

**Entergy Arkansas, LLC  
White Bluff Steam Electric Station  
Recycle Ponds**

## **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:



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), operated two recycle ponds as part of its process water system for bottom ash transport at the White Bluff Steam Electric Station (Plant) located near Redfield, Arkansas. The recycle ponds provided intermediate storage of waters used in the transport of coal combustion residuals (CCR) generated from the combustion of coal at the Plant. Pond A commenced closure as of October 2018 and Pond B commenced closure as of February 2021. Closure by removal was completed in the first half of 2022. The certified closure of the two recycle ponds was completed on October 2, 2023. Management of the CCR at the recycle ponds 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 ponds remained in detection monitoring prior to closure. Because the unit completed closure by removal, further detection monitoring is not required. Two consecutive monitoring events of Appendix IV constituents were conducted in 2024, specifically to confirm that there were no Appendix IV constituents detected at statistically significant levels above the GWPS and demonstrate that the ponds were closed in accordance with 40 CFR 257.102. The plant initially identified the following potential SSLs: (*list per comment above*). Alternate source demonstrations ("ASDs") were performed for the potential SSLs and are attached to this report. Each of the ASDs performed were successful, and the Plant updated the closure certification in November 2024 to incorporate the 2024 monitoring results. The recycle ponds CCR Unit remained closed by removal for the duration of 2024

As indicated above, the potential SSLs identified during the monitoring events are detailed in the tables below.

Table 1 Potential SSLs July 2024 Monitoring Event			
Well	Date	Analyte	Confirmed SSL? (Yes/No)
RP-4	07/2024	Barium	No
RP-4	7/2024	Molybdenum	No
RP-9	7/2024	Fluoride	No
RP-10	7/2024	Fluoride	No

**Table 2 Potential SSLs October 2024 Monitoring Event**

Well	Date	Analyte	Confirmed SSL? (Yes/No)
RP-4	10/2024	Barium	No
RP-4	10/2024	Molybdenum	No
RP-9	10/2024	Fluoride	No
RP-10	10/2024	Fluoride	No

## 1. INTRODUCTION

Entergy Arkansas, LLC (EAL), operated two recycle ponds as part of its process water system for bottom ash transport at the Plant located near Redfield, Arkansas (Lat: 34.421658 / Long: -92.139455). The recycle ponds provided intermediate storage of waters used in the transport of CCR generated from the combustion of coal at the Plant. Pond A commenced closure as of October 2018 and the Pond B commenced closure as of February 2021. Closure by removal was completed in the first half of 2022. The certified closure of two recycle ponds was completed on October 2, 2023. The recycle ponds are managed in accordance with the national criteria established in the CCR Rule. EAL installed a groundwater monitoring system at the recycle ponds CCR Unit that is subject to the groundwater monitoring and corrective action requirements provided under §257.90 through §257.98 of the CCR rule. In accordance with §257.90(e) of the CCR rule, EAL must prepare an annual report that provides information regarding the groundwater monitoring and corrective action program at the recycle ponds CCR Unit.

## 2. GROUNDWATER MONITORING SYSTEM

The recycle ponds CCR unit groundwater monitoring system consists of 10 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 DECOMMISSIONED WELLS DURING 2024**

EAL did not install any new wells or decommission any existing wells in the certified groundwater monitoring system during 2024.

## 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:

- 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;
- Potentiometric maps showing groundwater flow direction for each monitoring event and table of groundwater level measurements; and
- Summary table of CCR Rule constituent results.

## 5. STATUS SUMMARY OF THE 2024 GROUNDWATER MONITORING PROGRAM

Groundwater monitoring was performed in accordance with the monitoring requirements of §257.95. A summary of activities related to groundwater monitoring performed during 2024 is provided in the list below:

- Two supplemental monitoring events were performed during July and October of 2024 for analysis of Appendix IV parameters.
- Statistical evaluation of the 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 monitoring data identified eight SSLs during the July and October monitoring events.
- EAL completed a successful alternate source demonstration (ASD) per §257.95(g)(3)(ii) in response to potential statistically significant increases (SSLs) identified during the statistical evaluation of the data generated from the July and October 2024 supplemental monitoring events. As required by §257.95(g)(3)(ii), a copy of the ASD is included in Appendix D.
- The successful ASD provided in Appendix D demonstrates that none of the potential SSLs exceeded Groundwater Protection Standards (GWPS) at statistically significant level; in fact, the potential SSLs observed during the supplemental monitoring events were below the GWPS concentrations.
- No problems were encountered during 2024 with regard to the groundwater monitoring and corrective action system. Therefore, no actions were required to modify the system.
- The recycle ponds CCR Unit remained in closure with no requirement to initiate assessment of corrective measures for the duration of 2024.

## 6. PROJECTED ACTIVITIES FOR 2025

The certified closure of two recycle ponds was completed on October 2, 2023. No activities are planned for the program during 2025.

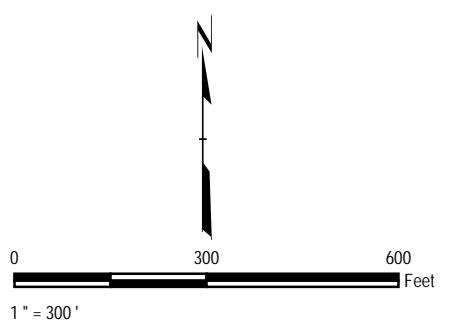
**APPENDIX A  
WELL LOCATIONS**

**LEGEND**

- RECYCLING POND WELLS
- RECYCLING POND BOUNDARY

**NOTES**

1. BASE MAP IMAGE BY FROM GOOGLE EARTH PRO, 2018 .



PROJECT:  
**ENTERGY WHITE BLUFF PLANT**  
**1100 WHITE BLUFF ROAD**  
**REDFIELD, ARKANSAS**

**TITLE:****RECYCLING POND WELL LOCATIONS**

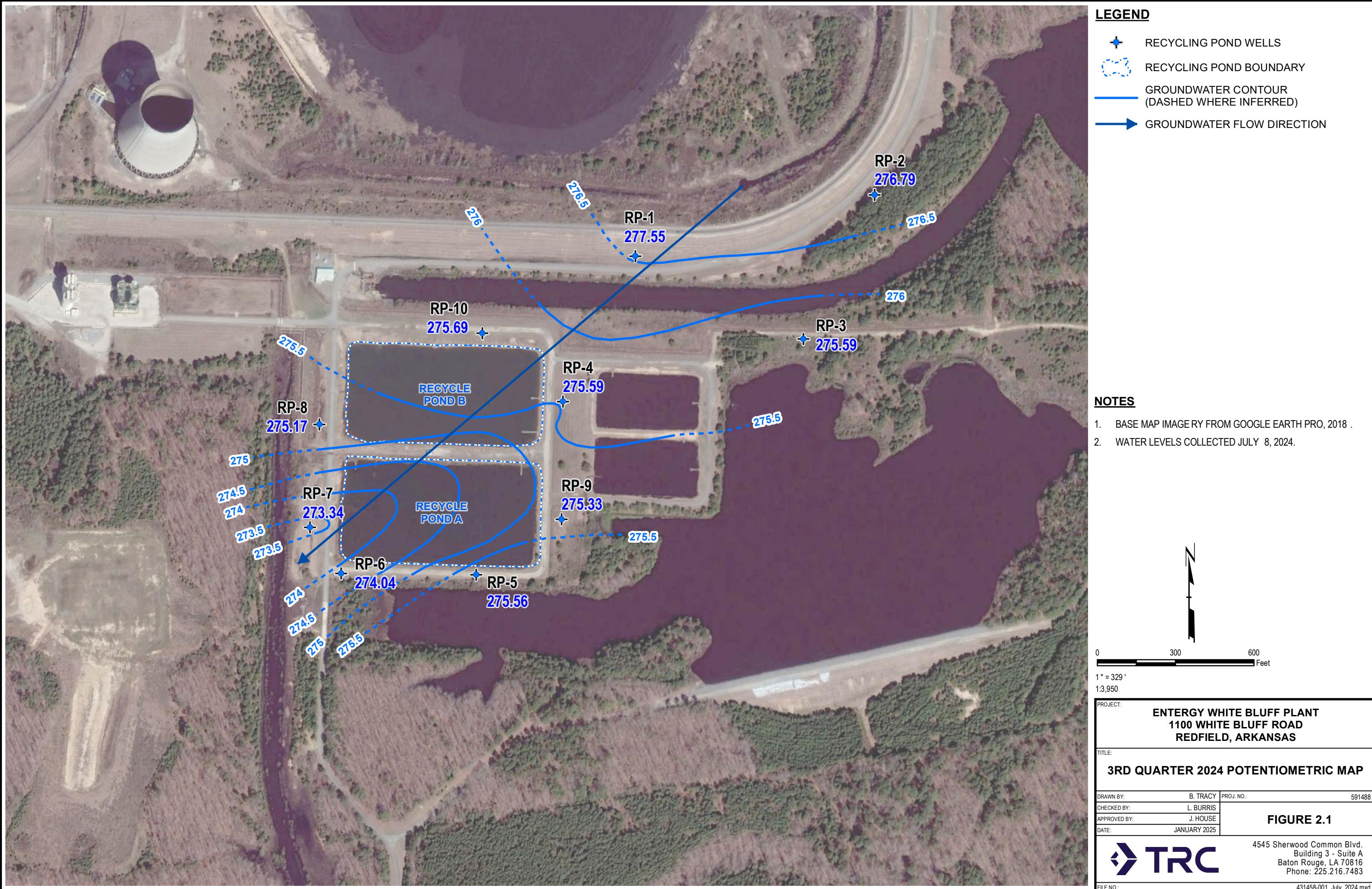
DRAWN BY:	S. MAJOR	PROJ. NO.:	431458
CHECKED BY:	L. BURRIS		
APPROVED BY:	J. HOUSE		
DATE:	JANUARY 2021		

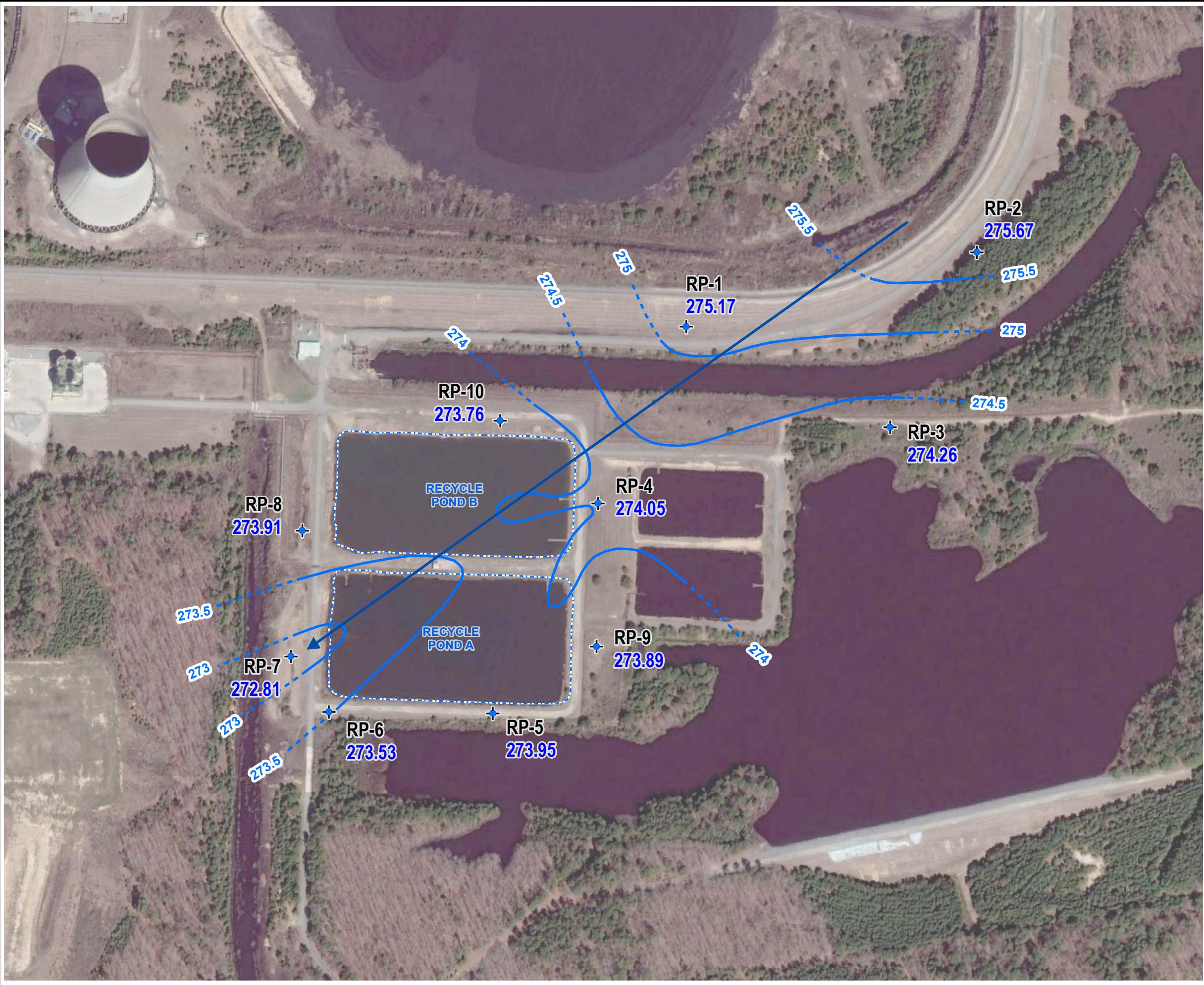
**FIGURE 1**

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

**APPENDIX B**  
**GROUNDWATER LEVEL DATA**

Water Level Measurements2024					
Well ID	TOC Elevation (ft NAVD88)	July 08, 2024		October 02, 2024	
		Depth to Groundwater (ft below MP)	Groundwater Elevation (ft NAVD88)	Depth to Groundwater (ft below MP)	Groundwater Elevation (ft NAVD88)
RP-1	285.72	8.17	277.55	10.55	275.17
RP-2	291.92	15.13	276.79	16.25	275.67
RP-3	284.15	8.56	275.59	9.89	274.26
RP-4	284.17	8.58	275.59	10.12	274.05
RP-5	284.57	9.01	275.56	10.62	273.95
RP-6	283.81	9.77	274.04	10.28	273.53
RP-7	284.46	11.12	273.34	11.65	272.81
RP-8	285.60	10.43	275.17	11.69	273.91
RP-9	284.68	9.35	275.33	10.79	273.89
RP-10	283.66	7.97	275.69	9.90	273.76

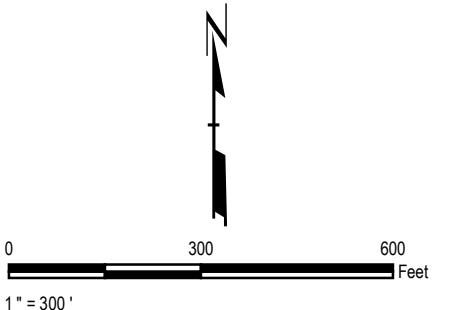


**LEGEND**

- RECYCLING POND WELLS
- RECYCLING POND BOUNDARY
- GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION

**NOTES**

1. BASE MAP IMAGE BY GOOGLE EARTH PRO, 2018 .
2. WATER LEVELS COLLECTED OCTOBER 2, 2024.



PROJECT:  
**ENTERGY WHITE BLUFF PLANT  
1100 WHITE BLUFF ROAD  
REFIELD, ARKANSAS**

TITLE:  
**4TH QUARTER 2024 POTENIOMETRIC MAP**

DRAWN BY:	B. TRACY	PROJ. NO.:	591488
CHECKED BY:	L. BURRIS		
APPROVED BY:	J. HOUSE		
DATE:	JANUARY 2025		

4545 Sherwood Common Blvd.  
Building 3 - Suite A  
Baton Rouge, LA 70816  
Phone: 225.216.7483

FIGURE 2.2



FILE NO.: 431458-001\_Oct\_2024.mxd

**APPENDIX C**  
**GROUNDWATER MONITORING DATA**

Sampling Schedule, Entergy White Bluff Recycle Ponds Network			
Well ID	Supplemental Monitoring Sampling Dates and Wells Sampled		
	7/8-7/10/2024	10/2-10/3/2024	Number of Samples Collected
RP-1	X	X	2
RP-2	X	X	2
RP-3	X	X	2
RP-4	X	X	2
RP-5	X	X	2
RP-6	X	X	2
RP-7	X	X	2
RP-8	X	X	2
RP-9	X	X	2
RP-10	X	X	2

Summary of Analytical Results – Third Quarter 2024																
Well ID	Date	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Lithium (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Thallium (mg/L)	pH (s.u.)
RP-1	7/8/2024	<0.00500	0.00398	0.0138	0.0175	<0.00100	<0.00300	0.147	1.58	<0.000500	0.337	0.000236	<0.00100	<0.00500	<0.000500	3.50
RP-2	7/8/2024	<0.00500	<0.000500	0.0286	0.00162	<0.00100	<0.00300	0.0065	<0.500	0.000675	0.0898	<0.000200	<0.00100	<0.00500	<0.000500	3.70
RP-3	7/10/2024	<0.00500	0.00213	0.0146	0.0105	<0.00100	<0.00300	0.0582	0.758	<0.000500	0.401	<0.000200	<0.00100	<0.00500	<0.000500	4.45
RP-4	7/8/2024	<0.00500	0.00261	0.165	<0.000500	<0.00100	<0.00300	0.00422	<0.500	<0.000500	<0.0150	<0.000200	0.0133	<0.00500	<0.000500	5.99
RP-5	7/10/2024	<0.00500	<0.000500	0.0166	0.00513	<0.00100	<0.00300	0.0385	<0.500	<0.000500	0.176	<0.000200	<0.00100	<0.00500	<0.000500	3.47
RP-6	7/10/2024	<0.00500	0.00104	0.0319	0.014	<0.00100	<0.00300	0.0267	0.868	<0.000500	0.765	<0.000200	<0.00100	<0.00500	<0.000500	3.98
RP-7	7/10/2024	<0.00500	<0.000500	0.0213	0.0121	<0.00100	<0.00300	0.00919	<0.500	0.000798	0.269	<0.000200	<0.00100	<0.00500	<0.000500	3.45
RP-8	7/10/2024	<0.00500	0.0016	0.0662	<0.000500	<0.00100	<0.00300	<0.000500	0.587	<0.000500	<0.0150	<0.000200	0.0321	<0.00500	<0.000500	7.2
RP-9	7/8/2024	<0.00500	0.000773	0.137	<0.000500	<0.00100	<0.00300	<0.000500	<0.500	0.000835	<0.0150	<0.000200	0.0114	<0.00500	<0.000500	6.42
RP-10	7/8/2024	<0.00500	0.000638	0.017	0.00696	<0.00100	<0.00300	0.0215	<0.500	0.000616	0.0344	<0.000200	<0.00100	<0.00500	<0.000500	3.43
DUPLICATE (RP-5)	7/10/2024	<0.00500	0.000511	0.0164	0.00482	<0.00100	<0.00300	0.0384	<0.500	<0.000500	0.171	<0.000200	<0.00100	<0.00500	<0.000500	-
FIELD BLANK	7/10/2024	<0.00500	<0.000500	<0.00300	<0.000500	<0.00100	<0.00300	<0.000500	<0.500	<0.000500	<0.0150	<0.000200	<0.00100	<0.00500	<0.000500	-

Summary of Analytical Results – Fourth Quarter 2024																
Well ID	Date	Antimony (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Fluoride (mg/L)	Lead (mg/L)	Lithium (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Thallium (mg/L)	pH (s.u.)
RP-1	10/3/2024	<0.00400	0.0145	0.0147	0.0209	<0.00100	<0.00200	0.204	2.06	<0.00200	0.387	0.000265	<0.00500	0.0105	<0.00200	3.71
RP-2	10/3/2024	<0.00400	<0.00200	0.0322	<0.00200	<0.00100	<0.00200	0.00864	<0.150	<0.00200	0.0882	<0.000200	<0.00500	<0.00200	<0.00200	3.65
RP-3	10/3/2024	<0.00400	0.00405	0.014	0.00845	<0.00100	<0.00200	0.059	<1.50	<0.00200	0.384	<0.000200	<0.00500	0.00283	<0.00200	4.67
RP-4	10/2/2024	<0.00400	0.0041	0.192	<0.00200	<0.00100	<0.00200	0.0169	0.335	<0.00200	0.0215	<0.000200	0.00969	<0.00200	<0.00200	5.86
RP-5	10/2/2024	<0.00400	<0.00200	0.0207	0.00457	<0.00100	<0.00200	0.0457	0.346	<0.00200	0.166	<0.000200	<0.00500	<0.00200	<0.00200	3.50
RP-6	10/2/2024	<0.00400	<0.00200	0.0631	0.00675	<0.00100	<0.00200	0.0225	<1.50	<0.00200	0.686	<0.000200	0.00545	<0.00200	<0.00200	4.86
RP-7	10/2/2024	<0.00400	<0.00200	0.0223	0.0094	<0.00100	<0.00200	0.0108	0.369	<0.00200	0.242	<0.000200	<0.00500	<0.00200	<0.00200	3.73
RP-8	10/2/2024	<0.00400	<0.00200	0.0637	<0.00200	<0.00100	<0.00200	0.0167	0.169	<0.00200	0.0878	<0.000200	<0.00500	<0.00200	<0.00200	5.76
RP-9	10/2/2024	<0.00400	<0.00200	0.104	<0.00200	<0.00100	<0.00200	0.00236	0.237	<0.00200	<0.0150	<0.000200	0.0104	<0.00200	<0.00200	6.18
RP-10	10/2/2024	<0.00400	<0.00200	0.0299	0.00551	<0.00100	<0.00200	0.0227	0.452	<0.00200	0.0314	<0.000200	<0.00500	<0.00200	<0.00200	3.72
DUPLICATE (RP-2)	10/3/2024	<0.00400	<0.00200	0.0323	<0.00200	<0.00100	<0.00200	0.00856	<0.150	<0.00200	0.0851	<0.000200	<0.00500	<0.00200	<0.00200	-
FIELD BLANK	10/3/2024	<0.00400	<0.00200	<0.00200	<0.00200	<0.00100	<0.00200	<0.00200	<0.150	<0.00200	<0.0150	<0.000200	<0.00500	<0.00200	<0.00200	-
TRIP BLANK	10/3/2024	<0.00400	<0.00200	<0.00200	<0.00200	<0.00100	0.00271	<0.00200	<0.150	<0.00200	<0.0150	<0.000200	<0.00500	<0.00200	<0.00200	-



# ANALYTICAL REPORT

August 07, 2024

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>GI

<sup>8</sup>AI

<sup>9</sup>SC

## Alliance Technical Group - Bryant, AR

Sample Delivery Group: L1755981  
Samples Received: 07/12/2024  
Project Number: 1145-21-080  
Description: Entergy - White Bluff

Report To: Jonathan Brown  
219 Brown Lane  
Little Rock, 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

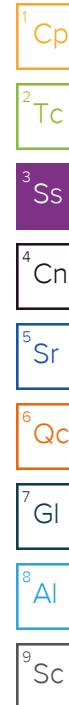
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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<b>Cn: Case Narrative</b>	<b>6</b>	<sup>4</sup> Cn
<b>Sr: Sample Results</b>	<b>7</b>	<sup>5</sup> Sr
RP-1 L1755981-01	7	<sup>6</sup> Qc
RP-2 L1755981-02	8	<sup>7</sup> GI
RP-3 L1755981-03	9	<sup>8</sup> AL
RP-4 L1755981-04	10	<sup>9</sup> SC
RP-5 L1755981-05	11	
RP-6 L1755981-06	12	
RP-7 L1755981-07	13	
RP-8 L1755981-08	14	
RP-9 L1755981-09	15	
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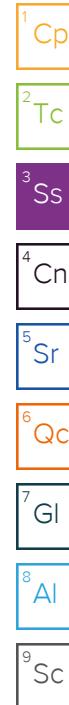
# SAMPLE SUMMARY

		Collected by JLC/KRS	Collected date/time 07/08/24 12:25	Received date/time 07/12/24 09:00		
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2325116	1	07/18/24 21:16	07/18/24 21:16	SMC	Allen, TX
Mercury by Method 7470A	WG2322270	1	07/13/24 12:10	07/14/24 02:54	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2323840	1	07/21/24 08:26	07/22/24 10:38	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/23/24 14:55	NA	Allen, TX
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/24/24 13:28	NA	Allen, TX
		Collected by JLC/KRS	Collected date/time 07/08/24 11:20	Received date/time 07/12/24 09:00		
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2325116	1	07/18/24 21:28	07/18/24 21:28	SMC	Allen, TX
Mercury by Method 7470A	WG2322270	1	07/13/24 12:10	07/14/24 02:57	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2323840	1	07/21/24 08:26	07/22/24 10:40	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/23/24 15:01	NA	Allen, TX
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/24/24 13:34	NA	Allen, TX
		Collected by JLC/KRS	Collected date/time 07/10/24 10:25	Received date/time 07/12/24 09:00		
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2325116	1	07/18/24 21:40	07/18/24 21:40	SMC	Allen, TX
Mercury by Method 7470A	WG2322270	1	07/13/24 12:10	07/14/24 02:59	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2323840	1	07/21/24 08:26	07/22/24 10:41	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/23/24 15:20	NA	Allen, TX
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/24/24 13:40	NA	Allen, TX
		Collected by JLC/KRS	Collected date/time 07/08/24 14:10	Received date/time 07/12/24 09:00		
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2325116	1	07/18/24 21:52	07/18/24 21:52	SMC	Allen, TX
Mercury by Method 7470A	WG2322270	1	07/13/24 12:10	07/14/24 03:01	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2323840	1	07/21/24 08:26	07/22/24 10:43	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/23/24 15:26	NA	Allen, TX
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/24/24 13:48	NA	Allen, TX
		Collected by JLC/KRS	Collected date/time 07/10/24 13:40	Received date/time 07/12/24 09:00		
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2325116	1	07/18/24 22:04	07/18/24 22:04	SMC	Allen, TX
Mercury by Method 7470A	WG2322270	1	07/13/24 12:10	07/14/24 03:08	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2323840	1	07/21/24 08:26	07/22/24 10:45	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/23/24 15:32	NA	Allen, TX
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/24/24 13:54	NA	Allen, TX



# SAMPLE SUMMARY

			Collected by JLC/KRS	Collected date/time 07/10/24 13:00	Received date/time 07/12/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2325116	1	07/18/24 22:16	07/18/24 22:16	SMC	Allen, TX
Mercury by Method 7470A	WG2322270	1	07/13/24 12:10	07/14/24 02:27	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2323840	1	07/21/24 08:26	07/22/24 10:46	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/23/24 15:38	NA	Allen, TX
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/24/24 14:00	NA	Allen, TX
			Collected by JLC/KRS	Collected date/time 07/10/24 12:15	Received date/time 07/12/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2325116	1	07/18/24 22:28	07/18/24 22:28	SMC	Allen, TX
Mercury by Method 7470A	WG2322270	1	07/13/24 12:10	07/14/24 03:11	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2323840	1	07/21/24 08:26	07/22/24 10:48	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/23/24 15:44	NA	Allen, TX
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/24/24 14:19	NA	Allen, TX
			Collected by JLC/KRS	Collected date/time 07/10/24 11:40	Received date/time 07/12/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2325116	1	07/18/24 22:39	07/18/24 22:39	SMC	Allen, TX
Mercury by Method 7470A	WG2322270	1	07/13/24 12:10	07/14/24 03:13	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2323840	1	07/21/24 08:26	07/22/24 10:50	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/23/24 15:50	NA	Allen, TX
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/24/24 14:25	NA	Allen, TX
			Collected by JLC/KRS	Collected date/time 07/08/24 15:20	Received date/time 07/12/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2325116	1	07/18/24 22:51	07/18/24 22:51	SMC	Allen, TX
Mercury by Method 7470A	WG2322270	1	07/13/24 12:10	07/14/24 03:16	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2323840	1	07/21/24 08:26	07/22/24 10:55	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/23/24 15:57	NA	Allen, TX
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/24/24 14:31	NA	Allen, TX
			Collected by JLC/KRS	Collected date/time 07/08/24 13:20	Received date/time 07/12/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2325116	1	07/18/24 23:03	07/18/24 23:03	SMC	Allen, TX
Mercury by Method 7470A	WG2322270	1	07/13/24 12:10	07/14/24 03:18	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2323840	1	07/21/24 08:26	07/22/24 10:56	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/23/24 16:03	NA	Allen, TX
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/24/24 14:37	NA	Allen, TX



# SAMPLE SUMMARY

DUPLICATE (RP-5) L1755981-11 GW			Collected by JLC/KRS	Collected date/time 07/10/24 13:40	Received date/time 07/12/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2325116	1	07/18/24 23:39	07/18/24 23:39	SMC	Allen, TX
Mercury by Method 7470A	WG2322270	1	07/13/24 12:10	07/14/24 03:20	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2323840	1	07/21/24 08:26	07/22/24 10:58	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/23/24 16:29	NA	Allen, TX
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:12	07/24/24 14:43	NA	Allen, TX
FIELD BLANK L1755981-12 GW			Collected by JLC/KRS	Collected date/time 07/10/24 15:15	Received date/time 07/12/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2325116	1	07/18/24 23:51	07/18/24 23:51	SMC	Allen, TX
Mercury by Method 7470A	WG2323091	1	07/17/24 10:18	07/18/24 11:15	LAS	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2332125	1	07/31/24 08:57	07/31/24 13:24	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:42	07/23/24 16:35	NA	Allen, TX
Metals (ICPMS) by Method 6020	WG2325886	1	07/20/24 08:42	07/24/24 14:50	NA	Allen, TX

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc

# 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

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> GI
- <sup>8</sup> AI
- <sup>9</sup> SC

RP-1

Collected date/time: 07/08/24 12:25

## SAMPLE RESULTS - 01

L1755981

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	1.58		0.500	1	07/18/2024 21:16	<a href="#">WG2325116</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	0.000236		0.000200	1	07/14/2024 02:54	<a href="#">WG2322270</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	0.337		0.0150	1	07/22/2024 10:38	<a href="#">WG2323840</a>

## Metals (ICPMS) by Method 6020

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00500	1	07/23/2024 14:55	<a href="#">WG2325886</a>
Arsenic	0.00398		0.000500	1	07/23/2024 14:55	<a href="#">WG2325886</a>
Barium	0.0138		0.00300	1	07/23/2024 14:55	<a href="#">WG2325886</a>
Beryllium	0.0175		0.000500	1	07/24/2024 13:28	<a href="#">WG2325886</a>
Cadmium	ND		0.00100	1	07/23/2024 14:55	<a href="#">WG2325886</a>
Chromium	ND		0.00300	1	07/23/2024 14:55	<a href="#">WG2325886</a>
Cobalt	0.147		0.000500	1	07/23/2024 14:55	<a href="#">WG2325886</a>
Lead	ND		0.000500	1	07/23/2024 14:55	<a href="#">WG2325886</a>
Molybdenum	ND		0.00100	1	07/23/2024 14:55	<a href="#">WG2325886</a>
Selenium	ND		0.00500	1	07/23/2024 14:55	<a href="#">WG2325886</a>
Thallium	ND		0.000500	1	07/23/2024 14:55	<a href="#">WG2325886</a>

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	ND		0.500	1	07/18/2024 21:28	<a href="#">WG2325116</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	07/14/2024 02:57	<a href="#">WG2322270</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	0.0898		0.0150	1	07/22/2024 10:40	<a href="#">WG2323840</a>

## Metals (ICPMS) by Method 6020

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00500	1	07/23/2024 15:01	<a href="#">WG2325886</a>
Arsenic	ND		0.000500	1	07/23/2024 15:01	<a href="#">WG2325886</a>
Barium	0.0286		0.00300	1	07/23/2024 15:01	<a href="#">WG2325886</a>
Beryllium	0.00162		0.000500	1	07/24/2024 13:34	<a href="#">WG2325886</a>
Cadmium	ND		0.00100	1	07/23/2024 15:01	<a href="#">WG2325886</a>
Chromium	ND		0.00300	1	07/23/2024 15:01	<a href="#">WG2325886</a>
Cobalt	0.00650		0.000500	1	07/23/2024 15:01	<a href="#">WG2325886</a>
Lead	0.000675		0.000500	1	07/23/2024 15:01	<a href="#">WG2325886</a>
Molybdenum	ND		0.00100	1	07/23/2024 15:01	<a href="#">WG2325886</a>
Selenium	ND		0.00500	1	07/23/2024 15:01	<a href="#">WG2325886</a>
Thallium	ND		0.000500	1	07/23/2024 15:01	<a href="#">WG2325886</a>

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	0.758		0.500	1	07/18/2024 21:40	<a href="#">WG2325116</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	07/14/2024 02:59	<a href="#">WG2322270</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	0.401		0.0150	1	07/22/2024 10:41	<a href="#">WG2323840</a>

## Metals (ICPMS) by Method 6020

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00500	1	07/23/2024 15:20	<a href="#">WG2325886</a>
Arsenic	0.00213	B	0.000500	1	07/23/2024 15:20	<a href="#">WG2325886</a>
Barium	0.0146		0.00300	1	07/23/2024 15:20	<a href="#">WG2325886</a>
Beryllium	0.0105		0.000500	1	07/24/2024 13:40	<a href="#">WG2325886</a>
Cadmium	ND		0.00100	1	07/23/2024 15:20	<a href="#">WG2325886</a>
Chromium	ND		0.00300	1	07/23/2024 15:20	<a href="#">WG2325886</a>
Cobalt	0.0582		0.000500	1	07/23/2024 15:20	<a href="#">WG2325886</a>
Lead	ND		0.000500	1	07/23/2024 15:20	<a href="#">WG2325886</a>
Molybdenum	ND		0.00100	1	07/23/2024 15:20	<a href="#">WG2325886</a>
Selenium	ND		0.00500	1	07/23/2024 15:20	<a href="#">WG2325886</a>
Thallium	ND		0.000500	1	07/23/2024 15:20	<a href="#">WG2325886</a>

RP-4

Collected date/time: 07/08/24 14:10

## SAMPLE RESULTS - 04

L1755981

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	ND		0.500	1	07/18/2024 21:52	<a href="#">WG2325116</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	07/14/2024 03:01	<a href="#">WG2322270</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	ND		0.0150	1	07/22/2024 10:43	<a href="#">WG2323840</a>

## Metals (ICPMS) by Method 6020

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00500	1	07/23/2024 15:26	<a href="#">WG2325886</a>
Arsenic	0.00261	B	0.000500	1	07/23/2024 15:26	<a href="#">WG2325886</a>
Barium	0.165		0.00300	1	07/23/2024 15:26	<a href="#">WG2325886</a>
Beryllium	ND		0.000500	1	07/24/2024 13:48	<a href="#">WG2325886</a>
Cadmium	ND		0.00100	1	07/23/2024 15:26	<a href="#">WG2325886</a>
Chromium	ND		0.00300	1	07/23/2024 15:26	<a href="#">WG2325886</a>
Cobalt	0.00422		0.000500	1	07/23/2024 15:26	<a href="#">WG2325886</a>
Lead	ND		0.000500	1	07/23/2024 15:26	<a href="#">WG2325886</a>
Molybdenum	0.0133	B	0.00100	1	07/23/2024 15:26	<a href="#">WG2325886</a>
Selenium	ND		0.00500	1	07/23/2024 15:26	<a href="#">WG2325886</a>
Thallium	ND		0.000500	1	07/23/2024 15:26	<a href="#">WG2325886</a>

RP-5

Collected date/time: 07/10/24 13:40

## SAMPLE RESULTS - 05

L1755981

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	ND		0.500	1	07/18/2024 22:04	<a href="#">WG2325116</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	07/14/2024 03:08	<a href="#">WG2322270</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	0.176		0.0150	1	07/22/2024 10:45	<a href="#">WG2323840</a>

## Metals (ICPMS) by Method 6020

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00500	1	07/23/2024 15:32	<a href="#">WG2325886</a>
Arsenic	ND		0.000500	1	07/23/2024 15:32	<a href="#">WG2325886</a>
Barium	0.0166		0.00300	1	07/23/2024 15:32	<a href="#">WG2325886</a>
Beryllium	0.00513		0.000500	1	07/24/2024 13:54	<a href="#">WG2325886</a>
Cadmium	ND		0.00100	1	07/23/2024 15:32	<a href="#">WG2325886</a>
Chromium	ND		0.00300	1	07/23/2024 15:32	<a href="#">WG2325886</a>
Cobalt	0.0385		0.000500	1	07/23/2024 15:32	<a href="#">WG2325886</a>
Lead	ND		0.000500	1	07/23/2024 15:32	<a href="#">WG2325886</a>
Molybdenum	ND		0.00100	1	07/23/2024 15:32	<a href="#">WG2325886</a>
Selenium	ND		0.00500	1	07/23/2024 15:32	<a href="#">WG2325886</a>
Thallium	ND		0.000500	1	07/23/2024 15:32	<a href="#">WG2325886</a>

RP-6

Collected date/time: 07/10/24 13:00

## SAMPLE RESULTS - 06

L1755981

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	0.868		0.500	1	07/18/2024 22:16	<a href="#">WG2325116</a>

<sup>1</sup>Cp<sup>2</sup>Tc

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	07/14/2024 02:27	<a href="#">WG2322270</a>

<sup>3</sup>Ss<sup>4</sup>Cn<sup>5</sup>Sr

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	0.765		0.0150	1	07/22/2024 10:46	<a href="#">WG2323840</a>

<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al

## Metals (ICPMS) by Method 6020

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00500	1	07/23/2024 15:38	<a href="#">WG2325886</a>
Arsenic	0.00104	B	0.000500	1	07/23/2024 15:38	<a href="#">WG2325886</a>
Barium	0.0319		0.00300	1	07/23/2024 15:38	<a href="#">WG2325886</a>
Beryllium	0.0140		0.000500	1	07/24/2024 14:00	<a href="#">WG2325886</a>
Cadmium	ND		0.00100	1	07/23/2024 15:38	<a href="#">WG2325886</a>
Chromium	ND		0.00300	1	07/23/2024 15:38	<a href="#">WG2325886</a>
Cobalt	0.0267		0.000500	1	07/23/2024 15:38	<a href="#">WG2325886</a>
Lead	ND		0.000500	1	07/23/2024 15:38	<a href="#">WG2325886</a>
Molybdenum	ND		0.00100	1	07/23/2024 15:38	<a href="#">WG2325886</a>
Selenium	ND		0.00500	1	07/23/2024 15:38	<a href="#">WG2325886</a>
Thallium	ND		0.000500	1	07/23/2024 15:38	<a href="#">WG2325886</a>

<sup>9</sup>Sc

RP-7

Collected date/time: 07/10/24 12:15

## SAMPLE RESULTS - 07

L1755981

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	ND		0.500	1	07/18/2024 22:28	<a href="#">WG2325116</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	07/14/2024 03:11	<a href="#">WG2322270</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	0.269		0.0150	1	07/22/2024 10:48	<a href="#">WG2323840</a>

## Metals (ICPMS) by Method 6020

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00500	1	07/23/2024 15:44	<a href="#">WG2325886</a>
Arsenic	ND		0.000500	1	07/23/2024 15:44	<a href="#">WG2325886</a>
Barium	0.0213		0.00300	1	07/23/2024 15:44	<a href="#">WG2325886</a>
Beryllium	0.0121		0.000500	1	07/24/2024 14:19	<a href="#">WG2325886</a>
Cadmium	ND		0.00100	1	07/23/2024 15:44	<a href="#">WG2325886</a>
Chromium	ND		0.00300	1	07/23/2024 15:44	<a href="#">WG2325886</a>
Cobalt	0.00919		0.000500	1	07/23/2024 15:44	<a href="#">WG2325886</a>
Lead	0.000798		0.000500	1	07/23/2024 15:44	<a href="#">WG2325886</a>
Molybdenum	ND		0.00100	1	07/23/2024 15:44	<a href="#">WG2325886</a>
Selenium	ND		0.00500	1	07/23/2024 15:44	<a href="#">WG2325886</a>
Thallium	ND		0.000500	1	07/23/2024 15:44	<a href="#">WG2325886</a>

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	0.587		0.500	1	07/18/2024 22:39	<a href="#">WG2325116</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	07/14/2024 03:13	<a href="#">WG2322270</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	ND		0.0150	1	07/22/2024 10:50	<a href="#">WG2323840</a>

## Metals (ICPMS) by Method 6020

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00500	1	07/23/2024 15:50	<a href="#">WG2325886</a>
Arsenic	0.00160	B	0.000500	1	07/23/2024 15:50	<a href="#">WG2325886</a>
Barium	0.0662		0.00300	1	07/23/2024 15:50	<a href="#">WG2325886</a>
Beryllium	ND		0.000500	1	07/24/2024 14:25	<a href="#">WG2325886</a>
Cadmium	ND		0.00100	1	07/23/2024 15:50	<a href="#">WG2325886</a>
Chromium	ND		0.00300	1	07/23/2024 15:50	<a href="#">WG2325886</a>
Cobalt	ND		0.000500	1	07/23/2024 15:50	<a href="#">WG2325886</a>
Lead	ND		0.000500	1	07/23/2024 15:50	<a href="#">WG2325886</a>
Molybdenum	0.0321		0.00100	1	07/23/2024 15:50	<a href="#">WG2325886</a>
Selenium	ND		0.00500	1	07/23/2024 15:50	<a href="#">WG2325886</a>
Thallium	ND		0.000500	1	07/23/2024 15:50	<a href="#">WG2325886</a>

RP-9

Collected date/time: 07/08/24 15:20

## SAMPLE RESULTS - 09

L1755981

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	ND		0.500	1	07/18/2024 22:51	<a href="#">WG2325116</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	07/14/2024 03:16	<a href="#">WG2322270</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	ND		0.0150	1	07/22/2024 10:55	<a href="#">WG2323840</a>

## Metals (ICPMS) by Method 6020

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00500	1	07/23/2024 15:57	<a href="#">WG2325886</a>
Arsenic	0.000773	B	0.000500	1	07/23/2024 15:57	<a href="#">WG2325886</a>
Barium	0.137		0.00300	1	07/23/2024 15:57	<a href="#">WG2325886</a>
Beryllium	ND		0.000500	1	07/24/2024 14:31	<a href="#">WG2325886</a>
Cadmium	ND		0.00100	1	07/23/2024 15:57	<a href="#">WG2325886</a>
Chromium	ND		0.00300	1	07/23/2024 15:57	<a href="#">WG2325886</a>
Cobalt	ND		0.000500	1	07/23/2024 15:57	<a href="#">WG2325886</a>
Lead	0.000835		0.000500	1	07/23/2024 15:57	<a href="#">WG2325886</a>
Molybdenum	0.0114	B	0.00100	1	07/23/2024 15:57	<a href="#">WG2325886</a>
Selenium	ND		0.00500	1	07/23/2024 15:57	<a href="#">WG2325886</a>
Thallium	ND		0.000500	1	07/23/2024 15:57	<a href="#">WG2325886</a>

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	ND		0.500	1	07/18/2024 23:03	<a href="#">WG2325116</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	07/14/2024 03:18	<a href="#">WG2322270</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	0.0344		0.0150	1	07/22/2024 10:56	<a href="#">WG2323840</a>

## Metals (ICPMS) by Method 6020

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00500	1	07/23/2024 16:03	<a href="#">WG2325886</a>
Arsenic	0.000638	B	0.000500	1	07/23/2024 16:03	<a href="#">WG2325886</a>
Barium	0.0170		0.00300	1	07/23/2024 16:03	<a href="#">WG2325886</a>
Beryllium	0.00696		0.000500	1	07/24/2024 14:37	<a href="#">WG2325886</a>
Cadmium	ND		0.00100	1	07/23/2024 16:03	<a href="#">WG2325886</a>
Chromium	ND		0.00300	1	07/23/2024 16:03	<a href="#">WG2325886</a>
Cobalt	0.0215		0.000500	1	07/23/2024 16:03	<a href="#">WG2325886</a>
Lead	0.000616		0.000500	1	07/23/2024 16:03	<a href="#">WG2325886</a>
Molybdenum	ND		0.00100	1	07/23/2024 16:03	<a href="#">WG2325886</a>
Selenium	ND		0.00500	1	07/23/2024 16:03	<a href="#">WG2325886</a>
Thallium	ND		0.000500	1	07/23/2024 16:03	<a href="#">WG2325886</a>

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	ND		0.500	1	07/18/2024 23:39	<a href="#">WG2325116</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	07/14/2024 03:20	<a href="#">WG2322270</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	0.171		0.0150	1	07/22/2024 10:58	<a href="#">WG2323840</a>

## Metals (ICPMS) by Method 6020

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00500	1	07/23/2024 16:29	<a href="#">WG2325886</a>
Arsenic	0.000511	B	0.000500	1	07/23/2024 16:29	<a href="#">WG2325886</a>
Barium	0.0164		0.00300	1	07/23/2024 16:29	<a href="#">WG2325886</a>
Beryllium	0.00482		0.000500	1	07/24/2024 14:43	<a href="#">WG2325886</a>
Cadmium	ND		0.00100	1	07/23/2024 16:29	<a href="#">WG2325886</a>
Chromium	ND		0.00300	1	07/23/2024 16:29	<a href="#">WG2325886</a>
Cobalt	0.0384		0.000500	1	07/23/2024 16:29	<a href="#">WG2325886</a>
Lead	ND		0.000500	1	07/23/2024 16:29	<a href="#">WG2325886</a>
Molybdenum	ND		0.00100	1	07/23/2024 16:29	<a href="#">WG2325886</a>
Selenium	ND		0.00500	1	07/23/2024 16:29	<a href="#">WG2325886</a>
Thallium	ND		0.000500	1	07/23/2024 16:29	<a href="#">WG2325886</a>

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	ND		0.500	1	07/18/2024 23:51	<a href="#">WG2325116</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	07/18/2024 11:15	<a href="#">WG2323091</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	ND		0.0150	1	07/31/2024 13:24	<a href="#">WG2332125</a>

## Metals (ICPMS) by Method 6020

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00500	1	07/23/2024 16:35	<a href="#">WG2325886</a>
Arsenic	ND		0.000500	1	07/23/2024 16:35	<a href="#">WG2325886</a>
Barium	ND		0.00300	1	07/23/2024 16:35	<a href="#">WG2325886</a>
Beryllium	ND		0.000500	1	07/24/2024 14:50	<a href="#">WG2325886</a>
Cadmium	ND		0.00100	1	07/23/2024 16:35	<a href="#">WG2325886</a>
Chromium	ND		0.00300	1	07/23/2024 16:35	<a href="#">WG2325886</a>
Cobalt	ND		0.000500	1	07/23/2024 16:35	<a href="#">WG2325886</a>
Lead	ND		0.000500	1	07/23/2024 16:35	<a href="#">WG2325886</a>
Molybdenum	ND		0.00100	1	07/23/2024 16:35	<a href="#">WG2325886</a>
Selenium	ND		0.00500	1	07/23/2024 16:35	<a href="#">WG2325886</a>
Thallium	ND		0.000500	1	07/23/2024 16:35	<a href="#">WG2325886</a>

WG2325116

Wet Chemistry by Method 9056A

## QUALITY CONTROL SUMMARY

[L1755981-01,02,03,04,05,06,07,08,09,10,11,12](#)

## Method Blank (MB)

(MB) R4095841-1 07/18/24 18:54

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Fluoride	U		0.0947	0.500

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

## Laboratory Control Sample (LCS)

(LCS) R4095841-2 07/18/24 19:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Fluoride	5.00	5.48	110	80.0-120	

## L1752543-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1752543-01 07/18/24 19:17 • (MS) R4095841-3 07/19/24 09:01 • (MSD) R4095841-4 07/19/24 09:13

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Fluoride	5.00	ND	5.53	5.57	111	111	1	80.0-120			0.645	20

## L1755981-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1755981-11 07/18/24 23:39 • (MS) R4095841-5 07/19/24 09:24 • (MSD) R4095841-6 07/19/24 09:36

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Fluoride	5.00	ND	5.75	5.83	109	111	1	80.0-120			1.42	20

ACCOUNT:

Alliance Technical Group - Bryant, AR

PROJECT:

1145-21-080

SDG:

L1755981

DATE/TIME:

08/07/24 15:50

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Mercury by Method 7470A

## QUALITY CONTROL SUMMARY

[L1755981-01,02,03,04,05,06,07,08,09,10,11](#)

## Method Blank (MB)

(MB) R4093542-1 07/14/24 02:23

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Mercury	U		0.000100	0.000200

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

## Laboratory Control Sample (LCS)

(LCS) R4093542-2 07/14/24 02:25

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Mercury	0.00300	0.00300	100	80.0-120	

## L1755981-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1755981-06 07/14/24 02:27 • (MS) R4093542-4 07/14/24 02:32 • (MSD) R4093542-5 07/14/24 02:39

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00296	0.00287	98.6	95.6	1	75.0-125			3.12	20

## QUALITY CONTROL SUMMARY

[L1755981-12](#)

## Method Blank (MB)

(MB) R4095469-1 07/18/24 10:49

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Mercury	U		0.000100	0.000200

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

## Laboratory Control Sample (LCS)

(LCS) R4095469-2 07/18/24 10:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Mercury	0.00300	0.00302	101	80.0-120	

## L1756531-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1756531-15 07/18/24 11:02 • (MS) R4095469-4 07/18/24 11:10 • (MSD) R4095469-5 07/18/24 11:12

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00315	0.00313	105	104	1	75.0-125		0.746	20

WG2323840

Metals (ICP) by Method 6010B

## QUALITY CONTROL SUMMARY

[L1755981-01,02,03,04,05,06,07,08,09,10,11](#)

## Method Blank (MB)

(MB) R4096818-6 07/22/24 11:13

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

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

## Laboratory Control Sample (LCS)

(LCS) R4096818-7 07/22/24 11:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Lithium	1.00	1.01	101	80.0-120	

## L1755863-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1755863-05 07/22/24 10:18 • (MS) R4096818-4 07/22/24 10:21 • (MSD) R4096818-5 07/22/24 10:23

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Lithium	1.00	0.0793	1.09	1.10	101	102	1	75.0-125		0.604	20

## QUALITY CONTROL SUMMARY

[L1755981-12](#)

## Method Blank (MB)

(MB) R4100919-1 07/31/24 13:13

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

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

## Laboratory Control Sample (LCS)

(LCS) R4100919-2 07/31/24 13:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Lithium	1.00	0.937	93.7	80.0-120	

## L1759264-17 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1759264-17 07/31/24 13:17 • (MS) R4100919-4 07/31/24 13:20 • (MSD) R4100919-5 07/31/24 13:22

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Lithium	1.00	ND	0.949	0.940	94.9	94.0	1	75.0-125		0.891	20

## QUALITY CONTROL SUMMARY

[L1755981-01,02,03,04,05,06,07,08,09,10,11,12](#)

## Method Blank (MB)

(MB) R4097425-1 07/23/24 14:17

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.00154	0.00500
Arsenic	0.000381	J	0.000140	0.000500
Barium	U		0.000340	0.00300
Cadmium	U		0.000220	0.00100
Chromium	U		0.000470	0.00300
Cobalt	U		0.0000480	0.000500
Lead	U		0.0000900	0.000500
Molybdenum	0.00185		0.000270	0.00100
Selenium	U		0.00152	0.00500
Thallium	0.000464	J	0.0000800	0.000500

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

## Method Blank (MB)

(MB) R4097425-5 07/23/24 17:31

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Beryllium	U		0.000130	0.000500

## Laboratory Control Sample (LCS)

(LCS) R4097425-2 07/23/24 14:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Antimony	0.100	0.0874	87.4	80.0-120	
Arsenic	0.100	0.0831	83.1	80.0-120	
Barium	0.100	0.0847	84.7	80.0-120	
Cadmium	0.100	0.0888	88.8	80.0-120	
Chromium	0.100	0.0873	87.3	80.0-120	
Cobalt	0.100	0.0845	84.5	80.0-120	
Lead	0.100	0.0875	87.5	80.0-120	
Molybdenum	0.100	0.0882	88.2	80.0-120	
Selenium	0.100	0.0844	84.4	80.0-120	
Thallium	0.100	0.0862	86.2	80.0-120	

## QUALITY CONTROL SUMMARY

[L1755981-01,02,03,04,05,06,07,08,09,10,11,12](#)

## Laboratory Control Sample (LCS)

(LCS) R4097425-6 07/23/24 17:37

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Beryllium	0.100	0.0901	90.1	80.0-120	

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

## L1757177-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1757177-01 07/23/24 17:00 • (MS) R4097425-3 07/23/24 17:06 • (MSD) R4097425-4 07/23/24 17:12

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Antimony	0.100	ND	0.0989	0.0932	98.9	93.2	1	75.0-125			5.96	20
Arsenic	0.100	0.00717	0.102	0.0958	94.7	88.6	1	75.0-125			6.19	20
Barium	0.100	0.101	0.202	0.188	101	87.2	1	75.0-125			7.25	20
Cadmium	0.100	0.00251	0.102	0.0947	99.5	92.2	1	75.0-125			7.45	20
Chromium	0.100	0.00376	0.104	0.0963	99.8	92.6	1	75.0-125			7.21	20
Cobalt	0.100	0.00215	0.0978	0.0909	95.6	88.8	1	75.0-125			7.29	20
Lead	0.100	0.244	0.346	0.317	102	73.8	1	75.0-125	J6		8.52	20
Molybdenum	0.100	0.145	0.208	0.190	63.2	45.2	1	75.0-125	J6		9.03	20
Selenium	0.100	ND	0.0880	0.0887	88.0	88.7	1	75.0-125			0.709	20
Thallium	0.100	ND	0.0953	0.0901	95.3	90.1	1	75.0-125			5.57	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.	<sup>1</sup> Cp
ND	Not detected at the Reporting Limit (or MDL where applicable).	<sup>2</sup> Tc
RDL	Reported Detection Limit.	<sup>3</sup> Ss
Rec.	Recovery.	<sup>4</sup> Cn
RPD	Relative Percent Difference.	<sup>5</sup> Sr
SDG	Sample Delivery Group.	<sup>6</sup> Qc
U	Not detected at the Reporting Limit (or MDL where applicable).	<sup>7</sup> GI
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.	<sup>8</sup> AI
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.	<sup>9</sup> SC
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

B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

# 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 <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	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 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

Pace Analytical Services, LLC -Dallas 400 W. Bethany Drive Suite 190 Allen, TX 75013

Arkansas	88-0647	Kansas	E10388
Florida	E871118	Texas	T104704232-23-39
Iowa	408	Oklahoma	8727
Louisiana	30686		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> 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.

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc

Company Name/Address: <b>Alliance Technical Group - Bryant, AR</b> 219 Brown Lane Little Rock, AR 72022		Billing Information: Accounts Payable 219 Brown Ln. Bryant, AR 72022		Pres Chk	Analysis / Container / Preservative						Chain of Custody Page ___ of ___				
					N	N	N						Pace PEOPLE ADVANCING SCIENCE		
Report to: <b>Jonathan Brown</b>		Email To: Jonathan.Brown@AllianceTG.com;Jhouse@trcc											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: <a href="https://info.pacelabs.com/hubs/pas-standard-terms.pdf">https://info.pacelabs.com/hubs/pas-standard-terms.pdf</a>		
Project Description: Entergy - White Bluff		City/State Collected: <i>Redeem, AR</i>	Please Circle: PT MT CT ET										SDG # <i>U755981</i>		
Phone: <b>501-847-7077</b>	Client Project # <b>1145-21-080</b>	Lab Project # <b>GBMCBAR-ENTERGYWB</b>											L-177		
Collected by (print): <i>JLC/krs</i>	Site/Facility ID #	P.O. #											Assay: <i>CDR/EMI</i>		
Collected by (signature):	Rush? (Lab MUST Be Notified)	Quote #											Template: <b>T224865</b>		
Immediately Packed on Ice N <u>Y</u>	Same Day <input type="checkbox"/> Five Day <input checked="" type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day <input type="checkbox"/>	Date Results Needed	No. of Cntrs										Prelogin: <b>P1087081</b>		
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time								PM: 829 - Brittnie L Boyd PB: <i>7-124-BK</i>		
RP-1	G	GW	7-8-24	1225	4	✓	✓	✗	✗				pH -01		
RP-2		GW	7-8-24	1120	4	✗	✗	✗	✗				3.50 -02		
RP-3		GW	7-10-24	1025	4	✗	✗	✗	✗				3.70 -03		
RP-4		GW	7-8-24	1410	4	✗	✗	✗	✗				4.45 -04		
RP-5		GW	7-10-24	1340	4	✗	✗	✗	✗				5.99 -05		
RP-6		GW	7-10-24	1300	4	✗	✗	✗	✗				3.47 -06		
RP-7		GW	7-10-24	1215	4	✗	✗	✗	✗				3.98 -07		
RP-8		GW	7-10-24	140	4	✗	✗	✗	✗				3.45 -08		
RP-9		GW	7-9-24	1520	4	✗	✗	✗	✗				7.20 -09		
RP-10		GW	7-8-24	300	4	✗	✗	✗	✗				6.43 -10		
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWATER DW - Drinking Water OT - Other	Remarks: Metals = As, Ba, Be, Cd, Co, Cr, Hg, Li, Mo, Pb, Sb, Se, Tl						pH	Temp	Sample Receipt Checklist						
									COC Seal Present/Intact: <input checked="" type="checkbox"/> N						
							Flow	Other	COC Signed/Accurate: <input checked="" type="checkbox"/> N						
									Bottles arrive intact: <input checked="" type="checkbox"/> N						
									Correct bottles used: <input checked="" type="checkbox"/> N						
									Sufficient volume sent: <input checked="" type="checkbox"/> N						
									If Applicable						
									VOA Zero Headspace: <input checked="" type="checkbox"/> N						
									Preservation Correct/Checked: <input checked="" type="checkbox"/> N						
									RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> N						
Relinquished by : (Signature) <i>Randy Collett</i>	Date: 7-11-24	Time: 1050	Received by: (Signature)			Trip Blank Received: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> HCl / MeOH TBR			If preservation required by Login: Date/Time						
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)			Temp:	°C	Bottles Received: 48							
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) <i>Harley R. Baker</i>			Date: 7/12/24	Time: 0900	Hold:	Condition: NCF / OK						

Company Name/Address:

**Alliance Technical Group - Bryant, AR**219 Brown Lane  
Little Rock, AR 72022Report to:  
**Jonathan Brown**Project Description:  
**Entergy - White Bluff**Phone: **501-847-7077**

## Billing Information:

Accounts Payable  
219 Brown Ln.  
Bryant, AR 72022Pres  
ChkEmail To:  
**Jonathan.Brown@AllianceTG.com;Jhouse@trcc**City/State  
Collected: **Redfield, AR**Please Circle:  
PT MT CT ETClient Project #  
**1145-21-080**Lab Project #  
**GBMCBAR-ENTERGYWB**Collected by (print):  
**SLC/KRS**

Site/Facility ID #

P.O. #

Collected by (signature):

**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  
CntrsImmediately  
Packed on Ice N  Y 

Sample ID

Comp/Grab

Matrix \*

Depth

Date

Time

DUPLICATE

**(CRP-5)****G****GW****7-10-24****1340****H****3.47****-11**

FIELD BLANK

**S****GW****7-10-24****1515****H****-****-12**

\* Matrix:  
 SS - Soil AIR - Air F - Filter  
 GW - Groundwater B - Bioassay  
 WW - WasteWATER  
 DW - Drinking Water  
 OT - Other \_\_\_\_\_

Remarks:Metals = As,Ba,Be,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Samples returned via:  
**UPS FedEx Courier**

Tracking #

Sample Receipt Checklist	
COC Seal Present/Intact:	<input checked="" type="checkbox"/> N
COC Signed/Accurate:	<input checked="" type="checkbox"/> N
Bottles arrive intact:	<input checked="" type="checkbox"/> N
Correct bottles used:	<input checked="" type="checkbox"/> N
Sufficient volume sent:	<input checked="" type="checkbox"/> N
If Applicable	
VOA Zero Headspace:	<input checked="" type="checkbox"/> N
Preservation Correct/Checked:	<input checked="" type="checkbox"/> N
RAD Screen <0.5 mR/hr:	<input checked="" type="checkbox"/> N

Relinquished by : (Signature)

Date:

**7/11/24 1050**

Time:

Received by: (Signature)

Trip Blank Received: Yes / No

  
HCl / MeOH  
TBR

Relinquished by : (Signature)

Date:

Time:

Received by: (Signature)

Temp: °C Bottles Received:

**48**

If preservation required by Login: Date/Time

Relinquished by : (Signature)

Date:

Time:

Received for lab by: (Signature)

Date:

**7/12/24 0900**

Time:

Hold:

Condition:

 NCF / OK

Chain of Custody Page \_\_\_\_ of \_\_\_\_

**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 # **U7E50981**

Table #

Acctnum: **GBMCBAR**Template: **T224865**Prelogin: **P1087081**

PM: 829 - Brittne L Boyd

PB: **1124 BK**Shipped Via: **FedEX Ground**

Remarks	Sample # (lab only)
<b>pH</b>	

UR5598

Name \_\_\_\_\_

Date



# ANALYTICAL REPORT

July 29, 2024

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>GI

<sup>8</sup>AI

<sup>9</sup>SC

## Alliance Technical Group - Bryant, AR

Sample Delivery Group: L1755983  
Samples Received: 07/12/2024  
Project Number: 1145-21-080  
Description: Entergy - White Bluff  
Site: WHITE BLUFF  
Report To:  
Jonathan Brown  
219 Brown Lane  
Little Rock, 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

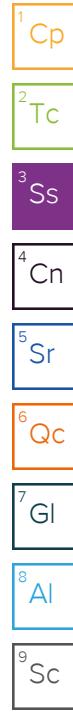
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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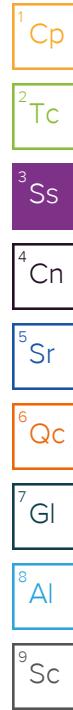
# SAMPLE SUMMARY

			Collected by JLC/KRS	Collected date/time 07/08/24 12:25	Received date/time 07/12/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2324660	1	07/18/24 14:26	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2323576	1	07/16/24 11:09	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2323576	1	07/16/24 11:09	07/17/24 15:26	ZRG	Mt. Juliet, TN
<b>RP-2 L1755983-02 Non-Potable Water</b>			Collected by JLC/KRS	Collected date/time 07/08/24 11:20	Received date/time 07/12/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2324660	1	07/18/24 14:26	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2323576	1	07/16/24 11:09	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2323576	1	07/16/24 11:09	07/17/24 15:26	ZRG	Mt. Juliet, TN
<b>RP-3 L1755983-03 Non-Potable Water</b>			Collected by JLC/KRS	Collected date/time 07/10/24 10:25	Received date/time 07/12/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2324660	1	07/18/24 14:26	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2323576	1	07/16/24 11:09	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2323576	1	07/16/24 11:09	07/17/24 15:26	ZRG	Mt. Juliet, TN
<b>RP-4 L1755983-04 Non-Potable Water</b>			Collected by JLC/KRS	Collected date/time 07/08/24 14:10	Received date/time 07/12/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2324660	1	07/18/24 14:26	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2323576	1	07/16/24 11:09	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2323576	1	07/16/24 11:09	07/17/24 15:26	ZRG	Mt. Juliet, TN
<b>RP-5 L1755983-05 Non-Potable Water</b>			Collected by JLC/KRS	Collected date/time 07/10/24 13:40	Received date/time 07/12/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2324660	1	07/18/24 14:26	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2323576	1	07/16/24 11:09	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2323576	1	07/16/24 11:09	07/17/24 15:26	ZRG	Mt. Juliet, TN
<b>RP-6 L1755983-06 Non-Potable Water</b>			Collected by JLC/KRS	Collected date/time 07/10/24 13:00	Received date/time 07/12/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2324660	1	07/18/24 14:26	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2323576	1	07/16/24 11:09	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2323576	1	07/16/24 11:09	07/17/24 15:26	ZRG	Mt. Juliet, TN



# SAMPLE SUMMARY

			Collected by JLC/KRS	Collected date/time 07/10/24 12:15	Received date/time 07/12/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2324660	1	07/18/24 14:26	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2323576	1	07/16/24 11:09	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2323576	1	07/16/24 11:09	07/17/24 15:26	ZRG	Mt. Juliet, TN
<b>RP-8 L1755983-08 Non-Potable Water</b>			Collected by JLC/KRS	Collected date/time 07/10/24 11:40	Received date/time 07/12/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2324660	1	07/18/24 14:26	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2323576	1	07/16/24 11:09	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2323576	1	07/16/24 11:09	07/17/24 15:26	ZRG	Mt. Juliet, TN
<b>RP-9 L1755983-09 Non-Potable Water</b>			Collected by JLC/KRS	Collected date/time 07/08/24 15:20	Received date/time 07/12/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2324660	1	07/18/24 14:26	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2323576	1	07/16/24 11:09	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2323576	1	07/16/24 11:09	07/17/24 15:26	ZRG	Mt. Juliet, TN
<b>RP-10 L1755983-10 Non-Potable Water</b>			Collected by JLC/KRS	Collected date/time 07/08/24 13:20	Received date/time 07/12/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2324660	1	07/18/24 14:26	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2323576	1	07/16/24 11:09	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2323576	1	07/16/24 11:09	07/17/24 15:26	ZRG	Mt. Juliet, TN
<b>DUPLICATE (RP-5) L1755983-11 Non-Potable Water</b>			Collected by JLC/KRS	Collected date/time 07/10/24 13:40	Received date/time 07/12/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2324660	1	07/18/24 14:26	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2323576	1	07/16/24 11:09	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2323576	1	07/16/24 11:09	07/17/24 15:26	ZRG	Mt. Juliet, TN
<b>FIELD BLANK L1755983-12 Non-Potable Water</b>			Collected by JLC/KRS	Collected date/time 07/10/24 15:15	Received date/time 07/12/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2324660	1	07/18/24 14:26	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2323576	1	07/16/24 11:09	07/24/24 14:08	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2323576	1	07/16/24 11:09	07/17/24 15:26	ZRG	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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> GI
- <sup>8</sup> AI
- <sup>9</sup> Sc

RP-1

Collected date/time: 07/08/24 12:25

## SAMPLE RESULTS - 01

L1755983

## Radiochemistry by Method 904/9320

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
RADIUM-228	6.90		0.328	0.428	0.442	0.232	07/24/2024 14:08	<a href="#">WG2324660</a>
( <i>T</i> ) Barium	97.0					30.0-143	07/24/2024 14:08	<a href="#">WG2324660</a>
( <i>T</i> ) Yttrium	101					30.0-136	07/24/2024 14:08	<a href="#">WG2324660</a>

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

## Radiochemistry by Method Calculation

Analyte	Result	<u>Qualifier</u>	Uncertainty	MDA	Analysis Date	<u>Batch</u>
Combined Radium	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	8.49		0.614	0.576	07/24/2024 14:08	<a href="#">WG2323576</a>

## Radiochemistry by Method SM7500Ra B M

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
RADIUM-226	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
( <i>T</i> ) Barium-133	1.59		0.519	0.647	0.370	0.242	07/17/2024 15:26	<a href="#">WG2323576</a>
( <i>T</i> ) Barium-133	90.4					30.0-143	07/17/2024 15:26	<a href="#">WG2323576</a>

<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc

RP-2

Collected date/time: 07/08/24 11:20

## SAMPLE RESULTS - 02

L1755983

## Radiochemistry by Method 904/9320

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.228	TPU 0.331	MDA 0.398	Lc 0.210	Analysis Date date / time 07/24/2024 14:08	<u>Batch</u> <a href="#">WG2324660</a>
RADIUM-228	1.31							
(T) Barium	91.9					30.0-143	07/24/2024 14:08	<a href="#">WG2324660</a>
(T) Yttrium	101					30.0-136	07/24/2024 14:08	<a href="#">WG2324660</a>

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

## Radiochemistry by Method Calculation

Analyte	Result pCi/l	<u>Qualifier</u> + / -	Uncertainty 0.582	MDA 0.516	Analysis Date date / time 07/24/2024 14:08	<u>Batch</u> <a href="#">WG2323576</a>
Combined Radium	2.83					

## Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.535	TPU 0.695	MDA 0.328	Lc 0.232	Analysis Date date / time 07/17/2024 15:26	<u>Batch</u> <a href="#">WG2323576</a>
RADIUM-226	1.52							
(T) Barium-133	72.3					30.0-143	07/17/2024 15:26	<a href="#">WG2323576</a>

## Radiochemistry by Method 904/9320

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
RADIUM-228	4.16		0.265	0.364	0.379	0.200	07/24/2024 14:08	<a href="#">WG2324660</a>
(T) Barium	114					30.0-143	07/24/2024 14:08	<a href="#">WG2324660</a>
(T) Yttrium	104					30.0-136	07/24/2024 14:08	<a href="#">WG2324660</a>

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

## Radiochemistry by Method Calculation

Analyte	Result	<u>Qualifier</u>	Uncertainty	MDA	Analysis Date	<u>Batch</u>
Combined Radium	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	6.19		0.669	0.486	07/24/2024 14:08	<a href="#">WG2323576</a>

## Radiochemistry by Method SM7500Ra B M

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
RADIUM-226	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
(T) Barium-133	2.03		0.614	0.747	0.305	0.222	07/17/2024 15:26	<a href="#">WG2323576</a>
(T) Barium-133	82.6					30.0-143	07/17/2024 15:26	<a href="#">WG2323576</a>

<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

RP-4

Collected date/time: 07/08/24 14:10

## SAMPLE RESULTS - 04

L1755983

## Radiochemistry by Method 904/9320

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.213	TPU 0.315	MDA 0.389	Lc 0.206	Analysis Date date / time 07/24/2024 14:08	<u>Batch</u> <a href="#">WG2324660</a>
RADIUM-228	0.766					30.0-143	07/24/2024 14:08	<a href="#">WG2324660</a>
(T) Barium	93.6					30.0-143	07/24/2024 14:08	<a href="#">WG2324660</a>
(T) Yttrium	100					30.0-136	07/24/2024 14:08	<a href="#">WG2324660</a>

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

## Radiochemistry by Method Calculation

Analyte	Result pCi/l	<u>Qualifier</u> + / -	Uncertainty 0.454	MDA 0.502	Analysis Date date / time 07/24/2024 14:08	<u>Batch</u> <a href="#">WG2323576</a>
Combined Radium	1.54					

## Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.401	TPU 0.565	MDA 0.318	Lc 0.232	Analysis Date date / time 07/17/2024 15:26	<u>Batch</u> <a href="#">WG2323576</a>
RADIUM-226	0.772							
(T) Barium-133	74.4					30.0-143	07/17/2024 15:26	<a href="#">WG2323576</a>

## Radiochemistry by Method 904/9320

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
RADIUM-228	2.81		0.231	0.331	0.346	0.184	07/24/2024 14:08	<a href="#">WG2324660</a>
(T) Barium	98.5					30.0-143	07/24/2024 14:08	<a href="#">WG2324660</a>
(T) Yttrium	104					30.0-136	07/24/2024 14:08	<a href="#">WG2324660</a>

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

## Radiochemistry by Method Calculation

Analyte	Result	<u>Qualifier</u>	Uncertainty	MDA	Analysis Date	<u>Batch</u>
Combined Radium	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	3.25		0.382	0.470	07/24/2024 14:08	<a href="#">WG2323576</a>

## Radiochemistry by Method SM7500Ra B M

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
RADIUM-226	0.437		0.304	0.451	0.318	0.222	07/17/2024 15:26	<a href="#">WG2323576</a>
(T) Barium-133	76.8					30.0-143	07/17/2024 15:26	<a href="#">WG2323576</a>

RP-6

Collected date/time: 07/10/24 13:00

## SAMPLE RESULTS - 06

L1755983

## Radiochemistry by Method 904/9320

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.517	TPU 0.617	MDA 0.456	Lc 0.239	Analysis Date date / time 07/24/2024 14:08	<u>Batch</u> <a href="#">WG2324660</a>
RADIUM-228	5.83					30.0-143	07/24/2024 14:08	<a href="#">WG2324660</a>
( <i>T</i> ) Barium	101					30.0-143	07/24/2024 14:08	<a href="#">WG2324660</a>
( <i>T</i> ) Yttrium	97.0					30.0-136	07/24/2024 14:08	<a href="#">WG2324660</a>

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

## Radiochemistry by Method Calculation

Analyte	Result pCi/l	<u>Qualifier</u> + / -	Uncertainty 0.656	MDA 0.490	Analysis Date date / time 07/24/2024 14:08	<u>Batch</u> <a href="#">WG2323576</a>
Combined Radium	6.91					

## Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.403	TPU 0.538	MDA 0.178	Lc 0.147	Analysis Date date / time 07/17/2024 15:26	<u>Batch</u> <a href="#">WG2323576</a>
RADIUM-226	1.08					30.0-143	07/17/2024 15:26	<a href="#">WG2323576</a>
( <i>T</i> ) Barium-133	81.1							

<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc

## Radiochemistry by Method 904/9320

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.601	TPU 0.716	MDA 0.577	Lc 0.303	Analysis Date date / time 07/24/2024 14:08	<u>Batch</u> <a href="#">WG2324660</a>
RADIUM-228	4.06							
(T) Barium	81.9					30.0-143	07/24/2024 14:08	<a href="#">WG2324660</a>
(T) Yttrium	90.7					30.0-136	07/24/2024 14:08	<a href="#">WG2324660</a>

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

## Radiochemistry by Method Calculation

Analyte	Result pCi/l	<u>Qualifier</u> + / -	Uncertainty 0.846	MDA 0.644	Analysis Date date / time 07/24/2024 14:08	<u>Batch</u> <a href="#">WG2323576</a>
Combined Radium	5.53					

## Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.595	TPU 0.780	MDA 0.285	Lc 0.235	Analysis Date date / time 07/17/2024 15:26	<u>Batch</u> <a href="#">WG2323576</a>
RADIUM-226	1.47							
(T) Barium-133	57.5					30.0-143	07/17/2024 15:26	<a href="#">WG2323576</a>

<sup>9</sup> Sc

RP-8

Collected date/time: 07/10/24 11:40

## SAMPLE RESULTS - 08

L1755983

## Radiochemistry by Method 904/9320

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
RADIUM-228	-0.283	<u>U</u>	0.448	0.555	0.492	0.258	07/24/2024 14:08	<u>WG2324660</u>
( <i>T</i> ) Barium	88.7					30.0-143	07/24/2024 14:08	<u>WG2324660</u>
( <i>T</i> ) Yttrium	98.3					30.0-136	07/24/2024 14:08	<u>WG2324660</u>

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

## Radiochemistry by Method Calculation

Analyte	Result	<u>Qualifier</u>	Uncertainty	MDA	Analysis Date	<u>Batch</u>
Combined Radium	0.189	<u>J</u>	0.478	0.523	07/24/2024 14:08	<u>WG2323576</u>

## Radiochemistry by Method SM7500Ra B M

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
RADIUM-226	0.189		0.167	0.293	0.178	0.140	07/17/2024 15:26	<u>WG2323576</u>
( <i>T</i> ) Barium-133	85.9					30.0-143	07/17/2024 15:26	<u>WG2323576</u>

RP-9

Collected date/time: 07/08/24 15:20

## SAMPLE RESULTS - 09

L1755983

## Radiochemistry by Method 904/9320

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
RADIUM-228	0.205	J	0.361	0.464	0.390	0.206	07/24/2024 14:08	WG2324660
(T) Barium	93.6					30.0-143	07/24/2024 14:08	WG2324660
(T) Yttrium	98.7					30.0-136	07/24/2024 14:08	WG2324660

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

## Radiochemistry by Method Calculation

Analyte	Result	<u>Qualifier</u>	Uncertainty	MDA	Analysis Date	<u>Batch</u>
Combined Radium	0.478	J	0.473	0.567	07/24/2024 14:08	WG2323576

## Radiochemistry by Method SM7500Ra B M

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
RADIUM-226	0.273	J	0.305	0.474	0.411	0.285	07/17/2024 15:26	WG2323576
(T) Barium-133	62.8					30.0-143	07/17/2024 15:26	WG2323576

## Radiochemistry by Method 904/9320

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.393	TPU 0.500	MDA 0.395	Lc 0.210	Analysis Date date / time 07/24/2024 14:08	<u>Batch</u> <a href="#">WG2324660</a>
RADIUM-228	1.48							
(T) Barium	86.4					30.0-143	07/24/2024 14:08	<a href="#">WG2324660</a>
(T) Yttrium	113					30.0-136	07/24/2024 14:08	<a href="#">WG2324660</a>

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

## Radiochemistry by Method Calculation

Analyte	Result pCi/l	<u>Qualifier</u> + / -	Uncertainty 0.442	MDA 0.506	Analysis Date date / time 07/24/2024 14:08	<u>Batch</u> <a href="#">WG2323576</a>
Combined Radium	1.60					

## Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.203	TPU 0.337	MDA 0.317	Lc 0.218	Analysis Date date / time 07/17/2024 15:26	<u>Batch</u> <a href="#">WG2323576</a>
RADIUM-226	0.117	J						
(T) Barium-133	86.5					30.0-143	07/17/2024 15:26	<a href="#">WG2323576</a>

<sup>9</sup> Sc

## Radiochemistry by Method 904/9320

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.447	TPU 0.553	MDA 0.390	Lc pCi/l	Analysis Date date / time 07/24/2024 14:08	<u>Batch</u> <a href="#">WG2324660</a>
RADIUM-228	4.41							
( <i>T</i> ) Barium	96.0					30.0-143	07/24/2024 14:08	<a href="#">WG2324660</a>
( <i>T</i> ) Yttrium	90.2					30.0-136	07/24/2024 14:08	<a href="#">WG2324660</a>

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

## Radiochemistry by Method Calculation

Analyte	Result pCi/l	<u>Qualifier</u> + / -	Uncertainty 0.633	MDA 0.575	Analysis Date date / time 07/24/2024 14:08	<u>Batch</u> <a href="#">WG2323576</a>
Combined Radium	5.26					

## Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.448	TPU 0.581	MDA 0.423	Lc pCi/l	Analysis Date date / time 07/17/2024 15:26	<u>Batch</u> <a href="#">WG2323576</a>
RADIUM-226	0.853							
( <i>T</i> ) Barium-133	80.9					30.0-143	07/17/2024 15:26	<a href="#">WG2323576</a>

## Radiochemistry by Method 904/9320

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
RADIUM-228	-0.280	<u>U</u>	0.508	0.615	0.553	0.289	07/24/2024 14:08	<u>WG2324660</u>
( <i>T</i> ) Barium	103					30.0-143	07/24/2024 14:08	<u>WG2324660</u>
( <i>T</i> ) Yttrium	87.3					30.0-136	07/24/2024 14:08	<u>WG2324660</u>

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

## Radiochemistry by Method Calculation

Analyte	Result	<u>Qualifier</u>	Uncertainty	MDA	Analysis Date	<u>Batch</u>
Combined Radium	0.110	<u>U</u>	0.606	0.811	07/24/2024 14:08	<u>WG2323576</u>

## Radiochemistry by Method SM7500Ra B M

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
RADIUM-226	0.110	<u>U</u>	0.330	0.549	0.593	0.415	07/17/2024 15:26	<u>WG2323576</u>
( <i>T</i> ) Barium-133	48.8					30.0-143	07/17/2024 15:26	<u>WG2323576</u>

## QUALITY CONTROL SUMMARY

[L1755983-01,02,03,04,05,06,07,08,09,10,11,12](#)

## Method Blank (MB)

(MB) R4098632-1 07/24/24 14:08

Analyte	MB Result pCi/l	<u>MB Qualifier</u>	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.209	J	0.171	0.327	0.172
(T) Barium	104		104		
(T) Yttrium	94.2		94.2		

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

## L1755983-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1755983-07 07/24/24 14:08 • (DUP) R4098632-5 07/24/24 14:08

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER 1.33	<u>DUP Qualifier</u>	DUP RPD Limits %	DUP RER Limit 3
Radium-228	4.06	0.601	0.577	0.303	3.04	0.475	0.811	0.431	28.7			20	
(T) Barium	81.9				88.1	88.1							
(T) Yttrium	90.7				94.6	94.6							

## Laboratory Control Sample (LCS)

(LCS) R4098632-2 07/24/24 14:08

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Radium-228	5.00	5.73	115	80.0-120	
(T) Barium			115		
(T) Yttrium			93.4		

## L1755026-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1755026-01 07/24/24 14:08 • (MS) R4098632-3 07/24/24 14:08 • (MSD) R4098632-4 07/24/24 14:08

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MS Rec. %	MSD Rec. %	Dilution 1	Rec. Limits 70.0-130	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD 6.48	MS RER %	RPD Limits 20
Radium-228	16.7	0.331	15.8	16.9	92.8	99.2						
(T) Barium		118		114	118							
(T) Yttrium		92.2		111	109							

## QUALITY CONTROL SUMMARY

[L1755983-01,02,03,04,05,06,07,08,09,10,11,12](#)

## Method Blank (MB)

(MB) R4095438-1 07/17/24 15:19

Analyte	MB Result pCi/l	<u>MB Qualifier</u> + / -	MB 2 sigma CE pCi/l	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.0312	J	0.0393	0.0598	0.0384
(T) Barium-133	68.5		68.5		

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

## L1756483-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1756483-04 07/17/24 15:26 • (DUP) R4095438-5 07/17/24 15:26

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER %	<u>DUP Qualifier</u>	DUP RPD Limits %	DUP RER Limit
Radium-226	0.312	0.233	0.246	0.177	0.193	0.281	0.414	0.276	47.3	0.327	J	20	3
(T) Barium-133	92.0				79.2	79.2							

## Laboratory Control Sample (LCS)

(LCS) R4095438-2 07/17/24 15:26

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Radium-226	5.00	5.16	103	75.0-125	
(T) Barium-133			76.5		

## L1755983-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1755983-10 07/17/24 15:26 • (MS) R4095438-3 07/17/24 15:26 • (MSD) R4095438-4 07/17/24 15:26

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution %	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	MS RER	RPD Limits %
Radium-226	20.0	0.117	19.4	17.8	96.3	88.6	1	75.0-125			8.28		20
(T) Barium-133		86.5			90.2	82.1							

# 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

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
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

J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> GI

<sup>8</sup> AI

<sup>9</sup> Sc

# 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 <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	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 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> 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.

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Company Name/Address:

**Alliance Technical Group - Bryant, AR**219 Brown Lane  
Little Rock, AR 72022Report to:  
**Jonathan Brown**Project Description:  
**Entergy - White Bluff**Phone: **501-847-7077**Collected by (print):  
**JLC/KRS**Collected by (signature):  
**Immediately Packed on Ice N Y**

Sample ID

City/State  
Collected: **Kosciusko, AR**Pres  
Chk

## Billing Information:

Accounts Payable  
219 Brown Ln.  
Bryant, AR 72022Email To:  
**Jonathan.Brown@AllianceTG.com;Jhouse@trcc**Please Circle:  
PT MT CT ETClient Project #  
**1145-21-080**Lab Project #  
**GBMRCBAR-ENTERGYWB**

Site/Facility ID #

P.O. #

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

No.  
of  
Cntrs

RP-1

G

GW

7-8-24

1225

H

V

X

X

pH

-01

RP-2

G

GW

7-8-24

1120

H

X

X

3.50

-02

RP-3

G

GW

7-10-24

025

H

X

X

3.70

-03

RP-4

G

GW

7-8-24

1410

H

X

X

4.45

-04

RP-5

G

GW

7-10-24

1340

H

X

X

5.99

-05

RP-6

G

GW

7-10-24

1300

H

X

X

3.47

-06

RP-7

G

GW

7-10-24

1215

H

X

X

2.98

-07

RP-8

G

GW

7-10-24

140

H

X

X

3.45

-08

RP-9

G

GW

7-8-24

1520

H

X

X

7.30

-09

RP-10

G

GW

7-8-24

1320

H

X

X

6.42

-10

\* Matrix:

SS - Soil    AIR - Air    F - Filter

GW - Groundwater    B - Bioassay

WW - WasteWater

DW - Drinking Water

OT - Other \_\_\_\_\_

Remarks: Metals = As, Ba, Be, Cd, Co, Cr, Hg, Li, Mo, Pb, Sb, Se, Tl

Samples returned via:  
UPS   FedEx   Courier

Tracking #

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Sample Receipt Checklist	
COC Seal Present/Intact:	<input checked="" type="checkbox"/> N
COC Signed/Accurate:	<input checked="" type="checkbox"/> N
Bottles arrive intact:	<input checked="" type="checkbox"/> N
Correct bottles used:	<input checked="" type="checkbox"/> N
Sufficient volume sent:	<input checked="" type="checkbox"/> N
If Applicable	
VOA Zero Headspace:	<input checked="" type="checkbox"/> N
Preservation Correct/Checked:	<input checked="" type="checkbox"/> N
RAD Screen <0.5 mR/hr:	<input checked="" type="checkbox"/> N

Relinquished by : (Signature)

Date: **7-11-24** Time: **1050**

Received by: (Signature)

Trip Blank Received: Yes  No HCl / MeOH  
TBR

Relinquished by : (Signature)

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received by: (Signature)

Temp: **°C** Bottles Received: **48**

If preservation required by Login: Date/Time

Relinquished by : (Signature)

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received for lab by: (Signature)

Date: **7/12/24** Time: **0900**

Hold:

Condition:  
NCF / OK

Chain of Custody    Page \_\_\_\_ of \_\_\_\_

**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 # **L1755883****L-177**
 Account: **ENTERGYWB**  
 Template: **T224865**  
 Prelogin: **P1087081**  
 PM: **829 - Brittne L Boyd**  
 PB: **7-124 BK**  
 Shipped Via: **FedEX Ground**  
 Remarks      Sample # (lab only)

Company Name/Address:

**Alliance Technical Group - Bryant, AR**219 Brown Lane  
Little Rock, AR 72022

## Billing Information:

Accounts Payable  
219 Brown Ln.  
Bryant, AR 72022Pres  
Chk

## Analysis / Container / Preservative

Report to:  
**Jonathan Brown**Email To:  
**Jonathan.Brown@AllianceTG.com; jhouse@trcc**Project Description:  
Entergy - White BluffCity/State  
Collected: *Redfield, AR*Please Circle:  
PT MT CT ETPhone: **501-847-7077**Client Project #  
**1145-21-080**Lab Project #  
**GBMCBAR-ENTERGYWB**

Collected by (print):

*SLC/KRS*

Collected by (signature):

*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  
CntrsImmediately  
Packed on Ice N    Y   

Sample ID

Comp/Grab

Matrix \*

Depth

Date

Time

DUPLICATE

*(CRP-5)*

G

GW

7-10-24

1340

4

X

X

X

X

X

3.47

-1

FIELD BLANK

S

GW

7-10-24

1515

4

X

X

X

X

X

-

-12

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

Remarks: Metals = As, Ba, Be, Cd, Co, Cr, Hg, Li, Mo, Pb, Sb, Se, Tl

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Samples returned via:  
UPS FedEx Courier

Tracking #

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

Relinquished by : (Signature)

Date: *7/11/24* Time: *1050*

Received by: (Signature)

Trip Blank Received: Yes  No   
HCl / MeOH  
TBR

Relinquished by : (Signature)

Date: Time:

Received by: (Signature)

Temp: °C Bottles Received:

If preservation required by Login: Date/Time

Relinquished by : (Signature)

Date: Time:

Received for lab by: (Signature)

Date: *7/12/24* Time: *0900*

Hold:

Condition: NCF / 
**MT JULIET, TN**

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

SDG # *U755983*

Table #

Acctnum: **GBMCBAR**Template: **T224865**Prelogin: **P1087081**PM: **829 - Brittnie L Boyd**

PB:

Shipped Via: **FedEX Ground**

Remarks Sample # (lab only)

pH

*-1**-12*

UN55963

<u>Tracking Numbers</u>	<u>Temperature</u>
7315 3208 4326	4.1 + 0.3 = 4.4 ED AB
7315 3208 4353	3.6 + 0.3 = 4.1 ED AB

Company Name/Address: <b>Alliance Technical Group - Bryant, AR</b> 219 Brown Lane Little Rock, AR 72022			Billing Information: Accounts Payable 219 Brown Ln. Bryant, AR 72022			Pres Chk	Analysis / Container / Preservative						Chain of Custody	Page ____ of ____
								✓✓	✓✓	✓✓				
Report to: <b>Jonathan Brown</b>			Email To: <b>Jonathan.Brown@AllianceTG.com;jhause@trcc</b>											
Project Description: <b>Entergy - White Bluff</b>		City/State Collected: <i>R-J-B-A-R</i>		Please Circle: PT MT CT ET										
Phone: <b>501-847-7077</b>	Client Project # <b>1145-21-080</b>		Lab Project # <b>GBMCBAR-ENTERGYWB</b>											
Collected by (print): <i>JLC/KRS</i>	Site/Facility ID #		P.O. #											
Collected by (signature):	<b>Rush?</b> (Lab MUST Be Notified)			Quote #										
Immediately Packed on Ice N <u>Y</u>	<input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day			Date Results Needed			No. of Cntrs							
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time									
RP-1	G	GW		7-8-24	1225	4	✓	✓	✗					pH -01
RP-2		GW		7-8-24	1120	4	✗	✗	✗					-02
RP-3		GW		7-10-24	0225	4	✗	✗	✗					3.70 -03
RP-4		GW		7-8-24	1410	4	✗	✗	✗					7.47 -04
RP-5		GW		7-10-24	1340	4	✗	✗	✗					5.49 -05
RP-6		GW		7-10-24	1340	4	✗	✗	✗					3.47 -06
RP-7		GW		7-10-24	1215	4	✗	✗	✗					3.98 -07
RP-8		GW		7-10-24	140	4	✓	✓	✗					3.45 -08
RP-9		GW		7-8-24	1520	4	✗	✗	✗					1.20 -09
RP-10		GW		7-8-24	320	4	✓	✓	✗					6.43 -10
* Matrix: SS - Soll   AIR - Air   F - Filter GW - Groundwater   B - Bioassay WW - WasteWater DW - Drinking Water OT - Other _____	Remarks: Metals = As, Ba, Be, Cd, Co, Cr, Hg, Li, Mo, Pb, Sb, Se, Tl						pH _____	Temp _____	Flow _____	Other _____	Sample Receipt Checklist			
	<i>My Barbs 07/13/2024 0900 EOA8 2.0±0.3=2.3</i>										COC Seal Present/Intact: <input checked="" type="checkbox"/> N	COC Signed/Accurate: <input checked="" type="checkbox"/> N		
	Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier						Tracking # <i>400 7698 5900</i>						Bottles arrive intact: <input checked="" type="checkbox"/> N	Correct bottles used: <input checked="" type="checkbox"/> N
Relinquished by : (Signature) <i>Sarah Coffey</i>			Date: <i>7-11-24</i>	Time: <i>1050</i>	Received by: (Signature)			Trip Blank Received: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> HCl/HmeOH <input type="checkbox"/> TBR			Sufficient volume sent: <input checked="" type="checkbox"/> If Applicable	VOA Zero Headspace: <input checked="" type="checkbox"/> N		
Relinquished by : (Signature)			Date:	Time:	Received by: (Signature)			Temp: °C Bottles Received: <i>48</i>			Preservation Correct/Checked: <input checked="" type="checkbox"/> N	RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> N		
Relinquished by : (Signature)			Date:	Time:	Received for lab by: (Signature) <i>Haily R. Luth</i>			Date: <i>7/12/24</i>	Time: <i>0900</i>	Hold: _____		Condition: <input checked="" type="checkbox"/> NCF / <input type="checkbox"/> OK		

Company Name/Address: <b>Alliance Technical Group - Bryant, AR</b> 219 Brown Lane Little Rock, AR 72022			Billing Information: Accounts Payable 219 Brown Ln. Bryant, AR 72022			Pres Chk	Analysis / Container / Preservative						Chain of Custody	Page ____ of ____	
								✓	✓	✓					
Report to: <b>Jonathan Brown</b>			Email To: <b>Jonathan.Brown@AllianceTG.com; jhouse@trcc</b>												
Project Description: Entergy - White Bluff		City/State Collected: <i>Reed, AR</i>		Please Circle: PT MT CT ET											
Phone: <b>501-847-7077</b>	Client Project # <b>1145-21-080</b>		Lab Project # <b>GBMCBAR-ENTERGYWB</b>												
Collected by (print): <i>SLC/KRS</i>	Site/Facility ID #		P.O. #												
Collected by (signature):	<i>Rush?</i> (Lab MUST Be Notified)		Quote #												
Immediately Packed on Ice N <i>Y</i>	Same Day _____ Five Day _____		Date Results Needed		No. of Cntrs										
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time										
DUPPLICATE <i>(CRP-5)</i>	G	GW		7-10-24	1340	4	X	X	X					3.47	-11
FIELD BLANK	S	GW		7-10-24	1515	4	X	X	X					-	-12
		GW													
		GW													
		GW													
* Matrix: SS - Soil   AIR - Air   F - Filter GW - Groundwater   B - Bioassay	Remarks: Metals = As, Ba, Be, Cd, Co, Cr, Hg, Li, Mo, Pb, Sb, Se, Tl <i>Asy Barbs 07/13/24 0900 EDAB 2.0+0.3=2.3</i>												Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> NP <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> N If Applicable VOA Zero Headspace: <input checked="" type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> N		
WW - WasteWater DW - Drinking Water OT - Other _____	Samples returned via: UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier		Tracking # <i>4006 7698 5900</i>												
Relinquished by : (Signature) <i>Boots Collet</i>	Date: <i>7/11/24</i>	Time: <i>1010</i>	Received by: (Signature)			Trip Blank Received: Yes / No <input checked="" type="checkbox"/> HCl / MeOH TBR			If preservation required by Lab: Date/Time						
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)			Temp: °C Bottles Received: <i>48</i>									
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) <i>Hanley Rohrk</i>			Date: <i>7/12/24</i>	Time: <i>0900</i>	Hold:		Condition: <input checked="" type="checkbox"/> NCF / <input checked="" type="checkbox"/> OK					

UNIVERSITY

Tracking Numbers	Temperature
7315 3208 4364	4.1 + 0.3 = 4.4 ED ATC
7315 3208 4353	3.8 + 0.3 = 4.1 ED ATC

Name \_\_\_\_\_

Date



# ANALYTICAL REPORT

October 25, 2024

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>GI

<sup>8</sup>AI

<sup>9</sup>SC

## Alliance Technical Group - Bryant, AR

Sample Delivery Group: L1785834  
Samples Received: 10/05/2024  
Project Number: 1145-21-080  
Description: Entergy - White Bluff  
Site: WHITE BLUFF  
Report To:  
Jonathan Brown  
219 Brown Lane  
Little Rock, AR 72022

Entire Report Reviewed By:

Katie Ingram  
Project Manager

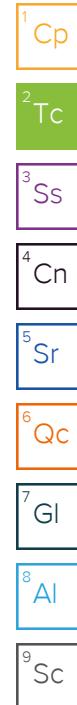
Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory 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

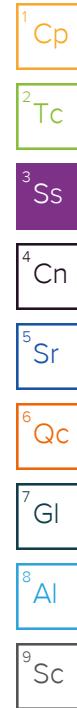
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# SAMPLE SUMMARY

		Collected by JLC/BLS	Collected date/time 10/03/24 11:45	Received date/time 10/05/24 09:00		
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2376891	10	10/08/24 01:27	10/08/24 01:27	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2376960	1	10/08/24 14:09	10/10/24 12:55	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2379526	1	10/20/24 23:45	10/23/24 07:37	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2379598	1	10/20/24 23:44	10/21/24 18:32	LD	Mt. Juliet, TN
		Collected by JLC/BLS	Collected date/time 10/03/24 10:50	Received date/time 10/05/24 09:00		
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2376891	1	10/08/24 01:40	10/08/24 01:40	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2376960	1	10/08/24 14:09	10/10/24 12:57	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2379526	1	10/20/24 23:45	10/23/24 07:38	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2379598	1	10/20/24 23:44	10/21/24 18:41	LD	Mt. Juliet, TN
		Collected by JLC/BLS	Collected date/time 10/03/24 12:30	Received date/time 10/05/24 09:00		
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2376891	10	10/08/24 01:54	10/08/24 01:54	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2376960	1	10/08/24 14:09	10/10/24 12:59	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2379526	1	10/20/24 23:45	10/23/24 07:43	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2379598	1	10/20/24 23:44	10/21/24 18:44	LD	Mt. Juliet, TN
		Collected by JLC/BLS	Collected date/time 10/02/24 15:05	Received date/time 10/05/24 09:00		
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2376891	1	10/08/24 02:07	10/08/24 02:07	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2376960	1	10/08/24 14:09	10/10/24 13:02	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2379526	1	10/20/24 23:45	10/23/24 07:45	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2379598	1	10/20/24 23:44	10/21/24 19:47	LD	Mt. Juliet, TN
		Collected by JLC/BLS	Collected date/time 10/02/24 11:20	Received date/time 10/05/24 09:00		
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2376891	1	10/08/24 02:21	10/08/24 02:21	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2376960	1	10/08/24 14:09	10/10/24 13:04	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2379526	1	10/20/24 23:45	10/23/24 07:47	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2379598	1	10/20/24 23:44	10/21/24 18:51	LD	Mt. Juliet, TN
		Collected by JLC/BLS	Collected date/time 10/02/24 12:15	Received date/time 10/05/24 09:00		
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2376891	10	10/08/24 02:34	10/08/24 02:34	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2376960	1	10/08/24 14:09	10/10/24 13:07	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2379526	1	10/20/24 23:45	10/23/24 07:48	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2379598	1	10/20/24 23:44	10/21/24 18:54	LD	Mt. Juliet, TN



# SAMPLE SUMMARY

			Collected by JLC/BLS	Collected date/time 10/02/24 12:50	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2376891	1	10/08/24 02:48	10/08/24 02:48	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2376960	1	10/08/24 14:09	10/10/24 13:09	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2379526	1	10/20/24 23:45	10/23/24 07:50	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2379598	1	10/20/24 23:44	10/21/24 18:57	LD	Mt. Juliet, TN
			Collected by JLC/BLS	Collected date/time 10/02/24 13:45	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2376891	1	10/08/24 03:01	10/08/24 03:01	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2376960	1	10/08/24 14:09	10/10/24 13:11	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2379526	1	10/20/24 23:45	10/23/24 07:52	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2379598	1	10/20/24 23:44	10/21/24 19:00	LD	Mt. Juliet, TN
			Collected by JLC/BLS	Collected date/time 10/02/24 15:45	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2376891	1	10/08/24 03:15	10/08/24 03:15	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2376961	1	10/08/24 14:06	10/10/24 13:33	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2379526	1	10/20/24 23:45	10/23/24 07:53	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2379598	1	10/20/24 23:44	10/21/24 19:03	LD	Mt. Juliet, TN
			Collected by JLC/BLS	Collected date/time 10/02/24 14:25	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2376894	1	10/07/24 21:31	10/07/24 21:31	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2376961	1	10/08/24 14:06	10/10/24 13:36	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2379526	1	10/20/24 23:45	10/23/24 07:55	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2379598	1	10/20/24 23:44	10/21/24 19:06	LD	Mt. Juliet, TN
			Collected by JLC/BLS	Collected date/time 10/03/24 10:50	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2376894	1	10/07/24 22:12	10/07/24 22:12	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2376961	1	10/08/24 14:06	10/10/24 13:52	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2379526	1	10/20/24 23:45	10/23/24 07:56	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2379598	1	10/20/24 23:44	10/21/24 19:09	LD	Mt. Juliet, TN
			Collected by JLC/BLS	Collected date/time 10/03/24 14:30	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2376894	1	10/07/24 22:25	10/07/24 22:25	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2376961	1	10/08/24 14:06	10/10/24 13:23	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2379526	1	10/20/24 23:45	10/23/24 07:58	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2379598	1	10/20/24 23:44	10/21/24 19:19	LD	Mt. Juliet, TN

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

# SAMPLE SUMMARY

TRIP BLANK L1785834-13 GW			Collected by JLC/BLS	Collected date/time 10/03/24 14:30	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2376894	1	10/07/24 22:39	10/07/24 22:39	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2376961	1	10/08/24 14:06	10/10/24 13:55	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2379526	1	10/20/24 23:45	10/23/24 08:03	DJS	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG2379598	1	10/20/24 23:44	10/21/24 19:22	LD	Mt. Juliet, TN

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc

# 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

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> GI
- <sup>8</sup> AI
- <sup>9</sup> SC

RP-1

Collected date/time: 10/03/24 11:45

## SAMPLE RESULTS - 01

L1785834

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	2.06		1.50	10	10/08/2024 01:27	<a href="#">WG2376891</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	0.000265		0.000200	1	10/10/2024 12:55	<a href="#">WG2376960</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	0.387		0.0150	1	10/23/2024 07:37	<a href="#">WG2379526</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00400	1	10/21/2024 18:32	<a href="#">WG2379598</a>
Arsenic	0.0145		0.00200	1	10/21/2024 18:32	<a href="#">WG2379598</a>
Barium	0.0147		0.00200	1	10/21/2024 18:32	<a href="#">WG2379598</a>
Beryllium	0.0209		0.00200	1	10/21/2024 18:32	<a href="#">WG2379598</a>
Cadmium	ND		0.00100	1	10/21/2024 18:32	<a href="#">WG2379598</a>
Chromium	ND		0.00200	1	10/21/2024 18:32	<a href="#">WG2379598</a>
Cobalt	0.204		0.00200	1	10/21/2024 18:32	<a href="#">WG2379598</a>
Lead	ND		0.00200	1	10/21/2024 18:32	<a href="#">WG2379598</a>
Molybdenum	ND		0.00500	1	10/21/2024 18:32	<a href="#">WG2379598</a>
Selenium	0.0105		0.00200	1	10/21/2024 18:32	<a href="#">WG2379598</a>
Thallium	ND		0.00200	1	10/21/2024 18:32	<a href="#">WG2379598</a>

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	ND		0.150	1	10/08/2024 01:40	<a href="#">WG2376891</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	10/10/2024 12:57	<a href="#">WG2376960</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	0.0882		0.0150	1	10/23/2024 07:38	<a href="#">WG2379526</a>

<sup>6</sup>Qc

## Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00400	1	10/21/2024 18:41	<a href="#">WG2379598</a>
Arsenic	ND		0.00200	1	10/21/2024 18:41	<a href="#">WG2379598</a>
Barium	0.0322		0.00200	1	10/21/2024 18:41	<a href="#">WG2379598</a>
Beryllium	ND		0.00200	1	10/21/2024 18:41	<a href="#">WG2379598</a>
Cadmium	ND		0.00100	1	10/21/2024 18:41	<a href="#">WG2379598</a>
Chromium	ND		0.00200	1	10/21/2024 18:41	<a href="#">WG2379598</a>
Cobalt	0.00864		0.00200	1	10/21/2024 18:41	<a href="#">WG2379598</a>
Lead	ND		0.00200	1	10/21/2024 18:41	<a href="#">WG2379598</a>
Molybdenum	ND		0.00500	1	10/21/2024 18:41	<a href="#">WG2379598</a>
Selenium	ND		0.00200	1	10/21/2024 18:41	<a href="#">WG2379598</a>
Thallium	ND		0.00200	1	10/21/2024 18:41	<a href="#">WG2379598</a>

<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc

RP-3

Collected date/time: 10/03/24 12:30

## SAMPLE RESULTS - 03

L1785834

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	ND		1.50	10	10/08/2024 01:54	<a href="#">WG2376891</a>

## Sample Narrative:

L1785834-03 WG2376891: Dilution due to matrix

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	10/10/2024 12:59	<a href="#">WG2376960</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	0.384		0.0150	1	10/23/2024 07:43	<a href="#">WG2379526</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00400	1	10/21/2024 18:44	<a href="#">WG2379598</a>
Arsenic	0.00405		0.00200	1	10/21/2024 18:44	<a href="#">WG2379598</a>
Barium	0.0140		0.00200	1	10/21/2024 18:44	<a href="#">WG2379598</a>
Beryllium	0.00845		0.00200	1	10/21/2024 18:44	<a href="#">WG2379598</a>
Cadmium	ND		0.00100	1	10/21/2024 18:44	<a href="#">WG2379598</a>
Chromium	ND		0.00200	1	10/21/2024 18:44	<a href="#">WG2379598</a>
Cobalt	0.0590		0.00200	1	10/21/2024 18:44	<a href="#">WG2379598</a>
Lead	ND		0.00200	1	10/21/2024 18:44	<a href="#">WG2379598</a>
Molybdenum	ND		0.00500	1	10/21/2024 18:44	<a href="#">WG2379598</a>
Selenium	0.00283		0.00200	1	10/21/2024 18:44	<a href="#">WG2379598</a>
Thallium	ND		0.00200	1	10/21/2024 18:44	<a href="#">WG2379598</a>

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	0.335		0.150	1	10/08/2024 02:07	<a href="#">WG2376891</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	10/10/2024 13:02	<a href="#">WG2376960</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	0.0215		0.0150	1	10/23/2024 07:45	<a href="#">WG2379526</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00400	1	10/21/2024 19:47	<a href="#">WG2379598</a>
Arsenic	0.00410		0.00200	1	10/21/2024 19:47	<a href="#">WG2379598</a>
Barium	0.192		0.00200	1	10/21/2024 19:47	<a href="#">WG2379598</a>
Beryllium	ND		0.00200	1	10/21/2024 19:47	<a href="#">WG2379598</a>
Cadmium	ND		0.00100	1	10/21/2024 19:47	<a href="#">WG2379598</a>
Chromium	ND		0.00200	1	10/21/2024 19:47	<a href="#">WG2379598</a>
Cobalt	0.0169		0.00200	1	10/21/2024 19:47	<a href="#">WG2379598</a>
Lead	ND		0.00200	1	10/21/2024 19:47	<a href="#">WG2379598</a>
Molybdenum	0.00969		0.00500	1	10/21/2024 19:47	<a href="#">WG2379598</a>
Selenium	ND		0.00200	1	10/21/2024 19:47	<a href="#">WG2379598</a>
Thallium	ND		0.00200	1	10/21/2024 19:47	<a href="#">WG2379598</a>

RP-5

Collected date/time: 10/02/24 11:20

## SAMPLE RESULTS - 05

L1785834

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	0.346		0.150	1	10/08/2024 02:21	<a href="#">WG2376891</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	10/10/2024 13:04	<a href="#">WG2376960</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	0.166		0.0150	1	10/23/2024 07:47	<a href="#">WG2379526</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00400	1	10/21/2024 18:51	<a href="#">WG2379598</a>
Arsenic	ND		0.00200	1	10/21/2024 18:51	<a href="#">WG2379598</a>
Barium	0.0207		0.00200	1	10/21/2024 18:51	<a href="#">WG2379598</a>
Beryllium	0.00457		0.00200	1	10/21/2024 18:51	<a href="#">WG2379598</a>
Cadmium	ND		0.00100	1	10/21/2024 18:51	<a href="#">WG2379598</a>
Chromium	ND		0.00200	1	10/21/2024 18:51	<a href="#">WG2379598</a>
Cobalt	0.0457		0.00200	1	10/21/2024 18:51	<a href="#">WG2379598</a>
Lead	ND		0.00200	1	10/21/2024 18:51	<a href="#">WG2379598</a>
Molybdenum	ND		0.00500	1	10/21/2024 18:51	<a href="#">WG2379598</a>
Selenium	ND		0.00200	1	10/21/2024 18:51	<a href="#">WG2379598</a>
Thallium	ND		0.00200	1	10/21/2024 18:51	<a href="#">WG2379598</a>

RP-6

Collected date/time: 10/02/24 12:15

## SAMPLE RESULTS - 06

L1785834

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	ND		1.50	10	10/08/2024 02:34	<a href="#">WG2376891</a>

## Sample Narrative:

L1785834-06 WG2376891: Dilution due to matrix

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	10/10/2024 13:07	<a href="#">WG2376960</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	0.686		0.0150	1	10/23/2024 07:48	<a href="#">WG2379526</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00400	1	10/21/2024 18:54	<a href="#">WG2379598</a>
Arsenic	ND		0.00200	1	10/21/2024 18:54	<a href="#">WG2379598</a>
Barium	0.0631		0.00200	1	10/21/2024 18:54	<a href="#">WG2379598</a>
Beryllium	0.00675		0.00200	1	10/21/2024 18:54	<a href="#">WG2379598</a>
Cadmium	ND		0.00100	1	10/21/2024 18:54	<a href="#">WG2379598</a>
Chromium	ND		0.00200	1	10/21/2024 18:54	<a href="#">WG2379598</a>
Cobalt	0.0225		0.00200	1	10/21/2024 18:54	<a href="#">WG2379598</a>
Lead	ND		0.00200	1	10/21/2024 18:54	<a href="#">WG2379598</a>
Molybdenum	0.00545		0.00500	1	10/21/2024 18:54	<a href="#">WG2379598</a>
Selenium	ND		0.00200	1	10/21/2024 18:54	<a href="#">WG2379598</a>
Thallium	ND		0.00200	1	10/21/2024 18:54	<a href="#">WG2379598</a>

RP-7

Collected date/time: 10/02/24 12:50

## SAMPLE RESULTS - 07

L1785834

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	0.369		0.150	1	10/08/2024 02:48	<a href="#">WG2376891</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	10/10/2024 13:09	<a href="#">WG2376960</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	0.242		0.0150	1	10/23/2024 07:50	<a href="#">WG2379526</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00400	1	10/21/2024 18:57	<a href="#">WG2379598</a>
Arsenic	ND		0.00200	1	10/21/2024 18:57	<a href="#">WG2379598</a>
Barium	0.0223		0.00200	1	10/21/2024 18:57	<a href="#">WG2379598</a>
Beryllium	0.00940		0.00200	1	10/21/2024 18:57	<a href="#">WG2379598</a>
Cadmium	ND		0.00100	1	10/21/2024 18:57	<a href="#">WG2379598</a>
Chromium	ND		0.00200	1	10/21/2024 18:57	<a href="#">WG2379598</a>
Cobalt	0.0108		0.00200	1	10/21/2024 18:57	<a href="#">WG2379598</a>
Lead	ND		0.00200	1	10/21/2024 18:57	<a href="#">WG2379598</a>
Molybdenum	ND		0.00500	1	10/21/2024 18:57	<a href="#">WG2379598</a>
Selenium	ND		0.00200	1	10/21/2024 18:57	<a href="#">WG2379598</a>
Thallium	ND		0.00200	1	10/21/2024 18:57	<a href="#">WG2379598</a>

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	0.169		0.150	1	10/08/2024 03:01	<a href="#">WG2376891</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	10/10/2024 13:11	<a href="#">WG2376960</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	0.0878		0.0150	1	10/23/2024 07:52	<a href="#">WG2379526</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00400	1	10/21/2024 19:00	<a href="#">WG2379598</a>
Arsenic	ND		0.00200	1	10/21/2024 19:00	<a href="#">WG2379598</a>
Barium	0.0637		0.00200	1	10/21/2024 19:00	<a href="#">WG2379598</a>
Beryllium	ND		0.00200	1	10/21/2024 19:00	<a href="#">WG2379598</a>
Cadmium	ND		0.00100	1	10/21/2024 19:00	<a href="#">WG2379598</a>
Chromium	ND		0.00200	1	10/21/2024 19:00	<a href="#">WG2379598</a>
Cobalt	0.0167		0.00200	1	10/21/2024 19:00	<a href="#">WG2379598</a>
Lead	ND		0.00200	1	10/21/2024 19:00	<a href="#">WG2379598</a>
Molybdenum	ND		0.00500	1	10/21/2024 19:00	<a href="#">WG2379598</a>
Selenium	ND		0.00200	1	10/21/2024 19:00	<a href="#">WG2379598</a>
Thallium	ND		0.00200	1	10/21/2024 19:00	<a href="#">WG2379598</a>

RP-9

Collected date/time: 10/02/24 15:45

## SAMPLE RESULTS - 09

L1785834

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	0.237		0.150	1	10/08/2024 03:15	<a href="#">WG2376891</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	10/10/2024 13:33	<a href="#">WG2376961</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	ND		0.0150	1	10/23/2024 07:53	<a href="#">WG2379526</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00400	1	10/21/2024 19:03	<a href="#">WG2379598</a>
Arsenic	ND		0.00200	1	10/21/2024 19:03	<a href="#">WG2379598</a>
Barium	0.104		0.00200	1	10/21/2024 19:03	<a href="#">WG2379598</a>
Beryllium	ND		0.00200	1	10/21/2024 19:03	<a href="#">WG2379598</a>
Cadmium	ND		0.00100	1	10/21/2024 19:03	<a href="#">WG2379598</a>
Chromium	ND		0.00200	1	10/21/2024 19:03	<a href="#">WG2379598</a>
Cobalt	0.00236		0.00200	1	10/21/2024 19:03	<a href="#">WG2379598</a>
Lead	ND		0.00200	1	10/21/2024 19:03	<a href="#">WG2379598</a>
Molybdenum	0.0104		0.00500	1	10/21/2024 19:03	<a href="#">WG2379598</a>
Selenium	ND		0.00200	1	10/21/2024 19:03	<a href="#">WG2379598</a>
Thallium	ND		0.00200	1	10/21/2024 19:03	<a href="#">WG2379598</a>

RP-10

Collected date/time: 10/02/24 14:25

## SAMPLE RESULTS - 10

L1785834

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	0.452	P1	0.150	1	10/07/2024 21:31	<a href="#">WG2376894</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	10/10/2024 13:36	<a href="#">WG2376961</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	0.0314		0.0150	1	10/23/2024 07:55	<a href="#">WG2379526</a>

<sup>6</sup>Qc

## Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00400	1	10/21/2024 19:06	<a href="#">WG2379598</a>
Arsenic	ND		0.00200	1	10/21/2024 19:06	<a href="#">WG2379598</a>
Barium	0.0299		0.00200	1	10/21/2024 19:06	<a href="#">WG2379598</a>
Beryllium	0.00551		0.00200	1	10/21/2024 19:06	<a href="#">WG2379598</a>
Cadmium	ND		0.00100	1	10/21/2024 19:06	<a href="#">WG2379598</a>
Chromium	ND		0.00200	1	10/21/2024 19:06	<a href="#">WG2379598</a>
Cobalt	0.0227		0.00200	1	10/21/2024 19:06	<a href="#">WG2379598</a>
Lead	ND		0.00200	1	10/21/2024 19:06	<a href="#">WG2379598</a>
Molybdenum	ND		0.00500	1	10/21/2024 19:06	<a href="#">WG2379598</a>
Selenium	ND		0.00200	1	10/21/2024 19:06	<a href="#">WG2379598</a>
Thallium	ND		0.00200	1	10/21/2024 19:06	<a href="#">WG2379598</a>

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	ND		0.150	1	10/07/2024 22:12	<a href="#">WG2376894</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	10/10/2024 13:52	<a href="#">WG2376961</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	0.0851		0.0150	1	10/23/2024 07:56	<a href="#">WG2379526</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00400	1	10/21/2024 19:09	<a href="#">WG2379598</a>
Arsenic	ND		0.00200	1	10/21/2024 19:09	<a href="#">WG2379598</a>
Barium	0.0323		0.00200	1	10/21/2024 19:09	<a href="#">WG2379598</a>
Beryllium	ND		0.00200	1	10/21/2024 19:09	<a href="#">WG2379598</a>
Cadmium	ND		0.00100	1	10/21/2024 19:09	<a href="#">WG2379598</a>
Chromium	ND		0.00200	1	10/21/2024 19:09	<a href="#">WG2379598</a>
Cobalt	0.00856		0.00200	1	10/21/2024 19:09	<a href="#">WG2379598</a>
Lead	ND		0.00200	1	10/21/2024 19:09	<a href="#">WG2379598</a>
Molybdenum	ND		0.00500	1	10/21/2024 19:09	<a href="#">WG2379598</a>
Selenium	ND		0.00200	1	10/21/2024 19:09	<a href="#">WG2379598</a>
Thallium	ND		0.00200	1	10/21/2024 19:09	<a href="#">WG2379598</a>

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	ND		0.150	1	10/07/2024 22:25	<a href="#">WG2376894</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	10/10/2024 13:23	<a href="#">WG2376961</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	ND		0.0150	1	10/23/2024 07:58	<a href="#">WG2379526</a>

## Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00400	1	10/21/2024 19:19	<a href="#">WG2379598</a>
Arsenic	ND		0.00200	1	10/21/2024 19:19	<a href="#">WG2379598</a>
Barium	ND		0.00200	1	10/21/2024 19:19	<a href="#">WG2379598</a>
Beryllium	ND		0.00200	1	10/21/2024 19:19	<a href="#">WG2379598</a>
Cadmium	ND		0.00100	1	10/21/2024 19:19	<a href="#">WG2379598</a>
Chromium	ND		0.00200	1	10/21/2024 19:19	<a href="#">WG2379598</a>
Cobalt	ND		0.00200	1	10/21/2024 19:19	<a href="#">WG2379598</a>
Lead	ND		0.00200	1	10/21/2024 19:19	<a href="#">WG2379598</a>
Molybdenum	ND		0.00500	1	10/21/2024 19:19	<a href="#">WG2379598</a>
Selenium	ND		0.00200	1	10/21/2024 19:19	<a href="#">WG2379598</a>
Thallium	ND		0.00200	1	10/21/2024 19:19	<a href="#">WG2379598</a>

## Wet Chemistry by Method 9056A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Fluoride	ND		0.150	1	10/07/2024 22:39	<a href="#">WG2376894</a>

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

## Mercury by Method 7470A

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Mercury	ND		0.000200	1	10/10/2024 13:55	<a href="#">WG2376961</a>

## Metals (ICP) by Method 6010B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Lithium	ND		0.0150	1	10/23/2024 08:03	<a href="#">WG2379526</a>

<sup>6</sup>Qc

## Metals (ICPMS) by Method 6020B

Analyte	Result mg/l	<u>Qualifier</u>	RDL mg/l	Dilution	Analysis date / time	<u>Batch</u>
Antimony	ND		0.00400	1	10/21/2024 19:22	<a href="#">WG2379598</a>
Arsenic	ND		0.00200	1	10/21/2024 19:22	<a href="#">WG2379598</a>
Barium	ND		0.00200	1	10/21/2024 19:22	<a href="#">WG2379598</a>
Beryllium	ND		0.00200	1	10/21/2024 19:22	<a href="#">WG2379598</a>
Cadmium	ND		0.00100	1	10/21/2024 19:22	<a href="#">WG2379598</a>
Chromium	0.00271		0.00200	1	10/21/2024 19:22	<a href="#">WG2379598</a>
Cobalt	ND		0.00200	1	10/21/2024 19:22	<a href="#">WG2379598</a>
Lead	ND		0.00200	1	10/21/2024 19:22	<a href="#">WG2379598</a>
Molybdenum	ND		0.00500	1	10/21/2024 19:22	<a href="#">WG2379598</a>
Selenium	ND		0.00200	1	10/21/2024 19:22	<a href="#">WG2379598</a>
Thallium	ND		0.00200	1	10/21/2024 19:22	<a href="#">WG2379598</a>

<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc

WG2376891

Wet Chemistry by Method 9056A

## QUALITY CONTROL SUMMARY

[L1785834-01,02,03,04,05,06,07,08,09](#)

## Method Blank (MB)

(MB) R4132364-1 10/07/24 20:58

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Fluoride	U		0.0761	0.150

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

## L1785828-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1785828-01 10/07/24 21:25 • (DUP) R4132364-3 10/07/24 21:38

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Fluoride	ND	ND	1	200	P1	15

## L1785828-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1785828-02 10/07/24 22:18 • (DUP) R4132364-6 10/07/24 22:32

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Fluoride	0.235	ND	1	200	P1	15

## Laboratory Control Sample (LCS)

(LCS) R4132364-2 10/07/24 21:11

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Fluoride	8.00	8.68	109	80.0-120	

## L1785828-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1785828-01 10/07/24 21:25 • (MS) R4132364-4 10/07/24 21:52 • (MSD) R4132364-5 10/07/24 22:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Fluoride	8.00	ND	8.17	8.55	100	105	1	80.0-120			4.48	15

## L1785828-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1785828-02 10/07/24 22:18 • (MS) R4132364-7 10/07/24 22:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Fluoride	8.00	0.235	8.24	100	1	80.0-120	

ACCOUNT:

Alliance Technical Group - Bryant, AR

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WG2376894

Wet Chemistry by Method 9056A

## QUALITY CONTROL SUMMARY

[L1785834-10,11,12,13](#)

## Method Blank (MB)

(MB) R4132397-1 10/07/24 21:04

Analyst	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Fluoride	U		0.0761	0.150

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

## L1785834-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1785834-10 10/07/24 21:31 • (DUP) R4132397-3 10/07/24 21:45

Analyst	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Fluoride	0.452	0.352	1	24.8	P1	15

## L1785884-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1785884-02 10/08/24 01:21 • (DUP) R4132397-5 10/08/24 01:34

Analyst	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Fluoride	ND	ND	1	0.000		15

## Laboratory Control Sample (LCS)

(LCS) R4132397-2 10/07/24 21:18

Analyst	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Fluoride	8.00	7.88	98.5	80.0-120	

## L1785834-10 Original Sample (OS) • Matrix Spike (MS)

(OS) L1785834-10 10/07/24 21:31 • (MS) R4132397-4 10/07/24 21:58

Analyst	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Fluoride	8.00	0.452	8.80	104	1	80.0-120	

## L1785884-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1785884-02 10/08/24 01:21 • (MS) R4132397-6 10/08/24 01:48 • (MSD) R4132397-7 10/08/24 02:28

Analyst	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Fluoride	8.00	ND	8.01	8.59	100	107	1	80.0-120			6.96	15

ACCOUNT:

Alliance Technical Group - Bryant, AR

PROJECT:

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L1785834

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WG2376960

Mercury by Method 7470A

## QUALITY CONTROL SUMMARY

[L1785834-01,02,03,04,05,06,07,08](#)

## Method Blank (MB)

(MB) R4130993-1 10/10/24 12:04

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Mercury	U		0.0000700	0.000200

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

## Laboratory Control Sample (LCS)

(LCS) R4130993-2 10/10/24 12:06

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Mercury	0.00300	0.00286	95.2	80.0-120	

## L1785828-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1785828-10 10/10/24 12:09 • (MS) R4130993-4 10/10/24 12:13 • (MSD) R4130993-5 10/10/24 12:21

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00297	0.00296	99.0	98.5	1	75.0-125		0.482	20

WG2376961

Mercury by Method 7470A

## QUALITY CONTROL SUMMARY

[L1785834-09,10,11,12,13](#)

## Method Blank (MB)

(MB) R4131057-1 10/10/24 13:19

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Mercury	U		0.0000700	0.000200

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

## Laboratory Control Sample (LCS)

(LCS) R4131057-2 10/10/24 13:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Mercury	0.00300	0.00296	98.8	80.0-120	

## L1785834-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1785834-12 10/10/24 13:23 • (MS) R4131057-4 10/10/24 13:28 • (MSD) R4131057-5 10/10/24 13:31

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00294	0.00293	98.1	97.6	1	75.0-125			0.463	20

WG2379526

Metals (ICP) by Method 6010B

## QUALITY CONTROL SUMMARY

[L1785834-01,02,03,04,05,06,07,08,09,10,11,12,13](#)

## Method Blank (MB)

(MB) R4136460-1 10/23/24 07:23

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

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

## Laboratory Control Sample (LCS)

(LCS) R4136460-2 10/23/24 07:25

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Lithium	1.00	1.01	101	80.0-120	

## L1785861-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1785861-02 10/23/24 07:27 • (MS) R4136460-4 10/23/24 07:30 • (MSD) R4136460-5 10/23/24 07:32

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Lithium	1.00	0.0297	1.02	1.06	99.5	103	1	75.0-125			3.05	20

## QUALITY CONTROL SUMMARY

[L1785834-01,02,03,04,05,06,07,08,09,10,11,12,13](#)

## Method Blank (MB)

(MB) R4135564-1 10/21/24 18:04

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Antimony	U		0.000310	0.00400
Arsenic	U		0.000120	0.00200
Barium	U		0.000500	0.00200
Beryllium	U		0.000200	0.00200
Cadmium	U		0.000120	0.00100
Chromium	U		0.000900	0.00200
Cobalt	U		0.000100	0.00200
Lead	U		0.000500	0.00200
Molybdenum	U		0.000500	0.00500
Selenium	U		0.000250	0.00200
Thallium	U		0.000130	0.00200

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

## Laboratory Control Sample (LCS)

(LCS) R4135564-2 10/21/24 18:07

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Antimony	0.0500	0.0500	100	80.0-120	
Arsenic	0.0500	0.0494	98.8	80.0-120	
Barium	0.0500	0.0477	95.3	80.0-120	
Beryllium	0.0500	0.0485	97.0	80.0-120	
Cadmium	0.0500	0.0510	102	80.0-120	
Chromium	0.0500	0.0506	101	80.0-120	
Cobalt	0.0500	0.0510	102	80.0-120	
Lead	0.0500	0.0475	95.0	80.0-120	
Molybdenum	0.0500	0.0485	96.9	80.0-120	
Selenium	0.0500	0.0478	95.6	80.0-120	
Thallium	0.0500	0.0482	96.5	80.0-120	

## L1785861-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1785861-01 10/21/24 18:10 • (MS) R4135564-4 10/21/24 18:16 • (MSD) R4135564-5 10/21/24 18:20

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits
Antimony	0.0500	ND	0.0522	0.0516	104	103	1	75.0-125		1.26	20
Arsenic	0.0500	0.00340	0.0525	0.0520	98.2	97.3	1	75.0-125		0.870	20
Barium	0.0500	0.116	0.163	0.165	94.4	98.3	1	75.0-125		1.20	20
Beryllium	0.0500	ND	0.0479	0.0475	95.1	94.3	1	75.0-125		0.794	20
Cadmium	0.0500	ND	0.0524	0.0520	103	102	1	75.0-125		0.836	20

## QUALITY CONTROL SUMMARY

[L1785834-01,02,03,04,05,06,07,08,09,10,11,12,13](#)

## L1785861-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1785861-01 10/21/24 18:10 • (MS) R4135564-4 10/21/24 18:16 • (MSD) R4135564-5 10/21/24 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 %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Chromium	0.0500	ND	0.0519	0.0513	100	99.0	1	75.0-125			1.22	20
Cobalt	0.0500	0.00756	0.0576	0.0572	100	99.4	1	75.0-125			0.701	20
Lead	0.0500	ND	0.0471	0.0473	94.1	94.6	1	75.0-125			0.520	20
Molybdenum	0.0500	ND	0.0496	0.0494	98.1	97.8	1	75.0-125			0.328	20
Selenium	0.0500	ND	0.0506	0.0485	101	97.0	1	75.0-125			4.26	20
Thallium	0.0500	ND	0.0483	0.0490	95.5	96.9	1	75.0-125			1.41	20

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

# 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
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

# 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 <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	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 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> 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.

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Company Name/Address: <b>Alliance Technical Group - Bryant, AR</b> 219 Brown Lane Little Rock, AR 72022			Billing Information: <b>Accounts Payable</b> 219 Brown Ln. Bryant, AR 72022			Pres Chk	Analysis / Container / Preservative			Chain of Custody	Page ____ of ____		
								<b>&lt;2</b>	<b>&lt;2</b>	<b>&lt;2</b>			
Report to: <b>Jonathan Brown</b>			Email To: <b>Jonathan.Brown@AllianceTG.com;Jhouse@trcc</b>										
Project Description: <b>Entergy - White Bluff</b>		City/State Collected: <i>Bryant, AR</i>		Please Circle: PT MT CT ET									
Phone: <b>501-847-7077</b>	Client Project # <b>1145-21-080</b>		Lab Project # <b>GBMCBAR-ENTERGYWB</b>										
Collected by (print): <i>JLC/BLS</i>	Site/Facility ID # <b>WHITE BLUFF</b>		P.O. #										
Collected by (signature):	<i>Rush?</i> (Lab MUST Be Notified)		Quote #										
Immediately Packed on Ice N <u>Y</u>	Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day <input type="checkbox"/>		Date Results Needed		No. of Cntrs								
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time								
RP-1	G	GW		10-3-24	1145	4	X	X	X			3.71 -01	
RP-2	G	GW		10-3-24	1050	4	X	X	X			3.65 -02	
RP-3	G	GW		10-3-24	1230	4	X	X	X			4.67 -03	
RP-4	G	GW		10-2-24	1305	4	X	X	X			5.86 -04	
RP-5	G	GW		10-2-24	1120	4	X	X	X			3.50 -05	
RP-6	G	GW		10-2-24	1215	4	X	X	X			4.86 -06	
RP-7	G	GW		10-2-24	1250	4	X	X	X			3.73 -07	
RP-8	G	GW		10-2-24	1345	4	X	X	X			5.76 -08	
RP-9	G	GW		10-2-24	1545	4	X	X	X			6.18 -09	
RP-10	G	GW		10-2-24	1425	4	X	X	X			3.72 -10	
* Matrix: SS - Soil   AIR - Air   F - Filter GW - Groundwater   B - Bioassay WW - WasteWater DW - Drinking Water OT - Other _____	Remarks: *Metals = ASG,BAG,BEG,CDG,COG,CRG,HG,LICP,MOG,PBG,SBG,SEG,TLG									pH _____	Temp _____	Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> NP <input type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> T <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> A <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> I <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> S <input type="checkbox"/> Y <input type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
Samples returned via: UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>	Tracking #			Flow _____	Other _____								
Relinquished by : (Signature) <i>Jacob Collier</i>	Date: 10-4-24	Time: 1405	Received by: (Signature)			Trip Blank Received: Yes / No HCl / MeOH TBR			If preservation required by Login: Date/Time				
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)			Temp: °C	Bottles Received: 52						
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) <i>Jamison</i>			Date: 10-5-24	Time: 0900	Hold:	Condition: NCF / OK				



4785834

FedEx tracking #      Gun ID      Temperature

4041	0487	2820	11A9	$3.1 + 0.3 = 3.4$
4041	0487	2738		$4.6 + 0.3 = 4.9$
4041	0487	2727		$0.9 + 0.3 = 1.2$
4041	0487	2808	↓	$1.3 + 0.3 = 1.6$

Name

Date



# ANALYTICAL REPORT

November 01, 2024

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>GI

<sup>8</sup>AI

<sup>9</sup>SC

## Alliance Technical Group - Bryant, AR

Sample Delivery Group: L1785836  
Samples Received: 10/05/2024  
Project Number: 1145-21-080  
Description: Entergy - White Bluff  
Site: WHITE BLUFF  
Report To:  
Jonathan Brown  
219 Brown Lane  
Little Rock, AR 72022

Entire Report Reviewed By:

Brittnie L Boyd  
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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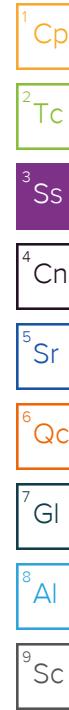
# SAMPLE SUMMARY

			Collected by JLC/BLS	Collected date/time 10/03/24 11:45	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2376896	1	10/07/24 14:41	10/31/24 15:33	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2388900	1	10/25/24 13:34	10/31/24 15:33	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
<b>RP-2 L1785836-02 Non-Potable Water</b>			Collected by JLC/BLS	Collected date/time 10/03/24 10:50	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2376898	1	10/08/24 20:44	10/16/24 22:00	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
<b>RP-3 L1785836-03 Non-Potable Water</b>			Collected by JLC/BLS	Collected date/time 10/03/24 12:30	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2376898	1	10/08/24 20:44	10/16/24 22:00	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
<b>RP-4 L1785836-04 Non-Potable Water</b>			Collected by JLC/BLS	Collected date/time 10/02/24 15:05	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2376898	1	10/08/24 20:44	10/16/24 22:00	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
<b>RP-5 L1785836-05 Non-Potable Water</b>			Collected by JLC/BLS	Collected date/time 10/02/24 11:20	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2376898	1	10/08/24 20:44	10/16/24 22:00	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
<b>RP-6 L1785836-06 Non-Potable Water</b>			Collected by JLC/BLS	Collected date/time 10/02/24 12:15	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2376898	1	10/08/24 20:44	10/16/24 22:00	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN



# SAMPLE SUMMARY

			Collected by JLC/BLS	Collected date/time 10/02/24 12:50	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2376898	1	10/08/24 20:44	10/16/24 22:00	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
<b>RP-8 L1785836-08 Non-Potable Water</b>			Collected by JLC/BLS	Collected date/time 10/02/24 13:45	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2376898	1	10/08/24 20:44	10/16/24 22:00	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
<b>RP-9 L1785836-09 Non-Potable Water</b>			Collected by JLC/BLS	Collected date/time 10/02/24 15:45	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2376898	1	10/08/24 20:44	10/16/24 22:00	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
<b>RP-10 L1785836-10 Non-Potable Water</b>			Collected by JLC/BLS	Collected date/time 10/02/24 14:25	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2376898	1	10/08/24 20:44	10/21/24 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
<b>DUPLICATE (RP-2) L1785836-11 Non-Potable Water</b>			Collected by JLC/BLS	Collected date/time 10/03/24 10:50	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2376898	1	10/08/24 20:44	10/21/24 18:18	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
<b>FIELD BLANK L1785836-12 Non-Potable Water</b>			Collected by JLC/BLS	Collected date/time 10/03/24 14:30	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2376898	1	10/08/24 20:44	10/16/24 22:00	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN



# SAMPLE SUMMARY

TRIP BLANK L1785836-13 Non-Potable Water			Collected by JLC/BLS	Collected date/time 10/03/24 14:30	Received date/time 10/05/24 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2376898	1	10/08/24 20:44	10/16/24 22:00	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2388900	1	10/25/24 13:34	10/30/24 10:41	ZRG	Mt. Juliet, TN

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc

# 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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> GI
- <sup>8</sup> AI
- <sup>9</sup> SC

RP-1

Collected date/time: 10/03/24 11:45

## SAMPLE RESULTS - 01

L1785836

## Radiochemistry by Method 904/9320

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.439	TPU 0.717	MDA 0.505	Lc 0.267	Analysis Date date / time 10/31/2024 15:33	<u>Batch</u> <a href="#">WG2376896</a>
RADIUM-228	9.93					30.0-143	10/31/2024 15:33	<a href="#">WG2376896</a>
(T) Barium	116							<a href="#">WG2376896</a>
(T) Yttrium	114					30.0-136	10/31/2024 15:33	<a href="#">WG2376896</a>

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

## Radiochemistry by Method Calculation

Analyte	Result pCi/l	<u>Qualifier</u> + / -	Uncertainty 0.671	MDA 0.589	Analysis Date date / time 10/31/2024 15:33	<u>Batch</u> <a href="#">WG2388900</a>
Combined Radium	11.5					

## Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.507	TPU 1.27	MDA 0.303	Lc 0.210	Analysis Date date / time 10/30/2024 10:41	<u>Batch</u> <a href="#">WG2388900</a>
RADIUM-226	1.59							<a href="#">WG2388900</a>
(T) Barium-133	97.9					30.0-143	10/30/2024 10:41	<a href="#">WG2388900</a>

## Radiochemistry by Method 904/9320

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
RADIUM-228	2.01		0.323	0.610	0.539	0.284	10/16/2024 22:00	<a href="#">WG2376898</a>
( <i>T</i> ) Barium	111					30.0-143	10/16/2024 22:00	<a href="#">WG2376898</a>
( <i>T</i> ) Yttrium	93.5					30.0-136	10/16/2024 22:00	<a href="#">WG2376898</a>

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

## Radiochemistry by Method Calculation

Analyte	Result	<u>Qualifier</u>	Uncertainty	MDA	Analysis Date	<u>Batch</u>
Combined Radium	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.52		0.493	0.681	10/30/2024 10:41	<a href="#">WG2388900</a>

## Radiochemistry by Method SM7500Ra B M

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
RADIUM-226	0.514		0.373	0.730	0.416	0.281	10/30/2024 10:41	<a href="#">WG2388900</a>
( <i>T</i> ) Barium-133	78.5					30.0-143	10/30/2024 10:41	<a href="#">WG2388900</a>

## Radiochemistry by Method 904/9320

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.527	TPU 0.856	MDA 0.832	Lc 0.435	Analysis Date date / time 10/16/2024 22:00	<u>Batch</u> <a href="#">WG2376898</a>
RADIUM-228	5.49					30.0-143	10/16/2024 22:00	<a href="#">WG2376898</a>
(T) Barium	105					30.0-143	10/16/2024 22:00	<a href="#">WG2376898</a>
(T) Yttrium	74.0					30.0-136	10/16/2024 22:00	<a href="#">WG2376898</a>

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

## Radiochemistry by Method Calculation

Analyte	Result pCi/l	<u>Qualifier</u> + / -	Uncertainty 0.689	MDA 0.891	Analysis Date date / time 10/30/2024 10:41	<u>Batch</u> <a href="#">WG2388900</a>
Combined Radium	6.60					

## Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.444	TPU 1.06	MDA 0.320	Lc 0.221	Analysis Date date / time 10/30/2024 10:41	<u>Batch</u> <a href="#">WG2388900</a>
RADIUM-226	1.11							
(T) Barium-133	84.2					30.0-143	10/30/2024 10:41	<a href="#">WG2388900</a>

## Radiochemistry by Method 904/9320

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.579	TPU 0.984	MDA 1.00	Lc 0.528	Analysis Date date / time 10/16/2024 22:00	<u>Batch</u> <a href="#">WG2376898</a>
RADIUM-228	2.60							
(T) Barium	91.7					30.0-143	10/16/2024 22:00	<a href="#">WG2376898</a>
(T) Yttrium	57.0					30.0-136	10/16/2024 22:00	<a href="#">WG2376898</a>

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

## Radiochemistry by Method Calculation

Analyte	Result pCi/l	<u>Qualifier</u> + / -	Uncertainty 0.665	MDA 1.05	Analysis Date date / time 10/30/2024 10:41	<u>Batch</u> <a href="#">WG2388900</a>
Combined Radium	3.15					

## Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.327	TPU 0.658	MDA 0.310	Lc 0.217	Analysis Date date / time 10/30/2024 10:41	<u>Batch</u> <a href="#">WG2388900</a>
RADIUM-226	0.549							
(T) Barium-133	90.3					30.0-143	10/30/2024 10:41	<a href="#">WG2388900</a>

RP-5

Collected date/time: 10/02/24 11:20

## SAMPLE RESULTS - 05

L1785836

## Radiochemistry by Method 904/9320

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
RADIUM-228	4.38		0.461	0.782	0.734	0.384	10/16/2024 22:00	<a href="#">WG2376898</a>
( <i>T</i> ) Barium	97.1					30.0-143	10/16/2024 22:00	<a href="#">WG2376898</a>
( <i>T</i> ) Yttrium	78.8					30.0-136	10/16/2024 22:00	<a href="#">WG2376898</a>

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

## Radiochemistry by Method Calculation

Analyte	Result	<u>Qualifier</u>	Uncertainty	MDA	Analysis Date	<u>Batch</u>
Combined Radium	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	4.91		0.552	0.785	10/30/2024 10:41	<a href="#">WG2388900</a>

## Radiochemistry by Method SM7500Ra B M

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
RADIUM-226	0.530		0.303	0.675	0.278	0.195	10/30/2024 10:41	<a href="#">WG2388900</a>
( <i>T</i> ) Barium-133	86.2					30.0-143	10/30/2024 10:41	<a href="#">WG2388900</a>

## Radiochemistry by Method 904/9320

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.700	J	0.389	0.670	0.708	0.368	10/16/2024 22:00	<a href="#">WG2376898</a>
(T) Barium	101					30.0-143	10/16/2024 22:00	<a href="#">WG2376898</a>
(T) Yttrium	97.3					30.0-136	10/16/2024 22:00	<a href="#">WG2376898</a>

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

## Radiochemistry by Method Calculation

Analyte	Result	<u>Qualifier</u>	Uncertainty	MDA	Analysis Date	<u>Batch</u>
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.18		0.470	0.753	10/30/2024 10:41	<a href="#">WG2388900</a>

## Radiochemistry by Method SM7500Ra B M

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.475		0.264	0.650	0.255	0.171	10/30/2024 10:41	<a href="#">WG2388900</a>
(T) Barium-133	101					30.0-143	10/30/2024 10:41	<a href="#">WG2388900</a>

RP-7

Collected date/time: 10/02/24 12:50

## SAMPLE RESULTS - 07

L1785836

## Radiochemistry by Method 904/9320

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.456	TPU 0.764	MDA 0.713	Lc 0.373	Analysis Date date / time 10/16/2024 22:00	<u>Batch</u> <a href="#">WG2376898</a>
RADIUM-228	4.84							
(T) Barium	96.0					30.0-143	10/16/2024 22:00	<a href="#">WG2376898</a>
(T) Yttrium	84.6					30.0-136	10/16/2024 22:00	<a href="#">WG2376898</a>

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

## Radiochemistry by Method Calculation

Analyte	Result pCi/l	<u>Qualifier</u> + / -	Uncertainty 0.624	MDA 0.774	Analysis Date date / time 10/30/2024 10:41	<u>Batch</u> <a href="#">WG2388900</a>
Combined Radium	5.93					

## Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.426	TPU 1.07	MDA 0.302	Lc 0.209	Analysis Date date / time 10/30/2024 10:41	<u>Batch</u> <a href="#">WG2388900</a>
RADIUM-226	1.09							
(T) Barium-133	82.4					30.0-143	10/30/2024 10:41	<a href="#">WG2388900</a>

## Radiochemistry by Method 904/9320

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
RADIUM-228	1.54		0.470	0.792	0.837	0.437	10/16/2024 22:00	<a href="#">WG2376898</a>
(T) Barium	84.5					30.0-143	10/16/2024 22:00	<a href="#">WG2376898</a>
(T) Yttrium	88.3					30.0-136	10/16/2024 22:00	<a href="#">WG2376898</a>

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

## Radiochemistry by Method Calculation

Analyte	Result	<u>Qualifier</u>	Uncertainty	MDA	Analysis Date	<u>Batch</u>
Combined Radium	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.99		0.604	0.958	10/30/2024 10:41	<a href="#">WG2388900</a>

## Radiochemistry by Method SM7500Ra B M

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
RADIUM-226	0.446	J	0.379	0.669	0.467	0.305	10/30/2024 10:41	<a href="#">WG2388900</a>
(T) Barium-133	82.1					30.0-143	10/30/2024 10:41	<a href="#">WG2388900</a>

## Radiochemistry by Method 904/9320

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.283	<u>U</u>	0.553	0.886	1.02	0.532	10/16/2024 22:00	<u>WG2376898</u>
( <i>T</i> ) Barium	86.4					30.0-143	10/16/2024 22:00	<u>WG2376898</u>
( <i>T</i> ) Yttrium	80.2					30.0-136	10/16/2024 22:00	<u>WG2376898</u>

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

## Radiochemistry by Method Calculation

Analyte	Result	<u>Qualifier</u>	Uncertainty	MDA	Analysis Date	<u>Batch</u>
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.545	<u>J</u>	0.608	1.07	10/30/2024 10:41	<u>WG2388900</u>

## Radiochemistry by Method SM7500Ra B M

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.262	<u>J</u>	0.253	0.459	0.322	0.219	10/30/2024 10:41	<u>WG2388900</u>
( <i>T</i> ) Barium-133	107					30.0-143	10/30/2024 10:41	<u>WG2388900</u>

## Radiochemistry by Method 904/9320

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.0366	<u>U</u>	0.413	0.742	0.815	0.426	10/21/2024 18:18	<a href="#">WG2376898</a>
( <i>T</i> ) Barium	74.2					30.0-143	10/21/2024 18:18	<a href="#">WG2376898</a>
( <i>T</i> ) Yttrium	105					30.0-136	10/21/2024 18:18	<a href="#">WG2376898</a>

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

## Radiochemistry by Method Calculation

Analyte	Result	<u>Qualifier</u>	Uncertainty	MDA	Analysis Date	<u>Batch</u>
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.190	<u>U</u>	0.471	0.882	10/30/2024 10:41	<a href="#">WG2388900</a>

## Radiochemistry by Method SM7500Ra B M

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.153	<u>J</u>	0.227	0.340	0.337	0.229	10/30/2024 10:41	<a href="#">WG2388900</a>
( <i>T</i> ) Barium-133	95.8					30.0-143	10/30/2024 10:41	<a href="#">WG2388900</a>

## Radiochemistry by Method 904/9320

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.496	TPU 0.845	MDA 0.943	Lc 0.494	Analysis Date date / time 10/21/2024 18:18	<u>Batch</u> <a href="#">WG2376898</a>
RADIUM-228	1.14							
(T) Barium	74.8					30.0-143	10/21/2024 18:18	<a href="#">WG2376898</a>
(T) Yttrium	85.6					30.0-136	10/21/2024 18:18	<a href="#">WG2376898</a>

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

## Radiochemistry by Method Calculation

Analyte	Result pCi/l	<u>Qualifier</u> + / -	Uncertainty 0.622	MDA 1.00	Analysis Date date / time 10/30/2024 10:41	<u>Batch</u> <a href="#">WG2388900</a>
Combined Radium	1.88					

## Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	<u>Qualifier</u> + / -	2 sigma CE 0.375	TPU 0.737	MDA 0.347	Lc 0.232	Analysis Date date / time 10/30/2024 10:41	<u>Batch</u> <a href="#">WG2388900</a>
RADIUM-226	0.738							
(T) Barium-133	106					30.0-143	10/30/2024 10:41	<a href="#">WG2388900</a>

## Radiochemistry by Method 904/9320

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	1.56		0.419	0.721	0.739	0.386	10/16/2024 22:00	<a href="#">WG2376898</a>
(T) Barium	100				30.0-143	30.0-143	10/16/2024 22:00	<a href="#">WG2376898</a>
(T) Yttrium	85.0				30.0-136	30.0-136	10/16/2024 22:00	<a href="#">WG2376898</a>

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

## Radiochemistry by Method Calculation

Analyte	Result	<u>Qualifier</u>	Uncertainty	MDA	Analysis Date	<u>Batch</u>
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.75		0.485	0.817	10/30/2024 10:41	<a href="#">WG2388900</a>

## Radiochemistry by Method SM7500Ra B M

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.187	J	0.245	0.390	0.349	0.236	10/30/2024 10:41	<a href="#">WG2388900</a>
(T) Barium-133	94.9				30.0-143	30.0-143	10/30/2024 10:41	<a href="#">WG2388900</a>

## Radiochemistry by Method 904/9320

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-228	0.505	J	0.381	0.672	0.699	0.365	10/16/2024 22:00	WG2376898
(T) Barium	109					30.0-143	10/16/2024 22:00	WG2376898
(T) Yttrium	91.2					30.0-136	10/16/2024 22:00	WG2376898

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

## Radiochemistry by Method Calculation

Analyte	Result	<u>Qualifier</u>	Uncertainty	MDA	Analysis Date	<u>Batch</u>
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.698	J	0.456	0.785	10/30/2024 10:41	WG2388900

## Radiochemistry by Method SM7500Ra B M

Analyte	Result	<u>Qualifier</u>	2 sigma CE	TPU	MDA	Lc	Analysis Date	<u>Batch</u>
	pCi/l		+ / -	+ / -	pCi/l	pCi/l	date / time	
RADIUM-226	0.193	J	0.251	0.411	0.357	0.237	10/30/2024 10:41	WG2388900
(T) Barium-133	110					30.0-143	10/30/2024 10:41	WG2388900

## QUALITY CONTROL SUMMARY

L1785836-01

## Method Blank (MB)

(MB) R4140550-1 10/31/24 15:33

Analyte	MB Result pCi/l	<u>MB Qualifier</u>	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	-0.312	<u>U</u>	0.159	0.305	0.160
(T) Barium	123		123		
(T) Yttrium	87.9		87.9		

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

## L1785836-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1785836-01 10/31/24 15:33 • (DUP) R4140550-5 10/31/24 15:33

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER 1.06	<u>DUP Qualifier</u>	DUP RPD Limits 20	DUP RER Limit 3
Radium-228	9.93	0.439	0.505	0.267	9.25	0.465	0.621	0.324	7.07				
(T) Barium	116				122	122							
(T) Yttrium	114				110	110							

## Laboratory Control Sample (LCS)

(LCS) R4140550-2 10/31/24 15:33

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Radium-228	5.00	4.54	90.7	80.0-120	
(T) Barium		135			
(T) Yttrium		107			

## L1785635-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1785635-03 10/31/24 15:33 • (MS) R4140550-3 10/31/24 15:33

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MS Rec. %	Dilution 1	Rec. Limits 70.0-130	<u>MS Qualifier</u>
Radium-228	16.7	0.191	16.3	96.4	1	70.0-130	
(T) Barium		111	123				
(T) Yttrium		101	105				

## QUALITY CONTROL SUMMARY

[L1785836-02,03,04,05,06,07,08,09,10,11,12,13](#)

## Method Blank (MB)

(MB) R4137299-1 10/16/24 14:45

Analyte	MB Result pCi/l	<u>MB Qualifier</u>	MB 2 sigma CE + / -	MB MDA pCi/l	MB Lc pCi/l
Radium-228	0.187	J	0.139	0.256	0.135
(T) Barium	112		112		
(T) Yttrium	98.5		98.5		

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

## L1785836-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1785836-13 10/16/24 22:00 • (DUP) R4137299-3 10/16/24 14:45

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER 1.72	<u>DUP Qualifier</u>	DUP RPD Limits %	DUP RER Limit 3
Radium-228	0.505	0.381	0.699	0.365	-0.403	0.363	0.686	0.357	200	1.72	U	20	3
(T) Barium	109				138	138							
(T) Yttrium	91.2				113	113							

## Laboratory Control Sample (LCS)

(LCS) R4137299-2 10/16/24 14:45

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Radium-228	5.00	5.51	110	80.0-120	
(T) Barium		112			
(T) Yttrium		92.4			

## L1781116-26 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1781116-26 10/23/24 23:23 • (MS) R4137299-6 10/23/24 23:23 • (MSD) R4137299-7 10/23/24 23:23

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MS Rec. %	MSD Rec. %	Dilution %	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	MS RER %	RPD Limits %
Radium-228	16.7	0.0764	13.9	12.8	82.8	76.0	1	70.0-130		8.55		20
(T) Barium		93.8		109	92.0							
(T) Yttrium		108		106	104							

## QUALITY CONTROL SUMMARY

[L1785836-01,02,03,04,05,06,07,08,09,10,11,12,13](#)

## Method Blank (MB)

(MB) R4139728-1 10/30/24 10:41

Analyte	MB Result pCi/l	<u>MB Qualifier</u> + / -	MB 2 sigma CE pCi/l	MB MDA pCi/l	MB Lc pCi/l
Radium-226	0.00245	<span style="color: orange;">U</span>	0.0671	0.123	0.0799
(T) Barium-133	69.3		69.3		

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

## L1785836-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1785836-13 10/30/24 10:41 • (DUP) R4139728-5 10/30/24 10:41

Analyte	Original Result pCi/l	Original 2 sigma CE + / -	Original MDA pCi/l	Original Lc pCi/l	DUP Result pCi/l	DUP 2 sigma CE + / -	DUP MDA pCi/l	DUP Lc pCi/l	DUP RPD %	DUP RER <span style="color: orange;">U</span>	<u>DUP Qualifier</u> 20	DUP RPD Limits %	DUP RER Limit 3
Radium-226	0.193	0.251	0.357	0.237	-0.129	0.198	0.462	0.301	200	1.01			
(T) Barium-133	110				73.6	73.6							

## Laboratory Control Sample (LCS)

(LCS) R4139728-2 10/30/24 10:41

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Radium-226	5.00	4.70	94.0	80.0-120	
(T) Barium-133			85.1		

## L1785836-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1785836-01 10/30/24 10:41 • (MS) R4139728-3 10/30/24 10:41 • (MSD) R4139728-4 10/30/24 10:41

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution %	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	MS RER %	RPD Limits %
Radium-226	20.0	1.59	20.4	17.3	94.0	78.6	1	75.0-125			16.3		20
(T) Barium-133		97.9			96.4	92.3							

# 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

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
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

J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> GI

<sup>8</sup> AI

<sup>9</sup> Sc

# 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 <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	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 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> 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.

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Company Name/Address:

**Alliance Technical Group - Bryant, AR**219 Brown Lane  
Little Rock, AR 72022Report to:  
**Jonathan Brown**Project Description:  
**Entergy - White Bluff**Phone: **501-847-7077**

## Billing Information:

Accounts Payable  
219 Brown Ln.  
Bryant, AR 72022Pres  
Chk

## 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/hubs/pas-standard-terms.pdf>SDG # **L17785836**  
**K065**Acctnum: **GBMCBAR**Template: **T231256**Prelogin: **P1104842**

PM: 829 - Brittnie L Boyd

PB: **LMA 9/25/24**Shipped Via: **FedEX Priority**

Remarks \_\_\_\_\_ Sample # (lab only) \_\_\_\_\_

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	* Metals 250mlHDPE-HNO3	FLUORIDE 125mlHDPE-NoPres	RA-226/RA-228 1L-HDPE-Add HNO3	RA-226/RA-228 1L-HDPE-Add HNO3	RA-226/RA-228 1L-HDPE-Add HNO3	RA-226/RA-228 1L-HDPE-Add HNO3
							2	2	2	2	2	2
RP-1	G	GW		10-3-24	1145	4	X	X	X			
RP-2	G	GW		10-3-24	1050	4	X	X	X			
RP-3	G	GW		10-3-24	1230	4	X	X	X			
RP-4	G	GW		10-2-24	1505	4	X	X	X			
RP-5	G	GW		10-2-24	1120	4	X	X	X			
RP-6	G	GW		10-2-24	1215	4	X	X	X			
RP-7	G	GW		10-2-24	1250	4	X	X	X			
RP-8	G	GW		10-2-24	1345	4	X	X	X			
RP-9	G	GW		10-2-24	1545	4	X	X	X			
RP-10	G	GW		10-2-24	1425	4	X	X	X			

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

Remarks: \*Metals = ASG,BAG,BEG,CDG,COG,CRG,HG,LIICP,MOG,PBG,SBG,SEG,TLG

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

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

Samples returned via:  
UPS FedEx Courier \_\_\_\_\_

Tracking # \_\_\_\_\_

Relinquished by : (Signature)  
*Jacob Colborn*Date: **10-4-24** Time: **1405**

Received by: (Signature)

Trip Blank Received: Yes  No   
HCl / MeOH  
TBR

Relinquished by : (Signature)

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received by: (Signature)

Temp: **°C** Bottles Received: **52**

If preservation required by Login: Date/Time

Relinquished by : (Signature)

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received for lab by: (Signature)  
*Jamison*Date: **10-5-24** Time: **0900**

Hold:

Condition:  
**NCF / OK**



FedEx tracking #

GND

### Temperature

UTK85836

Name \_\_\_\_\_

Date

**APPENDIX D**  
**FIELD SAMPLING FORMS**

## **GROUNDWATER SAMPLING LOG**

SITE NAME: <u>White Bluff</u>	SITE LOCATION:	
WELL NO: <u>Rp-1</u>	SAMPLE ID:	DATE: <u>7-8-24</u>

## PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet):	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)

$= (\text{PUMP VOLUME} \times \text{TURBING CAPACITY}) / (\text{TURBING LENGTH}) + \text{FLOW CELL VOLUME}$

**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: 1154	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
---	---	-------------------------------	----------------------	-----------------------------------

**WELL CAPACITY (Gallons Per Foot):**  $0.75'' = 0.02$ ;  $1'' = 0.04$ ;  $1.25'' = 0.06$ ;  $2'' = 0.16$ ;  $3'' = 0.37$ ;  $4'' = 0.65$ ;  $5'' = 1.02$ ;  $6'' = 1.47$ ;  $12'' = 5.88$

**WELL CAPACITY (Gallons Per Foot):** 0.75 = 0.02; 1" = 0.84; 1.25" = 0.88; 2" = 0.93; 3" = 0.97; 4" = 1.01; 5" = 1.04; 6" = 1.07; 7" = 1.10; 8" = 1.13; 9" = 1.16; 10" = 1.19; 11" = 1.22; 12" = 1.25; 13" = 1.28; 14" = 1.31; 15" = 1.34; 16" = 1.37; 17" = 1.40; 18" = 1.43; 19" = 1.46; 20" = 1.49; 21" = 1.52; 22" = 1.55; 23" = 1.58; 24" = 1.61; 25" = 1.64; 26" = 1.67; 27" = 1.70; 28" = 1.73; 29" = 1.76; 30" = 1.79; 31" = 1.82; 32" = 1.85; 33" = 1.88; 34" = 1.91; 35" = 1.94; 36" = 1.97; 37" = 2.00; 38" = 2.03; 39" = 2.06; 40" = 2.09; 41" = 2.12; 42" = 2.15; 43" = 2.18; 44" = 2.21; 45" = 2.24; 46" = 2.27; 47" = 2.30; 48" = 2.33; 49" = 2.36; 50" = 2.39; 51" = 2.42; 52" = 2.45; 53" = 2.48; 54" = 2.51; 55" = 2.54; 56" = 2.57; 57" = 2.60; 58" = 2.63; 59" = 2.66; 60" = 2.69; 61" = 2.72; 62" = 2.75; 63" = 2.78; 64" = 2.81; 65" = 2.84; 66" = 2.87; 67" = 2.90; 68" = 2.93; 69" = 2.96; 70" = 2.99; 71" = 3.02; 72" = 3.05; 73" = 3.08; 74" = 3.11; 75" = 3.14; 76" = 3.17; 77" = 3.20; 78" = 3.23; 79" = 3.26; 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601" = 18.92; 602" = 18.95; 603" = 18.98; 604" = 19.01; 605" = 19.04; 606" = 19.07; 607" = 19.10; 608" = 19.13; 609" = 19.16; 610" = 19.19; 611" = 19.22; 612" = 19.25; 613" = 19.28; 614" = 19.31; 615" = 19.34; 616" = 19.37; 617" = 19.40; 618" = 19.43; 619" = 19.46; 620" = 19.49; 621" = 19.52; 622" = 19.55; 623" = 19.58; 624" = 19.61; 625" = 19.64; 626" = 19.67; 627" = 19.70; 628" = 19.73; 629" = 19.76; 630" = 19.79; 631" = 19.82; 632" = 19.85; 633" = 19.88; 634" = 19.91; 635" = 19.94; 636" = 19.97; 637" = 20.00; 638" = 20.03; 639" = 20.06; 640" = 20.09; 641" = 20.12; 642" = 20.15; 643" = 20.18; 644" = 20.21; 645" = 20.24; 646" = 20.27; 647" = 20.30; 648" = 20.33; 649" = 20.36; 650" = 20.39; 651" = 20.42; 652" = 20.45; 653" = 20.48; 654" = 20.51; 655" = 20.54; 656" = 20.57; 657" = 20.60; 658" = 20.63; 659" = 20.66; 660" = 20.69; 661" = 20.72; 662" = 20.75; 663" = 20.78; 664" = 20.81; 665" = 20.84; 666" = 20.87; 667" = 20.90; 668" = 20.93; 669" = 20.96; 670" = 20.99; 671" = 21.02; 672" = 21.05; 673" = 21.08; 674" = 21.11; 675" = 21.14; 676" = 21.17; 677" = 21.20; 678" = 21.23; 679" = 21.26; 680" = 21.29; 681" = 21.32; 682" = 21.35; 683" = 21.38; 684" = 21.41; 685" = 21.44; 686" = 21.47; 687" = 21.50; 688" = 21.53; 689" = 21.56; 690" = 21.59; 691" = 21.62; 692" = 21.65; 693" = 21.68; 694" = 21.71; 695" = 21.74; 696" = 21.77; 697" = 21.80; 698" = 21.83; 699" = 21.86; 700" = 21.89; 701" = 21.92; 702" = 21.95; 703" = 21.98; 704" = 22.01; 705" = 22.04; 706" = 22.07; 707" = 22.10; 708" = 22.13; 709" = 22.16; 710" = 22.19; 711" = 22.22; 712" = 22.25; 713" = 22.28; 714" = 22.31; 715" = 22.34; 716" = 22.37; 717" = 22.40; 718" = 22.43; 719" = 22.46; 720" = 22.49; 721" = 22.52; 722" = 22.55; 723" = 22.58; 724" = 22.61; 725" = 22.64; 726" = 22.67; 727" = 22.70; 728" = 22.73; 729" = 22.76; 730" = 22.79; 731" = 22.82; 732" = 22.85; 733" = 22.88; 734" = 22.91; 735" = 22.94; 736" = 22.97; 737" = 23.00; 738" = 23.03; 739" = 23.06; 740" = 23.09; 741" = 23.12; 742" = 23.15; 743" = 23.18; 744" = 23.21; 745" = 23.24; 746" = 23.27; 747" = 23.30; 748" = 23.33; 749" = 23.36; 750" = 23.39; 751" = 23.42; 752" = 23.45; 753" = 23.48; 754" = 23.51; 755" = 23.54; 756" = 23.57; 757" = 23.60; 758" = 23.63; 759" = 23.66; 760" = 23.69; 761" = 23.72; 762" = 23.75; 763" = 23.78; 764" = 23.81; 765" = 23.84; 766" = 23.87; 767" = 23.90; 768" = 23.93; 769" = 23.96; 770" = 23.99; 771" = 24.02; 772" = 24.05; 773" = 24.08; 774" = 24.11; 775" = 24.14; 776" = 24.17; 777" = 24.20; 778" = 24.23; 779" = 24.26; 780" = 24.29; 781" = 24.32; 782" = 24.35; 783" = 24.38; 784" = 24.41; 785" = 24.44; 786" = 24.47; 787" = 24.50; 788" = 24.53; 789" = 24.56; 790" = 24.59; 791" = 24.62; 792" = 24.65; 793" = 24.68; 794" = 24.71; 795" = 24.74; 796" = 24.77; 797" = 24.80; 798" = 24.83; 799" = 24.86; 800" = 24.89; 801" = 24.92; 802" = 24.95; 803" = 24.98; 804" = 25.01; 805" = 25.04; 806" = 25.07; 807" = 25.10; 808" = 25.13; 809" = 25.16; 810" = 25.19; 811" = 25.22; 812" = 25.25; 813" = 25.28; 814" = 25.31; 815" = 25.34; 816" = 25.37; 817" = 25.40; 818" = 25.43; 819" = 25.46; 820" = 25.49; 821" = 25.52; 822" = 25.55; 823" = 25.58; 824" = 25.61; 825" = 25.64; 826" = 25.67; 827" = 25.70; 828" = 25.73; 829" = 25.76; 830" = 25.79; 831" = 25.82; 832" = 25.85; 833" = 25.88; 834" = 25.91; 835" = 25.94; 836" = 25.97; 837" = 26.00; 838" = 26.03; 839" = 26.06; 840" = 26.09; 841" = 26.12; 842" = 26.15; 843" = 26.18; 844" = 26.21; 845" = 26.24; 846" = 26.27; 847" = 26.30; 848" = 26.33; 849" = 26.36; 850" = 26.39; 851" = 26.42; 852" = 26.45; 853" = 26.48; 854" = 26.51; 855" = 26.54; 856" = 26.57; 857" = 26.60; 858" = 26.63; 859" = 26.66; 860" = 26.69; 861" = 26.72; 862" = 26.75; 863" = 26.78; 864" = 26.81; 865" = 26.84; 866" = 26.87; 867" = 26.90; 868" = 26.93; 869" = 26.96; 870" = 26.99; 871" = 27.02; 872" = 27.05; 873" = 27.08; 874" = 27.11; 875" = 27.14; 876" = 27.17; 877" = 27.20; 878" = 27.23; 879" = 27.26; 880" = 27.29; 881" = 27.32; 882" = 27.35; 883" = 27.38; 884" = 27.41; 885" = 27.44; 886" = 27.47; 887" = 27.50; 888" = 27.53; 889" = 27.56; 890" = 27.59; 891" = 27.62; 892" = 27.65; 893" = 27.68; 894" = 27.71; 895" = 27.74; 896" = 27.77; 897" = 27.80; 898" = 27.83; 899" = 27.86; 900" = 27.89; 901" = 27.92; 902" = 27.95; 903" = 27.98; 904" = 28.01; 905" = 28.04; 906" = 28.07; 907" = 28.10; 908" = 28.13; 909" = 28.16; 910" = 28.19; 911" = 28.22; 912" = 28.25; 913" = 28.28; 914" = 28.31; 915" = 28.34; 916" = 28.37; 917" = 28.40; 918" = 28.43; 919" = 28.46; 920" = 28.49; 921" = 28.52; 922" = 28.55; 923" = 28.58; 924" = 28.61; 925" = 28.64; 926" = 28.67; 927" = 28.70; 928" = 28.73; 929" = 28.76; 930" = 28.79; 931" = 28.82; 932" = 28.85; 933" = 28.88; 934" = 28.91; 935" = 28.94; 936" = 28.97; 937" = 29.00; 938" = 29.03; 939" = 29.06; 940" = 29.09; 941" = 29.12; 942" = 29.15; 943" = 29.18; 944" = 29.21; 945" = 29.24; 946" = 29.27; 947" = 29.30; 948" = 29.33; 949" = 29.36; 950" = 29.39; 951" = 29.42; 952" = 29.45; 953" = 29.48; 954" = 29.51; 955" = 29.54; 956" = 29.57; 957" = 29.60; 958" = 29.63; 959" = 29.66; 960" = 29.69; 961" = 29.72; 962" = 29.75; 963" = 29.78; 964" = 29.81; 965" = 29.84; 966" = 29.87; 967" = 29.90; 968" = 29.93; 969" = 29.96; 970" = 29.99; 971" = 30.02; 972" = 30.05; 973" = 30.08; 974" = 30.11; 975" = 30.14; 976" = 30.17; 977" = 30.20; 978" = 30.23; 979" = 30.26

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

## SAMPLING DATA

**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:**  $\pm 0.1$  units **Temperature:**  $\pm 3\%$  **Specific Conductance:**  $\pm 3\%$  **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: White Bluffs	SITE LOCATION:
WELL NO: RP-8	SAMPLE ID:
	DATE: 7-8-24

## PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): 15.13	PURGE PUMP TYPE OR BAILER:
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**WELL VOLUME PURGE:** 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY  
(only fill out if applicable)

$$= (\text{feet} - \text{feet}) \times \text{gallons/foot} = \text{gallons}$$

EQUIPMENT VOLUME PURGE - 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME

1-10M VOL. VOLUME (VOLING CAPACITY) = 1000 LITER (L),

$$(\text{gallons per foot} \times \text{length}) + (\text{gallons per foot} \times \text{width}) = \text{total gallons}$$

RENN INTERVAL PURGING PURGING TOTAL VOLUME

**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" = 0.0005; 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)

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

## **SAMPLING DATA**

**REMARKS:**

Horiba / Hgct. recalibrated prior to program

**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:**  $\pm 0.1$  units   **Temperature:**  $\pm 3^\circ\text{C}$    **Specific Conductance:**  $\pm 3\%$    **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:**  $\pm 10$  millivolts



## **GROUNDWATER SAMPLING LOG**

SITE NAME: White Bluff	SITE LOCATION:	
WELL NO: RP-4	SAMPLE ID:	DATE: 7-8-24

## PURGING DATA

WELL  
DIAMETER (inches): TUBING  
DIAMETER (inches): TOTAL WATER  
DEPTH (feet): STATIC DEPTH  
TO WATER (feet): 8.58 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)

$$= (\text{feet} - \text{feet}) \times \text{gallons/foot} = \text{gallons}$$

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

$$= \text{gallons} + (\text{gallons/foot} \times \text{feet}) + \text{gallons} = \text{gallons}$$

**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

**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:**  $\pm 0.1$  units **Temperature:**  $\pm 3\%$  **Specific Conductance:**  $\pm 3\%$  **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:**  $\pm 10$  millivolts

## **GROUNDWATER SAMPLING LOG**

SITE NAME: <u>White Blurs</u>	SITE LOCATION:	
WELL NO: <u>R P - 5</u>	SAMPLE ID:	DATE: <u>7-10-24</u>

## PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): 8.86	PURGE PUMP TYPE OR BAILER:
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**WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY**

(only fill out if applicable) \_\_\_\_\_

**EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME**

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

(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: 1317	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
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WELL CAPACITY (Gallons Per Foot) =  $0.75'' = 0.02$ ;  $1'' = 0.04$ ;  $1.25'' = 0.06$ ;  $2'' = 0.16$ ;  $3'' = 0.37$ ;  $4'' = 0.65$ ;  $5'' = 1.02$ ;  $6'' = 1.47$ ;  $12'' = 5.88$

**WELL CAPACITY (Gallons Per Foot):**  $0.75' = 0.02;$   $1' = 0.04;$   $1.25' = 0.06;$   $2' = 0.16;$   $3' = 0.37;$   $4' = 0.63;$   $5' = 1.02;$   $6' = 1.47;$   $7' = 1.92;$   $8' = 2.37;$   $9' = 2.82;$   $10' = 3.27;$   $11' = 3.72;$   $12' = 4.17;$   $13' = 4.62;$   $14' = 5.07;$   $15' = 5.52;$   $16' = 5.97;$   $17' = 6.42;$   $18' = 6.87;$   $19' = 7.32;$   $20' = 7.77;$   $21' = 8.22;$   $22' = 8.67;$   $23' = 9.12;$   $24' = 9.57;$   $25' = 10.02;$   $26' = 10.47;$   $27' = 10.92;$   $28' = 11.37;$   $29' = 11.82;$   $30' = 12.27;$   $31' = 12.72;$   $32' = 13.17;$   $33' = 13.62;$   $34' = 14.07;$   $35' = 14.52;$   $36' = 14.97;$   $37' = 15.42;$   $38' = 15.87;$   $39' = 16.32;$   $40' = 16.77;$   $41' = 17.22;$   $42' = 17.67;$   $43' = 18.12;$   $44' = 18.57;$   $45' = 19.02;$   $46' = 19.47;$   $47' = 19.92;$   $48' = 20.37;$   $49' = 20.82;$   $50' = 21.27;$   $51' = 21.72;$   $52' = 22.17;$   $53' = 22.62;$   $54' = 23.07;$   $55' = 23.52;$   $56' = 23.97;$   $57' = 24.42;$   $58' = 24.87;$   $59' = 25.32;$   $60' = 25.77;$   $61' = 26.22;$   $62' = 26.67;$   $63' = 27.12;$   $64' = 27.57;$   $65' = 28.02;$   $66' = 28.47;$   $67' = 28.92;$   $68' = 29.37;$   $69' = 29.82;$   $70' = 30.27;$   $71' = 30.72;$   $72' = 31.17;$   $73' = 31.62;$   $74' = 32.07;$   $75' = 32.52;$   $76' = 32.97;$   $77' = 33.42;$   $78' = 33.87;$   $79' = 34.32;$   $80' = 34.77;$   $81' = 35.22;$   $82' = 35.67;$   $83' = 36.12;$   $84' = 36.57;$   $85' = 37.02;$   $86' = 37.47;$   $87' = 37.92;$   $88' = 38.37;$   $89' = 38.82;$   $90' = 39.27;$   $91' = 39.72;$   $92' = 40.17;$   $93' = 40.62;$   $94' = 41.07;$   $95' = 41.52;$   $96' = 41.97;$   $97' = 42.42;$   $98' = 42.87;$   $99' = 43.32;$   $100' = 43.77;$   $101' = 44.22;$   $102' = 44.67;$   $103' = 45.12;$   $104' = 45.57;$   $105' = 46.02;$   $106' = 46.47;$   $107' = 46.92;$   $108' = 47.37;$   $109' = 47.82;$   $110' = 48.27;$   $111' = 48.72;$   $112' = 49.17;$   $113' = 49.62;$   $114' = 50.07;$   $115' = 50.52;$   $116' = 50.97;$   $117' = 51.42;$   $118' = 51.87;$   $119' = 52.32;$   $120' = 52.77;$   $121' = 53.22;$   $122' = 53.67;$   $123' = 54.12;$   $124' = 54.57;$   $125' = 55.02;$   $126' = 55.47;$   $127' = 55.92;$   $128' = 56.37;$   $129' = 56.82;$   $130' = 57.27;$   $131' = 57.72;$   $132' = 58.17;$   $133' = 58.62;$   $134' = 59.07;$   $135' = 59.52;$   $136' = 59.97;$   $137' = 60.42;$   $138' = 60.87;$   $139' = 61.32;$   $140' = 61.77;$   $141' = 62.22;$   $142' = 62.67;$   $143' = 63.12;$   $144' = 63.57;$   $145' = 64.02;$   $146' = 64.47;$   $147' = 64.92;$   $148' = 65.37;$   $149' = 65.82;$   $150' = 66.27;$   $151' = 66.72;$   $152' = 67.17;$   $153' = 67.62;$   $154' = 68.07;$   $155' = 68.52;$   $156' = 68.97;$   $157' = 69.42;$   $158' = 69.87;$   $159' = 70.32;$   $160' = 70.77;$   $161' = 71.22;$   $162' = 71.67;$   $163' = 72.12;$   $164' = 72.57;$   $165' = 73.02;$   $166' = 73.47;$   $167' = 73.92;$   $168' = 74.37;$   $169' = 74.82;$   $170' = 75.27;$   $171' = 75.72;$   $172' = 76.17;$   $173' = 76.62;$   $174' = 77.07;$   $175' = 77.52;$   $176' = 77.97;$   $177' = 78.42;$   $178' = 78.87;$   $179' = 79.32;$   $180' = 79.77;$   $181' = 80.22;$   $182' = 80.67;$   $183' = 81.12;$   $184' = 81.57;$   $185' = 82.02;$   $186' = 82.47;$   $187' = 82.92;$   $188' = 83.37;$   $189' = 83.82;$   $190' = 84.27;$   $191' = 84.72;$   $192' = 85.17;$   $193' = 85.62;$   $194' = 86.07;$   $195' = 86.52;$   $196' = 86.97;$   $197' = 87.42;$   $198' = 87.87;$   $199' = 88.32;$   $200' = 88.77;$   $201' = 89.22;$   $202' = 89.67;$   $203' = 90.12;$   $204' = 90.57;$   $205' = 91.02;$   $206' = 91.47;$   $207' = 91.92;$   $208' = 92.37;$   $209' = 92.82;$   $210' = 93.27;$   $211' = 93.72;$   $212' = 94.17;$   $213' = 94.62;$   $214' = 95.07;$   $215' = 95.52;$   $216' = 95.97;$   $217' = 96.42;$   $218' = 96.87;$   $219' = 97.32;$   $220' = 97.77;$   $221' = 98.22;$   $222' = 98.67;$   $223' = 99.12;$   $224' = 99.57;$   $225' = 100.02;$   $226' = 100.47;$   $227' = 100.92;$   $228' = 101.37;$   $229' = 101.82;$   $230' = 102.27;$   $231' = 102.72;$   $232' = 103.17;$   $233' = 103.62;$   $234' = 104.07;$   $235' = 104.52;$   $236' = 104.97;$   $237' = 105.42;$   $238' = 105.87;$   $239' = 106.32;$   $240' = 106.77;$   $241' = 107.22;$   $242' = 107.67;$   $243' = 108.12;$   $244' = 108.57;$   $245' = 109.02;$   $246' = 109.47;$   $247' = 109.92;$   $248' = 110.37;$   $249' = 110.82;$   $250' = 111.27;$   $251' = 111.72;$   $252' = 112.17;$   $253' = 112.62;$   $254' = 113.07;$   $255' = 113.52;$   $256' = 113.97;$   $257' = 114.42;$   $258' = 114.87;$   $259' = 115.32;$   $260' = 115.77;$   $261' = 116.22;$   $262' = 116.67;$   $263' = 117.12;$   $264' = 117.57;$   $265' = 118.02;$   $266' = 118.47;$   $267' = 118.92;$   $268' = 119.37;$   $269' = 119.82;$   $270' = 120.27;$   $271' = 120.72;$   $272' = 121.17;$   $273' = 121.62;$   $274' = 122.07;$   $275' = 122.52;$   $276' = 122.97;$   $277' = 123.42;$   $278' = 123.87;$   $279' = 124.32;$   $280' = 124.77;$   $281' = 125.22;$   $282' = 125.67;$   $283' = 126.12;$   $284' = 126.57;$   $285' = 127.02;$   $286' = 127.47;$   $287' = 127.92;$   $288' = 128.37;$   $289' = 128.82;$   $290' = 129.27;$   $291' = 129.72;$   $292' = 130.17;$   $293' = 130.62;$   $294' = 131.07;$   $295' = 131.52;$   $296' = 131.97;$   $297' = 132.42;$   $298' = 132.87;$   $299' = 133.32;$   $300' = 133.77;$   $301' = 134.22;$   $302' = 134.67;$   $303' = 135.12;$   $304' = 135.57;$   $305' = 136.02;$   $306' = 136.47;$   $307' = 136.92;$   $308' = 137.37;$   $309' = 137.82;$   $310' = 138.27;$   $311' = 138.72;$   $312' = 139.17;$   $313' = 139.62;$   $314' = 140.07;$   $315' = 140.52;$   $316' = 140.97;$   $317' = 141.42;$   $318' = 141.87;$   $319' = 142.32;$   $320' = 142.77;$   $321' = 143.22;$   $322' = 143.67;$   $323' = 144.12;$   $324' = 144.57;$   $325' = 145.02;$   $326' = 145.47;$   $327' = 145.92;$   $328' = 146.37;$   $329' = 146.82;$   $330' = 147.27;$   $331' = 147.72;$   $332' = 148.17;$   $333' = 148.62;$   $334' = 149.07;$   $335' = 149.52;$   $336' = 149.97;$   $337' = 150.42;$   $338' = 150.87;$   $339' = 151.32;$   $340' = 151.77;$   $341' = 152.22;$   $342' = 152.67;$   $343' = 153.12;$   $344' = 153.57;$   $345' = 154.02;$   $346' = 154.47;$   $347' = 154.92;$   $348' = 155.37;$   $349' = 155.82;$   $350' = 156.27;$   $351' = 156.72;$   $352' = 157.17;$   $353' = 157.62;$   $354' = 158.07;$   $355' = 158.52;$   $356' = 158.97;$   $357' = 159.42;$   $358' = 159.87;$   $359' = 160.32;$   $360' = 160.77;$   $361' = 161.22;$   $362' = 161.67;$   $363' = 162.12;$   $364' = 162.57;$   $365' = 163.02;$   $366' = 163.47;$   $367' = 163.92;$   $368' = 164.37;$   $369' = 164.82;$   $370' = 165.27;$   $371' = 165.72;$   $372' = 166.17;$   $373' = 166.62;$   $374' = 167.07;$   $375' = 167.52;$   $376' = 167.97;$   $377' = 168.42;$   $378' = 168.87;$   $379' = 169.32;$   $380' = 169.77;$   $381' = 170.22;$   $382' = 170.67;$   $383' = 171.12;$   $384' = 171.57;$   $385' = 172.02;$   $386' = 172.47;$   $387' = 172.92;$   $388' = 173.37;$   $389' = 173.82;$   $390' = 174.27;$   $391' = 174.72;$   $392' = 175.17;$   $393' = 175.62;$   $394' = 176.07;$   $395' = 176.52;$   $396' = 176.97;$   $397' = 177.42;$   $398' = 177.87;$   $399' = 178.32;$   $400' = 178.77;$   $401' = 179.22;$   $402' = 179.67;$   $403' = 180.12;$   $404' = 180.57;$   $405' = 181.02;$   $406' = 181.47;$   $407' = 181.92;$   $408' = 182.37;$   $409' = 182.82;$   $410' = 183.27;$   $411' = 183.72;$   $412' = 184.17;$   $413' = 184.62;$   $414' = 185.07;$   $415' = 185.52;$   $416' = 185.97;$   $417' = 186.42;$   $418' = 186.87;$   $419' = 187.32;$   $420' = 187.77;$   $421' = 188.22;$   $422' = 188.67;$   $423' = 189.12;$   $424' = 189.57;$   $425' = 190.02;$   $426' = 190.47;$   $427' = 190.92;$   $428' = 191.37;$   $429' = 191.82;$   $430' = 192.27;$   $431' = 192.72;$   $432' = 193.17;$   $433' = 193.62;$   $434' = 194.07;$   $435' = 194.52;$   $436' = 194.97;$   $437' = 195.42;$   $438' = 195.87;$   $439' = 196.32;$   $440' = 196.77;$   $441' = 197.22;$   $442' = 197.67;$   $443' = 198.12;$   $444' = 198.57;$   $445' = 199.02;$   $446' = 199.47;$   $447' = 199.92;$   $448' = 200.37;$   $449' = 200.82;$   $450' = 201.27;$   $451' = 201.72;$   $452' = 202.17;$   $453' = 202.62;$   $454' = 203.07;$   $455' = 203.52;$   $456' = 203.97;$   $457' = 204.42;$   $458' = 204.87;$   $459' = 205.32;$   $460' = 205.77;$   $461' = 206.22;$   $462' = 206.67;$   $463' = 207.12;$   $464' = 207.57;$   $465' = 208.02;$   $466' = 208.47;$   $467' = 208.92;$   $468' = 209.37;$   $469' = 209.82;$   $470' = 210.27;$   $471' = 210.72;$   $472' = 211.17;$   $473' = 211.62;$   $474' = 212.07;$   $475' = 212.52;$   $476' = 212.97;$   $477' = 213.42;$   $478' = 213.87;$   $479' = 214.32;$   $480' = 214.77;$   $481' = 215.22;$   $482' = 215.67;$   $483' = 216.12;$   $484' = 216.57;$   $485' = 217.02;$   $486' = 217.47;$   $487' = 217.92;$   $488' = 218.37;$   $489' = 218.82;$   $490' = 219.27;$   $491' = 219.72;$   $492' = 220.17;$   $493' = 220.62;$   $494' = 221.07;$   $495' = 221.52;$   $496' = 221.97;$   $497' = 222.42;$   $498' = 222.87;$   $499' = 223.32;$   $500' = 223.77;$   $501' = 224.22;$   $502' = 224.67;$   $503' = 225.12;$   $504' = 225.57;$   $505' = 226.02;$   $506' = 226.47;$   $507' = 226.92;$   $508' = 227.37;$   $509' = 227.82;$   $510' = 228.27;$   $511' = 228.72;$   $512' = 229.17;$   $513' = 229.62;$   $514' = 230.07;$   $515' = 230.52;$   $516' = 230.97;$   $517' = 231.42;$   $518' = 231.87;$   $519' = 232.32;$   $520' = 232.77;$   $521' = 233.22;$   $522' = 233.67;$   $523' = 234.12;$   $524' = 234.57;$   $525' = 235.02;$   $526' = 235.47;$   $527' = 235.92;$   $528' = 236.37;$   $529' = 236.82;$   $530' = 237.27;$   $531' = 237.72;$   $532' = 238.17;$   $533' = 238.62;$   $534' = 239.07;$   $535' = 239.52;$   $536' = 239.97;$   $537' = 240.42;$   $538' = 240.87;$   $539' = 241.32;$   $540' = 241.77;$   $541' = 242.22;$   $542' = 242.67;$   $543' = 243.12;$   $544' = 243.57;$   $545' = 244.02;$   $546' = 244.47;$   $547' = 244.92;$   $548' = 245.37;$   $549' = 245.82;$   $550' = 246.27;$   $551' = 246.72;$   $552' = 247.17;$   $553' = 247.62;$   $554' = 248.07;$   $555' = 248.52;$   $556' = 248.97;$   $557' = 249.42;$   $558' = 249.87;$   $559' = 250.32;$   $560' = 250.77;$   $561' = 251.22;$   $562' = 251.67;$   $563' = 252.12;$   $564' = 252.57;$   $565' = 253.02;$   $566' = 253.47;$   $567' = 253.92;$   $568' = 254.37;$   $569' = 254.82;$   $570' = 255.27;$   $571' = 255.72;$   $572' = 256.17;$   $573' = 256.62;$   $574' = 257.07;$   $575' = 257.52;$   $576' = 257.97;$   $577' = 258.42;$   $578' = 258.87;$   $579' = 259.32;$   $580' = 259.77;$   $581' = 260.22;$   $582' = 260.67;$   $583' = 261.12;$   $584' = 261.57;$   $585' = 262.02;$   $586' = 262.47;$   $587' = 262.92;$   $588' = 263.37;$   $589' = 263.82;$   $590' = 264.27;$   $591' = 264.72;$   $592' = 265.17;$   $593' = 265.62;$   $594' = 266.07;$   $595' = 266.52;$   $596' = 266.97;$   $597' = 267.42;$   $598' = 267.87;$   $599' = 268.32;$   $600' = 268.77;$   $601' = 269.22;$   $602' = 269.67;$   $603' = 270.12;$   $604' = 270.57;$   $605' = 271.02;$   $606' = 271.47;$   $607' = 271.92;$   $608' = 272.37;$   $609' = 272.82;$   $610' = 273.27;$   $611' = 273.72;$   $612' = 274.17;$   $613' = 274.62;$   $614' = 275.07;$   $615' = 275.52;$   $616' = 275.97;$   $617' = 276.42;$   $618' = 276.87;$   $619' = 277.32;$   $620' = 277.77;$   $621' = 278.22;$   $622' = 278.67;$   $623' = 279.12;$   $624' = 279.57;$   $625' = 280.02;$   $626' = 280.47;$   $627' = 280.92;$   $628' = 281.37;$   $629' = 281.82;$   $630' = 282.27;$   $631' = 282.72;$   $632' = 283.17;$   $633' = 283.62;$   $634' = 284.07;$   $635' = 284.52;$   $636' = 284.97;$   $637' = 285.42;$   $638' = 285.87;$   $639' = 286.32;$   $640' = 286.77;$   $641' = 287.22;$   $642' = 287.67;$   $643' = 288.12;$   $644' = 288.57;$   $645' = 289.02;$   $646' = 289.47;$   $647' = 289.92;$   $648' = 290.37;$   $649' = 290.82;$   $650' = 291.27;$   $651' = 291.72;$   $652' = 292.17;$   $653' = 292.62;$   $654' = 293.07;$   $655' = 293.52;$   $656' = 293.97;$   $657' = 294.42;$   $658' = 294.87;$   $659' = 295.32;$   $660' = 295.77;$   $661' = 296.22;$   $662' = 296.67;$   $663' = 297.12;$   $664' = 297.57;$   $665' = 298.02;$   $666' = 298.47;$   $667' = 298.92;$   $668' = 299.37;$   $669' = 299.82;$   $670' = 300.27;$   $671' = 300.72;$   $672' = 301.17;$   $673' = 301.62;$   $674' = 302.07;$   $675' = 302.52;$   $676' = 302.97;$   $677' = 303.42;$   $678' = 303.87;$   $679' = 304.32;$   $680' = 304.77;$   $681' = 305.22;$   $682' = 305.67;$   $683' = 306.12;$   $684' = 306.57;$   $685' = 307.02;$   $686' = 307.47;$   $687' = 307.92;$   $688' = 308.37;$   $689' = 308.82;$   $690' = 309.27;$   $691' = 309.72;$   $692' = 310.17;$   $693' = 310.62;$   $694' = 311.07;$   $695' = 311.52;$   $696' = 311.97;$   $697' = 312.42;$   $698' = 312.87;$   $699' = 313.32;$   $700' = 313.77;$   $701' = 314.22;$   $702' = 314.67;$   $703' = 315.12;$   $704' =$

**TUBING INSIDE DIA. CAPACITY (Gal./ft.)** **1/8** = **0.0005**, **3/16** = **0.0014**, **1/4** = **0.0025**, **5/16** = **0.0041**, **3/8** = **0.0065**, **1/2** = **0.0110**

#### **SAMPLING DATA**

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**REMARKS:**

Duplicate 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;  
RFP = 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:  $\pm 0.1$  units Temperature:  $\pm 3\%$  Specific Conductance:  $\pm 3\%$  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:  $\pm 10$  millivolts

## **GROUNDWATER SAMPLING LOG**

SITE NAME: White Bluff	SITE LOCATION:
WELL NO: RP-6	SAMPLE ID: DATE: 7-10-24

## PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): 9.71	PURGE PUMP TYPE OR BAILER:
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**WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY**

(only fill out if applicable)

$$= (\text{feet} - \text{feet}) \times \text{gallons/foot} = \text{gallons}$$

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME

**EQUIPMENT VOLUME**  
(only fill out if applicable)

$$= \text{gallons} + / \quad \text{gallons/foot} \times \quad \text{feet}) + \quad \text{gallons} = \quad \text{gallons}$$

**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 = Baller; 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: 360 SAMPLING ENDED AT: 1312

PUMP OR TUBING  
DEPTH IN WELL (feet): **TUBING**  
**MATERIAL CODE:** FIELD-FILTERED: Y N FILTER SIZE: \_\_\_\_\_ μm  
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced) DUPLICATE: Y N

**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:**  $\pm 0.1$  units   **Temperature:**  $\pm 3\%$    **Specific Conductance:**  $\pm 3\%$    **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:**  $\pm 10$  millivolts

## **GROUNDWATER SAMPLING LOG**

SITE NAME:	White Bluff	SITE LOCATION:
WELL NO:	BP-7	SAMPLE ID:
		DATE: 7-10-24

## PURGING DATA

**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)

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

## SAMPLING DATA

**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:**  $\pm$  0.1 units **Temperature:**  $\pm$  3% **Specific Conductance:**  $\pm$  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:**  $\pm$  10 millivolts

## **GROUNDWATER SAMPLING LOG**

SITE NAME: <u>White Bluff</u>	SITE LOCATION:
WELL NO: <u>RP-8</u>	SAMPLE ID:
	DATE: <u>7-10-74</u>

## PURGING DATA

**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

**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:**  $\pm 0.1$  units   **Temperature:**  $\pm 3\%$    **Specific Conductance:**  $\pm 3\%$    **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:**  $\pm 10$  millivolts

## **GROUNDWATER SAMPLING LOG**

SITE NAME: <u>White Bluff</u>	SITE LOCATION:	
WELL NO: <u>R P - 9</u>	SAMPLE ID:	DATE: <u>7-8-24</u>

## PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): 9.35	PURGE PUMP TYPE OR BAILER:
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**WELL VOLUME PURGE:** 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY  
(only fill out if applicable)

$$= \left( \frac{\text{feet}}{\text{FEET IN TURBINE VOLUME} + (\text{TURBINE CAPACITY} \times \text{FEET})} \right) \times \frac{\text{gallons}}{\text{TURBINE LENGTH}} + \text{FLOW CELL VOLUME}$$

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

**WELL CAPACITY (Gallons Per Foot):**  $0.75'' = 0.02$ ;  $1'' = 0.04$ ;  $1.25'' = 0.06$ ;  $2'' = 0.16$ ;  $3'' = 0.37$ ;  $4'' = 0.65$ ;  $5'' = 1.02$ ;  $6'' = 1.47$ ;  $12'' = 5.88$

**WELL CAPACITY (Gallons Per Foot):**  $0.75 - 0.02z$ ;  $1 - 0.04z$ ;  $0.25 - 0.08z$ ;  $z = 0.10$ ;  $5/16'' = 0.004$ ;  $3/16'' = 0.0014$ ;  $1/4'' = 0.0026$ ;  $3/8'' = 0.006$ ;  $1/2'' = 0.010$ ;  $5/8'' = 0.016$

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

## SAMPLING DATA

**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 KIPIF - Reverse Flow Circulation Pump, CII, Draw Method (Flowchart).

**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

**2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF EACH THREE CONSTITUENTS**

**pH:**  $\pm 0.1$  units    **Temperature:**  $\pm 3\%$     **Specific Conductance:**  $\pm 3\%$     **Dissolved Oxygen:** ( $10\%$  for values greater than  $0.5 \text{ mg/L}$ ,  $20\%$  for dissolved oxygen values less than  $0.5 \text{ mg/L}$ )    consider the values as stabilized)    **Turbidity:** ( $10\%$  for values greater than  $5 \text{ NTU}$ ; if three Turbidity values

oxygen values are less than 0.5 mg/L, consider the values as stabilized) **Turbidity:** ( $\pm 10\%$  for values greater than 5 NTU; if three Turbidity values are less than 5 NTU, consider the values as stabilized) **Oxidation/Reduction Potential:**  $\pm 10$  millivolts

## **GROUNDWATER SAMPLING LOG**

SITE NAME: White Bluff	SITE LOCATION:	
WELL NO: RP-10	SAMPLE ID:	DATE: 7-8-24

## PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): 7.97	PURGE PUMP TYPE OR BAILER:
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**WELL VOLUME PURGE:** 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY  
(only fill out if applicable)

$$= (\text{feet} - \text{feet}) \times \text{gallons/foot} = \text{gallons}$$

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME

“...and I will give you a new heart, and I will put a new spirit within you; and I will remove the stony heart out of your flesh, and I will give you a heart of flesh.”

= gallons + ( gallons/foot X feet ) + gallons - gallons

**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

**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:**  $\pm 0.1$  units **Temperature:**  $\pm 3\%$  **Specific Conductance:**  $\pm 3\%$  **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:**  $\pm 10$  millivolts

## **GROUNDWATER SAMPLING LOG**

SITE NAME: White Bluff	SITE LOCATION: Redfield, Ark	
WELL NO: RP-7	SAMPLE ID:	DATE: 10-3-24

## PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): <u>10.54</u>	PURGE PUMP TYPE OR BAILER:
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**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)

$$= \text{gallons} + (\text{gallons/foot} \times \text{feet}) + \text{gallons} = \text{gallons}$$

**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**

## **SAMPLING DATA**

**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:**  $\pm 0.1$  units   **Temperature:**  $\pm 3\%$    **Specific Conductance:**  $\pm 3\%$    **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:**  $\pm 10$  millivolts

## **GROUNDWATER SAMPLING LOG**

SITE NAME: White Bluff	SITE LOCATION: Redfield, AR	
WELL NO: RP-2	SAMPLE ID:	DATE: 10-3-24

## PURGING DATA

WELL  
DIAMETER (inches): TUBING  
DIAMETER (inches): TOTAL WATER  
DEPTH (feet): STATIC DEPTH  
TO WATER (feet): 16.24 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)

(only fill out if applicable)

$$= (\text{feet} - \text{feet}) \times \text{gallons/foot} = \text{gallons}$$

(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**

EQUIPMENT VOLUME PURGE: EQUIPMENT VOL. / TANK VOLUME : (ROUND TO NEAREST %)  
(only fill out if applicable)

(only fill out if applicable)

$$= \text{gallons} + (\text{gallons/foot} \times \text{feet}) + \text{gallons} = \text{gallons}$$

PUMP OR TUBING DEPTH IN WELL (feet):	WELL SCREEN INTERVAL DEPTH: feet to feet	PURGING INITIATED AT: 10A	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
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**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**

## SAMPLING DATA

**REMARKS:**

Horiba / NACH 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:**  $\pm$  0.1 units **Temperature:**  $\pm$  3% **Specific Conductance:**  $\pm$  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:**  $\pm$  10 millivolts

- Duplicate taken

## **GROUNDWATER SAMPLING LOG**

SITE NAME: White Bluff	SITE LOCATION: Redfield, Ak	
WELL NO: RP-3	SAMPLE ID:	DATE: 10-3-24

## PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
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**WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY**

**EQUIPMENT VOLUME PURGE = 1 EQUIPMENT VOL. - PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME**

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

**WELL CAPACITY (Gallons Per Foot):**  $0.75'' = 0.02$ ;  $1'' = 0.04$ ;  $1.25'' = 0.06$ ;  $2'' = 0.16$ ;  $3'' = 0.37$ ;  $4'' = 0.65$ ;  $5'' = 1.02$ ;  $6'' = 1.47$ ;  $12'' = 5.88$

**WELL CAPACITY** (Gallons Per Foot): .75 = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.10; 3" = 0.17; 4" = 0.30; 5" = 0.48; 6" = 0.68; 7" = 0.88; 8" = 1.08; 9" = 1.28; 10" = 1.48; 11" = 1.68; 12" = 1.88; 13" = 2.08; 14" = 2.28; 15" = 2.48; 16" = 2.68; 17" = 2.88; 18" = 3.08; 19" = 3.28; 20" = 3.48; 21" = 3.68; 22" = 3.88; 23" = 4.08; 24" = 4.28; 25" = 4.48; 26" = 4.68; 27" = 4.88; 28" = 5.08; 29" = 5.28; 30" = 5.48; 31" = 5.68; 32" = 5.88; 33" = 6.08; 34" = 6.28; 35" = 6.48; 36" = 6.68; 37" = 6.88; 38" = 7.08; 39" = 7.28; 40" = 7.48; 41" = 7.68; 42" = 7.88; 43" = 8.08; 44" = 8.28; 45" = 8.48; 46" = 8.68; 47" = 8.88; 48" = 9.08; 49" = 9.28; 50" = 9.48; 51" = 9.68; 52" = 9.88; 53" = 10.08; 54" = 10.28; 55" = 10.48; 56" = 10.68; 57" = 10.88; 58" = 11.08; 59" = 11.28; 60" = 11.48; 61" = 11.68; 62" = 11.88; 63" = 12.08; 64" = 12.28; 65" = 12.48; 66" = 12.68; 67" = 12.88; 68" = 13.08; 69" = 13.28; 70" = 13.48; 71" = 13.68; 72" = 13.88; 73" = 14.08; 74" = 14.28; 75" = 14.48; 76" = 14.68; 77" = 14.88; 78" = 15.08; 79" = 15.28; 80" = 15.48; 81" = 15.68; 82" = 15.88; 83" = 16.08; 84" = 16.28; 85" = 16.48; 86" = 16.68; 87" = 16.88; 88" = 17.08; 89" = 17.28; 90" = 17.48; 91" = 17.68; 92" = 17.88; 93" = 18.08; 94" = 18.28; 95" = 18.48; 96" = 18.68; 97" = 18.88; 98" = 19.08; 99" = 19.28; 100" = 19.48; 101" = 19.68; 102" = 19.88; 103" = 20.08; 104" = 20.28; 105" = 20.48; 106" = 20.68; 107" = 20.88; 108" = 21.08; 109" = 21.28; 110" = 21.48; 111" = 21.68; 112" = 21.88; 113" = 22.08; 114" = 22.28; 115" = 22.48; 116" = 22.68; 117" = 22.88; 118" = 23.08; 119" = 23.28; 120" = 23.48; 121" = 23.68; 122" = 23.88; 123" = 24.08; 124" = 24.28; 125" = 24.48; 126" = 24.68; 127" = 24.88; 128" = 25.08; 129" = 25.28; 130" = 25.48; 131" = 25.68; 132" = 25.88; 133" = 26.08; 134" = 26.28; 135" = 26.48; 136" = 26.68; 137" = 26.88; 138" = 27.08; 139" = 27.28; 140" = 27.48; 141" = 27.68; 142" = 27.88; 143" = 28.08; 144" = 28.28; 145" = 28.48; 146" = 28.68; 147" = 28.88; 148" = 29.08; 149" = 29.28; 150" = 29.48; 151" = 29.68; 152" = 29.88; 153" = 30.08; 154" = 30.28; 155" = 30.48; 156" = 30.68; 157" = 30.88; 158" = 31.08; 159" = 31.28; 160" = 31.48; 161" = 31.68; 162" = 31.88; 163" = 32.08; 164" = 32.28; 165" = 32.48; 166" = 32.68; 167" = 32.88; 168" = 33.08; 169" = 33.28; 170" = 33.48; 171" = 33.68; 172" = 33.88; 173" = 34.08; 174" = 34.28; 175" = 34.48; 176" = 34.68; 177" = 34.88; 178" = 35.08; 179" = 35.28; 180" = 35.48; 181" = 35.68; 182" = 35.88; 183" = 36.08; 184" = 36.28; 185" = 36.48; 186" = 36.68; 187" = 36.88; 188" = 37.08; 189" = 37.28; 190" = 37.48; 191" = 37.68; 192" = 37.88; 193" = 38.08; 194" = 38.28; 195" = 38.48; 196" = 38.68; 197" = 38.88; 198" = 39.08; 199" = 39.28; 200" = 39.48; 201" = 39.68; 202" = 39.88; 203" = 40.08; 204" = 40.28; 205" = 40.48; 206" = 40.68; 207" = 40.88; 208" = 41.08; 209" = 41.28; 210" = 41.48; 211" = 41.68; 212" = 41.88; 213" = 42.08; 214" = 42.28; 215" = 42.48; 216" = 42.68; 217" = 42.88; 218" = 43.08; 219" = 43.28; 220" = 43.48; 221" = 43.68; 222" = 43.88; 223" = 44.08; 224" = 44.28; 225" = 44.48; 226" = 44.68; 227" = 44.88; 228" = 45.08; 229" = 45.28; 230" = 45.48; 231" = 45.68; 232" = 45.88; 233" = 46.08; 234" = 46.28; 235" = 46.48; 236" = 46.68; 237" = 46.88; 238" = 47.08; 239" = 47.28; 240" = 47.48; 241" = 47.68; 242" = 47.88; 243" = 48.08; 244" = 48.28; 245" = 48.48; 246" = 48.68; 247" = 48.88; 248" = 49.08; 249" = 49.28; 250" = 49.48; 251" = 49.68; 252" = 49.88; 253" = 50.08; 254" = 50.28; 255" = 50.48; 256" = 50.68; 257" = 50.88; 258" = 51.08; 259" = 51.28; 260" = 51.48; 261" = 51.68; 262" = 51.88; 263" = 52.08; 264" = 52.28; 265" = 52.48; 266" = 52.68; 267" = 52.88; 268" = 53.08; 269" = 53.28; 270" = 53.48; 271" = 53.68; 272" = 53.88; 273" = 54.08; 274" = 54.28; 275" = 54.48; 276" = 54.68; 277" = 54.88; 278" = 55.08; 279" = 55.28; 280" = 55.48; 281" = 55.68; 282" = 55.88; 283" = 56.08; 284" = 56.28; 285" = 56.48; 286" = 56.68; 287" = 56.88; 288" = 57.08; 289" = 57.28; 290" = 57.48; 291" = 57.68; 292" = 57.88; 293" = 58.08; 294" = 58.28; 295" = 58.48; 296" = 58.68; 297" = 58.88; 298" = 59.08; 299" = 59.28; 300" = 59.48; 301" = 59.68; 302" = 59.88; 303" = 60.08; 304" = 60.28; 305" = 60.48; 306" = 60.68; 307" = 60.88; 308" = 61.08; 309" = 61.28; 310" = 61.48; 311" = 61.68; 312" = 61.88; 313" = 62.08; 314" = 62.28; 315" = 62.48; 316" = 62.68; 317" = 62.88; 318" = 63.08; 319" = 63.28; 320" = 63.48; 321" = 63.68; 322" = 63.88; 323" = 64.08; 324" = 64.28; 325" = 64.48; 326" = 64.68; 327" = 64.88; 328" = 65.08; 329" = 65.28; 330" = 65.48; 331" = 65.68; 332" = 65.88; 333" = 66.08; 334" = 66.28; 335" = 66.48; 336" = 66.68; 337" = 66.88; 338" = 67.08; 339" = 67.28; 340" = 67.48; 341" = 67.68; 342" = 67.88; 343" = 68.08; 344" = 68.28; 345" = 68.48; 346" = 68.68; 347" = 68.88; 348" = 69.08; 349" = 69.28; 350" = 69.48; 351" = 69.68; 352" = 69.88; 353" = 70.08; 354" = 70.28; 355" = 70.48; 356" = 70.68; 357" = 70.88; 358" = 71.08; 359" = 71.28; 360" = 71.48; 361" = 71.68; 362" = 71.88; 363" = 72.08; 364" = 72.28; 365" = 72.48; 366" = 72.68; 367" = 72.88; 368" = 73.08; 369" = 73.28; 370" = 73.48; 371" = 73.68; 372" = 73.88; 373" = 74.08; 374" = 74.28; 375" = 74.48; 376" = 74.68; 377" = 74.88; 378" = 75.08; 379" = 75.28; 380" = 75.48; 381" = 75.68; 382" = 75.88; 383" = 76.08; 384" = 76.28; 385" = 76.48; 386" = 76.68; 387" = 76.88; 388" = 77.08; 389" = 77.28; 390" = 77.48; 391" = 77.68; 392" = 77.88; 393" = 78.08; 394" = 78.28; 395" = 78.48; 396" = 78.68; 397" = 78.88; 398" = 79.08; 399" = 79.28; 400" = 79.48; 401" = 79.68; 402" = 79.88; 403" = 80.08; 404" = 80.28; 405" = 80.48; 406" = 80.68; 407" = 80.88; 408" = 81.08; 409" = 81.28; 410" = 81.48; 411" = 81.68; 412" = 81.88; 413" = 82.08; 414" = 82.28; 415" = 82.48; 416" = 82.68; 417" = 82.88; 418" = 83.08; 419" = 83.28; 420" = 83.48; 421" = 83.68; 422" = 83.88; 423" = 84.08; 424" = 84.28; 425" = 84.48; 426" = 84.68; 427" = 84.88; 428" = 85.08; 429" = 85.28; 430" = 85.48; 431" = 85.68; 432" = 85.88; 433" = 86.08; 434" = 86.28; 435" = 86.48; 436" = 86.68; 437" = 86.88; 438" = 87.08; 439" = 87.28; 440" = 87.48; 441" = 87.68; 442" = 87.88; 443" = 88.08; 444" = 88.28; 445" = 88.48; 446" = 88.68; 447" = 88.88; 448" = 89.08; 449" = 89.28; 450" = 89.48; 451" = 89.68; 452" = 89.88; 453" = 90.08; 454" = 90.28; 455" = 90.48; 456" = 90.68; 457" = 90.88; 458" = 91.08; 459" = 91.28; 460" = 91.48; 461" = 91.68; 462" = 91.88; 463" = 92.08; 464" = 92.28; 465" = 92.48; 466" = 92.68; 467" = 92.88; 468" = 93.08; 469" = 93.28; 470" = 93.48; 471" = 93.68; 472" = 93.88; 473" = 94.08; 474" = 94.28; 475" = 94.48; 476" = 94.68; 477" = 94.88; 478" = 95.08; 479" = 95.28; 480" = 95.48; 481" = 95.68; 482" = 95.88; 483" = 96.08; 484" = 96.28; 485" = 96.48; 486" = 96.68; 487" = 96.88; 488" = 97.08; 489" = 97.28; 490" = 97.48; 491" = 97.68; 492" = 97.88; 493" = 98.08; 494" = 98.28; 495" = 98.48; 496" = 98.68; 497" = 98.88; 498" = 99.08; 499" = 99.28; 500" = 99.48; 501" = 99.68; 502" = 99.88; 503" = 100.08; 504" = 100.28; 505" = 100.48; 506" = 100.68; 507" = 100.88; 508" = 101.08; 509" = 101.28; 510" = 101.48; 511" = 101.68; 512" = 101.88; 513" = 102.08; 514" = 102.28; 515" = 102.48; 516" = 102.68; 517" = 102.88; 518" = 103.08; 519" = 103.28; 520" = 103.48; 521" = 103.68; 522" = 103.88; 523" = 104.08; 524" = 104.28; 525" = 104.48; 526" = 104.68; 527" = 104.88; 528" = 105.08; 529" = 105.28; 530" = 105.48; 531" = 105.68; 532" = 105.88; 533" = 106.08; 534" = 106.28; 535" = 106.48; 536" = 106.68; 537" = 106.88; 538" = 107.08; 539" = 107.28; 540" = 107.48; 541" = 107.68; 542" = 107.88; 543" = 108.08; 544" = 108.28; 545" = 108.48; 546" = 108.68; 547" = 108.88; 548" = 109.08; 549" = 109.28; 550" = 109.48; 551" = 109.68; 552" = 109.88; 553" = 110.08; 554" = 110.28; 555" = 110.48; 556" = 110.68; 557" = 110.88; 558" = 111.08; 559" = 111.28; 560" = 111.48; 561" = 111.68; 562" = 111.88; 563" = 112.08; 564" = 112.28; 565" = 112.48; 566" = 112.68; 567" = 112.88; 568" = 113.08; 569" = 113.28; 570" = 113.48; 571" = 113.68; 572" = 113.88; 573" = 114.08; 574" = 114.28; 575" = 114.48; 576" = 114.68; 577" = 114.88; 578" = 115.08; 579" = 115.28; 580" = 115.48; 581" = 115.68; 582" = 115.88; 583" = 116.08; 584" = 116.28; 585" = 116.48; 586" = 116.68; 587" = 116.88; 588" = 117.08; 589" = 117.28; 590" = 117.48; 591" = 117.68; 592" = 117.88; 593" = 118.08; 594" = 118.28; 595" = 118.48; 596" = 118.68; 597" = 118.88; 598" = 119.08; 599" = 119.28; 600" = 119.48; 601" = 119.68; 602" = 119.88; 603" = 120.08; 604" = 120.28; 605" = 120.48; 606" = 120.68; 607" = 120.88; 608" = 121.08; 609" = 121.28; 610" = 121.48; 611" = 121.68; 612" = 121.88; 613" = 122.08; 614" = 122.28; 615" = 122.48; 616" = 122.68; 617" = 122.88; 618" = 123.08; 619" = 123.28; 620" = 123.48; 621" = 123.68; 622" = 123.88; 623" = 124.08; 624" = 124.28; 625" = 124.48; 626" = 124.68; 627" = 124.88; 628" = 125.08; 629" = 125.28; 630" = 125.48; 631" = 125.68; 632" = 125.88; 633" = 126.08; 634" = 126.28; 635" = 126.48; 636" = 126.68; 637" = 126.88; 638" = 127.08; 639" = 127.28; 640" = 127.48; 641" = 127.68; 642" = 127.88; 643" = 128.08; 644" = 128.28; 645" = 128.48; 646" = 128.68; 647" = 128.88; 648" = 129.08; 649" = 129.28; 650" = 129.48; 651" = 129.68; 652" = 129.88; 653" = 130.08; 654" = 130.28; 655" = 130.48; 656" = 130.68; 657" = 130.88; 658" = 131.08; 659" = 131.28; 660" = 131.48; 661" = 131.68; 662" = 131.88; 663" = 132.08; 664" = 132.28; 665" = 132.48; 666" = 132.68; 667" = 132.88; 668" = 133.08; 669" = 133.28; 670" = 133.48; 671" = 133.68; 672" = 133.88; 673" = 134.08; 674" = 134.28; 675" = 134.48; 676" = 134.68; 677" = 134.88; 678" = 135.08; 679" = 135.28; 680" = 135.48; 681" = 135.68; 682" = 135.88; 683" = 136.08; 684" = 136.28; 685" = 136.48; 686" = 136.68; 687" = 136.88; 688" = 137.08; 689" = 137.28; 690" = 137.48; 691" = 137.68; 692" = 137.88; 693" = 138.08; 694" = 138.28; 695" = 138.48; 696" = 138.68; 697" = 138.88; 698" = 139.08; 699" = 139.28; 700" = 139.48; 701" = 139.68; 702" = 139.88; 703" = 140.08; 704" = 140.28; 705" = 140.48; 706" = 140.68; 707" = 140.88; 708" = 141.08; 709" = 141.28; 710" = 141.48; 711" = 141.68; 712" = 141.88; 713" = 142.08; 714" = 142.28; 715" = 142.48; 716" = 142.68; 717" = 142.88; 718" = 143.08; 719" = 143.28; 720" = 143.48; 721" = 143.68; 722" = 143.88; 723" = 144.08; 724" = 144.28; 725" = 144.48; 726" = 144.68; 727" = 144.88; 728" = 145.08; 729" = 145.28; 730" = 145.48; 731" = 145.68; 732" = 145.88; 733" = 146.08; 734" = 146.28; 735" = 146.48; 736" = 146.68; 737" = 146.88; 738" = 147.08; 739" = 147.28; 740" = 147.48; 741" = 147.68; 742" = 147.88; 743" = 148.08; 744" = 148.28; 745" = 148.48; 746" = 148.68; 747" = 148.88; 748" = 149.08; 749" = 149.28; 750" = 149.48; 751" = 149.68; 752" = 149.88; 753" = 150.08; 754" = 150.28; 755" = 150.48; 756" = 150.68; 757" = 150.88; 758" = 151.08; 759" = 151.28; 760" = 151.48; 761" = 151.68; 762" = 151.88; 763" = 152.08; 764" = 152.28; 765" = 152.48; 766" = 152.68; 767" = 152.88; 768" = 153.08; 769" = 153.28; 770" = 153.48; 771" = 153.68; 772" = 153.88; 773" = 154.08; 774" = 154.28; 775" = 154.48; 776" = 154.68; 777" = 154.88; 778" = 155.08; 779" = 155.28; 780" = 155.48; 781" = 155.68; 782" = 155.88; 783" = 156.08; 784" = 156.28; 785" = 156.48; 786" = 156.68; 787" = 156.88; 788" = 157.08; 789" = 157.28; 790" = 157.48; 791" = 157.68; 792" = 157.88; 793" = 158.08; 794" = 158.28; 795" = 158.48; 796" = 158.68; 797" = 158.88; 798" = 159.08; 799" = 159.28; 800" = 159.48; 801" = 159.68; 802" = 159.88; 803" = 160.08; 804" = 160.28; 805" = 160.48; 806" = 160.68; 807" = 160.88; 808" = 161.08; 809" = 161.28; 810" = 161.48; 811" = 161.68; 812" = 161.88; 813" = 162.08; 814" = 162.28; 815" = 162.48; 816" = 162.68; 817" = 162.88; 818" = 163.08; 819" = 163.28; 820" = 163.48; 821" = 163.68; 822" = 163.88; 823" = 164.08; 824" = 164.28; 825" = 164.48; 826" = 164.68; 827" = 164.88; 828" = 165.08; 829" = 165.28; 830" = 165.48; 831" = 165.68; 832" = 165.88; 833" = 166.08; 834" = 166.28; 835" = 166.48; 836" = 166.68; 837" = 166.88; 838" = 167.08; 839" = 167.28; 840" = 167.48; 841" = 167.68; 842" = 167.88; 843" = 168.08; 844" = 168.28; 845" = 168.48; 846" = 168.68; 847" = 168.88; 848" = 169.08; 849" = 169.28; 850" = 169.48; 851" = 169.68; 852" = 169.88; 853" = 170.08; 854" = 170.28; 855" = 170.48; 856" = 170.68; 857" = 170.88; 858" = 171.08; 859" = 171.28; 860" = 171.48; 861" = 171.68; 862" = 171.88; 863" = 172.08; 864" = 172.28; 865" = 172.48; 866" = 172.68; 867" = 172.88; 868" = 173.08; 869" = 173.28; 870" = 173.48; 871" = 173.68; 872" = 173.88; 873" = 174.08; 874" = 174.28; 875" = 174.48; 876" = 174.68; 877" = 174.88; 878" = 175.08; 879" = 175.28; 880" = 175.48; 881" = 175.68; 882" = 175.88; 883" = 176.08; 884" = 176.28; 885" = 176.48; 886" = 176.68; 887" = 176.88; 888" = 177.08; 889" = 177.28; 890" = 177.48; 891" = 177.68; 892" = 177.88; 893" = 178.08; 894" = 178.28; 895" = 178.48; 896" = 178.68; 897" = 178.88; 898" = 179.08; 899" = 179.28; 900" = 179.48; 901" = 179.68; 902" = 179.88; 903" = 180.08; 904" = 180.28; 905" = 180.48; 906" = 180.68; 907" = 180.88; 908" = 181.08; 909" = 181.28; 910" = 181.48; 911" = 181.68; 912" = 181.88; 913" = 182.08; 914" = 182.28; 915" = 182.48; 916" = 182.68; 917" = 182.88; 918" = 183.08; 919" = 183.28; 920" = 183.48; 921" = 183.68; 922" = 183.88; 923" = 184.08; 924" = 184.28; 925" = 184.48; 926" = 184.68; 927" = 184.88;

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

## SAMPLING DATA

**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:**  $\pm 0.1$  units **Temperature:**  $\pm 3\%$  **Specific Conductance:**  $\pm 3\%$  **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:**  $\pm 10$  millivolts

## **GROUNDWATER SAMPLING LOG**

SITE NAME: White Bluff	SITE LOCATION: Redfield, AR	
WELL NO: KP-4	SAMPLE ID:	DATE: 10-2-24

## PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): 16.12	PURGE PUMP TYPE OR BAILER:
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**WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY**

WELL VOLUME: GALLONS  
(only fill out if applicable)

**EQUIPMENT VOL. = PUMP VOLUME + TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME**

**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: 1440	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
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**WELL CAPACITY (Gallons Per Foot):**  $0.75'' = 0.02$ ;  $1'' = 0.04$ ;  $1.25'' = 0.06$ ;  $2'' = 0.16$ ;  $3'' = 0.37$ ;  $4'' = 0.65$ ;  $5'' = 1.02$ ;  $6'' = 1.47$ ;  $12'' = 5.88$

**WELL CAPACITY** (gallons per foot):  $0.75'' = 0.02;$   $1'' = 0.04;$   $1.25'' = 0.06;$   $2'' = 0.13;$   $3/16'' = 0.0075;$   $5/16'' = 0.004;$   $3/8'' = 0.006;$   $1/2'' = 0.010;$   $5/8'' = 0.016$

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

## SAMPLING DATA

## SAMPLING DATA

PUMP OR TUBING  
DEPTH IN WELL (feet): TUBING  
MATERIAL CODE: FIELD-FILTERED: Y N FILTER SIZE:    µm  
Filtration Equipment Type:

FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced) DUPLICATE: Y N

**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:**  $\pm 0.1$  units **Temperature:**  $\pm 3\%$  **Specific Conductance:**  $\pm 3\%$  **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: White Bluff	SITE LOCATION: Redfield, AR	
WELL NO: RP-5	SAMPLE ID:	DATE: 10-2-24

## PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
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**WELL VOLUME PURGE:** 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY  
(only fill out if applicable)

$$= (\text{feet} - \text{feet}) \times \frac{\text{gallons}}{\text{foot}} = \text{gallons}$$

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

=            gallons + (            gallons/foot X            feet ) +            gallons =            gallons

**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

**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:**  $\pm$  0.1 units **Temperature:**  $\pm$  3% **Specific Conductance:**  $\pm$  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:**  $\pm$  10 millivolts

## **GROUNDWATER SAMPLING LOG**

SITE NAME: White Bluff	SITE LOCATION: Redfield, AR	
WELL NO: RP-6	SAMPLE ID:	DATE: 10-2-24

## PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
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**WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY**

(only fill out if applicable)

feet)  $\times$  gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME

EQUIPMENT VOLUME PURGE: EQUIPMENT VOL. - PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) / RECYCLE CELL VOLUME  
(only fill out if applicable)

(only fill out if applicable) = gallons + ( gallons/foot X feet ) + gallons = gallons

PUMP OR TUBING DEPTH IN FEET (feet):	WELL SCREEN INTERVAL DEPTH:      feet to      feet	PURGING INITIATED AT: 1137	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
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**WELL CAPACITY (Gallons Per Foot):**  $0.75'' = 0.02;$   $1'' = 0.04;$   $1.25'' = 0.06;$   $2'' = 0.16;$   $3'' = 0.37;$   $4'' = 0.65;$   $5'' = 1.02;$   $6'' = 1.47;$   $12'' = 5.88$

**WELL CAPACITY** (Gallons Per Foot):  $0.75 = 0.02; \quad 1 = 0.04; \quad 1.25 = 0.06; \quad 2 = 0.10;$   
**TUBING INSIDE DIA. CAPACITY (Gal./Ft.)**:  $18/8'' = 0.0006; \quad 3/16'' = 0.0014; \quad 1/4'' = 0.0026; \quad 5/16'' = 0.004; \quad 3/8'' = 0.006; \quad 1/2'' = 0.010; \quad 5/8'' = 0.016$

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

## SAMPLING DATA

**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:**  $\pm 0.1$  units **Temperature:**  $\pm 3\%$  **Specific Conductance:**  $\pm 3\%$  **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:**  $\pm 10$  millivolts

## **GROUNDWATER SAMPLING LOG**

SITE NAME: White Bluff	SITE LOCATION: Redfield, AR	
WELL NO: RP-7	SAMPLE ID:	DATE: 10-2-24

## PURGING DATA

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

## EQUIPMENT VOLUME (only fill out if applicable)

**gallons** = **gallons**

= gallons + ( gallons/foot X feet ) + gallons = gallons

**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

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**REMARKS:**

**MATERIAL CODES:** AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene;

**AG** = Amber Glass, **CG** = Clear Glass, **HBI**

**LDPE** = Low Density Polyethylene;

**PP** = Polypropylene;

**S** = Silicone;    **T** = Teflon;    **O** = Other (Specify)

**55-5114-5** **55D** Flat Lie Submersible Pump

**SAMPLING EQUIPMENT CODES:** APP = After (Through) Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PEP = Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); S = Syringe Pump; O = Other (Specify)

**B** = Bailer;    **BP** = Bladder Pump;    **ESP** = Electric Submersible  
**SM** = Straw Method (Tubing Gravity Drain);    **O** = Other (Specify)

RFPP = Reverse Flow Peristaltic Pump; SM

**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:**  $\pm$  0.1 units **Temperature:**  $\pm$  3% **Specific Conductance:**  $\pm$  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:**  $\pm$  10 millivolts

## **GROUNDWATER SAMPLING LOG**

SITE NAME:	White Bluff	SITE LOCATION:	Redfield, Ar
WELL NO:	Rp-8	SAMPLE ID:	10-2-24

## PURGING DATA

WELL DIAMETER (inches): TUBING DIAMETER (inches): TOTAL WATER DEPTH (feet): STATIC DEPTH TO WATER (feet): 11.69 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)

$$= (\text{feet} - \text{feet}) X \frac{\text{gallons}}{\text{foot}} = \text{gallons}$$

**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: <b>1307</b>	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
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**WELL CAPACITY (Gallons Per Foot):**  $0.75'' = 0.02$ ;  $1'' = 0.04$ ;  $1.25'' = 0.06$ ;  $2'' = 0.16$ ;  $3'' = 0.37$ ;  $4'' = 0.65$ ;  $5'' = 1.02$ ;  $6'' = 1.47$ ;  $12'' = 5.88$

WELL CAPACITY (Gallons Per Foot) .75 - .02; 1" = .0004; 1/2" = .0014; 1/4" = .0026; 5/16" = .004; 3/8" = .006; 1/2" = .010; 5/8" = .016

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

## SAMPLING DATA

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:**  $\pm 0.1$  units **Temperature:**  $\pm 3\%$  **Specific Conductance:**  $\pm 3\%$  **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:**  $\pm 10$  millivolts

## **GROUNDWATER SAMPLING LOG**

SITE NAME: White Bluff	SITE LOCATION: Redfield, AR
WELL NO: RP-9	SAMPLE ID:
	DATE: 10-2-24

## PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet): 10.70	PURGE PUMP TYPE OR BAILER:
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**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

**EQUIPMENT VOLUME**  
(only fill out if applicable)

$$\text{gallons} \times (\text{gallons/foot} \times \text{feet}) + \text{gallons} = \text{gallons}$$

**WELL CAPACITY (Gallons Per Foot):**  $0.75'' = 0.02$ ;  $1'' = 0.04$ ;  $1.25'' = 0.06$ ;  $2'' = 0.16$ ;  $3'' = 0.37$ ;  $4'' = 0.65$ ;  $5'' = 1.02$ ;  $6'' = 1.47$ ;  $12'' = 5.88$

**WELL CAPACITY** (Gallons Per Foot): .75 - .02; 1" - .04; 1.25" - .05; 1.5" - .07; 1.75" - .09; 2" - .11; 2.25" - .13; 2.5" - .15; 2.75" - .17; 3" - .19; 3.25" - .21; 3.5" - .23; 3.75" - .25; 4" - .27; 4.25" - .29; 4.5" - .31; 4.75" - .33; 5" - .35; 5.25" - .37; 5.5" - .39; 5.75" - .41; 6" - .43; 6.25" - .45; 6.5" - .47; 6.75" - .49; 7" - .51; 7.25" - .53; 7.5" - .55; 7.75" - .57; 8" - .59; 8.25" - .61; 8.5" - .63; 8.75" - .65; 9" - .67; 9.25" - .69; 9.5" - .71; 9.75" - .73; 10" - .75; 10.25" - .77; 10.5" - .79; 10.75" - .81; 11" - .83; 11.25" - .85; 11.5" - .87; 11.75" - .89; 12" - .91; 12.25" - .93; 12.5" - .95; 12.75" - .97; 13" - .99; 13.25" - .101; 13.5" - .103; 13.75" - .105; 14" - .107; 14.25" - .109; 14.5" - .111; 14.75" - .113; 15" - .115; 15.25" - .117; 15.5" - .119; 15.75" - .121; 16" - .123; 16.25" - .125; 16.5" - .127; 16.75" - .129; 17" - .131; 17.25" - .133; 17.5" - .135; 17.75" - .137; 18" - .139; 18.25" - .141; 18.5" - .143; 18.75" - .145; 19" - .147; 19.25" - .149; 19.5" - .151; 19.75" - .153; 20" - .155; 20.25" - .157; 20.5" - .159; 20.75" - .161; 21" - .163; 21.25" - .165; 21.5" - .167; 21.75" - .169; 22" - .171; 22.25" - .173; 22.5" - .175; 22.75" - .177; 23" - .179; 23.25" - .181; 23.5" - .183; 23.75" - .185; 24" - .187; 24.25" - .189; 24.5" - .191; 24.75" - .193; 25" - .195; 25.25" - .197; 25.5" - .199; 25.75" - .201; 26" - .203; 26.25" - .205; 26.5" - .207; 26.75" - .209; 27" - .211; 27.25" - .213; 27.5" - .215; 27.75" - .217; 28" - .219; 28.25" - .221; 28.5" - .223; 28.75" - .225; 29" - .227; 29.25" - .229; 29.5" - .231; 29.75" - .233; 30" - .235; 30.25" - .237; 30.5" - .239; 30.75" - .241; 31" - .243; 31.25" - .245; 31.5" - .247; 31.75" - .249; 32" - .251; 32.25" - .253; 32.5" - .255; 32.75" - .257; 33" - .259; 33.25" - .261; 33.5" - .263; 33.75" - .265; 34" - .267; 34.25" - .269; 34.5" - .271; 34.75" - .273; 35" - .275; 35.25" - .277; 35.5" - .279; 35.75" - .281; 36" - .283; 36.25" - .285; 36.5" - .287; 36.75" - .289; 37" - .291; 37.25" - .293; 37.5" - .295; 37.75" - .297; 38" - .299; 38.25" - .301; 38.5" - .303; 38.75" - .305; 39" - .307; 39.25" - .309; 39.5" - .311; 39.75" - .313; 40" - .315; 40.25" - .317; 40.5" - .319; 40.75" - .321; 41" - .323; 41.25" - .325; 41.5" - .327; 41.75" - .329; 42" - .331; 42.25" - .333; 42.5" - .335; 42.75" - .337; 43" - .339; 43.25" - .341; 43.5" - .343; 43.75" - .345; 44" - .347; 44.25" - .349; 44.5" - .351; 44.75" - .353; 45" - .355; 45.25" - .357; 45.5" - .359; 45.75" - .361; 46" - .363; 46.25" - .365; 46.5" - .367; 46.75" - .369; 47" - .371; 47.25" - .373; 47.5" - .375; 47.75" - .377; 48" - .379; 48.25" - .381; 48.5" - .383; 48.75" - .385; 49" - .387; 49.25" - .389; 49.5" - .391; 49.75" - .393; 50" - .395; 50.25" - .397; 50.5" - .399; 50.75" - .401; 51" - .403; 51.25" - .405; 51.5" - .407; 51.75" - .409; 52" - .411; 52.25" - .413; 52.5" - .415; 52.75" - .417; 53" - .419; 53.25" - .421; 53.5" - .423; 53.75" - .425; 54" - .427; 54.25" - .429; 54.5" - .431; 54.75" - .433; 55" - .435; 55.25" - .437; 55.5" - .439; 55.75" - .441; 56" - .443; 56.25" - .445; 56.5" - .447; 56.75" - .449; 57" - .451; 57.25" - .453; 57.5" - .455; 57.75" - .457; 58" - .459; 58.25" - .461; 58.5" - .463; 58.75" - .465; 59" - .467; 59.25" - .469; 59.5" - .471; 59.75" - .473; 60" - .475; 60.25" - .477; 60.5" - .479; 60.75" - .481; 61" - .483; 61.25" - .485; 61.5" - .487; 61.75" - .489; 62" - .491; 62.25" - .493; 62.5" - .495; 62.75" - .497; 63" - .499; 63.25" - .501; 63.5" - .503; 63.75" - .505; 64" - .507; 64.25" - .509; 64.5" - .511; 64.75" - .513; 65" - .515; 65.25" - .517; 65.5" - .519; 65.75" - .521; 66" - .523; 66.25" - .525; 66.5" - .527; 66.75" - .529; 67" - .531; 67.25" - .533; 67.5" - .535; 67.75" - .537; 68" - .539; 68.25" - .541; 68.5" - .543; 68.75" - .545; 69" - .547; 69.25" - .549; 69.5" - .551; 69.75" - .553; 70" - .555; 70.25" - .557; 70.5" - .559; 70.75" - .561; 71" - .563; 71.25" - .565; 71.5" - .567; 71.75" - .569; 72" - .571; 72.25" - .573; 72.5" - .575; 72.75" - .577; 73" - .579; 73.25" - .581; 73.5" - .583; 73.75" - .585; 74" - .587; 74.25" - .589; 74.5" - .591; 74.75" - .593; 75" - .595; 75.25" - .597; 75.5" - .599; 75.75" - .601; 76" - .603; 76.25" - .605; 76.5" - .607; 76.75" - .609; 77" - .611; 77.25" - .613; 77.5" - .615; 77.75" - .617; 78" - .619; 78.25" - .621; 78.5" - .623; 78.75" - .625; 79" - .627; 79.25" - .629; 79.5" - .631; 79.75" - .633; 80" - .635; 80.25" - .637; 80.5" - .639; 80.75" - .641; 81" - .643; 81.25" - .645; 81.5" - .647; 81.75" - .649; 82" - .651; 82.25" - .653; 82.5" - .655; 82.75" - .657; 83" - .659; 83.25" - .661; 83.5" - .663; 83.75" - .665; 84" - .667; 84.25" - .669; 84.5" - .671; 84.75" - .673; 85" - .675; 85.25" - .677; 85.5" - .679; 85.75" - .681; 86" - .683; 86.25" - .685; 86.5" - .687; 86.75" - .689; 87" - .691; 87.25" - .693; 87.5" - .695; 87.75" - .697; 88" - .699; 88.25" - .701; 88.5" - .703; 88.75" - .705; 89" - .707; 89.25" - .709; 89.5" - .711; 89.75" - .713; 90" - .715; 90.25" - .717; 90.5" - .719; 90.75" - .721; 91" - .723; 91.25" - .725; 91.5" - .727; 91.75" - .729; 92" - .731; 92.25" - .733; 92.5" - .735; 92.75" - .737; 93" - .739; 93.25" - .741; 93.5" - .743; 93.75" - .745; 94" - .747; 94.25" - .749; 94.5" - .751; 94.75" - .753; 95" - .755; 95.25" - .757; 95.5" - .759; 95.75" - .761; 96" - .763; 96.25" - .765; 96.5" - .767; 96.75" - .769; 97" - .771; 97.25" - .773; 97.5" - .775; 97.75" - .777; 98" - .779; 98.25" - .781; 98.5" - .783; 98.75" - .785; 99" - .787; 99.25" - .789; 99.5" - .791; 99.75" - .793; 100" - .795; 100.25" - .797; 100.5" - .799; 100.75" - .801; 101" - .803; 101.25" - .805; 101.5" - .807; 101.75" - .809; 102" - .811; 102.25" - .813; 102.5" - .815; 102.75" - .817; 103" - .819; 103.25" - .821; 103.5" - .823; 103.75" - .825; 104" - .827; 104.25" - .829; 104.5" - .831; 104.75" - .833; 105" - .835; 105.25" - .837; 105.5" - .839; 105.75" - .841; 106" - .843; 106.25" - .845; 106.5" - .847; 106.75" - .849; 107" - .851; 107.25" - .853; 107.5" - .855; 107.75" - .857; 108" - .859; 108.25" - .861; 108.5" - .863; 108.75" - .865; 109" - .867; 109.25" - .869; 109.5" - .871; 109.75" - .873; 110" - .875; 110.25" - .877; 110.5" - .879; 110.75" - .881; 111" - .883; 111.25" - .885; 111.5" - .887; 111.75" - .889; 112" - .891; 112.25" - .893; 112.5" - .895; 112.75" - .897; 113" - .899; 113.25" - .901; 113.5" - .903; 113.75" - .905; 114" - .907; 114.25" - .909; 114.5" - .911; 114.75" - .913; 115" - .915; 115.25" - .917; 115.5" - .919; 115.75" - .921; 116" - .923; 116.25" - .925; 116.5" - .927; 116.75" - .929; 117" - .931; 117.25" - .933; 117.5" - .935; 117.75" - .937; 118" - .939; 118.25" - .941; 118.5" - .943; 118.75" - .945; 119" - .947; 119.25" - .949; 119.5" - .951; 119.75" - .953; 120" - .955; 120.25" - .957; 120.5" - .959; 120.75" - .961; 121" - .963; 121.25" - .965; 121.5" - .967; 121.75" - .969; 122" - .971; 122.25" - .973; 122.5" - .975; 122.75" - .977; 123" - .979; 123.25" - .981; 123.5" - .983; 123.75" - .985; 124" - .987; 124.25" - .989; 124.5" - .991; 124.75" - .993; 125" - .995; 125.25" - .997; 125.5" - .999; 125.75" - .1001; 126" - .1003; 126.25" - .1005; 126.5" - .1007; 126.75" - .1009; 127" - .1011; 127.25" - .1013; 127.5" - .1015; 127.75" - .1017; 128" - .1019; 128.25" - .1021; 128.5" - .1023; 128.75" - .1025; 129" - .1027; 129.25" - .1029; 129.5" - .1031; 129.75" - .1033; 130" - .1035; 130.25" - .1037; 130.5" - .1039; 130.75" - .1041; 131" - .1043; 131.25" - .1045; 131.5" - .1047; 131.75" - .1049; 132" - .1051; 132.25" - .1053; 132.5" - .1055; 132.75" - .1057; 133" - .1059; 133.25" - .1061; 133.5" - .1063; 133.75" - .1065; 134" - .1067; 134.25" - .1069; 134.5" - .1071; 134.75" - .1073; 135" - .1075; 135.25" - .1077; 135.5" - .1079; 135.75" - .1081; 136" - .1083; 136.25" - .1085; 136.5" - .1087; 136.75" - .1089; 137" - .1091; 137.25" - .1093; 137.5" - .1095; 137.75" - .1097; 138" - .1099; 138.25" - .1101; 138.5" - .1103; 138.75" - .1105; 139" - .1107; 139.25" - .1109; 139.5" - .1111; 139.75" - .1113; 140" - .1115; 140.25" - .1117; 140.5" - .1119; 140.75" - .1121; 141" - .1123; 141.25" - .1125; 141.5" - .1127; 141.75" - .1129; 142" - .1131; 142.25" - .1133; 142.5" - .1135; 142.75" - .1137; 143" - .1139; 143.25" - .1141; 143.5" - .1143; 143.75" - .1145; 144" - .1147; 144.25" - .1149; 144.5" - .1151; 144.75" - .1153; 145" - .1155; 145.25" - .1157; 145.5" - .1159; 145.75" - .1161; 146" - .1163; 146.25" - .1165; 146.5" - .1167; 146.75" - .1169; 147" - .1171; 147.25" - .1173; 147.5" - .1175; 147.75" - .1177; 148" - .1179; 148.25" - .1181; 148.5" - .1183; 148.75" - .1185; 149" - .1187; 149.25" - .1189; 149.5" - .1191; 149.75" - .1193; 150" - .1195; 150.25" - .1197; 150.5" - .1199; 150.75" - .1201; 151" - .1203; 151.25" - .1205; 151.5" - .1207; 151.75" - .1209; 152" - .1211; 152.25" - .1213; 152.5" - .1215; 152.75" - .1217; 153" - .1219; 153.25" - .1221; 153.5" - .1223; 153.75" - .1225; 154" - .1227; 154.25" - .1229; 154.5" - .1231; 154.75" - .1233; 155" - .1235; 155.25" - .1237; 155.5" - .1239; 155.75" - .1241; 156" - .1243; 156.25" - .1245; 156.5" - .1247; 156.75" - .1249; 157" - .1251; 157.25" - .1253; 157.5" - .1255; 157.75" - .1257; 158" - .1259; 158.25" - .1261; 158.5" - .1263; 158.75" - .1265; 159" - .1267; 159.25" - .1269; 159.5" - .1271; 159.75" - .1273; 160" - .1275; 160.25" - .1277; 160.5" - .1279; 160.75" - .1281; 161" - .1283; 161.25" - .1285; 161.5" - .1287; 161.75" - .1289; 162" - .1291; 162.25" - .1293; 162.5" - .1295; 162.75" - .1297; 163" - .1299; 163.25" - .1301; 163.5" - .1303; 163.75" - .1305; 164" - .1307; 164.25" - .1309; 164.5" - .1311; 164.75" - .1313; 165" - .1315; 165.25" - .1317; 165.5" - .1319; 165.75" - .1321; 166" - .1323; 166.25" - .1325; 166.5" - .1327; 166.75" - .1329; 167" - .1331; 167.25" - .1333; 167.5" - .1335; 167.75" - .1337; 168" - .1339; 168.25" - .1341; 168.5" - .1343; 168.75" - .1345; 169" - .1347; 169.25" - .1349; 169.5" - .1351; 169.75" - .1353; 170" - .1355; 170.25" - .1357; 170.5" - .1359; 170.75" - .1361; 171" - .1363; 171.25" - .1365; 171.5" - .1367; 171.75" - .1369; 172" - .1371; 172.25" - .1373; 172.5" - .1375; 172.75" - .1377; 173" - .1379; 173.25" - .1381; 173.5" - .1383; 173.75" - .1385; 174" - .1387; 174.25" - .1389; 174.5" - .1391; 174.75" - .1393; 175" - .1395; 175.25" - .1397; 175.5" - .1399; 175.75" - .1401; 176" - .1403; 176.25" - .1405; 176.5" - .1407; 176.75" - .1409; 177" - .1411; 177.25" - .1413; 177.5" - .1415; 177.75" - .1417; 178" - .1419; 178.25" - .1421; 178.5" - .1423; 178.75" - .1425; 179" - .1427; 179.25" - .1429; 179.5" - .1431; 179.75" - .1433; 180" - .1435; 180.25" - .1437; 180.5" - .1439; 180.75" - .1441; 181" - .1443; 181.25" - .1445; 181.5" - .1447; 181.75" - .1449; 182" - .1451; 182.25" - .1453; 182.5" - .1455; 182.75" - .1457; 183" - .1459; 183.25" - .1461; 183.5" - .1463; 183.75" - .1465; 184" - .1467; 184.25" - .1469; 184.5" - .1471; 184.75" - .1473; 185" - .1475; 185.25" - .1477; 185.5" - .1479; 185.75" - .1481; 186" - .1483; 186.25" - .1485; 186.5" - .1487; 186.75" - .1489; 187" - .1491; 187.25" - .1493; 187.5" - .1495; 187.75" - .1497; 188" - .1499; 188.25" - .1501; 188.5" - .1503; 188.75" - .1505; 189" - .1507; 189.25" - .1509; 189.5" - .1511; 189.75" - .1513; 190" - .1515; 190.25" - .1517; 190.5" - .1519; 190.75" - .1521; 191" - .1523; 191.25" - .1525; 191.5" - .1527; 191.75" - .1529; 192" - .1531; 192.25" - .1533; 192.5" - .1535; 192.75" - .1537; 193" - .1539; 193.25" - .1541; 193.5" - .1543; 193.75" - .1545; 194" - .1547; 194.25" - .1549; 194.5" - .1551; 194.75" - .1553; 195" - .1555; 195.25" - .1557; 195.5" - .1559; 195.75" - .1561; 196" - .1563; 196.25" - .1565; 196.5" - .1567; 196.75" - .1569; 197" - .1571; 197.25" - .1573; 197.5" - .1575; 197.75" - .1577; 198" - .1579; 198.25" - .1581; 198.5" - .1583; 198.75" - .1585; 199" - .1587; 199.25" - .1589; 199.5" - .1591; 199.75" - .1593; 200" - .1595; 200.25" - .1597; 200.5" - .1599; 200.75" - .1601; 201" - .1603; 201.25" - .1605; 201.5" - .1607; 201.75" - .1609; 202" - .1611; 202.25" - .1613; 202.5" - .1615; 202.75" - .1617; 203" - .1619; 203.25" - .1621; 203.5" - .1623; 203.75" - .1625; 204" - .1627; 204.25" - .1629; 204.5" - .1631; 204.75" - .1633; 205" - .1635; 205.25" - .1637; 205.5" - .1639; 205.75" - .1641; 206" - .1643; 206.25" - .1645; 206.5" - .1647; 206.75" - .1649; 207" - .1651; 207.25" - .1653; 207.5" - .1655; 207.75" - .1657; 208" - .1659; 208.25" - .1661; 208.5" - .1663; 208.75" - .1665; 209" - .1667; 209.25" - .1669; 209.5" - .1671; 209.75" - .1673; 210" - .1675; 210.25" - .1677; 210.5" - .1679; 210.75" - .1681; 211" - .1683; 211.25" - .1685; 211.5" - .1687; 211.75" - .1689; 212" - .1691; 212.25" - .1693; 212.5" - .1695; 212.75" - .1697; 213" - .1699; 213.25" - .1701; 213.5" - .1703; 213.75" - .1705; 214" - .1707; 214.25" - .1709; 214.5" - .1711; 214.75" - .1713; 215" - .1715; 215.25" - .1717; 215.5" - .1719; 215.75" - .1721; 216" - .1723; 216.25" - .1725; 216.5" - .1727; 216.75" - .1729; 217" - .1731; 217.25" - .1733; 217.5" - .1735; 217.75" - .1737; 218" - .1739; 218.25" - .1741; 218.5" - .1743; 218.75" - .1745; 219" - .1747; 219.25" - .1749; 219.5" - .1751; 219.75" - .1753; 220" - .1755; 220.25" - .1757; 220.5" - .1759; 220.75" - .1761; 221" - .1763; 221.25" - .1765; 221.5" - .1767; 221.75" - .1769; 222" - .1771; 222.25" - .1773; 222.5" - .1775; 222.75" - .1777; 223" - .1779; 223.25" - .1781; 223.5" - .1783; 223.75" - .1785; 224" - .1787; 224.25" - .1789; 224.5" - .1791; 224.75" - .1793; 225" - .1795; 225.25" - .1797; 225.5" - .1799; 225.75" - .1801; 226" - .1803; 226.25" - .1805; 226.5" - .1807; 226.75" - .1809; 227" - .1811; 227.25" - .1813; 227.5" - .1815; 227.75" - .1817; 228" - .1819; 228.25" - .1821; 228.5" - .1823; 228.75" - .1825; 229" - .1827; 229.25" - .1829; 229.5" - .1831; 229.75" - .1833; 230" - .1835; 230.25" - .1837; 230.5" - .1839; 230.75" - .1841; 231" - .1843; 231.25" - .1845; 231.5" - .1847; 231.75" - .1849; 232" - .1851; 232.25" - .1853; 232.5" - .1855; 232.75" - .1857; 233" - .1859; 233.25" - .1861; 233.5" - .1863; 233.75" - .1865; 234" - .1867; 234.25" - .1869; 234.5" - .1871; 234.75" - .1873; 235" - .1875; 235.25" - .1877; 235.5" - .1879; 235.75" - .1881; 236" - .1883; 236.25" - .1885; 236.5" - .1887; 236.75" - .1889; 237" - .1891; 237.25" - .1893; 237.5" - .1895; 237.75" - .1897; 238" - .1899; 238.25" - .1901; 238.5" - .1903

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

## SAMPLING DATA

PUMP OR TUBING DEPTH IN WELL (feet) \_\_\_\_\_ TUBING MATERIAL CODE: \_\_\_\_\_ FIELD-FILTERED: Y N FILTER SIZE: \_\_\_\_\_ µm  
Filtration Equipment Type: \_\_\_\_\_

FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced) DUPLICATE: Y N

FIELD DECONTAMINATION: VACUUM

---

**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:**  $\pm 0.1$  units **Temperature:**  $\pm 3\%$  **Specific Conductance:**  $\pm 3\%$  **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:**  $\pm 10$  millivolts

## **GROUNDWATER SAMPLING LOG**

SITE NAME:	White Bluff	SITE LOCATION:	Piedfield, AR
WELL NO:	RP~10	SAMPLE ID:	DATE: 10-2-24

## PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	TOTAL WATER DEPTH (feet):	STATIC DEPTH TO WATER (feet):	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)

$$= \text{feet} - \text{feet}) \times \text{gallons/foot} = \text{gallons}$$

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME

## EQUIPMENT VOLUME

$$\text{gallons} = \frac{\text{gallons}}{\text{gallons}}$$

= gallons + ( gallons/root X feet ) + gallons = gallons

**WELL CAPACITY (Gallons Per Foot):**  $0.75'' = 0.02;$   $1'' = 0.04;$   $1.25'' = 0.06;$   $2'' = 0.16;$   $3'' = 0.37;$   $4'' = 0.65;$   $5'' = 1.02;$   $6'' = 1.47;$   $12'' = 5.88$

**WELL CAPACITY** (Gallons Per Foot): 0.75    **TURBING 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

**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:**  $\pm 0.1$  units   **Temperature:**  $\pm 3\%$    **Specific Conductance:**  $\pm 3\%$    **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:**  $\pm 10$  millivolts

**APPENDIX E**  
**ALTERNATE SOURCE DEMONSTRATION**



## Alternate Source Demonstration

Entergy White Bluff Plant  
Recycle Ponds A & B  
Redfield, Jefferson County, Arkansas

**January 2025**

*Prepared For*

**Entergy Arkansas, LLC**  
White Bluff Plant  
1100 White Bluff Road  
Redfield, Arkansas 72132

*Submitted By*

**TRC Environmental Corporation**  
4545 Sherwood Common Blvd.  
Building 3, Suite A  
Baton Rouge, LA 70816

A handwritten signature in blue ink, appearing to read "Jason S. House".

---

Jason S. House  
Senior Project Manager

A handwritten signature in blue ink, appearing to read "Nakia W. Addison, P.E.".

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Nakia W. Addison, P.E.  
Operations Manager

# **Executive Summary**

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Entergy Arkansas, LLC (EAL) performed the detection monitoring sampling in July and October 2024 for Recycle Ponds A & B (Ponds) 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 Ponds constitute a coal combustion residuals (CCR) Unit (CCR Unit) under the CCR Rule. Per 40 CFR 257.95, the samples were analyzed for the Appendix IV detection monitoring parameters. Upon receipt of the laboratory analytical results, statistical analysis was performed.

EAL performed the two consecutive monitoring events in July 2024 and October 2024. Based on statistical analyses of the analytical results, potential statistically significant levels (SSLs) were initially identified for the following three Appendix IV assessment monitoring constituents based on exceedances of intrawell prediction limits:

Barium and molybdenum (RP-4);

Fluoride (RP-9); and

Fluoride (RP-10).

Groundwater Protection Standards (GWPS) for the Ponds were established per 40 CFR 257.95(2). In addition, this ASD was prepared per 40 CFR 257.95(g)(3)(ii). Based on the ASD evaluations, none of the potential statistically significant levels (SSLs) were confirmed based on the following lines of reasoning:

- The USEPA primary maximum contaminant levels (MCLs) for barium and fluoride under the Clean Water Act are significantly greater than the maximum concentrations for barium at RP-4, and fluoride observed at RP-9 and RP-10; and
- The background groundwater quality concentrations for fluoride for the Ponds (RP-1 through RP-3) are equivalent to or greater than the highest concentrations detected for RP-9 and RP-10.

The slightly elevated concentrations for barium, molybdenum and fluoride observed in the July and October 2024 monitoring events are 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 electrical conductivity (EC), ion strength, oxidation-reduction potential (ORP), pH, and total dissolved solids (TDS).

Based on this ASD successfully documenting that natural variation in groundwater quality is the cause for the exceedances of intrawell prediction limits, the requirements of 40 CFR Part 257.102(c) have been satisfied for closure by removal of CCR for the Ponds.

Based on this successful ASD, the original certification of closure by removal per 40 CFR 257.102(c) was updated and recertified. The updated notification of closure was certified by a Registered Arkansas P.E. and a Registered Arkansas P.G. on November 7, 2024 per 40 CFR 257.102(f)(3). The updated certified notification of closure was placed into the Plant's Facility Operating Record FOR per 40 CFR 257.105(i)(8) and was posted to the Plant's publicly accessible CCR internet site per 40 CFR 257.107(i)(8).

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# **Section 1**

## **Introduction**

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### **1.1 Background**

Entergy Arkansas, LLC (EAL) owns and operates the Entergy White Bluff Steam Electric Station (Plant), a coal-fired power plant, to generate electricity. The Plant is located at 1100 White Bluff Road in Redfield, Jefferson County, Arkansas (**Figure 1**). The Plant is located at approximate latitude 34.421658 N, longitude -92.139455 W.

The Plant has been generating electricity since 1981. 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 – Pond A and Pond B (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 Ponds encompass approximately 13 acres and are operated as part of the Plant's process water system for bottom ash transport. The Ponds provided intermediate storage of waters used in the transport of CCR generated from the combustion of coal at the Plant. After CCR was identified in the Ponds in 2018, EAL determined the Ponds were also a CCR Unit under the CCR Rule. EAL designed and installed a groundwater monitoring system consisting of 10 wells per 40 CFR Part 257.91. Three of the wells were installed as background wells and the other seven wells were installed around the immediate perimeter of the Ponds. The groundwater monitoring system and statistical methods were certified by a Registered Arkansas Professional Engineer (P.E.). EAL implemented a Detection Monitoring Program per 40 CFR Part 257.94.

A quarterly Detection Monitoring Program for the Appendix III and Appendix IV CCR constituents for the Ponds was implemented in 2018 per 40 CFR Part 257.94. After completion of eight background monitoring events, a semi-annual Detection Monitoring Program was implemented in 2020. Statistically significant increases (SSIs) of Appendix III detection monitoring constituents were never documented; therefore, assessment monitoring was never initiated for the Ponds and groundwater protection standards (GWPS) were not established pursuant to 40 CFR 257.95.

Pond A, Pond B, and the locations of the 10 wells making up the certified groundwater monitoring system are shown on (**Figure 2**).

### **1.1.1 Closure By Removal Certification (October 2, 2023)**

After installation of a dry bottom ash handling system at the Plant, EAL commenced closure of Pond A on October 5, 2018, and Pond B on February 26, 2021, per 40 CFR Part 257.102(c). Closure consisted of removal of CCR and decontamination of affected soils (beyond visible CCR) in accordance with the following:

- 40 CFR 257.102(c) of the CCR Rule;
- *Amendment No. 1 - Closure Plan for Water Recycle Ponds* (August 2020) as approved by the Arkansas Energy and Environment Department, Division of Environmental Quality (DEQ) on December 11, 2020; and
- National Pollutant Discharge Elimination System (NPDES) Permit Number AR0037451.

All CCR was removed from the Ponds and disposed in the on-site CADL. The on-Site CADL is permitted under DEQ Permit No. 0199-S3N-R3. Pursuant to Amendment No. 1 - Closure Plan for Water Recycle Ponds, CCR removal was confirmed through visual observations of both Ponds.

Per Amendment No. 1 - Closure Plan for Water Recycle Ponds, both Ponds were decontaminated through excavation of a minimum of 6 inches of the underlying pond liner material (beyond visible CCR) to ensure removal of potential CCR-affected materials. This material was also disposed in the on-Site CADL. Pursuant to Amendment No. 1 - Closure Plan for Water Recycle Ponds, CCR decontamination was confirmed through visual observations of both Ponds after excavation.

After closure was successfully completed, the notification of closure was prepared per 40 CFR 257.102(h). The notification of closure was certified by a Registered Arkansas P.E. and a

Registered Arkansas Professional Geologist (P.G.) on October 2, 2023, per 40 CFR 257.102(f)(3). The certified notification of closure was placed into the Plant's facility operating record (FOR) per 40 CFR 257.105(i)(8) and was posted to the Plant's publicly accessible CCR internet site per 40 CFR 257.107(i)(8).

### **1.1.2 Closure By Removal Recertification (November 7, 2024)**

The *Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities; Legacy CCR Surface Impoundments* was published by the USEPA on May 8, 2024 (Legacy Impoundment/CCRMU Rule). Based on the revised requirements for the closure by removal of CCR provided in the Legacy Impoundment/CCRMU Rule, EAL determined it would perform additional activities to update the original certification for the closure by removal of CCR for the Ponds by the effective date of the Legacy Impoundment/CCRMU Rule on November 8, 2024. The following additional activities were performed:

- Perform two additional quarterly groundwater monitoring events at the Ponds during the third and fourth quarters 2024 and analyze the samples for the Appendix IV assessment monitoring constituents;
- Establish GWPS;
- Perform statistical analyses of the Appendix IV assessment monitoring analytical data, identify potential statistically significant levels (SSLs), and prepare an Alternative Source Demonstration (ASD) if appropriate;
- Document that the Appendix IV assessment monitoring groundwater analytical results for the consecutive monitoring events during the third and fourth quarters 2024 are less than GWPS; and
- Prepare an updated certification for the closure by removal of CCR for the Ponds.

EAL performed the two consecutive monitoring events in July 2024 and October 2024. Based on statistical analyses of the analytical results, potential SSLs were initially identified for the following four Appendix IV assessment monitoring constituents based on exceedances of introwell prediction limits:

- Barium and Molybdenum (RP-4);
- Fluoride (RP-9); and
- Fluoride (RP-10).

GWPS were established per 40 CFR 257.95(2). In addition, this ASD was prepared per 40 CFR 257.95(g)(3)(ii), which demonstrated that natural variation in groundwater quality was the source for the exceedances observed of the introwell prediction limits. Based on the ASD evaluations, none of the potential SSLs were confirmed based on the following lines of reasoning:

- The USEPA primary maximum contaminant levels (MCLs) for barium under the Clean Water Act are significantly greater than the maximum concentrations for barium observed at RP-4; and
- The USEPA primary maximum contaminant levels (MCLs) for fluoride under the Clean Water Act are significantly greater than the maximum concentrations for fluoride observed at RP-9 and RP-10.

The slightly elevated concentrations for barium, molybdenum, and fluoride observed in the July and October 2024 monitoring events are 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 electrical conductivity (EC), ion strength, oxidation-reduction potential (ORP), pH, and total dissolved solids (TDS).

Based on this ASD successfully documenting that natural variation in groundwater quality is the cause for the exceedances of introwell prediction limits, the requirements of 40 CFR Part 257.102(c) have been satisfied for closure by removal of CCR for the Ponds.

## **1.2 Groundwater Monitoring and Statistical Analysis**

Based on this successful ASD, the original certification of closure by removal per 40 CFR 257.102(c) was updated and recertified. The updated notification of closure was certified by a Registered Arkansas P.E. and a Registered Arkansas P.G. on November 7, 2024, as required by 40 CFR 257.102(f)(3). The updated certified notification of closure was placed into the Plant's FOR per 40 CFR 257.105(i)(8) and was posted to the Plant's publicly accessible CCR internet site per 40 CFR 257.107(i)(8).

### **1.2.1 Groundwater Monitoring System**

In accordance with the requirements of 40 CFR 257.91, EAL installed a groundwater monitoring system at the Ponds and collected groundwater samples from the CCR groundwater monitoring

system wells for laboratory analysis for both Appendix III and Appendix IV CCR constituents and performed statistical analysis of the analytical results. The groundwater monitoring network consists of 10 wells installed in the underlying stratigraphic unit (Stratum III). Three of the wells are background wells for the Ponds (RP-1 through RP-3), and the remaining seven wells are located around the immediate perimeter of the Ponds (RP-4 through RP-10).

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 2018 through June 2020 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 and seasonal variability in groundwater flow direction 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 introwell evaluations."

The final detection monitoring event was performed during November 2023. The statistical analyses completed for the first and second semi-annual 2023 sampling events analytical data did not identify SSIs, and the Ponds remained in the Detection Monitoring Program.

## **Section 2**

# **Objectives and Purpose**

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Pursuant to 40 CFR 257.95(g)(3)(ii), EAL may demonstrate that a source other than the Ponds caused the potential SSLs or that the SSLs resulted from errors in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Therefore, EAL elected to perform an ASD to evaluate the potential SSLs identified for the third and fourth quarters 2024 Appendix IV assessment monitoring constituents. The objectives and purpose of this ASD are:

- Develop GWPS per 40 CFR 257.95(h), based on the Appendix IV assessment monitoring constituent's analytical data for the third and fourth quarters 2024.
- Using the certified statistical method, identify potential SSLs for the analytical data per 40 CFR 257.93(f);
- Perform an alternative source demonstration (ASD) per 40 CFR 257.95(g)(3)(ii); and
- Prepare written documentation of the successful ASD for the potential SSLs identified for the third and fourth quarters 2024 groundwater monitoring events, per 40 CFR 257.95(g)(3)(ii).

# Section 3

## Hydrogeology and Background Groundwater Quality

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### 3.1 Site Hydrogeology

Historical subsurface investigations have identified the following three stratigraphic horizons of the Jackson Group (Kresse, et. al., 2014) and their associated hydrogeology for the CCR Unit:

- **Stratum II** is generally composed of stiff to very stiff fat and lean clay that ranges from 4 feet (ft) to 28 ft in thickness with elevations from 280 feet above mean sea level (ft amsl) to 261 ft amsl. Flex-wall permeability testing performed on the on-site clay soils shows hydraulic conductivities ranging from  $4.7 \times 10^{-6}$  to  $1.4 \times 10^{-8}$  centimeters per second (cm/s) (FTN 2014).
- **Stratum III** is heterogeneous in composition and generally exhibits an increase in coarse fraction compared to Stratum II. Stratum III is composed of medium dense to dense clays sand with alternating layers of silty sand, sand, and/or clay. Stratum III ranges in thickness from 9 ft to 30 ft with typical elevations ranging from 272 to 252 feet below ground surface (ft bgs). In-situ hydraulic conductivities in Stratum III range from  $2.53 \times 10^{-4}$  cm/s to  $4.18 \times 10^{-7}$  cm/s (TRC, 2018).
- **Lower Confining Unit below Stratum III** is a very dark grey, fat clay that is highly laminated with light grey silt and very fine-grained sand. In-situ permeability testing of this unit determined a vertical hydraulic conductivity of  $3.7 \times 10^{-8}$  cm/s. This Lower Confining Unit was encountered during aquifer characterization efforts around the recycle ponds conducted in 2018.

### 3.2 Background Groundwater Quality

Background groundwater quality for the Ponds for the Appendix IV assessment monitoring constituents is monitored by background wells (RP-1, RP-2 and PR-3). A measure of background groundwater quality for the Ponds is represented by a comparison of the laboratory analytical results for the Appendix IV assessment monitoring constituents that have primary maximum contaminant levels (MCLs) established by the United States Environmental Protection Agency

(USEPA) under the Clean Water Act. USEPA has established primary MCLs for 12 of the 15 Appendix IV assessment monitoring constituents.

A comparison of the Appendix IV laboratory analytical results for the 12 Appendix IV constituents that have primary MCLs for the third and fourth quarters of 2024 to the USEPA primary MCLs is provided in the table below.

**Background Groundwater Water Quality**

Constituent	Concentration Range		USEPA Primary MCL
	Low	High	
Antimony (mg/L)			0.006
Arsenic (mg/L)			0.010
Barium (mg/L)	0.0138	0.0322	2
Beryllium (mg/L)			0.004
Cadmium (mg/L)			0.005
Chromium (mg/L)			0.1
Fluoride (mg/L)	<0.150	2.06	4
Lead (mg/L)			0.010
Mercury (mg/L)			0.002
Selenium (mg/L)			0.05
Thallium (mg/L)			0.002
Radium 226/228 (pCi/L)			5

It should be noted that the USEPA has not established primary drinking water MCLs for cobalt, lithium, and molybdenum; therefore, these Appendix IV CCR constituents were not included in the table above.

As shown in the table above, the natural range of groundwater quality within the background wells is consistently less than the USEPA primary drinking water MCLs established by the USEPA under the Clean Water Act.

In addition to the primary MCLs, USEPA has established a secondary MCL under the Clean Water Act for pH of 6.5 to 8.5 standard units (s.u.). pH measurements for the background wells ranged from 3.50 to 4.70 s.u. for the third and fourth quarter 2024 monitoring events, which is slightly less than the secondary MCL range. Finally, it should be noted that USEPA has established both primary and secondary MCLs of 4.0 mg/L for fluoride.

## Section 4

# Alternate Source Demonstration

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EAL performed two groundwater monitoring events in July 2024 and October 2024 (third and fourth quarters 2024) for the Ponds and the samples were analyzed for the Appendix IV assessment monitoring constituents. Based on statistical evaluation of the analytical results, potential SSLs were identified for the following three Appendix IV assessment monitoring constituents based on exceedances of intrawell prediction limits:

- Barium and molybdenum (RP-4);
- Fluoride (RP-9); and
- Fluoride (RP-10).

The laboratory analytical results for both monitoring events and intrawell prediction limits for each of the potential SSLs are summarized in the table below.

**Table 1 SSLs – Groundwater Monitoring Event 3Q24 and 4Q24**

Well	Parameter	3Q24 Value (mg/L)	4Q24 Value (mg/L)	Intrawell Prediction Limit (mg/L)	Confirmed SSL? (Yes/No)
RP-4	Barium	0.165	0.192	0.1344	No
RP-4	Molybdenum	0.0133	0.00969	0.00517	No
RP-9	Fluoride	<0.5	0.237	0.1528	No
RP-10	Fluoride	<0.5	0.452	0.3856	No

Likely causes for the potential SSLs and associated lines of reasoning demonstrating that the four SSLs were not caused by a release of CCR constituents from the Ponds to groundwater are provided in the subsections below.

## **4.1 Barium at RP-4**

Barium at RP-4 was detected at a concentration of 0.165 mg/L in the July 2024 sample, and 0.192 mg/L in the October 2024 sample. Both analytical results exceeded the introwell prediction limit for barium at RP-4 of 0.1344 mg/L. These slightly elevated concentrations are not SSLs based on the following reason:

- The USEPA primary MCL for barium in drinking water is 2 mg/L; therefore, the concentrations for barium at RP-4 were significantly less than USEPA primary MCL.

Therefore, based on the reason identified above, the potential SSL for barium at RP-4 was not confirmed. The slightly elevated concentrations for barium for RP-4 observed in July and October 2024 are likely related to the following causes:

- Natural variation in groundwater quality.
- Seasonal geochemistry condition changes in groundwater. pH and EC could affect barium concentrations in groundwater. The acidic condition favors the dissolution of calcium from soil and mineral surfaces to water phase. The relatively high EC in groundwater (high chloride concentration and high TDS) could increase the barium concentration. The seasonal increasing of barium could be a result of the natural geochemistry conditions with low pH and high EC.

## **4.2 Molybdenum at RP-4**

Molybdenum at RP-4 was detected at a concentration of 0.0133 mg/L in the July 2024 sample, and 0.00969 mg/L in the October 2024 sample, while the introwell prediction limit for molybdenum at RP-4 was 0.00517 mg/L based on the background data collected from 2018 and 2020. USEPA determined that the “Lifetime Advisory Level” for molybdenum is 0.04 mg/L in drinking water, and the World Health Organization (WHO) recommended molybdenum concentration in drinking water should not exceed 0.07 mg/L. Since the molybdenum concentration at RP-4 didn’t exceed 0.04 mg/L, the molybdenum SSL at RP-4 was not confirmed. The potential reasons include:

- Natural variation in groundwater quality.
- Molybdenum is naturally present in certain geological formations and rocks as a native element and bound to other elements in minerals. Seasonal geochemistry condition changes

in groundwater such as low pH groundwater, can enhance the solubility of molybdenum-bearing minerals in the surrounding rocks and soils. This can lead to increased concentrations of molybdenum in groundwater.

### 4.3 Fluoride at RP-9

Fluoride at RP-9 was detected at a concentration of 0.237 mg/L in the October 2024 sample, while the intrawell prediction limit for fluoride at RP-9 was 0.1528 mg/L based on the background data collected from 2018 and 2020. These slightly elevated concentrations are not SSLs based on the following lines of reasoning:

- The USEPA primary MCL for fluoride in drinking water is 4 mg/L; therefore, the concentrations for fluoride at RP-9 were significantly less than USEPA primary MCL.
- The background concentrations for fluoride for the Ponds (RP-1 through RP-3) range from <0.15 to 2.06 mg/L. The highest background fluoride concentration of 2.06 mg/L is greater than the highest concentration for fluoride of 0.237 mg/L for RP-9; therefore, the highest concentrations for RP-9 are less than the highest background concentrations identified for the Ponds.

Therefore, the potential SSL for fluoride at RP-9 was not confirmed. The slightly elevated concentrations of fluoride observed in July and October 2024 could likely be related to the following causes:

- Natural variation in groundwater quality.
- Geochemistry condition changes in groundwater. Fluoride has positive correlation with both bicarbonate and sodium, and an inverse relation with calcium. A relatively low calcium concentration (10.9 mg/L) was detected in November 2023. The geochemistry condition could be one of the potential factors resulting in the fluoride exceedance.

### 4.4 Fluoride at RP-10

Fluoride at RP-10 was detected at a concentration of 0.452 mg/L in the October 2024 sample. The intrawell prediction limit for fluoride at RP-10 was 0.3856 mg/L based on the background data collected from 2018 and 2020. These slightly elevated concentrations are not SSLs based on the following lines of reasoning:

- The USEPA primary MCL for fluoride in drinking water is 4 mg/L; therefore, the concentrations for fluoride at RP-9 were significantly less than USEPA primary MCL;
- The background concentrations for fluoride for the Ponds (RP-1 through RP-3) range from <0.15 to 2.06 mg/L. The highest background fluoride concentration of 2.06 mg/L is greater than the highest concentration for fluoride of 0.452 mg/L for RP-10; therefore, the highest concentrations for RP-10 are less than the highest background concentrations identified for the Ponds.

Therefore, the potential SSL for fluoride at RP-10 was not confirmed. The slightly elevated concentrations of fluoride observed in July and October 2024 could likely be related to the following causes:

- Natural variation in groundwater quality.
- Geochemistry condition changes in groundwater. Fluoride has positive correlation with both bicarbonate and sodium, and an inverse relation with calcium. The pH at RP-10 was around 3.72 and a relatively low calcium concentration (18.7 mg/L) was detected in November 2023. Therefore, the geochemistry condition is one of the potential factors resulting in the fluoride exceedance.
- The fluoride exceedance could be related to the elevated TDS from the minerals and soils in the area of Pond B (both RP-8 and RP-10), which can be caused by geochemistry condition changes and/or the closure activities during 2021.

## **Section 5 Conclusions**

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The information provided in this ASD was prepared in accordance with 40 CFR 257.95(g)(3)(ii) of the CCR Rule. None of the potential SSLs were confirmed for the two consecutive monitoring events (third and fourth quarters 2024), based on the following lines of reasoning:

- The USEPA primary MCLs for barium and fluoride under the Clean Water Act are significantly greater than the maximum concentrations for barium and fluoride observed at RP-4, RP-9 and RP-10;
- USEPA determined that the “Lifetime Advisory Level” for molybdenum is 0.04 mg/L in drinking water, and the WHO recommended molybdenum concentration in drinking water should not exceed 0.07 mg/L. These standards are significantly greater than the maximum concentration for molybdenum at RP-4; and
- The background groundwater quality concentrations for fluoride for the Ponds (RP-1 through RP-3) are greater than the highest concentrations detected for RP-9 and RP-10.

The slightly elevated concentrations for barium, molybdenum and fluoride observed in July and October 2024 are 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.

Based on this ASD successfully documenting that natural variation in groundwater quality is the cause for the exceedances of intrawell prediction limits, the requirements of 40 CFR Part 257.102(c) have been satisfied for closure by removal of CCR for the Ponds.

Based on this successful ASD, the original certification of closure by removal per 40 CFR 257.102(c) was updated and recertified. The updated notification of closure was certified by a Registered Arkansas P.E. and a Registered Arkansas P.G. on November 7, 2024, per 40 CFR 257.102(f)(3). The updated certified notification of closure was placed into the Station’s FOR per

40 CFR 257.105(i)(8) and was posted to the Plant's publicly accessible CCR internet site per 40 CFR 257.107(i)(8).

## **Section 6 Certification**

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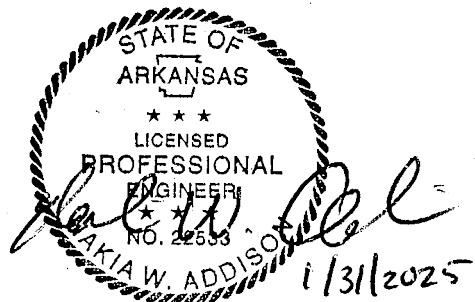
I hereby certify that the alternative source demonstration presented within this document for the Entergy White Bluff Plant Water Recycle Ponds CCR Unit has been prepared to meet the requirements of Title 40 CFR §257.94(e) 2 of the Federal CCR Rule. This document is accurate and has been prepared in 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

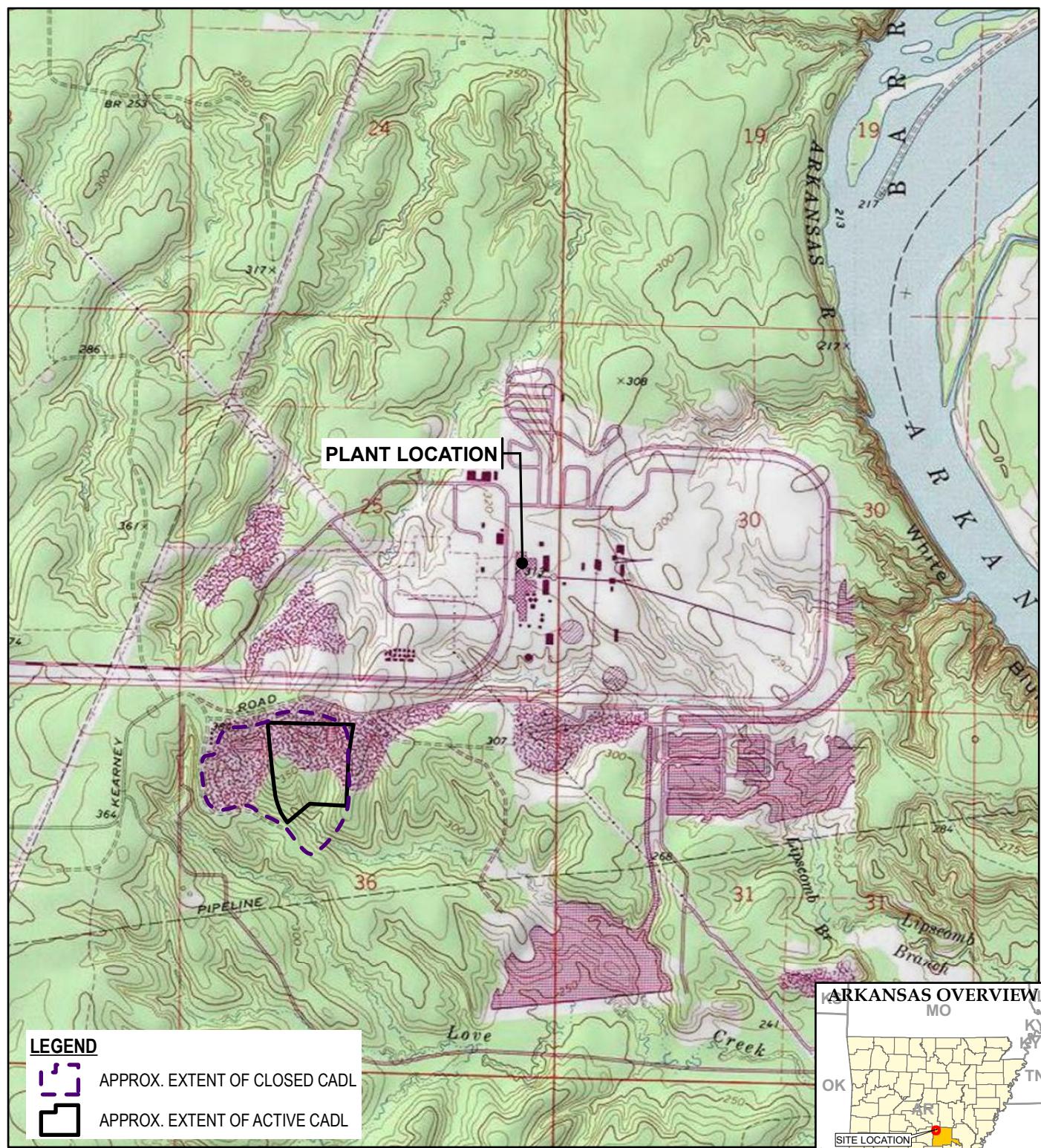
**Date:** 1/31/2025



## Section 7 References

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- Atekwana, E. A., Atekwana, E. A., Rowe, R. S., Werkema, D. D., & Legall, F. D. (2004). The relationship of total dissolved solids measurements to bulk electrical conductivity in an aquifer contaminated with hydrocarbon. *Journal of Applied Geophysics*, 56(4), 281–294. <https://doi.org/10.1016/j.jappgeo.2004.08.003>
- Brindha, K., & Elango, L. (2011). Fluoride in groundwater: Causes, implications and mitigation measures. *Fluoride: Properties, Applications and Environmental Management*, 113–136.
- Mondal, D., Gupta, S., Reddy, D. V., & Nagabhushanam, P. (2014). Geochemical controls on fluoride concentrations in groundwater from alluvial aquifers of the Birbhum district, West Bengal, India. *Journal of Geochemical Exploration*, 145, 190–206. <https://doi.org/10.1016/j.gexplo.2014.06.005>
- Olumuyiwa I. Ojo,. (2012). Groundwater: Characteristics, qualities, pollutions and treatments: An overview. *International Journal of Water Resources and Environmental Engineering*, 4(6), 162–170. <https://doi.org/10.5897/ijwree12.038>
- TRC. 2017. Statistical Methods Certification, White Bluff Steam Electric Generating Station, Redfield, Arkansas. Prepared for Entergy Arkansas Inc. Baton Rouge: TRC Environmental Corporation.
- TRC. 2018a. Site Conceptual Model: Entergy White Bluff Plant Coal Ash Disposal Landfill, Redfield, Jefferson County, Arkansas. January 2018.
- TRC. 2018b. Groundwater Monitoring System Certification, White Bluff Steam Electric Generating Station, Redfield, Arkansas. Prepared for Entergy Arkansas Inc. Baton Rouge: TRC Environmental Corporation.
- USEPA. (2008). Drinking Water Health Advisory For Boron. *Office of Water U.S. Environmental Protection Agency Washington, DC, 822-R-08-0*. <https://www.epa.gov/environmental-topics/water-topics>
- United States Environmental Protection Agency. 2017. Secondary Drinking Water Standards: Guidance for Nuisance Chemicals, March 8, 2017.
- WHO. (2008). *Guidelines for Drinking Water Quality, third ed.* World Health Organization, Geneva.



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.



1" = 2,000' 0 2,000 4,000  
1:24,000 FEET

PROJECT:

**ENTERGY WHITE BLUFF PLANT**  
1100 WHITE BLUFF ROAD  
REFIELD, ARKANSAS

DRAWN BY:

S. MAJOR

CHECKED BY:

J. HOUSE

APPROVED BY:

Z. SABATKA

DATE:

DECEMBER 2021

PROJ. NO.:

402355

FILE:

341458-001slm1.mxd

**TRC**  
Two United Plaza  
8550 United Plaza Blvd., Suite 502  
Baton Rouge, LA  
Phone: 225.270.6321

**ENTERGY WHITE BLUFF PLANT LOCATION MAP**

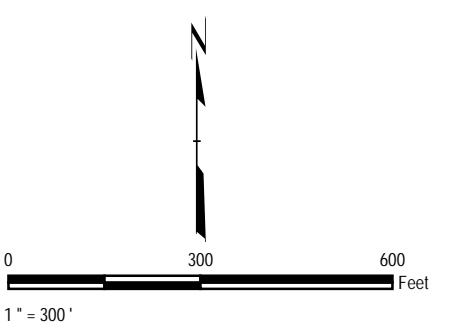
**FIGURE 1**

**LEGEND**

- RECYCLING POND WELLS
- RECYCLING POND BOUNDARY

**NOTES**

1. BASE MAP IMAGE BY FROM GOOGLE EARTH PRO, 2018 .



PROJECT:  
**ENTERGY WHITE BLUFF PLANT**  
**1100 WHITE BLUFF ROAD**  
**REDFIELD, ARKANSAS**

TITLE:

**RECYCLING POND WELL LOCATIONS**

DRAWN BY:	S. MAJOR	PROJ. NO.:	431458
CHECKED BY:	L. BURRIS		
APPROVED BY:	J. HOUSE		
DATE:	JANUARY 2022		

**FIGURE 2**

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

FILE NO.: 431458-001.mxd