Entergy Arkansas, LLC
Independence Steam Electric Station
Landfill Cells 12-15

2024 Annual Groundwater Monitoring and Corrective Action Report

Prepared in Compliance with the EPA Final Rule for the Disposal of Coal Combustion Residuals Title 40 CFR Part 257

Prepared for:

PO Box 551
Little Rock, Arkansas 72203

Prepared by:

4545 Sherwood Common Blvd.
Building 3, Suite A
Baton Rouge, LA 70816

January 31, 2025

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EXECUTIVE SUMMARY

Entergy Arkansas, LLC (EAL), operates a coal ash disposal landfill (Landfill) for the disposal of coal combustion residuals (CCR) at the Independence Steam Electric Station (Plant) located near Newark, Arkansas. The Landfill receives CCR generated from the combustion of coal at the Plant. Management of CCR at the Landfill is performed pursuant to national criteria established in Title 40 of the Code of Federal Regulations (40 CFR), Part 257 (CCR Rule), effective April 19, 2015, and subsequent revisions to the CCR Rule.

The Plant conducted two semi-annual detection monitoring events in 2024 for the Landfill CCR Unit monitoring well network per 40 CFR §257.94. The statistical analyses completed for the second semi-annual 2023 monitoring event did not identify any statistically significant exceedances. The statistical analyses completed for the first semi-annual 2024 monitoring event identified a statistically significant exceedance. The potential statistically significant increases (SSIs) identified during the first semi-annual 2024 monitoring events are detailed in the table below.

Table 1 Potential SSIs First Semi-annual 2024 Monitoring Event

Well ID	Date	Analyte	Confirmed SSI? (Yes/No)
MW-1R	06/11/2024	Boron	No

The Landfill CCR Unit operated under the detection monitoring program (40 CFR § 257.94) during the duration of 2024.

1. INTRODUCTION

Entergy Arkansas, LLC (EAL), operates the Landfill for the disposal of CCR at the Plant located near Newark, Arkansas (Lat: 35.67826 / Long: -91.408848). The Landfill receives CCR generated from the combustion of coal at the Plant. The CCR Landfill is managed in accordance with the national criteria established in the CCR Rule. EAL installed a groundwater monitoring system at the Landfill 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, EAL must prepare an annual report that provides information regarding the groundwater monitoring and corrective action program at the Landfill.

2. GROUNDWATER MONITORING SYSTEM

The Landfill's groundwater monitoring system consists of 15 monitoring wells as shown on Figure 1 included in Appendix A. Pursuant to §257.91(f) of the CCR Rule, a qualified Arkansas-registered professional engineer has certified the groundwater monitoring system, which was designed and constructed to meet the requirements of §257.91.

3. INSTALLED OR DECOMISSIONED WELLS DURING 2024

EAL installed three new wells (MW-19, MW-20, and MW-21) in 2024 and will include them in the certified groundwater monitoring system during 2025.

4. GROUNDWATER MONITORING DATA

In accordance with §257.90(e)(3), all monitoring data obtained under §257.90 through §257.98 during 2024 are provided in Appendix B and C. Monitoring data includes:

- Groundwater level measurements and groundwater flow characteristics;
- Summary of the number of groundwater samples that were collected for analysis for each background and downgradient well;
- Dates the samples were collected;
- Whether the sample was collected as part of detection or assessment monitoring; and
- Summary of CCR Rule constituent results.

5. STATUS SUMMARY OF THE 2024 GROUNDWATER MONITORING PROGRAM

Groundwater monitoring was performed in accordance with the detection monitoring requirements of §257.94. A summary of activities related to groundwater detection monitoring performed during 2024 is provided in the list below:

- In accordance with §257.94(b), semiannual detection monitoring was performed during the first half (June) and second half (November) of 2024 for analysis of Appendix III parameters (boron, calcium, chloride, fluoride, pH, sulfate and total dissolved solids (TDS)).

- Statistical evaluation of the semiannual detection monitoring data was performed in accordance with the statistical method certified by a qualified Arkansas-registered professional engineer. The certified statistical method has been posted to EAL's CCR Rule Compliance Data and Information website.

- Statistical evaluation of the second half 2023 semi-annual detection monitoring event was completed in 2024 and no statistically significant increases (SSIs) were identified; therefore, EAL did not prepare an alternative source demonstration (ASD) per §257.94(e)(2) for the detection monitoring event for the CADL CCR Unit.

- The first-half 2024 detection monitoring sampling was performed during June 2024. Based on statistical evaluation of the data, one SSI was identified. EAL completed a successful ASD per §257.94 for this detection monitoring event for the CADL CCR Unit.

- The second-half 2024 detection monitoring sampling was performed during November 2024. Statistical evaluation of the data will be performed in 2025 to determine if any SSIs are identified in accordance with §257.93(h).

- No problems were encountered during 2024 regarding the detection monitoring and corrective action system. Therefore, no actions were required to modify the system.

- The Landfill CCR unit remained in detection monitoring during the duration of 2024.

6. PROJECTED ACTIVITIES FOR 2025

Planned activities for the program during 2025 are listed below:

- Statistical evaluation of the second half 2024 and first-half 2025 detection monitoring sampling data will be performed during 2025 to determine if any SSIs are identified.
- Semiannual detection monitoring is planned for June and November 2025.
- Continue collecting baseline Appendix III and Appendix IV parameters for wells MW-19, MW-20, and MW-21.

APPENDIX A
WELL LOCATIONS

LEGEND

- NEW CADL MONITORING WELLS
- CADL MONITORING WELLS
- LANDFILL BOUNDARY

NOTES

1. BASE MAP IMAGERY FROM ESRI/DIGITAL GLOBE, 2016.

N

0 900 1,800 Feet

1 " = 900 '
1:10,800

PROJECT:
ENTERGY INDEPENDENCE PLANT
555 POINT FERRY ROAD
NEWARK, ARKANSAS

TITLE:
NEW MONITORING WELL LOCATIONS FOR CCR GROUNDWATER MONITORING NETWORK

DRAWN BY:	D. STITCHER	PROJ. NO.:	591543.0000.00000
CHECKED BY:	J. HOUSE		
APPROVED BY:	W. XIE		**FIGURE 1**
DATE:	JANUARY 2025		

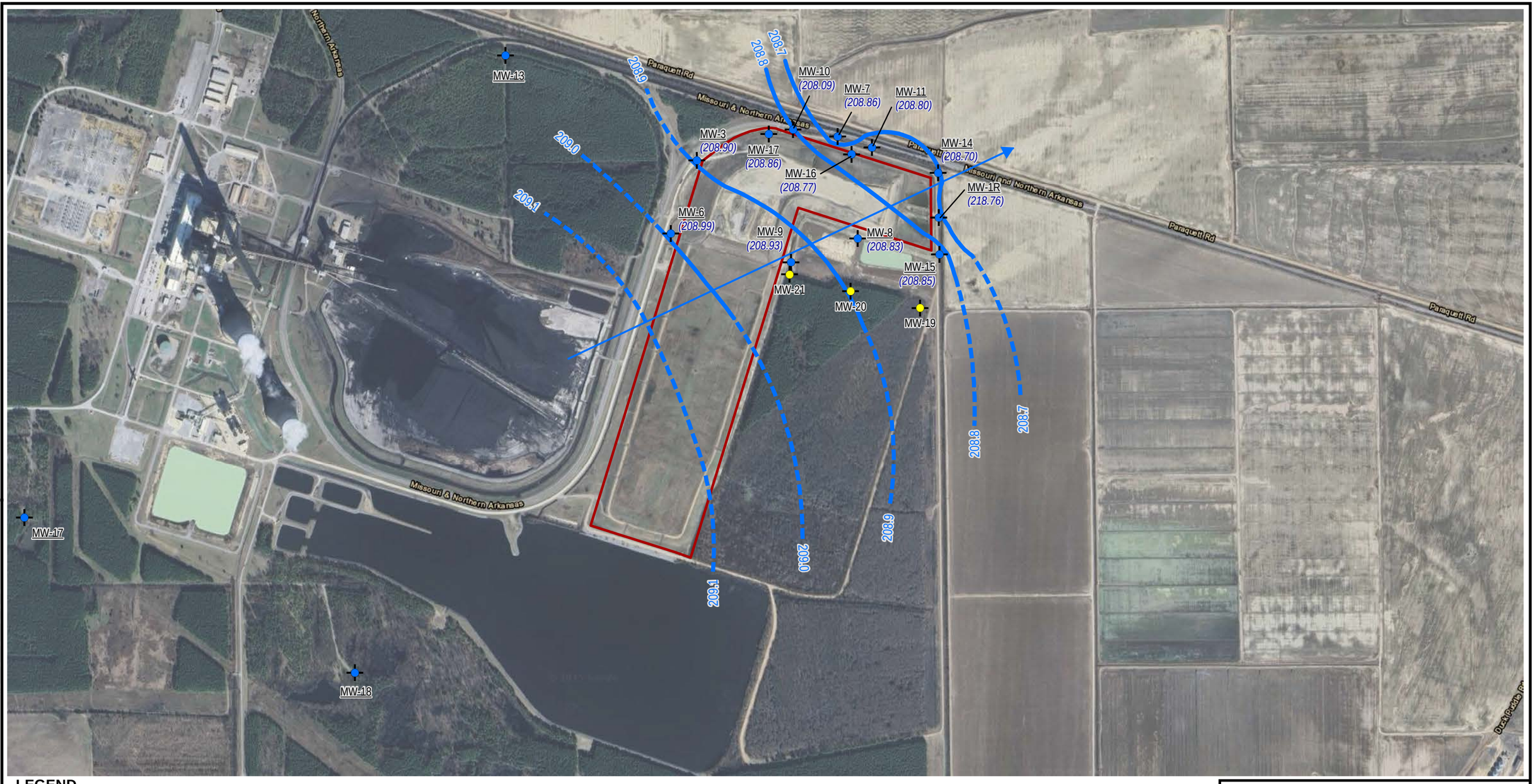
TRC
Two United Plaza
8550 United Plaza Blvd., Suite 502
Baton Rouge, LA
Phone: 225.216.7483

FILE NO.: 419735-002IND_new_wells_20250114.mxd

Plot Date: 1/30/2025, 15:55:41 PM by DSTITCHER -- LAYOUT: ANSI B(11"x17")
Path: T:\1-PROJECTS\ENTERGY\Madison\Legacy\Projects\Arkansas\2018_270853\419735-002IND_new_wells_20250114.mxd
Coordinate System: NAD 1983 StatePlane Arkansas North FIPS 0301 Feet (Foot US)
Map Rotation: 0
TRC - GIS

APPENDIX B
GROUNDWATER LEVEL DATA

Water Level Measurements 2024					
Well ID	TOC Elevation (ft NAVD88)	June 10, 2024		November 4, 2024	
		Depth to Groundwater (ft below MP)	Groundwater Elevation (ft NAVD88)	Depth to Groundwater (ft below MP)	Groundwater Elevation (ft NAVD88)
MW-1R	241.76	31.04	210.72	33.85	207.91
MW-3	241.97	30.98	210.99	33.82	208.15
MW-6	239.39	28.45	210.94	31.28	208.11
MW-7	239.09	28.28	210.81	31.10	207.99
MW-8	240.11	29.33	210.78	32.14	207.97
MW-9	239.08	28.23	210.85	31.05	208.03
MW-10	242.04	31.13	210.91	33.95	208.09
MW-11	241.66	30.72	210.94	33.54	208.12
MW-14	241.79	33.09	208.70	33.83	207.96
MW-15	240.37	31.52	208.85	32.44	207.93
MW-16	242.62	33.85	208.77	34.57	208.05
MW-17	241.94	33.08	208.86	33.83	208.11



LEGEND

- CADL MONITORING WELLS
- NEW CADL MOITORING WELLS
- LANDFILL BOUNDARY
- GROUNDWATER CONTOUR: 0.1' INTERVAL (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION (0.000086 FT/FT)

NOTES

1. BASE MAP IMAGERY FROM ESRI/DIGITAL GLOBE, 2016.
2. WATER LEVELS COLLECTED JUNE 10, 2024.
3. MW-13 AND MW-18 WERE NOT SAMPLED.
4. GROUNDWATER ELEVATION IS NOT AVAILABLE FOR NEW MONITORING WELLS.

N

0 900 1,800 Feet

1 " = 900 '

1:10,800

PROJECT:
ENTERGY INDEPENDENCE PLANT
555 POINT FERRY ROAD
NEWARK, ARKANSAS

TITLE:
1ST HALF 2024 POTENTIOMETRIC MAP

DRAWN BY:	D. STITCHER	PROJ. NO.:	591543
CHECKED BY:	W. XIE		
APPROVED BY:	J. HOUSE		**FIGURE 2.1**
DATE:	JANUARY 2025		

TRC
4545 SHERWOOD COMMON BLVD.
BUILDING 3, SUITE A
BATON ROUGE, LA 70816
225.216.4783

FILE NO.: Entergy_ISES_CCR_1H24_Fig_2.1_20250130.mxd

Coordinate System: NAD 1983 StatePlane Arkansas North FIPS 0301 Feet (Foot US)
Map Rotation: 0

Plot Date: 1/30/2025, 15:13:32 PM by DSTITCHER -- LAYOUT: ANSI B(11"x17")
Path: T:\1-PROJECTS\ENTERGY\MadisonLegacy\Projects\Arkansas\2025\Entergy_ISES_CCR_1H24_Fig_2.1_20250130.mxd

TRC - GIS

LEGEND

- CADL MONITORING WELLS
- NEW CADL MOITORING WELLS
- LANDFILL BOUNDARY
- GROUNDWATER CONTOUR: 0.1' INTERVAL (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION (0.000086 FT/FT)

NOTES

1. BASE MAP IMAGERY FROM ESRI/DIGITAL GLOBE, 2016.
2. WATER LEVELS COLLECTED NOVEMBER 4, 2024.
3. MW-13 AND MW-18 WERE NOT SAMPLED.
4. GROUNDWATER ELEVATION IS NOT AVAILABLE FOR NEW MONITORING WELLS.

N

0 900 1,800 Feet

1 " = 900 '

1:10,800

PROJECT:
ENTERGY INDEPENDENCE PLANT
555 POINT FERRY ROAD
NEWARK, ARKANSAS

TITLE:
2ND HALF 2024 POTENTIOMETRIC MAP

DRAWN BY:	D. STITCHER	PROJ. NO.:	591543
CHECKED BY:	W. XIE		
APPROVED BY:	J. HOUSE		**FIGURE 2.2**
DATE:	JANUARY 2025		

TRC
4545 SHERWOOD COMMON BLVD.
BUILDING 3, SUITE A
BATON ROUGE, LA 70816
225.216.4783

FILE NO.: Entergy_ISES_CCR_2H24_Fig_2.2_20250130.mxd

APPENDIX C
GROUNDWATER QUALITY DATA

Sampling Schedule, Entergy Independence CADL Network			
	Detection Monitoring Sampling Dates and Wells Sampled		
Well ID	6/11-12/2024	11/4-7/2024	Number of Samples Collected
MW-1R	X	X	2
MW-3	X	X	2
MW-6	X	X	2
MW-7	X	X	2
MW-8	X	X	2
MW-9	X	X	2
MW-10	X	X	2
MW-11	X	X	2
MW-13	[1]	[1]	0
MW-14	X	X	2
MW-15	X	X	2
MW-16	X	X	2
MW-17	X	X	2
MW-18	[1]	[1]	0

Notes: All samples collected in 2024 were part of the detection monitoring program. No samples collected in 2024 were part of an assessment monitoring program.

[1] Wells MW-13 and MW-18 are background wells collected for comparison purposes only. These wells were not accessible during 2024.

Summary of Analytical Results - First Half 2024								
Well ID	**Date**	**Boron (mg/L)**	**Calcium (mg/L)**	**Chloride (mg/L)**	**Fluoride (mg/L)**	**Sulfate (mg/L)**	**TDS (mg/L)**	**pH (s.u.)**
MW-1R	06/11/2024	0.242	104	136	<0.15	238	926	6.72
MW-3	06/11/2024	0.322	53.3	26.5	0.164	56.7	423	6.72
MW-6	06/11/2024	<0.20	55.9	28.1	<0.15	80.4	353	6.39
MW-7	06/11/2024	<0.20	41	6.72	0.629	44.5	480	7.36
MW-8	06/11/2024	0.335	84.3	56.5	<0.15	126	671	6.56
MW-9	06/11/2024	0.496	83.1	54.8	<0.15	227	695	6.54
MW-10	06/11/2024	<0.20	60.1	61.1	<0.15	83.5	479	6.62
MW-11	06/11/2024	<0.20	58.7	33.8	0.185	42.1	361	6.89
MW-14	06/12/2024	0.474	73.3	50.5	0.202	131	566	6.88
MW-15	06/12/2024	0.227	80.6	148	0.169	129	683	6.90
MW-16	06/12/2024	0.241	77.5	28.7	<1.50	230	952	7.12
MW-17	06/12/2024	<0.20	65.9	67.4	<0.15	95.6	452	6.65

Summary of Analytical Results - Second Half 2024								
Well ID	**Date**	**Boron (mg/L)**	**Calcium (mg/L)**	**Chloride (mg/L)**	**Fluoride (mg/L)**	**Sulfate (mg/L)**	**TDS (mg/L)**	**pH (s.u.)**
MW-1R	11/05/2024	0.281	96.3	101	<0.150	218	836	6.59
MW-3	11/07/2024	<0.200	53.6	34.4	<0.150	54.3	358	6.36
MW-6	11/05/2024	<0.200	58.4	25.4	<0.150	85.4	374	6.39
MW-7	11/05/2024	<0.200	50.2	13.2	0.369	35.9	426	7.17
MW-8	11/04/2024	0.391	79	53.8	<0.150	168	595	6.93
MW-9	11/05/2024	0.566	91.3	45.7	<0.150	238	753	6.48
MW-10	11/05/2024	<0.200	62.8	51.9	0.16	71.7	475	6.57
MW-11	11/05/2024	<0.200	54.6	19.9	0.202	25	305	6.66
MW-14	11/06/2024	0.228	70.5	47.4	0.211	106	523	6.52
MW-15	11/06/2024	0.219	65.5	43.7	<0.150	99	456	6.56
MW-16	11/06/2024	0.366	69.9	24.2	0.456	188	812	6.90
MW-17	11/06/2024	<0.200	63.4	48.1	0.185	71.7	463	6.44

ANALYTICAL REPORT

August 12, 2024

Alliance Technical Group - Bryant, AR

Sample Delivery Group:	L1747043
Samples Received:	06/14/2024
Project Number:	
Description:	Entergy - Independence
Site:	LANDFILL - CCR
Report To:	Jonathan Brown 219 Brown Lane Bryant, AR 72022

Entire Report Reviewed By:

Katie Ingram
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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MW-1R L1747043-01 GW

Collected by: JLC/BLS | Collected date/time: 06/11/24 10:40 | Received date/time: 06/14/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2311741	1	06/25/24 15:46	06/25/24 20:22	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2307056	1	06/19/24 14:13	06/19/24 14:13	KA	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2320546	1	07/11/24 23:04	07/11/24 23:04	JDG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2320546	5	07/11/24 23:17	07/11/24 23:17	JDG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2317856	1	07/15/24 03:32	07/15/24 08:30	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2317138	1	07/15/24 23:21	07/17/24 19:24	LD	Mt. Juliet, TN

MW-2 L1747043-02 GW

Collected by: JLC/BLS | Collected date/time: 06/10/24 14:50 | Received date/time: 06/14/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2311741	1	06/25/24 15:46	06/25/24 20:22	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2307056	1	06/19/24 14:25	06/19/24 14:25	KA	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2317128	1	07/03/24 21:44	07/03/24 21:44	JDG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2317128	10	07/04/24 03:55	07/04/24 03:55	JDG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2317856	1	07/15/24 03:32	07/15/24 08:32	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2317138	1	07/15/24 23:21	07/17/24 19:31	LD	Mt. Juliet, TN

MW-3 L1747043-03 GW

Collected by: JLC/BLS | Collected date/time: 06/11/24 17:10 | Received date/time: 06/14/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2311741	1	06/25/24 15:46	06/25/24 20:22	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2307056	1	06/19/24 14:30	06/19/24 14:30	KA	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2320546	1	07/11/24 23:31	07/11/24 23:31	JDG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2317856	1	07/15/24 03:32	07/15/24 08:33	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2317138	1	07/15/24 23:21	07/17/24 19:35	LD	Mt. Juliet, TN

MW-6 L1747043-04 GW

Collected by: JLC/BLS | Collected date/time: 06/11/24 17:55 | Received date/time: 06/14/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2311741	1	06/25/24 15:46	06/25/24 20:22	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2307056	1	06/19/24 14:36	06/19/24 14:36	KA	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2320546	1	07/11/24 23:44	07/11/24 23:44	JDG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2317856	1	07/15/24 03:32	07/15/24 08:35	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2317138	1	07/15/24 23:21	07/17/24 19:38	LD	Mt. Juliet, TN

MW-7 L1747043-05 GW

Collected by: JLC/BLS | Collected date/time: 06/11/24 11:30 | Received date/time: 06/14/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2311741	1	06/25/24 15:46	06/25/24 20:22	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2307098	1	06/19/24 12:23	06/19/24 12:23	KA	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2320546	1	07/11/24 23:59	07/11/24 23:59	JDG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2317856	1	07/15/24 03:32	07/15/24 08:37	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2317138	1	07/15/24 23:21	07/17/24 19:42	LD	Mt. Juliet, TN

MW-8 L1747043-06 GW

Collected by: JLC/BLS | Collected date/time: 06/11/24 08:55 | Received date/time: 06/14/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2311741	1	06/25/24 15:46	06/25/24 20:22	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2307098	1	06/19/24 12:28	06/19/24 12:28	KA	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2318135	1	07/08/24 00:54	07/08/24 00:54	JDG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2317856	1	07/15/24 03:32	07/15/24 08:38	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2317138	1	07/15/24 23:21	07/17/24 19:45	LD	Mt. Juliet, TN

MW-9 L1747043-07 GW

Collected by: JLC/BLS | Collected date/time: 06/11/24 07:45 | Received date/time: 06/14/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2311741	1	06/25/24 15:46	06/25/24 20:22	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2307098	1	06/19/24 12:32	06/19/24 12:32	KA	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2318135	1	07/08/24 01:21	07/08/24 01:21	JDG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2318135	10	07/08/24 01:35	07/08/24 01:35	JDG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2317856	1	07/15/24 03:32	07/15/24 08:40	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2317138	1	07/15/24 23:21	07/17/24 19:49	LD	Mt. Juliet, TN

MW-10 L1747043-08 GW

Collected by: JLC/BLS | Collected date/time: 06/11/24 16:20 | Received date/time: 06/14/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2311741	1	06/25/24 15:46	06/25/24 20:22	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2307098	1	06/19/24 12:37	06/19/24 12:37	KA	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2318135	1	07/08/24 01:48	07/08/24 01:48	JDG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2317856	1	07/15/24 03:32	07/15/24 08:42	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2317140	1	07/15/24 04:21	08/08/24 00:52	SJM	Mt. Juliet, TN

MW-11 L1747043-09 GW

Collected by: JLC/BLS | Collected date/time: 06/11/24 14:05 | Received date/time: 06/14/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2311741	1	06/25/24 15:46	06/25/24 20:22	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2307098	1	06/19/24 12:42	06/19/24 12:42	KA	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2318135	1	07/08/24 02:01	07/08/24 02:01	JDG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2317856	1	07/15/24 03:32	07/15/24 08:43	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2317140	1	07/15/24 04:21	08/08/24 00:55	SJM	Mt. Juliet, TN

MW-14 L1747043-10 GW

Collected by: JLC/BLS | Collected date/time: 06/12/24 11:25 | Received date/time: 06/14/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2311741	1	06/25/24 15:46	06/25/24 20:22	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2307098	1	06/19/24 12:47	06/19/24 12:47	KA	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2318136	1	07/09/24 00:48	07/09/24 00:48	JDG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2317856	1	07/15/24 03:32	07/15/24 08:53	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2317140	1	07/15/24 04:21	08/08/24 00:59	SJM	Mt. Juliet, TN

MW-15 L1747043-11 GW

Collected by: JLC/BLS | Collected date/time: 06/12/24 10:20 | Received date/time: 06/14/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2311741	1	06/25/24 15:46	06/25/24 20:22	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2307098	1	06/19/24 12:52	06/19/24 12:52	KA	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2318136	1	07/09/24 01:13	07/09/24 01:13	JDG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2317856	1	07/15/24 03:32	07/15/24 08:54	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2317140	1	07/15/24 04:21	08/08/24 01:02	SJM	Mt. Juliet, TN

MW-16 L1747043-12 GW

Collected by: JLC/BLS | Collected date/time: 06/12/24 12:15 | Received date/time: 06/14/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2311741	1	06/25/24 15:46	06/25/24 20:22	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2307098	1	06/19/24 12:57	06/19/24 12:57	KA	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2318138	10	07/08/24 18:43	07/08/24 18:43	JDG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2317856	1	07/15/24 03:32	07/15/24 08:56	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2317140	1	07/15/24 04:21	08/08/24 01:05	SJM	Mt. Juliet, TN

MW-17 L1747043-13 GW

Collected by: JLC/BLS | Collected date/time: 06/12/24 13:05 | Received date/time: 06/14/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2311741	1	06/25/24 15:46	06/25/24 20:22	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2307098	1	06/19/24 13:01	06/19/24 13:01	KA	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2320313	1	07/10/24 20:26	07/10/24 20:26	JDG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2317856	1	07/15/24 03:32	07/15/24 08:58	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2317140	1	07/15/24 04:21	08/08/24 01:08	SJM	Mt. Juliet, TN

FIELD BLANK 1 L1747043-14 GW

Collected by: JLC/BLS | Collected date/time: 06/13/24 11:05 | Received date/time: 06/14/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2311741	1	06/25/24 15:46	06/25/24 20:22	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2314857	1	06/30/24 11:14	06/30/24 11:14	BJM	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2318210	1	07/08/24 01:41	07/08/24 01:41	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2311711	1	06/26/24 11:31	06/26/24 19:37	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2317856	1	07/15/24 03:32	07/15/24 08:59	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2317140	1	07/15/24 04:21	08/08/24 01:12	SJM	Mt. Juliet, TN

DUPLICATE 1 L1747043-15 GW

Collected by: JLC/BLS | Collected date/time: 06/11/24 07:45 | Received date/time: 06/14/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2311741	1	06/25/24 15:46	06/25/24 20:22	DLS	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2313308	1	06/27/24 13:24	06/27/24 13:24	KA	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2319485	1	07/09/24 15:39	07/09/24 15:39	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2319485	10	07/12/24 16:28	07/12/24 16:28	JDG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2311711	1	06/26/24 11:31	06/26/24 19:42	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2317857	1	07/15/24 04:52	07/15/24 11:34	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2317140	1	07/15/24 04:21	08/08/24 01:15	SJM	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Katie Ingram
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	926	Q	20.0	1	06/25/2024 20:22	WG2311741

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	350		20.0	1	06/19/2024 14:13	WG2307056

Sample Narrative:

L1747043-01 WG2307056: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	136		1.00	1	07/11/2024 23:04	WG2320546
Fluoride	ND		0.150	1	07/11/2024 23:04	WG2320546
Sulfate	238		25.0	5	07/11/2024 23:17	WG2320546

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.242		0.200	1	07/15/2024 08:30	WG2317856
Lithium	ND		0.0150	1	07/15/2024 08:30	WG2317856

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Barium	0.0220		0.00200	1	07/17/2024 19:24	WG2317138
Calcium	104		1.00	1	07/17/2024 19:24	WG2317138
Magnesium	51.9		1.00	1	07/17/2024 19:24	WG2317138
Sodium	113		2.00	1	07/17/2024 19:24	WG2317138
Strontium	0.297		0.0100	1	07/17/2024 19:24	WG2317138

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	659	Q	13.3	1	06/25/2024 20:22	WG2311741

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	349		20.0	1	06/19/2024 14:25	WG2307056

Sample Narrative:

L1747043-02 WG2307056: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	10.2		1.00	1	07/03/2024 21:44	WG2317128
Fluoride	ND		0.150	1	07/03/2024 21:44	WG2317128
Sulfate	232		50.0	10	07/04/2024 03:55	WG2317128

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	ND		0.200	1	07/15/2024 08:32	WG2317856
Lithium	ND		0.0150	1	07/15/2024 08:32	WG2317856

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Barium	0.0299		0.00200	1	07/17/2024 19:31	WG2317138
Calcium	99.3		1.00	1	07/17/2024 19:31	WG2317138
Magnesium	44.0		1.00	1	07/17/2024 19:31	WG2317138
Sodium	54.6		2.00	1	07/17/2024 19:31	WG2317138
Strontium	0.230		0.0100	1	07/17/2024 19:31	WG2317138

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	423	Q	10.0	1	06/25/2024 20:22	WG2311741

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	311		20.0	1	06/19/2024 14:30	WG2307056

Sample Narrative:

L1747043-03 WG2307056: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	26.5		1.00	1	07/11/2024 23:31	WG2320546
Fluoride	0.164		0.150	1	07/11/2024 23:31	WG2320546
Sulfate	56.7		5.00	1	07/11/2024 23:31	WG2320546

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.322		0.200	1	07/15/2024 08:33	WG2317856
Lithium	ND		0.0150	1	07/15/2024 08:33	WG2317856

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Barium	0.0777		0.00200	1	07/17/2024 19:35	WG2317138
Calcium	53.3		1.00	1	07/17/2024 19:35	WG2317138
Magnesium	27.4		1.00	1	07/17/2024 19:35	WG2317138
Sodium	63.7		2.00	1	07/17/2024 19:35	WG2317138
Strontium	0.177		0.0100	1	07/17/2024 19:35	WG2317138

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	353	Q	10.0	1	06/25/2024 20:22	WG2311741

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	190		20.0	1	06/19/2024 14:36	WG2307056

Sample Narrative:

L1747043-04 WG2307056: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	28.1		1.00	1	07/11/2024 23:44	WG2320546
Fluoride	ND		0.150	1	07/11/2024 23:44	WG2320546
Sulfate	80.4		5.00	1	07/11/2024 23:44	WG2320546

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	ND		0.200	1	07/15/2024 08:35	WG2317856
Lithium	ND		0.0150	1	07/15/2024 08:35	WG2317856

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Barium	0.0712		0.00200	1	07/17/2024 19:38	WG2317138
Calcium	55.9		1.00	1	07/17/2024 19:38	WG2317138
Magnesium	21.2		1.00	1	07/17/2024 19:38	WG2317138
Sodium	32.8		2.00	1	07/17/2024 19:38	WG2317138
Strontium	0.164		0.0100	1	07/17/2024 19:38	WG2317138

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	480	Q	10.0	1	06/25/2024 20:22	WG2311741

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	421		20.0	1	06/19/2024 12:23	WG2307098

Sample Narrative:

L1747043-05 WG2307098: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	6.72		1.00	1	07/11/2024 23:59	WG2320546
Fluoride	0.629		0.150	1	07/11/2024 23:59	WG2320546
Sulfate	44.5		5.00	1	07/11/2024 23:59	WG2320546

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	ND		0.200	1	07/15/2024 08:37	WG2317856
Lithium	ND		0.0150	1	07/15/2024 08:37	WG2317856

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Barium	0.0156		0.00200	1	07/17/2024 19:42	WG2317138
Calcium	41.0		1.00	1	07/17/2024 19:42	WG2317138
Magnesium	31.7		1.00	1	07/17/2024 19:42	WG2317138
Sodium	97.2		2.00	1	07/17/2024 19:42	WG2317138
Strontium	0.104		0.0100	1	07/17/2024 19:42	WG2317138

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	671	Q	13.3	1	06/25/2024 20:22	WG2311741

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	266		20.0	1	06/19/2024 12:28	WG2307098

Sample Narrative:

L1747043-06 WG2307098: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chloride	56.5		1.00	1	07/08/2024 00:54	WG2318135
Fluoride	ND		0.150	1	07/08/2024 00:54	WG2318135
Sulfate	126		5.00	1	07/08/2024 00:54	WG2318135

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Boron	0.335		0.200	1	07/15/2024 08:38	WG2317856
Lithium	ND		0.0150	1	07/15/2024 08:38	WG2317856

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Barium	0.0303		0.00200	1	07/17/2024 19:45	WG2317138
Calcium	84.3		1.00	1	07/17/2024 19:45	WG2317138
Magnesium	41.4		1.00	1	07/17/2024 19:45	WG2317138
Sodium	76.5		2.00	1	07/17/2024 19:45	WG2317138
Strontium	0.251		0.0100	1	07/17/2024 19:45	WG2317138

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	695	Q	13.3	1	06/25/2024 20:22	WG2311741

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	292		20.0	1	06/19/2024 12:32	WG2307098

Sample Narrative:

L1747043-07 WG2307098: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chloride	54.8		1.00	1	07/08/2024 01:21	WG2318135
Fluoride	ND		0.150	1	07/08/2024 01:21	WG2318135
Sulfate	227		50.0	10	07/08/2024 01:35	WG2318135

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Boron	0.496		0.200	1	07/15/2024 08:40	WG2317856
Lithium	ND		0.0150	1	07/15/2024 08:40	WG2317856

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Barium	0.0483		0.00200	1	07/17/2024 19:49	WG2317138
Calcium	83.1		1.00	1	07/17/2024 19:49	WG2317138
Magnesium	36.6		1.00	1	07/17/2024 19:49	WG2317138
Sodium	89.9		2.00	1	07/17/2024 19:49	WG2317138
Strontium	0.241		0.0100	1	07/17/2024 19:49	WG2317138

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	479	Q	10.0	1	06/25/2024 20:22	WG2311741

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	279		20.0	1	06/19/2024 12:37	WG2307098

Sample Narrative:

L1747043-08 WG2307098: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	61.1		1.00	1	07/08/2024 01:48	WG2318135
Fluoride	ND		0.150	1	07/08/2024 01:48	WG2318135
Sulfate	83.5		5.00	1	07/08/2024 01:48	WG2318135

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	ND		0.200	1	07/15/2024 08:42	WG2317856
Lithium	ND		0.0150	1	07/15/2024 08:42	WG2317856

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Barium	0.0571		0.00200	1	08/08/2024 00:52	WG2317140
Calcium	60.1		1.00	1	08/08/2024 00:52	WG2317140
Magnesium	26.5		1.00	1	08/08/2024 00:52	WG2317140
Sodium	64.7		2.00	1	08/08/2024 00:52	WG2317140
Strontium	0.177		0.0100	1	08/08/2024 00:52	WG2317140

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	361	Q	10.0	1	06/25/2024 20:22	WG2311741

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	264		20.0	1	06/19/2024 12:42	WG2307098

Sample Narrative:

L1747043-09 WG2307098: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chloride	33.8		1.00	1	07/08/2024 02:01	WG2318135
Fluoride	0.185		0.150	1	07/08/2024 02:01	WG2318135
Sulfate	42.1		5.00	1	07/08/2024 02:01	WG2318135

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Boron	ND		0.200	1	07/15/2024 08:43	WG2317856
Lithium	ND		0.0150	1	07/15/2024 08:43	WG2317856

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Barium	0.0421		0.00200	1	08/08/2024 00:55	WG2317140
Calcium	58.7		1.00	1	08/08/2024 00:55	WG2317140
Magnesium	22.7		1.00	1	08/08/2024 00:55	WG2317140
Sodium	33.5		2.00	1	08/08/2024 00:55	WG2317140
Strontium	0.155		0.0100	1	08/08/2024 00:55	WG2317140

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	566	Q	10.0	1	06/25/2024 20:22	WG2311741

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	320		20.0	1	06/19/2024 12:47	WG2307098

Sample Narrative:

L1747043-10 WG2307098: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chloride	50.5		1.00	1	07/09/2024 00:48	WG2318136
Fluoride	0.202		0.150	1	07/09/2024 00:48	WG2318136
Sulfate	131		5.00	1	07/09/2024 00:48	WG2318136

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Boron	0.474		0.200	1	07/15/2024 08:53	WG2317856
Lithium	0.0484		0.0150	1	07/15/2024 08:53	WG2317856

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Barium	0.0314		0.00200	1	08/08/2024 00:59	WG2317140
Calcium	73.3		1.00	1	08/08/2024 00:59	WG2317140
Magnesium	32.9		1.00	1	08/08/2024 00:59	WG2317140
Sodium	73.2		2.00	1	08/08/2024 00:59	WG2317140
Strontium	0.196		0.0100	1	08/08/2024 00:59	WG2317140

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	683	Q	13.3	1	06/25/2024 20:22	WG2311741

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	259		20.0	1	06/19/2024 12:52	WG2307098

Sample Narrative:

L1747043-11 WG2307098: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chloride	148		1.00	1	07/09/2024 01:13	WG2318136
Fluoride	0.169		0.150	1	07/09/2024 01:13	WG2318136
Sulfate	129		5.00	1	07/09/2024 01:13	WG2318136

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Boron	0.227		0.200	1	07/15/2024 08:54	WG2317856
Lithium	0.0239		0.0150	1	07/15/2024 08:54	WG2317856

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Barium	0.178		0.00200	1	08/08/2024 01:02	WG2317140
Calcium	80.6		1.00	1	08/08/2024 01:02	WG2317140
Magnesium	39.1		1.00	1	08/08/2024 01:02	WG2317140
Sodium	89.3		2.00	1	08/08/2024 01:02	WG2317140
Strontium	0.366		0.0100	1	08/08/2024 01:02	WG2317140

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	952	Q	20.0	1	06/25/2024 20:22	WG2311741

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	614		20.0	1	06/19/2024 12:57	WG2307098

Sample Narrative:

L1747043-12 WG2307098: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	28.7		10.0	10	07/08/2024 18:43	WG2318138
Fluoride	ND		1.50	10	07/08/2024 18:43	WG2318138
Sulfate	230		50.0	10	07/08/2024 18:43	WG2318138

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.241		0.200	1	07/15/2024 08:56	WG2317856
Lithium	ND		0.0150	1	07/15/2024 08:56	WG2317856

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Barium	0.0386		0.00200	1	08/08/2024 01:05	WG2317140
Calcium	77.5		1.00	1	08/08/2024 01:05	WG2317140
Magnesium	54.9		1.00	1	08/08/2024 01:05	WG2317140
Sodium	191		2.00	1	08/08/2024 01:05	WG2317140
Strontium	0.155		0.0100	1	08/08/2024 01:05	WG2317140

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	452	Q	10.0	1	06/25/2024 20:22	WG2311741

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	287		20.0	1	06/19/2024 13:01	WG2307098

Sample Narrative:

L1747043-13 WG2307098: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chloride	67.4	J6	1.00	1	07/10/2024 20:26	WG2320313
Fluoride	ND		0.150	1	07/10/2024 20:26	WG2320313
Sulfate	95.6	J6	5.00	1	07/10/2024 20:26	WG2320313

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Boron	ND		0.200	1	07/15/2024 08:58	WG2317856
Lithium	ND		0.0150	1	07/15/2024 08:58	WG2317856

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Barium	0.0555		0.00200	1	08/08/2024 01:08	WG2317140
Calcium	65.9		1.00	1	08/08/2024 01:08	WG2317140
Magnesium	30.3		1.00	1	08/08/2024 01:08	WG2317140
Sodium	72.3		2.00	1	08/08/2024 01:08	WG2317140
Strontium	0.199		0.0100	1	08/08/2024 01:08	WG2317140

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Dissolved Solids	ND	Q	10.0	1	06/25/2024 20:22	WG2311741

Wet Chemistry by Method 2320 B-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Alkalinity	ND	T8	20.0	1	06/30/2024 11:14	WG2314857

Sample Narrative:

L1747043-14 WG2314857: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Chloride	ND		1.00	1	07/08/2024 01:41	WG2318210
Fluoride	ND		0.150	1	07/08/2024 01:41	WG2318210
Sulfate	ND		5.00	1	07/08/2024 01:41	WG2318210

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Boron	ND		0.200	1	06/26/2024 19:37	WG2311711
Calcium	ND		1.00	1	06/26/2024 19:37	WG2311711
Lithium	ND		0.0150	1	07/15/2024 08:59	WG2317856

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Barium	ND		0.00200	1	08/08/2024 01:12	WG2317140
Calcium	ND		1.00	1	08/08/2024 01:12	WG2317140
Magnesium	ND		1.00	1	08/08/2024 01:12	WG2317140
Sodium	ND		2.00	1	08/08/2024 01:12	WG2317140
Strontium	ND		0.0100	1	08/08/2024 01:12	WG2317140

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	6.54	su

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	693	Q	13.3	1	06/25/2024 20:22	WG2311741

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	306		20.0	1	06/27/2024 13:24	WG2313308

Sample Narrative:

L1747043-15 WG2313308: Endpoint pH 4.5 headspace

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	53.8		1.00	1	07/09/2024 15:39	WG2319485
Fluoride	ND		0.150	1	07/09/2024 15:39	WG2319485
Sulfate	207		50.0	10	07/12/2024 16:28	WG2319485

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.465		0.200	1	06/26/2024 19:42	WG2311711
Lithium	ND		0.0150	1	07/15/2024 11:34	WG2317857

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Barium	0.0458		0.00200	1	08/08/2024 01:15	WG2317140
Calcium	83.9		1.00	1	08/08/2024 01:15	WG2317140
Magnesium	36.4		1.00	1	08/08/2024 01:15	WG2317140
Sodium	86.5		2.00	1	08/08/2024 01:15	WG2317140
Strontium	0.232		0.0100	1	08/08/2024 01:15	WG2317140

Method Blank (MB)

(MB) R4087394-1 06/25/24 20:22

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1747043-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1747043-14 06/25/24 20:22 • (DUP) R4087394-3 06/25/24 20:22

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	ND	ND	1	0.000		10

L1747043-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1747043-15 06/25/24 20:22 • (DUP) R4087394-4 06/25/24 20:22

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	693	724	1	4.33		10

Laboratory Control Sample (LCS)

(LCS) R4087394-2 06/25/24 20:22

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8640	98.2	85.0-115	

Method Blank (MB)

(MB) R4083814-2 06/19/24 12:16

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		8.45	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1746674-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1746674-01 06/19/24 12:28 • (DUP) R4083814-3 06/19/24 12:33

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	119	127	1	5.93		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

L1747043-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747043-01 06/19/24 14:13 • (DUP) R4083814-4 06/19/24 14:18

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	350	364	1	3.74		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4083814-1 06/19/24 12:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	99.7	99.7	90.0-110	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4083750-2 06/19/24 11:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		8.45	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1746546-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1746546-10 06/19/24 11:40 • (DUP) R4083750-3 06/19/24 11:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	523	532	1	1.77		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

L1747148-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747148-01 06/19/24 13:20 • (DUP) R4083750-4 06/19/24 13:25

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	109	111	1	2.22		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4083750-1 06/19/24 11:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	98.6	98.6	90.0-110	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4087421-2 06/27/24 13:03

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		8.45	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1750797-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1750797-03 06/27/24 13:14 • (DUP) R4087421-4 06/27/24 13:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	700	724	1	3.44		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

L1751021-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1751021-01 06/27/24 15:30 • (DUP) R4087421-6 06/27/24 15:34

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	91.2	95.7	1	4.85		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4087421-1 06/27/24 12:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	105	105	90.0-110	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4088369-2 06/30/24 10:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		8.45	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1747043-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1747043-14 06/30/24 11:14 • (DUP) R4088369-4 06/30/24 11:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	ND	ND	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1751362-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1751362-05 06/30/24 12:54 • (DUP) R4088369-6 06/30/24 12:57

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	383	382	1	0.169		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4088369-1 06/30/24 10:39

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	104	104	90.0-110	

Sample Narrative:

LCS: Endpoint pH 4.5

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4090067-1 07/03/24 20:36

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Fluoride	U		0.0640	0.150
Sulfate	U		0.594	5.00

L1747053-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747053-01 07/03/24 21:57 • (DUP) R4090067-3 07/03/24 22:09

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	10.3	9.93	1	3.67		15
Fluoride	ND	0.188	1	77.2	P1	15
Sulfate	174	172	1	1.01		15

L1753282-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1753282-01 07/03/24 23:26 • (DUP) R4090067-5 07/03/24 23:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	28.0	27.7	1	1.11		15
Sulfate	43.4	43.0	1	0.944		15

Laboratory Control Sample (LCS)

(LCS) R4090067-2 07/03/24 20:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.2	98.0	80.0-120	
Fluoride	8.00	7.14	89.2	80.0-120	
Sulfate	40.0	39.7	99.2	80.0-120	

L1747053-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1747053-01 07/03/24 21:57 • (MS) R4090067-4 07/03/24 22:22

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	10.3	46.6	90.8	1	80.0-120	
Fluoride	8.00	ND	6.91	85.4	1	80.0-120	

L1747053-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1747053-01 07/03/24 21:57 • (MS) R4090067-4 07/03/24 22:22

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	40.0	174	176	6.27	1	80.0-120	V

L1753282-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1753282-01 07/03/24 23:26 • (MS) R4090067-6 07/03/24 23:52 • (MSD) R4090067-7 07/04/24 00:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	28.0	62.0	62.1	85.1	85.3	1	80.0-120			0.134	15
Sulfate	40.0	43.4	75.6	75.8	80.4	80.9	1	80.0-120			0.263	15

Method Blank (MB)

(MB) R4091712-1 07/07/24 22:31

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Fluoride	U		0.0640	0.150
Sulfate	U		0.594	5.00

L1747053-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1747053-08 07/08/24 02:42 • (DUP) R4091712-3 07/08/24 02:55

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	28.2	27.4	1	2.83		15
Fluoride	0.158	0.172	1	8.98		15
Sulfate	60.3	57.7	1	4.46		15

L1747053-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1747053-15 07/08/24 05:36 • (DUP) R4091712-6 07/08/24 05:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	34.0	34.1	1	0.509		15
Fluoride	ND	0.160	1	23.1	P1	15
Sulfate	43.0	43.4	1	0.890		15

Laboratory Control Sample (LCS)

(LCS) R4091712-2 07/07/24 22:44

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.4	98.6	80.0-120	
Fluoride	8.00	8.11	101	80.0-120	
Sulfate	40.0	40.2	100	80.0-120	

L1747053-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747053-08 07/08/24 02:42 • (MS) R4091712-4 07/08/24 03:08 • (MSD) R4091712-5 07/08/24 03:22

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	28.2	64.2	63.0	90.0	87.0	1	80.0-120			1.88	15
Fluoride	8.00	0.158	8.49	8.47	104	104	1	80.0-120			0.276	15
Sulfate	40.0	60.3	90.2	89.1	74.7	71.9	1	80.0-120	J6	J6	1.23	15

L1747053-15 Original Sample (OS) • Matrix Spike (MS)

(OS) L1747053-15 07/08/24 05:36 • (MS) R4091712-7 07/08/24 06:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	34.0	67.6	84.1	1	80.0-120	
Fluoride	8.00	ND	8.22	101	1	80.0-120	
Sulfate	40.0	43.0	74.4	78.5	1	80.0-120	J6

Method Blank (MB)

(MB) R4091720-1 07/08/24 17:57

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Fluoride	U		0.0640	0.150
Sulfate	U		0.594	5.00

L1747008-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1747008-02 07/08/24 19:14 • (DUP) R4091720-3 07/08/24 19:27

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	2.27	2.26	1	0.489		15
Fluoride	0.229	0.236	1	3.19		15
Sulfate	39.3	39.3	1	0.0158		15

L1747031-26 Original Sample (OS) • Duplicate (DUP)

(OS) L1747031-26 07/08/24 23:18 • (DUP) R4091720-6 07/08/24 23:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	64.4	64.4	1	0.0284		15
Fluoride	0.164	0.182	1	10.3		15
Sulfate	91.0	91.2	1	0.161		15

Laboratory Control Sample (LCS)

(LCS) R4091720-2 07/08/24 18:10

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	38.7	96.8	80.0-120	
Fluoride	8.00	8.16	102	80.0-120	
Sulfate	40.0	39.1	97.8	80.0-120	

L1747008-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747008-02 07/08/24 19:14 • (MS) R4091720-4 07/08/24 19:39 • (MSD) R4091720-5 07/08/24 19:52

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	2.27	41.3	41.3	97.5	97.6	1	80.0-120			0.104	15
Fluoride	8.00	0.229	8.42	8.42	102	102	1	80.0-120			0.0475	15
Sulfate	40.0	39.3	71.6	71.6	80.8	80.8	1	80.0-120			0.0251	15

L1747031-26 Original Sample (OS) • Matrix Spike (MS)

(OS) L1747031-26 07/08/24 23:18 • (MS) R4091720-7 07/08/24 23:43

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	64.4	91.4	67.4	1	80.0-120	J6
Fluoride	8.00	0.164	8.27	101	1	80.0-120	
Sulfate	40.0	91.0	113	55.8	1	80.0-120	J6

Method Blank (MB)

(MB) R4091707-1 07/08/24 18:16

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Fluoride	U		0.0640	0.150
Sulfate	U		0.594	5.00

L1747053-21 Original Sample (OS) • Duplicate (DUP)

(OS) L1747053-21 07/08/24 19:23 • (DUP) R4091707-3 07/08/24 19:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	49.5	50.7	1	2.39		15
Fluoride	ND	ND	1	24.3	P1	15
Sulfate	131	135	1	2.77		15

L1747443-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1747443-07 07/08/24 23:38 • (DUP) R4091707-6 07/08/24 23:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	28.1	27.5	1	2.32		15

Laboratory Control Sample (LCS)

(LCS) R4091707-2 07/08/24 18:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	37.6	94.0	80.0-120	
Fluoride	8.00	7.56	94.5	80.0-120	
Sulfate	40.0	38.2	95.5	80.0-120	

L1747053-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747053-21 07/08/24 19:23 • (MS) R4091707-4 07/08/24 19:50 • (MSD) R4091707-5 07/08/24 20:04

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	49.5	80.8	83.3	78.2	84.3	1	80.0-120	J6		2.98	15
Fluoride	8.00	ND	8.21	8.36	101	103	1	80.0-120			1.80	15
Sulfate	40.0	131	146	152	38.2	51.8	1	80.0-120	J6	J6	3.66	15

L1747443-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L1747443-07 07/08/24 23:38 • (MS) R4091707-7 07/09/24 00:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	28.1	61.9	84.3	1	80.0-120	

Method Blank (MB)

(MB) R4091246-1 07/07/24 22:29

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Fluoride	U		0.0640	0.150
Sulfate	U		0.594	5.00

L1747177-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1747177-01 07/08/24 02:45 • (DUP) R4091246-3 07/08/24 02:58

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	5.47	5.43	1	0.735		15
Fluoride	ND	ND	1	13.3		15
Sulfate	43.7	43.9	1	0.278		15

L1747177-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1747177-11 07/08/24 05:58 • (DUP) R4091246-6 07/08/24 06:10

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	23.1	23.3	1	0.857		15
Fluoride	ND	ND	1	4.18		15
Sulfate	29.8	30.6	1	2.64		15

Laboratory Control Sample (LCS)

(LCS) R4091246-2 07/07/24 22:42

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.4	98.6	80.0-120	
Fluoride	8.00	8.37	105	80.0-120	
Sulfate	40.0	39.9	99.8	80.0-120	

L1747177-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747177-01 07/08/24 02:45 • (MS) R4091246-4 07/08/24 03:11 • (MSD) R4091246-5 07/08/24 03:24

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	5.47	43.5	43.7	95.2	95.5	1	80.0-120			0.315	15
Fluoride	8.00	ND	8.25	8.35	102	103	1	80.0-120			1.22	15
Sulfate	40.0	43.7	75.4	75.3	79.1	78.9	1	80.0-120	J6	J6	0.119	15

L1747177-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L1747177-11 07/08/24 05:58 • (MS) R4091246-7 07/08/24 06:23

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	23.1	58.6	88.7	1	80.0-120	
Fluoride	8.00	ND	8.36	103	1	80.0-120	
Sulfate	40.0	29.8	65.1	88.3	1	80.0-120	

Method Blank (MB)

(MB) R4092526-1 07/09/24 14:05

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Fluoride	U		0.0640	0.150
Sulfate	U		0.594	5.00

L1753735-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1753735-01 07/09/24 14:32 • (DUP) R4092526-3 07/09/24 14:45

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	21.1	20.8	1	1.72		15
Fluoride	0.175	0.181	1	3.48		15
Sulfate	ND	ND	1	0.000		15

L1748487-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1748487-01 07/09/24 16:19 • (DUP) R4092526-5 07/09/24 16:32

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	6.07	6.02	1	0.837		15
Fluoride	0.173	0.172	1	0.811		15
Sulfate	19.1	18.5	1	2.91		15

Laboratory Control Sample (LCS)

(LCS) R4092526-2 07/09/24 14:18

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	38.5	96.2	80.0-120	
Fluoride	8.00	7.85	98.2	80.0-120	
Sulfate	40.0	39.0	97.6	80.0-120	

L1753735-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1753735-01 07/09/24 14:32 • (MS) R4092526-4 07/09/24 14:58

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	21.1	56.8	89.1	1	80.0-120	
Fluoride	8.00	0.175	6.91	84.1	1	80.0-120	
Sulfate	40.0	ND	40.9	102	1	80.0-120	

L1748487-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1748487-01 07/09/24 16:19 • (MS) R4092526-6 07/09/24 16:46 • (MSD) R4092526-7 07/09/24 16:59

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	6.07	44.6	43.8	96.3	94.3	1	80.0-120			1.87	15
Fluoride	8.00	0.173	8.35	8.19	102	100	1	80.0-120			1.98	15
Sulfate	40.0	19.1	55.8	54.3	91.9	88.1	1	80.0-120			2.75	15

Method Blank (MB)

(MB) R4093158-1 07/10/24 19:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Fluoride	U		0.0640	0.150
Sulfate	U		0.594	5.00

L1747043-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1747043-13 07/10/24 20:26 • (DUP) R4093158-3 07/10/24 20:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	67.4	64.7	1	4.05		15
Fluoride	ND	ND	1	7.49		15
Sulfate	95.6	91.0	1	4.92		15

L1754873-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1754873-01 07/11/24 02:15 • (DUP) R4093158-6 07/11/24 02:28

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	10.5	10.4	1	1.21		15
Fluoride	ND	ND	1	32.4	P1	15
Sulfate	142	139	1	1.74		15

Laboratory Control Sample (LCS)

(LCS) R4093158-2 07/10/24 20:12

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	40.3	101	80.0-120	
Fluoride	8.00	8.11	101	80.0-120	
Sulfate	40.0	40.9	102	80.0-120	

L1747043-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747043-13 07/10/24 20:26 • (MS) R4093158-4 07/10/24 20:53 • (MSD) R4093158-5 07/10/24 21:06

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	67.4	93.0	91.9	64.0	61.4	1	80.0-120	J6	J6	1.12	15
Fluoride	8.00	ND	8.34	7.99	103	98.4	1	80.0-120			4.18	15
Sulfate	40.0	95.6	115	112	48.9	42.2	1	80.0-120	J6	J6	2.36	15

L1754873-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1754873-01 07/11/24 02:15 • (MS) R4093158-7 07/11/24 02:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	10.5	48.9	96.1	1	80.0-120	
Fluoride	8.00	ND	8.07	99.5	1	80.0-120	
Sulfate	40.0	142	149	17.3	1	80.0-120	J6

Method Blank (MB)

(MB) R4093137-1 07/11/24 15:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Fluoride	U		0.0640	0.150
Sulfate	U		0.594	5.00

L1747031-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1747031-08 07/11/24 17:14 • (DUP) R4093137-3 07/11/24 17:27

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	27.1	27.2	1	0.561		15
Fluoride	0.164	0.161	1	1.78		15
Sulfate	58.1	58.1	1	0.0528		15

L1747031-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1747031-16 07/11/24 20:22 • (DUP) R4093137-6 07/11/24 20:36

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	61.1	60.3	1	1.44		15
Fluoride	ND	ND	1	0.702		15
Sulfate	81.1	80.3	1	0.983		15

Laboratory Control Sample (LCS)

(LCS) R4093137-2 07/11/24 15:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.9	99.7	80.0-120	
Fluoride	8.00	8.21	103	80.0-120	
Sulfate	40.0	40.5	101	80.0-120	

L1747031-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747031-08 07/11/24 17:14 • (MS) R4093137-4 07/11/24 17:41 • (MSD) R4093137-5 07/11/24 17:54

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	27.1	59.9	61.0	81.9	84.7	1	80.0-120			1.80	15
Fluoride	8.00	0.164	8.03	8.17	98.4	100	1	80.0-120			1.62	15
Sulfate	40.0	58.1	84.3	86.2	65.5	70.1	1	80.0-120	J6	J6	2.17	15

L1747031-16 Original Sample (OS) • Matrix Spike (MS)

(OS) L1747031-16 07/11/24 20:22 • (MS) R4093137-7 07/11/24 20:49

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	61.1	89.9	72.0	1	80.0-120	J6
Fluoride	8.00	ND	8.18	101	1	80.0-120	
Sulfate	40.0	81.1	106	61.6	1	80.0-120	J6

Sample Narrative:

MS: Spike failure due to matrix interference

Method Blank (MB)

(MB) R4086974-1 06/26/24 19:21

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0200	0.200
Calcium	U		0.0793	1.00

Laboratory Control Sample (LCS)

(LCS) R4086974-2 06/26/24 19:23

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1.00	0.973	97.3	80.0-120	
Calcium	10.0	10.4	104	80.0-120	

L1745926-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1745926-02 06/26/24 19:24 • (MS) R4086974-4 06/26/24 19:28 • (MSD) R4086974-5 06/26/24 19:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	ND	1.52	1.47	92.8	88.2	5	75.0-125			3.08	20
Calcium	10.0	6.01	16.1	15.5	101	94.4	5	75.0-125			4.15	20

Method Blank (MB)

(MB) R4093865-1 07/15/24 08:08

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0200	0.200
Lithium	U		0.00485	0.0150

Laboratory Control Sample (LCS)

(LCS) R4093865-2 07/15/24 08:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1.00	1.03	103	80.0-120	
Lithium	1.00	1.03	103	80.0-120	

L1747031-23 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747031-23 07/15/24 08:11 • (MS) R4093865-4 07/15/24 08:14 • (MSD) R4093865-5 07/15/24 08:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	0.483	1.47	1.47	98.2	98.8	1	75.0-125			0.397	20
Lithium	1.00	0.0540	1.04	1.04	98.7	99.1	1	75.0-125			0.402	20

Method Blank (MB)

(MB) R4093832-1 07/15/24 11:24

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Lithium	U		0.00485	0.0150

Laboratory Control Sample (LCS)

(LCS) R4093832-2 07/15/24 11:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Lithium	1.00	1.00	100	80.0-120	

L1747053-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747053-15 07/15/24 11:28 • (MS) R4093832-4 07/15/24 11:31 • (MSD) R4093832-5 07/15/24 11:33

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Lithium	1.00	ND	1.00	1.01	99.7	100	1	75.0-125			0.788	20

Method Blank (MB)

(MB) R4095110-1 07/17/24 18:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Barium	U		0.000381	0.00200
Calcium	U		0.0936	1.00
Magnesium	U		0.0735	1.00
Sodium	U		0.376	2.00
Strontium	U		0.000590	0.0100

Laboratory Control Sample (LCS)

(LCS) R4095110-2 07/17/24 18:05

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	0.0500	0.0461	92.1	80.0-120	
Calcium	5.00	4.73	94.7	80.0-120	
Magnesium	5.00	4.69	93.8	80.0-120	
Sodium	5.00	4.79	95.9	80.0-120	
Strontium	0.0500	0.0482	96.3	80.0-120	

L1747031-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747031-15 07/17/24 18:09 • (MS) R4095110-4 07/17/24 18:16 • (MSD) R4095110-5 07/17/24 18:20

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	0.0500	0.0425	0.0909	0.0905	96.8	95.9	1	75.0-125			0.493	20
Calcium	5.00	57.6	61.0	62.3	67.3	92.0	1	75.0-125	V		2.01	20
Magnesium	5.00	22.8	27.0	28.3	83.4	109	1	75.0-125			4.62	20
Sodium	5.00	34.8	38.7	40.0	78.8	103	1	75.0-125			3.10	20
Strontium	0.0500	0.166	0.208	0.210	84.9	88.2	1	75.0-125			0.781	20

Method Blank (MB)

(MB) R4104310-1 08/08/24 00:26

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Barium	U		0.000381	0.00200
Calcium	U		0.0936	1.00
Magnesium	U		0.0735	1.00
Sodium	U		0.376	2.00
Strontium	U		0.000590	0.0100

Laboratory Control Sample (LCS)

(LCS) R4104310-2 08/08/24 00:29

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Barium	0.0500	0.0449	89.9	80.0-120	
Calcium	5.00	4.96	99.2	80.0-120	
Magnesium	5.00	4.69	93.9	80.0-120	
Sodium	5.00	4.79	95.7	80.0-120	
Strontium	0.0500	0.0453	90.7	80.0-120	

L1747053-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1747053-09 08/08/24 00:32 • (MS) R4104310-4 08/08/24 00:39 • (MSD) R4104310-5 08/08/24 00:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	0.0500	0.0448	0.0906	0.0942	91.7	98.9	1	75.0-125			3.90	20
Calcium	5.00	81.1	85.8	86.9	93.7	116	1	75.0-125			1.28	20
Magnesium	5.00	26.1	31.2	31.8	103	114	1	75.0-125			1.69	20
Sodium	5.00	36.1	41.9	40.0	117	79.4	1	75.0-125			4.62	20
Strontium	0.0500	0.164	0.208	0.215	86.9	102	1	75.0-125			3.52	20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
Q	Sample was prepared and/or analyzed past holding time as defined in the method. Concentrations should be considered minimum values.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Alliance Technical Group - Bryant, AR

219 Brown Lane
Bryant, AR 72022

Billing Information:
Accounts Payable
219 Brown Ln.
Bryant, AR 72022

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

Report to:
Jonathan Brown

Email To:
Jonathan.brown@alliancetg.com;dbraund@gb

Project Description:
Entergy - Independence

City/State Collected: Newark, AR

Please Circle: PT MT CT ET

Phone: **501-847-7077**

Client Project #

Lab Project #
GBMCBAR-ENTERGYINDY

SDG # ~~HL~~ 47470 43

Table # **L-100**

Collected by (print):
JLC/BLS

Site/Facility ID #
LANDFILL - CCR

P.O. #

Acctnum: **GBMCBAR**

Template: **T198840**

Prelogin: **P1080575**

PM: **829 - Brittnie L Boyd**

PB: 6.4.24 BM

Collected by (signature):
Jacob Colburn

Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Shipped Via: **FedEX Priority**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	B,Ba,Ca,Li,Mg,Na,Sr 250mlHDPE-HNO3	Cl, F, SO4, Alk 250mlHDPE-NoPres	Cl, F, pH, SO4, TDS 250ml HDPE	B, Ca 250ml HDPE - HNO3						pH	Remarks	Sample # (lab only)
MW-1R	G	GW		6.11.24	1040	4	X	X	X	X						6.72		-01
MW-2		GW		6.10.24	1450	4	X	X	X	X						6.94		-02
MW-3		GW		6.11.24	1710	4	X	X	X	X						6.72		-03
MW-6		GW		6.11.24	1755	4	X	X	X	X						6.39		-04
MW-7		GW		6.11.24	1130	4	X	X	X	X						7.36		-05
MW-8		GW		6.11.24	0855	4	X	X	X	X						6.56		-06
MW-9		GW		6.11.24	0745	4	X	X	X	X						6.54		-07
MW-10		GW		6.11.24	1620	4	X	X	X	X						6.64		-08
MW-11		GW		6.11.24	1405	4	X	X	X	X						6.88		-09
MW-14		GW		6.12.24	1125	4	X	X	X	X						6.88		-10

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # Multi

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Jacob Colburn	6.13.24	1440			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: Multi °C Bottles Received: 60	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Easton Dyer	Date: 6/14/24 Time: 0901	Hold: Condition: NCF / OK

Company Name/Address:
Alliance Technical Group - Bryant, AR

219 Brown Lane
Bryant, AR 72022

Billing Information:
Accounts Payable
219 Brown Ln.
Bryant, AR 72022

Pres Chk

Report to:
Jonathan Brown

Email To:
Jonathan.brown@alliancetg.com;dbraund@gb

Project Description:
Entergy - Independence

City/State Collected: Newark, AR

Please Circle: PT MT CT ET

Phone: **501-847-7077**

Client Project #

Lab Project #
GBMCBAR-ENTERGYINDY

Collected by (print):
JLC/BLS

Site/Facility ID #
LANDFILL - CCR

P.O. #

Collected by (signature):
Brandi Colbert
Immediately
Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	B,Ba,Ca,Li,Mg,Na,Sr 250mlHDPE-HNO3	Cl, F, SO4, Alk 250mlHDPE-NoPres	B,Co 250ml HDPE - HNO3	Cl, F, pH, SO4, TDS 250ml HDPE - NoPres						pH Remarks	Sample # (lab only)
MW-15	G	GW		6.12.24	1020	4	X	X	X	X						6.90	-11
MW-16		GW		6.12.24	1215	4	X	X	X	X						7.12	-12
MW-17		GW		6.12.24	1305	4	X	X	X	X						6.65	-13
FIELD BLANK 1		GW		6.13.24	1105	2 4 60			X	X							-14
DUPLICATE 1		GW		6.11.24	0745	2 4			X	X						6.54	-15

Chain of Custody Page ___ of ___

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MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1747043

Table #

Acctnum: **GBMCBAR**
Template: **T198840**
Prelogin: **P1080575**
PM: **829 - Brittnie L Boyd**
PB: 6.4.24

Shipped Via: **FedEX Priority**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # MVRI

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Brandi Colbert	6.13.24	1445			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	If preservation required by Login: Date/Time
				MVRI 60	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date:	Time:	Hold:	Condition: NCF / OK
			Kristen Organ	6/14/24	0900		

L1747043

Tracking Numbers	Temperature
7464 0843 7230	5.6 +0.3 = 5.9 EDA7
7464 0843 7251	3.5 +0.3 = 3.8 EDA7
7464 0843 7273	2.1 +0.3 = 2.4 EDA7
7464 0843 7240	1.2 +0.3 = 1.5 EDA7
7464 0843 7207	0.5 +0.3 = 0.8 EDA7
7315 3199 1651	2.9 +0.3 = 3.2 EDA7
7315 3199 1640	1.0 +0.3 = 1.3 EDA7
7464 0843 7262	2.1 +0.3 = 2.4 EDA7
7464 0843 7229	1.6 +0.3 = 1.9 EDA7
7464 0843 7218	3.3 +0.3 = 3.6 EDA7
7315 3199 1607	2.3 +0.3 = 2.6 EDA7
7464 0843 7284	1.8 +0.3 = 2.1 EDA7

Easton Organ
Name

6/19/24
Date

6/14-NCF-L1747043 GBMCBAR TD

R5

Time estimate: oh **Time spent:** oh

Members

TD Troy Dunlap (responsible) BB Brittnie Boyd MKI Myra Katie Ingram

- [x] Login Clarification needed
- [ ] Chain of custody is incomplete
- [ ] Please specify Metals requested
- [ ] Please specify TCLP requested
- [ ] Received additional samples not listed on COC
- [ ] Sample IDs on containers do not match IDs on COC
- [ ] Client did not "X" analysis
- [ ] Chain of Custody is missing
- [ ] If no COC: Received by:_____
- [ ] If no COC: Date/Time:_____
- [ ] If no COC: Temp./Cont.Rec./pH:_____
- [ ] If no COC: Carrier:_____
- [ ] If no COC: Tracking #:_____
- [ ] Client informed by call
- [ ] Client informed by Email
- [ ] Client informed by Voicemail
- [ ] Date/Time:_____
- [ ] PM initials:_____
- [ ] Client Contact:_____

Comments

Troy Dunlap *14 June 2024 4:30 PM*

COC has pre printed analysis and hand written analysis. The analysis are almost the same. For the handwiritten there are Less metals, no ALK and TDS,pH were added.

For the hand written analysis the containers have a completely different P# than the COC. They have P1080573.

Did the client add these containers to this COC because they didn't have the COC? Very confused on this one.

I logged P1080575 but held back the containers for P1080573.

Troy Dunlap *21 June 2024 9:05 AM*

Any word on this one?

Myra Katie Ingram *24 June 2024 4:51 PM*

Please add ph. & TDS.

Troy Dunlap *25 June 2024 8:27 AM*

Done.

Sub-Contract Chain of Custody

Batch Date/Time: 06/20/24 13:01
Sub-Contract Lab: PACEMN
Address: 1700 Elm Street Suite 200 SE
City/State: Minneapolis, MN 55414
Contact: Kirsten.Hogberg@pacelabs.com

Owner Lab: PACEMTJL
Address: 12065 Lebanon Rd.
City/State: Mt. Juliet, TN 37122
Phone: (615) 773-9756
Fax: (615) 758-5859

WO: WG2308978
Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 07/05/24
ESC Purchase Order #: L1747043
Send Reports to: James C Huckaba

Pace Analytical®

12065 Lebanon Rd.
Mt. Juliet, TN 37122
Phone:(615) 773-9756
Fax:(615) 758-5859

Sample ID Container ID	Matrix	State	Collect Date	Description	Sample Number Lab Use Only	Sample Comments Lab Use Only
MW-1R	GW	AR	06/11/24 10:40	Metals	1. L1747043-01	Ba,B,Ca,Li,Mg,Na,Sr by 6020
MW-2	GW	AR	06/10/24 14:50	Metals	2. L1747043-02	Ba,B,Ca,Li,Mg,Na,Sr by 6020
MW-3	GW	AR	06/11/24 17:10	Metals	3. L1747043-03	Ba,B,Ca,Li,Mg,Na,Sr by 6020
MW-6	GW	AR	06/11/24 17:55	Metals	4. L1747043-04	Ba,B,Ca,Li,Mg,Na,Sr by 6020
MW-7	GW	AR	06/11/24 11:30	Metals	5. L1747043-05	Ba,B,Ca,Li,Mg,Na,Sr by 6020
MW-8	GW	AR	06/11/24 08:55	Metals	6. L1747043-06	Ba,B,Ca,Li,Mg,Na,Sr by 6020
MW-9	GW	AR	06/11/24 07:45	Metals	7. L1747043-07	Ba,B,Ca,Li,Mg,Na,Sr by 6020
MW-10	GW	AR	06/11/24 16:20	Metals	8. L1747043-08	Ba,B,Ca,Li,Mg,Na,Sr by 6020
MW-11	GW	AR	06/11/24 14:05	Metals	9. L1747043-09	Ba,B,Ca,Li,Mg,Na,Sr by 6020
MW-14	GW	AR	06/11/24 11:25	Metals	10. L1747043-10	Ba,B,Ca,Li,Mg,Na,Sr by 6020
MW-15	GW	AR	06/12/24 10:20	Metals	11. L1747043-11	Ba,B,Ca,Li,Mg,Na,Sr by 6020
MW-16	GW	AR	06/12/24 12:15	Metals	12. L1747043-12	Ba,B,Ca,Li,Mg,Na,Sr by 6020
MW-17	GW	AR	06/12/24 13:05	Metals	13. L1747043-13	Ba,B,Ca,Li,Mg,Na,Sr by 6020

*= Container used for multiple Samples and/or Analyses

Relinquished by: _____ **Date** 6-20-24
Recieved by: Melissa/Pace **Date** 6/21/24 9:15 21.9°C
Relinquished by: Brian Lear/PACE **Date** 7/12/24 16:00
Recieved by: _____ **Date** 7/13/24 900

WO#: 10697410

ENV-FRM-MIN4-0150 v17_Sample Condition Upon Receipt

CLIENT NAME: Pace Analytical Mt Juliet **PROJECT #:**

WO#: 10697410

PM: KNH **Due Date: 07/08/24**

CLIENT: ESC_TN

COURIER: ☐ Client ☐ Commercial ☒ FedEx ☐ Pace ☐ SpeeDee ☐ UPS ☐ USPS

TRACKING NUMBER: 7315 3206 0463 ☐ See Exceptions form ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present: ☒ YES ☐ NO **Seals Intact:** ☒ YES ☐ NO **Biological Tissue Frozen:** ☐ YES ☐ NO ☒ N/A

Packing Material: ☐ Bubble Bags ☒ Bubble Wrap ☐ None ☐ Other **Temp Blank:** ☐ YES ☒ NO **Type of Ice:** ☐ Blue ☐ Dry ☐ Wet ☐ Melted ☒ None

Thermometer: ☐ T1 (0461) ☐ T2 (0436) ☐ T3 (0459) ☒ T4 (0402) ☐ T5 (0178) ☐ T6 (0235) ☐ T7 (0042) ☐ T8 (0775) ☐ T9 (0727) ☐ 01339252 (1710)

Did Samples Originate in West Virginia: ☐ YES ☒ NO	**Were All Container Temps taken:** ☐ YES ☐ NO ☒ N/A
Correction Factor: +0.2 **Cooler Temp Read w/Temp Blank:** _____ °C **Cooler Temp Corrected w/Temp Blank:** _____ °C	**Average Corrected Temp (no Temp Blank Only):** 21.9 °C
***NOTE:** Temp should be above freezing to 6°C.*	☒ See Exceptions Form ENV-FRM-MIN4-0142 ☐ 1 Container
USDA Regulated Soil: ☒ N/A (Water Sample/Other (describe): _____	**Initials & Date of Person Examining Contents:** MNM 6/21/24
Did Samples originate from one of the following states (check maps) – AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA: ☐ YES ☐ NO	Did samples originate from a foreign source (international, including Hawaii and Puerto Rico): ☐ YES ☐ NO
NOTE: If YES to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.	

LOCATION (check one): ☐ DULUTH ☒ MINNEAPOLIS ☐ VIRGINIA	YES	NO	N/A	COMMENT(S)
Chain of Custody Present and Filled Out?	☒	☐		1.
Chain of Custody Relinquished?	☒	☐		2.
Sampler Name and/or Signature on COC?	☐	☐	☒	3.
Samples Arrived within Hold Time?	☒	☐		4. If Fecal: ☐ <8 hrs ☐ >8 hr, <24 hr ☐ No
Short Hold Time Analysis (<72 hr)?	☐	☒		5. ☐ BOD / cBOD ☐ Fecal coliform ☐ Hex Chrom ☐ HPC ☐ Nitrate ☐ Nitrite ☐ Ortho Phos ☐ Total coliform/*E. coli* ☐ Other: _____
Rush Turn Around Time Requested?	☐	☒		6.
Sufficient Sample Volume?	☒	☐		7.
Correct Containers Used?	☒	☐	☐	8.
– Pace Containers Used?	☐	☒		
Containers Intact?	☒	☐		9.
Field Filtered Volume Received for Dissolved Tests?	☐	☐	☒	10. Is sediment visible in the dissolved container: ☐ YES ☐ NO
Is sufficient information available to reconcile the samples to the COC? **NOTE:** If ID/Date/Time don't match fill out section 11. Matrix: ☐ Oil ☐ Soil ☒ Water ☐ Other	☒	☐		11. **If NO, write ID/Date/Time of container below:** ☐ See Exceptions form ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	☒	☐	☐	12. Sample #: 001 -013
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, < 2 pH, NaOH > 9 Sulfide, NaOH > 10 Cyanide)	☒	☐	☐	☒ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC, Oil & Grease, DRO/8015 (water) and Dioxins/PFAS	☐	☐	☒	Positive for Residual Chlorine: ☐ YES ☐ NO
NOTE: If adding preservation to the container, **verify with the PM first.** Clients may require adding preservative to the field and equipment blanks when this occurs.				**pH Paper Lot #**

Residual Chlorine	0-6 Roll	0-6 Strip	0-14 Strip
	213923		

☐ See Exceptions form ENV-FRM-MIN4-0142

Headspace in Methyl Mercury Container?	☐	☐	☒	13.
Extra labels present on soil VOA or WIDRO containers?	☐	☐	☒	14.
Headspace in VOA Vials (greater than 6mm)?	☐	☐	☒	☐ See Exceptions form ENV-FRM-MIN4-0140
Trip Blanks Present?	☐	☐	☒	15.
Trip Blank Custody Seals Present?	☐	☐	☒	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION / RESOLUTION **FIELD DATA REQUIRED:** ☐ YES ☐ NO

Person Contacted: _____ Date & Time: _____

Comments / Resolution: _____

Project Manager Review: _____ **Date:** _____

***NOTE:** When there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEQ Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).*

Labeled By: MNM **Line:** B

Workorder #: _____

No Temp Blank		
Read Temp	**Corrected Temp**	**Average temp**
21.7	21.9	21.9
21.8	22.0	
21.6	21.8	
21.8	22.0	

PM Notified of Out of Temp Cooler? ☐ YES ☒ NO

If yes, indicate who was contacted, date and time.
If no, indicate reason why.

No ice

Multiple Cooler Project? ☐ YES ☒ NO

If anything is OVER 6.0°C, you MUST document containers in this section HERE

Tracking Number	Temperature

Out of Temp Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples

Sample ID	Type Of Preserve	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance After Addition?		Initials
								YES	NO	
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	
								☐	☐	

Comments:

Tracking Numbers	Temperature
6476 5644 8319	EDA8 0.1+0.3=0.4
6476 5644 8363	EDA8 5.0+0.3=5.3

Arlo

Name

7/13

Date

ANALYTICAL REPORT

November 21, 2024

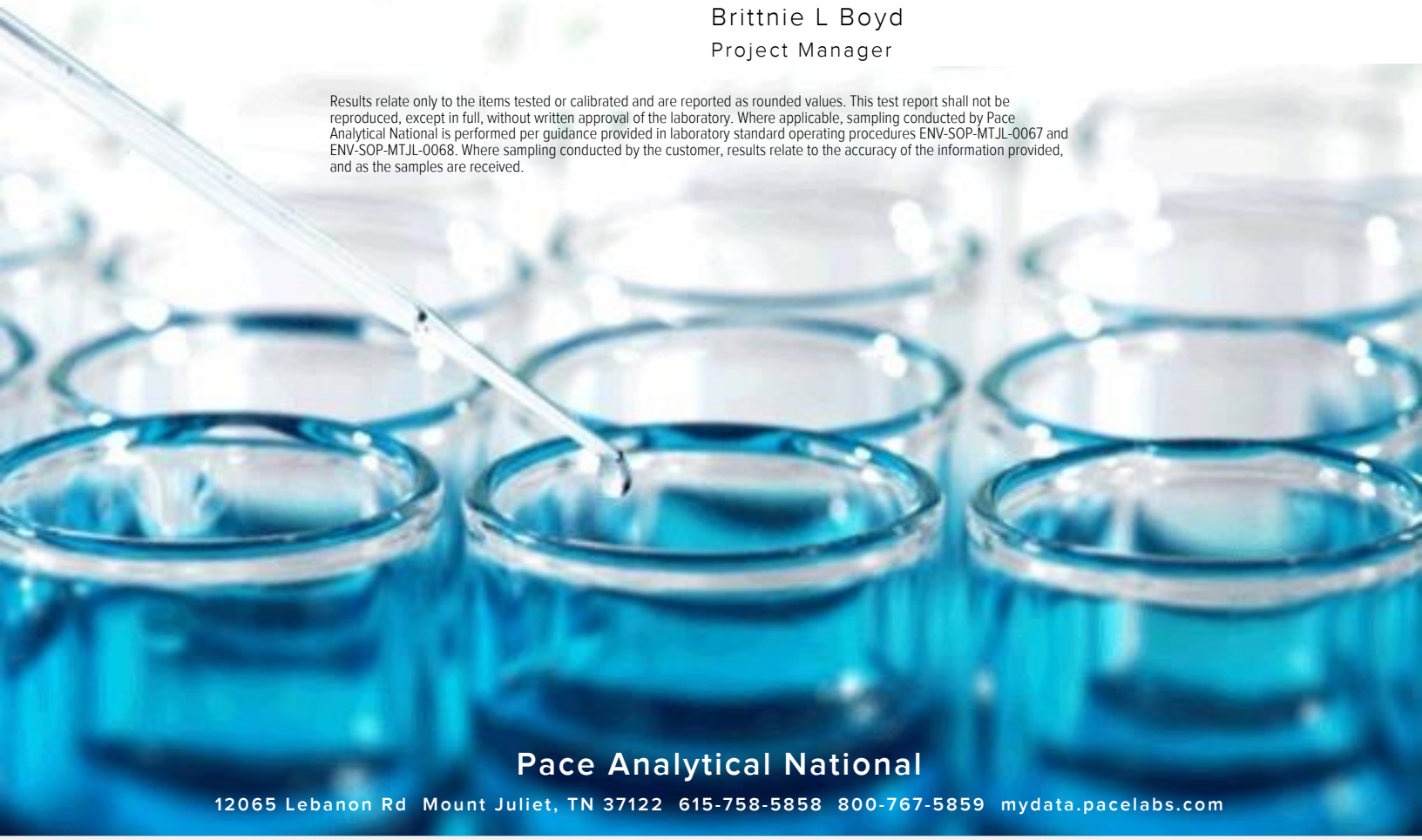
1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Alliance Technical Group - Bryant, AR

Sample Delivery Group:	L1798033
Samples Received:	11/09/2024
Project Number:	1145-21-081
Description:	Entergy ISES
Site:	ISES
Report To:	Jonathan Brown 219 Brown Lane Little Rock, AR 72022

Entire Report Reviewed By:

Brittnie L Boyd
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

TABLE OF CONTENTS

MW-1R L1798033-01 GW

Collected by: JLC/BLS | Collected date/time: 11/05/24 10:30 | Received date/time: 11/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2399008	1	11/10/24 08:13	11/10/24 12:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2399039	1	11/15/24 06:28	11/15/24 06:28	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2399039	5	11/18/24 17:26	11/18/24 17:26	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2401700	1	11/20/24 10:54	11/20/24 18:05	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2401727	1	11/18/24 12:55	11/18/24 23:58	UNP	Mt. Juliet, TN

MW-2 L1798033-02 GW

Collected by: JLC/BLS | Collected date/time: 11/04/24 14:15 | Received date/time: 11/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2399008	1	11/10/24 08:13	11/10/24 12:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2399039	1	11/15/24 06:41	11/15/24 06:41	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2399039	5	11/15/24 06:53	11/15/24 06:53	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2401700	1	11/20/24 10:54	11/20/24 18:07	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2401727	1	11/18/24 12:55	11/19/24 00:01	UNP	Mt. Juliet, TN

MW-3 L1798033-03 GW

Collected by: JLC/BLS | Collected date/time: 11/07/24 12:10 | Received date/time: 11/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2399008	1	11/10/24 08:13	11/10/24 12:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2399039	1	11/15/24 07:06	11/15/24 07:06	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2401700	1	11/20/24 10:54	11/20/24 18:08	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2401727	1	11/18/24 12:55	11/19/24 00:04	UNP	Mt. Juliet, TN

MW-6 L1798033-04 GW

Collected by: JLC/BLS | Collected date/time: 11/05/24 16:35 | Received date/time: 11/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2399008	1	11/10/24 08:13	11/10/24 12:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2399039	1	11/15/24 07:19	11/15/24 07:19	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2401700	1	11/20/24 10:54	11/20/24 18:10	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2401727	1	11/18/24 12:55	11/19/24 00:07	UNP	Mt. Juliet, TN

MW-7 L1798033-05 GW

Collected by: JLC/BLS | Collected date/time: 11/05/24 12:40 | Received date/time: 11/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2399008	1	11/10/24 08:13	11/10/24 12:41	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2399039	1	11/15/24 07:32	11/15/24 07:32	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2401700	1	11/20/24 10:54	11/20/24 18:15	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2401729	1	11/18/24 12:59	11/18/24 19:31	LD	Mt. Juliet, TN

MW-8 L1798033-06 GW

Collected by: JLC/BLS | Collected date/time: 11/04/24 17:05 | Received date/time: 11/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2399015	1	11/10/24 08:33	11/10/24 15:19	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2399039	1	11/15/24 08:10	11/15/24 08:10	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2401700	1	11/20/24 10:54	11/20/24 18:17	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2401729	1	11/18/24 12:59	11/18/24 19:35	LD	Mt. Juliet, TN

MW-9 L1798033-07 GW

Collected by: JLC/BLS | Collected date/time: 11/05/24 09:40 | Received date/time: 11/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2399018	1	11/10/24 08:41	11/11/24 10:18	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2399039	1	11/15/24 08:23	11/15/24 08:23	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2399039	5	11/15/24 08:36	11/15/24 08:36	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2401700	1	11/20/24 10:54	11/20/24 18:18	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2401729	1	11/18/24 12:59	11/18/24 19:38	LD	Mt. Juliet, TN

MW-10 L1798033-08 GW

Collected by: JLC/BLS | Collected date/time: 11/05/24 15:10 | Received date/time: 11/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2399018	1	11/10/24 08:41	11/11/24 10:18	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2399039	1	11/15/24 08:49	11/15/24 08:49	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2401700	1	11/20/24 10:54	11/20/24 18:20	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2401729	1	11/18/24 12:59	11/18/24 19:41	LD	Mt. Juliet, TN

MW-11 L1798033-09 GW

Collected by: JLC/BLS | Collected date/time: 11/05/24 14:20 | Received date/time: 11/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2399015	1	11/10/24 08:33	11/10/24 15:19	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2399039	1	11/15/24 09:02	11/15/24 09:02	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2401700	1	11/20/24 10:54	11/20/24 18:22	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2401729	1	11/18/24 12:59	11/18/24 19:54	LD	Mt. Juliet, TN

MW-14 L1798033-10 GW

Collected by: JLC/BLS | Collected date/time: 11/06/24 14:35 | Received date/time: 11/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2399015	1	11/10/24 08:33	11/10/24 15:19	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2399043	1	11/13/24 11:50	11/13/24 11:50	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2401700	1	11/20/24 10:54	11/20/24 18:23	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2401729	1	11/18/24 12:59	11/18/24 19:57	LD	Mt. Juliet, TN

MW-15 L1798033-11 GW

Collected by: JLC/BLS | Collected date/time: 11/06/24 13:10 | Received date/time: 11/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2399886	1	11/12/24 08:07	11/12/24 12:39	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2399043	1	11/13/24 12:58	11/13/24 12:58	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2401700	1	11/20/24 10:54	11/20/24 18:25	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2401729	1	11/18/24 12:59	11/18/24 20:00	LD	Mt. Juliet, TN

MW-16 L1798033-12 GW

Collected by: JLC/BLS | Collected date/time: 11/06/24 15:55 | Received date/time: 11/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2399890	1	11/12/24 08:14	11/12/24 11:49	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2399043	1	11/13/24 13:48	11/13/24 13:48	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2401700	1	11/20/24 10:54	11/20/24 18:27	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2401729	1	11/18/24 12:59	11/18/24 20:03	LD	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

MW-17 L1798033-13 GW

Collected by: JLC/BLS | Collected date/time: 11/06/24 17:20 | Received date/time: 11/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2399890	1	11/12/24 08:14	11/12/24 11:49	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2399043	1	11/13/24 14:05	11/13/24 14:05	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2401700	1	11/20/24 10:54	11/20/24 17:58	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2401729	1	11/18/24 12:59	11/18/24 20:06	LD	Mt. Juliet, TN

FIELD BLANK 1 L1798033-14 GW

Collected by: JLC/BLS | Collected date/time: 11/07/24 10:00 | Received date/time: 11/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2399890	1	11/12/24 08:14	11/12/24 11:49	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2399043	1	11/13/24 14:22	11/13/24 14:22	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2401700	1	11/20/24 10:54	11/20/24 18:29	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2401729	1	11/18/24 12:59	11/18/24 20:09	LD	Mt. Juliet, TN

DUPLICATE 1 (MW-16) L1798033-15 GW

Collected by: JLC/BLS | Collected date/time: 11/06/24 15:55 | Received date/time: 11/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2399890	1	11/12/24 08:14	11/12/24 11:49	JEG	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2399043	1	11/13/24 14:39	11/13/24 14:39	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2401700	1	11/20/24 10:54	11/20/24 18:30	MAP	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2401729	1	11/18/24 12:59	11/18/24 20:13	LD	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brittnie L Boyd
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	836		20.0	1	11/10/2024 12:41	WG2399008

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	101		1.00	1	11/15/2024 06:28	WG2399039
Fluoride	ND		0.150	1	11/15/2024 06:28	WG2399039
Sulfate	218		25.0	5	11/18/2024 17:26	WG2399039

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.281		0.200	1	11/20/2024 18:05	WG2401700

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	96.3		1.00	1	11/18/2024 23:58	WG2401727

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	631		10.0	1	11/10/2024 12:41	WG2399008

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	9.00		1.00	1	11/15/2024 06:41	WG2399039
Fluoride	0.160		0.150	1	11/15/2024 06:41	WG2399039
Sulfate	197		25.0	5	11/15/2024 06:53	WG2399039

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.217		0.200	1	11/20/2024 18:07	WG2401700

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	93.4		1.00	1	11/19/2024 00:01	WG2401727

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	358		10.0	1	11/10/2024 12:41	WG2399008

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	34.4		1.00	1	11/15/2024 07:06	WG2399039
Fluoride	ND		0.150	1	11/15/2024 07:06	WG2399039
Sulfate	54.3		5.00	1	11/15/2024 07:06	WG2399039

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	ND		0.200	1	11/20/2024 18:08	WG2401700

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	53.6		1.00	1	11/19/2024 00:04	WG2401727

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	374		10.0	1	11/10/2024 12:41	WG2399008

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	25.4		1.00	1	11/15/2024 07:19	WG2399039
Fluoride	ND		0.150	1	11/15/2024 07:19	WG2399039
Sulfate	85.4		5.00	1	11/15/2024 07:19	WG2399039

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	ND		0.200	1	11/20/2024 18:10	WG2401700

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	58.4		1.00	1	11/19/2024 00:07	WG2401727

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	426		10.0	1	11/10/2024 12:41	WG2399008

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	13.2		1.00	1	11/15/2024 07:32	WG2399039
Fluoride	0.369		0.150	1	11/15/2024 07:32	WG2399039
Sulfate	35.9		5.00	1	11/15/2024 07:32	WG2399039

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	ND		0.200	1	11/20/2024 18:15	WG2401700

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	50.2		1.00	1	11/18/2024 19:31	WG2401729

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	595		10.0	1	11/10/2024 15:19	WG2399015

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	53.8		1.00	1	11/15/2024 08:10	WG2399039
Fluoride	ND		0.150	1	11/15/2024 08:10	WG2399039
Sulfate	168		5.00	1	11/15/2024 08:10	WG2399039

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.391		0.200	1	11/20/2024 18:17	WG2401700

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	79.0		1.00	1	11/18/2024 19:35	WG2401729

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	753		13.3	1	11/11/2024 10:18	WG2399018

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	45.7		1.00	1	11/15/2024 08:23	WG2399039
Fluoride	ND		0.150	1	11/15/2024 08:23	WG2399039
Sulfate	238		25.0	5	11/15/2024 08:36	WG2399039

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.566		0.200	1	11/20/2024 18:18	WG2401700

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	91.3		1.00	1	11/18/2024 19:38	WG2401729

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	475		10.0	1	11/11/2024 10:18	WG2399018

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	51.9		1.00	1	11/15/2024 08:49	WG2399039
Fluoride	0.160		0.150	1	11/15/2024 08:49	WG2399039
Sulfate	71.7		5.00	1	11/15/2024 08:49	WG2399039

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	ND		0.200	1	11/20/2024 18:20	WG2401700

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	62.8		1.00	1	11/18/2024 19:41	WG2401729

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	305		10.0	1	11/10/2024 15:19	WG2399015

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	19.9		1.00	1	11/15/2024 09:02	WG2399039
Fluoride	0.202		0.150	1	11/15/2024 09:02	WG2399039
Sulfate	25.0		5.00	1	11/15/2024 09:02	WG2399039

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	ND		0.200	1	11/20/2024 18:22	WG2401700

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	54.6		1.00	1	11/18/2024 19:54	WG2401729

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	523		10.0	1	11/10/2024 15:19	WG2399015

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	47.4	J6	1.00	1	11/13/2024 11:50	WG2399043
Fluoride	0.211		0.150	1	11/13/2024 11:50	WG2399043
Sulfate	106	J6	5.00	1	11/13/2024 11:50	WG2399043

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.228		0.200	1	11/20/2024 18:23	WG2401700

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	70.5		1.00	1	11/18/2024 19:57	WG2401729

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	456		10.0	1	11/12/2024 12:39	WG2399886

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	43.7	J6	1.00	1	11/13/2024 12:58	WG2399043
Fluoride	ND		0.150	1	11/13/2024 12:58	WG2399043
Sulfate	99.0	J6	5.00	1	11/13/2024 12:58	WG2399043

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.219		0.200	1	11/20/2024 18:25	WG2401700

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	65.5		1.00	1	11/18/2024 20:00	WG2401729

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	812		20.0	1	11/12/2024 11:49	WG2399890

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	24.2		1.00	1	11/13/2024 13:48	WG2399043
Fluoride	0.456		0.150	1	11/13/2024 13:48	WG2399043
Sulfate	188		5.00	1	11/13/2024 13:48	WG2399043

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.366		0.200	1	11/20/2024 18:27	WG2401700

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	69.9		1.00	1	11/18/2024 20:03	WG2401729

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	463		10.0	1	11/12/2024 11:49	WG2399890

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	48.1		1.00	1	11/13/2024 14:05	WG2399043
Fluoride	0.185		0.150	1	11/13/2024 14:05	WG2399043
Sulfate	71.7		5.00	1	11/13/2024 14:05	WG2399043

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	ND		0.200	1	11/20/2024 17:58	WG2401700

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	63.4		1.00	1	11/18/2024 20:06	WG2401729

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	ND		10.0	1	11/12/2024 11:49	WG2399890

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	ND		1.00	1	11/13/2024 14:22	WG2399043
Fluoride	ND		0.150	1	11/13/2024 14:22	WG2399043
Sulfate	ND		5.00	1	11/13/2024 14:22	WG2399043

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	ND		0.200	1	11/20/2024 18:29	WG2401700

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	ND		1.00	1	11/18/2024 20:09	WG2401729

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	800		20.0	1	11/12/2024 11:49	WG2399890

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	24.2		1.00	1	11/13/2024 14:39	WG2399043
Fluoride	0.451		0.150	1	11/13/2024 14:39	WG2399043
Sulfate	188		5.00	1	11/13/2024 14:39	WG2399043

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Boron	0.384		0.200	1	11/20/2024 18:30	WG2401700

Metals (ICPMS) by Method 6020B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	69.9		1.00	1	11/18/2024 20:13	WG2401729

Method Blank (MB)

(MB) R4146065-1 11/10/24 12:41

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1797235-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1797235-01 11/10/24 12:41 • (DUP) R4146065-3 11/10/24 12:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	16400	16600	1	1.70		10

L1798033-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1798033-05 11/10/24 12:41 • (DUP) R4146065-4 11/10/24 12:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	426	423	1	0.707		10

Laboratory Control Sample (LCS)

(LCS) R4146065-2 11/10/24 12:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8940	102	85.0-115	

Method Blank (MB)

(MB) R4146087-1 11/10/24 15:19

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1798028-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1798028-04 11/10/24 15:19 • (DUP) R4146087-3 11/10/24 15:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	551	553	1	0.362		10

L1798166-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1798166-10 11/10/24 15:19 • (DUP) R4146087-4 11/10/24 15:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	514	512	1	0.390		10

Laboratory Control Sample (LCS)

(LCS) R4146087-2 11/10/24 15:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8850	101	85.0-115	

Method Blank (MB)

(MB) R4145994-1 11/11/24 10:18

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1796724-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1796724-01 11/11/24 10:18 • (DUP) R4145994-3 11/11/24 10:18

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	56800	59500	1	4.64		10

L1798033-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1798033-08 11/11/24 10:18 • (DUP) R4145994-4 11/11/24 10:18

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	475	472	1	0.634		10

Laboratory Control Sample (LCS)

(LCS) R4145994-2 11/11/24 10:18

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	9000	102	85.0-115	

Method Blank (MB)

(MB) R4146133-1 11/12/24 12:39

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1797808-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1797808-02 11/12/24 12:39 • (DUP) R4146133-3 11/12/24 12:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1510	1500	1	0.664		10

L1798191-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1798191-02 11/12/24 12:39 • (DUP) R4146133-4 11/12/24 12:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	247	241	1	2.46		10

Laboratory Control Sample (LCS)

(LCS) R4146133-2 11/12/24 12:39

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8830	100	85.0-115	

Method Blank (MB)

(MB) R4146271-1 11/12/24 11:49

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		10.0	10.0

L1797993-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1797993-01 11/12/24 11:49 • (DUP) R4146271-3 11/12/24 11:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	3430	3440	1	0.291		10

L1798191-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1798191-03 11/12/24 11:49 • (DUP) R4146271-4 11/12/24 11:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	256	258	1	0.778		10

Laboratory Control Sample (LCS)

(LCS) R4146271-2 11/12/24 11:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8750	99.4	85.0-115	

Method Blank (MB)

(MB) R4147043-1 11/15/24 01:21

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.547	1.00
Fluoride	U		0.0761	0.150
Sulfate	U		0.637	5.00

L1798028-20 Original Sample (OS) • Duplicate (DUP)

(OS) L1798028-20 11/15/24 01:46 • (DUP) R4147043-3 11/15/24 01:59

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	24.7	24.8	1	0.294		15
Fluoride	0.314	0.420	1	28.9	P1	15

L1798028-20 Original Sample (OS) • Duplicate (DUP)

(OS) L1798028-20 11/15/24 02:25 • (DUP) R4147043-5 11/15/24 02:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	191	191	5	0.0754		15

L1798028-21 Original Sample (OS) • Duplicate (DUP)

(OS) L1798028-21 11/15/24 02:50 • (DUP) R4147043-6 11/15/24 03:03

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	49.6	49.4	1	0.302		15
Fluoride	0.157	ND	1	8.23		15
Sulfate	75.0	74.9	1	0.128		15

Laboratory Control Sample (LCS)

(LCS) R4147043-2 11/15/24 01:33

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.0	97.4	80.0-120	
Fluoride	8.00	8.06	101	80.0-120	
Sulfate	40.0	39.2	98.1	80.0-120	

L1798028-20 Original Sample (OS) • Matrix Spike (MS)

(OS) L1798028-20 11/15/24 01:46 • (MS) R4147043-4 11/15/24 02:12

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	24.7	60.3	89.0	1	80.0-120	
Fluoride	8.00	0.314	8.46	102	1	80.0-120	
Sulfate	40.0	201	198	0.000	1	80.0-120	V

L1798028-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1798028-21 11/15/24 02:50 • (MS) R4147043-7 11/15/24 03:16 • (MSD) R4147043-8 11/15/24 03:29

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	49.6	79.9	79.9	75.8	75.7	1	80.0-120	J6	J6	0.0826	15
Fluoride	8.00	0.157	7.88	8.24	96.5	101	1	80.0-120			4.50	15
Sulfate	40.0	75.0	99.9	100	62.4	62.6	1	80.0-120	J6	J6	0.0933	15

Method Blank (MB)

(MB) R4146192-1 11/13/24 11:16

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.547	1.00
Fluoride	U		0.0761	0.150
Sulfate	U		0.637	5.00

L1798033-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1798033-10 11/13/24 11:50 • (DUP) R4146192-3 11/13/24 12:07

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	47.4	47.4	1	0.128		15
Fluoride	0.211	0.227	1	7.13		15
Sulfate	106	106	1	0.206		15

L1798033-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1798033-11 11/13/24 12:58 • (DUP) R4146192-6 11/13/24 13:15

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	43.7	43.7	1	0.0664		15
Fluoride	ND	ND	1	0.000		15
Sulfate	99.0	98.6	1	0.467		15

Laboratory Control Sample (LCS)

(LCS) R4146192-2 11/13/24 11:33

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	37.4	93.6	80.0-120	
Fluoride	8.00	7.66	95.8	80.0-120	
Sulfate	40.0	38.5	96.3	80.0-120	

L1798033-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1798033-10 11/13/24 11:50 • (MS) R4146192-4 11/13/24 12:24 • (MSD) R4146192-5 11/13/24 12:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	47.4	74.8	74.7	68.7	68.4	1	80.0-120	J6	J6	0.160	15
Fluoride	8.00	0.211	7.28	7.66	88.4	93.1	1	80.0-120			5.11	15
Sulfate	40.0	106	123	123	42.9	42.6	1	80.0-120	J6	J6	0.0877	15

L1798033-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L1798033-11 11/13/24 12:58 • (MS) R4146192-7 11/13/24 13:31

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	43.7	72.0	70.6	1	80.0-120	J6
Fluoride	8.00	ND	7.19	89.9	1	80.0-120	
Sulfate	40.0	99.0	116	43.4	1	80.0-120	J6

Method Blank (MB)

(MB) R4148626-1 11/20/24 17:55

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron	U		0.0200	0.200

Laboratory Control Sample (LCS)

(LCS) R4148626-2 11/20/24 17:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Boron	1.00	0.965	96.5	80.0-120	

L1798033-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1798033-13 11/20/24 17:58 • (MS) R4148626-4 11/20/24 18:01 • (MSD) R4148626-5 11/20/24 18:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron	1.00	ND	1.13	1.13	95.1	96.0	1	75.0-125			0.724	20

Method Blank (MB)

(MB) R4147510-1 11/18/24 22:35

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Calcium	U		0.0925	1.00

Laboratory Control Sample (LCS)

(LCS) R4147510-2 11/18/24 22:38

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/l	mg/l	%	%	
Calcium	5.00	4.83	96.5	80.0-120	

L1798031-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1798031-01 11/18/24 22:41 • (MS) R4147510-4 11/18/24 22:48 • (MSD) R4147510-5 11/18/24 22:51

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Calcium	5.00	80.3	84.1	84.1	74.8	75.1	1	75.0-125	V		0.0207	20

Method Blank (MB)

(MB) R4147471-1 11/18/24 19:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Calcium	U		0.0925	1.00

Laboratory Control Sample (LCS)

(LCS) R4147471-2 11/18/24 19:16

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Calcium	5.00	4.99	99.9	80.0-120	

L1798046-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1798046-01 11/18/24 19:19 • (MS) R4147471-4 11/18/24 19:25 • (MSD) R4147471-5 11/18/24 19:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	5.00	74.7	79.0	79.0	86.2	85.6	1	75.0-125			0.0325	20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Alliance Technical Group - Bryant, AR

219 Brown Lane
Little Rock, AR 72022

Billing Information:
Accounts Payable
219 Brown Ln.
Bryant, AR 72022

Pres Chk

Report to:
Jonathan Brown

Email To:
Jonathan.Brown@AllianceTG.com;jacob.colbert

Project Description:
Entergy ISES

City/State Collected: Newport, AR

Please Circle: PT MT CT ET

Phone: 501-847-7077

Client Project #
1145-21-081

Lab Project #
GBMCBAR-ENTERGYISES

Collected by (print):
JLC/BLS

Site/Facility ID #
ISES

P.O. #

Collected by (signature):
Jacob Colbert

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	B, Ca 250mlHDPE-HNO3	Cl, F, SO4 250mlHDPE-NoPres	TDS 1L-HDPE NoPres	Remarks	Sample # (lab only)
MW-1R		GW		11-5-24	1030	3	X	X	X	6.59	-01
MW-2		GW		11-4-24	1415					7.35	-02
MW-3		GW		11-7-24	1210					6.36	-03
MW-6		GW		11-5-24	1635					6.39	-04
MW-7		GW		11-5-24	1240					7.17	-05
MW-8		GW		11-4-24	1705					6.93	-06
MW-9		GW		11-5-24	0940					6.48	-07
MW-10		GW		11-5-24	1510					6.57	-08
MW-11		GW		11-5-24	1420					6.66	-09
MW-14		GW		11-6-24	1455					6.52	-10

Chain of Custody Page ___ of ___

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MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1490033
A027

Acctnum: GBMCBAR
Template: T210389
Prelogin: P1107822
PM: 829 - Brittnie L Boyd
PB:

Shipped Via: FedEX Ground

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: X N
Bottles arrive intact: X N
Correct bottles used: X N
Sufficient volume sent: X N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: X N
RAD Screen <0.5 mR/hr: X N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If pre	Time
Jacob Colbert	11-8-24	1340		—	PH – 10BDH0941 TRC – 3327A333	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 45		
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Devan G	Date: 11/9/24 PG	Time: 0900	Hold: Condition: NCF / OK

Company Name/Address:
Alliance Technical Group - Bryant, AR

219 Brown Lane
Little Rock, AR 72022

Billing Information:
Accounts Payable
219 Brown Ln.
Bryant, AR 72022

Pres Chk

Report to:
Jonathan Brown

Email To:
Jonathan.Brown@AllianceTG.com;jacob.colbert

Project Description:
Entergy ISES

City/State Collected: Vendor, AR

Please Circle: PT MT CT ET

Phone: **501-847-7077**

Client Project #
1145-21-081

Lab Project #
GBMCBAR-ENTERGYISES

Collected by (print):
JL / BLS

Site/Facility ID #
ISES

P.O. #

Collected by (signature):
Jacob Colbert

Immediately Packed on Ice N ____ Y ___

Rush? (Lab MUST Be Notified)
____ Same Day ____ Five Day
____ Next Day ____ 5 Day (Rad Only)
____ Two Day ____ 10 Day (Rad Only)
____ Three Day

Date Results Needed

Quote #

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	B, Ca 250mlHDPE-HNO3	Cl, F, SO4 250mlHDPE-NoPres	TDS 1L-HDPE NoPres	Remarks	Sample # (lab only)
MW-15	G	GW		11-6-24	1310	3	x	x	x	pH 6.56	-11
MW-16	"	GW		11-6-24	1555	"	"	"	"	6.90	-12
MW-17	"	GW		11-6-24	1720	"	"	"	"	6.44	-13
FIELD BLANK 1	"	GW		11-7-24	1000	"	"	"	"	-	-14
DUPLICATE 1 (MW-16)	"	GW		11-6-24	1555	"	"	"	"	6.90	-15
		GW									
		GW									
		GW									
		GW									
		GW									

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1498033

Table #

Acctnum: **GBMCBAR**

Template: **T210389**

Prelogin: **P1107822**

PM: **829 - Brittnie L Boyd**

PB:

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Jacob Colbert	11-8-24	1340		—
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 45
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Damian G	Date: 11.9.24 Time: 0900

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y / N
COC Signed/Accurate:		Y / N
Bottles arrive intact:		Y / N
Correct bottles used:		Y / N
Sufficient volume sent:		Y / N
If Applicable		
VOA Zero Headspace:		Y / N
Preservation Correct/Checked:		Y / N
RAD Screen <0.5 mR/hr:		Y / N

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

L1798033

Fed Ex tracking #	Gun ID	Temperature
417169104309	TLAG	0.6 to =0.6
417169104277	TLAG	0.4 to =0.4
417169157227	TLAG	1.8 to =1.8
417169104397	TLAG	0.9 to =0.9
417169154261	TLAG	1.7 to =1.7
417169104331	TLAG	0.2 to =0.2
417169154283	TLAG	0.5 to =0.5
417169157076	TLAG	0.1 to =0.1
417169154310	TLAG	3.3 to =3.3
417169104294	TLAG	1.0 to =1.0
417169104370	TLAG	1.1 to =1.1

Dewang
Name

11.9.24
Date

APPENDIX D
FIELD SAMPLING FORMS

GROUNDWATER SAMPLING LOG

SITE NAME: ISES	SITE LOCATION:	
WELL NO: 701 S - R	SAMPLE ID:	DATE: 6.11.24

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): 33.83	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

PUMP OR TUBING DEPTH IN WELL (feet):	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1012	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or mS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1030					6.71	19.59	1,410	2.69	191	1.72	Clear
1035					6.72	19.60	1,400	2.75	193	1.93	"
1040					6.72	19.63	1,400	2.66	193	1.28	"

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1040	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N	TUBING Y N (replaced)	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp			

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: ISES	SITE LOCATION:	
WELL NO: 703 S	SAMPLE ID:	DATE: 6-11-24

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): 33.01	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

PUMP OR TUBING DEPTH IN WELL (feet):	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1647	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1706					6.68	18.12	635	3.31	196	2.23	clear
1705					6.70	18.02	643	3.33	197	1.75	"
1710					6.72	18.09	648	3.23	197	1.56	"

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1710	SAMPLING ENDED AT: 1730
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N	TUBING Y N (replaced)	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp			

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

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2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

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GROUNDWATER SAMPLING LOG

SITE NAME: TSLS	SITE LOCATION:	
WELL NO: 706 S	SAMPLE ID:	DATE: 6.11.24

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): 30.30	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

PUMP OR TUBING DEPTH IN WELL (feet):	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1738	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1745					6.43	17.45	539	2.35	219	1.70	Clear
1750					6.37	17.40	539	2.27	222	1.43	"
1755					6.39	17.44	538	2.23	224	1.08	"

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
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PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1755	SAMPLING ENDED AT: 1905
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N	TUBING Y N (replaced)	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp			

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NOTES: 1. **The above do not constitute all of the information required by**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: ISES	SITE LOCATION:	
WELL NO: 7075	SAMPLE ID:	DATE: 6.11.24

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): 30.48	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

PUMP OR TUBING DEPTH IN WELL (feet):	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1107	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1120					7.34	18.26	729	4.62	181	0.89	Clear
1125					7.35	18.22	729	4.64	184	0.94	"
1130					7.36	18.21	731	4.51	185	1.19	"

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1130	SAMPLING ENDED AT: 1147
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N	TUBING Y N (replaced)	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS: 7075 – Bad lab

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: ISES	SITE LOCATION:	
WELL NO: 7085	SAMPLE ID:	DATE: 6.11.24

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): 31.24	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

PUMP OR TUBING DEPTH IN WELL (feet):	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 0832	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or mS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
0845					6.51	18.50	984	4.49	195	2.42	Clear
0850					6.54	18.57	976	4.39	194	1.78	"
0855					6.56	18.60	961	4.20	196	1.18	"

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 0855	SAMPLING ENDED AT: 0916
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N	TUBING Y N (replaced)	DUPLICATE: (Y) N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS: Horiba + HACH recalibrated prior to purging

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

* Duplicate 2 taken @ 0915

GROUNDWATER SAMPLING LOG

SITE NAME: ISES	SITE LOCATION:	
WELL NO: 7095	SAMPLE ID:	DATE: 6-11-24

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): 30.13	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

PUMP OR TUBING DEPTH IN WELL (feet):	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 0912	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS)/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
0935					6.53	18.50	978	2.76	191	2.87	Clear
0940					6.53	18.59	977	2.74	193	2.23	Clear
0945					6.54	18.56	977	2.75	196	1.37	"

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 0945	SAMPLING ENDED AT: 1007
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N	TUBING Y N (replaced)	DUPLICATE: (Y) N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp			

REMARKS: Duplicate 1 @ 0945

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: ISES	SITE LOCATION:	
WELL NO: 7105	SAMPLE ID:	DATE: 6.11.24

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): 33.15	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

PUMP OR TUBING DEPTH IN WELL (feet):	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1556	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or mS/gm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1610					6.64	18.60	744	2.10	197	1.15	clear
1615					6.62	18.52	744	2.09	200	1.90	"
1620					6.64	18.54	742	2.16	201	1.89	"

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1620	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N	TUBING Y N (replaced)	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp			

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: ISES	SITE LOCATION:	
WELL NO: 711 S	SAMPLE ID:	DATE: 6.11.24

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): 32.25	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

PUMP OR TUBING DEPTH IN WELL (feet):	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1327	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1345					6.91	17.87	578	0.68	14	6.54	Clear
1350					6.91	17.87	583	0.68	15	9.80	
1355					6.89	17.85	587	0.69	17	5.86	
1400					6.88	17.85	589	0.67	17	5.61	
1405					6.89	17.86	584	0.72	19	5.37	

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1405	SAMPLING ENDED AT: 1419
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N	TUBING Y N (replaced)	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp			

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: ISES	SITE LOCATION:	
WELL NO: 714 S	SAMPLE ID:	DATE: 6.12.24

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): 33,45	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

PUMP OR TUBING DEPTH IN WELL (feet):	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1050	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1100					6.95	20.45	860	3.02	153	1.12	Clear
1105					6.93	20.28	860	2.97	168	0.63	Clear
1110					6.91	20.29	857	2.87	179	0.81	
1115					6.90	20.32	854	2.70	186	0.74	
1120					6.88	20.20	851	2.66	191	0.66	
1125					6.88	20.18	851	2.64	196	0.84	

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1125	SAMPLING ENDED AT: 1145
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N	TUBING Y N (replaced)	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp			

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: JSES	SITE LOCATION:	
WELL NO: 715 S	SAMPLE ID:	DATE: 6.12.24

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): 31.77	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

PUMP OR TUBING DEPTH IN WELL (feet):	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 0957	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1010					6.94	19.55	990	0.24	-54	13.1	Clear
1015					6.91	19.53	1,020	0.09	-53	13.8	"
1020					6.90	19.55	1,020	0.03	-56	14.0	"

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1020	SAMPLING ENDED AT: 1038
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N	TUBING Y N (replaced)	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp			

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: ISES	SITE LOCATION:	
WELL NO: 7165	SAMPLE ID:	DATE: 6.12.24

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): 34.04	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

PUMP OR TUBING DEPTH IN WELL (feet):	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1151	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1205					7.12	18.85	1,500	3.64	200	3.36	Clear
1210					7.12	18.76	1,480	3.52	203	3.62	"
1215					7.12	18.77	1,470	3.53	207	2.62	"

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1215	SAMPLING ENDED AT: 1232
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N	TUBING Y N (replaced)	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp			

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: TSES	SITE LOCATION:	
WELL NO: 717 S	SAMPLE ID:	DATE: 6.12.24

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): 33.27	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

PUMP OR TUBING DEPTH IN WELL (feet):	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1240	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1255					6.67	19.01	778	2.25	226	1.47	Clear
1300					6.66	19.02	776	2.31	228	0.68	"
1305					6.65	18.97	784	2.26	232	0.59	"

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1305	SAMPLING ENDED AT: 1325
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N	TUBING Y N (replaced)	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp			

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: ISES	SITE LOCATION: Newark, AR
WELL NO: 7015-R MW-1	SAMPLE ID: 7015-R MW-1
	DATE: 11-5-24

PURGING DATA

WELL DIAMETER (inches): 2in	TUBING DIAMETER (inches): 1/4	TOTAL WATER DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 33.89	PURGE PUMP TYPE OR BAILER: Bladder

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = N/A gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = N/A gallons

PUMP OR TUBING DEPTH IN WELL (feet): Build In	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1005	PURGING ENDED AT: 1030	TOTAL VOLUME PURGED (gallons): N/A

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1020					6.60	18.99	1,360	9.25	343	0.8	Clear
1025					6.60	19.07	1,350	9.41	345	1.0	"
1030					6.59	19.07	1,340	8.51	347	0.1	"

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: SLC / BLS / ATG	SAMPLER(S) SIGNATURE(S): David Cornell	SAMPLING INITIATED AT: 1030	SAMPLING ENDED AT: 1045
PUMP OR TUBING DEPTH IN WELL (feet): Build In	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: ISES	SITE LOCATION: Newark, AR	
WELL NO: 7035 MW-3	SAMPLE ID: 7035 MW-3	DATE: 11-7-24

PURGING DATA

WELL DIAMETER (inches): 2in	TUBING DIAMETER (inches): 1/4	TOTAL WATER DEPTH (feet): -	STATIC DEPTH TO WATER (feet): 33.89	PURGE PUMP TYPE OR BAILER: Bladder

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = N/A gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = N/A gallons

PUMP OR TUBING DEPTH IN WELL (feet): 35.00	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1125	PURGING ENDED AT: 1210	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1145					6.34	17.52	614	5.61	378	6.6	clear
1150					6.25	18.33	629	5.28	376	6.3	"
1155					6.28	17.95	619	4.94	375	6.0	"
1200					6.35	17.90	599	4.09	373	3.5	"
1205					6.34	17.82	595	3.87	372	3.5	"
1210					6.36	17.82	593	3.79	374	3.6	"

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: SLL - BLS / ATG	SAMPLER(S) SIGNATURE(S): Sarah Collins	SAMPLING INITIATED AT: 1210	SAMPLING ENDED AT: 1226
PUMP OR TUBING DEPTH IN WELL (feet): 35.00	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP (Y) N	TUBING (Y) N (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp			

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: ISES	SITE LOCATION: Newark, AR	
WELL NO: 7065 MW6	SAMPLE ID: 7065 MW6	DATE: 11-5-24

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4	TOTAL WATER DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 31.29	PURGE PUMP TYPE OR BAILER: Bladder

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = N/A gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = N/A gallons

PUMP OR TUBING DEPTH IN WELL (feet): Bail to	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1610	PURGING ENDED AT: 1635	TOTAL VOLUME PURGED (gallons): N/A

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1625					6.38	17.09	604	6.96	349	1.0	Clear
1630					6.44	17.09	601	6.76	350	0.6	"
1635					6.39	17.08	599	6.70	358	1.0	

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: SLC / BLS ATC	SAMPLER(S) SIGNATURE(S): Sarah Colbert	SAMPLING INITIATED AT: 1635	SAMPLING ENDED AT: 1643
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp			

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: ISES	SITE LOCATION: Newark, DE	
WELL NO: 7075 MW-7	SAMPLE ID: 7075 MW7	DATE: 11-5-24

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet): –	STATIC DEPTH TO WATER (feet): 31.13	PURGE PUMP TYPE OR BAILER: Bladder

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) N/A = (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) N/A = gallons + (gallons/foot X feet) + gallons = gallons

PUMP OR TUBING DEPTH IN WELL (feet): Built in	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1215	PURGING ENDED AT: 1240	TOTAL VOLUME PURGED (gallons): N/A

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1230					7.17	18.31	693	13.46	333	2.3	Clear
1235					7.17	18.30	698	13.34	339	1.7	"
1240					7.17	18.27	701	13.25	342	1.4	"

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: JLC, BLS / ATG	SAMPLER(S) SIGNATURE(S): Brenda Colbert	SAMPLING INITIATED AT: 1240	SAMPLING ENDED AT: 1250
PUMP OR TUBING DEPTH IN WELL (feet): Built in	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: TSES	SITE LOCATION: Newark, AR	
WELL NO: 7085 - MW8	SAMPLE ID: 7085 - MW8	DATE: 11-4-24

PURGING DATA

WELL DIAMETER (inches): 2 in	TUBING DIAMETER (inches): 1/4	TOTAL WATER DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 32.14	PURGE PUMP TYPE OR BAILER: Bladder

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) N/A = (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) N/A = gallons + (gallons/foot X feet) + gallons = gallons

PUMP OR TUBING DEPTH IN WELL (feet): Built in	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1640	PURGING ENDED AT: 1705	TOTAL VOLUME PURGED (gallons): N/A

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1655					6.99	18.73	929	2.29	363	0.0	Clear
1700					6.93	18.67	927	2.39	363	0.0	"
1705					6.93	18.63	924	2.46	365	0.0	"

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: JLC BLS ATG	SAMPLER(S) SIGNATURE(S): Jared Colbert	SAMPLING INITIATED AT: 1705	SAMPLING ENDED AT: 1717
PUMP OR TUBING DEPTH IN WELL (feet): Built in	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD-DECONTAMINATION: PUMP Y (N)	TUBING Y N (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: ISES		SITE LOCATION: Newark, DE	
WELL NO: 7095 MW-9	SAMPLE ID: 7095 MW-9		DATE: 11-5-24

PURGING DATA

WELL DIAMETER (inches): 2 in	TUBING DIAMETER (inches): 1/4	TOTAL WATER DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 31.10	PURGE PUMP TYPE OR BAILER: Bladder

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) N/A = (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) N/A = gallons + (gallons/foot X feet) + gallons = gallons

PUMP OR TUBING DEPTH IN WELL (feet): Built in pump	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 0910	PURGING ENDED AT: 0940	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
0930					6.49	18.42	1,100	0.12	341	1.5	Clear
0935					6.49	18.41	1,100	0.08	343	1.8	"
0940					6.48	18.36	1,100	0.32	343	1.4	"

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: JLC / BLS ATG	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 0940	SAMPLING ENDED AT: 0953
PUMP OR TUBING DEPTH IN WELL (feet): Built in pump	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS: Horiba re-calibrated prior to purging

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: TSES	SITE LOCATION: Newark, AR	
WELL NO: 7105 MW10	SAMPLE ID: 7105 MW-10	DATE: 11-5-24

PURGING DATA

WELL DIAMETER (inches): 2in	TUBING DIAMETER (inches): 1/4	TOTAL WATER DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 23.90	PURGE PUMP TYPE OR BAILER: Bladder

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = N/A gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = N/A gallons

PUMP OR TUBING DEPTH IN WELL (feet): Built in Pump	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1442	PURGING ENDED AT: 1510	TOTAL VOLUME PURGED (gallons): —

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1500					6.56	18.11	781	6.63	313	0.4	clear
1505					6.56	18.03	773	6.46	318	0.4	"
1510					6.57	18.00	763	6.23	321	0.8	"

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: DLC/BLS MTS	SAMPLER(S) SIGNATURE(S): Dustin Colson	SAMPLING INITIATED AT: 1518	SAMPLING ENDED AT: 1524
PUMP OR TUBING DEPTH IN WELL (feet): Built in	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: TSF-5	SITE LOCATION: Newark, DE	
WELL NO: 715 - MW11	SAMPLE ID: 715 MW-11	DATE: 11-5-24

PURGING DATA

WELL DIAMETER (inches): 2 in	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 34.05	PURGE PUMP TYPE OR BAILER: Bladder

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = N/A gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = N/A gallons

PUMP OR TUBING DEPTH IN WELL (feet): Built in pump	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1305	PURGING ENDED AT: 1420	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1340					6.66	17.58	496	20.10	309	9.7	clear
1345					6.69	17.59	495	16.11	306	10.4	"
1350					6.66	17.61	494	14.63	305	7.0	"
1355					6.72	17.61	489	14.27	302	6.0	"
1400					6.67	17.58	488	12.91	306	6.5	"
1405					6.66	17.58	485	11.81	303	4.1	"
1410					6.72	17.58	483	10.94	306	1.9	"
1415					6.67	17.58	483	10.26	310	0.0	"
1420					6.66	17.63	492	10.11	309	4.6	"

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; 1" = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: JLC/BLS ATG	SAMPLER(S) SIGNATURE(S): Sarah Cashman	SAMPLING INITIATED AT: 1420	SAMPLING ENDED AT: 1433
PUMP OR TUBING DEPTH IN WELL (feet): Built in pump	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y N (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: TSES	SITE LOCATION: Newark, AR		
WELL NO: 7145 MW-14	SAMPLE ID: 7145 MW-14	DATE: 11-6-24	

PURGING DATA

WELL DIAMETER (inches): 2 in	TUBING DIAMETER (inches): 1/4	TOTAL WATER DEPTH (feet): –	STATIC DEPTH TO WATER (feet): 33.89	PURGE PUMP TYPE OR BAILER: Bladder

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = N/A gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = N/A gallons

PUMP OR TUBING DEPTH IN WELL (feet): 35.50	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1338	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1355					6.54	19.55	806	7.37	247	4.9	Clear
1400					6.53	19.85	805	7.37	300	6.5	
1405					6.55	19.46	807	7.16	304	8.6	
1410					6.53	19.44	813	6.67	307	9.0	
1415					6.54	19.67	719	6.36	309	5.6	
1420					6.53	19.41	823	3.78	311	5.9	
1425					6.53	19.28	825	3.58	312	4.3	
1430					6.54	19.26	825	3.50	313	3.4	
1435					6.52	19.28	824	3.45	315	2.7	

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: JLC/BLS ATG	SAMPLER(S) SIGNATURE(S): Jacob Colvin	SAMPLING INITIATED AT: 1435	SAMPLING ENDED AT: 1447
PUMP OR TUBING DEPTH IN WELL (feet): 35.50	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP (Y) N	TUBING (Y) N (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: ISES		SITE LOCATION: Newark, AR	
WELL NO: 715 S MW 15	SAMPLE ID: 715 S MW-15		DATE: 11-6-24

PURGING DATA

WELL DIAMETER (inches): 2in	TUBING DIAMETER (inches): 1/4	TOTAL WATER DEPTH (feet): –	STATIC DEPTH TO WATER (feet): 32.51	PURGE PUMP TYPE OR BAILER: Bladder

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = N/A gallons

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = N/A gallons

PUMP OR TUBING DEPTH IN WELL (feet): 34.50	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1225	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or mS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1245					6.59	19.17	733	0.98	-45	12.0	clear
1250					6.57	19.22	726	0.88	-56	13.4	
1255					6.58	18.88	714	0.83	-60	14.6	
1300					6.57	18.77	703	0.76	-63	8.5	
1305					6.58	18.86	714	0.76	-63	8.3	
1310					6.56	19.07	706	0.74	-66	8.6	

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: JLC / BLS ATG	SAMPLER(S) SIGNATURE(S): [signature]	SAMPLING INITIATED AT: 1310	SAMPLING ENDED AT: 1326
PUMP OR TUBING DEPTH IN WELL (feet): 34.50	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP (Y) N	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: TSES		SITE LOCATION: Newark, AR	
WELL NO: 7165 MW-16	SAMPLE ID: 7165 MW-16		DATE: 11-6-24

PURGING DATA

WELL DIAMETER (inches): 2 in	TUBING DIAMETER (inches): 1/4	TOTAL WATER DEPTH (feet): —	STATIC DEPTH TO WATER (feet): 34.60	PURGE PUMP TYPE OR BAILER: Bladder

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = N/A gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = N/A gallons

PUMP OR TUBING DEPTH IN WELL (feet): 36.50	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1501	PURGING ENDED AT: 1555	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1520					6.94	18.67	1,410	7.02	325	20.9	clear
1525					6.93	18.61	1,380	6.46	327	21.2	clear
1530					6.92	18.58	1,370	6.19	327	20.2	"
1535					6.92	18.44	1,350	5.84	328	17.4	"
1540					6.91	18.58	1,340	5.54	328	15.3	"
1545					6.91	18.42	1,320	5.26	328	12.3	"
1550					6.91	18.26	1,310	5.11	329	11.8	"
1555					6.90	18.32	1,300	5.01	330	12.2	

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./FL): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: SLC / BLS ATG	SAMPLER(S) SIGNATURE(S): Brooke Coleman	SAMPLING INITIATED AT: 1555	SAMPLING ENDED AT: 1615
PUMP OR TUBING DEPTH IN WELL (feet): 36.50	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP (Y) N	TUBING (Y) N (replaced)	DUPLICATE: (Y) N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS: Duplicate 1 taken

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

GROUNDWATER SAMPLING LOG

SITE NAME: 7175		SITE LOCATION: Newark, AR	
WELL NO: 7175 MW-17	SAMPLE ID: 7175 MW-17		DATE: 11-6-24

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4	TOTAL WATER DEPTH (feet): -	STATIC DEPTH TO WATER (feet): 33.87	PURGE PUMP TYPE OR BAILER: Bladder

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = N/A gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = N/A gallons

PUMP OR TUBING DEPTH IN WELL (feet): 36.60	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 1625	PURGING ENDED AT: 1720	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	Redox (mV)	Turbidity (NTU)	COLOR / ODOR (describe)
1645					6.58	18.06	661	7.18	354	0.6	Clear
1650					6.57	17.95	660	7.02	357	0.8	"
1655					6.52	17.92	671	5.98	360	0.8	"
1700					6.48	17.95	677	5.58	360	0.3	"
1705					6.47	18.21	724	4.74	358	1.8	"
1710					6.44	17.90	751	4.26	358	2.8	"
1715					6.43	17.89	753	4.20	358	3.2	"
1720					6.44	17.81	756	3.97	357	3.2	"

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: JLC / BLS ATLA	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1720	SAMPLING ENDED AT: 1740
PUMP OR TUBING DEPTH IN WELL (feet): 36.00	TUBING MATERIAL CODE:	FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP (Y) N	TUBING (Y) N (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	Final pH/ Temp	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS

pH: ± 0.1 units **Temperature:** ± 3% **Specific Conductance:** ± 3% **Dissolved Oxygen:** (10% for values greater than 0.5 mg/L, if three dissolved oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** (10% for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:** ± 10 millivolts

APPENDIX E
ALTERNATE SOURCE DEMONSTRATION

Alternate Source Demonstration

Independence Steam Electric Station
Coal Ash Disposal Landfill

Newark, Arkansas

January 2025

Prepared For

Entergy Arkansas, LLC
Independence Steam Electric Station
Point Ferry Road
Newark, Arkansas 72562

Submitted By

TRC Environmental Corporation
4545 Sherwood Common Boulevard
Building 3, Suite A
Baton Rouge, LA 70809

Jason S. House
Senior Project Manager

Nakia W. Addison, P.E.
Operations Manager

Executive Summary

Entergy Arkansas, LLC (EAL) owns and operates the Entergy Independence Steam Electric Station (Plant), a coal-fired power plant, to generate electricity. The Plant is located at Point Ferry Road near Newark, Independence County, Arkansas. The Plant has been generating electricity since the early 1980s. As a byproduct of electrical generation, coal combustion residuals (CCRs) historically generated at the Plant have been managed at the:

- On-Site Coal Ash Disposal Landfill (CADL); and
- Water Recycle Ponds – East and West (Ponds).

EAL performed the most recent semiannual detection monitoring sampling (1st Half 2024) in June 2024 for the coal ash disposal landfill (CADL) pursuant to the *Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule*, 40 CFR Part 257 (CCR Rule). The CADL constitute the coal combustion residuals (CCR) Unit per the CCR Rule. Per 40 CFR 257.94, the samples were analyzed for the Appendix III detection monitoring parameters. Upon receipt of the laboratory analytical results, statistical analysis was performed.

In accordance with the statistical analyses, the following statistically significant increase (SSI) above background concentrations was identified in monitoring well MW-1R, based on intrawell prediction limits statistical analyses:

- Boron (MW-1R).

The information provided in this report serves as Entergy's alternate source demonstration (ASD) prepared in accordance with 40 CFR 257.94(e)(2) and successfully demonstrates that the SSI is not due to a release from the CCR Unit to groundwater, but is due to the following:

- Natural groundwater geochemistry conditions such as pH, electrical conductivity (EC), oxidation-reduction potential (ORP) and the naturally occurrence of sulfide minerals; and/or
- Vertical migration of naturally occurring higher boron concentrations from the deep subhorizon.

Therefore, based on the information provided in this ASD report, Entergy will continue to conduct semiannual detection monitoring for Appendix III constituents in accordance with 40 CFR 257.94 at the certified groundwater monitoring well system (Certified Monitoring Well Network) for the CCR Unit.

Table of Contents

Section 1
Introduction

1.1 Background

Entergy Arkansas, LLC (EAL) owns and operates the Entergy Independence Steam Electric Station (Plant), a coal-fired power plant, to generate electricity. The Plant is located at Point Ferry Road near Newark, Independence County, Arkansas (**Figure 1**). The Plant is located at approximate latitude 35˚40'39" N, longitude 91˚24'42" W (front gate).

The Plant has been generating electricity since the early 1980s. As a byproduct of electrical generation, coal combustion residuals (CCRs) historically generated at the Plant have been managed at the Plant at the:

- On-Site Coal Ash Disposal Landfill (CADL); and
- Water Recycle Ponds – East and West (Ponds).

The *Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule,* 40 CFR Part 257 (CCR Rule) became effective on October 19, 2015, and established national criteria for the management of CCR at electrical generating facilities. EAL initially identified the CADL as a CCR Unit when the CCR Rule became effective on October 19, 2015. The approximate limits of Cells 12 through 15, the closed disposal areas, and the undeveloped, future disposal areas within the ADEQ-permitted footprint of the CADL are shown in (**Figure 2)**.

1.2 Groundwater Monitoring and Statistical Analysis

1.2.1 Groundwater Monitoring System

In accordance with 40 CFR 257.90 through 257.94, EAL installed a groundwater monitoring system for CADL and has collected samples from the Certified Monitoring Well Network for laboratory analysis for CCR constituents and performed statistical analysis of the collected samples. Entergy installed a Certified Monitoring Well Network for the CCR Unit in accordance

with 40 CFR 257.90 and 257.91. The Certified Monitoring Well Network consists of 14 wells. All monitoring wells at the landfill are screened in the underlying alluvial aquifer, which is the uppermost aquifer and the zone of interest for groundwater monitoring.

Pursuant to 40 CFR 257.91(f), the groundwater monitoring system was certified by a Registered Arkansas P.E. that stated that the network was designed and constructed to meet the requirements of 40 CFR 257.91 (see Groundwater Monitoring System Certification, (TRC, 2019b)).

A groundwater sampling and analysis program including selection of statistical procedures to evaluate groundwater analytical data was prepared per the CCR Rule (see Groundwater Sampling and Analysis Plan (FTN, 2019)). Eight quarterly background CCR detection monitoring events were initially performed from July 2016 through May 2018 in accordance with 40 CFR 257.93(d) and 257.94(b). The eight quarterly detection monitoring background samples were analyzed for the Appendix III to Part 257 – Constituents for Detection Monitoring and the Appendix IV to Part 257 – Constituents for Assessment Monitoring per 40 CFR 257.94(b). After completion of the initial eight background monitoring events and establishment of background groundwater quality, EAL implemented a semi-annual Detection Monitoring Program with laboratory analysis for the Appendix III to Part 257 – Constituents for Detection Monitoring per the requirements of 40 CFR 257.94.

1.2.2 Statistical Analytical Method

Statistical analysis of the semi-annual detection monitoring analytical data was performed per 40 CFR Part 297.93(f). As described in the Statistical Methods Certification (TRC, October 16, 2017), intrawell statistical evaluation was performed due to the low groundwater velocities for the uppermost aquifer system. As described in the certification:

- "Intrawell statistical evaluations are within well comparisons. In the case of intrawell prediction limits, historical data from within a given well for a given parameter will be used to construct a limit. Compliance points will be compared to the limit to determine whether a change is occurring on a per-well/per-parameter basis. If the assumption of normality is not rejected for the background data set, then a parametric prediction limit will be calculated. If the assumption of normality is rejected for the background data set, then a non-parametric prediction limit will be calculated, in which case, the prediction limit will be based on the highest value in the background data set. For pH, both upper and lower prediction limits will be used for intrawell evaluations."

After completion of each semiannual detection monitoring event, the Appendix III laboratory analytical data were statistically evaluated to identify potential SSIs for Appendix III constituents above background levels. In accordance with 40 CFR 257.93(f)(6), Entergy obtained certification by a qualified Arkansas-registered P.E. stating that the selected statistical method is appropriate for evaluating the groundwater monitoring data for the CCR Unit (see Statistical Methods Certification, TRC, October 16, 2017).

Pursuant to 40 CFR 257.93(h), statistical analysis and re-analysis of the laboratory analytical data were performed to identify potential SSIs for the 1st Half 2024 semiannual detection monitoring event. One SSI was identified for Boron at monitoring well MW-1R.

1.3 Purpose

Pursuant to 40 CFR 257.94(e)(2), Entergy may demonstrate that a source other than the CCR Unit caused the SSIs identified or that the SSIs resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. The purpose of this report is to provide written documentation of the successful ASD for the SSI identified for the 1st Half 2024 semiannual detection monitoring event, pursuant to 40 CFR 257.94(e)(2) of the CCR Rule.

Section 2
Hydrogeology and Background Groundwater Quality

2.1 Site Hydrogeology

From the ground surface down, a description of the stratigraphic units and hydrogeology of the stratigraphic units underlying the CADL are as follows:

- **Upper Confining Unit**. An upper confining unit consisting of clays and silts is present at the ground surface down to 23 to 28 feet below ground surface (bgs). Vertical hydraulic conductivity of the upper confining unit is estimated to range from 4.0×10^{-9} to 7.8×10^{-7} centimeters per second (cm/s) based on flexible wall permeability tests (FTN Associates, Ltd. (FTN) 2001, FTN and Golder Associates Inc. 2017).

- **Alluvial Aquifer**. An alluvial aquifer consisting of fine to medium grained sandy sub rounded to sub angular chert gravel with varying amounts of silt and clay is present beneath the upper confining unit. The alluvial aquifer is the uppermost laterally continuous water bearing zone beneath the Ponds and represents the uppermost aquifer pursuant to the CCR Rule. The alluvial aquifer extends to depths of 85 to 90 feet bgs. Hydraulic conductivity of the alluvial aquifer is estimated to range from 2.1×10^{-2} to 6×10^{-2} cm/s (FTN 2015).

- **Bedrock**. Pennsylvanian aged bedrock consisting of chert, limestone, sandstone, and carbonaceous shale and associated residuum at the bedrock surface are present beneath the alluvial aquifer (Albin, 1965). The top of the bedrock is approximately 85 to 90 feet bgs.

2.2 Groundwater Geochemistry

Understanding the geochemistry of groundwater is essential to examining the groundwater monitoring data, explaining the relationships between the characteristics, and analyzing natural as well as anthropogenic impacts on groundwater systems. Source apart, geochemical processes play an important role in controlling the chemical composition of groundwater, including carbonate equilibrium, oxidation-reduction reactions and adsorption-desorption processes. Based the site geological conditions, a discussion of boron is presented below.

2.2.1 Boron in Groundwater

Boron is normally considered as a minor constituent in groundwater as it is generally present in low concentrations (Palmucci & Rusi, 2014). Source apart, the primary origin of boron in groundwater is the process of sorption and desorption to the mineral surfaces including rocks and soils (Ravenscroft & McArthur, 2004). The regulatory guideline values of boron in drinking water are given at 0.5 mg/L by World Health Organization (WHO) and 0.9 mg/L by USEPA in human consumption for long-term exposure (WHO, 2008; USEPA, 2008). Boron is often cited as contamination tracer and usually occurs as a non-ionized form as H_3BO_3 in soils at pH<8.5, but above this pH, it exists as an anion, $B(OH)_4^-$ (Upadhyaya et al., 2014).

The factors that may influence the boron concentration in groundwater include weathering, human activity, evaporative concentration, ion-exchange, electrical conductivity (EC), and pH. Ravenscroft & McArthur (2004) studied the mechanism of regional boron enrichment of groundwater, and the results indicated that the main process that caused high boron enrichment of groundwater was the flushing of fresh groundwater rather than geological setting, climate or age. The desorption of Boron from mineral surfaces could be affected by pH, ionic strength, salinity and HCO_3/CO_3. Decreasing of pH will increase the dissolution of boron from the mineral surfaces. Boron adsorption favors high pH and boron desorption favors low pH on rocks, soils and organic matters (Hollis et al., 1988; Keren & Communar, 2009; Tabelin et al., 2014).

A few more research studies confirmed that the presence of boron in groundwater depends on the EC (salinity), such that it increases with increasing EC. Halim et al. (2010) reported that the increasing of Cl^- concentration contributes to increase in EC value since a strong linear correlation ($R^2 = 0.88$) between EC and Cl^- was observed. Palmucci & Rusi (2014) observed a clear correlation between the high concentrations of boron and the chloride-sodium facies, which are characterized by high saline content, negative redox potential, and low value of the SO_4^{2-}/Cl^- ratio. Rodriguez-Espinosa et al. (2020) found that the Boron concentration in groundwater was related to the SO_4^{2-} and age affect.

Regarding the Boron concentration level on the sites, the main source of Boron is more natural than anthropogenic. Therefore, the detected increase of Boron concentration is likely due to mixing between the deep and shallow aquifer subhorizons and geochemistry condition changes, such as pH, ion exchanges, EC and salinity.

Section 3
Alternate Source Demonstration

Pursuant to 40 CFR 257.94(e)(2), EAL may demonstrate that a source other than the CCR Unit caused the SSI or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. As discussed previously, the 1st Half 2024 semiannual detection monitoring event was performed in June 2024. Statistical analysis of the 1st Half 2024 semiannual detection monitoring data was performed pursuant to 40 CFR 257.93(f) and (g) and in accordance with the Statistical Methods Certification (TRC 2017b) and the Statistical Analysis Plan (FTN 2017a). Based on intrawell prediction limits statistical analyses, the following SSI was identified:

- Boron (MW-1R).

The laboratory analytical results for both monitoring events and intrawell prediction limits for each of the potential statistically significant increase (SSI) is summarized in the table below.

Table 1 SSIs – June 2024 Semiannual Groundwater Detection Monitoring Event

Well	Constituent	1H24 (6/11/2024)	Intrawell Prediction Limit (mg/L)	Confirmed SSI? (Yes/No)
MW-1R	Boron (mg/L)	0.242	0.165	No

Other Appendix III constituent concentrations were within their trends at 98% confidence levels using Sen's slope test and/or intrawell prediction limits in the CCR Rule groundwater monitoring system wells.

Likely causes for the potential SSI and associated lines of reasoning demonstrating that the SSI was not caused by a release of CCR constituents from the CADL to groundwater are provided in the subsections below.

3.1 Boron at MW-1R

Boron at MW-1R was detected at a concentration of 0.242 mg/L in the June 2024, which exceeds the intrawell prediction limit for boron at MW-1R of 0.165 mg/L. The slightly elevated concentration for boron for MW-1R observed in June 2024 is likely related to the following causes:

- Natural variation in groundwater quality.

    - Observed concentrations of boron in the deep subhorizon of the alluvial aquifer are greater than one order of magnitude more than the detected concentration of boron in MW-1R. Periodic upward vertical hydraulic gradients have been observed based on water levels measured at well clusters screened within the shallow and deep subhorizons of the alluvial aquifer; and

    - Seasonal geochemistry condition changes in groundwater. As discussed in Section 2.2.1, the main factors that may influence boron concentration in groundwater are pH and EC. Decreasing of pH will increase the dissolution of boron from the mineral surfaces. Boron in groundwater will increase with the increasing of EC. The historical data review shows the stable neutral pH values in MW-1R area, which indicates pH is not the factor causing the boron increasing. The slightly elevated TDS could increase the EC in the groundwater, which favors the boron dissolution from soil and mineral surface. The seasonal increasing of boron could be a result of the natural geochemistry conditions with high EC.

Section 4
Conclusions

The information provided in this ASD was prepared in accordance with 40 CFR 257.94(e)(2) of the CCR Rule. The potential SSI for the 1st Half 2024 semiannual detection monitoring event, the slightly elevated concentration for boron at MW-1R observed in June 2024, is likely related to the following causes:

- Natural variations in groundwater quality, which may be related to:
    - Fluctuations in seasonal geochemistry conditions in the uppermost aquifer system associated with EC, ion strength, ORP, pH, and TDS; and
    - Periodic upward vertical hydraulic gradients between the shallow and deep subhorizons of the alluvial aquifer provide a migration pathway for higher boron concentrations observed in the deep subhorizon to the shallow subhorizon.

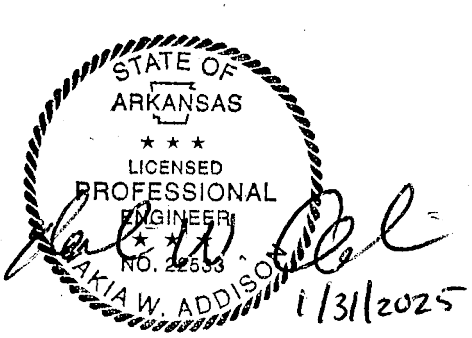
Based on this ASD successfully documenting that natural variation in groundwater quality is the cause for the exceedances of intrawell prediction limits, EAL will continue to conduct semiannual detection monitoring in accordance with 40 CFR 257.94 at the Certified Monitoring Well Network for the CCR Unit.

Section 5
Certification

I hereby certify that the alternative source demonstration presented within this document for the Entergy Independence Steam Electric Station Coal Ash Disposal Landfill CCR Unit has been prepared to meet the requirements of Title 40 CFR §257.94(e) 2 of the Federal CCR Rule. This document is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of Title 40 CFR §257.94(e) 2.

Name: Nakia W. Addison, P.E. **Expiration Date:** 12/31/2025

Company: TRC Environmental Corporation **Date:** 1/31/2025



Section 6
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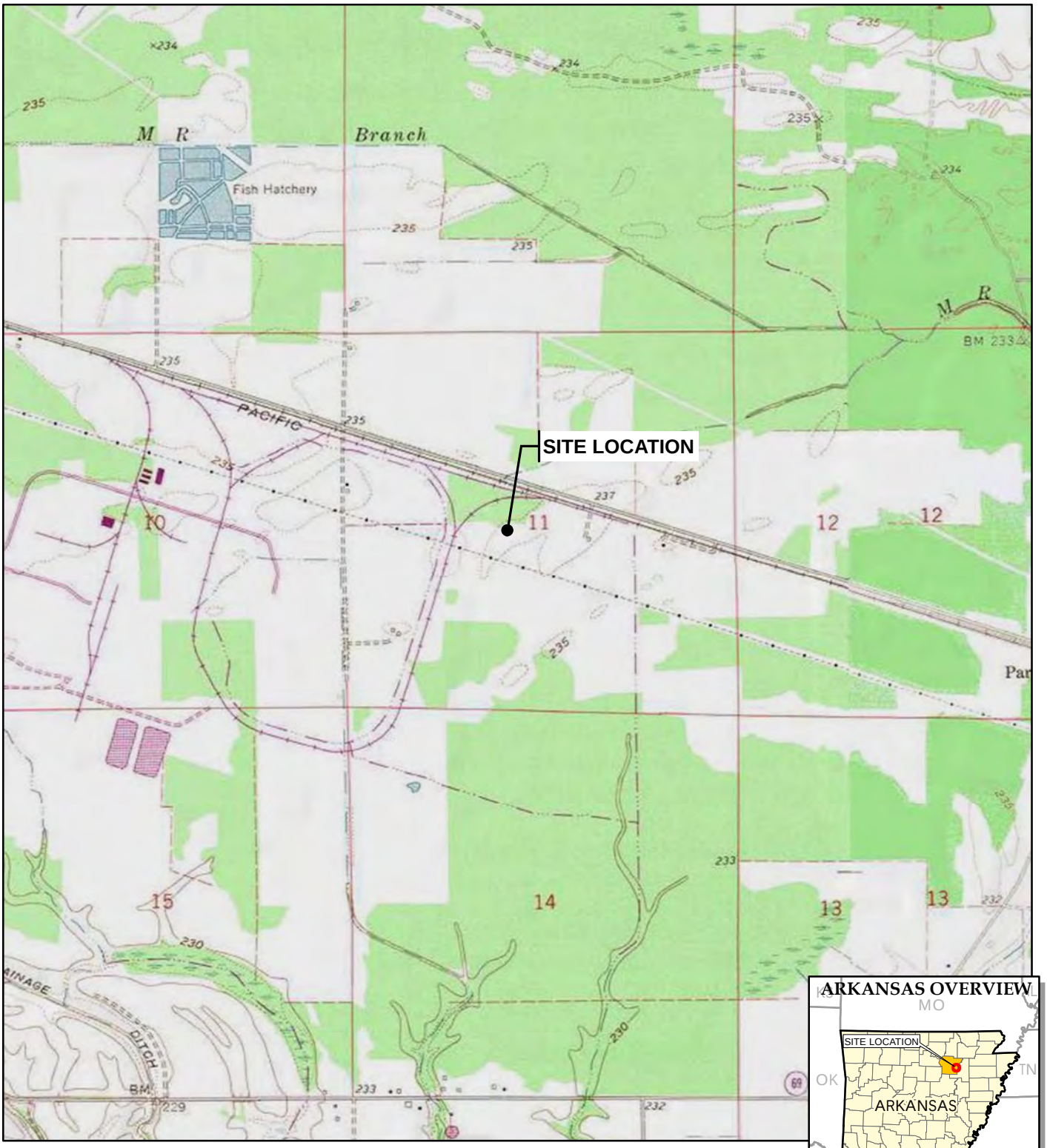

BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.

N

1 " = 2,000 '
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0 2,000 4,000
FEET

TRC
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TRC - GIS

PROJECT:

ENTERGY INDEPENDENCE PLANT
555 POINT FERRY ROAD
NEWARK, ARKANSAS

TITLE:

SITE LOCATION MAP

DRAWN BY:	S. MAJOR
CHECKED BY:	J. HOUSE
APPROVED BY:	J. HOUSE
DATE:	SEPTEMBER 2022
PROJ. NO.:	341479
FILE:	341479-001slmIND.mxd

FIGURE 1

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LEGEND

- NEW CADL MONITORING WELLS
- CADL MONITORING WELLS
- LANDFILL BOUNDARY

NOTES

1. BASE MAP IMAGERY FROM ESRI/DIGITAL GLOBE, 2016.

N

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1 " = 900 '
1:10,800

PROJECT:
ENTERGY INDEPENDENCE PLANT
555 POINT FERRY ROAD
NEWARK, ARKANSAS

TITLE:
NEW MONITORING WELL LOCATIONS FOR CCR GROUNDWATER MONITORING NETWORK

DRAWN BY:	D. STITCHER	PROJ. NO.:	591543.0000.00000
CHECKED BY:	J. HOUSE		
APPROVED BY:	W. XIE		**FIGURE 2**
DATE:	JANUARY 2025		

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FILE NO.: 419735-002IND_new_wells_20250114.mxd

Plot Date: 1/14/2025, 12:42:56 PM by DSTITCHER -- LAYOUT: ANSI B(11"x17")
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Map Rotation: 0
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