analyst: IO	
Barium	0.0731	0.0100		mg/L	1	6/20/2023 6:40:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	6/20/2023 6:40:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	6/20/2023 6:40:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	6/20/2023 6:40:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	6/20/2023 6:40:00 PM
Lead	< 0.0100	0.0100		mg/L	1	6/20/2023 6:40:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	6/20/2023 6:40:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	6/20/2023 6:40:00 PM
METALS IN WATER BY ICP-MS, TOTAL		SW6020A			Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM
Arsenic	< 10.0	10.0		µg/L	1	6/22/2023 10:15:00 AM
Thallium	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM

Qualifiers:	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#: 23060875

Date Reported: 7/26/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023
Project: CCR Assessment Monitoring
Lab ID: 23060875-015 **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	6/23/2023 11:28:06 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.650	0.0500		mg/L	1	6/29/2023 7:23:15 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.149	0.0100		mg/L	1	6/20/2023 6:42:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	6/20/2023 6:42:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	6/20/2023 6:42:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	6/20/2023 6:42:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	6/20/2023 6:42:00 PM
Lead	< 0.0100	0.0100		mg/L	1	6/20/2023 6:42:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	6/20/2023 6:42:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	6/20/2023 6:42:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM
Arsenic	< 10.0	10.0		µg/L	1	6/22/2023 10:15:00 AM
Thallium	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM

Qualifiers:	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#: 23060875

Date Reported: 7/26/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 6/16/2023 8:40:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23060875-016 **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	6/23/2023 11:31:23 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	< 0.0500	0.0500		mg/L	1	6/28/2023 3:43:09 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	< 0.0100	0.0100		mg/L	1	6/20/2023 6:45:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	6/20/2023 6:45:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	6/20/2023 6:45:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	6/20/2023 6:45:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	6/20/2023 6:45:00 PM
Lead	< 0.0100	0.0100		mg/L	1	6/20/2023 6:45:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	6/20/2023 6:45:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	6/20/2023 6:45:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM
Arsenic	< 10.0	10.0		µg/L	1	6/22/2023 10:15:00 AM
Thallium	< 0.250	0.250		µg/L	1	6/22/2023 10:15:00 AM

Qualifiers:	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#: 23060875
26-Jul-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 48570

Sample ID	MB-48570	SampType: MBLK	TestCode: 6010_W	Units: mg/L	Prep Date: 6/19/2023	RunNo: 122754					
Client ID:	PBW	Batch ID: 48570	TestNo: SW6010B		Analysis Date: 6/20/2023	SeqNo: 3075464					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	< 0.0100	0.0100									
Cadmium	< 0.00500	0.00500									
Cobalt	< 0.0100	0.0100									
Lead	< 0.0100	0.0100									
Selenium	< 0.0200	0.0200									

Sample ID	LCS-48570	SampType: LCS	TestCode: 6010_W	Units: mg/L	Prep Date: 6/19/2023	RunNo: 122754					
Client ID:	LCSW	Batch ID: 48570	TestNo: SW6010B		Analysis Date: 6/20/2023	SeqNo: 3075465					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.487	0.0100	0.5000	0	97.5	80	120				
Cadmium	0.474	0.00500	0.5000	0	94.7	80	120				
Cobalt	0.481	0.0100	0.5000	0	96.3	80	120				
Lead	0.488	0.0100	0.5000	0	97.6	80	120				
Selenium	0.470	0.0200	0.5000	0	93.9	80	120				

Sample ID	LCSD-48570	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/19/2023	RunNo:	122754	
Client ID:	LCSS02	Batch ID:	48570	TestNo:	SW6010B			Analysis Date:	6/20/2023	SeqNo:	3075466	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium		0.489	0.0100	0.5000	0	97.9	80	120	0.4873	0.432	20	
Cadmium		0.472	0.00500	0.5000	0	94.5	80	120	0.4736	0.262	20	
Cobalt		0.484	0.0100	0.5000	0	96.8	80	120	0.4814	0.499	20	

Qualifiers:

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

M Matrix Interference
RL Reporting Limit
U Analyte not detected



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QC SUMMARY REPORT

WO#: 23060875
26-Jul-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 48570

Sample ID	LCSD-48570	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/19/2023	RunNo:	122754	
Client ID:	LCSS02	Batch ID:	48570	TestNo:	SW6010B			Analysis Date:	6/20/2023	SeqNo:	3075466	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		0.488	0.0100	0.5000	0	97.7	80	120	0.4881	0.0819	20	
Selenium		0.468	0.0200	0.5000	0	93.6	80	120	0.4696	0.324	20	

Sample ID	23060876-012BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date:	RunNo: 122754					
Client ID:	ZZZZZZ	Batch ID: 48570	TestNo: SW6010B	Analysis Date: 6/20/2023	SeqNo: 3075483						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.658	0.0100	0.5000	0.1831	95.0	75	125				
Cadmium	0.466	0.00500	0.5000	0	93.2	75	125				
Cobalt	0.466	0.0100	0.5000	0	93.1	75	125				
Lead	0.474	0.0100	0.5000	0	94.7	75	125				
Selenium	0.464	0.0200	0.5000	0.006270	91.6	75	125				

Sample ID	23060876-012BMSD	SampType: MSD	TestCode: 6010_W		Units: mg/L	Prep Date:			RunNo: 122754		
Client ID:	ZZZZZZ	Batch ID: 48570	TestNo: SW6010B		Analysis Date: 6/20/2023			SeqNo: 3075484			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.665	0.0100	0.5000	0.1831	96.3	75	125	0.6582	0.992	20	
Cadmium	0.467	0.00500	0.5000	0	93.4	75	125	0.4661	0.163	20	
Cobalt	0.469	0.0100	0.5000	0	93.7	75	125	0.4656	0.657	20	
Lead	0.477	0.0100	0.5000	0	95.3	75	125	0.4737	0.644	20	
Selenium	0.473	0.0200	0.5000	0.006270	93.4	75	125	0.4644	1.84	20	

Qualifiers:

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

M Matrix Interference
RL Reporting Limit
U Analyte not detected



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QC SUMMARY REPORT

WO#: 23060875
26-Jul-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 48570

Sample ID	MB-48570	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/19/2023	RunNo:	121868	
Client ID:	PBW	Batch ID:	48570	TestNo:	SW6010B			Analysis Date:	6/20/2023	SeqNo:	3048060	
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-48570	SampType: LCS	TestCode: 6010_W	Units: mg/L	Prep Date: 6/19/2023	RunNo: 121868					
Client ID:	LCSW	Batch ID: 48570	TestNo: SW6010B		Analysis Date: 6/20/2023	SeqNo: 3048061					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.487	0.0100	0.5000	0	97.5	80	120				
Beryllium	0.488	0.00100	0.5000	0	97.6	80	120				
Cadmium	0.474	0.00500	0.5000	0	94.7	80	120				
Chromium	0.477	0.0100	0.5000	0	95.5	80	120				
Cobalt	0.481	0.0100	0.5000	0	96.3	80	120				
Lead	0.488	0.0100	0.5000	0	97.6	80	120				
Molybdenum	0.488	0.0100	0.5000	0	97.6	80	120				
Selenium	0.470	0.0200	0.5000	0	93.9	80	120				

Qualifiers:
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

M Matrix Interference
RL Reporting Limit
U Analyte not detected



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QC SUMMARY REPORT

WO#: 23060875
26-Jul-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 48570

Sample ID	LCSD-48570	SampType: LCSD	TestCode: 6010_W		Units: mg/L	Prep Date: 6/19/2023			RunNo: 121868		
Client ID:	LCSS02	Batch ID: 48570	TestNo: SW6010B			Analysis Date: 6/20/2023			SeqNo: 3048062		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.489	0.0100	0.5000	0	97.9	80	120	0.4873	0.432	20	
Beryllium	0.491	0.00100	0.5000	0	98.2	80	120	0.4881	0.603	20	
Cadmium	0.472	0.00500	0.5000	0	94.5	80	120	0.4736	0.262	20	
Chromium	0.482	0.0100	0.5000	0	96.4	80	120	0.4775	0.924	20	
Cobalt	0.484	0.0100	0.5000	0	96.8	80	120	0.4814	0.499	20	
Lead	0.488	0.0100	0.5000	0	97.7	80	120	0.4881	0.0819	20	
Molybdenum	0.491	0.0100	0.5000	0	98.1	80	120	0.4881	0.541	20	
Selenium	0.468	0.0200	0.5000	0	93.6	80	120	0.4696	0.324	20	

Sample ID	23060875-012BMS	SampType: MS	TestCode: 6010_W		Units: mg/L	Prep Date: 6/19/2023			RunNo: 121868		
Client ID:	CCR-12	Batch ID: 48570	TestNo: SW6010B			Analysis Date: 6/20/2023			SeqNo: 3048082		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.658	0.0100	0.5000	0.1831	95.0	75	125				
Beryllium	0.484	0.00100	0.5000	0	96.7	75	125				
Cadmium	0.466	0.00500	0.5000	0	93.2	75	125				
Chromium	0.469	0.0100	0.5000	0	93.9	75	125				
Cobalt	0.466	0.0100	0.5000	0	93.1	75	125				
Lead	0.474	0.0100	0.5000	0	94.7	75	125				
Molybdenum	0.475	0.0100	0.5000	0	94.9	75	125				
Selenium	0.464	0.0200	0.5000	0.006270	91.6	75	125				

Qualifiers:

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

M Matrix Interference
RL Reporting Limit
U Analyte not detected



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QC SUMMARY REPORT

WO#: 23060875
26-Jul-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 48570

Sample ID	23060875-012BMSD	SampType:	MSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/19/2023	RunNo:	121868
Client ID:	CCR-12	Batch ID:	48570	TestNo:	SW6010B			Analysis Date:	6/20/2023	SeqNo:	3048083
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.665	0.0100	0.5000	0.1831	96.3	75	125	0.6582	0.992	20	
Beryllium	0.484	0.00100	0.5000	0	96.8	75	125	0.4836	0.0909	20	
Cadmium	0.467	0.00500	0.5000	0	93.4	75	125	0.4661	0.163	20	
Chromium	0.472	0.0100	0.5000	0	94.4	75	125	0.4694	0.588	20	
Cobalt	0.469	0.0100	0.5000	0	93.7	75	125	0.4656	0.657	20	
Lead	0.477	0.0100	0.5000	0	95.3	75	125	0.4737	0.644	20	
Molybdenum	0.479	0.0100	0.5000	0	95.7	75	125	0.4747	0.827	20	
Selenium	0.473	0.0200	0.5000	0.006270	93.4	75	125	0.4644	1.84	20	

Sample ID	23060869-001AMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/19/2023	RunNo:	121868
Client ID:	ZZZZZZ	Batch ID:	48570	TestNo:	SW6010B			Analysis Date:	6/20/2023	SeqNo:	3048097
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	9.37	0.200	0.5000	7.798	314	75	125				S
Beryllium	0.459	0.0200	0.5000	0	91.9	75	125				
Cadmium	0.311	0.100	0.5000	0	62.2	75	125				S
Chromium	1.13	0.200	0.5000	0.07680	210	75	125				S
Cobalt	0.450	0.200	0.5000	0	90.0	75	125				
Lead	0.306	0.200	0.5000	0	61.2	75	125				S
Molybdenum	0.927	0.200	0.5000	0.4098	103	75	125				
Selenium	0.545	0.400	0.5000	0	109	75	125				

NOTES:

S - Spike recovery outside of recovery limits due to dilution and/or high native concentration. The method is in control as indicated by the LCS/LCSD results.

Qualifiers:

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

M Matrix Interference
RL Reporting Limit
U Analyte not detected



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QC SUMMARY REPORT

WO#: 23060875
26-Jul-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 48570

Sample ID	23060869-001AMSD	SampType:	MSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/19/2023	RunNo:	121868
Client ID:	ZZZZZZ	Batch ID:	48570	TestNo:	SW6010B			Analysis Date:	6/20/2023	SeqNo:	3048100
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	9.65	0.200	0.5000	7.798	370	75	125	9.368	2.94	20	S
Beryllium	0.463	0.0200	0.5000	0	92.6	75	125	0.4594	0.737	20	
Cadmium	0.355	0.100	0.5000	0	71.0	75	125	0.3110	13.2	20	S
Chromium	1.34	0.200	0.5000	0.07680	252	75	125	1.126	17.1	20	S
Cobalt	0.449	0.200	0.5000	0	89.8	75	125	0.4502	0.267	20	
Lead	0.311	0.200	0.5000	0	62.3	75	125	0.3062	1.68	20	S
Molybdenum	0.992	0.200	0.5000	0.4098	116	75	125	0.9268	6.78	20	
Selenium	0.488	0.400	0.5000	0	97.7	75	125	0.5454	11.0	20	

Qualifiers:

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

M Matrix Interference
RL Reporting Limit
U Analyte not detected



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QC SUMMARY REPORT

WO#: 23060875
26-Jul-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 48582

Sample ID	MB-48582	SampType:	MBLK	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	6/20/2023	RunNo:	121855		
Client ID:	PBW	Batch ID:	48582	TestNo:	SW7470A			Analysis Date:	6/21/2023	SeqNo:	3047041		
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-48582	SampType:	LCS	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	6/20/2023	RunNo:	121855			
Client ID:	LCSW	Batch ID:	48582	TestNo:	SW7470A			Analysis Date:	6/21/2023	SeqNo:	3047042			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.00988 0.000200 0.01000 0 98.8 80 120

Sample ID	LCSD-48582	SampType:	LCSD	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	6/20/2023	RunNo:	121855		
Client ID:	LCSS02	Batch ID:	48582	TestNo:	SW7470A			Analysis Date:	6/21/2023	SeqNo:	3047043		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.00990 0.000200 0.01000 0 99.0 80 120 0.009880 0.204 20

Sample ID	23060809-002EMS	SampType: MS	TestCode: HG_W_7470	Units: mg/L	Prep Date: 6/20/2023	RunNo: 121855					
Client ID: ZZZZZZ	Batch ID: 48582	TestNo: SW7470A	Analysis Date: 6/21/2023	SeqNo: 3047046							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.0100 0.000200 0.01000 0.0001236 99.0 75 125

Qualifiers:

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

M Matrix Interference
RL Reporting Limit
U Analyte not detected



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QC SUMMARY REPORT

WO#: 23060875
26-Jul-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 48582

Sample ID	23060809-002EMSD	SampType: MSD	TestCode: HG_W_7470	Units: mg/L	Prep Date: 6/20/2023	RunNo: 121855					
Client ID: ZZZZZZ	Batch ID: 48582	TestNo: SW7470A	Analysis Date: 6/21/2023	SeqNo: 3047047							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00998	0.000200	0.01000	0.0001236	98.6	75	125	0.01002	0.381	20	

Qualifiers:

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

M Matrix Interference
RL Reporting Limit
U Analyte not detected



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#: 23060875
26-Jul-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 48583-1

Sample ID	MB-48583	SampType:	MBLK	TestCode:	6020A_W	Units:	µg/L	Prep Date:	6/19/2023	RunNo:	121916			
Client ID:	PBW	Batch ID:	48583-1	TestNo:	SW6020A			Analysis Date:	6/22/2023	SeqNo:	3049038			
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-48583	SampType:	LCS	TestCode:	6020A_W	Units:	µg/L	Prep Date:	6/19/2023	RunNo:	121916	
Client ID:	LCSW	Batch ID:	48583-1	TestNo:	SW6020A			Analysis Date:	6/22/2023	SeqNo:	3049039	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony		530	5.00	500.0	0	106	80	120				
Arsenic		507	5.00	500.0	0	101	80	120				
Thallium		492	5.00	500.0	0	98.5	80	120				

Sample ID	LCSD-48583	SampType:	LCSD	TestCode:	6020A_W	Units:	µg/L	Prep Date:	6/19/2023	RunNo:	121916			
Client ID:	LCSS02	Batch ID:	48583-1	TestNo:	SW6020A			Analysis Date:	6/22/2023	SeqNo:	3049040			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony		533		5.00	500.0	0		107	80	120	530.2	0.474	20	
Arsenic		495		5.00	500.0	0		98.9	80	120	507.5	2.54	20	
Thallium		494		5.00	500.0	0		98.7	80	120	492.3	0.277	20	

Qualifiers:

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

M Matrix Interference
RL Reporting Limit
U Analyte not detected



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QC SUMMARY REPORT

WO#: 23060875
26-Jul-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 48583-1

Sample ID	23060875-012BMS	SampType: MS	TestCode: 6020A_W	Units: µg/L	Prep Date: 6/19/2023	RunNo: 121916					
Client ID:	CCR-12	Batch ID: 48583-1	TestNo: SW6020A	Analysis Date: 6/22/2023	SeqNo: 3049058						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	536	5.00	500.0	0	107	75	125				
Arsenic	488	5.00	500.0	0.9294	97.3	75	125				
Thallium	481	5.00	500.0	0	96.1	75	125				

Sample ID	23060875-012BMSD	SampType: MSD	TestCode: 6020A_W	Units: µg/L	Prep Date: 6/19/2023	RunNo: 121916					
Client ID:	CCR-12	Batch ID: 48583-1	TestNo: SW6020A		Analysis Date: 6/22/2023	SeqNo: 3049059					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	549	5.00	500.0	0	110	75	125	535.9	2.33	20	
Arsenic	494	5.00	500.0	0.9294	98.7	75	125	487.6	1.36	20	
Thallium	495	5.00	500.0	0	98.9	75	125	480.6	2.87	20	

Qualifiers:

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

M	Matrix Interference
RL	Reporting Limit
U	Analyte not detected



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QC SUMMARY REPORT

WO#: 23060875
26-Jul-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 48613

Sample ID	MB-48613	SampType:	MBLK	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	6/22/2023	RunNo:	121984	
Client ID:	PBW	Batch ID:	48613	TestNo:	SW7470A			Analysis Date:	6/23/2023	SeqNo:	3051062	
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-48613	SampType:	LCS	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	6/22/2023	RunNo:	121984			
Client ID:	LCSW	Batch ID:	48613	TestNo:	SW7470A			Analysis Date:	6/23/2023	SeqNo:	3051063			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.00956		0.000200	0.01000	0		95.6	80	120				

Sample ID	LCSD-48613	SampType:	LCSD	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	6/22/2023	RunNo:	121984			
Client ID:	LCSS02	Batch ID:	48613	TestNo:	SW7470A			Analysis Date:	6/23/2023	SeqNo:	3051064			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.00953		0.000200	0.01000	0		95.3	80	120	0.009557	0.306	20	

Sample ID	23060875-012BMS	SampType: MS	TestCode: HG_W_7470	Units: mg/L	Prep Date: 6/22/2023	RunNo: 121984					
Client ID: CCR-12	Batch ID: 48613	TestNo: SW7470A	Analysis Date: 6/23/2023	SeqNo: 3051067							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00997	0.000200	0.01000	0.00005436	99.2	75	125				

Qualifiers:

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

M Matrix Interference
RL Reporting Limit
U Analyte not detected



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QC SUMMARY REPORT

WO#: 23060875
26-Jul-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 48613

Sample ID	23060875-012BMSD	SampType: MSD	TestCode: HG_W_7470	Units: mg/L	Prep Date: 6/22/2023	RunNo: 121984					
Client ID: CCR-12	Batch ID: 48613	TestNo: SW7470A	Analysis Date: 6/23/2023	SeqNo: 3051068							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00992	0.000200	0.01000	0.00005436	98.6	75	125	0.009970	0.543	20	

Qualifiers:

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

M Matrix Interference
RL Reporting Limit
U Analyte not detected



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QC SUMMARY REPORT

WO#: 23060875
26-Jul-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R122147

Sample ID	23060875-012ams	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 122147					
Client ID:	CCR-12	Batch ID: R122147	TestNo: E 300.0	Analysis Date: 6/28/2023	SeqNo: 3057489						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Fluoride	5.08	0.250	5.000	0	102	80	120				
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Sample ID	23060875-012amsd	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 122147					
Client ID:	CCR-12	Batch ID: R122147	TestNo: E 300.0	Analysis Date: 6/28/2023	SeqNo: 3057490						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Fluoride	5.10	0.250	5.000	0	102	80	120	5.081	0.442	15	
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Sample ID	mblk	SampType: MBLK	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 122147					
Client ID:	PBW	Batch ID: R122147	TestNo: E 300.0	Analysis Date: 6/28/2023	SeqNo: 3057537						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Fluoride	< 0.0500	0.0500									
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Sample ID	Ics	SampType: LCS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 122147					
Client ID:	LCSW	Batch ID: R122147	TestNo: E 300.0	Analysis Date: 6/28/2023	SeqNo: 3057538						
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				
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Qualifiers:

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#: 23060875
26-Jul-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R122147

Sample ID	lcSD	SampType: LCSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 122147					
Client ID:	LCSS02	Batch ID: R122147	TestNo: E 300.0	Analysis Date: 6/28/2023	SeqNo: 3057539						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.05	0.0500	2.000	0	103	90	110	2.042	0.428	15	

Sample ID	23060875-005ams	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 122147					
Client ID:	CCR-5	Batch ID: R122147	TestNo: E 300.0	Analysis Date: 6/28/2023	SeqNo: 3057545						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	18.6	1.00	20.00	0	93.0	80	120				

Sample ID	23060875-005amsd	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 122147					
Client ID:	CCR-5	Batch ID: R122147	TestNo: E 300.0	Analysis Date: 6/28/2023	SeqNo: 3057546						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	18.8	1.00	20.00	0	94.2	80	120	18.59	1.38	15	

Qualifiers:

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

M	Matrix Interference
RL	Reporting Limit
U	Analyte not detected



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Sample Log-In Check List

Client Name: **PIVOTAL_ENGINEERIN**

Work Order Number: **23060875**

RcptNo: **1**

Logged by: **Martin Lee** **6/19/2023 7:10:00 AM**

Martin Lee

Completed By: **Martin Lee** **6/19/2023 9:13:41 AM**

Martin Lee

Reviewed By:

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:

No sampler's signature by client on page 2

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.5	Good	Not Present			



LELAP Certificate Number: 01955
A2LA Accredited (DoD ELAP-QSM 5.4) Certificate Number: 6429.01

ANALYTICAL RESULTS

PERFORMED BY

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

Report Date 07/20/2023

Report # 223062227



Project 23060875

Samples Collected 6/16/23

<i>Deliver To</i>	<i>Additional Recipients</i>
Annie Reedy Element Materials Technology 2417 W Pinhook Rd Lafayette, LA 70508 800-737-2378	Donna Leblanc, Element Materials Technology 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 223062227

Certifications

Certification	Certification Number
A2LA Accredited (DoD ELAP-QSM 5.4)	6429.01
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:** 223062227

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).

PROJECT MANAGER COMMENTS

This is a revised report to update the project name. (Cinnamon Mitchell, 7/6/23)

This is a revised report to update the analyte list per the client. (Cinnamon Mitchell, 7/20/23)

Sample Summary

Lab ID	Client ID	Matrix	Collect Date	Receive Date
22306222701	CCR-1	Water	6/16/23 08:45	6/22/23 09:18
22306222702	CCR-2	Water	6/16/23 09:25	6/22/23 09:18
22306222703	CCR-3	Water	6/16/23 10:05	6/22/23 09:18
22306222704	CCR-4	Water	6/16/23 10:45	6/22/23 09:18
22306222705	CCR-5	Water	6/16/23 11:25	6/22/23 09:18
22306222706	CCR-6	Water	6/16/23 12:05	6/22/23 09:18
22306222707	CCR-7	Water	6/16/23 12:45	6/22/23 09:18
22306222708	CCR-8	Water	6/16/23 13:25	6/22/23 09:18
22306222709	CCR-9	Water	6/16/23 14:05	6/22/23 09:18
22306222710	CCR-10	Water	6/16/23 14:45	6/22/23 09:18
22306222711	CCR-11	Water	6/16/23 15:40	6/22/23 09:18
22306222712	CCR-12	Water	6/16/23 16:25	6/22/23 09:18
22306222713	CCR-12 MS	Water	6/16/23 16:25	6/22/23 09:18
22306222714	CCR-12 MSD	Water	6/16/23 16:25	6/22/23 09:18
22306222715	CCR-13	Water	6/16/23 17:35	6/22/23 09:18
22306222716	CCR-14	Water	6/16/23 18:15	6/22/23 09:18
22306222717	DUPLICATE	Water	6/16/23 00:01	6/22/23 09:18
22306222718	FIELD BLANK	Water	6/16/23 20:40	6/22/23 09:18

Sample Results

CCR-1	Collect Date	06/16/2023 08:45	Lab ID	22306222701
	Receive Date	06/22/2023 09:18	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
06/23/23 02:00	767935	EPA 3010A	1	06/27/23 12:27	768157	TDM	NA
CAS# 7439-93-2	Parameter Lithium		Result 22.7	LOQ 5.00			Units ug/L

CCR-2	Collect Date	06/16/2023 09:25	Lab ID	22306222702
	Receive Date	06/22/2023 09:18	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
06/23/23 02:00	767935	EPA 3010A	1	06/27/23 12:30	768157	TDM	NA
CAS# 7439-93-2	Parameter Lithium		Result 23.0	LOQ 5.00			Units ug/L

CCR-3	Collect Date	06/16/2023 10:05	Lab ID	22306222703
	Receive Date	06/22/2023 09:18	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
06/23/23 02:00	767935	EPA 3010A	1	06/27/23 12:34	768157	TDM	NA
CAS# 7439-93-2	Parameter Lithium		Result 37.7	LOQ 5.00			Units ug/L

CCR-4	Collect Date	06/16/2023 10:45	Lab ID	22306222704
	Receive Date	06/22/2023 09:18	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
06/23/23 02:00	767935	EPA 3010A	1	06/27/23 12:37	768157	TDM	NA
CAS# 7439-93-2	Parameter Lithium		Result 16.0	LOQ 5.00			Units ug/L

Sample Results

CCR-5	Collect Date	06/16/2023 11:25	Lab ID	22306222705
	Receive Date	06/22/2023 09:18	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
06/23/23 02:00	767935	EPA 3010A	1	06/27/23 12:41	768157	TDM	NA
CAS# 7439-93-2	Parameter Lithium		Result 20.3	LOQ 5.00			Units ug/L

CCR-6	Collect Date	06/16/2023 12:05	Lab ID	22306222706
	Receive Date	06/22/2023 09:18	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
06/23/23 02:00	767935	EPA 3010A	1	06/27/23 12:45	768157	TDM	NA
CAS# 7439-93-2	Parameter Lithium		Result 13.4	LOQ 5.00			Units ug/L

CCR-7	Collect Date	06/16/2023 12:45	Lab ID	22306222707
	Receive Date	06/22/2023 09:18	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
06/23/23 02:00	767935	EPA 3010A	1	06/27/23 12:48	768157	TDM	NA
CAS# 7439-93-2	Parameter Lithium		Result 11.7	LOQ 5.00			Units ug/L

CCR-8	Collect Date	06/16/2023 13:25	Lab ID	22306222708
	Receive Date	06/22/2023 09:18	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
06/23/23 02:00	767935	EPA 3010A	1	06/27/23 12:52	768157	TDM	NA
CAS# 7439-93-2	Parameter Lithium		Result 36.3	LOQ 5.00			Units ug/L

Sample Results

CCR-9	Collect Date	06/16/2023 14:05	Lab ID	22306222709
	Receive Date	06/22/2023 09:18	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
06/23/23 02:00	767935	EPA 3010A	1	06/27/23 12:55	768157	TDM	NA
CAS# 7439-93-2	Parameter Lithium		Result 11.2	LOQ 5.00			Units ug/L

CCR-10	Collect Date	06/16/2023 14:45	Lab ID	22306222710
	Receive Date	06/22/2023 09:18	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
06/23/23 02:00	767935	EPA 3010A	1	06/27/23 12:59	768157	TDM	NA
CAS# 7439-93-2	Parameter Lithium		Result 12.8	LOQ 5.00			Units ug/L

CCR-11	Collect Date	06/16/2023 15:40	Lab ID	22306222711
	Receive Date	06/22/2023 09:18	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
06/23/23 02:00	767935	EPA 3010A	1	06/28/23 13:14	768227	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 9.75	LOQ 5.00			Units ug/L

CCR-12	Collect Date	06/16/2023 16:25	Lab ID	22306222712
	Receive Date	06/22/2023 09:18	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
06/23/23 02:00	767935	EPA 3010A	1	06/28/23 13:18	768227	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 30.9	LOQ 5.00			Units ug/L

Sample Results

CCR-12 MS	Collect Date	06/16/2023 16:25	Lab ID	22306222713
	Receive Date	06/22/2023 09:18	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
06/23/23 02:00	767935	EPA 3010A	1	06/28/23 13:21	768227	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 289	LOQ 5.00			Units ug/L

CCR-12 MSD	Collect Date	06/16/2023 16:25	Lab ID	22306222714
	Receive Date	06/22/2023 09:18	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
06/23/23 02:00	767935	EPA 3010A	1	06/28/23 13:25	768227	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 288	LOQ 5.00			Units ug/L

CCR-13	Collect Date	06/16/2023 17:35	Lab ID	22306222715
	Receive Date	06/22/2023 09:18	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
06/23/23 02:00	767935	EPA 3010A	1	06/28/23 13:36	768227	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 44.2	LOQ 5.00			Units ug/L

CCR-14	Collect Date	06/16/2023 18:15	Lab ID	22306222716
	Receive Date	06/22/2023 09:18	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
06/23/23 02:00	767935	EPA 3010A	1	06/28/23 13:39	768227	LWZ	NA
CAS# 7439-93-2	Parameter Lithium		Result 20.6	LOQ 5.00			Units ug/L



Report#: 223062227
Project ID: 23060875

Report Date: 07/20/2023

Sample Results

DUPLICATE	Collect Date	06/16/2023 00:01	Lab ID	22306222717
	Receive Date	06/22/2023 09:18	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
06/23/23 02:00	767935	EPA 3010A	1	06/28/23 13:43	768227	LWZ	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	10.2	5.00	ug/L

FIELD BLANK	Collect Date	06/16/2023 20:40	Lab ID	22306222718
	Receive Date	06/22/2023 09:18	Matrix	Water

EPA 6020B

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
06/23/23 02:00	767935	EPA 3010A	1	06/28/23 13:46	768227	LWZ	NA

CAS#	Parameter	Result	LOQ	Units
7439-93-2	Lithium	ND	5.00	ug/L

Inorganics QC Summary

Analytical Batch 768157	Client ID Lab ID	MB767935 2494745	LCS767935 2494746				
Prep Batch 767935	Sample Type Prep Date	MB 06/23/23 02:00	LCS 06/23/23 02:00				
Prep Method EPA 3010A	Analysis Date Matrix	06/27/23 12:20 Water	06/27/23 12:23 Water				
EPA 6020B		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R
Lithium	7439-93-2	ND	5.00	250	257	103	80 - 120

Analytical Batch 768227	Client ID Lab ID	CCR-12 22306222712	CCR-12 MS 22306222713					CCR-12 MSD 22306222714				
Prep Batch 767935	Sample Type Prep Date	SAMPLE 06/23/2023 02:00	MS 06/23/23 02:00					MSD 06/23/23 02:00				
Prep Method EPA 3010A	Analysis Date Matrix	06/28/2023 13:18 Water	06/28/23 13:21 Water					06/28/23 13:25 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	30.9	5.00	250	289	103	80 - 120	250	288	103	0	20



CHAIN OF CUSTODY RECORD

Omega COCID 14148

Client ID: 4462 - Element Materials Technology

SDG: 223062227

PM: CMM



FAX: (337) 233-6540

Website: www.element.com

SUB CONTRACTOR: GCAL		COMPANY: Pace Analytical Gulf Coast		SPECIAL INSTRUCTIONS / COMMENTS: Client specified MS/ MSD on -012. 6020 for Lithium, Arsenic, Antimony, Thallium Reference ELA045898PO on the invoice EXCEL EDD NEEDED WITH FINAL REPORT			
ADDRESS: 7979 Innovation Park Drive							
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	23060875-001C 6020_W_SUB (SW6020A)	CCR-1	250HDPEHNO3	Aqueous	6/16/2023 8:45:00 AM	1	1
2	23060875-002C 6020_W_SUB (SW6020A)	CCR-2	250HDPEHNO3	Aqueous	6/16/2023 9:25:00 AM	1	2
3	23060875-003C 6020_W_SUB (SW6020A)	CCR-3	250HDPEHNO3	Aqueous	6/16/2023 10:05:00 AM	1	3
4	23060875-004C 6020_W_SUB (SW6020A)	CCR-4	250HDPEHNO3	Aqueous	6/16/2023 10:45:00 AM	1	4
5	23060875-005C 6020_W_SUB (SW6020A)	CCR-5	250HDPEHNO3	Aqueous	6/16/2023 11:25:00 AM	1	5
6	23060875-006C 6020_W_SUB (SW6020A)	CCR-6	250HDPEHNO3	Aqueous	6/16/2023 12:05:00 PM	1	6
7	23060875-007C 6020_W_SUB (SW6020A)	CCR-7	250HDPEHNO3	Aqueous	6/16/2023 12:45:00 PM	1	7
8	23060875-008C 6020_W_SUB (SW6020A)	CCR-8	250HDPEHNO3	Aqueous	6/16/2023 1:25:00 PM	1	8
9	23060875-009C 6020_W_SUB (SW6020A)	CCR-9	250HDPEHNO3	Aqueous	6/16/2023 2:05:00 PM	1	9
Relinquished By: <i>[Signature]</i>		Date: <i>6-21-23</i>	Time: <i>0700</i>	Received By: <i>R. K. P.</i>	Date: <i>6-21-23</i>	Time: <i>0700</i>	REPORT TRANSMITTAL DESIRED: ☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE FOR LAB USE ONLY Temp of samples <i>23.5</i> °C Attempt to Cool ? _____ Comments: <i>TD</i>
Relinquished By: <i>R. K. P.</i>		Date: <i>6-21-23</i>	Time: <i>0918</i>	Received By: <i>Dodumkure</i>	Date: <i>6-22-23</i>	Time: <i>9:18</i>	
Relinquished By: <i>[Signature]</i>		Date:	Time:	Received By:	Date:	Time:	
TAT: Standard ☐ RUSH ☐ Next BD ☐ 2nd BD ☐ 3rd BD ☐ Note: RUSH requests will incur surcharges!							

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CHAIN OF CUSTODY RECORD

Omega COCID 14148

Client ID: 4462 - Element Materials Technology

SDG: 223062227

PM: CMM

Website: www.element.com

SUB CONTRACTOR: GCAL		COMPANY: Pace Analytical Gulf Coast		SPECIAL INSTRUCTIONS / COMMENTS: Client specified MS/ MSD on -012. 6020 for Lithium, Arsenic, Antimony, Thallium Reference ELA045898PO on the invoice EXCEL EDD NEEDED WITH FINAL REPORT			
ADDRESS: 7979 Innovation Park Drive							
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	23060875-010C 6020_W_SUB (SW6020A)	CCR-10	250HDPEHNO3	Aqueous	6/16/2023 2:45:00 PM	1	10
11	23060875-011C 6020_W_SUB (SW6020A)	CCR-11	250HDPEHNO3	Aqueous	6/16/2023 3:40:00 PM	1	11
12	23060875-012C 6020_W_SUB (SW6020A)	CCR-12	250HDPEHNO3	Aqueous	6/16/2023 4:25:00 PM	3	12 13 14
13	23060875-013C 6020_W_SUB (SW6020A)	CCR-13	250HDPEHNO3	Aqueous	6/16/2023 5:35:00 PM	1	15
14	23060875-014C 6020_W_SUB (SW6020A)	CCR-14	250HDPEHNO3	Aqueous	6/16/2023 6:15:00 PM	1	16
15	23060875-015C 6020_W_SUB (SW6020A)	Duplicate	250HDPEHNO3	Aqueous	6/16/2023	1	17
16	23060875-016C 6020_W_SUB (SW6020A)	Field Blank	250HDPEHNO3	Aqueous	6/16/2023 8:40:00 PM	1	18

Relinquished By: <i>[Signature]</i>	Date: <i>6-22-23</i>	Time: <i>0700</i>	Received By: <i>[Signature]</i>	Date: <i>6-22-23</i>	Time: <i>0700</i>	REPORT TRANSMITTAL DESIRED: ☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE	
Relinquished By: <i>[Signature]</i>	Date: <i>6-22-23</i>	Time: <i>0918</i>	Received By: <i>[Signature]</i>	Date: <i>6-22-23</i>	Time: <i>0918</i>	FOR LAB USE ONLY	
TAT: Standard ☐ RUSH ☐ Next BD ☐ 2nd BD ☐ 3rd BD ☐						Temp of samples <i>32.543</i> °C Attempt to Cool ? _____	
Note: RUSH requests will incur surcharges!						Comments: <i>±0</i>	

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Client ID: 4462 - Element Materials Technology
SDG: 223062227
PM: CMM



Sample Receipt Checklist (SRC)

Client: _____ Cooler Inspected by/date: _____ / _____ Workorder #: *4462v Label*

Means of receipt: ☐ Pace ☒ Client ☐ UPS ☐ FedEx ☐ Other: _____
☐ Yes ☒ No Were custody seals present on the cooler?

☐ Yes ☐ No ☒ N/A If custody seals were present, were they intact and unbroken?

pH Strip ID: *9278901* Chemical Preservation Checked by: *BSK*

Original temperature upon receipt / Derived (Corrected) temperature upon receipt (°C):
2.3/2.3

Method: ☐ Temperature Blank ☒ Against Bottles IR Gun ID: *M3* IR Gun Correction Factor: *0.0* °C

Method of coolant: ☒ Wet Ice ☐ Dry Ice ☐ None

☐ Yes ☒ No ☐ N/A Was the line and profile number listed on the COC? If yes, line and profile # _____

☒ Yes ☐ No ☐ N/A Were all coolers received at or below 6.0°C? If no, was Project Manager notified via email?
Email Notification Date and Time: _____

☐ Yes ☐ No ☒ N/A Is the commercial courier's packing slip attached to this form?

☒ Yes ☐ No Were proper custody procedures (relinquished/received) followed?

☐ Yes ☒ No Is the sampler's signature included on the COC?

☒ Yes ☐ No Were sample IDs listed on the COC and all sample containers?

☒ Yes ☐ No Was collection date & time listed on the COC and all sample containers?

☒ Yes ☐ No Did all container label information (ID, date, time) agree with the COC?

☒ Yes ☐ No Were tests to be performed listed on the COC?

☒ Yes ☐ No Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?

☒ Yes ☐ No Was adequate sample volume available?

☒ Yes ☐ No Were all samples received within 1/2 the holding time or 48 hours, whichever comes first?

☒ Yes ☐ No Were all samples containers accounted for? (No missing/excess)

☐ Yes ☐ No ☒ N/A Were VOA, 8015C, and RSK-175 samples free of bubbles > "pea size" (1/4" or 6mm in diameter) in any of the VOA vials?
If no, list affected sample(s) in comments below.

☐ Yes ☐ No ☒ N/A Filtered volume received for dissolved tests?
If no, list affected sample(s) in comments below.

☐ Yes ☐ No ☒ N/A Were all DRO/metals/nutrient samples received at a pH of < 2?
If no, list affected sample(s) in comments below and record preservation in logbook.

☒ Yes ☐ No ☐ N/A Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
If no, list affected sample(s) in comments below and record preservation in logbook.

Comments:





- ☐ 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

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Chain of Custody Record

Laboratory
Number 23060875

Client Name: Pivotal Engineering LLC				Project: CCR Assessment Monitoring				Preserv.		Number / Type of Container	Matrix Code	Test Requested								Comments / Remarks
Contact Name: Terry Elnaggar								HCl HNO ₃ H ₂ SO ₄				300: Fluoride	*6010/**6020 metals	***6020 Sub	7470 Mercury					
Phone/Fax: (504) 799-3653				Sampler's Signature: <u>[Signature]</u>				NaOH Na ₂ S ₂ O ₃												
Collection Date		Time		Grab	Comp	Sample Identification / Description														
6/16/23		945		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 **6020 Metals: As, Sb, Ti ***6020 Sub Metal: Li	
925		X		C C R - 2				None/ HNO ₃	3 Plastic	Aq	X	X	X	X						
1005		X		C C R - 3				None/ HNO ₃	3 Plastic	Aq	X	X	X	X						
1045		X		C C R - 4				None/ HNO ₃	3 Plastic	Aq	X	X	X	X						
1125		X		C C R - 5				None/ HNO ₃	3 Plastic	Aq	X	X	X	X						
1205		X		C C R - 6				None/ HNO ₃	3 Plastic	Aq	X	X	X	X						
1245		X		C C R - 7				None/ HNO ₃	3 Plastic	Aq	X	X	X	X						
1325		X		C C R - 8				None/ HNO ₃	3 Plastic	Aq	X	X	X	X						
1405		X		C C R - 9				None/ HNO ₃	3 Plastic	Aq	X	X	X	X						
1445		X		C C R - 10				None/ HNO ₃	3 Plastic	Aq	X	X	X	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.

P.O.
Number

Relinquished by: (Signature) <u>[Signature]</u>		Received by: (Signature) <u>Drop Box</u>		Date <u>6/18/23</u>	Time <u>21:32</u>	Relinquished by: (Signature)		Received by: (Signature)		Date	Time
Relinquished by: (Signature)		Received by: (Signature)		Date	Time	Relinquished by: (Signature) <u>Drop Box</u>		Received by Laboratory: (Signature) <u>[Signature]</u>		Date <u>6/19/23</u>	Time <u>0710</u>
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 <u>2.5</u> Temp. <u>2.5</u> ☐ Ambient		Requested TAT ☐ 24-Hr. ☐ 72-Hr. ☐ 48-Hr. ☒ Standard ☐ 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

October 16, 2023

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.: 23090466

Dear Terry Elnaggar:

Element Materials Technology Lafayette received 16 sample(s) on 9/12/2023 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.

Buffy Bryant
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#: 23090466
Date: 10/16/2023

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).



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#: 23090466

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 8:40:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23090466-001 **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	43.1	2.50		mg/L	10	9/14/2023 11:42:37 AM
Fluoride	0.274	0.0500		mg/L	1	9/18/2023 9:50:07 AM
Sulfate	3.17	0.250		mg/L	1	9/18/2023 9:50:07 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	9/14/2023 11:15:00 PM
Calcium	26.4	0.500		mg/L	1	9/14/2023 11:15:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	286	10.0		mg/L	1	9/13/2023 5:58:00 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		



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#: 23090466

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 9:20:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23090466-002 **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	56.2	2.50		mg/L	10	9/14/2023 11:56:24 AM
Fluoride	0.344	0.0500		mg/L	1	9/18/2023 10:03:55 AM
Sulfate	2.07	0.250		mg/L	1	9/18/2023 10:03:55 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	9/14/2023 11:17:00 PM
Calcium	20.3	0.500		mg/L	1	9/14/2023 11:17:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	264	10.0		mg/L	1	9/13/2023 5:58:00 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		



Element Materials Technology Lafayette
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TEL: (337) 235-0483 FAX: (337) 233-6540
Website: www.element.com

Analytical Report

(consolidated)

WO#: 23090466

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 10:00:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23090466-003 **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	101	2.50		mg/L	10	9/14/2023 12:10:12 PM
Fluoride	0.359	0.0500		mg/L	1	9/18/2023 10:17:43 AM
Sulfate	2.75	0.250		mg/L	1	9/18/2023 10:17:43 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	9/14/2023 11:20:00 PM
Calcium	26.4	0.500		mg/L	1	9/14/2023 11:20:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	365	10.0		mg/L	1	9/13/2023 5:58:00 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#: 23090466

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 10:40:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23090466-004 **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	51.2	2.50		mg/L	10	9/14/2023 12:24:00 PM
Fluoride	0.217	0.0500		mg/L	1	9/18/2023 10:31:31 AM
Sulfate	7.19	0.250		mg/L	1	9/18/2023 10:31:31 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	0.105	0.100		mg/L	1	9/14/2023 11:22:00 PM
Calcium	21.4	0.500		mg/L	1	9/14/2023 11:22:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	280	10.0		mg/L	1	9/13/2023 5:58:00 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#: 23090466

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 11:20:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23090466-005 **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	57.7	5.00		mg/L	20	9/14/2023 12:37:47 PM
Fluoride	0.241	0.0500		mg/L	1	9/18/2023 10:45:18 AM
Sulfate	0.304	0.250		mg/L	1	9/18/2023 10:45:18 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	0.104	0.100		mg/L	1	9/14/2023 11:24:00 PM
Calcium	34.5	0.500		mg/L	1	9/14/2023 11:24:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	409	10.0		mg/L	1	9/13/2023 5:58:00 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#: 23090466

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 12:00:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23090466-006 **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	83.3	2.50		mg/L	10	9/14/2023 1:19:10 PM
Fluoride	0.258	0.0500		mg/L	1	9/18/2023 11:40:28 AM
Sulfate	0.278	0.250		mg/L	1	9/18/2023 11:40:28 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	9/14/2023 11:26:00 PM
Calcium	29.6	0.500		mg/L	1	9/14/2023 11:26:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	317	10.0		mg/L	1	9/13/2023 5:58:00 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#: 23090466

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 12:40:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23090466-007 **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	74.4	2.50		mg/L	10	9/14/2023 2:00:33 PM
Fluoride	0.264	0.0500		mg/L	1	9/18/2023 11:54:16 AM
Sulfate	0.308	0.250		mg/L	1	9/18/2023 11:54:16 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	9/14/2023 11:29:00 PM
Calcium	44.0	0.500		mg/L	1	9/14/2023 11:29:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	349	10.0		mg/L	1	9/13/2023 5:58:00 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#: 23090466

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 1:20:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23090466-008 **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	82.1	2.50		mg/L	10	9/14/2023 2:14:20 PM
Fluoride	0.158	0.0500		mg/L	1	9/18/2023 12:08:04 PM
Sulfate	2.08	0.250		mg/L	1	9/18/2023 12:08:04 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	9/14/2023 11:31:00 PM
Calcium	12.0	0.500		mg/L	1	9/14/2023 11:31:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	297	10.0		mg/L	1	9/13/2023 5:58:00 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#: 23090466

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 3:30:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23090466-009 **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	67.1	2.50		mg/L	10	9/14/2023 2:28:07 PM
Fluoride	0.564	0.0500		mg/L	1	9/18/2023 12:21:51 PM
Sulfate	7.04	0.250		mg/L	1	9/18/2023 12:21:51 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	9/14/2023 11:42:00 PM
Calcium	26.2	0.500		mg/L	1	9/14/2023 11:42:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	351	10.0		mg/L	1	9/13/2023 5:58:00 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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WO#: 23090466

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 4:10:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23090466-010 **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	43.7	2.50		mg/L	10	9/14/2023 2:41:54 PM
Fluoride	0.599	0.0500		mg/L	1	9/18/2023 12:35:38 PM
Sulfate	4.77	0.250		mg/L	1	9/18/2023 12:35:38 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	9/14/2023 11:45:00 PM
Calcium	26.9	0.500		mg/L	1	9/14/2023 11:45:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	305	10.0		mg/L	1	9/13/2023 5:58:00 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#: 23090466

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 4:50:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23090466-011 **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	28.4	2.50		mg/L	10	9/14/2023 2:55:42 PM
Fluoride	0.707	0.0500		mg/L	1	9/18/2023 1:17:01 PM
Sulfate	3.05	0.250		mg/L	1	9/18/2023 1:17:01 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	9/14/2023 11:47:00 PM
Calcium	29.6	0.500		mg/L	1	9/14/2023 11:47:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	264	10.0		mg/L	1	9/13/2023 5:58:00 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#: 23090466

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 5:35:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23090466-012 **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	17.7	0.250		mg/L	1	9/18/2023 1:30:49 PM
Fluoride	0.135	0.0500		mg/L	1	9/18/2023 1:30:49 PM
Sulfate	15.7	0.250		mg/L	1	9/18/2023 1:30:49 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	9/20/2023 10:00:00 PM
Calcium	19.7	0.500		mg/L	1	9/20/2023 10:00:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	181	10.0		mg/L	1	9/13/2023 5:58:00 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#: 23090466

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 6:15:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23090466-013 **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	14.3	0.250		mg/L	1	9/18/2023 1:44:36 PM
Fluoride	0.255	0.0500		mg/L	1	9/18/2023 1:44:36 PM
Sulfate	1.96	0.250		mg/L	1	9/18/2023 1:44:36 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	9/20/2023 10:11:00 PM
Calcium	24.8	0.500		mg/L	1	9/20/2023 10:11:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	156	10.0		mg/L	1	9/13/2023 5:58:00 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#: 23090466

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 6:55:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23090466-014 **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	11.9	0.250		mg/L	1	9/18/2023 1:58:24 PM
Fluoride	0.192	0.0500		mg/L	1	9/18/2023 1:58:24 PM
Sulfate	1.35	0.250		mg/L	1	9/18/2023 1:58:24 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	9/20/2023 10:13:00 PM
Calcium	16.3	0.500		mg/L	1	9/20/2023 10:13:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	155	10.0		mg/L	1	9/13/2023 5:58:00 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#: 23090466

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 7:05:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23090466-015 **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	18.0	0.250		mg/L	1	9/18/2023 2:53:34 PM
Fluoride	0.138	0.0500		mg/L	1	9/18/2023 2:53:34 PM
Sulfate	15.8	0.250		mg/L	1	9/18/2023 2:53:34 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	9/20/2023 10:20:00 PM
Calcium	19.9	0.500		mg/L	1	9/20/2023 10:20:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	170	10.0		mg/L	1	9/13/2023 5:58:00 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#: 23090466

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 7:10:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23090466-016 **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	9/14/2023 4:32:14 PM
Fluoride	< 0.0500	0.0500		mg/L	1	9/14/2023 4:32:14 PM
Sulfate	0.278	0.250		mg/L	1	9/14/2023 4:32:14 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	9/20/2023 10:23:00 PM
Calcium	< 0.500	0.500		mg/L	1	9/20/2023 10:23:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	< 10.0	10.0		mg/L	1	9/13/2023 5:58:00 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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QC SUMMARY REPORT

WO#: 23090466
16-Oct-23

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

BatchID: 49809

Sample ID	MB-49809	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/12/2023	RunNo:	124811			
Client ID:	PBW	Batch ID:	49809	TestNo:	SW6010B			Analysis Date:	9/14/2023	SeqNo:	3134270			
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-49809	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/12/2023	RunNo:	124811	
Client ID:	LCSW	Batch ID:	49809	TestNo:	SW6010B			Analysis Date:	9/14/2023	SeqNo:	3134271	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.503	0.100	0.5000	0	101	80	120				
Calcium		51.6	0.500	50.00	0	103	80	120				

Sample ID	LCSD-49809	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/12/2023	RunNo:	124811			
Client ID:	LCSS02	Batch ID:	49809	TestNo:	SW6010B			Analysis Date:	9/14/2023	SeqNo:	3134272			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.489		0.100	0.5000	0		97.7	80	120	0.5034	2.98	20	
Calcium		50.0		0.500	50.00	0		100	80	120	51.61	3.08	20	

Sample ID	23090467-008BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 9/12/2023	RunNo: 124811					
Client ID: ZZZZZZ	Batch ID: 49809	TestNo: SW6010B	Analysis Date: 9/14/2023	SeqNo: 3134292							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.489	0.100	0.5000	0	97.8	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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Website: www.element.com

QC SUMMARY REPORT

WO#: 23090466
16-Oct-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: 49809

Sample ID	23090467-008BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 9/12/2023	RunNo: 124811					
Client ID: ZZZZZZ	Batch ID: 49809	TestNo: SW6010B	Analysis Date: 9/14/2023	SeqNo: 3134292							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	53.1	0.500	50.00	11.97	82.2	75	125				

Sample ID	23090467-008BMSD	SampType: MSD	TestCode: 6010_W		Units: mg/L	Prep Date: 9/12/2023			RunNo: 124811			
Client ID:	ZZZZZZ	Batch ID: 49809	TestNo: SW6010B			Analysis Date: 9/14/2023			SeqNo: 3134293			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.470	0.100	0.5000	0	94.1	75	125	0.4888	3.86	20	
Calcium		50.7	0.500	50.00	11.97	77.4	75	125	53.06	4.59	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#: 23090466
16-Oct-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: 49859

Sample ID	23090467-014BMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125220
Client ID:	ZZZZZZ	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/26/2023	SeqNo:	3145058
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Calcium	60.8	0.500	50.00	16.26	89.2	75	125				
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Sample ID	23090467-014BMSD	SampType:	MSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125220
Client ID:	ZZZZZZ	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/26/2023	SeqNo:	3145059
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Calcium	56.7	0.500	50.00	16.26	80.9	75	125	60.83	7.00	20	
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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 exceede
R RPD outside accepted recovery limits
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 23090466
16-Oct-23

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

BatchID: 49859

Sample ID	MB-49859	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125032			
Client ID:	PBW	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/20/2023	SeqNo:	3140151			
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-49859	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125032	
Client ID:	LCSW	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/20/2023	SeqNo:	3140152	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.473	0.100	0.5000	0	94.6	80	120				
Calcium		48.6	0.500	50.00	0	97.1	80	120				

Sample ID	LCSD-49859	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125032			
Client ID:	LCSS02	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/20/2023	SeqNo:	3140153			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.479		0.100	0.5000	0		95.8	80	120	0.4732	1.20	20	
Calcium		48.2		0.500	50.00	0		96.5	80	120	48.56	0.654	20	

Sample ID	23090466-014BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 9/14/2023	RunNo: 125032					
Client ID: CCR-14	Batch ID: 49859	TestNo: SW6010B	Analysis Date: 9/20/2023	SeqNo: 3140161							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.526	0.100	0.5000	0	105	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#: 23090466
16-Oct-23

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

BatchID: 49859

Sample ID	23090466-014BMS	SampType: MS	TestCode: 6010_W		Units: mg/L	Prep Date: 9/14/2023				RunNo: 125032		
Client ID:	CCR-14	Batch ID: 49859	TestNo: SW6010B			Analysis Date: 9/20/2023				SeqNo: 3140161		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium		65.6	0.500	50.00	16.26	98.6	75	125				

Sample ID	23090466-014BMSD	SampType: MSD	TestCode: 6010_W		Units: mg/L		Prep Date: 9/14/2023			RunNo: 125032		
Client ID:	CCR-14	Batch ID: 49859	TestNo: SW6010B					Analysis Date: 9/20/2023			SeqNo: 3140162	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.536	0.100	0.5000	0	107	75	125	0.5256	2.04	20	
Calcium		65.7	0.500	50.00	16.26	98.9	75	125	65.57	0.248	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#: 23090466
16-Oct-23

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

BatchID: 49859

Sample ID	MB-49859	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125011			
Client ID:	PBW	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/20/2023	SeqNo:	3139694			
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-49859	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125011	
Client ID:	LCSW	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/20/2023	SeqNo:	3139695	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.473	0.100	0.5000	0	94.6	80	120				
Calcium		48.6	0.500	50.00	0	97.1	80	120				

Sample ID	LCSD-49859	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125011			
Client ID:	LCSS02	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/20/2023	SeqNo:	3139696			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.479		0.100	0.5000	0		95.8	80	120	0.4732	1.20	20	
Calcium		48.2		0.500	50.00	0		96.5	80	120	48.56	0.654	20	

Sample ID	23090467-014BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 9/14/2023	RunNo: 125011					
Client ID: ZZZZZZ	Batch ID: 49859	TestNo: SW6010B	Analysis Date: 9/20/2023	SeqNo: 3139704							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.526	0.100	0.5000	0	105	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 exceede
R RPD outside accepted recovery limits
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 23090466
16-Oct-23

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

BatchID: 49859

Sample ID	23090467-014BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 9/14/2023	RunNo: 125011					
Client ID:	ZZZZZZ	Batch ID: 49859	TestNo: SW6010B		Analysis Date: 9/20/2023	SeqNo: 3139704					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	65.6	0.500	50.00	16.26	98.6	75	125				

Sample ID	23090467-014BMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 9/14/2023	RunNo: 125011					
Client ID:	ZZZZZZ	Batch ID: 49859	TestNo: SW6010B		Analysis Date: 9/20/2023	SeqNo: 3139705					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.536	0.100	0.5000	0	107	75	125	0.5256	2.04	20	
Calcium	65.7	0.500	50.00	16.26	98.9	75	125	65.57	0.248	20	

Sample ID	23090640-001GMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 9/14/2023	RunNo: 125011					
Client ID:	ZZZZZZ	Batch ID: 49859	TestNo: SW6010B		Analysis Date: 9/20/2023	SeqNo: 3139711					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.726	0.100	0.5000	0.4917	46.8	75	125				S
Calcium	154	0.500	50.00	107.9	93.1	75	125				

NOTES:

S/R - Poor spike recoveries and high RPD due to sample matrix. The method is in control as indicated by the LCS/LCSD.

Sample ID	23090640-001GMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 9/14/2023	RunNo: 125011					
Client ID:	ZZZZZZ	Batch ID: 49859	TestNo: SW6010B		Analysis Date: 9/20/2023	SeqNo: 3139715					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.575	0.100	0.5000	0.4917	16.7	75	125	0.7255	23.1	20	RS

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#: 23090466
16-Oct-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: 49859

Sample ID	23090640-001GMSD	SampType: MSD	TestCode: 6010_W		Units: mg/L		Prep Date: 9/14/2023			RunNo: 125011		
Client ID:	ZZZZZZ	Batch ID: 49859	TestNo: SW6010B					Analysis Date: 9/20/2023			SeqNo: 3139715	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium		156	0.500	50.00	107.9	96.3	75	125	154.4	1.04	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#: 23090466
16-Oct-23

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

BatchID: R124707

Sample ID	MB-R124707	SampType:	MBLK	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	124707			
Client ID:	PBW	Batch ID:	R124707	TestNo:	SM2540C			Analysis Date:	9/13/2023	SeqNo:	3133017			
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-R124707	SampType:	LCS	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	124707			
Client ID:	LCSW	Batch ID:	R124707	TestNo:	SM2540C			Analysis Date:	9/13/2023	SeqNo:	3133019			
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 0 101 85 115

Sample ID	LCSD-R124707	SampType:	LCSD	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	124707			
Client ID:	LCSS02	Batch ID:	R124707	TestNo:	SM2540C			Analysis Date:	9/13/2023	SeqNo:	3133020			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) 999 10.0 1,000 0 99.9 85 115 1,005 0.599 10

Sample ID	23090466-014ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	124707			
Client ID:	CCR-14	Batch ID:	R124707	TestNo:	SM2540C			Analysis Date:	9/13/2023	SeqNo:	3133035			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) 154 10.0 155.0 0.647 10

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#: 23090466
16-Oct-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R124707

Sample ID	23090466-014ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	124707
Client ID:	CCR-14	Batch ID:	R124707	TestNo:	SM2540C			Analysis Date:	9/13/2023	SeqNo:	3133035
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Sample ID	23090466-003ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	124707
Client ID:	CCR-3	Batch ID:	R124707	TestNo:	SM2540C			Analysis Date:	9/13/2023	SeqNo:	3133038
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Total Dissolved Solids (Residue, Filterable)		363		10.0						365.0	0.549 10

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#: 23090466
16-Oct-23

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

BatchID: R124825

Sample ID	mbk	SampType: MBLK	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124825
Client ID:	PBW	Batch ID: R124825	TestNo: E 300.0	Analysis Date: 9/14/2023	SeqNo: 3133813	
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: 124825
Client ID:	LCSW	Batch ID: R124825	TestNo: E 300.0	Analysis Date: 9/14/2023	SeqNo: 3133814	
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	
Fluoride	1.92	0.0500	2.000	0	96.2 90 110	
Sulfate	9.92	0.250	10.00	0	99.2 90 110	

Sample ID	lcsd	SampType: LCSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124825
Client ID:	LCSS02	Batch ID: R124825	TestNo: E 300.0	Analysis Date: 9/14/2023	SeqNo: 3133815	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Chloride	9.81	0.250	10.00	0	98.1 90 110 9.761	0.509 15
Fluoride	1.93	0.0500	2.000	0	96.4 90 110 1.924	0.207 15
Sulfate	9.94	0.250	10.00	0	99.4 90 110 9.925	0.181 15

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 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#: 23090466
16-Oct-23

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

BatchID: R124825

Sample ID	23090466-005ams	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124825					
Client ID:	CCR-5	Batch ID: R124825	TestNo: E 300.0	Analysis Date: 9/14/2023	SeqNo: 3133825						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	158	5.00	100.0	57.74	101	80	120				
Fluoride	19.1	1.00	20.00	0	95.7	80	120				
Sulfate	106	5.00	100.0	3.143	103	80	120				

Sample ID	23090466-005amsd	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124825					
Client ID:	CCR-5	Batch ID: R124825	TestNo: E 300.0	Analysis Date: 9/14/2023	SeqNo: 3133826						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	157	5.00	100.0	57.74	99.7	80	120	158.5	0.679	15	
Fluoride	19.3	1.00	20.00	0	96.4	80	120	19.13	0.775	15	
Sulfate	105	5.00	100.0	3.143	102	80	120	106.5	1.57	15	

Sample ID	23090466-014ams	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124825					
Client ID:	CCR-14	Batch ID: R124825	TestNo: E 300.0	Analysis Date: 9/14/2023	SeqNo: 3133838						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	35.7	1.25	25.00	11.52	96.7	80	120				
Fluoride	4.83	0.250	5.000	0	96.6	80	120				
Sulfate	26.2	1.25	25.00	1.520	98.8	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 exceeded
R	RPD outside accepted recovery limits
SDL	Sample detection limit



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QC SUMMARY REPORT

WO#: 23090466
16-Oct-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R124825

Sample ID	23090466-014amsd	SampType: MSD	TestCode: 300.0		Units: mg/L		Prep Date:			RunNo: 124825		
Client ID:	CCR-14	Batch ID: R124825	TestNo: E 300.0		Analysis Date: 9/14/2023				SeqNo: 3133839			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		36.2	1.25	25.00	11.52	98.9	80	120	35.71	1.49	15	
Fluoride		4.89	0.250	5.000	0	97.8	80	120	4.828	1.33	15	
Sulfate		26.7	1.25	25.00	1.520	101	80	120	26.21	1.79	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 exceeds
R RPD outside accepted recovery limits
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 23090466
16-Oct-23

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

BatchID: R124948

Sample ID	mblk	SampType: MBLK	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124948					
Client ID:	PBW	Batch ID: R124948	TestNo: E 300.0	Analysis Date: 9/18/2023	SeqNo: 3137349						
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: 124948					
Client ID:	LCSW	Batch ID: R124948	TestNo: E 300.0	Analysis Date: 9/18/2023	SeqNo: 3137350						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	9.66	0.250	10.00	0	96.6	90	110				
Fluoride	1.97	0.0500	2.000	0	98.4	90	110				
Sulfate	9.52	0.250	10.00	0	95.2	90	110				

Sample ID	Icsd	SampType: LCSD	TestCode: 300.0	Units: mg/L	Prep Date:				RunNo: 124948		
Client ID:	LCSS02	Batch ID: R124948	TestNo: E 300.0	Analysis Date: 9/18/2023				SeqNo: 3137351			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	9.75	0.250	10.00	0	97.5	90	110	9.664	0.918	15	
Fluoride	1.99	0.0500	2.000	0	99.6	90	110	1.968	1.17	15	
Sulfate	9.66	0.250	10.00	0	96.6	90	110	9.524	1.43	15	

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 exceeded
R	RPD outside accepted recovery limits
SDL	Sample detection limit



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QC SUMMARY REPORT

WO#: 23090466
16-Oct-23

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

BatchID: R124948

Sample ID	23090466-005ams	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124948					
Client ID:	CCR-5	Batch ID: R124948	TestNo: E 300.0	Analysis Date: 9/18/2023	SeqNo: 3137358						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	157	5.00	100.0	58.53	98.3	80	120				
Fluoride	19.9	1.00	20.00	0	99.5	80	120				
Sulfate	104	5.00	100.0	4.916	98.8	80	120				

Sample ID	23090466-005amsd	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124948					
Client ID:	CCR-5	Batch ID: R124948	TestNo: E 300.0	Analysis Date: 9/18/2023	SeqNo: 3137359						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	157	5.00	100.0	58.53	98.0	80	120	156.8	0.192	15	
Fluoride	20.0	1.00	20.00	0	100	80	120	19.89	0.639	15	
Sulfate	102	5.00	100.0	4.916	96.7	80	120	103.7	2.10	15	

Sample ID	23090466-014ams	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124948					
Client ID:	CCR-14	Batch ID: R124948	TestNo: E 300.0	Analysis Date: 9/18/2023	SeqNo: 3137372						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	64.2	2.50	50.00	12.09	104	80	120				
Fluoride	10.1	0.500	10.00	0	101	80	120				
Sulfate	54.8	2.50	50.00	2.803	104	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 exceeded
R	RPD outside accepted recovery limits
SDL	Sample detection limit



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QC SUMMARY REPORT

WO#: 23090466
16-Oct-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R124948

Sample ID	23090466-014amsd	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124948					
Client ID:	CCR-14	Batch ID: R124948	TestNo: E 300.0	Analysis Date: 9/18/2023	SeqNo: 3137373						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	63.3	2.50	50.00	12.09	102	80	120	64.23	1.41	15	
Fluoride	10.0	0.500	10.00	0	100	80	120	10.15	1.01	15	
Sulfate	52.7	2.50	50.00	2.803	99.9	80	120	54.84	3.92	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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Sample Log-In Check List

Client Name: **PIVOTAL_ENGINEERIN**

Work Order Number: **23090466**

RcptNo: **1**

Logged by: **Tammy Thibodeaux** **9/12/2023 6:30:00 AM**
Completed By: **Tammy Thibodeaux** **9/12/2023 7:48:47 AM**
Reviewed By: **Buffy Bryant** **10/16/2023 12:18:17 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? 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:

No sampler's signature by client on page 2.

Added year of collection as per samples received.

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.1	Good	Not Present			



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Sample Log-In Check List

Client Name: **PIVOTAL_ENGINEERIN**

Work Order Number: **23090466**

RcptNo: **1**

2	3.9	Good	Not Present			
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Element Materials Technology Lafayette
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October 16, 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.: 23090468

Dear Terry Elnaggar:

Element Materials Technology Lafayette received 16 sample(s) on 9/12/2023 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.

Buffy Bryant
Customer Service Supervisor



Element Materials Technology Lafayette
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Case Narrative

WO#: 23090468
Date: 10/16/2023

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 (6020B) analyses were subcontracted to Pace Gulf Coast (Baton Rouge, LA). Their report is attached in its entirety.



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Analytical Report

(consolidated)

WO#: 23090468

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 8:40:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23090468-001 **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	9/20/2023 7:22:59 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.274	0.0500		mg/L	1	9/18/2023 9:50:07 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.183	0.0100		mg/L	1	9/14/2023 11:15:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	9/14/2023 11:15:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	9/14/2023 11:15:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	9/14/2023 11:15:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	9/14/2023 11:15:00 PM
Lead	< 0.0100	0.0100		mg/L	1	9/14/2023 11:15:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	9/14/2023 11:15:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	9/14/2023 11:15:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 AM
Arsenic	< 10.0	10.0		µg/L	1	9/14/2023 9:30:00 AM
Thallium	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 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#: 23090468

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 9:20:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23090468-002 **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	9/20/2023 7:26:08 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.344	0.0500		mg/L	1	9/18/2023 10:03:55 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.141	0.0100		mg/L	1	9/14/2023 11:17:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	9/14/2023 11:17:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	9/14/2023 11:17:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	9/14/2023 11:17:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	9/14/2023 11:17:00 PM
Lead	< 0.0100	0.0100		mg/L	1	9/14/2023 11:17:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	9/14/2023 11:17:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	9/14/2023 11:17:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 AM
Arsenic	< 50.0	50.0		µg/L	5	9/14/2023 9:30:00 AM
Thallium	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 AM

NOTES:

Note: Sample was analyzed at a dilution due to matrix interference/internal standard. The reporting limits were raised accordingly.

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#: 23090468

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 10:00:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23090468-003 **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	9/20/2023 7:29:16 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.359	0.0500		mg/L	1	9/18/2023 10:17:43 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.246	0.0100		mg/L	1	9/14/2023 11:20:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	9/14/2023 11:20:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	9/14/2023 11:20:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	9/14/2023 11:20:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	9/14/2023 11:20:00 PM
Lead	< 0.0100	0.0100		mg/L	1	9/14/2023 11:20:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	9/14/2023 11:20:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	9/14/2023 11:20:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 AM
Arsenic	< 10.0	10.0		µg/L	1	9/14/2023 9:30:00 AM
Thallium	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 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#: 23090468

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 10:40:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23090468-004 **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	9/20/2023 7:32:23 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: BXB
Fluoride	0.217	0.0500		mg/L	1	9/18/2023 10:31:31 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Barium	0.118	0.0100		mg/L	1	9/14/2023 11:22:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	9/14/2023 11:22:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	9/14/2023 11:22:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	9/14/2023 11:22:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	9/14/2023 11:22:00 PM
Lead	< 0.0100	0.0100		mg/L	1	9/14/2023 11:22:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	9/14/2023 11:22:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	9/14/2023 11:22:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 AM
Arsenic	< 50.0	50.0		µg/L	5	9/14/2023 9:30:00 AM
Thallium	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 AM

NOTES:

Note: Sample was analyzed at a dilution due to matrix interference/internal standard. The reporting limits were raised accordingly.

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
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Analytical Report

(consolidated)

WO#: 23090468

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 11:20:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23090468-005 **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	9/20/2023 7:35:31 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: BXB
Fluoride	0.241	0.0500		mg/L	1	9/18/2023 10:45:18 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Barium	0.226	0.0100		mg/L	1	9/14/2023 11:24:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	9/14/2023 11:24:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	9/14/2023 11:24:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	9/14/2023 11:24:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	9/14/2023 11:24:00 PM
Lead	< 0.0100	0.0100		mg/L	1	9/14/2023 11:24:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	9/14/2023 11:24:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	9/14/2023 11:24:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 AM
Arsenic	< 10.0	10.0		µg/L	1	9/14/2023 9:30:00 AM
Thallium	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 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#: 23090468

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 12:00:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23090468-006 **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	9/28/2023 9:09:58 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.258	0.0500		mg/L	1	9/18/2023 11:40:28 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.192	0.0100		mg/L	1	9/14/2023 11:26:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	9/14/2023 11:26:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	9/14/2023 11:26:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	9/14/2023 11:26:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	9/14/2023 11:26:00 PM
Lead	< 0.0100	0.0100		mg/L	1	9/14/2023 11:26:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	9/14/2023 11:26:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	9/14/2023 11:26:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 AM
Arsenic	< 10.0	10.0		µg/L	1	9/14/2023 9:30:00 AM
Thallium	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 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#: 23090468

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 12:40:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23090468-007 **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	9/28/2023 9:13:05 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: BXB
Fluoride	0.264	0.0500		mg/L	1	9/18/2023 11:54:16 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Barium	0.214	0.0100		mg/L	1	9/14/2023 11:29:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	9/14/2023 11:29:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	9/14/2023 11:29:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	9/14/2023 11:29:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	9/14/2023 11:29:00 PM
Lead	< 0.0100	0.0100		mg/L	1	9/14/2023 11:29:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	9/14/2023 11:29:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	9/14/2023 11:29:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 AM
Arsenic	< 10.0	10.0		µg/L	1	9/14/2023 9:30:00 AM
Thallium	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 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#: 23090468

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 1:20:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23090468-008 **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	9/28/2023 9:16:13 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.158	0.0500		mg/L	1	9/18/2023 12:08:04 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.108	0.0100		mg/L	1	9/14/2023 11:31:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	9/14/2023 11:31:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	9/14/2023 11:31:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	9/14/2023 11:31:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	9/14/2023 11:31:00 PM
Lead	< 0.0100	0.0100		mg/L	1	9/14/2023 11:31:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	9/14/2023 11:31:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	9/14/2023 11:31:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 AM
Arsenic	< 10.0	10.0		µg/L	1	9/14/2023 9:30:00 AM
Thallium	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 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#: 23090468

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 3:30:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23090468-009 **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	9/28/2023 9:26:34 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.564	0.0500		mg/L	1	9/18/2023 12:21:51 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.192	0.0100		mg/L	1	9/14/2023 11:42:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	9/14/2023 11:42:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	9/14/2023 11:42:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	9/14/2023 11:42:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	9/14/2023 11:42:00 PM
Lead	< 0.0100	0.0100		mg/L	1	9/14/2023 11:42:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	9/14/2023 11:42:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	9/14/2023 11:42:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 AM
Arsenic	< 10.0	10.0		µg/L	1	9/14/2023 9:30:00 AM
Thallium	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 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#: 23090468

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 4:10:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23090468-010 **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	9/28/2023 9:29:42 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.599	0.0500		mg/L	1	9/18/2023 12:35:38 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.276	0.0100		mg/L	1	9/14/2023 11:45:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	9/14/2023 11:45:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	9/14/2023 11:45:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	9/14/2023 11:45:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	9/14/2023 11:45:00 PM
Lead	< 0.0100	0.0100		mg/L	1	9/14/2023 11:45:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	9/14/2023 11:45:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	9/14/2023 11:45:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 AM
Arsenic	< 10.0	10.0		µg/L	1	9/14/2023 9:30:00 AM
Thallium	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 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#: 23090468

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 4:50:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23090468-011 **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	9/28/2023 9:32:49 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.707	0.0500		mg/L	1	9/18/2023 1:17:01 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.153	0.0100		mg/L	1	9/14/2023 11:47:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	9/14/2023 11:47:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	9/14/2023 11:47:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	9/14/2023 11:47:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	9/14/2023 11:47:00 PM
Lead	< 0.0100	0.0100		mg/L	1	9/14/2023 11:47:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	9/14/2023 11:47:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	9/14/2023 11:47:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 AM
Arsenic	< 10.0	10.0		µg/L	1	9/14/2023 9:30:00 AM
Thallium	< 0.250	0.250		µg/L	1	9/14/2023 9:30:00 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#: 23090468

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 5:35:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23090468-012 **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	9/28/2023 9:35:57 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.135	0.0500		mg/L	1	9/18/2023 1:30:49 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.186	0.0100		mg/L	1	9/20/2023 10:00:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	9/20/2023 10:00:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	9/20/2023 10:00:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	9/20/2023 10:00:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	9/20/2023 10:00:00 PM
Lead	< 0.0100	0.0100		mg/L	1	9/20/2023 10:00:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	9/20/2023 10:00:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	9/20/2023 10:00:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	9/21/2023 8:30:00 AM
Arsenic	< 10.0	10.0		µg/L	1	9/21/2023 8:30:00 AM
Thallium	< 0.250	0.250		µg/L	1	9/21/2023 8:30:00 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#: 23090468

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 6:18:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23090468-013 **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	9/28/2023 9:39:04 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.255	0.0500		mg/L	1	9/18/2023 1:44:36 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.0738	0.0100		mg/L	1	9/20/2023 10:11:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	9/20/2023 10:11:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	9/20/2023 10:11:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	9/20/2023 10:11:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	9/20/2023 10:11:00 PM
Lead	< 0.0100	0.0100		mg/L	1	9/20/2023 10:11:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	9/20/2023 10:11:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2023 1:52:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	9/21/2023 8:30:00 AM
Arsenic	< 10.0	10.0		µg/L	1	9/21/2023 8:30:00 AM
Thallium	< 0.250	0.250		µg/L	1	9/21/2023 8:30:00 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#: 23090468

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 6:55:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23090468-014 **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	9/28/2023 8:56:26 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.192	0.0500		mg/L	1	9/18/2023 1:58:24 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.0833	0.0100		mg/L	1	9/20/2023 10:13:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	9/20/2023 10:13:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	9/20/2023 10:13:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	9/20/2023 10:13:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	9/20/2023 10:13:00 PM
Lead	< 0.0100	0.0100		mg/L	1	9/20/2023 10:13:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	9/20/2023 10:13:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2023 1:54:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	9/21/2023 8:30:00 AM
Arsenic	< 10.0	10.0		µg/L	1	9/21/2023 8:30:00 AM
Thallium	< 0.250	0.250		µg/L	1	9/21/2023 8:30:00 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#: 23090468

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023
Project: CCR Assessment Monitoring
Lab ID: 23090468-015 **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	9/28/2023 9:42:12 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.138	0.0500		mg/L	1	9/18/2023 2:53:34 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.188	0.0100		mg/L	1	9/20/2023 10:20:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	9/20/2023 10:20:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	9/20/2023 10:20:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	9/20/2023 10:20:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	9/20/2023 10:20:00 PM
Lead	< 0.0100	0.0100		mg/L	1	9/20/2023 10:20:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	9/20/2023 10:20:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2023 2:01:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	9/21/2023 8:30:00 AM
Arsenic	< 10.0	10.0		µg/L	1	9/21/2023 8:30:00 AM
Thallium	< 0.250	0.250		µg/L	1	9/21/2023 8:30:00 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#: 23090468

Date Reported: 10/16/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 9/8/2023 7:20:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23090468-016 **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	9/28/2023 9:45:19 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	< 0.0500	0.0500		mg/L	1	9/14/2023 4:32:14 PM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	< 0.0100	0.0100		mg/L	1	9/20/2023 10:23:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	9/20/2023 10:23:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	9/20/2023 10:23:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	9/20/2023 10:23:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	9/20/2023 10:23:00 PM
Lead	< 0.0100	0.0100		mg/L	1	9/20/2023 10:23:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	9/20/2023 10:23:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	10/3/2023 2:04:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	9/21/2023 8:30:00 AM
Arsenic	< 10.0	10.0		µg/L	1	9/21/2023 8:30:00 AM
Thallium	< 0.250	0.250		µg/L	1	9/21/2023 8:30:00 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
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U	Analyte not detected



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QC SUMMARY REPORT

WO#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49809

Sample ID	MB-49809	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/12/2023	RunNo:	124811
Client ID:	PBW	Batch ID:	49809	TestNo:	SW6010B			Analysis Date:	9/14/2023	SeqNo:	3134270
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-49809	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/12/2023	RunNo:	124811
Client ID:	LCSW	Batch ID:	49809	TestNo:	SW6010B			Analysis Date:	9/14/2023	SeqNo:	3134271
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.511	0.0100	0.5000	0	102	80	120				
Beryllium	0.482	0.00100	0.5000	0	96.5	80	120				
Cadmium	0.499	0.00500	0.5000	0	99.8	80	120				
Chromium	0.507	0.0100	0.5000	0	101	80	120				
Cobalt	0.518	0.0100	0.5000	0	104	80	120				
Lead	0.514	0.0100	0.5000	0	103	80	120				
Molybdenum	0.513	0.0100	0.5000	0	103	80	120				
Selenium	0.498	0.0200	0.5000	0	99.5	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#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49809

Sample ID	LCSD-49809	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/12/2023	RunNo:	124811
Client ID:	LCSS02	Batch ID:	49809	TestNo:	SW6010B			Analysis Date:	9/14/2023	SeqNo:	3134272
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.494	0.0100	0.5000	0	98.9	80	120	0.5106	3.25	20	
Beryllium	0.471	0.00100	0.5000	0	94.1	80	120	0.4824	2.48	20	
Cadmium	0.486	0.00500	0.5000	0	97.1	80	120	0.4991	2.74	20	
Chromium	0.492	0.0100	0.5000	0	98.4	80	120	0.5066	2.95	20	
Cobalt	0.504	0.0100	0.5000	0	101	80	120	0.5180	2.77	20	
Lead	0.496	0.0100	0.5000	0	99.1	80	120	0.5135	3.53	20	
Molybdenum	0.497	0.0100	0.5000	0	99.4	80	120	0.5134	3.23	20	
Selenium	0.478	0.0200	0.5000	0	95.6	80	120	0.4975	4.05	20	

Sample ID	23090467-008BMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/12/2023	RunNo:	124811
Client ID:	ZZZZZZ	Batch ID:	49809	TestNo:	SW6010B			Analysis Date:	9/14/2023	SeqNo:	3134292
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.524	0.0100	0.5000	0.1084	83.2	75	125				
Beryllium	0.403	0.00100	0.5000	0	80.6	75	125				
Cadmium	0.424	0.00500	0.5000	0	84.8	75	125				
Chromium	0.423	0.0100	0.5000	0	84.6	75	125				
Cobalt	0.429	0.0100	0.5000	0	85.8	75	125				
Lead	0.431	0.0100	0.5000	0	86.1	75	125				
Molybdenum	0.426	0.0100	0.5000	0	85.1	75	125				
Selenium	0.418	0.0200	0.5000	0	83.6	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 exceede
R RPD outside accepted recovery limits
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49809

Sample ID	23090467-008BMSD	SampType:	MSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/12/2023	RunNo:	124811
Client ID:	ZZZZZZ	Batch ID:	49809	TestNo:	SW6010B			Analysis Date:	9/14/2023	SeqNo:	3134293
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.499	0.0100	0.5000	0.1084	78.0	75	125	0.5243	5.01	20	
Beryllium	0.387	0.00100	0.5000	0	77.4	75	125	0.4032	4.14	20	
Cadmium	0.403	0.00500	0.5000	0	80.5	75	125	0.4240	5.16	20	
Chromium	0.406	0.0100	0.5000	0	81.2	75	125	0.4228	4.05	20	
Cobalt	0.410	0.0100	0.5000	0	82.1	75	125	0.4288	4.37	20	
Lead	0.408	0.0100	0.5000	0	81.5	75	125	0.4306	5.49	20	
Molybdenum	0.406	0.0100	0.5000	0	81.3	75	125	0.4256	4.62	20	
Selenium	0.413	0.0200	0.5000	0	82.6	75	125	0.4181	1.23	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#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49810-1

Sample ID	MB-49810	SampType:	MBLK	TestCode:	6020A_W	Units:	µg/L	Prep Date:	9/12/2023	RunNo:	124810
Client ID:	PBW	Batch ID:	49810-1	TestNo:	SW6020A			Analysis Date:	9/14/2023	SeqNo:	3133499
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	LCSD-49810	SampType:	LCSD	TestCode:	6020A_W	Units:	µg/L	Prep Date:	9/12/2023	RunNo:	124810
Client ID:	LCSS02	Batch ID:	49810-1	TestNo:	SW6020A			Analysis Date:	9/14/2023	SeqNo:	3133501
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	517	5.00	500.0	0	103	80	120	518.9	0.302	20	
Arsenic	485	5.00	500.0	0	97.0	80	120	474.9	2.11	20	
Thallium	504	5.00	500.0	0	101	80	120	503.1	0.209	20	

Sample ID	23090468-008BMS	SampType:	MS	TestCode:	6020A_W	Units:	µg/L	Prep Date:		RunNo:	124810
Client ID:	CCR-8	Batch ID:	49810-1	TestNo:	SW6020A			Analysis Date:	9/14/2023	SeqNo:	3133540
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	450	5.00	500.0	0	90.1	75	125				
Arsenic	399	5.00	500.0	0.03029	79.9	75	125				
Thallium	432	5.00	500.0	0	86.4	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 exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49810-1

Sample ID	23090468-008BMSD	SampType: MSD	TestCode: 6020A_W	Units: µg/L	Prep Date:				RunNo: 124810		
Client ID:	CCR-8	Batch ID: 49810-1	TestNo: SW6020A	Analysis Date: 9/14/2023				SeqNo: 3133541			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	439	5.00	500.0	0	87.9	75	125	450.4	2.48	20	
Arsenic	403	5.00	500.0	0.03029	80.6	75	125	399.3	0.951	20	
Thallium	417	5.00	500.0	0	83.4	75	125	432.0	3.59	20	

Sample ID	LCS-49810	SampType: LCS	TestCode: 6020A_W	Units: µg/L	Prep Date: 9/12/2023	RunNo: 124810					
Client ID:	LCSW	Batch ID: 49810-1	TestNo: SW6020A	Analysis Date: 9/14/2023	SeqNo: 3133548						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	519	5.00	500.0	0	104	80	120				
Arsenic	475	5.00	500.0	0	95.0	80	120				
Thallium	503	5.00	500.0	0	101	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#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49859

Sample ID	23090468-014BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 9/14/2023	RunNo: 125450					
Client ID: CCR-14	Batch ID: 49859	TestNo: SW6010B	Analysis Date: 10/3/2023	SeqNo: 3151462							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.493	0.0200	0.5000	0	98.6	75	125				

Sample ID	23090468-014BMSD	SampType: MSD	TestCode: 6010_W		Units: mg/L	Prep Date: 9/14/2023				RunNo: 125450		
Client ID:	CCR-14	Batch ID: 49859	TestNo: SW6010B			Analysis Date: 10/3/2023				SeqNo: 3151463		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium		0.488	0.0200	0.5000	0	97.7	75	125	0.4928	0.891	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#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49859

Sample ID	23090467-014BMS	SampType: MS	TestCode: 6010_W		Units: mg/L	Prep Date: 9/14/2023			RunNo: 125220			
Client ID:	ZZZZZZ	Batch ID: 49859	TestNo: SW6010B			Analysis Date: 9/26/2023			SeqNo: 3145058			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium		0.516	0.0100	0.5000	0.08435	86.3	75	125				
Cadmium		0.431	0.00500	0.5000	0	86.1	75	125				
Chromium		0.429	0.0100	0.5000	0	85.7	75	125				
Lead		0.427	0.0100	0.5000	0	85.4	75	125				
Selenium		0.428	0.0200	0.5000	0	85.6	75	125				

Sample ID	23090467-014BMSD	SampType: MSD	TestCode: 6010_W		Units: mg/L	Prep Date: 9/14/2023			RunNo: 125220			
Client ID:	ZZZZZZ	Batch ID: 49859	TestNo: SW6010B			Analysis Date: 9/26/2023			SeqNo: 3145059			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium		0.481	0.0100	0.5000	0.08435	79.2	75	125	0.5161	7.12	20	
Cadmium		0.403	0.00500	0.5000	0	80.6	75	125	0.4307	6.58	20	
Chromium		0.400	0.0100	0.5000	0	80.0	75	125	0.4286	6.91	20	
Lead		0.402	0.0100	0.5000	0	80.3	75	125	0.4270	6.15	20	
Selenium		0.402	0.0200	0.5000	0	80.3	75	125	0.4278	6.31	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 exceeds
R RPD outside accepted recovery limits
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49859

Sample ID	23090467-014BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 9/14/2023	RunNo: 125045					
Client ID: ZZZZZZ	Batch ID: 49859	TestNo: SW6010B	Analysis Date: 9/21/2023	SeqNo: 3140468							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	0.496	0.0100	0.5000	0	99.3	75	125
Selenium	0.492	0.0200	0.5000	0	98.5	75	125

Sample ID	23090467-014BMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 9/14/2023	RunNo: 125045					
Client ID: ZZZZZZ	Batch ID: 49859	TestNo: SW6010B	Analysis Date: 9/21/2023	SeqNo: 3140469							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	0.506	0.0100	0.5000	0	101	75	125	0.4964	1.89	20
Selenium	0.504	0.0200	0.5000	0	101	75	125	0.4923	2.30	20

Sample ID	23090640-001GMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 9/14/2023	RunNo: 125045					
Client ID: ZZZZZZ	Batch ID: 49859	TestNo: SW6010B	Analysis Date: 9/21/2023	SeqNo: 3140479							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Selenium	0.498	0.0200	0.5000	0	99.5	75	125
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Sample ID	23090640-001GMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 9/14/2023	RunNo: 125045					
Client ID: ZZZZZZ	Batch ID: 49859	TestNo: SW6010B	Analysis Date: 9/21/2023	SeqNo: 3140480							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	0.493	0.0100	0.5000	0.009460	96.8	75	125	0.009460	192	20	R
Selenium	0.505	0.0200	0.5000	0	101	75	125	0	200	20	R

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceede
	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#: 23090468
08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49859

Sample ID	23090640-001GMSD	SampType:	MSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125045
Client ID:	ZZZZZZ	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/21/2023	SeqNo:	3140480
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	E	Value above quantitation range	H	Holding times for preparation or analysis exceede
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#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49859

Sample ID	MB-49859	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125034
Client ID:	PBW	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/20/2023	SeqNo:	3140190
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-49859	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125034
Client ID:	LCSW	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/20/2023	SeqNo:	3140191
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.489	0.0100	0.5000	0	97.9	80	120				
Beryllium	0.485	0.00100	0.5000	0	96.9	80	120				
Cadmium	0.469	0.00500	0.5000	0	93.8	80	120				
Chromium	0.472	0.0100	0.5000	0	94.5	80	120				
Cobalt	0.478	0.0100	0.5000	0	95.6	80	120				
Lead	0.475	0.0100	0.5000	0	95.0	80	120				
Molybdenum	0.483	0.0100	0.5000	0	96.5	80	120				
Selenium	0.445	0.0200	0.5000	0	88.9	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 exceede
R	RPD outside accepted recovery limits
SDL	Sample detection limit



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QC SUMMARY REPORT

WO#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49859

Sample ID	LCSD-49859	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125034
Client ID:	LCSS02	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/20/2023	SeqNo:	3140192
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.489	0.0100	0.5000	0	97.7	80	120	0.4894	0.145	20	
Beryllium	0.486	0.00100	0.5000	0	97.2	80	120	0.4847	0.227	20	
Cadmium	0.470	0.00500	0.5000	0	94.0	80	120	0.4690	0.179	20	
Chromium	0.473	0.0100	0.5000	0	94.6	80	120	0.4725	0.0529	20	
Cobalt	0.477	0.0100	0.5000	0	95.4	80	120	0.4781	0.197	20	
Lead	0.471	0.0100	0.5000	0	94.2	80	120	0.4749	0.767	20	
Molybdenum	0.482	0.0100	0.5000	0	96.4	80	120	0.4827	0.135	20	
Selenium	0.460	0.0200	0.5000	0	92.0	80	120	0.4446	3.40	20	

Sample ID	23090468-014BMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125034
Client ID:	CCR-14	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/20/2023	SeqNo:	3140200
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.568	0.0100	0.5000	0.08329	96.9	75	125				
Beryllium	0.485	0.00100	0.5000	0	97.1	75	125				
Cadmium	0.472	0.00500	0.5000	0	94.3	75	125				
Chromium	0.475	0.0100	0.5000	0	95.0	75	125				
Cobalt	0.477	0.0100	0.5000	0	95.3	75	125				
Lead	0.468	0.0100	0.5000	0	93.6	75	125				
Molybdenum	0.479	0.0100	0.5000	0	95.9	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#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49859

Sample ID	23090468-014BMSD	SampType: MSD	TestCode: 6010_W		Units: mg/L	Prep Date: 9/14/2023			RunNo: 125034		
Client ID:	CCR-14	Batch ID: 49859	TestNo: SW6010B			Analysis Date: 9/20/2023			SeqNo: 3140201		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.571	0.0100	0.5000	0.08329	97.5	75	125	0.5679	0.483	20	
Beryllium	0.490	0.00100	0.5000	0	98.0	75	125	0.4854	0.976	20	
Cadmium	0.478	0.00500	0.5000	0	95.6	75	125	0.4717	1.29	20	
Chromium	0.478	0.0100	0.5000	0	95.6	75	125	0.4750	0.594	20	
Cobalt	0.480	0.0100	0.5000	0	96.1	75	125	0.4766	0.788	20	
Lead	0.475	0.0100	0.5000	0	95.0	75	125	0.4681	1.49	20	
Molybdenum	0.480	0.0100	0.5000	0	95.9	75	125	0.4794	0.0459	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#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49859

Sample ID	MB-49859	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125011
Client ID:	PBW	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/20/2023	SeqNo:	3139694
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-49859	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125011
Client ID:	LCSW	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/20/2023	SeqNo:	3139695
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.489	0.0100	0.5000	0	97.9	80	120				
Beryllium	0.485	0.00100	0.5000	0	96.9	80	120				
Cadmium	0.469	0.00500	0.5000	0	93.8	80	120				
Chromium	0.472	0.0100	0.5000	0	94.5	80	120				
Cobalt	0.478	0.0100	0.5000	0	95.6	80	120				
Lead	0.475	0.0100	0.5000	0	95.0	80	120				
Molybdenum	0.483	0.0100	0.5000	0	96.5	80	120				
Selenium	0.445	0.0200	0.5000	0	88.9	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#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49859

Sample ID	LCSD-49859	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125011
Client ID:	LCSS02	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/20/2023	SeqNo:	3139696
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.489	0.0100	0.5000	0	97.7	80	120	0.4894	0.145	20	
Beryllium	0.486	0.00100	0.5000	0	97.2	80	120	0.4847	0.227	20	
Cadmium	0.470	0.00500	0.5000	0	94.0	80	120	0.4690	0.179	20	
Chromium	0.473	0.0100	0.5000	0	94.6	80	120	0.4725	0.0529	20	
Cobalt	0.477	0.0100	0.5000	0	95.4	80	120	0.4781	0.197	20	
Lead	0.471	0.0100	0.5000	0	94.2	80	120	0.4749	0.767	20	
Molybdenum	0.482	0.0100	0.5000	0	96.4	80	120	0.4827	0.135	20	
Selenium	0.460	0.0200	0.5000	0	92.0	80	120	0.4446	3.40	20	

Sample ID	23090467-014BMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125011
Client ID:	ZZZZZZ	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/20/2023	SeqNo:	3139704
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.568	0.0100	0.5000	0.08329	96.9	75	125				
Beryllium	0.485	0.00100	0.5000	0	97.1	75	125				
Cadmium	0.472	0.00500	0.5000	0	94.3	75	125				
Chromium	0.475	0.0100	0.5000	0	95.0	75	125				
Cobalt	0.477	0.0100	0.5000	0	95.3	75	125				
Lead	0.468	0.0100	0.5000	0	93.6	75	125				
Molybdenum	0.479	0.0100	0.5000	0	95.9	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#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49859

Sample ID	23090467-014BMSD	SampType:	MSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125011
Client ID:	ZZZZZZ	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/20/2023	SeqNo:	3139705
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.571	0.0100	0.5000	0.08329	97.5	75	125	0.5679	0.483	20	
Beryllium	0.490	0.00100	0.5000	0	98.0	75	125	0.4854	0.976	20	
Cadmium	0.478	0.00500	0.5000	0	95.6	75	125	0.4717	1.29	20	
Chromium	0.478	0.0100	0.5000	0	95.6	75	125	0.4750	0.594	20	
Cobalt	0.480	0.0100	0.5000	0	96.1	75	125	0.4766	0.788	20	
Lead	0.475	0.0100	0.5000	0	95.0	75	125	0.4681	1.49	20	
Molybdenum	0.480	0.0100	0.5000	0	95.9	75	125	0.4794	0.0459	20	

Sample ID	23090640-001GMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125011
Client ID:	ZZZZZZ	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/20/2023	SeqNo:	3139711
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	1.39	0.0100	0.5000	0.9450	88.8	75	125				
Beryllium	0.467	0.00100	0.5000	0.0002300	93.3	75	125				
Cadmium	0.464	0.00500	0.5000	0	92.8	75	125				
Chromium	0.483	0.0100	0.5000	0.02243	92.1	75	125				
Cobalt	0.467	0.0100	0.5000	0.006880	91.9	75	125				
Lead	0.455	0.0100	0.5000	0.006920	89.5	75	125				
Molybdenum	0.493	0.0100	0.5000	0.03960	90.6	75	125				

NOTES:

S/R - Poor spike recoveries and high RPD due to sample matrix. The method is in control as indicated by the LCS/LCSD.

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#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49859

Sample ID	23090640-001GMSD	SampType:	MSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	9/14/2023	RunNo:	125011
Client ID:	ZZZZZZ	Batch ID:	49859	TestNo:	SW6010B			Analysis Date:	9/20/2023	SeqNo:	3139715
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	1.40	0.0100	0.5000	0.9450	91.0	75	125	1.389	0.797	20	
Beryllium	0.466	0.00100	0.5000	0.0002300	93.3	75	125	0.4669	0.0814	20	
Cadmium	0.464	0.00500	0.5000	0	92.7	75	125	0.4640	0.0819	20	
Chromium	0.486	0.0100	0.5000	0.02243	92.7	75	125	0.4832	0.533	20	
Cobalt	0.468	0.0100	0.5000	0.006880	92.2	75	125	0.4666	0.312	20	
Molybdenum	0.496	0.0100	0.5000	0.03960	91.3	75	125	0.4927	0.661	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#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49860-1

Sample ID	MB-49860	SampType:	MBLK	TestCode:	6020A_W	Units:	µg/L	Prep Date:	9/14/2023	RunNo:	125079			
Client ID:	PBW	Batch ID:	49860-1	TestNo:	SW6020A			Analysis Date:	9/21/2023	SeqNo:	3141756			
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-49860	SampType: LCS	TestCode: 6020A_W	Units: µg/L	Prep Date: 9/14/2023	RunNo: 125079					
Client ID:	LCSW	Batch ID: 49860-1	TestNo: SW6020A	Analysis Date: 9/21/2023	SeqNo: 3141757						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	533	5.00	500.0	0	107	80	120				
Arsenic	504	5.00	500.0	0	101	80	120				
Thallium	518	5.00	500.0	0	104	80	120				

Sample ID	LCSD-49860	SampType: LCSD	TestCode: 6020A_W	Units: µg/L	Prep Date: 9/14/2023	RunNo: 125079					
Client ID:	LCSS02	Batch ID: 49860-1	TestNo: SW6020A	Analysis Date: 9/21/2023	SeqNo: 3141758						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	532	5.00	500.0	0	106	80	120	533.1	0.181	20	
Arsenic	500	5.00	500.0	0	100	80	120	504.4	0.884	20	
Thallium	521	5.00	500.0	0	104	80	120	518.0	0.620	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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Website: www.element.com

QC SUMMARY REPORT

WO#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49860-1

Sample ID	23090468-014BMS	SampType: MS	TestCode: 6020A_W		Units: µg/L	Prep Date: 9/14/2023			RunNo: 125079			
Client ID:	CCR-14	Batch ID: 49860-1	TestNo: SW6020A			Analysis Date: 9/21/2023			SeqNo: 3141763			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony		532	5.00	500.0	0.02643	106	75	125				
Arsenic		492	5.00	500.0	0.8440	98.3	75	125				
Thallium		505	5.00	500.0	0.01988	101	75	125				

Sample ID	23090468-014BMSD	SampType: MSD	TestCode: 6020A_W	Units: µg/L	Prep Date: 9/14/2023	RunNo: 125079					
Client ID:	CCR-14	Batch ID: 49860-1	TestNo: SW6020A	Analysis Date: 9/21/2023	SeqNo: 3141764						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	523	5.00	500.0	0.02643	105	75	125	532.0	1.72	20	
Arsenic	493	5.00	500.0	0.8440	98.4	75	125	492.2	0.100	20	
Thallium	501	5.00	500.0	0.01988	100	75	125	505.5	0.838	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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Website: www.element.com

QC SUMMARY REPORT

WO#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49911

Sample ID	MB-49911	SampType:	MBLK	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	9/19/2023	RunNo:	124974			
Client ID:	PBW	Batch ID:	49911	TestNo:	SW7470A			Analysis Date:	9/20/2023	SeqNo:	3138062			
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-49911	SampType:	LCS	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	9/19/2023	RunNo:	124974			
Client ID:	LCSW	Batch ID:	49911	TestNo:	SW7470A			Analysis Date:	9/20/2023	SeqNo:	3138063			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.00937		0.000200	0.01000	0		93.7	80	120				

Sample ID	LCSD-49911	SampType:	LCSD	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	9/19/2023	RunNo:	124974			
Client ID:	LCSS02	Batch ID:	49911	TestNo:	SW7470A			Analysis Date:	9/20/2023	SeqNo:	3138064			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.00994		0.000200	0.01000	0		99.4	80	120	0.009373	5.91	20	

Sample ID	23090640-001GMS	SampType: MS	TestCode: HG_W_7470	Units: mg/L	Prep Date: 9/19/2023	RunNo: 124974					
Client ID: ZZZZZZ	Batch ID: 49911	TestNo: SW7470A	Analysis Date: 9/20/2023	SeqNo: 3138067							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00916	0.000200	0.01000	0.00005991	91.0	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 exceeded
R RPD outside accepted recovery limits
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49911

Sample ID	23090640-001GMSD	SampType: MSD	TestCode: HG_W_7470			Units: mg/L	Prep Date: 9/19/2023			RunNo: 124974		
Client ID:	ZZZZZZ	Batch ID: 49911	TestNo: SW7470A				Analysis Date: 9/20/2023			SeqNo: 3138068		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.00998	0.000200	0.01000	0.00005991	99.3	75	125	0.009158	8.64	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#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49932

Sample ID	MB-49932	SampType:	MBLK	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	9/20/2023	RunNo:	125286	
Client ID:	PBW	Batch ID:	49932	TestNo:	SW7470A			Analysis Date:	9/28/2023	SeqNo:	3147060	
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-49932	SampType:	LCS	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	9/20/2023	RunNo:	125286			
Client ID:	LCSW	Batch ID:	49932	TestNo:	SW7470A			Analysis Date:	9/28/2023	SeqNo:	3147061			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.0103		0.000200	0.01000	0		103	80	120				

Sample ID	LCSD-49932	SampType:	LCSD	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	9/20/2023	RunNo:	125286			
Client ID:	LCSS02	Batch ID:	49932	TestNo:	SW7470A			Analysis Date:	9/28/2023	SeqNo:	3147062			
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	80	120	0.01034	1.13	20	

Sample ID	23090468-014BMS	SampType:	MS	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	9/20/2023	RunNo:	125286	
Client ID:	CCR-14	Batch ID:	49932	TestNo:	SW7470A			Analysis Date:	9/28/2023	SeqNo:	3147065	
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				

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#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 49932

Sample ID	23090468-014BMSD	SampType: MSD	TestCode: HG_W_7470	Units: mg/L	Prep Date: 9/20/2023	RunNo: 125286					
Client ID: CCR-14	Batch ID: 49932	TestNo: SW7470A	Analysis Date: 9/28/2023	SeqNo: 3147066							
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	0.01025	0.102	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#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R124827

Sample ID	mblk	SampType: MBLK	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124827					
Client ID: PBW	Batch ID: R124827	TestNo: E 300.0	Analysis Date: 9/14/2023	SeqNo: 3133995							
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: 124827		
Client ID:	LCSW	Batch ID: R124827	TestNo: E 300.0			Analysis Date: 9/14/2023				SeqNo: 3133996		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		1.92	0.0500	2.000	0	96.2	90	110				

Sample ID	lcsd	SampType: LCSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124827					
Client ID:	LCSS02	Batch ID: R124827	TestNo: E 300.0	Analysis Date: 9/14/2023	SeqNo: 3133997						
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	96.4	90	110	1.924	0.207	15	

Sample ID	23090468-005AMS	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124827					
Client ID:	CCR-5	Batch ID: R124827	TestNo: E 300.0	Analysis Date: 9/14/2023	SeqNo: 3134007						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	19.1	1.00	20.00	0	95.7	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#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R124827

Sample ID	23090468-005AMSD	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124827					
Client ID:	CCR-5	Batch ID: R124827	TestNo: E 300.0	Analysis Date: 9/14/2023	SeqNo: 3134008						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	19.3	1.00	20.00	0	96.4	80	120	19.13	0.775	15	

Sample ID	23090468-014AMS	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124827					
Client ID:	CCR-14	Batch ID: R124827	TestNo: E 300.0	Analysis Date: 9/14/2023	SeqNo: 3134020						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	4.83	0.250	5.000	0	96.6	80	120				

Sample ID	23090468-014AMSD	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124827					
Client ID: CCR-14	Batch ID: R124827	TestNo: E 300.0	Analysis Date: 9/14/2023	SeqNo: 3134021							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	4.89	0.250	5.000	0	97.8	80	120	4.828	1.33	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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QC SUMMARY REPORT

WO#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R124955

Sample ID	mblk	SampType:	MBLK	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	124955	
Client ID:	PBW	Batch ID:	R124955	TestNo:	E 300.0			Analysis Date:	9/18/2023	SeqNo:	3137447	
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: 124955		
Client ID:	LCSW	Batch ID: R124955	TestNo: E 300.0			Analysis Date: 9/18/2023				SeqNo: 3137448		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		1.97	0.0500	2.000	0	98.4	90	110				

Sample ID	lcsd	SampType: LCSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124955					
Client ID:	LCSS02	Batch ID: R124955	TestNo: E 300.0	Analysis Date: 9/18/2023	SeqNo: 3137449						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.99	0.0500	2.000	0	99.6	90	110	1.968	1.17	15	

Sample ID	23090468-005AMS	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124955					
Client ID:	CCR-5	Batch ID: R124955	TestNo: E 300.0	Analysis Date: 9/18/2023	SeqNo: 3137456						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	19.9	1.00	20.00	0	99.5	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#: 23090468

08-Nov-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R124955

Sample ID	23090468-005AMSD	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124955					
Client ID:	CCR-5	Batch ID: R124955	TestNo: E 300.0	Analysis Date: 9/18/2023	SeqNo: 3137457						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	20.0	1.00	20.00	0	100	80	120	19.89	0.639	15	

Sample ID	23090468-014AMS	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124955					
Client ID:	CCR-14	Batch ID: R124955	TestNo: E 300.0	Analysis Date: 9/18/2023	SeqNo: 3137470						
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				

Sample ID	23090468-014AMSD	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 124955					
Client ID:	CCR-14	Batch ID: R124955	TestNo: E 300.0	Analysis Date: 9/18/2023	SeqNo: 3137471						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	10.0	0.500	10.00	0	100	80	120	10.15	1.01	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
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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 exceeds
R RPD outside accepted recovery limits
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Sample Log-In Check List

Client Name: **PIVOTAL_ENGINEERIN**

Work Order Number: **23090468**

RcptNo: **1**

Logged by: **Tammy Thibodeaux** **9/12/2023 6:30:00 AM**
Completed By: **Tammy Thibodeaux** **9/12/2023 8:00:17 AM**
Reviewed By: **Buffy Bryant** **10/16/2023 12:14:07 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? 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:

No sampler's signature by client on page 2.

Added year of collection as per samples received.

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.1	Good	Not Present			



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Sample Log-In Check List

Client Name: **PIVOTAL_ENGINEERIN**

Work Order Number: **23090468**

RcptNo: **1**

2	3.9	Good	Not Present			
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October 05, 2023

Annie Reedy
Element Materials Technology
2417 W. Pinhook Rd
Lafayette, LA 70508

RE: Project: 23090468-Element
Pace Project No.: 20289269

Dear Annie Reedy:

Enclosed are the analytical results for sample(s) received by the laboratory on September 13, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Baton Rouge

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

Sincerely,

Devin McDougal
devin.mcdougal@pacelabs.com
(225) 678-1833
Project Manager

Enclosures

cc: Buffy Bryant, Element Materials Technology
Rhonda David, Element Materials Lab
Kelli Foreman, Element Materials Technology
Donna Leblanc, Element Materials Technology
Lindsay Roussel, Element Materials Technology
Cristina Thibeaux, Element Materials Technology



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 23090468-Element
Pace Project No.: 20289269

Pace Analytical Services Baton Rouge

7979 Innovation Park Drive Ste A, Baton Rouge, LA
70820-7402
Louisiana Dept of Environmental Quality (NELAC/LELAP):
01979
Florida Dept of Health (NELAC/FELAP): E87854
DoD ELAP (A2LA) #: 6429.01
Alabama DEM #: 41900
Alaska DEC-DW #: LA00024
Alaska DEC CS-LAP #: 21-001
Arkansas DEQ #: 88-0655
California ELAP #: 3063
Georgia DPD #: C050
Hawaii DOH State Laboratories Division
Illinois EPA #: 200048
Kansas DoHE #: E-10354
Kentucky DEP UST Branch #: 123054
Louisiana DOH #: LA036
Minnesota DOH #: 2233799
Mississippi State Dept of Health

Montana Department of Environmental Quality
Nebraska DHHS #: NE-OS-35.21
Nevada DCNR DEP #: LA00024
New York DOH #: 12149
North Carolina DEQ - WW & GW #: 618
North Dakota DEQ #: R195
Ohio EPA #: 87782
Oklahoma Dept of Environmental Quality #: 9403
Oregon ELAP #: 4168
Pennsylvania Dept of Environmental Protection #: 68-
05973
South Carolina DHEC #: 73006001
Texas CEQ #: T104704178-23-15
Utah DOH #: LA00024
Virginia DCLS #: 6460215
Washington Dept of Ecology #: C929
Wisconsin DNR #: 399139510

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 23090468-Element

Pace Project No.: 20289269

Lab ID	Sample ID	Matrix	Date Collected	Date Received
20289269001	23090468-001C	Water	09/08/23 08:40	09/13/23 10:00
20289269002	23090468-002C	Water	09/08/23 09:20	09/13/23 10:00
20289269003	23090468-003C	Water	09/08/23 10:00	09/13/23 10:00
20289269004	23090468-004C	Water	09/08/23 10:40	09/13/23 10:00
20289269005	23090468-005C	Water	09/08/23 11:20	09/13/23 10:00
20289269006	23090468-006C	Water	09/08/23 12:00	09/13/23 10:00
20289269007	23090468-007C	Water	09/08/23 12:40	09/13/23 10:00
20289269008	23090468-008C	Water	09/08/23 13:20	09/13/23 10:00
20289269009	23090468-009C	Water	09/08/23 15:30	09/13/23 10:00
20289269010	23090468-010C	Water	09/08/23 16:10	09/13/23 10:00
20289269011	23090468-011C	Water	09/08/23 16:50	09/13/23 10:00
20289269012	23090468-012C	Water	09/08/23 17:35	09/13/23 10:00
20289269013	23090468-013C	Water	09/08/23 18:18	09/13/23 10:00
20289269014	23090468-014C	Water	09/08/23 18:55	09/13/23 10:00
20289269015	23090468-015C	Water	09/08/23 00:00	09/13/23 10:00
20289269016	23090468-016C	Water	09/08/23 19:20	09/13/23 10:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 23090468-Element

Pace Project No.: 20289269

Lab ID	Sample ID	Method	Analysts	Analytes Reported
20289269001	23090468-001C	EPA 6020B	LZ	1
20289269002	23090468-002C	EPA 6020B	LZ	1
20289269003	23090468-003C	EPA 6020B	LZ	1
20289269004	23090468-004C	EPA 6020B	LZ	1
20289269005	23090468-005C	EPA 6020B	LZ	1
20289269006	23090468-006C	EPA 6020B	LZ	1
20289269007	23090468-007C	EPA 6020B	LZ	1
20289269008	23090468-008C	EPA 6020B	LZ	1
20289269009	23090468-009C	EPA 6020B	LZ	1
20289269010	23090468-010C	EPA 6020B	LZ	1
20289269011	23090468-011C	EPA 6020B	LZ	1
20289269012	23090468-012C	EPA 6020B	LZ	1
20289269013	23090468-013C	EPA 6020B	LZ	1
20289269014	23090468-014C	EPA 6020B	LZ	1
20289269015	23090468-015C	EPA 6020B	LZ	1
20289269016	23090468-016C	EPA 6020B	LZ	1

PASI-BR = Pace Analytical Services - Baton Rouge

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 23090468-Element
Pace Project No.: 20289269

Sample: 23090468-001C		Lab ID: 20289269001		Collected: 09/08/23 08:40		Received: 09/13/23 10:00		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
BR 6020B Metals Water		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Baton Rouge							
Lithium	23.8	ug/L	5.0	1	09/14/23 08:32	09/14/23 17:49	7439-93-2		
Sample: 23090468-002C		Lab ID: 20289269002		Collected: 09/08/23 09:20		Received: 09/13/23 10:00		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
BR 6020B Metals Water		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Baton Rouge							
Lithium	25.3	ug/L	5.0	1	09/14/23 08:32	09/14/23 17:59	7439-93-2		
Sample: 23090468-003C		Lab ID: 20289269003		Collected: 09/08/23 10:00		Received: 09/13/23 10:00		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
BR 6020B Metals Water		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Baton Rouge							
Lithium	31.6	ug/L	5.0	1	09/14/23 08:32	09/14/23 18:03	7439-93-2		
Sample: 23090468-004C		Lab ID: 20289269004		Collected: 09/08/23 10:40		Received: 09/13/23 10:00		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
BR 6020B Metals Water		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Baton Rouge							
Lithium	20.9	ug/L	5.0	1	09/14/23 08:32	09/14/23 18:06	7439-93-2		
Sample: 23090468-005C		Lab ID: 20289269005		Collected: 09/08/23 11:20		Received: 09/13/23 10:00		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
BR 6020B Metals Water		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Baton Rouge							
Lithium	24.4	ug/L	5.0	1	09/14/23 08:32	09/14/23 18:10	7439-93-2		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 23090468-Element
Pace Project No.: 20289269

Sample: 23090468-006C		Lab ID: 20289269006		Collected: 09/08/23 12:00	Received: 09/13/23 10:00	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual

BR 6020B Metals Water
Analytical Method: EPA 6020B Preparation Method: EPA 3010A
Pace Analytical Services - Baton Rouge

Lithium	16.1	ug/L	5.0	1	09/14/23 08:32	09/14/23 18:14	7439-93-2
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Sample: 23090468-007C		Lab ID: 20289269007		Collected: 09/08/23 12:40		Received: 09/13/23 10:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	

BR 6020B Metals Water
Analytical Method: EPA 6020B Preparation Method: EPA 3010A
Pace Analytical Services - Baton Rouge

Lithium	13.8	ug/L	5.0	1	09/14/23 08:50	09/14/23 16:37	7439-93-2
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Sample: 23090468-008C		Lab ID: 20289269008		Collected: 09/08/23 13:20		Received: 09/13/23 10:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	

BR 6020B Metals Water
Analytical Method: EPA 6020B Preparation Method: EPA 3010A
Pace Analytical Services - Baton Rouge

Lithium	46.0	ug/L	5.0	1	09/14/23 08:50	09/14/23 16:41	7439-93-2
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Sample: 23090468-009C		Lab ID: 20289269009		Collected: 09/08/23 15:30		Received: 09/13/23 10:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	

BR 6020B Metals Water
Analytical Method: EPA 6020B Preparation Method: EPA 3010A
Pace Analytical Services - Baton Rouge

Lithium	17.4	ug/L	5.0	1	09/14/23 08:50	09/14/23 16:44	7439-93-2
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Sample: 23090468-010C		Lab ID: 20289269010		Collected: 09/08/23 16:10		Received: 09/13/23 10:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	

BR 6020B Metals Water
Analytical Method: EPA 6020B Preparation Method: EPA 3010A
Pace Analytical Services - Baton Rouge

Lithium	18.6	ug/L	5.0	1	09/14/23 08:50	09/14/23 16:48	7439-93-2
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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 23090468-Element
Pace Project No.: 20289269

Sample: 23090468-011C		Lab ID: 20289269011		Collected: 09/08/23 16:50		Received: 09/13/23 10:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
BR 6020B Metals Water		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Baton Rouge							
Lithium	8.9	ug/L	5.0	1	09/14/23 08:50	09/14/23 16:52	7439-93-2		

Sample: 23090468-012C		Lab ID: 20289269012		Collected: 09/08/23 17:35		Received: 09/13/23 10:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
BR 6020B Metals Water		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Baton Rouge							
Lithium	28.0	ug/L	5.0	1	09/14/23 08:50	09/14/23 16:55	7439-93-2		

Sample: 23090468-013C		Lab ID: 20289269013		Collected: 09/08/23 18:18		Received: 09/13/23 10:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
BR 6020B Metals Water		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Baton Rouge							
Lithium	33.7	ug/L	5.0	1	09/14/23 08:50	09/14/23 16:59	7439-93-2		

Sample: 23090468-014C		Lab ID: 20289269014		Collected: 09/08/23 18:55		Received: 09/13/23 10:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
BR 6020B Metals Water		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Baton Rouge							
Lithium	18.1	ug/L	5.0	1	09/14/23 08:50	09/14/23 17:02	7439-93-2		

Sample: 23090468-015C		Lab ID: 20289269015		Collected: 09/08/23 00:00		Received: 09/13/23 10:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
BR 6020B Metals Water		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Baton Rouge							
Lithium	29.0	ug/L	5.0	1	09/14/23 08:50	09/14/23 17:13	7439-93-2		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 23090468-Element

Pace Project No.: 20289269

Sample: 23090468-016C		Lab ID: 20289269016		Collected: 09/08/23 19:20		Received: 09/13/23 10:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
BR 6020B Metals Water		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Baton Rouge							
Lithium	ND	ug/L	5.0	1	09/14/23 08:50	09/14/23 17:17	7439-93-2		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 23090468-Element

Pace Project No.: 20289269

QC Batch:	299530	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3010A	Analysis Description:	BR 6020B Metals Water
		Laboratory:	Pace Analytical Services - Baton Rouge

Associated Lab Samples: 20289269001, 20289269002, 20289269003, 20289269004, 20289269005, 20289269006

METHOD BLANK:	1434403	Matrix:	Water
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Associated Lab Samples: 20289269001, 20289269002, 20289269003, 20289269004, 20289269005, 20289269006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	ug/L	ND	5.0	09/14/23 17:27	

LABORATORY CONTROL SAMPLE: 1434404						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	ug/L	250	245	98	78-126	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1434405 1434406												
Parameter	Units	20289269001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	ug/L	23.8	250	250	276	272	101	99	78-126	1	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 23090468-Element

Pace Project No.: 20289269

QC Batch:	299549	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3010A	Analysis Description:	BR 6020B Metals Water
		Laboratory:	Pace Analytical Services - Baton Rouge
Associated Lab Samples:	20289269007, 20289269008, 20289269009, 20289269010, 20289269011, 20289269012, 20289269013, 20289269014, 20289269015, 20289269016		

METHOD BLANK:	1434470	Matrix:	Water
Associated Lab Samples:	20289269007, 20289269008, 20289269009, 20289269010, 20289269011, 20289269012, 20289269013, 20289269014, 20289269015, 20289269016		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lithium	ug/L	ND	5.0	09/14/23 16:30	

LABORATORY CONTROL SAMPLE: 1434471						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	ug/L	250	251	100	78-126	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:					1434472								1434473			
Parameter	Units	20289269014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual				
Lithium	ug/L	18.1	250	250	263	273	98	102	78-126	4	20					

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 23090468-Element
Pace Project No.: 20289269

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

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

TNI - The Nelac Institute

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 23090468-Element

Pace Project No.: 20289269

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
20289269001	23090468-001C	EPA 3010A	299530	EPA 6020B	299534
20289269002	23090468-002C	EPA 3010A	299530	EPA 6020B	299534
20289269003	23090468-003C	EPA 3010A	299530	EPA 6020B	299534
20289269004	23090468-004C	EPA 3010A	299530	EPA 6020B	299534
20289269005	23090468-005C	EPA 3010A	299530	EPA 6020B	299534
20289269006	23090468-006C	EPA 3010A	299530	EPA 6020B	299534
20289269007	23090468-007C	EPA 3010A	299549	EPA 6020B	299552
20289269008	23090468-008C	EPA 3010A	299549	EPA 6020B	299552
20289269009	23090468-009C	EPA 3010A	299549	EPA 6020B	299552
20289269010	23090468-010C	EPA 3010A	299549	EPA 6020B	299552
20289269011	23090468-011C	EPA 3010A	299549	EPA 6020B	299552
20289269012	23090468-012C	EPA 3010A	299549	EPA 6020B	299552
20289269013	23090468-013C	EPA 3010A	299549	EPA 6020B	299552
20289269014	23090468-014C	EPA 3010A	299549	EPA 6020B	299552
20289269015	23090468-015C	EPA 3010A	299549	EPA 6020B	299552
20289269016	23090468-016C	EPA 3010A	299549	EPA 6020B	299552

REPORT OF LABORATORY ANALYSIS

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CHAIN OF CUSTODY RECORD

Omega COCID 14795

PAGE: 1

WO#: 20289269



20289269

FAX: (551) 233-0340

Website: www.element.com

SUB CONTRACTOR: GCAL		COMPANY: Pace Analytical Gulf Coast		SPECIAL INSTRUCTIONS / COMMENTS:			
ADDRESS: 7979 Innovation Park Drive				SPECIAL INSTRUCTIONS / COMMENTS: Client specified MS/ MSD on -014. 6020 for Lithium Reference ELA048414PO on the invoice EXCEL EDD NEEDED WITH FINAL REPORT			
CITY, STATE, ZIP: Baton Rouge, LA 70820							
PHONE: (225) 769-4900		FAX: (225) 767-5717		EMAIL:			
ACCOUNT #:		PO #: ELA 048414PO					
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	23090468-001C 6020_W_SUB (SW6020A)	CCR-1	250HDPEHNO3	Aqueous	9/8/2023 8:40:00 AM	1	1
2	23090468-002C 6020_W_SUB (SW6020A)	CCR-2	250HDPEHNO3	Aqueous	9/8/2023 9:20:00 AM	1	2
3	23090468-003C 6020_W_SUB (SW6020A)	CCR-3	250HDPEHNO3	Aqueous	9/8/2023 10:00:00 AM	1	3
4	23090468-004C 6020_W_SUB (SW6020A)	CCR-4	250HDPEHNO3	Aqueous	9/8/2023 10:40:00 AM	1	4
5	23090468-005C 6020_W_SUB (SW6020A)	CCR-5	250HDPEHNO3	Aqueous	9/8/2023 11:20:00 AM	1	5
6	23090468-006C 6020_W_SUB (SW6020A)	CCR-6	250HDPEHNO3	Aqueous	9/8/2023 12:00:00 PM	1	6
7	23090468-007C 6020_W_SUB (SW6020A)	CCR-7	250HDPEHNO3	Aqueous	9/8/2023 12:40:00 PM	1	7
8	23090468-008C 6020_W_SUB (SW6020A)	CCR-8	250HDPEHNO3	Aqueous	9/8/2023 1:20:00 PM	1	8
9	23090468-009C 6020_W_SUB (SW6020A)	CCR-9	250HDPEHNO3	Aqueous	9/8/2023 3:30:00 PM	1	9

Relinquished By: <i>[Signature]</i>	Date: <i>9-13-23</i>	Time: <i>0700</i>	Received By: <i>[Signature]</i>	Date: <i>9-13-23</i>	Time: <i>0700</i>	REPORT TRANSMITTAL DESIRED:	
Relinquished By: <i>[Signature]</i>	Date: <i>9-13-23</i>	Time:	Received By: <i>[Signature]</i>	Date: <i>9/13/23</i>	Time: <i>10:00</i>	☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY	
TAT: Standard ☐ RUSH ☐ Next BD ☐ 2nd BD ☐ 3rd BD ☐						Temp of samples <i>0.9643</i> °C Attempt to Cool? _____	
Note: RUSH requests will incur surcharges!						Comments: <i>Page 59 of 63</i>	



CHAIN OF CUSTODY RECORD

Omega COCID 14795

PAGE:

WO#: 20289269 ADDRESS

PM: DRM

Due Date: 09/22/23

CLIENT: BR-ELEMENT

Website: www.element.com

SUB CONTRACTOR: GCAL		COMPANY: Pace Analytical Gulf Coast		SPECIAL INSTRUCTIONS / COMMENTS: SPECIAL INSTRUCTIONS / COMMENTS: Client specified MS/ MSD on -014. 6020 for Lithium Reference ELA048414PO on the invoice EXCEL EDD NEEDED WITH FINAL REPORT			
ADDRESS: 7979 Innovation Park Drive							
CITY, STATE, ZIP: Baton Rouge, LA 70820							
PHONE: (225) 769-4900 FAX: (225) 767-5717 EMAIL:							
ACCOUNT #: PO #: ELA 048414PO							
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	23090468-010C 6020_W_SUB (SW6020A)	CCR-10	250HDPEHNO3	Aqueous	9/8/2023 4:10:00 PM	1	10
11	23090468-011C 6020_W_SUB (SW6020A)	CCR-11	250HDPEHNO3	Aqueous	9/8/2023 4:50:00 PM	1	11
12	23090468-012C 6020_W_SUB (SW6020A)	CCR-12	250HDPEHNO3	Aqueous	9/8/2023 5:35:00 PM	1	12
13	23090468-013C 6020_W_SUB (SW6020A)	CCR-13	250HDPEHNO3	Aqueous	9/8/2023 6:18:00 PM	1	13
14	23090468-014C 6020_W_SUB (SW6020A)	CCR-14	250HDPEHNO3	Aqueous	9/8/2023 6:55:00 PM	3	14
15	23090468-015C 6020_W_SUB (SW6020A)	Duplicate	250HDPEHNO3	Aqueous	9/8/2023	1	15
16	23090468-016C 6020_W_SUB (SW6020A)	Field Blank	250HDPEHNO3	Aqueous	9/8/2023 7:20:00 PM	1	16

Relinquished By: <i>[Signature]</i>	Date: 9-13-23	Time: 0700	Received By: <i>[Signature]</i>	Date: 9-13-23	Time: 0700	REPORT TRANSMITTAL DESIRED:	
Relinquished By: <i>[Signature]</i>	Date: 9-13-23	Time:	Received By: <i>[Signature]</i>	Date: 9/13/23	Time: 10:00	☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY	
TAT: Standard ☐ RUSH ☐ Next BD ☐ 2nd BD ☐ 3rd BD ☐						Temp of samples 0.9 Attempt to Cool ? PLS	
Note: RUSH requests will incur surcharges!						Comments: Page 60 of 63	

W0#: 20289269

PM: DRM Due Date: 09/22/23
 CLIENT: BR-ELEMENT

Pace

Sample Condition Upon Reciep

Workorder #: _____

7979 Innovation Park Dr. Baton Rouge, LA 70806

Cooler Inspected by/date: BRL / 9/13/23

Means of receipt: ☐ Pace ☐ Client ☐ UPS ☐ FedEx ☐ Other: _____	
☐ Yes ☐ No	Were custody seals present on the cooler?
☐ Yes ☐ No ☒ NA	If custody seals were present, were they intact and unbroken?
Method: ☐ Temperature Blank ☒ Against Bottles IR Gun ID: <u>443</u> IR Gun Correction Factor: <u>0.0</u> °C	
Cooler #1 Cooler Temp °C: <u>0.9</u> (Actual/True)	Samples on ice ☐ Yes ☐ No pH Strip Lot # <u>201822</u>
Cooler #2 Cooler Temp °C: _____ (Actual/True)	
Cooler #3 Cooler Temp °C: _____ (Actual/True)	Method of coolant: ☒ Wet ☐ Ice Packs ☐ Dry Ice ☐ None
Cooler #4 Cooler Temp °C: _____ (Actual/True)	

Tracking #:	
☐ Yes ☒ No ☐ NA	Is a temperature blank present?
☐ Yes ☐ No ☐ NA	Was a chain of custody (COC) recieved?
☐ Yes ☒ No ☐ NA	Was the line and profile number listed on the COC?
☒ Yes ☐ No ☐ NA	Were all coolers received at or below 6.0°C? If no, notify Project Manager notified via email.
☒ Yes ☐ No ☐ NA	Were proper custody procedures (relinquished/received) followed?
☐ Yes ☒ No ☐ NA	Is the sampler name and signature on the COC?
☒ Yes ☐ No ☐ NA	Were sample IDs listed on the COC and all sample containers?
☒ Yes ☐ No ☐ NA	Was collection date & time listed on the COC and all sample containers?
☒ Yes ☐ No ☐ NA	Did all container label information (ID, date, time) agree with the COC?
☒ Yes ☐ No ☐ NA	Were tests to be performed listed on the COC?
☒ Yes ☐ No ☐ NA	Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
☒ Yes ☐ No ☐ NA	Was adequate sample volume available?
☒ Yes ☐ No ☐ NA	Were all samples received within ½ the holding time or 48 hours, whichever comes first?
☒ Yes ☐ No ☐ NA	Were all samples containers accounted for? (No missing / excess)
☐ Yes ☐ No ☐ NA	Were VOA, 8015C (GRO/PH), and RSK-175 samples free of bubbles > "pea size" (1/4" or 6mm in diameter) in any of the VOA vials?
☐ Yes ☐ No ☒ NA	Trip blank present?
☐ Yes ☐ No ☒ NA	Filtered volume received for dissolved tests?
☒ Yes ☐ No ☐ NA	Were all metals/nutrient samples received at a pH of < 2?
☐ Yes ☐ No ☒ NA	Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?

Comments:

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

☐ **3445 S Sheridan, Tulsa, OK 74145**
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Element Materials Technology Lafayette
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December 27, 2023

Terry Elnaggar
Pivotal Engineering LLC
1515 Poydras St., STE. 1150
New Orleans, LA 70112
TEL: (504) 799-3653
FAX

RE: Entergy: CCR Detection Monitoring

Order No.: 23120522

Dear Terry Elnaggar:

Element Materials Technology Lafayette received 16 sample(s) on 12/10/2023 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.

Buffy Bryant
Customer Service Supervisor



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Case Narrative

WO#: 23120522
Date: 12/27/2023

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#: 23120522

Date Reported: 12/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 8:40:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23120522-001 **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	43.2	2.50		mg/L	10	12/12/2023 6:53:53 PM
Fluoride	0.273	0.0500		mg/L	1	12/14/2023 3:35:32 AM
Sulfate	3.03	0.250		mg/L	1	12/14/2023 3:35:32 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	12/13/2023 6:11:00 PM
Calcium	26.9	0.500		mg/L	1	12/13/2023 6:11:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	289	10.0		mg/L	1	12/12/2023 7:55:00 AM

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	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#: 23120522

Date Reported: 12/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 9:15:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23120522-002 **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	55.9	2.50		mg/L	10	12/12/2023 7:35:16 PM
Fluoride	0.341	0.0500		mg/L	1	12/14/2023 3:49:26 AM
Sulfate	1.65	0.250		mg/L	1	12/14/2023 3:49:26 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	12/13/2023 6:13:00 PM
Calcium	22.4	0.500		mg/L	1	12/13/2023 6:13:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	260	10.0		mg/L	1	12/12/2023 7:55:00 AM

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	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#: 23120522

Date Reported: 12/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 9:55:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23120522-003 **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	91.5	2.50		mg/L	10	12/12/2023 7:49:04 PM
Fluoride	0.356	0.0500		mg/L	1	12/14/2023 4:03:14 AM
Sulfate	2.41	0.250		mg/L	1	12/14/2023 4:03:14 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	12/13/2023 6:15:00 PM
Calcium	28.2	0.500		mg/L	1	12/13/2023 6:15:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	341	10.0		mg/L	1	12/12/2023 7:55:00 AM

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	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#: 23120522

Date Reported: 12/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 10:40:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23120522-004 **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	44.2	2.50		mg/L	10	12/12/2023 8:02:52 PM
Fluoride	0.228	0.0500		mg/L	1	12/14/2023 4:17:01 AM
Sulfate	13.5	0.250		mg/L	1	12/14/2023 4:17:01 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	0.102	0.100		mg/L	1	12/13/2023 6:17:00 PM
Calcium	21.5	0.500		mg/L	1	12/13/2023 6:17:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	264	10.0		mg/L	1	12/12/2023 7:55:00 AM

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	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#: 23120522

Date Reported: 12/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 11:25:00 AM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23120522-005 **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	57.8	2.50		mg/L	10	12/12/2023 8:16:39 PM
Fluoride	0.253	0.0500		mg/L	1	12/14/2023 4:30:49 AM
Sulfate	< 0.250	0.250		mg/L	1	12/14/2023 4:30:49 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	0.108	0.100		mg/L	1	12/13/2023 6:24:00 PM
Calcium	35.1	0.500		mg/L	1	12/13/2023 6:24:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	399	10.0		mg/L	1	12/12/2023 7:55:00 AM

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	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#: 23120522

Date Reported: 12/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 12:05:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23120522-006 **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	80.4	2.50		mg/L	10	12/12/2023 8:30:26 PM
Fluoride	0.262	0.0500		mg/L	1	12/14/2023 4:44:37 AM
Sulfate	0.254	0.250		mg/L	1	12/14/2023 4:44:37 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	12/13/2023 6:27:00 PM
Calcium	31.1	0.500		mg/L	1	12/13/2023 6:27:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	317	10.0		mg/L	1	12/12/2023 7:55:00 AM

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	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#: 23120522

Date Reported: 12/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 12:45:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23120522-007 **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	74.2	2.50		mg/L	10	12/12/2023 8:44:13 PM
Fluoride	0.278	0.0500		mg/L	1	12/14/2023 4:58:24 AM
Sulfate	< 0.250	0.250		mg/L	1	12/14/2023 4:58:24 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	12/13/2023 6:29:00 PM
Calcium	49.0	0.500		mg/L	1	12/13/2023 6:29:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	345	10.0		mg/L	1	12/12/2023 7:55:00 AM

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	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#: 23120522

Date Reported: 12/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 1:25:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23120522-008 **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	81.5	2.50		mg/L	10	12/12/2023 8:58:01 PM
Fluoride	0.170	0.0500		mg/L	1	12/14/2023 5:12:12 AM
Sulfate	1.75	0.250		mg/L	1	12/14/2023 5:12:12 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	12/13/2023 6:31:00 PM
Calcium	13.0	0.500		mg/L	1	12/13/2023 6:31:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	287	10.0		mg/L	1	12/12/2023 7:55:00 AM

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	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#: 23120522

Date Reported: 12/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 2:05:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23120522-009 **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	64.0	2.50		mg/L	10	12/12/2023 9:11:49 PM
Fluoride	0.563	0.0500		mg/L	1	12/14/2023 5:26:00 AM
Sulfate	6.66	0.250		mg/L	1	12/14/2023 5:26:00 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	12/13/2023 6:33:00 PM
Calcium	33.3	0.500		mg/L	1	12/13/2023 6:33:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	337	10.0		mg/L	1	12/12/2023 7:55:00 AM

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	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#: 23120522

Date Reported: 12/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 2:50:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23120522-010 **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	43.7	2.50		mg/L	10	12/12/2023 9:25:37 PM
Fluoride	0.601	0.0500		mg/L	1	12/14/2023 5:39:47 AM
Sulfate	4.10	0.250		mg/L	1	12/14/2023 5:39:47 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	12/13/2023 12:10:00 PM
Calcium	29.4	0.500		mg/L	1	12/13/2023 12:10:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	302	10.0		mg/L	1	12/12/2023 7:55:00 AM

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	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#: 23120522

Date Reported: 12/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 3:40:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23120522-011 **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	28.3	2.50		mg/L	10	12/13/2023 3:33:56 AM
Fluoride	0.678	0.0500		mg/L	1	12/14/2023 6:21:10 AM
Sulfate	2.25	0.250		mg/L	1	12/14/2023 6:21:10 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Boron	< 0.100	0.100		mg/L	1	12/13/2023 6:36:00 PM
Calcium	31.5	0.500		mg/L	1	12/13/2023 6:36:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	236	10.0		mg/L	1	12/12/2023 7:55:00 AM

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	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#: 23120522

Date Reported: 12/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 4:15:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23120522-012 **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	17.5	0.250		mg/L	1	12/14/2023 6:34:57 AM
Fluoride	0.151	0.0500		mg/L	1	12/14/2023 6:34:57 AM
Sulfate	14.9	0.250		mg/L	1	12/14/2023 6:34:57 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Boron	< 0.100	0.100		mg/L	1	12/13/2023 6:38:00 PM
Calcium	21.8	0.500		mg/L	1	12/13/2023 6:38:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	179	10.0		mg/L	1	12/12/2023 7:55:00 AM

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	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#: 23120522

Date Reported: 12/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 4:50:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23120522-013 **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	13.4	0.250		mg/L	1	12/14/2023 6:48:44 AM
Fluoride	0.240	0.0500		mg/L	1	12/14/2023 6:48:44 AM
Sulfate	1.27	0.250		mg/L	1	12/14/2023 6:48:44 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Boron	< 0.100	0.100		mg/L	1	12/13/2023 6:40:00 PM
Calcium	28.4	0.500		mg/L	1	12/13/2023 6:40:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	179	10.0		mg/L	1	12/12/2023 7:55:00 AM

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	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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Website: www.element.com

Analytical Report

(consolidated)

WO#: 23120522

Date Reported: 12/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 5:25:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23120522-014 **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	12.2	0.250		mg/L	1	12/14/2023 7:02:32 AM
Fluoride	0.225	0.0500		mg/L	1	12/14/2023 7:02:32 AM
Sulfate	0.655	0.250		mg/L	1	12/14/2023 7:02:32 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Boron	< 0.100	0.100		mg/L	1	12/13/2023 6:43:00 PM
Calcium	18.3	0.500		mg/L	1	12/13/2023 6:43:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C		Analyst: GMS
Total Dissolved Solids (Residue, Filterable)	153	10.0		mg/L	1	12/12/2023 7:55:00 AM

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	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#: 23120522

Date Reported: 12/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023
Project: Entergy: CCR Detection Monitoring
Lab ID: 23120522-015 **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	64.7	2.50		mg/L	10	12/13/2023 4:29:04 AM
Fluoride	0.570	0.0500		mg/L	1	12/14/2023 7:16:19 AM
Sulfate	6.59	0.250		mg/L	1	12/14/2023 7:16:19 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	12/13/2023 6:45:00 PM
Calcium	33.6	0.500		mg/L	1	12/13/2023 6:45:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	352	10.0		mg/L	1	12/12/2023 7:55:00 AM

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	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#: 23120522

Date Reported: 12/27/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 5:30:00 PM
Project: Entergy: CCR Detection Monitoring
Lab ID: 23120522-016 **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	12/13/2023 4:42:52 AM
Fluoride	< 0.0500	0.0500		mg/L	1	12/13/2023 4:42:52 AM
Sulfate	< 0.250	0.250		mg/L	1	12/13/2023 4:42:52 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Boron	< 0.100	0.100		mg/L	1	12/14/2023 1:43:00 PM
Calcium	< 0.500	0.500		mg/L	1	12/14/2023 1:43:00 PM
TOTAL DISSOLVED SOLIDS				SM2540C	Analyst: GMS	
Total Dissolved Solids (Residue, Filterable)	< 10.0	10.0		mg/L	1	12/12/2023 7:55:00 AM

Qualifiers:	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	M	Matrix Interference	ND	Not Detected at the Reporting Limit
	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#: 23120522

27-Dec-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: 51102

Sample ID	MB-51102	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	12/11/2023	RunNo:	127861			
Client ID:	PBW	Batch ID:	51102	TestNo:	SW6010B			Analysis Date:	12/13/2023	SeqNo:	3219213			
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-51102	SampType:	LCS	TestCode:	6010_W	Units:	mg/L	Prep Date:	12/11/2023	RunNo:	127861	
Client ID:	LCSW	Batch ID:	51102	TestNo:	SW6010B			Analysis Date:	12/13/2023	SeqNo:	3219214	
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	80	120				
Calcium		52.0	0.500	50.00	0	104	80	120				

Sample ID	LCSD-51102	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	12/11/2023	RunNo:	127861			
Client ID:	LCSS02	Batch ID:	51102	TestNo:	SW6010B			Analysis Date:	12/13/2023	SeqNo:	3219217			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.540		0.100	0.5000	0		108	80	120	0.5292	1.95	20	
Calcium		52.0		0.500	50.00	0		104	80	120	52.04	0.0393	20	

Sample ID	23120522-010BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 12/11/2023	RunNo: 127861					
Client ID: CCR-10	Batch ID: 51102	TestNo: SW6010B	Analysis Date: 12/13/2023	SeqNo: 3219219							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.618	0.100	0.5000	0	124	75	125				

Qualifiers:

E Value above quantitation range
ND Not Detected at the Reporting Limit
U Analyte not detected

H Holding times for preparation or analysis exceeded
RL Reporting Limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 23120522

27-Dec-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: 51102

Sample ID	23120522-010BMS	SampType: MS	TestCode: 6010_W		Units: mg/L	Prep Date: 12/11/2023				RunNo: 127861		
Client ID:	CCR-10	Batch ID: 51102	TestNo: SW6010B			Analysis Date: 12/13/2023				SeqNo: 3219219		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium		81.3	0.500	50.00	29.43	104	75	125				

Sample ID	23120522-010BMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 12/11/2023	RunNo: 127861					
Client ID: CCR-10	Batch ID: 51102	TestNo: SW6010B	Analysis Date: 12/13/2023	SeqNo: 3219220							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.602	0.100	0.5000	0	120	75	125	0.6179	2.67	20	
Calcium	79.3	0.500	50.00	29.43	99.8	75	125	81.26	2.40	20	

Qualifiers:

E Value above quantitation range
ND Not Detected at the Reporting Limit
U Analyte not detected

H Holding times for preparation or analysis exceeded
RL Reporting Limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 23120522
27-Dec-23

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

BatchID: R127734

Sample ID	MB-R127734	SampType:	MBLK	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	127734			
Client ID:	PBW	Batch ID:	R127734	TestNo:	SM2540C			Analysis Date:	12/12/2023	SeqNo:	3217652			
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-R127734	SampType:	LCS	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	127734			
Client ID:	LCSW	Batch ID:	R127734	TestNo:	SM2540C			Analysis Date:	12/12/2023	SeqNo:	3217653			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) 992 10.0 1,000 0 99.2 85 115

Sample ID	LCSD-R127734	SampType:	LCSD	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	127734			
Client ID:	LCSS02	Batch ID:	R127734	TestNo:	SM2540C			Analysis Date:	12/12/2023	SeqNo:	3217654			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) 997 10.0 1,000 0 99.7 85 115 992.0 0.503 10

Sample ID	23120522-005ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	127734			
Client ID:	CCR-5	Batch ID:	R127734	TestNo:	SM2540C			Analysis Date:	12/12/2023	SeqNo:	3217674			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filterable) 401 10.0 399.0 0.500 10

Qualifiers: E Value above quantitation range H Holding times for preparation or analysis exceeded M Matrix Interference
ND Not Detected at the Reporting Limit 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#: 23120522
27-Dec-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R127734

Sample ID	23120522-005ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	127734
Client ID:	CCR-5	Batch ID:	R127734	TestNo:	SM2540C			Analysis Date:	12/12/2023	SeqNo:	3217674
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual

Sample ID	23120522-010ADUP	SampType:	DUP	TestCode:	TDS_2540C	Units:	mg/L	Prep Date:		RunNo:	127734
Client ID:	CCR-10	Batch ID:	R127734	TestNo:	SM2540C			Analysis Date:	12/12/2023	SeqNo:	3217675
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Total Dissolved Solids (Residue, Filterable)		302		10.0						302.0	0 10

Qualifiers:

E Value above quantitation range
ND Not Detected at the Reporting Limit
U Analyte not detected

H Holding times for preparation or analysis exceeded
RL Reporting Limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 23120522

27-Dec-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R127846

Sample ID	mblk	SampType: MBLK	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 127846					
Client ID:	PBW	Batch ID: R127846	TestNo: E 300.0	Analysis Date: 12/12/2023	SeqNo: 3218563						
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: 127846					
Client ID:	LCSW	Batch ID: R127846	TestNo: E 300.0	Analysis Date: 12/12/2023	SeqNo: 3218564						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	9.97	0.250	10.00	0	99.7	90	110				
Fluoride	2.04	0.0500	2.000	0	102	90	110				
Sulfate	9.92	0.250	10.00	0	99.2	90	110				

Sample ID	Icsd	SampType: LCSD	TestCode: 300.0	Units: mg/L	Prep Date:				RunNo: 127846		
Client ID:	LCSS02	Batch ID: R127846	TestNo: E 300.0	Analysis Date: 12/12/2023				SeqNo: 3218565			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	9.87	0.250	10.00	0	98.7	90	110	9.971	1.07	15	
Fluoride	2.04	0.0500	2.000	0	102	90	110	2.044	0.413	15	
Sulfate	9.88	0.250	10.00	0	98.8	90	110	9.918	0.400	15	

Qualifiers:

E Value above quantitation range
ND Not Detected at the Reporting Limit
U Analyte not detected

H Holding times for preparation or analysis exceeded
RL Reporting Limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
SDL Sample detection limit



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QC SUMMARY REPORT

WO#: 23120522
27-Dec-23

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

BatchID: R127846

Sample ID	23120522-001AMS	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 127846					
Client ID:	CCR-1	Batch ID: R127846	TestNo: E 300.0	Analysis Date: 12/12/2023	SeqNo: 3218567						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	90.4	2.50	50.00	43.22	94.4	80	120				
Fluoride	9.93	0.500	10.00	0	99.3	80	120				
Sulfate	50.6	2.50	50.00	3.499	94.2	80	120				

Sample ID	23120522-001AMSD	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 127846					
Client ID:	CCR-1	Batch ID: R127846	TestNo: E 300.0	Analysis Date: 12/12/2023	SeqNo: 3218568						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	92.7	2.50	50.00	43.22	98.9	80	120	90.44	2.44	15	
Fluoride	10.2	0.500	10.00	0	102	80	120	9.934	2.95	15	
Sulfate	51.9	2.50	50.00	3.499	96.8	80	120	50.58	2.57	15	

Sample ID	23120522-010AMS	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 127846					
Client ID:	CCR-10	Batch ID: R127846	TestNo: E 300.0	Analysis Date: 12/12/2023	SeqNo: 3218578						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	86.6	2.50	50.00	43.72	85.7	80	120				
Fluoride	9.91	0.500	10.00	0.7454	91.7	80	120				
Sulfate	50.3	2.50	50.00	4.499	91.6	80	120				

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	M	Matrix Interference
ND	Not Detected at the Reporting Limit	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#: 23120522
27-Dec-23

Client: Pivotal Engineering LLC

Project: Entergy: CCR Detection Monitoring

BatchID: R127846

Sample ID	23120522-010AMSD	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 127846					
Client ID:	CCR-10	Batch ID: R127846	TestNo: E 300.0	Analysis Date: 12/12/2023	SeqNo: 3218579						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	90.8	2.50	50.00	43.72	94.2	80	120	86.58	4.80	15	
Fluoride	10.4	0.500	10.00	0.7454	96.6	80	120	9.911	4.90	15	
Sulfate	52.0	2.50	50.00	4.499	95.0	80	120	50.29	3.35	15	

Qualifiers:

E Value above quantitation range
ND Not Detected at the Reporting Limit
U Analyte not detected

H Holding times for preparation or analysis exceeded
RL Reporting Limit
W Sample container temperature is out of limit as specified at testcode

M Matrix Interference
SDL Sample detection limit



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Sample Log-In Check List

Client Name: **PIVOTAL_ENGINEERIN**

Work Order Number: **23120522**

RcptNo: **1**

Logged by: **Martin Lee** **12/10/2023 11:26:00 AM**

Martin Lee

Completed By: **Martin Lee** **12/11/2023 9:47:26 AM**

Martin Lee

Reviewed By: **Buffy Bryant** **12/26/2023 4:55:08 PM**

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° 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:
Improper error correction(s) made by client

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.2	Good	Not Present			



Laboratory
Number 23120522

Client Name: Pivotal Engineering LLC				Project: CCR Detection Monitoring				Preserv.		Number / Type of Container	Matrix Code	Test Requested								Comments / Remarks									
Contact Name: Terry Elnaggar								HCl HNO ₃	H ₂ SO ₄ NaOH Na ₂ S ₂ O ₃			TDS	300: Cl, F, SO ₄	6010 metals*															
Phone/Fax: (504) 799-3653				Sampler's Signature:																									
Collection		Grab	Comp	Sample Identification / Description																									
Date	Time																												
12/8/23	1540	X		C	C	R	-	1	1	None/ HNO ₃	2 Plastic	Aq	X	X	X											*6010 Metals: B, Ca			
12/8/23	1615	X		C	C	R	-	1	2	None/ HNO ₃	2 Plastic	Aq	X	X	X														
12/8/23	1650	X		C	C	R	-	1	3	None/ HNO ₃	2 Plastic	Aq	X	X	X														
12/8/23	1725	X		C	C	R	-	1	4	None/ HNO ₃	2 Plastic	Aq	X	X	X														
12/8/23	1455	X		M	S	(CCR- 10)					None/ HNO ₃	2 Plastic	Aq	X	X	X													
12/8/23	1900	X		M	S	D (CCR- 10)					None/ HNO ₃	2 Plastic	Aq	X	X	X													
12/8/23	—	X		D	U	P					None/ HNO ₃	2 Plastic	Aq	X	X	X													
12/8/23	1730	X		F	B	1					None/ HNO ₃	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.

P.O.
Number

Relinquished by: (Signature) 	Received by: (Signature)	Date 12/10/23	Time 11:00 am	Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received by: (Signature)	Date	Time	Relinquished by: (Signature)	Received by Laboratory: (Signature) 	Date 12/10/23	Time 11:26

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. 5-2°

☐ Ambient

Requested TAT

☐ 24-Hr. ☐ 72-Hr.

☐ 48-Hr. ☒ Standard

☐ Other _____

Thank-you for using Element Materials Technology

Page 28 of 28



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

December 29, 2023

Terry Elnaggar
Pivotal Engineering LLC
1515 Poydras St., STE. 1150
New Orleans, LA 70112
TEL: (504) 799-3653
FAX

RE: CCR Assessment Monitoring

Order No.: 23120521

Dear Terry Elnaggar:

Element Materials Technology Lafayette received 16 sample(s) on 12/10/2023 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.

Buffy Bryant
Customer Service Supervisor



Element Materials Technology Lafayette
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Case Narrative

WO#: 23120521
Date: 12/29/2023

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 (SW846 6020A) analysis was subcontracted to Pace Analytical. Their report is attached in its entirety.



Element Materials Technology Lafayette
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Analytical Report

(consolidated)

WO#: 23120521

Date Reported: 12/29/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 8:40:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23120521-001 **Matrix:** AQUEOUS
Client Sample ID CCR-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: SAR	
Mercury	< 0.000200	0.000200		mg/L	1	12/18/2023 10:41:36 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.273	0.0500		mg/L	1	12/14/2023 3:35:32 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.181	0.0100		mg/L	1	12/13/2023 6:11:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/13/2023 6:11:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/13/2023 6:11:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/13/2023 6:11:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/13/2023 6:11:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/13/2023 6:11:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/13/2023 6:11:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/13/2023 6:11:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/13/2023 11:30:49 AM
Arsenic	< 10.0	10.0		µg/L	1	12/13/2023 11:30:49 AM
Thallium	< 0.250	0.250		µg/L	1	12/13/2023 11:30:49 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#: 23120521

Date Reported: 12/29/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 9:15:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23120521-002 **Matrix:** AQUEOUS
Client Sample ID CCR-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: SAR	
Mercury	< 0.000200	0.000200		mg/L	1	12/18/2023 10:44:43 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.341	0.0500		mg/L	1	12/14/2023 3:49:26 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.150	0.0100		mg/L	1	12/13/2023 6:13:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/13/2023 6:13:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/13/2023 6:13:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/13/2023 6:13:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/13/2023 6:13:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/13/2023 6:13:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/13/2023 6:13:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/13/2023 6:13:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/13/2023 11:33:37 AM
Arsenic	< 10.0	10.0		µg/L	1	12/13/2023 11:33:37 AM
Thallium	< 0.250	0.250		µg/L	1	12/13/2023 11:33:37 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#: 23120521

Date Reported: 12/29/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 9:55:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23120521-003 **Matrix:** AQUEOUS
Client Sample ID CCR-3

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: SAR	
Mercury	< 0.000200	0.000200		mg/L	1	12/18/2023 10:48:21 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.356	0.0500		mg/L	1	12/14/2023 4:03:14 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.250	0.0100		mg/L	1	12/13/2023 6:15:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/13/2023 6:15:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/13/2023 6:15:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/13/2023 6:15:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/13/2023 6:15:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/13/2023 6:15:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/13/2023 6:15:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/13/2023 6:15:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/13/2023 11:36:25 AM
Arsenic	< 10.0	10.0		µg/L	1	12/13/2023 11:36:25 AM
Thallium	< 0.250	0.250		µg/L	1	12/13/2023 11:36:25 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#: 23120521

Date Reported: 12/29/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 10:40:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23120521-004 **Matrix:** AQUEOUS
Client Sample ID CCR-4

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: SAR	
Mercury	< 0.000200	0.000200		mg/L	1	12/21/2023 3:43:30 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.228	0.0500		mg/L	1	12/14/2023 4:17:01 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.114	0.0100		mg/L	1	12/13/2023 6:17:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/13/2023 6:17:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/13/2023 6:17:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/13/2023 6:17:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/13/2023 6:17:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/13/2023 6:17:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/13/2023 6:17:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/13/2023 6:17:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/13/2023 11:39:13 AM
Arsenic	< 10.0	10.0		µg/L	1	12/13/2023 11:39:13 AM
Thallium	< 0.250	0.250		µg/L	1	12/13/2023 11:39:13 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#: 23120521

Date Reported: 12/29/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 11:25:00 AM
Project: CCR Assessment Monitoring
Lab ID: 23120521-005 **Matrix:** AQUEOUS
Client Sample ID CCR-5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: SAR	
Mercury	< 0.000200	0.000200		mg/L	1	12/18/2023 11:02:51 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.253	0.0500		mg/L	1	12/14/2023 4:30:49 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.227	0.0100		mg/L	1	12/13/2023 6:24:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/13/2023 6:24:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/13/2023 6:24:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/13/2023 6:24:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/13/2023 6:24:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/13/2023 6:24:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/13/2023 6:24:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/13/2023 6:24:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/13/2023 11:42:01 AM
Arsenic	< 10.0	10.0		µg/L	1	12/13/2023 11:42:01 AM
Thallium	< 0.250	0.250		µg/L	1	12/13/2023 11:42:01 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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Analytical Report

(consolidated)

WO#: 23120521

Date Reported: 12/29/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 12:05:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23120521-006 **Matrix:** AQUEOUS
Client Sample ID CCR-6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: SAR	
Mercury	< 0.000200	0.000200		mg/L	1	12/18/2023 11:06:29 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.262	0.0500		mg/L	1	12/14/2023 4:44:37 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.194	0.0100		mg/L	1	12/13/2023 6:27:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/13/2023 6:27:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/13/2023 6:27:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/13/2023 6:27:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/13/2023 6:27:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/13/2023 6:27:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/13/2023 6:27:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/13/2023 6:27:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/13/2023 11:44:49 AM
Arsenic	< 10.0	10.0		µg/L	1	12/13/2023 11:44:49 AM
Thallium	< 0.250	0.250		µg/L	1	12/13/2023 11:44:49 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#: 23120521

Date Reported: 12/29/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 12:45:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23120521-007 **Matrix:** AQUEOUS
Client Sample ID CCR-7

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A		Analyst: SAR
Mercury	< 0.000200	0.000200		mg/L	1	12/18/2023 11:09:36 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: BXB
Fluoride	0.278	0.0500		mg/L	1	12/14/2023 4:58:24 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Barium	0.231	0.0100		mg/L	1	12/13/2023 6:29:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/13/2023 6:29:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/13/2023 6:29:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/13/2023 6:29:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/13/2023 6:29:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/13/2023 6:29:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/13/2023 6:29:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/13/2023 6:29:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	12/13/2023 11:58:51 AM
Arsenic	< 10.0	10.0		µg/L	1	12/13/2023 11:58:51 AM
Thallium	< 0.250	0.250		µg/L	1	12/13/2023 11:58:51 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#: 23120521

Date Reported: 12/29/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 1:25:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23120521-008 **Matrix:** AQUEOUS
Client Sample ID CCR-8

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: SAR	
Mercury	< 0.000200	0.000200		mg/L	1	12/18/2023 11:12:43 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.170	0.0500		mg/L	1	12/14/2023 5:12:12 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.116	0.0100		mg/L	1	12/13/2023 6:31:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/13/2023 6:31:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/13/2023 6:31:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/13/2023 6:31:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/13/2023 6:31:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/13/2023 6:31:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/13/2023 6:31:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/13/2023 6:31:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/13/2023 12:01:41 PM
Arsenic	< 10.0	10.0		µg/L	1	12/13/2023 12:01:41 PM
Thallium	< 0.250	0.250		µg/L	1	12/13/2023 12:01:41 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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Lafayette, LA 70508-3344
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Website: www.element.com

Analytical Report

(consolidated)

WO#: 23120521

Date Reported: 12/29/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 2:05:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23120521-009 **Matrix:** AQUEOUS
Client Sample ID CCR-9

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A		Analyst: SAR
Mercury	< 0.000200	0.000200		mg/L	1	12/18/2023 11:15:51 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: BXB
Fluoride	0.563	0.0500		mg/L	1	12/14/2023 5:26:00 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Barium	0.231	0.0100		mg/L	1	12/13/2023 6:33:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/13/2023 6:33:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/13/2023 6:33:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/13/2023 6:33:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/13/2023 6:33:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/13/2023 6:33:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/13/2023 6:33:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/13/2023 6:33:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	12/13/2023 12:04:29 PM
Arsenic	< 10.0	10.0		µg/L	1	12/13/2023 12:04:29 PM
Thallium	< 0.250	0.250		µg/L	1	12/13/2023 12:04:29 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
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Analytical Report

(consolidated)

WO#: 23120521

Date Reported: 12/29/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 2:50:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23120521-010 **Matrix:** AQUEOUS
Client Sample ID CCR-10

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A		Analyst: SAR
Mercury	< 0.000200	0.000200		mg/L	1	12/18/2023 10:27:38 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0		Analyst: BXB
Fluoride	0.601	0.0500		mg/L	1	12/14/2023 5:39:47 AM
METALS IN WATER BY ICP, TOTALS				SW6010B		Analyst: IO
Barium	0.306	0.0100		mg/L	1	12/13/2023 12:10:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/13/2023 12:10:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/13/2023 12:10:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/13/2023 12:10:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/13/2023 12:10:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/13/2023 12:10:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/13/2023 12:10:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/13/2023 12:10:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A		Analyst: MRB
Antimony	< 0.250	0.250		µg/L	1	12/13/2023 12:07:17 PM
Arsenic	< 10.0	10.0		µg/L	1	12/13/2023 12:07:17 PM
Thallium	< 0.250	0.250		µg/L	1	12/13/2023 12:07:17 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#: 23120521

Date Reported: 12/29/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 3:40:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23120521-011 **Matrix:** AQUEOUS
Client Sample ID CCR-11

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: SAR	
Mercury	< 0.000200	0.000200		mg/L	1	12/21/2023 3:30:01 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.678	0.0500		mg/L	1	12/14/2023 6:21:10 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.157	0.0100		mg/L	1	12/13/2023 6:36:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/13/2023 6:36:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/13/2023 6:36:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/13/2023 6:36:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/13/2023 6:36:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/13/2023 6:36:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/13/2023 6:36:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/13/2023 6:36:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/13/2023 12:18:28 PM
Arsenic	< 10.0	10.0		µg/L	1	12/13/2023 12:18:28 PM
Thallium	< 0.250	0.250		µg/L	1	12/13/2023 12:18:28 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#: 23120521

Date Reported: 12/29/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 4:15:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23120521-012 **Matrix:** AQUEOUS
Client Sample ID CCR-12

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: SAR	
Mercury	< 0.000200	0.000200		mg/L	1	12/21/2023 3:46:38 PM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.151	0.0500		mg/L	1	12/14/2023 6:34:57 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.187	0.0100		mg/L	1	12/13/2023 6:38:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/13/2023 6:38:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/13/2023 6:38:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/13/2023 6:38:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/13/2023 6:38:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/13/2023 6:38:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/13/2023 6:38:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/13/2023 6:38:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/13/2023 12:21:16 PM
Arsenic	< 10.0	10.0		µg/L	1	12/13/2023 12:21:16 PM
Thallium	< 0.250	0.250		µg/L	1	12/13/2023 12:21:16 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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WO#: 23120521

Date Reported: 12/29/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 4:50:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23120521-013 **Matrix:** AQUEOUS
Client Sample ID CCR-13

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: SAR	
Mercury	< 0.000200	0.000200		mg/L	1	12/18/2023 11:26:14 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.240	0.0500		mg/L	1	12/14/2023 6:48:44 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.0873	0.0100		mg/L	1	12/13/2023 6:40:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/13/2023 6:40:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/13/2023 6:40:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/13/2023 6:40:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/13/2023 6:40:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/13/2023 6:40:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/13/2023 6:40:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/13/2023 6:40:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/13/2023 12:24:04 PM
Arsenic	< 10.0	10.0		µg/L	1	12/13/2023 12:24:04 PM
Thallium	< 0.250	0.250		µg/L	1	12/13/2023 12:24:04 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#: 23120521

Date Reported: 12/29/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 5:25:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23120521-014 **Matrix:** AQUEOUS
Client Sample ID CCR-14

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: SAR	
Mercury	< 0.000200	0.000200		mg/L	1	12/18/2023 11:29:51 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.225	0.0500		mg/L	1	12/14/2023 7:02:32 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.0836	0.0100		mg/L	1	12/13/2023 6:43:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/13/2023 6:43:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/13/2023 6:43:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/13/2023 6:43:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/13/2023 6:43:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/13/2023 6:43:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/13/2023 6:43:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/13/2023 6:43:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/13/2023 12:38:06 PM
Arsenic	< 10.0	10.0		µg/L	1	12/13/2023 12:38:06 PM
Thallium	< 0.250	0.250		µg/L	1	12/13/2023 12:38:06 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#: 23120521

Date Reported: 12/29/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023
Project: CCR Assessment Monitoring
Lab ID: 23120521-015 **Matrix:** AQUEOUS
Client Sample ID Duplicate

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: SAR	
Mercury	< 0.000200	0.000200		mg/L	1	12/18/2023 11:43:47 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	0.570	0.0500		mg/L	1	12/14/2023 7:16:19 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	0.244	0.0100		mg/L	1	12/13/2023 6:45:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/13/2023 6:45:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/13/2023 6:45:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/13/2023 6:45:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/13/2023 6:45:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/13/2023 6:45:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/13/2023 6:45:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/13/2023 6:45:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/13/2023 12:40:56 PM
Arsenic	< 10.0	10.0		µg/L	1	12/13/2023 12:40:56 PM
Thallium	< 0.250	0.250		µg/L	1	12/13/2023 12:40:56 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#: 23120521

Date Reported: 12/29/2023

CLIENT: Pivotal Engineering LLC **Collection Date:** 12/8/2023 5:30:00 PM
Project: CCR Assessment Monitoring
Lab ID: 23120521-016 **Matrix:** AQUEOUS
Client Sample ID Field Blank

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY IN GROUND WATER,TOTAL				SW7470A	Analyst: SAR	
Mercury	< 0.000200	0.000200		mg/L	1	12/18/2023 11:46:54 AM
INORGANIC ANIONS IN WATER BY IC				E 300.0	Analyst: BXB	
Fluoride	< 0.0500	0.0500		mg/L	1	12/13/2023 4:42:52 AM
METALS IN WATER BY ICP, TOTALS				SW6010B	Analyst: IO	
Barium	< 0.0100	0.0100		mg/L	1	12/14/2023 1:43:00 PM
Beryllium	< 0.00100	0.00100		mg/L	1	12/14/2023 1:43:00 PM
Cadmium	< 0.00500	0.00500		mg/L	1	12/14/2023 1:43:00 PM
Chromium	< 0.0100	0.0100		mg/L	1	12/14/2023 1:43:00 PM
Cobalt	< 0.0100	0.0100		mg/L	1	12/14/2023 1:43:00 PM
Lead	< 0.0100	0.0100		mg/L	1	12/14/2023 1:43:00 PM
Molybdenum	< 0.0100	0.0100		mg/L	1	12/14/2023 1:43:00 PM
Selenium	< 0.0200	0.0200		mg/L	1	12/14/2023 1:43:00 PM
METALS IN WATER BY ICP-MS, TOTAL				SW6020A	Analyst: MRB	
Antimony	< 0.250	0.250		µg/L	1	12/13/2023 12:43:44 PM
Arsenic	< 10.0	10.0		µg/L	1	12/13/2023 12:43:44 PM
Thallium	< 0.250	0.250		µg/L	1	12/13/2023 12:43:44 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#: 23120521
29-Dec-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 51102

Sample ID	MB-51102	SampType: MBLK	TestCode: 6010_W	Units: mg/L	Prep Date: 12/11/2023	RunNo: 127864					
Client ID:	PBW	Batch ID: 51102	TestNo: SW6010B		Analysis Date: 12/13/2023	SeqNo: 3219258					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	< 0.0100	0.0100									
Cadmium	< 0.00500	0.00500									
Cobalt	< 0.0100	0.0100									
Lead	< 0.0100	0.0100									
Selenium	< 0.0200	0.0200									

Sample ID	LCS-51102	SampType: LCS	TestCode: 6010_W	Units: mg/L	Prep Date: 12/11/2023	RunNo: 127864					
Client ID:	LCSW	Batch ID: 51102	TestNo: SW6010B		Analysis Date: 12/13/2023	SeqNo: 3219259					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.523	0.0100	0.5000	0	105	80	120				
Cadmium	0.503	0.00500	0.5000	0	101	80	120				
Cobalt	0.522	0.0100	0.5000	0	104	80	120				
Lead	0.516	0.0100	0.5000	0	103	80	120				
Selenium	0.508	0.0200	0.5000	0	102	80	120				

Sample ID	LCSD-51102	SampType:	LCSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	12/11/2023	RunNo:	127864	
Client ID:	LCSS02	Batch ID:	51102	TestNo:	SW6010B			Analysis Date:	12/13/2023	SeqNo:	3219262	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium		0.538	0.0100	0.5000	0	108	80	120	0.5231	2.76	20	
Cadmium		0.509	0.00500	0.5000	0	102	80	120	0.5029	1.12	20	
Cobalt		0.526	0.0100	0.5000	0	105	80	120	0.5220	0.860	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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Website: www.element.com

QC SUMMARY REPORT

WO#: 23120521
29-Dec-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 51102

Sample ID	LCSD-51102	SampType: LCSD	TestCode: 6010_W	Units: mg/L	Prep Date: 12/11/2023	RunNo: 127864					
Client ID:	LCSS02	Batch ID: 51102	TestNo: SW6010B	Analysis Date: 12/13/2023	SeqNo: 3219262						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.520	0.0100	0.5000	0	104	80	120	0.5157	0.898	20	
Selenium	0.517	0.0200	0.5000	0	103	80	120	0.5081	1.73	20	

Sample ID	23120523-010BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 12/11/2023	RunNo: 127864					
Client ID: ZZZZZZ	Batch ID: 51102	TestNo: SW6010B	Analysis Date: 12/13/2023	SeqNo: 3219264							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.818	0.0100	0.5000	0.3056	102	75	125				
Cadmium	0.503	0.00500	0.5000	0	101	75	125				
Cobalt	0.517	0.0100	0.5000	0	103	75	125				
Lead	0.511	0.0100	0.5000	0	102	75	125				
Selenium	0.518	0.0200	0.5000	0	104	75	125				

Sample ID	23120523-010BMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 12/11/2023	RunNo: 127864					
Client ID: ZZZZZZ	Batch ID: 51102	TestNo: SW6010B	Analysis Date: 12/13/2023	SeqNo: 3219265							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.800	0.0100	0.5000	0.3056	99.0	75	125	0.8177	2.14	20	
Cadmium	0.496	0.00500	0.5000	0	99.1	75	125	0.5033	1.54	20	
Cobalt	0.508	0.0100	0.5000	0	102	75	125	0.5174	1.88	20	
Lead	0.503	0.0100	0.5000	0	101	75	125	0.5105	1.58	20	
Selenium	0.502	0.0200	0.5000	0	100	75	125	0.5176	3.08	20	

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 exceeded
R	RPD outside accepted recovery limits
SDL	Sample detection limit



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Website: www.element.com

QC SUMMARY REPORT

WO#: 23120521
29-Dec-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 51102

Sample ID	MB-51102	SampType:	MBLK	TestCode:	6010_W	Units:	mg/L	Prep Date:	12/11/2023	RunNo:	127814	
Client ID:	PBW	Batch ID:	51102	TestNo:	SW6010B			Analysis Date:	12/13/2023	SeqNo:	3217068	
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-51102	SampType: LCS	TestCode: 6010_W	Units: mg/L	Prep Date: 12/11/2023	RunNo: 127814					
Client ID:	LCSW	Batch ID: 51102	TestNo: SW6010B		Analysis Date: 12/13/2023	SeqNo: 3217069					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.523	0.0100	0.5000	0	105	80	120				
Beryllium	0.506	0.00100	0.5000	0	101	80	120				
Cadmium	0.503	0.00500	0.5000	0	101	80	120				
Chromium	0.515	0.0100	0.5000	0	103	80	120				
Cobalt	0.522	0.0100	0.5000	0	104	80	120				
Lead	0.516	0.0100	0.5000	0	103	80	120				
Molybdenum	0.523	0.0100	0.5000	0	105	80	120				
Selenium	0.508	0.0200	0.5000	0	102	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 exceede
R	RPD outside accepted recovery limits
SDL	Sample detection limit



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QC SUMMARY REPORT

WO#: 23120521

29-Dec-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 51102

Sample ID	LCSD-51102	SampType: LCSD	TestCode: 6010_W		Units: mg/L	Prep Date: 12/11/2023			RunNo: 127814			
Client ID:	LCSS02	Batch ID: 51102	TestNo: SW6010B			Analysis Date: 12/13/2023			SeqNo: 3217072			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium		0.538	0.0100	0.5000	0	108	80	120	0.5231	2.76	20	
Beryllium		0.512	0.00100	0.5000	0	102	80	120	0.5062	1.22	20	
Cadmium		0.509	0.00500	0.5000	0	102	80	120	0.5029	1.12	20	
Chromium		0.523	0.0100	0.5000	0	105	80	120	0.5152	1.51	20	
Cobalt		0.526	0.0100	0.5000	0	105	80	120	0.5220	0.860	20	
Lead		0.520	0.0100	0.5000	0	104	80	120	0.5157	0.898	20	
Molybdenum		0.531	0.0100	0.5000	0	106	80	120	0.5225	1.69	20	
Selenium		0.517	0.0200	0.5000	0	103	80	120	0.5081	1.73	20	

Sample ID	23120521-010BMS	SampType: MS	TestCode: 6010_W	Units: mg/L	Prep Date: 12/11/2023	RunNo: 127814					
Client ID:	CCR-10	Batch ID: 51102	TestNo: SW6010B		Analysis Date: 12/13/2023	SeqNo: 3217074					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.818	0.0100	0.5000	0.3056	102	75	125				
Beryllium	0.508	0.00100	0.5000	0	102	75	125				
Cadmium	0.503	0.00500	0.5000	0	101	75	125				
Chromium	0.518	0.0100	0.5000	0	104	75	125				
Cobalt	0.517	0.0100	0.5000	0	103	75	125				
Lead	0.511	0.0100	0.5000	0	102	75	125				
Molybdenum	0.527	0.0100	0.5000	0	105	75	125				
Selenium	0.518	0.0200	0.5000	0	104	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#: 23120521
29-Dec-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 51102

Sample ID	23120521-010BMSD	SampType: MSD	TestCode: 6010_W		Units: mg/L	Prep Date: 12/11/2023			RunNo: 127814			
Client ID:	CCR-10	Batch ID: 51102	TestNo: SW6010B			Analysis Date: 12/13/2023			SeqNo: 3217075			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium		0.800	0.0100	0.5000	0.3056	99.0	75	125	0.8177	2.14	20	
Beryllium		0.497	0.00100	0.5000	0	99.5	75	125	0.5080	2.13	20	
Cadmium		0.496	0.00500	0.5000	0	99.1	75	125	0.5033	1.54	20	
Chromium		0.509	0.0100	0.5000	0	102	75	125	0.5178	1.80	20	
Cobalt		0.508	0.0100	0.5000	0	102	75	125	0.5174	1.88	20	
Lead		0.503	0.0100	0.5000	0	101	75	125	0.5105	1.58	20	
Molybdenum		0.518	0.0100	0.5000	0	104	75	125	0.5268	1.78	20	
Selenium		0.502	0.0200	0.5000	0	100	75	125	0.5176	3.08	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#: 23120521
29-Dec-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 51103

Sample ID	MB-51103	SampType:	MBLK	TestCode:	6020A_W	Units:	µg/L	Prep Date:	12/11/2023	RunNo:	127825			
Client ID:	PBW	Batch ID:	51103	TestNo:	SW6020A			Analysis Date:	12/13/2023	SeqNo:	3218002			
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-51103	SampType:	LCS	TestCode:	6020A_W	Units:	µg/L	Prep Date:	12/11/2023	RunNo:	127825			
Client ID:	LCSW	Batch ID:	51103	TestNo:	SW6020A			Analysis Date:	12/13/2023	SeqNo:	3218003			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony		535		5.00	500.0	0		107	80	120				
Arsenic		506		5.00	500.0	0		101	80	120				
Thallium		521		5.00	500.0	0		104	80	120				

Sample ID	LCSD-51103	SampType:	LCSD	TestCode:	6020A_W	Units:	µg/L	Prep Date:	12/11/2023	RunNo:	127825			
Client ID:	LCSS02	Batch ID:	51103	TestNo:	SW6020A			Analysis Date:	12/13/2023	SeqNo:	3218004			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony		531		5.00	500.0	0		106	80	120	534.7	0.609	20	
Arsenic		507		5.00	500.0	0		101	80	120	505.7	0.191	20	
Thallium		521		5.00	500.0	0		104	80	120	521.3	0.0941	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#: 23120521
29-Dec-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 51103

Sample ID	23120521-010BMS	SampType: MS	TestCode: 6020A_W		Units: µg/L	Prep Date: 12/11/2023			RunNo: 127825		
Client ID:	CCR-10	Batch ID: 51103	TestNo: SW6020A			Analysis Date: 12/13/2023			SeqNo: 3218021		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	539	5.00	500.0	0	108	75	125				
Arsenic	486	5.00	500.0	0.1679	97.1	75	125				
Thallium	501	5.00	500.0	0	100	75	125				

Sample ID	23120521-010BMSD	SampType: MSD	TestCode: 6020A_W	Units: µg/L	Prep Date: 12/11/2023	RunNo: 127825					
Client ID:	CCR-10	Batch ID: 51103	TestNo: SW6020A		Analysis Date: 12/13/2023	SeqNo: 3218022					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	552	5.00	500.0	0	110	75	125	539.4	2.26	20	
Arsenic	489	5.00	500.0	0.1679	97.8	75	125	485.6	0.719	20	
Thallium	508	5.00	500.0	0	102	75	125	501.5	1.23	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#: 23120521
29-Dec-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 51142

Sample ID	MB-51142	SampType:	MBLK	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	12/13/2023	RunNo:	127977			
Client ID:	PBW	Batch ID:	51142	TestNo:	SW7470A			Analysis Date:	12/18/2023	SeqNo:	3221914			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.000299		0.000200										

Sample ID	LCS-51142	SampType:	LCS	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	12/13/2023	RunNo:	127977	
Client ID:	LCSW	Batch ID:	51142	TestNo:	SW7470A			Analysis Date:	12/18/2023	SeqNo:	3221915	
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	107	80	120				B

Sample ID	LCSD-51142	SampType:	LCSD	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	12/13/2023	RunNo:	127977			
Client ID:	LCSS02	Batch ID:	51142	TestNo:	SW7470A			Analysis Date:	12/18/2023	SeqNo:	3221916			
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	0.01066	1.42	20	B

Sample ID	23120521-010BMS	SampType: MS	TestCode: HG_W_7470	Units: mg/L	Prep Date: 12/13/2023	RunNo: 127977					
Client ID: CCR-10	Batch ID: 51142	TestNo: SW7470A	Analysis Date: 12/18/2023	SeqNo: 3221919							
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	75	125				B

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 exceeded
R	RPD outside accepted recovery limits
SDL	Sample detection limit



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QC SUMMARY REPORT

WO#: 23120521
29-Dec-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 51142

Sample ID	23120521-010BMSD	SampType: MSD	TestCode: HG_W_7470		Units: mg/L	Prep Date: 12/13/2023				RunNo: 127977		
Client ID:	CCR-10	Batch ID: 51142	TestNo: SW7470A			Analysis Date: 12/18/2023				SeqNo: 3221920		
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	106	75	125	0.01079	1.87	20	B

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#: 23120521
29-Dec-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 51235

Sample ID	MB-51235	SampType:	MBLK	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	12/19/2023	RunNo:	128145			
Client ID:	PBW	Batch ID:	51235	TestNo:	SW7470A			Analysis Date:	12/21/2023	SeqNo:	3227393			
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-51235	SampType:	LCS	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	12/19/2023	RunNo:	128145			
Client ID:	LCSW	Batch ID:	51235	TestNo:	SW7470A			Analysis Date:	12/21/2023	SeqNo:	3227394			
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.00993		0.000200	0.01000	0		99.3	80	120				

Sample ID	LCSD-51235	SampType:	LCSD	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	12/19/2023	RunNo:	128145			
Client ID:	LCSS02	Batch ID:	51235	TestNo:	SW7470A			Analysis Date:	12/21/2023	SeqNo:	3227395			
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	80	120	0.009927	2.05	20	

Sample ID	23120521-011BMS	SampType:	MS	TestCode:	HG_W_7470	Units:	mg/L	Prep Date:	12/19/2023	RunNo:	128145	
Client ID:	CCR-11	Batch ID:	51235	TestNo:	SW7470A			Analysis Date:	12/21/2023	SeqNo:	3227398	
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				

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#: 23120521
29-Dec-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: 51235

Sample ID	23120521-011BMSD	SampType: MSD	TestCode: HG_W_7470	Units: mg/L	Prep Date: 12/19/2023	RunNo: 128145					
Client ID: CCR-11	Batch ID: 51235	TestNo: SW7470A	Analysis Date: 12/21/2023	SeqNo: 3227399							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0103	0.000200	0.01000	0	103	75	125	0.01022	1.23	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#: 23120521

29-Dec-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R127845

Sample ID	mbk	SampType:	MBLK	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	127845
Client ID:	PBW	Batch ID:	R127845	TestNo:	E 300.0			Analysis Date:	12/12/2023	SeqNo:	3218510
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:	127845
Client ID:	LCSW	Batch ID:	R127845	TestNo:	E 300.0			Analysis Date:	12/12/2023	SeqNo:	3218511
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		

Sample ID	lcsd	SampType:	LCSD	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	127845
Client ID:	LCSS02	Batch ID:	R127845	TestNo:	E 300.0			Analysis Date:	12/12/2023	SeqNo:	3218512
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	2.044	0.413 15

Sample ID	23120521-001ams	SampType:	MS	TestCode:	300.0	Units:	mg/L	Prep Date:		RunNo:	127845
Client ID:	CCR-1	Batch ID:	R127845	TestNo:	E 300.0			Analysis Date:	12/12/2023	SeqNo:	3218514
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Fluoride		9.93		0.500	10.00	0	99.3	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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QC SUMMARY REPORT

WO#: 23120521
29-Dec-23

Client: Pivotal Engineering LLC
Project: CCR Assessment Monitoring

BatchID: R127845

Sample ID	23120521-001amsd	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 127845					
Client ID:	CCR-1	Batch ID: R127845	TestNo: E 300.0	Analysis Date: 12/12/2023	SeqNo: 3218515						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	10.2	0.500	10.00	0	102	80	120	9.934	2.95	15	

Sample ID	23120521-010ams	SampType: MS	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 127845					
Client ID:	CCR-10	Batch ID: R127845	TestNo: E 300.0	Analysis Date: 12/12/2023	SeqNo: 3218525						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.91	0.500	10.00	0.7454	91.7	80	120				

Sample ID	23120521-010amsd	SampType: MSD	TestCode: 300.0	Units: mg/L	Prep Date:	RunNo: 127845					
Client ID:	CCR-10	Batch ID: R127845	TestNo: E 300.0	Analysis Date: 12/12/2023	SeqNo: 3218526						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	10.4	0.500	10.00	0.7454	96.6	80	120	9.911	4.90	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

Sample Log-In Check List

Client Name: **PIVOTAL_ENGINEERIN**

Work Order Number: **23120521**

RcptNo: **1**

Logged by: **Martin Lee** **12/10/2023 11:26:00 AM**

Martin Lee

Completed By: **Martin Lee** **12/11/2023 9:22:08 AM**

Martin Lee

Reviewed By: **Buffy Bryant** **12/29/2023 10:29:43 AM**

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? 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:

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.2	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

23120521 / ELA 049521PO

SGS Job Number: LA96290

Sampling Date: 12/08/23

Report to:

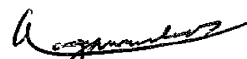
Element Materials Technology
2417 West Pinhook Rd
Lafayette, LA 70508
CustomerService.Lafayette@element.com

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 unless noted in the narrative, comments or footnotes.


Kesavalu Bagawandoss
Tech. Director North America

Client Service contact: Sara Ellington 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: LA96290

Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA
Project No: 23120521 / ELA 049521PO

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
LA96290-1	12/08/23	08:40	12/12/23	AQ	Water	CCR-1
LA96290-2	12/08/23	09:15	12/12/23	AQ	Water	CCR-2
LA96290-3	12/08/23	09:55	12/12/23	AQ	Water	CCR-3
LA96290-4	12/08/23	10:40	12/12/23	AQ	Water	CCR-4
LA96290-5	12/08/23	11:25	12/12/23	AQ	Water	CCR-5
LA96290-6	12/08/23	12:05	12/12/23	AQ	Water	CCR-6
LA96290-7	12/08/23	12:45	12/12/23	AQ	Water	CCR-7
LA96290-8	12/08/23	13:25	12/12/23	AQ	Water	CCR-8
LA96290-9	12/08/23	14:05	12/12/23	AQ	Water	CCR-9
LA96290-10	12/08/23	14:50	12/12/23	AQ	Water	CCR-10
LA96290-11	12/08/23	15:40	12/12/23	AQ	Water	CCR-11
LA96290-12	12/08/23	16:15	12/12/23	AQ	Water	CCR-12
LA96290-13	12/08/23	16:50	12/12/23	AQ	Water	CCR-13



Sample Summary
(continued)

Element Materials Technology

Job No: LA96290

Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA
Project No: 23120521 / ELA 049521PO

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
LA96290-14	12/08/23	17:25	12/12/23	AQ	Water	CCR-14
LA96290-15	12/08/23	00:00	12/12/23	AQ	Water	DUPLICATE
LA96290-16	12/08/23	17:30	12/12/23	AQ	Field Blank Water	FIELD BLANK

Summary of Hits

Page 1 of 2

Job Number: LA96290

Account: Element Materials Technology

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

Collected: 12/08/23

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
LA96290-1	CCR-1					
Lithium		17.9	2.0		ug/l	SW846 6020A
LA96290-2	CCR-2					
Lithium		16.0	2.0		ug/l	SW846 6020A
LA96290-3	CCR-3					
Lithium		20.0	2.0		ug/l	SW846 6020A
LA96290-4	CCR-4					
Lithium		14.4	2.0		ug/l	SW846 6020A
LA96290-5	CCR-5					
Lithium		15.9	2.0		ug/l	SW846 6020A
LA96290-6	CCR-6					
Lithium		11.3	2.0		ug/l	SW846 6020A
LA96290-7	CCR-7					
Lithium		9.5	2.0		ug/l	SW846 6020A
LA96290-8	CCR-8					
Lithium		28.9	2.0		ug/l	SW846 6020A
LA96290-9	CCR-9					
Lithium		11.0	2.0		ug/l	SW846 6020A
LA96290-10	CCR-10					
Lithium		13.2	2.0		ug/l	SW846 6020A
LA96290-11	CCR-11					
Lithium		6.6	2.0		ug/l	SW846 6020A

Summary of Hits

Job Number: LA96290
Account: Element Materials Technology
Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA
Collected: 12/08/23

Lab Sample ID	Client Sample ID	Result/ Analyte Qual	RL	MDL	Units	Method
LA96290-12	CCR-12					
Lithium		21.0	2.0		ug/l	SW846 6020A
LA96290-13	CCR-13					
Lithium		19.6	2.0		ug/l	SW846 6020A
LA96290-14	CCR-14					
Lithium		12.5	2.0		ug/l	SW846 6020A
LA96290-15	DUPLICATE					
Lithium		10.3	2.0		ug/l	SW846 6020A
LA96290-16	FIELD BLANK					

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	CCR-1	Date Sampled:	12/08/23
Lab Sample ID:	LA96290-1	Date Received:	12/12/23
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	17.9	2.0	ug/l	1	12/14/23	12/15/23 RD	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA26915
(2) Prep QC Batch: MP27407

Report of Analysis

Client Sample ID:	CCR-2	Date Sampled:	12/08/23
Lab Sample ID:	LA96290-2	Date Received:	12/12/23
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	16.0	2.0	ug/l	1	12/14/23	12/15/23 RD	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA26915
(2) Prep QC Batch: MP27407

Report of Analysis

Client Sample ID:	CCR-3	Date Sampled:	12/08/23
Lab Sample ID:	LA96290-3	Date Received:	12/12/23
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	20.0	2.0	ug/l	1	12/14/23	12/15/23 RD	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA26915
(2) Prep QC Batch: MP27407

Report of Analysis

Client Sample ID:	CCR-4	Date Sampled:	12/08/23
Lab Sample ID:	LA96290-4	Date Received:	12/12/23
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	12/14/23	12/15/23 RD	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA26915
(2) Prep QC Batch: MP27407

Report of Analysis

Client Sample ID:	CCR-5	Date Sampled:	12/08/23
Lab Sample ID:	LA96290-5	Date Received:	12/12/23
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	12/14/23	12/15/23 RD	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA26915
(2) Prep QC Batch: MP27407

Report of Analysis

Client Sample ID:	CCR-6	Date Sampled:	12/08/23
Lab Sample ID:	LA96290-6	Date Received:	12/12/23
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	11.3	2.0	ug/l	1	12/14/23	12/15/23 RD	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA26915
(2) Prep QC Batch: MP27407

Report of Analysis

Client Sample ID:	CCR-7	Date Sampled:	12/08/23
Lab Sample ID:	LA96290-7	Date Received:	12/12/23
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	9.5	2.0	ug/l	1	12/14/23	12/15/23 RD	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA26915
(2) Prep QC Batch: MP27407

Report of Analysis

Client Sample ID:	CCR-8	Date Sampled:	12/08/23
Lab Sample ID:	LA96290-8	Date Received:	12/12/23
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	28.9	2.0	ug/l	1	12/14/23	12/15/23 RD	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA26915
(2) Prep QC Batch: MP27407

Report of Analysis

Client Sample ID:	CCR-9	Date Sampled:	12/08/23
Lab Sample ID:	LA96290-9	Date Received:	12/12/23
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	11.0	2.0	ug/l	1	12/14/23	12/15/23 RD	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA26915
(2) Prep QC Batch: MP27407

Report of Analysis

Client Sample ID:	CCR-10	Date Sampled:	12/08/23
Lab Sample ID:	LA96290-10	Date Received:	12/12/23
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	13.2	2.0	ug/l	1	12/14/23	12/15/23 RD	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA26915
(2) Prep QC Batch: MP27407

Report of Analysis

Client Sample ID:	CCR-11	Date Sampled:	12/08/23
Lab Sample ID:	LA96290-11	Date Received:	12/12/23
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	6.6	2.0	ug/l	1	12/14/23	12/15/23 RD	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA26915
(2) Prep QC Batch: MP27407

Report of Analysis

Client Sample ID:	CCR-12	Date Sampled:	12/08/23
Lab Sample ID:	LA96290-12	Date Received:	12/12/23
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	21.0	2.0	ug/l	1	12/14/23	12/15/23 RD	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA26915
(2) Prep QC Batch: MP27407

Report of Analysis

Client Sample ID:	CCR-13	Date Sampled:	12/08/23
Lab Sample ID:	LA96290-13	Date Received:	12/12/23
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	12/14/23	12/15/23 RD	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA26915
(2) Prep QC Batch: MP27407

Report of Analysis

Client Sample ID:	CCR-14	Date Sampled:	12/08/23
Lab Sample ID:	LA96290-14	Date Received:	12/12/23
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	12/14/23	12/15/23 RD	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA26915
(2) Prep QC Batch: MP27407

Report of Analysis

Client Sample ID:	DUPLICATE	Date Sampled:	12/08/23
Lab Sample ID:	LA96290-15	Date Received:	12/12/23
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	10.3	2.0	ug/l	1	12/14/23	12/15/23 RD	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA26915
(2) Prep QC Batch: MP27407

Report of Analysis

Client Sample ID:	FIELD BLANK	Date Sampled:	12/08/23
Lab Sample ID:	LA96290-16	Date Received:	12/12/23
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	12/14/23	12/15/23 RD	SW846 6020A ¹	SW846 3010A ²

(1) Instrument QC Batch: MA26915
(2) Prep QC Batch: MP27407

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY RECORD

Omega COCID 15313

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

LA96290

SUB CONTRACTOR: ACCUTEST_LAF		COMPANY: SGS- Accutest Lafayette Labor		SPECIAL INSTRUCTIONS / COMMENTS:			
ADDRESS: 500 Ambassador Caffery Parkway							
CITY, STATE, ZIP: Scott, LA 70583							
PHONE: (337) 237-4775 FAX: (337) 237-8005 EMAIL:							
ACCOUNT #: PO #: ELA 049521PO							
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	23120521-001C 6020_W_SUB (SW6020A)	CCR-1	250HDPEHNO3	Aqueous	12/8/2023 8:40:00 AM	1	
2	23120521-002C 6020_W_SUB (SW6020A)	CCR-2	250HDPEHNO3	Aqueous	12/8/2023 9:15:00 AM	1	
3	23120521-003C 6020_W_SUB (SW6020A)	CCR-3	250HDPEHNO3	Aqueous	12/8/2023 9:55:00 AM	1	
4	23120521-004C 6020_W_SUB (SW6020A)	CCR-4	250HDPEHNO3	Aqueous	12/8/2023 10:40:00 AM	1	
5	23120521-005C 6020_W_SUB (SW6020A)	CCR-5	250HDPEHNO3	Aqueous	12/8/2023 11:25:00 AM	1	
6	23120521-006C 6020_W_SUB (SW6020A)	CCR-6	250HDPEHNO3	Aqueous	12/8/2023 12:05:00 PM	1	
7	23120521-007C 6020_W_SUB (SW6020A)	CCR-7	250HDPEHNO3	Aqueous	12/8/2023 12:45:00 PM	1	
8	23120521-008C 6020_W_SUB (SW6020A)	CCR-8	250HDPEHNO3	Aqueous	12/8/2023 1:25:00 PM	1	
9	23120521-009C 6020_W_SUB (SW6020A)	CCR-9	250HDPEHNO3	Aqueous	12/8/2023 2:05:00 PM	1	

Relinquished By: <i>[Signature]</i>	Date: <i>12-12-23</i> Time: <i>1550</i>	Received By: <i>[Signature]</i>	Date: <i>12-12-23</i> Time: <i>1615</i>	REPORT TRANSMITTAL DESIRED: ☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☒ ONLINE
Relinquished By: <i>[Signature]</i>	Date: <i>12-12-23</i> Time: <i>1615</i>	Received By: <i>[Signature]</i>	Date: <i>12-12-23</i> Time: <i>1615</i>	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!				

LA96290: Chain of Custody

Page 1 of 3



CHAIN OF CUSTODY RECORD

Omega COCID 15313

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

LA96290

SUB CONTRACTOR: ACCUTEST_LAF		COMPANY: SGS- Accutest Lafayette Labor		SPECIAL INSTRUCTIONS / COMMENTS:			
ADDRESS: 500 Ambassador Caffery Parkway							
CITY, STATE, ZIP: Scott, LA 70583							
PHONE: (337) 237-4775 FAX: (337) 237-8005 EMAIL:							
ACCOUNT #: PO #: ELA 049521PO							
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	23120521-010C 6020_W_SUB (SW6020A)	CCR-10	250HDPEHNO3	Aqueous	12/8/2023 2:50:00 PM	3	
11	23120521-011C 6020_W_SUB (SW6020A)	CCR-11	250HDPEHNO3	Aqueous	12/8/2023 3:40:00 PM	1	
12	23120521-012C 6020_W_SUB (SW6020A)	CCR-12	250HDPEHNO3	Aqueous	12/8/2023 4:15:00 PM	1	
13	23120521-013C 6020_W_SUB (SW6020A)	CCR-13	250HDPEHNO3	Aqueous	12/8/2023 4:50:00 PM	1	
14	23120521-014C 6020_W_SUB (SW6020A)	CCR-14	250HDPEHNO3	Aqueous	12/8/2023 5:25:00 PM	1	
15	23120521-015C 6020_W_SUB (SW6020A)	Duplicate	250HDPEHNO3	Aqueous	12/8/2023	1	
16	23120521-016C 6020_W_SUB (SW6020A)	Field Blank	250HDPEHNO3	Aqueous	12/8/2023 5:30:00 PM	1	

Relinquished By: <i>[Signature]</i>	Date: 12-12-23	Time: 7:50	Received By: <i>[Signature]</i>	Date: 12-12-23	Time: 7:50	REPORT TRANSMITTAL DESIRED: ☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE	
Relinquished By: <i>[Signature]</i>	Date: 12-12-23	Time: 7:15	Received By: <i>[Signature]</i>	Date: 12-12-23	Time: 7:15	FOR LAB USE ONLY	
TAT: Standard ☐ RUSH ☐ Next BD ☐ 2nd BD ☐ 3rd BD ☐						Temp of samples _____ °C Attempt to Cool? _____	
Note: RUSH requests will incur surcharges!						Comments: _____	

LA96290: Chain of Custody
Page 2 of 3

SGS Sample Receipt Summary

Job Number: LA96290

Client: ELEMENT

Project: ELEMENT

Date / Time Received: 12/12/2023 4:15:00 PM

Delivery Method: CLIENT

Airbill #s: _____

Cooler Temps (Raw Measured) °C: Cooler 1: (5.0);

Cooler Temps (Corrected) °C: Cooler 1: (5.0);

Cooler Security

Y or N

Y or N

- | | |
|--|--|
| 1. Custody Seals Present: ☒ ☐ | 3. COC Present: ☒ ☐ |
| 2. Custody Seals Intact: ☒ ☐ | 4. Smpl Dates/Time OK ☒ ☐ |

Cooler Temperature

Y or N

- | | |
|---|--|
| 1. Temp criteria achieved: ☒ ☐ | |
| 2. Cooler temp verification: _____ | |
| 3. Cooler media: <u>Ice (direct contact)</u> | |
| 4. No. Coolers: <u>1</u> | |

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: ☐ ☐ ☒ | |

Test Strip Lot #s: _____ pH 1-12: _____ pH 12+: _____ Other: (Specify) _____

Comments

SM089-03
Rev. Date 12/7/17

LA96290: 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: LA96290
Account: SLLAL - Element Materials Technology
Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP27407
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 12/14/23

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	.14	49		
Antimony	1.0	.0022	.79		
Arsenic	1.0	.0079	.57		
Barium	1.0	.0041	.63		
Beryllium	1.0	.0035	.75		
Boron	20	.43	6.3		
Cadmium	0.50	.0016	.49		
Calcium	200	4.3	110		
Cerium	1.0	.0015	.76		
Chromium	1.0	.016	.53		
Cobalt	1.0	.0016	.66		
Copper	1.0	.008	.41		
Iron	100	.097	45		
Lithium	2.0	.012	.78	0.025	<2.0
Lead	1.0	.01	.72		
Lanthanum	1.0	.0017	.72		
Magnesium	100	.16	33		
Manganese	2.0	.0091	.57		
Molybdenum	1.0	.0038	.61		
Nickel	1.0	.0038	.52		
Potassium	100	2.5	65		
Selenium	5.0	.15	2.8		
Silver	1.0	.0024	.38		
Silicon	500	4.2	93		
Sodium	100	2.2	37		
Strontium	2.0	.0054	.42		
Thallium	1.0	.0023	.79		
Tin	2.0	.02	.56		
Titanium	1.0	.021	.57		
Uranium	1.0	.0019	.42		
Vanadium	1.0	.0087	.36		
Zinc	5.0	.017	2.4		

Associated samples MP27407: LA96290-1, LA96290-2, LA96290-3, LA96290-4, LA96290-5, LA96290-6, LA96290-7, LA96290-8, LA96290-9, LA96290-10, LA96290-11, LA96290-12, LA96290-13, LA96290-14, LA96290-15, LA96290-16

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: LA96290
Account: SLLAL - Element Materials Technology
Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP27407
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 12/14/23

Metal	RL	IDL	MDL	MB raw	final
-------	----	-----	-----	-----------	-------

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

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA96290
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP27407
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 12/14/23

Metal	LA96290-10 Original MS		SpikeLot MPICPMS6 % Rec		QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Cerium					
Chromium					
Cobalt					
Copper					
Iron					
Lithium	13.2	89.0	100	75.8	75-125
Lead					
Lanthanum					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Silicon					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP27407: LA96290-1, LA96290-2, LA96290-3, LA96290-4, LA96290-5, LA96290-6, LA96290-7, LA96290-8, LA96290-9, LA96290-10, LA96290-11, LA96290-12, LA96290-13, LA96290-14, LA96290-15, LA96290-16

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA96290
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP27407
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 12/14/23

Metal	LA96290-10 Original MS	Spikelet MPICPMS6 % Rec	QC Limits
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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: LA96290
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP27407
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 12/14/23

Metal	LA96290-10 Original MSD		SpikeLot MPICPMS6 % Rec		MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Cerium						
Chromium						
Cobalt						
Copper						
Iron						
Lithium	13.2	85.2	100	72.0N(a)	4.4	20
Lead						
Lanthanum						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Silicon						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP27407: LA96290-1, LA96290-2, LA96290-3, LA96290-4, LA96290-5, LA96290-6, LA96290-7, LA96290-8, LA96290-9, LA96290-10, LA96290-11, LA96290-12, LA96290-13, LA96290-14, LA96290-15, LA96290-16

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: LA96290
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP27407
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 12/14/23

Metal	LA96290-10 Original MSD	Spike lot 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.

5.1.2

5

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA96290

Account: SLLAL - Element Materials Technology

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

QC Batch ID: MP27407

Methods: SW846 6020A

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 12/14/23

Metal	BSP Result	SpikeLot MPICPMS6	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Cerium				
Chromium				
Cobalt				
Copper				
Iron				
Lithium	84.8	100	84.8	80-120
Lead				
Lanthanum				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Silicon				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP27407: LA96290-1, LA96290-2, LA96290-3, LA96290-4, LA96290-5, LA96290-6, LA96290-7, LA96290-8, LA96290-9, LA96290-10, LA96290-11, LA96290-12, LA96290-13, LA96290-14, LA96290-15, LA96290-16

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: LA96290

Account: SLLAL - Element Materials Technology

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

QC Batch ID: MP27407

Methods: SW846 6020A

Matrix Type: AQUEOUS

Units: ug/l

Prep Date: 12/14/23

Metal	BSP Result	SpikeLot 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: LA96290
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP27407
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 12/14/23

Metal	LA96290-10 Original SDL 1:5		%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Cerium				
Chromium				
Cobalt				
Copper				
Iron				
Lithium	13.2	15.3	15.4*(a)	0-10
Lead				
Lanthanum				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Silicon				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP27407: LA96290-1, LA96290-2, LA96290-3, LA96290-4, LA96290-5, LA96290-6, LA96290-7, LA96290-8, LA96290-9, LA96290-10, LA96290-11, LA96290-12, LA96290-13, LA96290-14, LA96290-15, LA96290-16

SERIAL DILUTION RESULTS SUMMARY

Login Number: LA96290
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP27407
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date: 12/14/23

Metal	LA96290-10	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: LA96290
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP27407
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date:

12/14/23

Metal	Sample ml	Final ml	LA96290-10 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	13.244	2.6488	88.704	0.1	10	100	86.1	75-125
Lead										
Lanthanum										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silver										
Silicon										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Uranium										
Vanadium										
Zinc										

Associated samples MP27407: LA96290-1, LA96290-2, LA96290-3, LA96290-4, LA96290-5, LA96290-6, LA96290-7, LA96290-8, LA96290-9, LA96290-10, LA96290-11, LA96290-12, LA96290-13, LA96290-14, LA96290-15, LA96290-16

POST DIGESTATE SPIKE SUMMARY

Login Number: LA96290
 Account: SLLAL - Element Materials Technology
 Project: Element Materials Technology, 2417 West Pinhook Road, Lafayette, LA

QC Batch ID: MP27407
 Matrix Type: AQUEOUS

Methods: SW846 6020A
 Units: ug/l

Prep Date:

12/14/23

Metal	Sample ml	Final ml	LA96290-10 Raw	PS Corr.**	PS 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 765-747-0228
- ☐ 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 23120521

Client Name: Pivotal Engineering LLC		Project: CCR Assessment Monitoring		Preserv.		Number / Type of Container	Matrix Code	Test Requested				Comments / Remarks		
Contact Name: Terry Elnaggar		Sampler's Signature: <i>[Signature]</i>		HCl HNO ₃ H ₂ SO ₄	NaOH Na ₂ S ₂ O ₃			300: Fluoride	*6010**6020 metals	**6020 Sub	7470 Mercury			
Collection	Grab	Comp	Sample Identification / Description											
Date	Time													
12/8	840	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
12/8	915	X	C	C	R - 2	None/ HNO ₃	3 Plastic	Aq	X	X	X	X		
	955	X	C	C	R - 3	None/ HNO ₃	3 Plastic	Aq	X	X	X	X		**6020 Metals: As, Sb, Ti
	1040	X	C	C	R - 4	None/ HNO ₃	3 Plastic	Aq	X	X	X	X		
	1125	X	C	C	R - 5	None/ HNO ₃	3 Plastic	Aq	X	X	X	X		***6020 Sub Metal: Li
	1205	X	C	C	R - 6	None/ HNO ₃	3 Plastic	Aq	X	X	X	X		
	1245	X	C	C	R - 7	None/ HNO ₃	3 Plastic	Aq	X	X	X	X		
	1325	X	C	C	R - 8	None/ HNO ₃	3 Plastic	Aq	X	X	X	X		
	1405	X	C	C	R - 9	None/ HNO ₃	3 Plastic	Aq	X	X	X	X		
	1450	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>[Signature]</i>	Received by: (Signature)	Date	Time	Relinquished by: (Signature)	Received by: (Signature)	Date	Time
		12/8	100				
Relinquished by: (Signature)	Received by: (Signature)	Date	Time	Relinquished by: (Signature)	Received by Laboratory: (Signature) <i>[Signature]</i>	Date	Time
						12/10/23	1126

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.	☐ 72-Hr.		
GW = Ground Water	O = Oil	SLD = Solid	P = Plastic		Temp. <u>5.2</u>	☐ 48-Hr.	☒ Standard		
WW = Waste Water	SO = Soil	SL = Sludge	V = Vial		☐ Ambient	☐ Other			



- ☐ 2203 S. Madison St., Muncie, IN 47302
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- ☒ 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 2 of 2

Chain of Custody Record

Laboratory
Number 23120521

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		Sampler's Signature:					300: Fluoride	*6010/**6020 metals	***6020 Sub	7470 Mercury							
Phone/Fax: (504) 799-3653																	
Collection Date Time		Grab	Comp	Sample Identification / Description													
12/8/15 40		X		C C R - 1 1		None/ HNO ₃	3 Plastic	Aq	X	X	X	X				*6010 Metals: Ba, Be, Cd, Cr, Co, Pb, Mo, Se	
1615		X		C C R - 1 2		None/ HNO ₃	3 Plastic	Aq	X	X	X	X					
1650		X		C C R - 1 3		None/ HNO ₃	3 Plastic	Aq	X	X	X	X				**6020 Metals: As, Sb, Ti	
1725		X		C C R - 1 4		None/ HNO ₃	3 Plastic	Aq	X	X	X	X					
1455		X		M S (CCR- 010)		None/ HNO ₃	3 Plastic	Aq	X	X	X	X				***6020 Sub Metal: Li	
1500		X		M S D (CCR- 010)		None/ HNO ₃	3 Plastic	Aq	X	X	X	X					
—		X		D U P		None/ HNO ₃	3 Plastic	Aq	X	X	X	X					
1730		X		F B 1		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)		Received by: (Signature)		Date	Time	Relinquished by: (Signature)		Received by: (Signature)		Date	Time
				12/8/15	1100						
Relinquished by: (Signature)		Received by: (Signature)		Date	Time	Relinquished by: (Signature)		Received by Laboratory: (Signature)		Date	Time
										12/10/15	1126
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. 5.2° ☐ Ambient		Requested TAT ☐ 24-Hr. ☐ 72-Hr. ☐ 48-Hr. ☒ Standard ☐ Other		Thank-you for using Element Materials Technology		