Annual Groundwater Monitoring Report

Southwestern Electric Power Company

Welsh Power Plant

Bottom Ash Storage Pond

CN 602843245; RN100213370

Registration No: CCR 110

1187 Country Road 4865

Titus County

Pittsburg, Texas

January 31, 2026

Prepared by:
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1 Riverside Plaza
Columbus, Ohio 43215

SOUTHWESTERN ELECTRIC POWER COMPANY℠

An AEP Company

BOUNDLESS ENERGY℠

Table of Contents

Page

I. Overview 1

II. Groundwater Monitoring Well Locations and Identification Numbers 3

III. Monitoring Wells Installed or Decommissioned 4

IV. Groundwater Quality Data and Static Water Elevation Data, With Flow Rate and Direction and Discussion 4

V. Groundwater Quality Data Statistical Analysis 4

VI. Alternate Source Demonstrations Completed 5

VII. Discussion About Transition Between Monitoring Requirements or Alternate Monitoring Frequency 5

VIII. Other Information Required 5

IX. Description of Any Problems Encountered and Actions Taken 5

X. A Projection of Key Activities for the Upcoming Year 5

Appendix 1: Groundwater Data Tables and Figures
Appendix 2: Statistical Analyses
Appendix 3: Alternative Source Demonstrations
Appendix 4: Notices for Monitoring Program Transitions
Appendix 5: Well Installation/Decommissioning Logs - NA
Appendix 6: Groundwater Monitoring Field and Laboratory Reports

Abbreviations:
ASD - Alternate Source Demonstration
BASP – Bottom Ash Storage Pond
CCR – Coal Combustion Residual
GWPS - Groundwater protection standards
SSI - Statistically Significant Increase
SSL - Statistically Significant Level
TDS – Total Dissolved Solids
TCEQ – Texas Commission on Environmental Quality

I. Overview

This *Annual Groundwater Monitoring Report* (Report) has been prepared to report the status of activities for the preceding year for an existing Coal Combustion Residual (CCR) unit at Southwestern Electric Power Company's (SWEPCO's), a wholly owned subsidiary of American Electric Power Company (AEP), Welsh Power Plant (CCR No.: 110). The Texas Commission on Environmental Quality's (TCEQ's) CCR rule requires that the Annual Groundwater Monitoring Report be posted to the operating record for the preceding year no later than January 31, 2026.

In general, the following activities were completed:

- At the start of the current annual reporting period, the BASP was operating under the Detection Monitoring program.
- At the end of the current annual reporting period, the BASP was operating under the Assessment Monitoring program.
- The BASP initiated an assessment monitoring program on December 29, 2025
- Groundwater samples and elevations were collected from the certified groundwater network and analyzed for Appendix III and IV constituents, as specified in 30 TAC §352.941 and AEP's *Groundwater Sampling and Analysis Plan (2021)*.
- An ASD for the 2nd semi-annual 2024 potential SSIs, boron, chloride, and TDS was certified March 27, 2025, and submitted to TCEQ for approval.
- Statistical analysis for the 2nd semi-annual 2024 Appendix IV constituents was certified March 18, 2025, and submitted to TCEQ for approval in support of closure.
- An ASD for the 2nd semi-annual 2024 potential SSL radium was certified March 28, 2025, and submitted to TCEQ for approval in support of closure.
- The 1st semi-annual groundwater sampling event was conducted in April 2025 with confirmation sampling conducted in June 2025:
    - Potential Statistically Significant increases (SSIs) were identified on October 31, 2025 for:
        - Boron in AD-4C
        - Calcium in AD-4C
        - Chloride in AD-3
        - Sulfate in AD-4C
        - TDS in AD-4C
- Since an ASD was unsuccessful for the 1st semi-annual 2025 event and a Notice of Initiating an Assessment Monitoring Program was placed in the operating record on December 29, 2025.

- The 2nd semi-annual groundwater sampling event was conducted in September 2025:
    - Potential SSIs were identified on December 29, 2025, for:
        - Boron in AD-4C
        - Calcium in AD-4C
        - Chloride in AD-3
        - Sulfate in AD-4C
        - TDS in AD-4C
    - Potential Statistically Significant Level (SSL) were identified on December 29, 2025, for:
        - Combined radium in AD-16R
- An ASD for the 2nd semi-annual 2025 potential SSL is being perused.

The major components of this annual report, to the extent applicable at this time, are presented in sections that follow:

- A map, aerial photograph or a drawing showing the BASP CCR unit, all groundwater monitoring wells and monitoring well identification numbers (Attached as **Appendix 1**, where applicable);
- Statistical comparison of monitoring data to determine if there have been SSI(s) or SSL(s) (Attached as **Appendix 2**, where applicable);
- A discussion of whether any alternate source demonstrations (ASDs) were performed, and the conclusions (Attached as **Appendix 3**, where applicable);
- A summary of any transition between monitoring programs, or an alternate monitoring frequency, for example the date and circumstances for transitioning from detection monitoring to assessment monitoring, in addition to identifying the constituents detected at a SSI over background concentrations (Notices Attached as **Appendix 4**, where applicable);
- Identification of any monitoring wells that were installed, or decommissioned during the preceding year, along with a statement as to why that happened (Attached as **Appendix 5**, where applicable); and
- Other information required to be included in the annual report, field sheets, analytical reports, etc. (Attached as **Appendix 6**)

In addition, this report summarizes key actions completed, and where applicable, describes any problems encountered and actions taken to resolve those problems. The report includes a projection of key activities for the upcoming year.

II. Groundwater Monitoring Well Locations and Identification Numbers

The figure that follows depicts the PE-certified groundwater monitoring network for the Bottom Ash Storage Pond (BASP), the monitoring well locations, and their corresponding identification numbers is provided below.

BASP Monitoring Wells	
Background	Down Gradient
AD-1	AD-3
AD-5	AD-4C
AD-17	AD-16R

Note: AD-2 is used for gauging purposes



III. Monitoring Wells Installed or Decommissioned

There were no groundwater monitoring wells installed or decommissioned during this reporting period.

IV. Groundwater Quality Data and Static Water Elevation Data, With Flow Rate and Direction and Discussion

Groundwater samples and elevations were collected for AD-1, AD-5, AD-17, AD-3, AD-4C, and AD-16R and analyzed for Appendix III and IV constituents, as specified in 30 TAC §352.941 and AEP's *Groundwater Sampling and Analysis Plan (2021)*.

Appendix 1 contains potentiometric maps with the static water elevation, groundwater flow direction for each monitoring event, tables showing groundwater velocity, and the groundwater quality data collected under 30 TAC 352.941.

The groundwater flow rate and direction for the confirmatory sampling events reflect that seen during the semi-annual sampling events.

V. Groundwater Quality Data Statistical Analysis

Appendix 2 contains the statistical analysis reports available for this reporting period.

- Statistical analysis for the 2nd semi-annual 2024 Appendix IV constituents was certified March 18, 2025, and submitted to TCEQ for approval in support of closure.
- Data and statistical analysis completed for the 1st semi-annual Detection Monitoring groundwater sampling event, held April 29, 2025, with confirmatory sampling June 11, 2025, was certified October 31, 2025, and indicated:

  A potential SSI was identified for:
  - Boron in AD-4C
  - Calcium in AD-4C
  - Chloride in AD-3
  - Sulfate in AD-4C
  - TDS in AD-4C
- Data and statistical analysis completed for the 2nd semi-annual Assessment Monitoring groundwater sampling event, held September 2-4, 2025, was certified December 29, 2025, and indicated:

  A potential SSI was identified for:
  - Boron in AD-4C
  - Calcium in AD-4C

        - Chloride in AD-3
        - Sulfate in AD-4C
        - TDS in AD-4C
    - Potential SSL was identified for:
        - Combined radium in AD-16R

VI. Alternate Source Demonstrations Completed

Appendix 3 contains the alternate source demonstrations (ASD):

- ASD for the 2nd semi-annual 2024 potential SSIs was certified March 27, 2025, and submitted to TCEQ for approval.
- An ASD for the 2nd semi-annual 2024 potential SSL radium was certified March 28, 2025, and submitted to TCEQ for approval in support of closure.
- An ASD for the 2nd semi-annual 2025 potential SSL is being perused.

VII. Discussion About Transition Between Monitoring Requirements or Alternate Monitoring Frequency

Because an alternate source for the 1st semi-annual event 2025 SSIs could not be identified, an assessment monitoring program was established at the BASP on December 29, 2025. Assessment monitoring will continue in 2026.

VIII. Other Information Required

Field sheets and laboratory reports for this reporting period are in Appendix 6.

IX. Description of Any Problems Encountered and Actions Taken

No significant problems were encountered. The low flow sampling effort went smoothly, and the schedule was met to support the annual groundwater report preparation covering the year 2025 groundwater monitoring activities.

X. A Projection of Key Activities for the Upcoming Year

- Assessment monitoring on a semi-annual schedule for 30 TAC 352 Appendix III and IV constituents;
- Perform statistical analysis on the sampling results for the Appendix III and Appendix IV parameters as required Conduct ASDs, if needed;
- Responding to any new data received in light of TCEQ's CCR rule requirements;
- Preparation of the next annual groundwater report;

APPENDIX 1

Potentiometric Maps and Tables follow, showing the groundwater monitoring data collected, the rate and direction of groundwater flow, and a summary showing the number of samples collected per monitoring well. The dates that the samples were collected also is shown.



Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction
- CCR Units

Notes

1. Monitoring well coordinates and water level data (collected on April 28 and 29, 2025) provided by AEP.
2. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis 2022).
3. Groundwater elevation units are feet above mean sea level (ft amsl).
4. Aerial imagery provided by the TxGIO DataHub (dated 2024).

500 250 0 500 Feet

STATE OF TEXAS
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PROFESSIONAL ENGINEER

Beth Ann Gross

January 26, 2026

Geosyntec Consultants, Inc.
Texas Firm Registration No. 1182

Groundwater Potentiometric Map
April 2025

AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2025/06/16

Figure **1**

A:\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2025\AEP-Welsh_GW_2025-04Apr.mxd. Okiemute.Commander. 6/16/2025. CHA8423/14/08.



Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
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Notes

1. Monitoring well coordinates and water level data (collected from September 2 - 4, 2025) provided by AEP.
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Groundwater Potentiometric Map
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AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2025/10/15

Figure 2

A:\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2025\AEP-Welsh_GW_2025-09Sept.mxd. okiemute.commander. 10/15/2025. CHA8423/14/08.

Table 1. Groundwater Elevation Data Summary
Welsh Power Plant

Geosyntec Consultants

Unit	All Units			Bottom Ash Storage Pond			Primary Bottom Ash Pond			Landfill		
Gradient	Upgradient			Downgradient			Downgradient			Downgradient		
Well	AD-1	AD-5	AD-17	AD-3	AD-4C	AD-16R*	AD-8	AD-9	AD-15	AD-11	AD-13	AD-14
Mar-16	342.83	338.04	334.64	325.12	326.19	337.09	325.70	329.74	322.14	328.13	334.76	334.83
May-2016	344.89	337.62	334.26	312.97	325.89	335.84	325.68	329.28	321.93	328.39	334.54	334.51
Jul-2016	342.89	337.24	334.30	323.70	324.01	332.14	325.05	329.53	321.28	328.14	332.93	331.71
Sep-2016	341.42	337.51	334.45	323.63	324.00	326.52	325.49	329.11	321.42	327.99	332.65	331.17
Oct-2016	341.23	337.74	334.64	323.47	323.76	331.43	325.29	328.92	321.71	327.87	332.39	330.94
Dec-2016	340.58	337.01	334.05	323.78	325.07	330.96	325.92	329.31	321.64	328.20	332.84	330.79
Jan-2017	341.18	338.34	333.94	325.04	326.39	330.71	326.76	330.50	322.81	328.90	334.54	332.63
Feb-2017	339.74	336.17	333.94	324.92	324.89	--	324.27	328.05	321.93	328.25	331.83	330.87
May-2018	340.31	335.56	332.85	321.79	324.54	328.72	325.72	329.32	320.26	326.36	330.38	330.57
Aug-2018	339.16	336.37	333.95	323.02	323.43	326.91	325.84	329.58	321.57	327.67	331.01	329.38
Nov-2018	--	--	--	325.51	326.24	327.20	--	--	--	--	--	--
Feb-2019	341.95	338.15	334.86	325.97	326.50	331.39	326.37	330.03	322.60	328.80	333.60	334.25
Apr-2019	--	--	--	325.37	326.28	335.76	326.20	330.00		328.16	333.29	334.59
May-2019	345.68	337.54	335.13	325.65	326.15	339.02	326.09	329.83	322.03	328.08	333.46	334.77
Jul-2019	343.95	336.89	334.94	324.72	324.73	332.17	325.80	329.57	321.43	327.97	332.23	331.85
Feb-2020	341.88	338.56	334.94	--	--	--	326.04	329.58	322.12	328.10	333.38	333.44
May-2020	344.09	337.79	335.10	325.38	326.20	330.42	326.32	329.75	322.17	328.33	333.29	333.97
Oct-2020	340.56	337.35	334.69	323.57	324.19	327.67	325.36	328.60	321.12	327.49	330.97	330.04
Dec-2020	340.04	337.61	334.63	323.51	325.17	327.12	--	--	--	--	--	--
Feb-2021	341.68	338.16	334.72	--	--	--	326.38	329.55	322.20	328.46	333.35	333.73
Jun-2021	345.82	337.15	334.93	326.36	326.87	330.59	326.77	329.92	322.45	328.70	334.69	335.88
Jul-2021	--	--	--	--	325.45	--	--	--	--	--	--	--
Oct-2021	340.54	336.75	334.53	322.86	323.58	327.58	325.23	328.51	320.33	327.08	330.94	329.73
Mar-2022	339.58	337.12	333.92	323.80	325.62	326.17	DRY	DRY	DRY	DRY	DRY	DRY
Jun-2022	338.86	335.94	333.48	323.11	323.46	326.44	324.65	328.45	320.27	327.03	330.56	329.18
Aug-2022	339.01	336.02	333.48	322.80	324.21	325.87	--	--	--	--	--	--
Oct-2022	--	--	--	--	--	--	324.90	328.75	321.19	327.16	330.50	329.17
Nov-2022	338.17	336.41	333.31	323.12	324.46	325.74	--	--	--	--	--	--
Feb-2023	--	--	--	325.80	325.52	327.52	326.20	329.95	322.28	327.97	333.00	332.79
Jun-2023	339.19	336.58	333.87	324.06	324.44	327.57	325.51	328.86	321.42	327.60	330.98	330.04
Jul-2023	--	--	--	--	324.76	--	--	--	--	--	--	--
Oct-2023	338.51	336.62	333.95	322.97	323.27	326.72	325.44	328.98	320.82	327.03	330.46	329.12
Dec-2023	--	--	--	323.85	325.01	326.04	--	--	--	--	--	--
Feb-2024	339.36	337.89	334.35	324.90	325.68	328.14	325.85	329.77	322.36	327.52	332.36	331.59
Apr-2024	340.18	337.75	334.50	325.31	326.16	328.90	326.13	329.93	322.70	327.79	333.30	333.03
Jun-2024	--	--	--	325.28	326.22	328.84	--	--	--	--	--	--
Sep-2024	339.66	337.28	334.42	323.46	323.68	328.11	324.88	328.66	320.87	327.07	330.92	329.71
Nov-2024	--	--	--	323.49	323.87	328.04	--	--	--	--	--	--
Feb-2025	--	338.52	334.40	--	325.81	327.48	326.53	330.24	322.57	323.72	330.84	330.62
Apr-2025	340.62	337.45	334.67	324.31	325.18	328.70	326.36	329.36	322.44	323.81	330.18	330.09
Jun-2025	340.85	337.79	335.47	324.61	326.00	329.07	326.91	329.86	323.01	324.02	330.93	330.74
Sep-2025	339.91	336.44	334.44	323.75	324.31	327.48	325.90	329.20	321.63	324.12	329.59	328.76
Nov-2025	338.88	336.56	334.15	323.19	323.67	325.87	325.13	329.90	320.55	324.15	329.17	--

Notes:
1. Groundwater elevation measured in feet above mean sea level.
*AD-16 prior to February 2017.

Table 1: Residence Time Calculation Summary
Welsh Bottom Ash Storage Pond

Geosyntec Consultants, Inc.

			2025-02		2025-04		2025-06[3]		2025-09	
CCR Management Unit	Monitoring Well	Well Diameter (inches)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)
Bottom Ash Storage Pond	AD-1 [1]	2.0	NC	NC	2.8	21.7	2.5	24.4	3.6	16.9
	AD-3 [2]	2.0	NC	NC	4.4	13.9	4.8	12.6	6.5	9.4
	AD-4C [2]	2.0	2.9	21.2	3.1	19.7	3.0	20.0	2.9	20.8
	AD-5 [1]	2.0	1.4	42.6	1.3	46.0	2.0	30.7	1.3	45.9
	AD-16R [2]	2.0	2.8	21.6	1.0	58.3	1.9	31.2	1.3	46.2
	AD-17 [1]	2.0	8.9	6.8	8.1	7.5	8.0	7.6	8.1	7.5

Notes:
[1] - Upgradient Well
[2] - Downgradient Well
[3] - Verification sampling
NC - Not Calculated

Table 1. Groundwater Data Summary: AD-1
Welsh - BASP
Appendix III Constituents

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	S.U.	mg/L	mg/L
5/26/2016	Background	0.346	36.5	5	< 0.083 U1	5.9	42	252
7/27/2016	Background	0.35	39.6	4	< 0.083 U1	5.3	36	239
9/30/2016	Background	0.332	15	5	< 0.083 U1	5.4	35	173
10/19/2016	Background	0.398	19.1	4	< 0.083 U1	5.2	42	192
12/12/2016	Background	0.394	8.74	4	< 0.083 U1	5.2	40	200
1/17/2017	Background	0.656	129	4	< 0.083 U1	7.1	68	538
2/23/2017	Background	0.7	147	9	< 0.083 U1	6.9	68	612
6/07/2017	Background	0.449	15.1	4	< 0.083 U1	5.1	42	176
10/06/2017	Detection	0.453	14.3	4	< 0.083 U1	5.3	40	160
5/24/2018	Detection	0.345	10.2	4	< 0.083 U1	5.2	43	150
8/14/2018	Detection	0.443	5.95	5	< 0.083 U1	5.2	44	160
2/20/2019	Detection	0.504	142	2.82	0.24	7.3	49.2	522
5/30/2019	**	0.689	138	1.59	0.29	6.7	43.3	588
7/24/2019	Detection	0.644	62.7	2	0.106 J1	6.0	58	180
2/17/2020	**	0.626	115	3.41	0.31	5.8	56.3	488
5/20/2020	Detection	0.801	126	1.83	0.20	7.2	51.4	508
10/14/2020	Detection	0.670	3.88	2.16	0.25	4.5	66.9	183
2/23/2021	**	0.617	113	--	0.31	6.6	--	--
6/02/2021	Detection	0.786	97.1	2.26	0.30	6.2	61.4	400
10/20/2021	Detection	0.732	4.8	2.21	0.22	4.4	72.4	190
6/28/2022	Detection	0.768	6.76	2.32	0.22	4.9	74.7	180
11/01/2022	Detection	0.586	7.87	2.70	0.14	4.8	61.3	170
6/06/2023	Detection	0.729	6.59	3.03	0.24	4.9	91.1	210
10/04/2023	Detection	0.901	6.56	3.03	0.20	5.3	80.7	200
4/01/2024	Detection	0.781	44.9 M1	3.33	0.23	5.7	104	310
9/10/2024	Detection	0.973	7.75	3.98	0.43	5.7	126	260
4/29/2025	Detection	0.916	19.7	4.63	0.68	5.4	144	300
9/04/2025	Assessment	1.00	10.6	4.63	0.65	5.5	141	280

Table 1. Groundwater Data Summary: AD-1
Welsh - BASP
Appendix IV Constituents

Geosyntec Consultants, Inc.

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
5/26/2016	Background	< 0.93 U1	1.39361 J1	191	0.271453 J1	0.213294 J1	0.240267 J1	1.15339 J1	1.184	< 0.083 U1	< 0.68 U1	0.01	0.033	0.53149 J1	1.74922 J1	0.959865 J1
7/27/2016	Background	< 0.93 U1	< 1.05 U1	191	0.315631 J1	0.0940357 J1	< 0.23 U1	0.615933 J1	0.9952	< 0.083 U1	< 0.68 U1	0.019	0.00793 J1	< 0.29 U1	1.81763 J1	< 0.86 U1
9/30/2016	Background	< 0.93 U1	2.96797 J1	141	0.382874 J1	< 0.07 U1	5	0.850408 J1	1.380	< 0.083 U1	3.38434 J1	0.014	0.01773 J1	< 0.29 U1	1.02629 J1	< 0.86 U1
10/19/2016	Background	< 0.93 U1	< 1.05 U1	114	0.311247 J1	< 0.07 U1	0.412131 J1	0.649606 J1	1.141	< 0.083 U1	< 0.68 U1	0.008	0.00534 J1	1.39872 J1	2.03168 J1	1.25062 J1
12/12/2016	Background	< 0.93 U1	< 1.05 U1	72	0.34133 J1	< 0.07 U1	< 0.23 U1	0.424105 J1	0.719	< 0.083 U1	< 0.68 U1	0.008	0.01521 J1	< 0.29 U1	1.85825 J1	< 0.86 U1
1/17/2017	Background	< 0.93 U1	< 1.05 U1	410	0.0366913 J1	< 0.07 U1	< 0.23 U1	0.480125 J1	3.009	< 0.083 U1	< 0.68 U1	0.000275956 J1	< 0.005 U1	< 0.29 U1	4.04737 J1	< 0.86 U1
2/23/2017	Background	< 0.93 U1	< 1.05 U1	488	< 0.02 U1	< 0.07 U1	< 0.23 U1	0.765099 J1	4.309	< 0.083 U1	< 0.68 U1	0.001	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
6/07/2017	Background	< 0.93 U1	1.14 J1	93.46	0.37 J1	< 0.07 U1	0.66 J1	0.77 J1	0.676	< 0.083 U1	< 0.68 U1	0.00902	0.007 J1	< 0.29 U1	2.1 J1	< 0.86 U1
5/24/2018	**	3.17 J1	< 1.05 U1	79.9	0.39 J1	< 0.07 U1	< 0.23 U1	0.35 J1	1.983	< 0.083 U1	< 0.68 U1	0.00814	0.006 J1	< 0.29 U1	1.38 J1	< 0.86 U1
8/14/2018	**	0.03 J1	0.21	63.0	0.482	0.02	0.160	0.797	1.102	< 0.083 U1	0.238	0.00708	0.013 J1	0.21	1.7	0.03 J1
2/20/2019	**	0.16	0.46	457	0.09 J1	0.01 J1	0.306	0.399	3.159	0.24	0.124	0.00155	< 0.005 U1	1 J1	0.7	< 0.1 U1
5/30/2019	**	0.16	0.60	512	0.244	0.01 J1	0.1 J1	0.756	2.717	0.29	0.197	< 0.009 U1	< 0.005 U1	2.43	1.4	< 0.1 U1
7/24/2019	**	0.08 J1	0.39	245	0.540	0.02 J1	0.1 J1	0.789	1.819	0.106 J1	0.1 J1	0.00557	< 0.005 U1	2 J1	3.4	< 0.1 U1
2/17/2020	**	0.33	0.49	303	0.07 J1	0.02 J1	0.1 J1	0.28	2.665	0.31	0.1 J1	0.00105	< 0.002 U1	1 J1	2.3	< 0.1 U1
5/20/2020	**	0.15	0.53	394	0.270	0.02 J1	0.1 J1	0.490	2.312	0.20	0.1 J1	0.00301	< 0.002 U1	2 J1	2.8	< 0.1 U1
10/14/2020	**	< 0.1 U1	0.3 J1	84.7	0.984	< 0.05 U1	0.9 J1	2.12	1.552	0.25	0.3 J1	0.00932	0.003 J1	< 2 U1	5.3	< 0.5 U1
2/23/2021	**	0.24	0.74	338	0.136	0.03 J1	0.338	0.477	1.737	0.31	0.852	0.00155	< 0.002 U1	1 J1	2.5	< 0.1 U1
6/02/2021	*	0.18	0.66	349	0.088	0.01 J1	0.32	0.474	2.15	0.30	0.09 J1	0.00052	0.002 J1	4.8	1.26	< 0.04 U1
10/20/2021	*	0.04 J1	0.20	86.1	0.932	0.026	0.33	2.44	0.99	0.22	0.23	0.00756	0.003 J1	< 0.1 U1	7.39	< 0.04 U1
6/28/2022	*	0.03 J1	0.26	85.4	0.995	0.030	0.37	2.34	3.69	0.22	0.33	0.00855	0.002 J1	< 0.1 U1	8.35	0.05 J1
11/01/2022	*	0.03 J1	0.19	78.9	0.620	0.024	0.35	1.17	2.01	0.14	0.13 J1	0.00818	0.002 J1	< 0.1 U1	5.51	< 0.04 U1
6/06/2023	*	0.041 J1	0.21	83.4	1.11	0.034	0.35	2.67	0.95	0.24	0.37	0.00805	0.002 J1	< 0.1 U1	10.1	0.04 J1
10/04/2023	*	0.029 J1	0.19	80.0	1.06	0.027	0.38	2.25	1.86	0.20	0.44	0.0103	0.002 J1	< 0.1 U1	9.26	0.05 J1
4/01/2024	*/Assessment	0.073 J1	0.26	190 M1	0.524	0.032	0.28 J1	1.53	2.39	0.23	0.14 J1	0.00378	< 0.002 U1	0.3 J1	7.67	0.03 J1
9/10/2024	*/Assessment	0.029 J1	0.19	83.9	2.2 J1	0.039	0.44	4.72	4.70	0.43	0.21	0.011 J1	0.002 J1	< 0.1 U1	11.3	0.06 J1
4/29/2025	*/Assessment	0.105	0.16	110	1.31	0.049	0.43	3.76	2.92	0.68	4.61	0.00851	< 0.002 U1	< 0.1 U1	10.9	0.04 J1
9/04/2025	Assessment	0.04 J1	0.19	72.5	2.03	0.045	0.80	5.66	3.64	0.65	0.31	0.00885	0.006	0.87	10.3	0.10 J1

Table 1. Groundwater Data Summary: AD-3
Welsh - BASP
Appendix III Constituents

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	S.U.	mg/L	mg/L
5/31/2016	Background	0.02	1.41	9	< 0.083 U1	6.6	4	106
7/27/2016	Background	0.02	0.706	8	< 0.083 U1	6.7	5	118
9/30/2016	Background	0.02	0.5	9	< 0.083 U1	4.8	6	127
10/19/2016	Background	0.06	0.794	8	< 0.083 U1	3.7	9	112
12/12/2016	Background	0.02	1.05	8	< 0.083 U1	4.7	11	138
1/19/2017	Background	0.02	0.746	9	< 0.083 U1	4.6	4	76
2/23/2017	Background	0.02	0.573	9	< 0.083 U1	4.7	5	104
6/07/2017	Background	0.03326	0.543	9	0.2625 J1	4.5	5	104
10/06/2017	Detection	0.02055	0.908	9	< 0.083 U1	5.2	7	114
5/24/2018	Detection	0.0069 J1	0.545	8	< 0.083 U1	4.4	3	98
11/13/2018	Detection	0.009 J1	0.684	8	< 0.083 U1	5.2	4.05	114
2/20/2019	Detection	0.01 J1	0.817	9.4	0.13	4.8	1.9	110
4/30/2019	Detection	0.007	--	9.34	--	4.1	--	--
5/30/2019	**	< 0.02 U1	3.02	9.03	0.18	4.3	2.3	110
7/24/2019	Detection	< 0.02 U1	1.35	7	0.09 J1	4.6	6	116
11/25/2019	Detection	--	0.734	--	--	--	--	--
5/20/2020	Detection	< 0.02 U1	0.724	7.99	0.11	4.6	2.7	236
7/22/2020	Detection	--	--	--	--	4.7	--	114
10/14/2020	Detection	< 0.02 U1	0.705	7.31	0.16	4.6	3.5	116
6/02/2021	Detection	0.036 J1	0.7	7.98	0.18	4.4	3.38	110
10/20/2021	Detection	< 0.009 U1	0.9	7.16	0.15	4.2	6.02	130
6/28/2022	Detection	0.016 J1	0.68	8.01	0.14	3.9	2.55	120
11/01/2022	Detection	< 0.009 U1	1.57	8.04	0.14	4.4	13.0	110
2/07/2023	Detection	--	0.57	--	--	4.7	3.39	--
6/06/2023	Detection	0.007 J1	0.65	9.14	0.11	4.3	2.4	100
10/04/2023	Detection	0.019 J1	1.16	8.65	0.12	4.5	9.5	100
12/14/2023	Detection	--	--	--	--	4.6	--	--
4/01/2024	Detection	0.027 J1	0.65	10.3	0.12	3.7	2.4	100
6/10/2024	Detection	--	--	10.1	--	4.4	--	--
9/10/2024	Detection	0.010 J1	0.78	9.89	0.09	3.2	4.0	120
11/04/2024	Detection	--	--	10.9	--	4.5	--	--
4/29/2025	Detection	0.008 J1	0.67	11.4	0.14	4.2	2.0	110
6/11/2025	Detection	--	--	10.8	--	4.4	--	--
9/04/2025	Assessment	0.014 J1	0.79	11.6	0.13	4.0	2.72	100 P1

Table 1. Groundwater Data Summary: AD-3
Welsh - BASP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
5/31/2016	Background	< 0.93 U1	1.56793 J1	53	0.286352 J1	< 0.07 U1	0.464721 J1	1.49214 J1	1.018	< 0.083 U1	< 0.68 U1	0.01	0.85	< 0.29 U1	0.995807 J1	1.31537 J1
7/27/2016	Background	3.21106 J1	< 1.05 U1	36	0.349485 J1	< 0.07 U1	0.515023 J1	1.19046 J1	0.183	< 0.083 U1	< 0.68 U1	0.024	0.589	1.43134 J1	2.40188 J1	< 0.86 U1
9/30/2016	Background	2.70729 J1	2.61987 J1	43	0.188596 J1	0.0802799 J1	0.659763 J1	1.44845 J1	0.552	< 0.083 U1	< 0.68 U1	0.019	0.39	< 0.29 U1	1.79734 J1	< 0.86 U1
10/19/2016	Background	2.47184 J1	1.97572 J1	41	0.451723 J1	0.277085 J1	0.818782 J1	1.53187 J1	1.589	< 0.083 U1	< 0.68 U1	0.018	0.351	6	< 0.99 U1	< 0.86 U1
12/12/2016	Background	< 0.93 U1	< 1.05 U1	45	0.262387 J1	< 0.07 U1	0.627352 J1	1.34901 J1	0.546	< 0.083 U1	< 0.68 U1	0.017	0.321	< 0.29 U1	< 0.99 U1	< 0.86 U1
1/19/2017	Background	< 0.93 U1	2.13113 J1	41	0.235263 J1	< 0.07 U1	0.647294 J1	1.6345 J1	0.350	< 0.083 U1	< 0.68 U1	0.014	0.504	< 0.29 U1	< 0.99 U1	< 0.86 U1
2/23/2017	Background	< 0.93 U1	< 1.05 U1	37	0.209151 J1	< 0.07 U1	< 0.23 U1	1.1537 J1	0.4592	< 0.083 U1	< 0.68 U1	0.014	0.501	< 0.29 U1	< 0.99 U1	< 0.86 U1
6/07/2017	Background	< 0.93 U1	1.91 J1	38	0.24 J1	0.08 J1	0.75 J1	1.28 J1	0.459	0.2625 J1	< 0.68 U1	0.01503	0.365	< 0.29 U1	< 0.99 U1	< 0.86 U1
5/30/2019	**	0.06 J1	1.03	63.2	0.158	0.05 J1	0.316	1.71	1.213	0.18	0.382	0.03 J1	0.245	< 0.4 U1	0.3	< 0.1 U1
6/02/2021	*	< 0.02 U1	0.32	32.9	0.137	0.035	0.49	1.07	6.32	0.18	0.34	0.00803	0.220	0.6	0.13 J1	< 0.04 U1
10/20/2021	*	< 0.02 U1	0.36	41.8	0.181	0.041	0.46	1.23	0.54	0.15	0.18 J1	0.0118	0.095	< 0.1 U1	0.21 J1	< 0.04 U1
6/28/2022	*	< 0.02 U1	0.53	33.9	0.177	0.036	0.51	1.14	0.81	0.14	0.17 J1	0.0113	< 0.2 U1	< 0.1 U1	0.21 J1	< 0.04 U1
11/01/2022	*	< 0.02 U1	0.20	45.8	0.244	0.038	0.48	1.40	1.80	0.14	0.23	0.0173 M1	0.100	< 0.1 U1	0.16 J1	< 0.04 U1
6/06/2023	*	0.022 J1	0.51	34.5	0.173	0.034	0.52	1.12	0.64	0.11	0.61	0.0103	0.556	< 0.1 U1	0.20 J1	0.02 J1
10/04/2023	*	0.023 J1	0.56	48.0	0.234	0.048	0.64	1.46	0.68	0.12	0.29	0.0165	0.080	< 0.1 U1	0.23 J1	0.04 J1
12/14/2023	**	--	--	--	--	--	--	--	2.30	--	--	--	--	--	--	--
4/01/2024	*/Assessment	0.013 J1	0.24	38.3	0.22 J1	0.041	0.75	1.24	1.35	0.12	0.10 J1	0.0133	0.240	0.2 J1	0.11 J1	< 0.02 U1
9/10/2024	*/Assessment	< 0.008 U1	0.17	41.1	0.26 J1	0.052	0.34	1.46	2.08	0.09	0.11 J1	0.0156	0.097	< 0.1 U1	0.13 J1	0.03 J1
4/29/2025	*/Assessment	0.019 J1	0.23	40.5	0.213	0.045	0.51	1.42	0.62	0.14	0.12 J1	0.0139	0.130	< 0.1 U1	0.10 J1	0.02 J1
9/04/2025	Assessment	< 0.02 U1	0.16	41.2	0.22	0.046	0.38	1.44	2.47	0.13	0.12 J1	0.0124	0.073	< 0.05 U1	0.13 J1	0.03 J1

Table 1. Groundwater Data Summary: AD-4C
Welsh - BASP
Appendix III Constituents

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	S.U.	mg/L	mg/L
5/31/2016	Background	0.05	0.798	10	< 0.083 U1	5.4	32	204
7/27/2016	Background	0.03	0.666	12	< 0.083 U1	5.5	35	208
9/30/2016	Background	0.02	0.5	11	< 0.083 U1	5.0	45	212
10/19/2016	Background	0.04	0.578	10	< 0.083 U1	4.3	35	212
12/12/2016	Background	0.02	0.341	11	< 0.083 U1	4.6	36	252
1/19/2017	Background	0.02	0.761	10	< 0.083 U1	4.7	43	184
2/23/2017	Background	0.02	0.467	9	< 0.083 U1	5.1	40	196
6/07/2017	Background	0.03331	0.573	10	< 0.083 U1	4.9	39	228
10/06/2017	Detection	0.02565	0.654	11	< 0.083 U1	5.4	44	226
5/24/2018	Detection	0.02505	0.434	14	< 0.083 U1	5.2	42	224
8/14/2018	Detection	--	--	15	--	5.0	--	--
11/13/2018	Detection	0.01 J1	0.609	7.5	< 0.083 U1	5.8	56	220
12/18/2018	Detection	--	--	--	--	4.9	58	--
2/20/2019	Detection	0.01 J1	0.931	9.18	0.1 J1	5.2	60.1	242
4/30/2019	Detection	0.014	--	--	--	4.8	56.2	--
5/30/2019	**	< 0.02 U1	0.564	14.8	0.16	4.6	52.8	208
7/24/2019	Detection	< 0.02 U1	0.586	13	< 0.083 U1	3.9	52	284
12/19/2019	Detection	--	--	--	--	--	--	226
5/20/2020	Detection	< 0.02 U1	0.679	15.1	0.11	5.1	69.0	268
7/22/2020	Detection	--	--	--	--	4.7	71.8	280
10/13/2020	Detection	< 0.02 U1	0.613	13.1	0.18	4.9	76.1	278
12/10/2020	Detection	--	--	--	--	4.9	78.2	288
6/02/2021	Detection	0.038 J1	1.1	13.3	0.16	4.6	82.4	280
7/26/2021	Detection	--	1.4	--	--	4.6	71.9	280
10/20/2021	Detection	0.021 J1	0.8	14.3	0.15	4.3	76.8	280
6/28/2022	Detection	0.043 J1	1.08	14.1	0.12	4.8	83.6	280
8/26/2022	Detection	--	--	--	--	3.6	160	--
11/01/2022	Detection	0.068	1.42	19.1	0.1	4.9	142	370
2/07/2023	Detection	0.120	1.65	10.9	--	4.9	111	320
6/05/2023	Detection	0.061	0.93	18.7	0.13	5.1	87.9	290
7/27/2023	Detection	0.099	--	19.2	--	5.1	77.4	--
10/04/2023	Detection	0.207	1.67	13.0	0.13	5.0	115	320
12/14/2023	Detection	0.137	1.08	--	--	4.6	106	330
2/26/2024	Detection	--	--	--	--	5.1	--	--
4/01/2024	Detection	0.217	1.83	14.0	0.12	4.6	120	320
6/10/2024	Detection	0.176	1.56	--	--	4.2	--	--
9/10/2024	Detection	0.251	1.74	15.9	0.10	4.9	123	360 S7
11/04/2024	Detection	0.205	1.30	--	--	4.8	--	390
2/10/2025	**	--	--	--	--	4.6	--	370
4/29/2025	Detection	0.312	2.41	15.9	0.17	4.4	164	390
6/11/2025	Detection	0.406	3.28	--	--	4.5	--	--
9/02/2025	Assessment	0.352	2.63	14.8	0.16	4.5	174	410

Table 1. Groundwater Data Summary: AD-4C
Welsh - BASP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
5/31/2016	Background	< 0.93 U1	< 1.05 U1	88	0.407928 J1	< 0.07 U1	9	1.19093 J1	1.289	< 0.083 U1	< 0.68 U1	0.004	0.191	< 0.29 U1	1.12526 J1	< 0.86 U1
7/27/2016	Background	< 0.93 U1	< 1.05 U1	59	0.335947 J1	< 0.07 U1	4	0.852951 J1	0.571	< 0.083 U1	< 0.68 U1	0.015	0.185	1.09296 J1	2.52271 J1	< 0.86 U1
9/30/2016	Background	< 0.93 U1	1.51249 J1	74	0.274296 J1	< 0.07 U1	8	0.986752 J1	2.572	< 0.083 U1	< 0.68 U1	0.006	0.16	< 0.29 U1	1.95938 J1	< 0.86 U1
10/19/2016	Background	< 0.93 U1	1.74748 J1	69	0.347477 J1	0.0809157 J1	9	1.08565 J1	1.657	< 0.083 U1	< 0.68 U1	0.006	0.141	3.20217 J1	1.18291 J1	< 0.86 U1
12/12/2016	Background	< 0.93 U1	2.24683 J1	21	0.133622 J1	< 0.07 U1	0.944028 J1	0.305391 J1	0.685	< 0.083 U1	< 0.68 U1	0.004	0.143	< 0.29 U1	1.27423 J1	< 0.86 U1
1/19/2017	Background	< 0.93 U1	1.85604 J1	75	0.221609 J1	< 0.07 U1	4	1.02773 J1	2.045	< 0.083 U1	< 0.68 U1	0.005	0.125	< 0.29 U1	< 0.99 U1	< 0.86 U1
2/23/2017	Background	< 0.93 U1	< 1.05 U1	30	0.102645 J1	< 0.07 U1	0.421354 J1	0.364739 J1	0.517	< 0.083 U1	< 0.68 U1	0.004	0.098	< 0.29 U1	< 0.99 U1	< 0.86 U1
6/07/2017	Background	< 0.93 U1	1.19 J1	51.42	0.19 J1	0.08 J1	4.03	0.75 J1	0.953	< 0.083 U1	< 0.68 U1	0.00482	0.147	< 0.29 U1	< 0.99 U1	< 0.86 U1
5/30/2019	**	< 0.02 U1	0.55	31.1	< 0.4 U1	0.02 J1	0.386	0.484	0.2	0.16	0.09 J1	< 0.009 U1	0.206	< 0.4 U1	0.3	< 0.1 U1
6/02/2021	*	< 0.02 U1	0.37	55.8	0.14	0.025	0.37	0.508	0.48	0.16	< 0.05 U1	0.0045	0.150	0.2 J1	0.14 J1	< 0.04 U1
10/20/2021	*	0.03 J1	0.65	45.4	0.13	0.136	0.52	0.390	1.32	0.15	0.09 J1	0.0048	0.089	< 0.1 U1	0.59	< 0.04 U1
6/28/2022	*	< 0.02 U1	0.44	52.9	0.125	0.080	0.82	0.556	1.62	0.12	0.16 J1	0.00506	< 0.2 U1	< 0.1 U1	0.39 J1	< 0.04 U1
11/01/2022	*	0.02 J1	0.95	66.5	0.27	0.204	1.03	0.757	2.11	0.1	0.25	0.0085	0.120	< 0.1 U1	0.37 J1	0.06 J1
6/05/2023	*	0.010 J1	0.59	48.2	0.15 J1	< 0.004 U1	0.51	0.476	0.59	0.13	< 0.05 U1	0.0051	0.126	< 0.1 U1	0.27 J1	< 0.02 U1
10/04/2023	*	0.034 J1	0.61	88.8	0.208	0.999	0.81	0.841	1.73	0.13	0.30	0.00644	0.047	< 0.1 U1	0.78	0.04 J1
12/14/2023	**	--	--	--	--	--	--	--	3.07	--	--	--	--	--	--	--
4/01/2024	*/Assessment	0.016 J1	0.49	92.0	0.24 J1	0.018 J1	0.46	0.887	1.42	0.12	< 0.05 U1	0.0079	0.130	< 0.1 U1	0.29 J1	0.03 J1
9/10/2024	*/Assessment	0.014 J1	0.55	87.6	< 0.4 U1	0.132	0.71	0.864	3.21	0.10	0.16 J1	0.010 J1	0.065	< 0.1 U1	0.37 J1	0.02 J1
4/29/2025	*/Assessment	0.008 J1	0.49	87.6	0.34	0.015 J1	0.56	1.21	1.77	0.17	< 0.05 U1	0.0107	0.100	< 0.1 U1	0.36 J1	0.02 J1
9/02/2025	Assessment	< 0.02 U1	0.94	79.7	0.4 J1	0.179	0.83	1.29	4.09	0.16	0.08 J1	0.0120	0.092	< 0.05 U1	0.73	0.03 J1

Table 1. Groundwater Data Summary: AD-5
Welsh - BASP
Appendix III Constituents

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	S.U.	mg/L	mg/L
5/31/2016	Background	0.03	36.9	15	0.3469 J1	6.4	123	337
7/28/2016	Background	0.04	44.7	16	< 0.083 U1	5.4	163	360
9/30/2016	Background	0.04	46.3	15	0.2436 J1	5.3	190	416
10/20/2016	Background	0.05	50.7	14	< 0.083 U1	5.9	267	448
12/13/2016	Background	0.05	49.6	13	< 0.083 U1	6.2	233	484
1/17/2017	Background	0.04	49.8	14	< 0.083 U1	6.3	234	438
2/23/2017	Background	0.04	33	15	< 0.083 U1	5.5	127	286
6/07/2017	Background	0.05281	49.7	14	< 0.083 U1	6.0	82	300
10/06/2017	Detection	0.04322	33.1	16	< 0.083 U1	5.6	82	258
5/24/2018	Detection	0.05007	28.1	22	< 0.083 U1	6.2	60	242
8/15/2018	Detection	0.050	40.5	19	< 0.083 U1	6.2	240	428
2/21/2019	Detection	0.033	33.9	24.7	0.21	5.4	46.5	220
5/30/2019	**	0.03 J1	30.0	22.3	0.29	6.3	51.3	238
7/24/2019	Detection	0.04 J1	41.1	18	0.112 J1	6.3	90	354
2/17/2020	**	0.03 J1	39.8	19.8	0.22	5.5	43.7	248
5/20/2020	Detection	0.03 J1	40.2	22.3	0.18	6.8	55.5	264
10/14/2020	Detection	0.04 J1	36.6	18.8	0.18	6.5	148	338
2/23/2021	**	0.03 J1	30.9	--	0.23	6.0	--	--
6/02/2021	Detection	0.027 J1	24.4	19.6	0.21	5.8	53.8	220
10/20/2021	Detection	0.038 J1	38.4	17.4	0.17	5.6	155	370
6/28/2022	Detection	0.048 J1	32.9	15.3	0.15	5.9	146	310
11/01/2022	Detection	0.041 J1	38.6	16.9	0.16	5.9	185	380
6/06/2023	Detection	0.030 J1	26.5	16.1	0.15	5.8	114	280
10/04/2023	Detection	0.042 J1	35.2	17.5	0.17	6.6	132	290
4/02/2024	Detection	0.039 J1	26.0	32.9	0.18	5.7	41.4	210
9/10/2024	Detection	0.039 J1	33.2	22.5	0.16	6.3	114	310
4/29/2025	Detection	0.027 J1	22.5	24.3	0.20	5.5	64.8	220
9/02/2025	Assessment	--	--	--	--	5.6	--	--
9/03/2025	Assessment	0.076	42.2	17.1	0.21	--	103	290

Table 1. Groundwater Data Summary: AD-5
Welsh - BASP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
5/31/2016	Background	< 0.93 U1	< 1.05 U1	57	0.149801 J1	0.0765156 J1	0.555038 J1	14	1.634	0.3469 J1	< 0.68 U1	0.135	0.01135 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
7/28/2016	Background	2.05116 J1	2.90819 J1	93	0.518653 J1	0.502155 J1	0.411466 J1	15	4.75	< 0.083 U1	< 0.68 U1	0.191	0.01516 J1	< 0.29 U1	1.08901 J1	< 0.86 U1
9/30/2016	Background	< 0.93 U1	4.7609 J1	87	0.251584 J1	< 0.07 U1	0.90676 J1	14	3.33	0.2436 J1	< 0.68 U1	0.186	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
10/20/2016	Background	< 0.93 U1	< 1.05 U1	70	0.08781 J1	0.107488 J1	0.248085 J1	9	2.319	< 0.083 U1	< 0.68 U1	0.225	< 0.005 U1	1.36984 J1	< 0.99 U1	< 0.86 U1
12/13/2016	Background	< 0.93 U1	1.15381 J1	53	0.164529 J1	0.203546 J1	0.747921 J1	13	2.182	< 0.083 U1	< 0.68 U1	0.199	0.00802 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
1/17/2017	Background	< 0.93 U1	< 1.05 U1	47	0.0574718 J1	0.180502 J1	< 0.23 U1	12	1.023	< 0.083 U1	< 0.68 U1	0.239	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
2/23/2017	Background	< 0.93 U1	< 1.05 U1	42	0.0306858 J1	< 0.07 U1	< 0.23 U1	13	1.788	< 0.083 U1	< 0.68 U1	0.166	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
6/07/2017	Background	< 0.93 U1	3.85 J1	87.7	0.08 J1	0.39 J1	0.28 J1	11.93	2.32	< 0.083 U1	< 0.68 U1	0.124	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
5/24/2018	**	< 0.93 U1	< 1.05 U1	71.16	< 0.02 U1	0.23 J1	0.8 J1	14.24	1.946	< 0.083 U1	< 0.68 U1	0.121	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
8/15/2018	**	0.01 J1	1.69	63.7	0.055	0.008 J1	0.072	11.4	0.316	< 0.083 U1	0.079	0.147	< 0.005 U1	0.13	0.08 J1	< 10 U1
2/21/2019	**	0.02 J1	1.59	69.4	0.08 J1	< 0.01 U1	0.432	8.58	1.267	0.21	0.147	0.0807	< 0.005 U1	< 0.4 U1	0.1 J1	< 0.1 U1
5/30/2019	**	< 0.02 U1	3.05	60.5	0.08 J1	< 0.01 U1	0.06 J1	11.8	1.431	0.29	0.05 J1	0.104	0.006 J1	< 0.4 U1	0.05 J1	< 0.1 U1
7/24/2019	**	< 0.02 U1	2.48	77.4	0.05 J1	< 0.01 U1	0.05 J1	8.38	2.533	0.112 J1	< 0.05 U1	0.108	< 0.005 U1	< 0.4 U1	0.06 J1	< 0.1 U1
2/17/2020	**	0.03 J1	2.17	109	0.09 J1	0.02 J1	0.336	4.52	2.393	0.22	0.227	0.0732	< 0.002 U1	0.9 J1	0.2	< 0.1 U1
5/20/2020	**	< 0.02 U1	1.78	93.1	0.05 J1	0.01 J1	0.1 J1	7.65	1.612	0.18	0.07 J1	0.0740	< 0.002 U1	< 0.4 U1	0.09 J1	< 0.1 U1
10/14/2020	**	< 0.02 U1	6.28	71.7	0.09 J1	< 0.01 U1	0.09 J1	14.9	2.7	0.18	0.05 J1	0.134	< 0.002 U1	< 0.4 U1	0.1 J1	< 0.1 U1
2/23/2021	**	< 0.02 U1	2.06	68.3	0.03 J1	< 0.01 U1	0.1 J1	6.31	1.397	0.23	< 0.05 U1	0.0705	< 0.002 U1	< 0.4 U1	0.03 J1	< 0.1 U1
6/02/2021	*	< 0.02 U1	1.72	49.3	0.018 M1, J1	< 0.004 U1	0.26	10.5	2.47	0.21	< 0.05 U1	0.0764 M1	< 0.002 U1	0.1 J1	< 0.09 U1	< 0.04 U1
10/20/2021	*	< 0.02 U1	1.44	53.2	0.018 J1	< 0.004 U1	0.23	6.85	2.68	0.17	< 0.05 U1	0.133 M1	< 0.002 U1	< 0.1 U1	< 0.09 U1	< 0.04 U1
6/28/2022	*	< 0.02 U1	3.01	51.8	0.032 J1	< 0.004 U1	0.22	12.8	2.06	0.15	< 0.05 U1	0.161	< 0.002 U1	0.1 J1	< 0.09 U1	0.05 J1
11/01/2022	*	< 0.02 U1	2.77	63.2	0.046 J1	< 0.004 U1	0.43	15.1	3.88	0.16	< 0.05 U1	0.174	< 0.002 U1	< 0.1 U1	< 0.09 U1	< 0.04 U1
6/06/2023	*	0.010 J1	4.30	45.5	0.055	< 0.004 U1	0.24 J1	9.47	1.72	0.15	< 0.05 U1	0.106	< 0.002 U1	< 0.1 U1	0.06 J1	< 0.02 U1
10/04/2023	*	< 0.008 U1	2.94	63.9	0.049 J1	< 0.004 U1	0.30	12.8	3.57	0.17	< 0.05 U1	0.143	< 0.002 U1	< 0.1 U1	0.05 J1	< 0.02 U1
4/02/2024	*/Assessment	0.015 J1	2.94	78.4	0.063	0.007 J1	0.26 J1	11.5	2.34	0.18	0.06 J1	0.0753	< 0.002 U1	0.1 J1	0.08 J1	0.03 J1
9/10/2024	*/Assessment	< 0.008 U1	1.26	62.3	< 0.4 U1	0.010 J1	0.31	10.1	2.10	0.16	0.07 J1	0.152	< 0.002 U1	< 0.1 U1	0.06 J1	< 0.02 U1
4/29/2025	*/Assessment	0.008 J1	2.88	48.1	0.080	< 0.004 U1	0.41	10.3	1.08	0.20	< 0.05 U1	0.0933	< 0.002 U1	< 0.1 U1	< 0.04 U1	< 0.02 U1
9/03/2025	Assessment	< 0.02 U1	2.32	65.3	0.05	< 0.004 U1	0.38	12.3	1.33	0.21	0.08 J1	0.155	< 0.002 U1	0.23 J1	0.05 J1	< 0.02 U1

Table 1. Groundwater Data Summary: AD-16R
Welsh - BASP
Appendix III Constituents

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	S.U.	mg/L	mg/L
6/06/2017	Background	0.04198	2.75	7	0.3438 J1	3.7	54	204
6/28/2017	Background	0.06398	1.24	6	0.2512 J1	3.9	55	200
7/07/2017	Background	0.02699	2.07	36	< 0.083 U1	3.4	52	184
7/14/2017	Background	0.04415	2.39	6	0.2516 J1	3.5	44	160
7/21/2017	Background	0.03237	2.5	7	0.2615 J1	3.5	54	180
7/28/2017	Background	0.02841	1.92	7	< 0.083 U1	2.8	48	162
8/02/2017	Background	0.03177	1.86	7	< 0.083 U1	3.0	49	174
8/11/2017	Background	0.06192	1.83	8	< 0.083 U1	4.1	44	164
8/18/2017	Background	0.0304	1.44	7	< 0.083 U1	3.4	46	160
8/31/2017	Background	0.02841	1.33	7	< 0.083 U1	3.9	63	152
10/06/2017	Detection	0.04672	0.896	7	< 0.083 U1	3.3	82	152
1/18/2018	Detection	--	--	--	--	4.0	58.6	--
5/23/2018	Detection	0.03202	2.53	6	< 0.083 U1	3.8	67	204
8/14/2018	Detection	--	--	--	--	3.9	44	--
11/13/2018	Detection	0.02 J1	0.467	6.5	< 0.083 U1	5.6	54	186
2/20/2019	Detection	0.03 J1	2	6.78	0.2	4.7	52.8	200
4/30/2019	Detection	0.015	--	--	--	3.9	--	--
5/29/2019	**	< 0.02 U1	1.36	5.43	0.19	3.9	41.6	80
7/24/2019	Detection	0.03 J1	1.50	7	0.13 J1	3.6	70	250
12/19/2019	Detection	--	--	--	--	--	--	134
5/20/2020	Detection	0.02 J1	1.54	7.09	0.16	3.4	71.4	242
7/22/2020	Detection	--	--	--	--	3.2	--	224
10/14/2020	Detection	0.02 J1	0.550	6.50	0.14	3.3	53.1	183
6/02/2021	Detection	0.028 J1	1.0	7.02	0.28	3.7	65.4	190
10/20/2021	Detection	0.019 J1	0.4	7.12	0.11	3.6	39.0	170
6/27/2022	Detection	0.026 J1	0.34	7.21	0.10	3.2	46.5	170
11/01/2022	Detection	0.019 J1	0.32	7.96	0.10	3.4	48.1	150
2/07/2023	Detection	--	--	6.85	--	3.7	--	--
6/06/2023	Detection	0.019 J1	0.35	6.90	0.06	3.4	50.4	170
10/04/2023	Detection	0.021 J1	0.29	6.85	0.08	3.6	50.6	170
12/14/2023	Detection	--	--	--	--	3.7	--	--
4/02/2024	Detection	0.033 J1	0.54	6.68	0.10	2.7	66.5	170
6/10/2024	Detection	--	--	--	--	3.6	--	--
9/10/2024	Detection	0.020 J1	0.32	7.30	0.05 J1	2.5	44.7	180
11/04/2024	Detection	--	--	--	--	3.7	--	--
4/29/2025	Detection	0.025 J1	0.44	7.17	0.16	3.4	54.5	200
9/02/2025	Assessment	0.024 J1	0.31	7.53	0.08	3.3	41.7	150

Table 1. Groundwater Data Summary: AD-16R
Welsh - BASP
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
6/06/2017	Background	< 0.93 U1	7.07	46.4	2.21	1.03	1.76	41.74	6.66	0.3438 J1	< 0.68 U1	0.0293	< 0.005 U1	< 0.29 U1	1.98 J1	< 0.86 U1
6/28/2017	Background	< 0.93 U1	5.28	41.43	2.16	0.92 J1	0.95 J1	40.87	12.11	0.2512 J1	< 0.68 U1	0.02932	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
7/07/2017	Background	< 0.93 U1	4.13 J1	44.56	2.08	0.97 J1	1.44	41.75	25.16	< 0.083 U1	< 0.68 U1	0.02846	< 0.005 U1	< 0.29 U1	2.09 J1	1.2 J1
7/14/2017	Background	< 0.93 U1	6.31	54.35	2.01	1.09	0.84 J1	37.88	9.12	0.2516 J1	< 0.68 U1	0.02391	0.009 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
7/21/2017	Background	< 0.93 U1	3.88 J1	51.06	2.09	1.02	1.43	40.86	9.81	0.2615 J1	< 0.68 U1	0.02653	< 0.005 U1	< 0.29 U1	1 J1	< 0.86 U1
7/28/2017	Background	< 0.93 U1	3.7	48.51	2.17	1.28	1.07	45.33	8.52	< 0.083 U1	< 0.68 U1	0.02617	0.006 J1	< 0.29 U1	1.27 J1	1.43 J1
8/02/2017	Background	< 0.93 U1	4.46 J1	49.61	2.06	1.22	0.95 J1	43.11	5.45	< 0.083 U1	< 0.68 U1	0.02498	< 0.005 U1	< 0.29 U1	1.74	2.02
8/11/2017	Background	< 0.93 U1	4.93 J1	47.52	1.89	1.13	0.96 J1	40.37	--	< 0.083 U1	< 0.68 U1	0.02347	0.008 J1	< 0.29 U1	1.36 J1	< 0.86 U1
8/18/2017	Background	< 0.93 U1	2.35 J1	43.85	1.91	1.08	0.8 J1	40.05	5.56	< 0.083 U1	< 0.68 U1	0.02466	0.009 J1	< 0.29 U1	< 0.99 U1	0.92 J1
8/31/2017	Background	< 0.93 U1	2.12 J1	44.14	1.75	1.04	1.18	37.56	6.68	< 0.083 U1	< 0.68 U1	0.02429	0.006 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
5/29/2019	**	0.02 J1	1.76	72.4	0.424	0.08	0.334	4.38	4.41	0.19	0.06 J1	0.01 J1	0.296	< 0.4 U1	0.6	0.2 J1
6/02/2021	*	< 0.02 U1	1.70	40.3	1.49	0.667	0.89	33.9	2.98	0.28	0.10 J1	0.0202	0.021	< 0.1 U1	1.63	0.47
10/20/2021	*	< 0.02 U1	2.00	46.6	0.812	0.773	0.91	28.4	6.33	0.11	0.24	0.0139	0.014	< 0.1 U1	0.64	0.54
6/27/2022	*	< 0.02 U1	0.47	42.4	0.911	0.723	0.74	29.4	14.77	0.10	0.17 J1	0.0187	0.033	< 0.1 U1	0.83	0.50
11/01/2022	*	0.04 J1	0.67	48.8	1.03	0.737	0.92	27.2	7.57	0.10	0.34	0.0179	0.058	< 0.1 U1	0.74	0.53
6/06/2023	*	0.011 J1	0.81	39.7	1.10	0.681	0.64	27.1	6.89	0.06	0.29	0.0197	0.016	< 0.1 U1	1.07	0.48
10/04/2023	*	< 0.008 U1	0.47	45.3	0.873	0.709	0.56	24.8	7.61	0.08	0.20	0.0159	0.017	< 0.1 U1	0.71	0.46
12/14/2023	**	--	--	--	--	--	--	--	33.73	--	--	--	--	--	--	--
4/02/2024	*/Assessment	< 0.008 U1	0.72	35.5	1.66	0.834	0.79	37.3	9.43	0.10	0.19 J1	0.0268	0.010	< 0.1 U1	1.52	0.55
9/10/2024	*/Assessment	< 0.008 U1	0.67	47.5	1.2 J1	0.713	0.78	29.7	13.39	0.05 J1	0.36	0.022	0.006	< 0.1 U1	0.82	0.54
4/29/2025	*/Assessment	0.013 J1	0.61	34.5	1.72	0.791	0.84	35.8	15.65	0.16	0.20	0.0317	0.005	< 0.1 U1	1.16	0.53
9/02/2025	Assessment	< 0.02 U1	0.59	49.0	1.1	0.649	0.73	27.0	8.15	0.08	0.35	0.0209	0.003 J1	< 0.05 U1	0.85	0.51

Table 1. Groundwater Data Summary: AD-17
Welsh - BASP
Appendix III Constituents

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	S.U.	mg/L	mg/L
5/26/2016	Background	0.121	200	43	0.4023 J1	7.2	1166	1810
7/27/2016	Background	0.119	195	32	0.4135 J1	5.7	1005	1576
9/30/2016	Background	0.111	191	36	0.3055 J1	6.2	1055	1663
10/20/2016	Background	0.124	194	32	0.583 J1	6.1	1163	1612
12/13/2016	Background	0.135	196	31	0.5399 J1	6.0	1096	1560
1/17/2017	Background	0.101	196	33	< 0.083 U1	5.9	1445	1686
2/22/2017	Background	0.135	189	30	< 0.083 U1	5.7	1055	1628
6/06/2017	Background	0.121	188	30	< 0.083 U1	5.8	1105	1578
10/05/2017	Detection	0.183	183	31	< 0.083 U1	5.9	1090	1548
5/24/2018	Detection	0.239	193	39	< 0.083 U1	6.3	1067	1836
8/15/2018	Detection	0.118	187	40	< 0.083 U1	5.6	1168	1748
2/21/2019	Detection	0.151	207	43.2	0.18	6.9	1060	1722
5/30/2019	**	0.158	202	41.7	< 0.04 U1	6.1	1120	1546
7/24/2019	Detection	0.113	216	37	0.085 J1	6.0	1127	1864
2/17/2020	**	0.104	184	36.0	0.16	5.9	1070	1750
5/20/2020	Detection	0.115	250	47.7	0.15	5.7	1190	1890
10/14/2020	Detection	0.100	185	35.7	0.17	5.4	1060	1720
2/23/2021	**	0.098	168	--	0.17	5.6	--	--
6/02/2021	Detection	0.124	233	44.9	0.31	5.7	1210	1890
10/20/2021	Detection	0.104	164	37.3	0.16	5.1	1040	1710
6/28/2022	Detection	0.112	167	37.0	0.09 J1	5.2	1050	1740
11/01/2022	Detection	0.097	165	40.3	0.09 J1	5.7	1110	1690
6/06/2023	Detection	0.10 J1	150	35.6	< 0.05 U1	5.3	1190	1510
10/04/2023	Detection	0.14 J1	176 M1	37.9	0.06 J1	5.8	1180	1520
4/01/2024	Detection	0.096	131	31.8	0.13 J1	5.4	950	1280
9/10/2024	Detection	0.106	172	38.4	< 0.05 U1	5.4	1110	1580 S7
4/29/2025	Detection	0.106	201	41.4	0.11 J1	6.0	993	1600
9/02/2025	Assessment	0.122	169	38.5	0.13 J1	5.6	1030	1660

Table 1. Groundwater Data Summary: AD-17
Welsh - BASP
Appendix IV Constituents

Geosyntec Consultants, Inc.

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
5/26/2016	Background	< 0.93 U1	1.37501 J1	21	0.173275 J1	2	1	63	1.525	0.4023 J1	< 0.68 U1	0.37	0.032	< 0.29 U1	< 0.99 U1	< 0.86 U1
7/27/2016	Background	1.13716 J1	< 1.05 U1	20	0.307264 J1	4	1	68	2.78	0.4135 J1	< 0.68 U1	0.374	0.02133 J1	1.04115 J1	4.56733 J1	< 0.86 U1
9/30/2016	Background	< 0.93 U1	< 1.05 U1	31	0.175474 J1	0.848199 J1	3	58	2.358	0.3055 J1	< 0.68 U1	0.354	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
10/20/2016	Background	< 0.93 U1	< 1.05 U1	34	0.200656 J1	2	4	65	2.224	0.583 J1	< 0.68 U1	0.394	< 0.005 U1	0.322249 J1	3.34422 J1	< 0.86 U1
12/13/2016	Background	< 0.93 U1	< 1.05 U1	17	0.0498325 J1	3	0.816224 J1	68	2.384	0.5399 J1	< 0.68 U1	0.323	0.01485 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
1/17/2017	Background	< 0.93 U1	< 1.05 U1	14	0.0319852 J1	3	68	68	2.436	< 0.083 U1	< 0.68 U1	0.341	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
2/22/2017	Background	< 0.93 U1	< 1.05 U1	20	0.0665729 J1	2	1	73	2.288	< 0.083 U1	< 0.68 U1	0.331	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
6/06/2017	Background	< 0.93 U1	< 1.05 U1	10.33	< 0.02 U1	6.06	< 0.23 U1	74.8	1.598	< 0.083 U1	< 0.68 U1	0.329	0.013 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
5/24/2018	**	< 0.93 U1	< 1.05 U1	9.65	< 0.02 U1	6.46	< 0.23 U1	71.73	1.939	< 0.083 U1	< 0.68 U1	0.308	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
8/15/2018	**	0.02 J1	1.83	12.8	0.069	0.25	0.604	43.5	2.35	< 0.083 U1	1.10	0.243	0.011 J1	0.35	0.3	0.074
2/21/2019	**	0.08 J1	2.51	120	0.24	0.27	3.34	64.5	2.657	0.18	2.49	0.268	0.007 J1	0.7 J1	0.8	< 0.1 U1
5/30/2019	**	< 0.02 U1	0.41	19.6	0.02 J1	0.03 J1	0.246	51.1	2.508	< 0.04 U1	0.03 J1	0.341	< 0.005 U1	< 0.4 U1	0.06 J1	< 0.1 U1
7/24/2019	**	< 0.02 U1	1.07	14.3	0.130	0.03 J1	0.228	57.7	3.45	0.085 J1	0.263	0.283	< 0.005 U1	< 0.4 U1	0.1 J1	< 0.1 U1
2/17/2020	**	< 0.02 U1	0.72	9.6	0.04 J1	< 0.01 U1	0.08 J1	42.3	3.46	0.16	< 0.05 U1	0.273	< 0.004 U1	< 0.4 U1	< 0.03 U1	< 0.1 U1
5/20/2020	**	< 0.02 U1	0.86	11.4	0.07 J1	0.02 J1	0.231	70.0	2.76	0.15	0.08 J1	0.302	< 0.002 U1	< 0.4 U1	0.09 J1	< 0.1 U1
10/14/2020	**	< 0.02 U1	0.84	10.9	0.04 J1	0.01 J1	0.327	45.4	2.169	0.17	0.2 J1	0.274	< 0.002 U1	< 0.4 U1	0.06 J1	< 0.1 U1
2/23/2021	**	< 0.02 U1	0.61	10.6	0.03 J1	0.03 J1	0.1 J1	41.1	1.433	0.17	0.08 J1	0.249	< 0.002 U1	< 0.4 U1	0.04 J1	< 0.1 U1
6/02/2021	*	< 0.02 U1	0.84	10.9	0.066	0.026	0.38	72.9	2.40	0.31	0.09 J1	0.311	< 0.002 U1	0.2 J1	< 0.09 U1	< 0.04 U1
10/20/2021	*	< 0.02 U1	0.57	10.2	0.035 J1	0.019 J1	0.38	42.9	1.73	0.16	0.07 J1	0.250	< 0.002 U1	< 0.1 U1	< 0.09 U1	0.05 J1
6/28/2022	*	< 0.02 U1	0.53	12.6	0.040 J1	0.011 J1	0.40	41.3	6.54	0.09 J1	0.12 J1	0.267	0.003 J1	0.1 J1	< 0.09 U1	< 0.04 U1
11/01/2022	*	0.02 J1	0.62	12.7	0.073	0.019 J1	0.96	41.9	3.81	0.09 J1	0.27	0.278	0.004 J1	< 0.1 U1	< 0.09 U1	< 0.04 U1
6/06/2023	*	< 0.08 U1	1.1	19.6	0.11 J1	< 0.04 U1	1.1 J1	36.8	1.42	< 0.05 U1	0.7 J1	0.254	0.003 J1	< 1 U1	0.5 J1	< 0.2 U1
10/04/2023	*	< 0.08 U1	0.5 J1	11.8	< 0.07 U1	< 0.04 U1	1.3 J1	41.2	2.05	0.06 J1	< 0.5 U1	0.305 M1	< 0.002 U1	< 1 U1	< 0.4 U1	< 0.2 U1
4/01/2024	*/Assessment	0.012 J1	0.34	12.7	0.023 J1	0.010 J1	0.31	30.3	1.65	0.13 J1	0.07 J1	0.197	< 0.002 U1	< 0.1 U1	0.32 J1	< 0.02 U1
9/10/2024	*/Assessment	< 0.008 U1	0.35	14.0	0.035 J1	0.014 J1	0.31	42.6	5.99	< 0.05 U1	0.06 J1	0.254	0.003 J1	< 0.1 U1	< 0.04 U1	< 0.02 U1
4/29/2025	*/Assessment	0.019 J1	0.81	9.95	0.079	0.007 J1	0.56	61.6	1.30	0.11 J1	0.16 J1	0.285	< 0.002 U1	0.1 J1	0.32 J1	0.02 J1
9/02/2025	Assessment	0.03 J1	0.46	10.6	0.05	0.005 J1	0.47	43.9	3.61	0.13 J1	0.07 J1	0.277	< 0.002 U1	0.16 J1	0.11 J1	< 0.02 U1

Notes:
1. Combined radium values were calculated from the sum of the reported radium-226 and radium-228 results.
Radium data quality flags were not included. Reported negative radium-226 or radium-228 results were replaced with zero.
*: Sample was collected for Appendix IV constituents to update the background dataset prior to closure determination under 40 CFR 257.102(c).
**: Sample is not associated with a specific monitoring program.
--: Not analyzed
<: Non-detect value. Analytes which were not detected are shown as less than the method detection limit (MDL) followed by a 'U1' flag.
In analytical data prior to 5/18/2021, U1 flags were reported as U in the analytical report.
J1: Concentration estimated. Analyte was detected between the method detection limit and the reporting limit.
In analytical data prior to 5/18/2021, J1 flags were reported as J in the analytical report.
M1: The associated matrix spike (MS) or matrix spike duplicate (MSD) recovery was outside acceptance limits.
mg/L: milligrams per liter
P1: The precision between duplicate results was above acceptance limits.
pCi/L: picocuries per liter
S7: Sample did not achieve constant weight.
SU: standard unit
µg/L: micrograms per liter

APPENDIX 2

Where applicable, shown in this appendix are the results from statistical analyses, and a description of the statistical analysis method chosen.

Geosyntec consultants

engineers | scientists | innovators

STATISTICAL ANALYSIS SUMMARY
APPENDIX IV ANALYSES
BOTTOM ASH STORAGE POND

J. Robert Welsh Plant
Pittsburg, Texas

Prepared for

American Electric Power
1 Riverside Plaza
Columbus, Ohio 43215-2372

Prepared by

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Project Number: CHA8500B

December 2024

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY 1

2. BOTTOM ASH STORAGE POND EVALUATION 2
   2.1 Data Validation and QA/QC 2
   2.2 Statistical Analysis 2
      2.2.1 Evaluation of Potential Appendix IV SSLs 2
   2.3 Conclusions 3

3. REFERENCES 4

LIST OF TABLES

Table 1: Groundwater Data Summary

Table 2: Appendix IV Groundwater Protection Standards

LIST OF ATTACHMENTS

Attachment A: Certification by Qualified Professional Engineer

Attachment B: Data Quality Review Memorandum

Attachment C: Statistical Analysis Output

ACRONYMS AND ABBREVIATIONS

AEP	American Electric Power
BASP	Bottom Ash Storage Pond
CCR	coal combustion residual
GWPS	groundwater protection standard
pCi/L	picocuries per liter
QA/QC	quality assurance/quality control
SSL	statistically significant level
TCEQ	Texas Commission on Environmental Quality

1. EXECUTIVE SUMMARY

Groundwater monitoring has been conducted at the Bottom Ash Storage Pond (BASP), an existing coal combustions residuals (CCR) unit at the J. Robert Welsh Power Plant in Pittsburg, Texas, in accordance with Texas Commission on Environmental Quality (TCEQ) regulations regarding the disposal of CCR in landfills and surface impoundments (Texas Administrative Code, Title 30, Chapter 352). Recent groundwater monitoring results were used to identify whether any concentrations of Appendix IV constituents statistically exceed the site-specific groundwater protection standards (GWPSs).

Before October 2017, at least eight monitoring events were completed to establish background concentrations and calculate prediction limits for Appendix III and Appendix IV parameters under the CCR rule (Geosyntec 2018). Following the background monitoring period, Welsh BASP initiated detection monitoring. Closure of the BASP was initiated in April 2021 (American Electric Power [AEP] 2022). Closure activities are ongoing and involve removal of CCR from the unit (AEP 2023).

Groundwater samples were collected in September 2024 for the Appendix IV constituents to support an evaluation of whether closure by removal is complete. Before the statistical analyses were conducted, the groundwater data underwent several validation tests, including those for completeness, sample tracking accuracy, transcription errors, and consistent use of measurement units. No data quality issues that would impact data usability were identified.

The monitoring data were submitted to Groundwater Stats Consulting, LLC for statistical analysis. Confidence intervals were calculated for Appendix IV constituent data at the compliance wells to assess whether any were present at statistically significant levels (SSLs) above the corresponding GWPS. An SSL was identified for combined radium. Certification of the selected statistical methods by a qualified professional engineer is documented in Attachment A.

2. BOTTOM ASH STORAGE POND EVALUATION

2.1 Data Validation and QA/QC

One set of samples was collected for analysis in September 2024. Samples were collected from each background and compliance well and analyzed for all Appendix IV parameters. A summary of data used in statistical analyses may be found in Table 1.

Chemical analysis was completed by a National Environmental Laboratory Accreditation Program-certified analytical laboratory. The laboratory completed analysis of quality assurance and quality control (QA/QC) samples such as laboratory reagent blanks, continuing calibration verification samples, and laboratory fortified blanks.

A data quality review was completed to assess whether the data met the objectives outlined in TCEQ Draft Technical Guidance No. 32 related to groundwater sampling and analysis (TCEQ 2020). Data from 2021 onwards, inclusive of the downgradient dataset used in the statistical evaluation, where included in the review. As noted in the review memoranda (Attachment B), the data were determined usable for supporting project objectives. The analytical data were imported into a Microsoft Access database, where checks were completed to assess the accuracy of sample location identification and analyte identification. Where necessary, unit conversions were applied to standardize reported units across all sampling events. Exported data files were created for use with the Sanitas™ v.10.0.23a statistics software. The export file was checked against the analytical data for transcription errors and completeness.

2.2 Statistical Analysis

Statistical analyses for the BASP were conducted in accordance with the December 2021 Statistical Analysis Plan (Geosyntec 2021). Time series plots and results for all completed statistical tests are provided in Attachment C. The data collected in September 2024 were screened for potential outliers. No outliers were identified for this event.

2.2.1 Evaluation of Potential Appendix IV SSLs

A confidence interval was constructed for each Appendix IV parameter at each compliance well using data collected from June 2021 through September 2024. Confidence limits were generally calculated parametrically ($\alpha = 0.01$), but nonparametric confidence limits were calculated in some cases (e.g., when the data did not appear to be normally distributed or when the nondetect frequency was too high). An SSL was concluded if the lower confidence limit was above the GWPS (i.e., if the entire confidence interval was above the GWPS). The calculated confidence limits (Attachment C) were compared to the GWPS provided in Table 2. The GWPSs were established as either the greater value of the background concentration calculated during a previous statistical analysis or the maximum contaminant level (Geosyntec 2024).

The following SSL was identified at the Welsh BASP:

- The LCL for combined radium was above the GWPS of 5.00 picocuries per liter (pCi/L) at AD-16R (6.33 pCi/L).

2.3 Conclusions

Groundwater monitoring and statistical analyses of Appendix IV parameters were conducted in accordance with the TCEQ CCR Rule to support an evaluation of closure progress. The laboratory and field data were reviewed prior to statistical analysis, with no QA/QC issues identified that prevented data usage. A review of outliers identified potential outliers in the data collected in September 2024. No outliers were identified for this event. A confidence interval was constructed at each compliance well for each Appendix IV parameter; SSLs were concluded if the entire confidence interval was above the GWPS. An SSL was identified for combined radium.

3. REFERENCES

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TABLES

Table 1. Groundwater Data Summary
Statistical Analysis Summary
Welsh Plant - Bottom Ash Storage Pond

Parameter	Unit	AD-1	AD-3	AD-4C	AD-5	AD-16R	AD-17
		Background	Compliance	Compliance	Background	Compliance	Background
		9/10/2024	9/10/2024	9/10/2024	9/10/2024	9/10/2024	9/10/2024
Antimony	µg/L	0.029 J1	0.1 U1	0.014 J1	0.1 U1	0.1 U1	0.1 U1
Arsenic	µg/L	0.19	0.17	0.55	1.26	0.67	0.35
Barium	µg/L	83.9	41.1	87.6	62.3	47.5	14.0
Beryllium	µg/L	2.2 J1	0.26 J1	2.5 U1	2.5 U1	1.2 J1	0.035 J1
Cadmium	µg/L	0.039	0.052	0.132	0.010 J1	0.713	0.014 J1
Chromium	µg/L	0.44	0.34	0.71	0.31	0.78	0.31
Cobalt	µg/L	4.72	1.46	0.864	10.1	29.7	42.6
Combined Radium	pCi/L	4.7	2.08	3.21	2.1	13.39	5.99
Fluoride	mg/L	0.43	0.09	0.10	0.16	0.05 J1	0.15 U1
Lead	µg/L	0.21	0.11 J1	0.16 J1	0.07 J1	0.36	0.06 J1
Lithium	mg/L	0.011 J1	0.0156	0.010 J1	0.152	0.022	0.254
Mercury	µg/L	0.002 J1	0.097	0.065	0.005 U1	0.006	0.003 J1
Molybdenum	µg/L	0.5 U1	0.5 U1	0.5 U1	0.5 U1	0.5 U1	0.5 U1
Selenium	µg/L	11.3	0.13 J1	0.37 J1	0.06 J1	0.82	0.5 U1
Thallium	µg/L	0.06 J1	0.03 J1	0.02 J1	0.2 U1	0.54	0.2 U1

Notes:
--: Not analyzed
J1: Estimated value. Parameter was detected in concentrations below the reporting limit.
mg/L: milligrams per liter
pCi/L: picocuries per liter
SU: standard unit
U1: Non-detect value. For statistical analysis, parameters that were not detected were replaced with the reporting limit.
µg/L: micrograms per liter

Table 2. Appendix IV Groundwater Protection Standards
Statistical Analysis Summary
Welsh Plant – Bottom Ash Storage Pond

Geosyntec Consultants, Inc.

Constituent Name	MCL	Calculated UTL	GWPS
Antimony, Total (mg/L)	0.00600	0.00317	0.00600
Arsenic, Total (mg/L)	0.0100	0.00628	0.0100
Barium, Total (mg/L)	2.00	0.510	2.00
Beryllium, Total (mg/L)	0.00400	0.00220	0.00400
Cadmium, Total (mg/L)	0.00500	0.00400	0.00500
Chromium, Total (mg/L)	0.100	0.00500	0.100
Cobalt, Total (mg/L)	n/a	0.0748	0.0748
Combined Radium, Total (pCi/L)	5.00	4.72	5.00
Fluoride, Total (mg/L)	4.00	0.583	4.00
Lead, Total (mg/L)	n/a	0.00110	0.00110
Lithium, Total (mg/L)	n/a	0.394	0.394
Mercury, Total (mg/L)	0.00200	0.0000330	0.00200
Molybdenum, Total (mg/L)	n/a	0.00243	0.00243
Selenium, Total (mg/L)	0.0500	0.0113	0.0500
Thallium, Total (mg/L)	0.00200	0.00125	0.00200

Notes:

1. Calculated UTL (upper tolerance limit) represents site-specific background values.
2. Grey cells indicate the GWPS is based on the calculated UTL. Either the UTL is higher than the MCL or an MCL does not exist.

GWPS: groundwater protection standard

MCL: maximum contaminant level

mg/L: milligrams per liter

n/a: not applicable

pCi/L: picocuries per liter

ATTACHMENT A
Certification by Qualified Professional Engineer

Certification by Qualified Professional Engineer

I certify that selected and above described statistical method is appropriate for evaluating the groundwater monitoring data for the Welsh Bottom Ash Storage Pond CCR management area as required by § 352.931 for Appendix IV constituents.



David Anthony Miller

Printed Name of Licensed Professional Engineer

David Anthony Miller

Signature

112498	**Texas**	**03.18.2025**
License Number	Licensing State	Date

ATTACHMENT B
Data Quality Review Memorandum

Geosyntec consultants

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Worthington, Ohio 43085
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Memorandum

Date:	December 20, 2024
To:	David Miller (AEP)
Copies to:	Pryce Warren (AEP)
From:	Allison Kreinberg (Geosyntec)
Subject:	Data Quality Review – Welsh Power Plant Bottom Ash Storage Pond September 2024 Sampling Event

This memorandum summarizes the findings of a data quality review for groundwater samples collected at the Welsh Power Plant, located in Pittsburg, Texas in September 2024. The groundwater samples were collected from the Bottom Ash Storage Pond groundwater monitoring network to comply with the Texas Commission on Environmental Quality's (TCEQ's) regulations regarding the disposal of coal combustion residuals (CCRs) in landfills and surface impoundments (Title 30 Chapter 352, "CCR Rule"). These samples were analyzed for select 40 CFR 257 Appendix III and Appendix IV constituents.

The following sample data groups (SDGs) were associated with the three groundwater samples collected during the September 2024 sampling event and are reviewed in this memorandum:

- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 242751
- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 242777

The data included in these SDGs were reviewed to assess if they met the objectives outlined in TCEQ Draft Technical Guideline No. 32[1] prior to submittal of this data to TCEQ.

The following data quality issues were identified:

- As reported in SDG 242777, chromium was detected in the field blank sample "Field Blank-BASP" collected on 9/10/2024. The estimated detected chromium concentration in the field blank (0.25 µg/L) was more than 10% of the detected values for chromium in all

[1] TCEQ. Topic: Coal Combustion Residuals (CCR) Groundwater Monitoring and Corrective Action: Technical Guidance No. 32. May 2020.

groundwater samples, which could result in high bias for all groundwater chromium results.

- As reported in SDG 242777, chromium was detected in the equipment blank sample "Equipment Blank-BASP" collected on 9/10/2024. The estimated detected chromium concentration in the equipment blank (0.25 µg/L) was more than 10% of the detected values for chromium in all groundwater samples, which could result in high bias for all groundwater chromium results.

- As reported in SDG 242777, the antimony result for parent sample "AD-3" was nondetect (<0.008 µg/L) and the antimony result for duplicate sample "Duplicate - BASP" was a detection (0.010 µg/L); therefore, the relative percent difference (RPD) could not be calculated. The beryllium result for AD-3 was a detection (0.26 µg/L) and the beryllium result for "Duplicate – BASP" was nondetect (<0.4 µg/L); therefore, the RPD could not be calculated. The AD-3 antimony and beryllium results should be considered estimated.

- As reported in SDG 242777, the matrix spike duplicate (MSD) recovery for radium-228 (55.5%) was below the acceptable limit of 60%. The associated sample (AD-3) was flagged M1: the associated matrix spike (MS) or MSD recovery was outside acceptance limits. The RPD for the radium-228 MS/MSD pair associated with this sample (28.8%) was above the acceptable limit of 25%. The associated sample (AD-3) was flagged P3: the precision on the matrix spike duplicate (MSD) was above acceptance limits. The AD-3 radium-228 result should be considered estimated.

- As reported in SDG 242751, the AD-4C sample collected on 9/10/2024 for total dissolved solids (TDS) was flagged S7: sample did not achieve constant weight. The AD-4C TDS result should be considered estimated.

Based on these findings, the majority of the data reported in these SDGs are considered accurate and complete. Although the QC failures mentioned above will result in some limitations of data use since the affected results are considered estimated or have elevated reporting limits, the data are considered usable for supporting project objectives.

ATTACHMENT C
Statistical Analysis Output

GROUNDWATER STATS CONSULTING

December 16, 2024

Geosyntec Consultants
Attn: Ms. Allison Kreinberg
500 W. Wilson Bridge Road, Suite 250
Worthington, OH 43085

Re: Welsh BASP – September 2024 Assessment Monitoring Report

Dear Ms. Kreinberg,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the statistical analysis of groundwater data for the September 2024 Assessment Monitoring report for American Electric Power Inc.'s Welsh BASP. The analysis complies with the Texas Commission of Environmental Quality Rule 30 TAC 352 as well as with the United States Environmental Protection Agency (USEPA) Unified Guidance (2009).

Sampling began at the site for the Coal Combustion Residual (CCR) program in 2016. The monitoring well network, as provided by Geosyntec Consultants, consists of the following:

- **Upgradient wells:** AD-1, AD-5, and AD-17
- **Downgradient wells:** AD-3, AD-4C, and AD-16R

Data were sent electronically, and the statistical analysis was reviewed by Dr. Jim Loftis, Civil & Environmental Engineering professor emeritus at Colorado State University and Senior Advisor to Groundwater Stats Consulting. The analysis was conducted according to the Statistical Analysis Plan prepared by GSC and approved by Dr. Cameron, PhD Statistician with MacStat Consulting, primary author of the USEPA Unified Guidance, and Senior Advisor to GSC.

The CCR Assessment Monitoring program consists of the following constituents:

- **Appendix IV** (Assessment Monitoring) **–** antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226 + 228, fluoride, lead, lithium, mercury, molybdenum, selenium, and thallium

Time series plots for Appendix IV parameters are provided for all wells and constituents; and are used to evaluate concentrations over the entire record (Figure A). Additionally, box plots are included for all constituents at upgradient and downgradient wells (Figure B). For all constituents, a substitution of the most recent reporting limit is used for non-detect data. Note that due to elevated reporting limits earlier in the records for fluoride, lead, and selenium, the most recent respective reporting limits from upgradient wells were substituted across all wells for these constituents during this analysis.

The time series plots are used to initially screen for suspected outliers and trends, while the box plots provide visual representation of variation within individual wells and between all wells. Values previously identified and flagged as outliers may be seen in the Outlier Summary following this letter (Figure C) and are plotted in a lighter font and disconnected symbol on the time series graphs.

Summary of Statistical Methods – Appendix IV Parameters

The overall statistical approach involves a comparison of downgradient water quality against upgradient background water quality limits or regulatory limits. The comparison is made using confidence intervals constructed on individual downgradient well-constituent pairs. The lower confidence limit is compared against a Groundwater Protection Standard (GWPS), which is defined by the higher of either the background water quality limits or regulatory limits.

To determine upgradient background water quality limits, parametric tolerance limits are utilized when the screened historical data follow a normal or transformed-normal distribution. When data cannot be normalized or the majority of data are non-detects, a nonparametric test is utilized. The distribution of data is tested using the Shapiro-Wilk/Shapiro-Francia test for normality. After testing for normality and performing any adjustments as discussed below (USEPA, 2009), data are analyzed using either parametric or non-parametric tolerance limits as appropriate.

- No statistical analyses are required on wells and analytes containing 100% non-detects (USEPA Unified Guidance, 2009, Chapter 6).
- When data contain <15% non-detects, simple substitution of one-half the reporting limit is utilized in the statistical analysis. The reporting limit utilized for

non-detects is the most recent practical quantification limit (PQL) as reported by the laboratory.

- When data contain between 15-50% non-detects, the Kaplan-Meier non-detect adjustment is applied to the background data for parametric limits. This technique adjusts the mean and standard deviation of the historical concentrations to account for concentrations below the reporting limit.
- Nonparametric tolerance limits are used on data containing greater than 50% non-detects.

Parametric tolerance limits are calculated, with a target of 95% confidence and 95% coverage, when data follow a normal or transformed-normal distribution. When data contained greater than 50% non-detects or did not follow a normal or transformed-normal distribution, non-parametric tolerance limits were constructed using the highest background measurement. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples.

When data followed a normal or transformed-normal distribution, parametric confidence intervals were used for Appendix IV parameters and compared to GWPS to assess compliance. Nonparametric confidence intervals, which use the largest and smallest order statistics depending on the sample size as interval limits, were constructed when data did not follow a normal or transformed-normal distribution or when there were greater than 50% non-detects. The lower confidence limit, which is constructed with 99% confidence for parametric confidence intervals, is compared to the GWPS prepared as described above. The confidence level associated with nonparametric confidence intervals is dependent upon the number of samples available.

Summary of Background Update – September 2024

Outlier Analysis

Background (upgradient) data sets were evaluated for Appendix IV constituents for the purpose of updating statistical limits through September 2024. Time series plots and Tukey's outlier test were used to identify potential outliers.

Pooled upgradient well data were screened for Appendix IV constituents through both visual screening and Tukey's outlier test for potential measurements that would lead to artificially elevated statistical limits. Tukey's outlier test on pooled upgradient well data through September 2024 identified outliers for chromium and lead (Figure C). Previously flagged measurements of cadmium and chromium in upgradient well AD-17 and molybdenum in upgradient well AD-1 were confirmed, and the highest values for lead in

upgradient wells AD-1 and AD-17 were flagged during this analysis. All other observations were either similar to concentrations among neighboring upgradient wells or were lower than the respective Maximum Contaminant Level (MCL); therefore, those values were not flagged as outliers. All flagged values may be seen on the Outlier Summary following this letter (Figure C).

Downgradient well data through September 2024 were also screened through visual screening using time series graphs. Since the downgradient well data are used to construct confidence intervals, values that are marginally high relative to the rest of the data are retained unless there is particular justification for excluding them. High measurements are flagged only when the concentrations are distinctly different from remaining measurements within a given well. When preceding and subsequent measurements to a single high reported concentration are significantly lower and similar, the assumption is that the increase in a single measurement is spurious and not representative of the true population of groundwater quality. Flagging those measurements as outliers reduces the variance which reduces the width of parametric confidence intervals, as well as reduces the overall mean and thus lowers the entire interval. The intent is to better represent the true mean of the population in downgradient wells.

For downgradient wells, visual screening with the times series graphs did not indicate potential outliers for any of the constituents in downgradient wells; therefore, no formal outlier test was performed during this analysis, and no outliers are flagged for downgradient wells.

Trend Analysis – Upgradient Wells

Data were also screened using time series plots for extreme trending patterns among upgradient wells that would lead to artificially elevated statistical limits; however, reported measurements in upgradient wells appear stable over time or contained low-level detections which did not exceed the established Maximum Contaminant Limits (MCLs)—as is the case for the increasing trend in selenium at well AD-1. Among constituents that do not have MCLs, the time series plots for cobalt in upgradient well AD-17 and lithium in upgradient wells AD-5 and AD-17 indicated decreasing concentrations; therefore, the Sen's Slope/Mann-Kendall trend test was used to formally evaluate whether statistically significant trends are present at the 95% confidence level (Figure D). The following statistically significant trends were identified among upgradient wells:

Increasing

- None

Decreasing

- Cobalt: AD-17
- Lithium: AD-5 and AD-17

Although statistically significant decreasing trends were identified, earlier portions of the record were highly variable and include observations similar to those recorded recently. Therefore, these records were not truncated at this time.

Interwell Upper Tolerance Limits

Upper tolerance limits were used to calculate background limits from pooled upgradient well data through September 2024 for Appendix IV parameters (Figure E).

Groundwater Protection Standards

These background limits were compared to the Maximum Contaminant Levels (MCLs) as shown in the Groundwater Protection Standard (GWPS) table following this letter to determine the highest limit for use as the GWPS in the confidence interval comparisons (Figure F).

Evaluation of Appendix IV Parameters – September 2024

Because closure measures have been implemented at this site confidence intervals were constructed using data from June 2021 through September 2024 for downgradient wells for each of the Appendix IV parameters.

The confidence intervals were compared to the GWPS (i.e., the highest limit of the MCL or background limit as discussed above). Only when the entire confidence interval is above a GWPS is the well/constituent pair considered to exceed its respective standard. A summary of the confidence interval results follows this letter (Figure G). An exceedance was identified for the following well/constituent pair:

- Combined Radium 226 + 228: AD-16R

Trend Test Evaluation – Appendix IV

When confidence interval exceedances are identified in downgradient wells, data are further evaluated using the Sen's Slope/Mann Kendall trend test to determine whether concentrations are statistically increasing, decreasing, or stable at the 95% confidence level (Figure H). Utilizing the 95% confidence level for trend tests readily identifies

significant trends and is more sensitive than the 99% confidence level without drastically increasing the false negative rate. Upgradient wells are included in the trend analyses for all parameters found to exceed their confidence interval in downgradient wells. When similar patterns exist upgradient of the site, it is an indication of variability in groundwater which may be unrelated to practices at the site. A summary along with complete graphical results of the trend tests follows this report. No statistically significant trends were identified.

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for the Welsh BASP. If you have any questions or comments, please feel free to contact us.

For Groundwater Stats Consulting,





Kristina Rayner
Senior Statistician

Andrew T. Collins
Project Manager

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100% Non-Detects

Analysis Run 10/31/2024 3:55 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

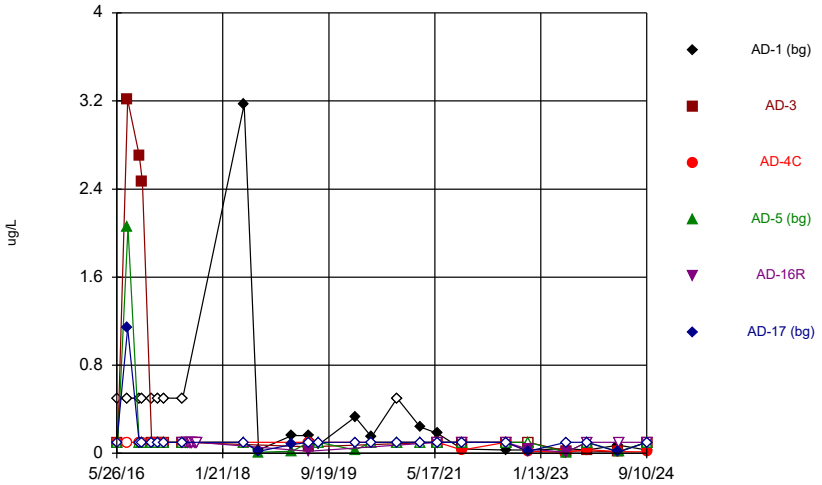
Molybdenum (ug/L)
AD-16R

FIGURE A

Time Series

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

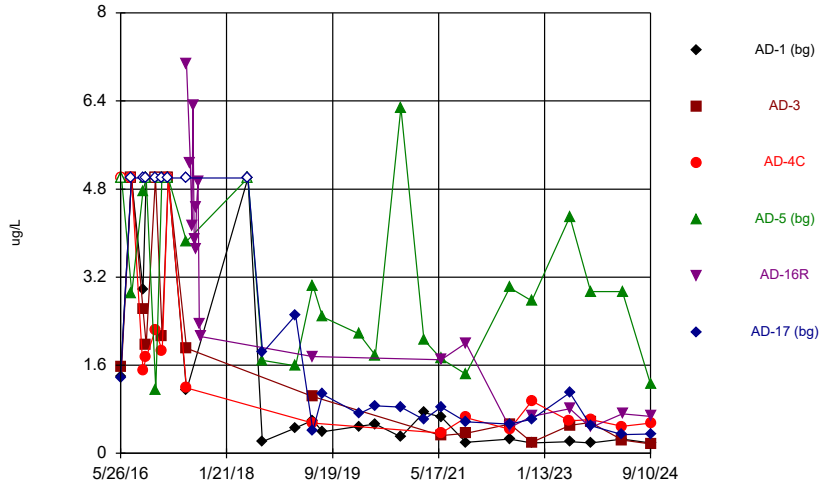
Time Series



Constituent: Antimony Analysis Run 11/6/2024 12:29 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG
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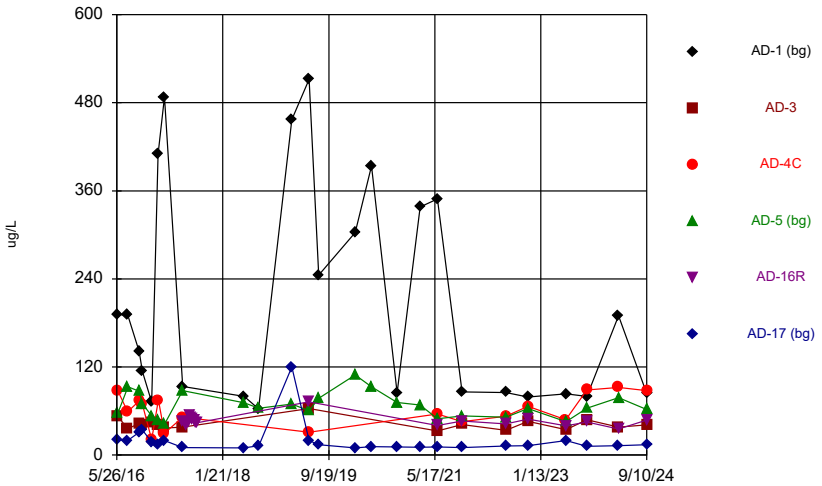
Time Series



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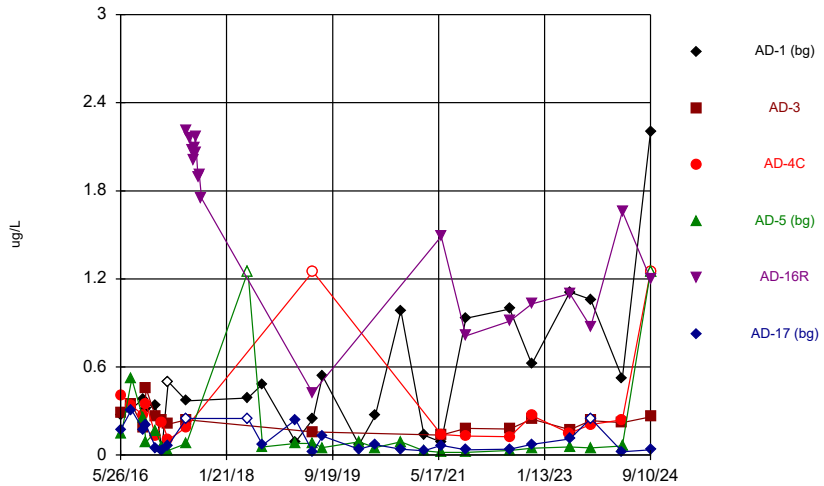
Time Series



Constituent: Barium Analysis Run 11/6/2024 12:29 PM View: Descriptive
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Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG
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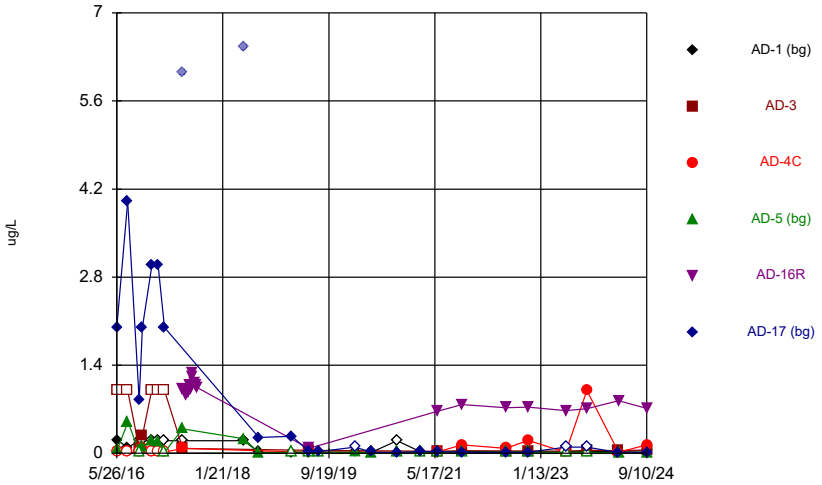
Time Series



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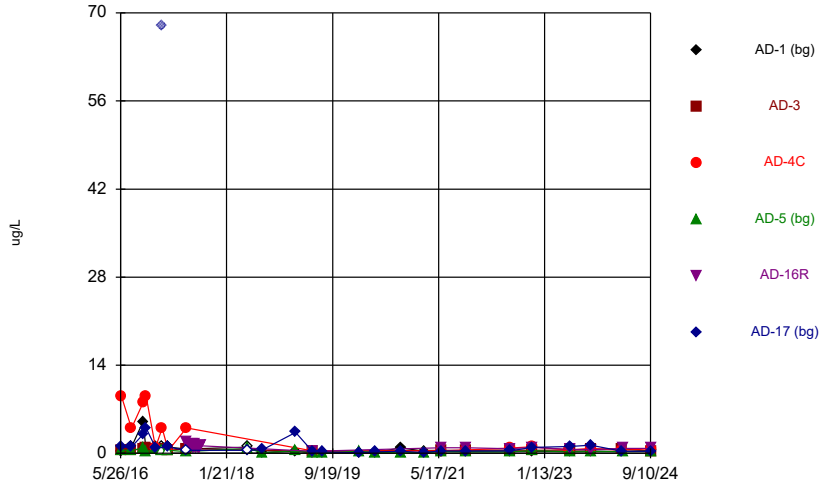
Time Series



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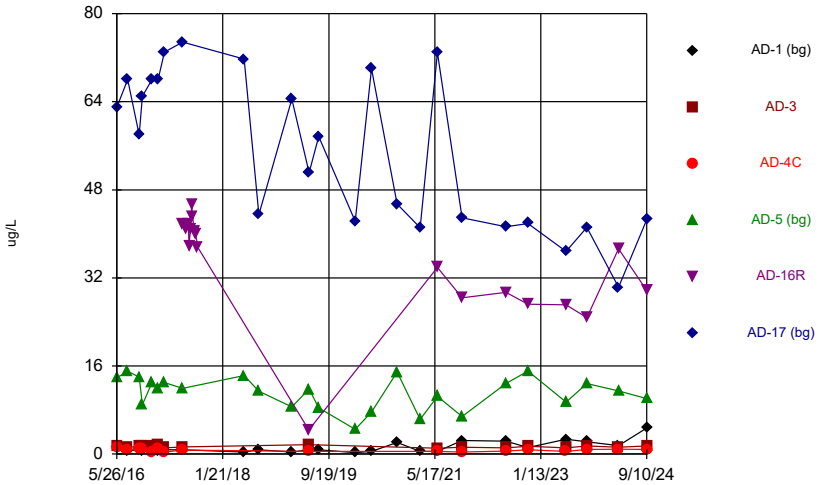
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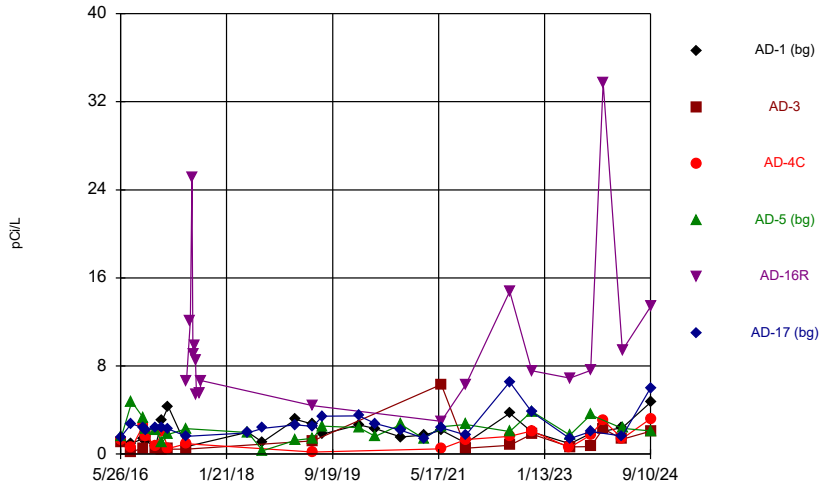
Time Series



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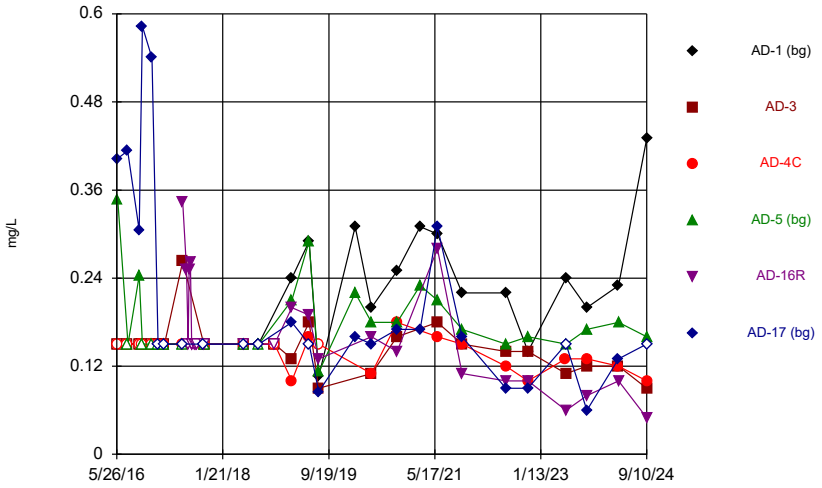
Time Series



Constituent: Combined Radium 226 + 228 Analysis Run 11/6/2024 12:29 PM View: Descriptive
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Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG
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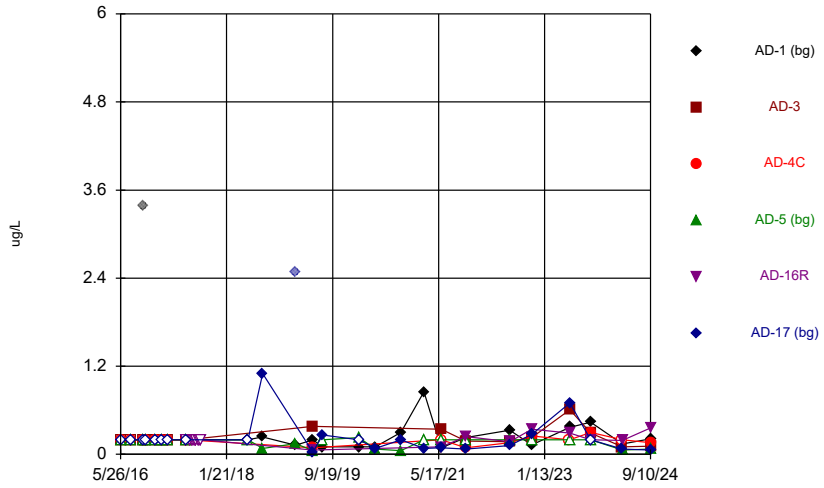
Time Series



Constituent: Fluoride Analysis Run 11/6/2024 12:29 PM View: Descriptive
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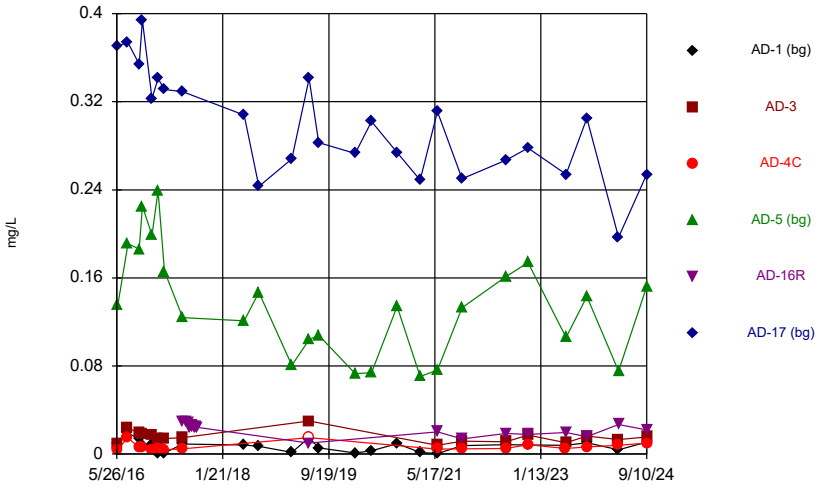
Time Series



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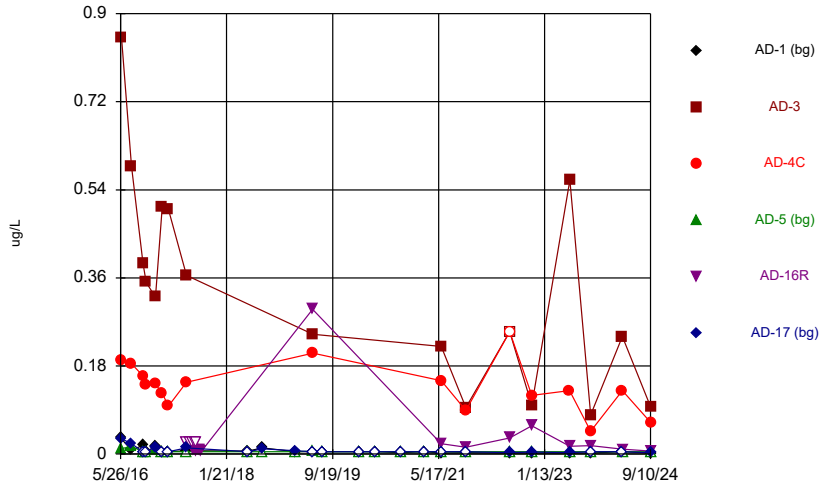
Time Series



Constituent: Lithium Analysis Run 11/6/2024 12:29 PM View: Descriptive
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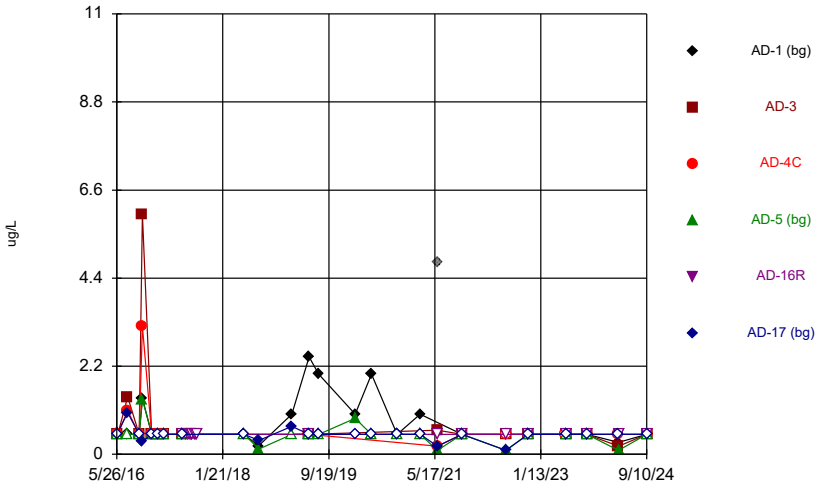
Time Series



Constituent: Mercury Analysis Run 11/6/2024 12:29 PM View: Descriptive
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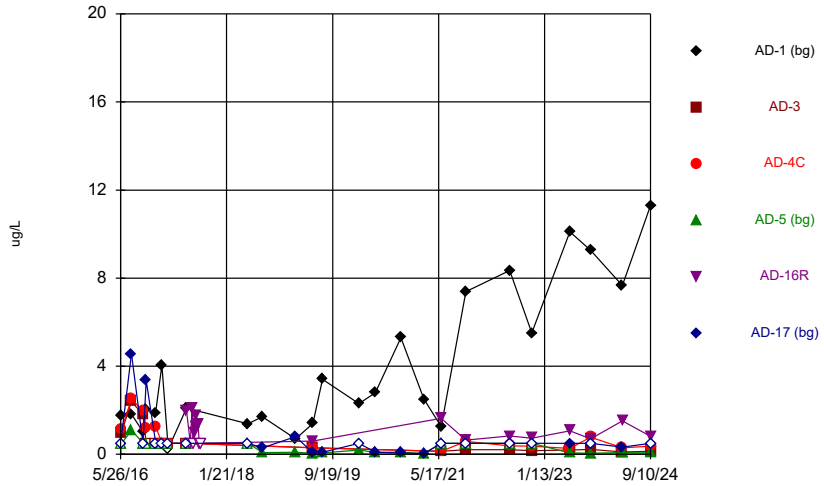
Time Series



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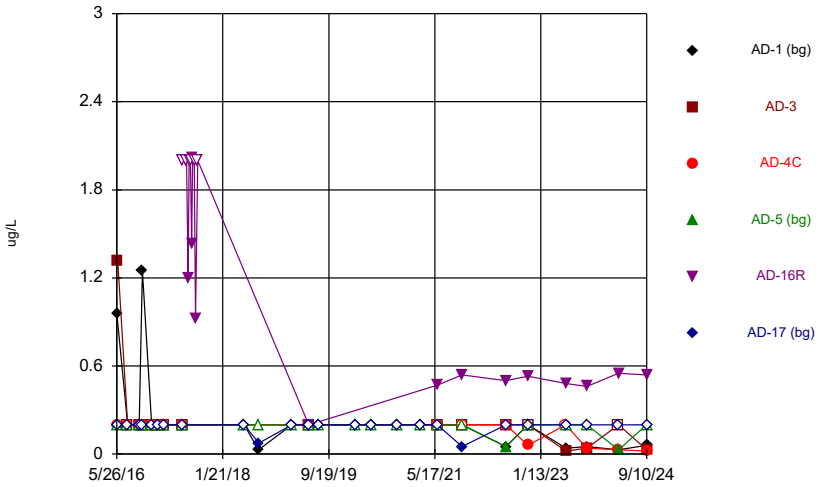
Time Series



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Time Series



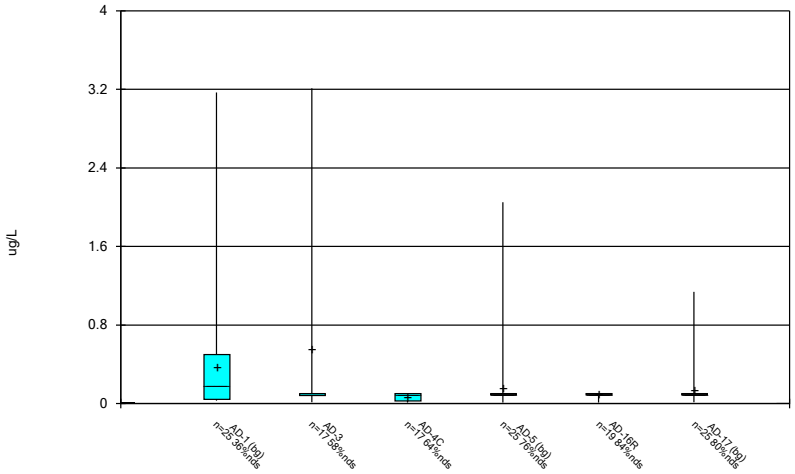
Constituent: Thallium Analysis Run 11/6/2024 12:29 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

FIGURE B

Box Plots

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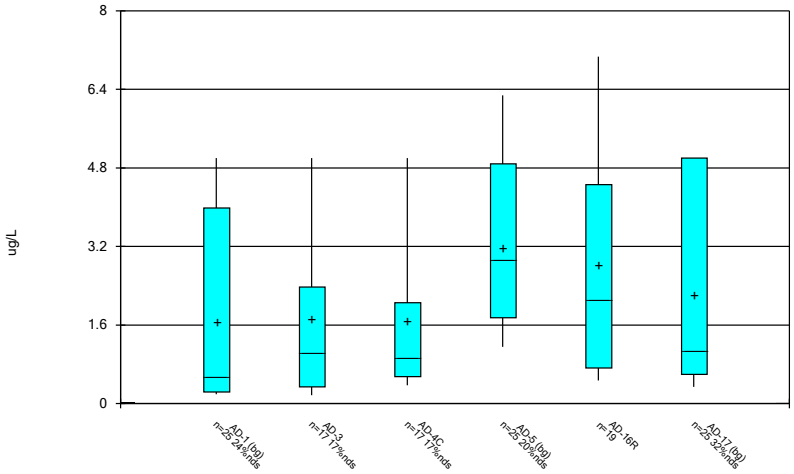
Box & Whiskers Plot



Constituent: Antimony Analysis Run 11/6/2024 12:30 PM View: Descriptive
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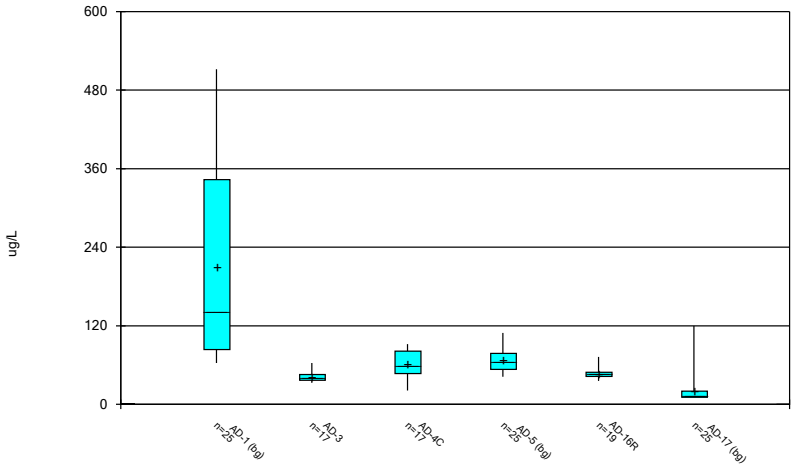
Box & Whiskers Plot



Constituent: Arsenic Analysis Run 11/6/2024 12:30 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

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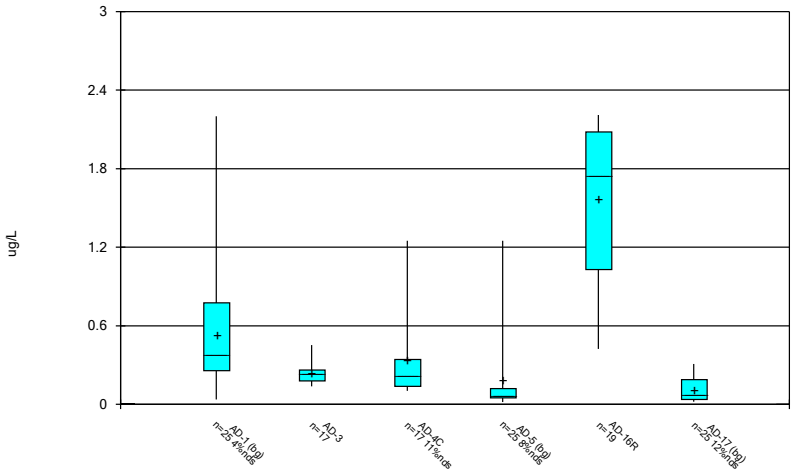
Box & Whiskers Plot



Constituent: Barium Analysis Run 11/6/2024 12:30 PM View: Descriptive
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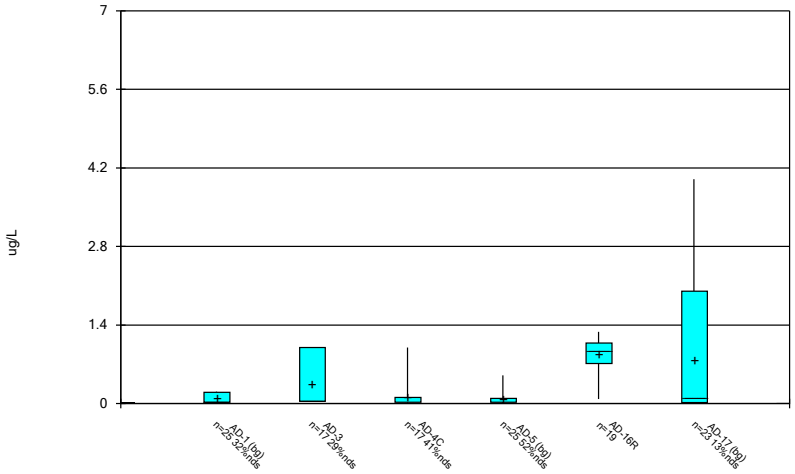
Box & Whiskers Plot



Constituent: Beryllium Analysis Run 11/6/2024 12:31 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

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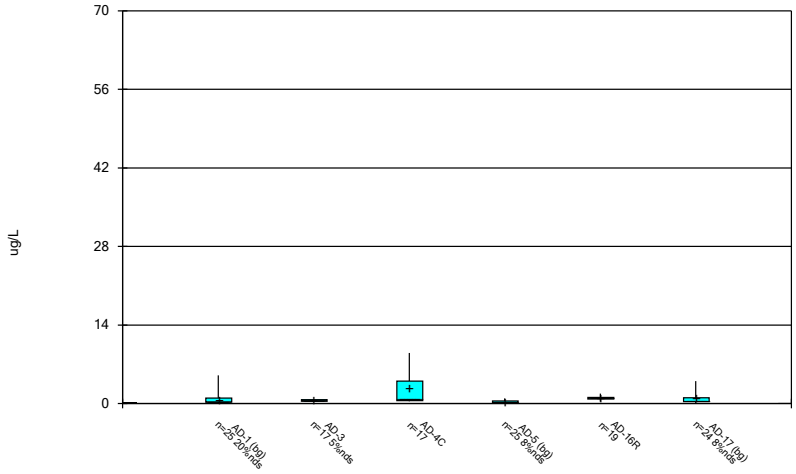
Box & Whiskers Plot



Constituent: Cadmium Analysis Run 11/6/2024 12:31 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

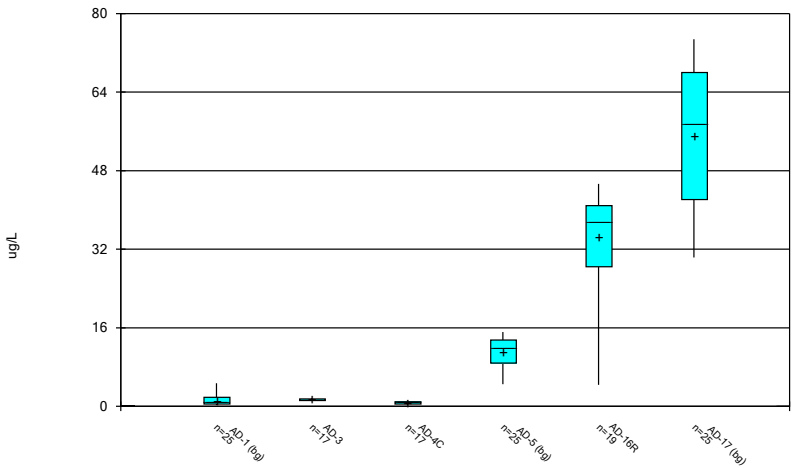
Box & Whiskers Plot



Constituent: Chromium Analysis Run 11/6/2024 12:31 PM View: Descriptive
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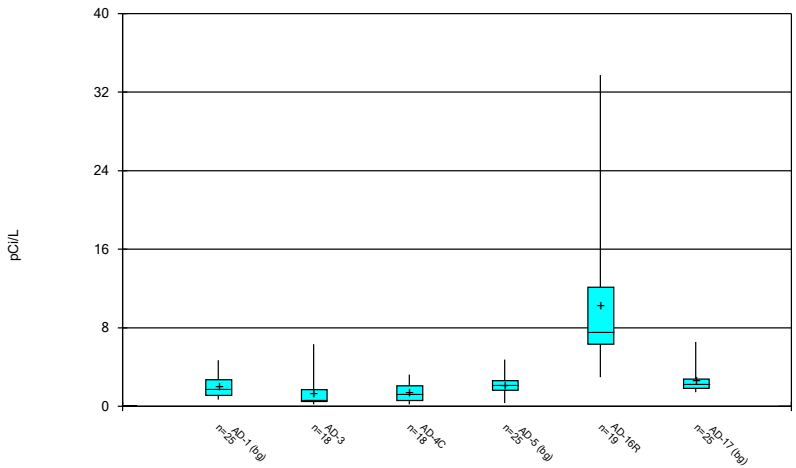
Box & Whiskers Plot



Constituent: Cobalt Analysis Run 11/6/2024 12:31 PM View: Descriptive
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Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

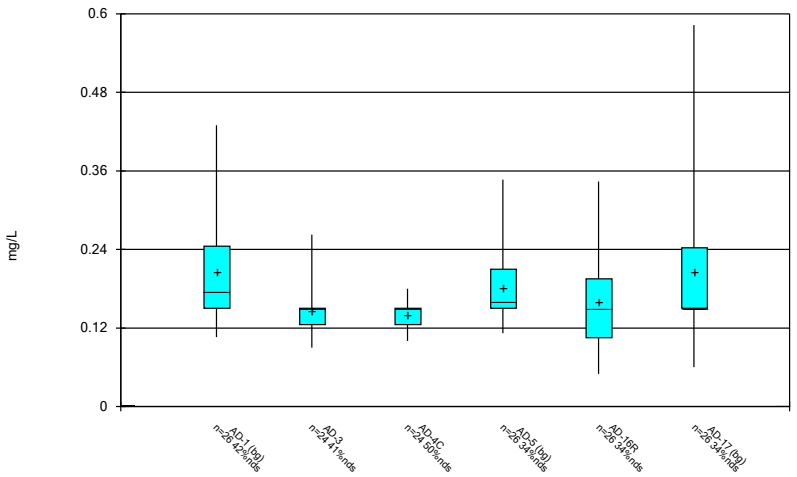
Box & Whiskers Plot



Constituent: Combined Radium 226 + 228 Analysis Run 11/6/2024 12:31 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

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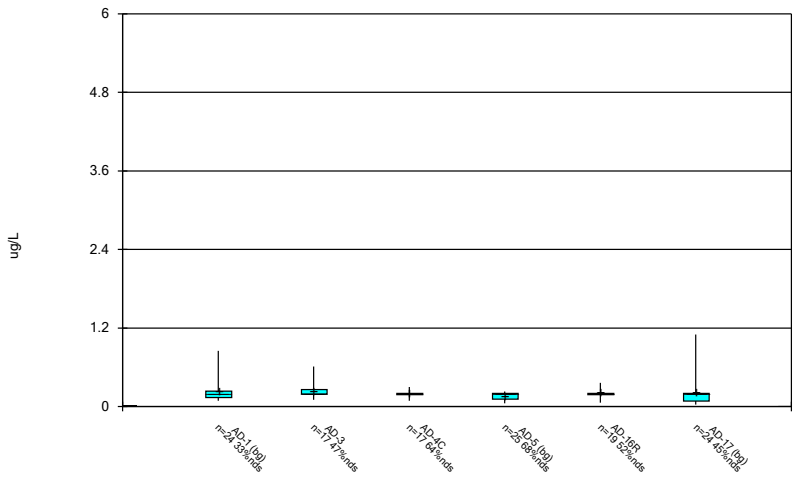
Box & Whiskers Plot



Constituent: Fluoride Analysis Run 11/6/2024 12:31 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

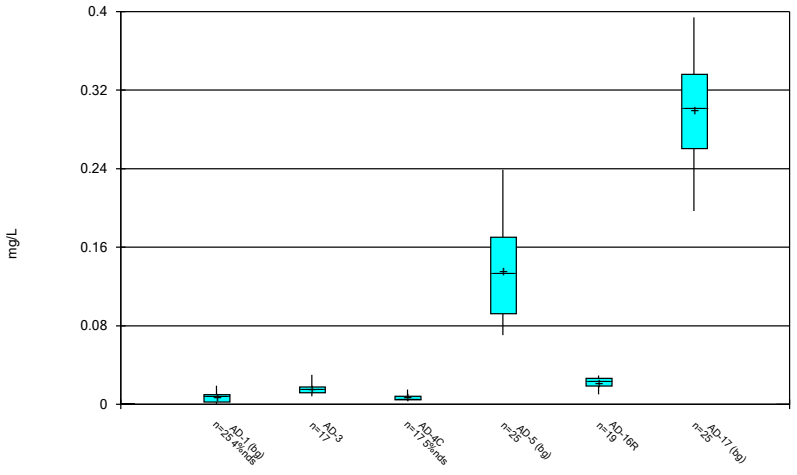
Box & Whiskers Plot



Constituent: Lead Analysis Run 11/6/2024 12:31 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

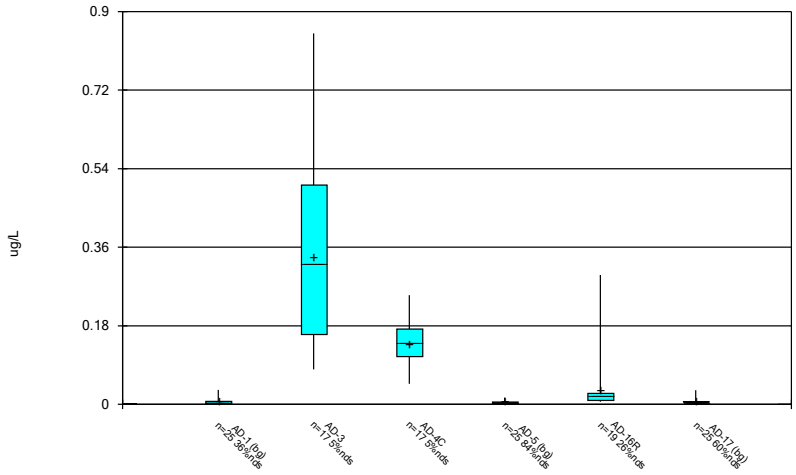
Box & Whiskers Plot



Constituent: Lithium Analysis Run 11/6/2024 12:31 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

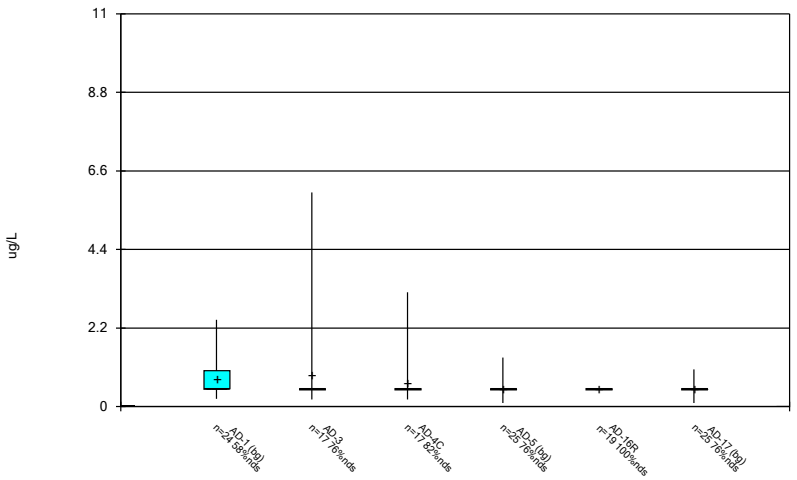
Box & Whiskers Plot



Constituent: Mercury Analysis Run 11/6/2024 12:31 PM View: Descriptive
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Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

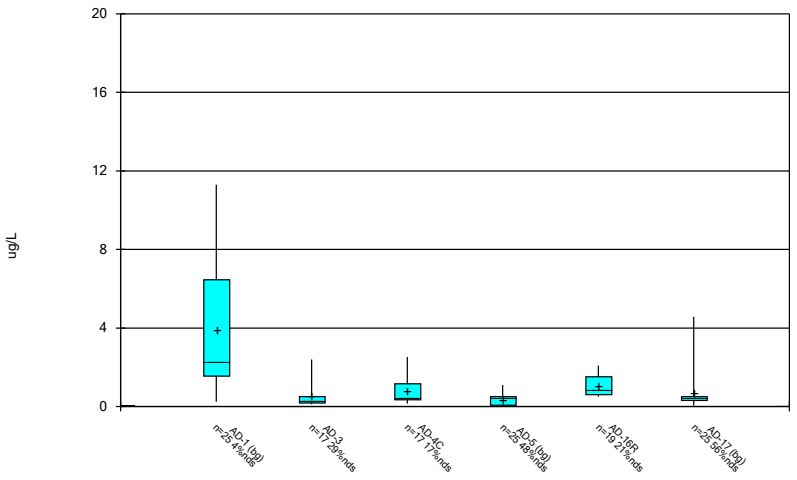
Box & Whiskers Plot



Constituent: Molybdenum Analysis Run 11/6/2024 12:31 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

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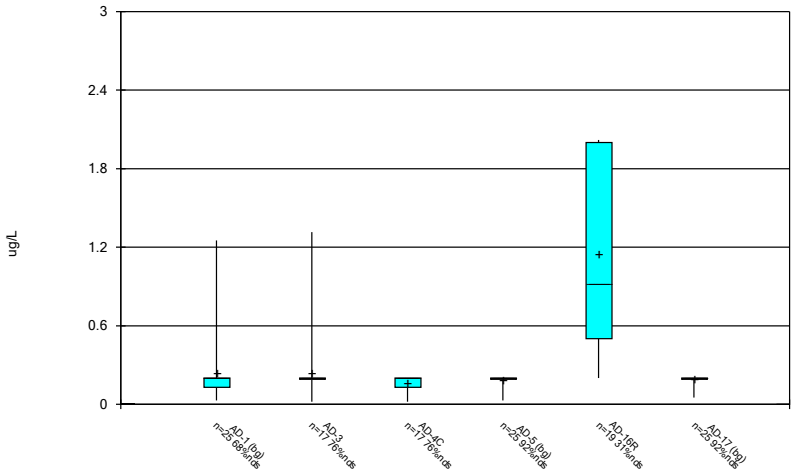
Box & Whiskers Plot



Constituent: Selenium Analysis Run 11/6/2024 12:31 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Box & Whiskers Plot



Constituent: Thallium Analysis Run 11/6/2024 12:31 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

FIGURE C

Outlier Summary and Tukey's Outlier Test

Outlier Summary

Welsh BASP Client: Geosyntec Data: Welsh BASP Printed 11/6/2024, 12:32 PM

	AD-17 Cadmium (ug/L)	AD-17 Chromium (ug/L)	AD-1 Lead (ug/L)	AD-17 Lead (ug/L)	AD-1 Molybdenum (ug/L)
9/30/2016			3.38434 (J,o)		
1/17/2017		68 (o)			
6/6/2017	6.06 (o)				
5/24/2018	6.46 (o)				
2/21/2019				2.49 (o)	
6/2/2021					4.8 (o)

Tukey's Outlier Test - Upgradient Wells - Significant Results

Welsh BASP Client: Geosyntec Data: Welsh BASP Printed 11/5/2024, 3:42 PM

Constituent	Well	Outlier	Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Chromium (ug/L)	**AD-1,AD-5,AD-17**	**Yes**	**68**	**NP**	**NaN**	**75**	**1.497**	**7.828**	**ln(x)**	**ShapiroFrancia**
Lead (ug/L)	**AD-1,AD-5,AD-17**	**Yes**	**3.384,0.852,1.1,2.49**	**NP**	**NaN**	**75**	**0.2788**	**0.4769**	**ln(x)**	**ShapiroFrancia**

Tukey's Outlier Test - Upgradient Wells - All Results

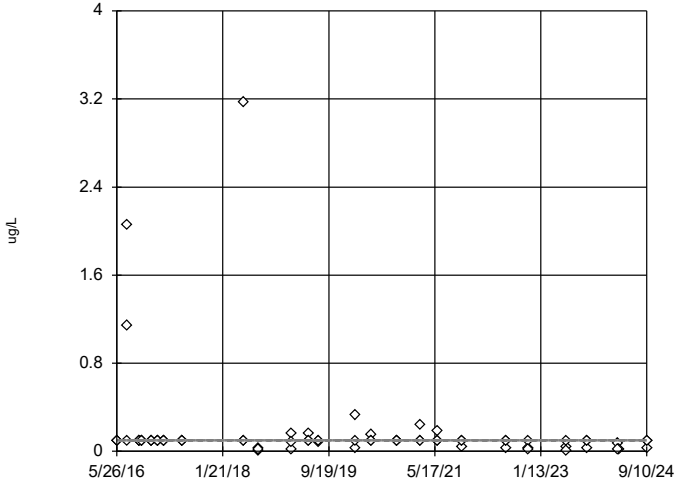
Welsh BASP Client: Geosyntec Data: Welsh BASP Printed 11/5/2024, 3:42 PM

Constituent	Well	Outlier	Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Antimony (ug/L)	AD-1,AD-5,AD-17	n/a	n/a	NP	NaN	75	0.173	0.4363	unknown	ShapiroFrancia
Arsenic (ug/L)	AD-1,AD-5,AD-17	No	n/a	NP	NaN	75	2.341	1.931	ln(x)	ShapiroFrancia
Barium (ug/L)	AD-1,AD-5,AD-17	No	n/a	NP	NaN	75	98.57	119	ln(x)	ShapiroFrancia
Beryllium (ug/L)	AD-1,AD-5,AD-17	No	n/a	NP	NaN	75	0.3258	0.4409	ln(x)	ShapiroFrancia
Cadmium (ug/L)	AD-1,AD-5,AD-17	No	n/a	NP	NaN	75	0.4975	1.21	ln(x)	ShapiroFrancia
Chromium (ug/L)	**AD-1,AD-5,AD-17**	**Yes**	**68**	**NP**	**NaN**	**75**	**1.497**	**7.828**	**ln(x)**	**ShapiroFrancia**
Cobalt (ug/L)	AD-1,AD-5,AD-17	No	n/a	NP	NaN	75	22.45	24.91	x^(1/3)	ShapiroFrancia
Combined Radium 226 + 228 (pCi/L)	AD-1,AD-5,AD-17	No	n/a	NP	NaN	75	2.305	1.117	x^(1/3)	ShapiroFrancia
Fluoride (mg/L)	AD-1,AD-5,AD-17	No	n/a	NP	NaN	78	0.1974	0.09403	ln(x)	ShapiroFrancia
Lead (ug/L)	**AD-1,AD-5,AD-17**	**Yes**	**3.384,0.852,1.1,2.49**	**NP**	**NaN**	**75**	**0.2788**	**0.4769**	**ln(x)**	**ShapiroFrancia**
Lithium (mg/L)	AD-1,AD-5,AD-17	No	n/a	NP	NaN	75	0.1473	0.1264	sqrt(x)	ShapiroFrancia
Mercury (ug/L)	AD-1,AD-5,AD-17	n/a	n/a	NP	NaN	75	0.006679	0.005626	unknown	ShapiroFrancia
Molybdenum (ug/L)	AD-1,AD-5,AD-17	n/a	n/a	NP	NaN	75	0.6411	0.6268	unknown	ShapiroFrancia
Selenium (ug/L)	AD-1,AD-5,AD-17	No	n/a	NP	NaN	75	1.636	2.529	ln(x)	ShapiroFrancia
Thallium (ug/L)	AD-1,AD-5,AD-17	n/a	n/a	NP	NaN	75	0.2037	0.161	unknown	ShapiroFrancia

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 75

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

The results were invalidated, because the lower and upper quartiles are equal.

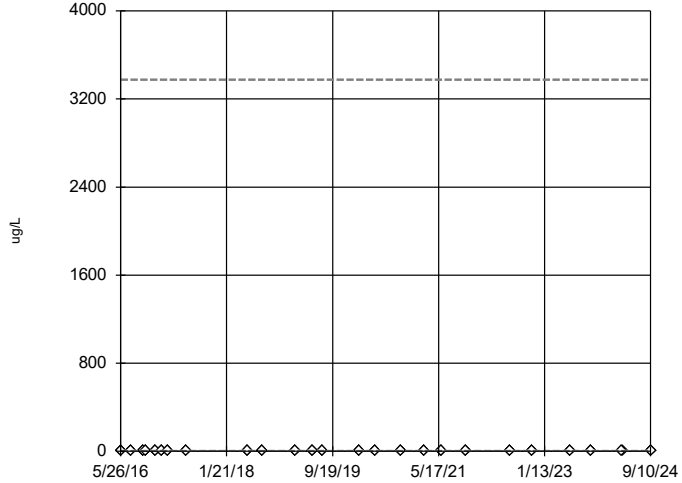
Constituent: Antimony Analysis Run 11/5/2024 3:39 PM View: Outliers

Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 75

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 3375, low cutoff = 0.0008445, based on IQR multiplier of 3.

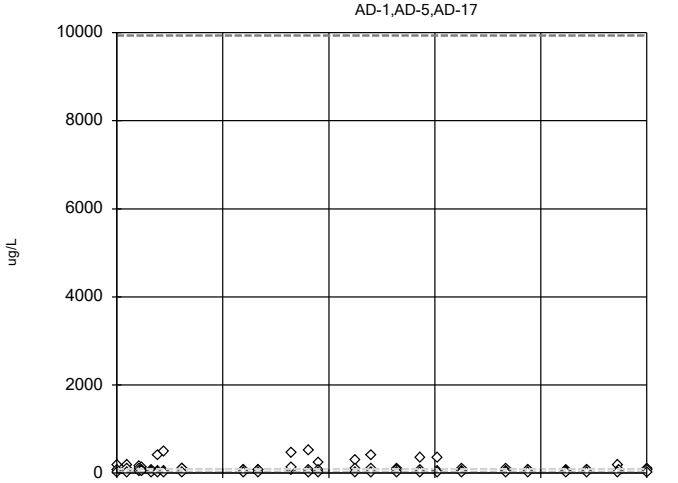
Constituent: Arsenic Analysis Run 11/5/2024 3:39 PM View: Outliers

Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 75

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 9935, low cutoff = 0.1835, based on IQR multiplier of 3.

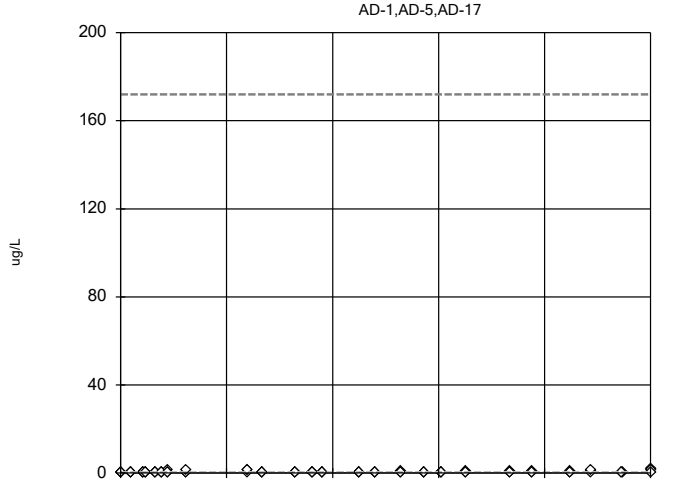
Constituent: Barium Analysis Run 11/5/2024 3:39 PM View: Outliers

Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 75

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 171.9, low cutoff = 0.0001114, based on IQR multiplier of 3.

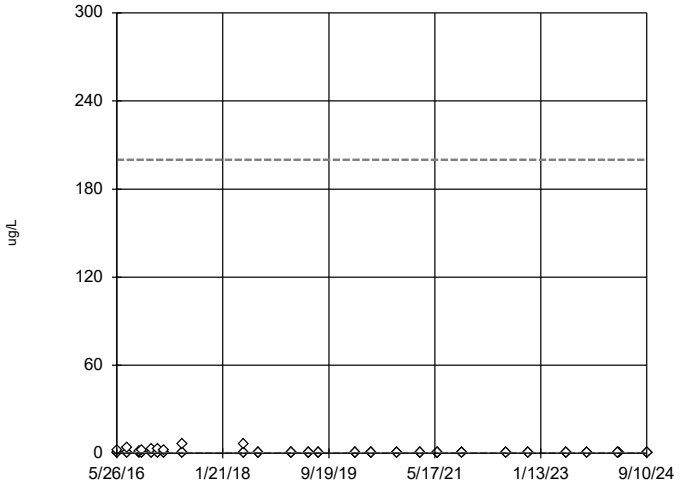
Constituent: Beryllium Analysis Run 11/5/2024 3:39 PM View: Outliers

Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 75

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

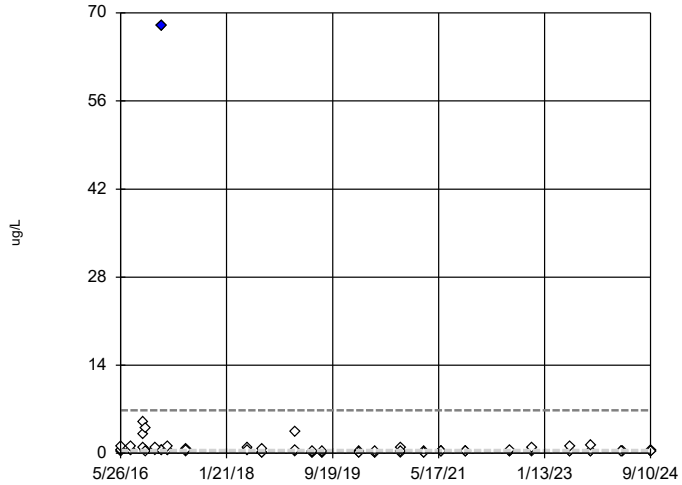
High cutoff = 200, low cutoff = 0.00002, based on IQR multiplier of 3.

Constituent: Cadmium Analysis Run 11/5/2024 3:39 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 75

Outlier is drawn as solid. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

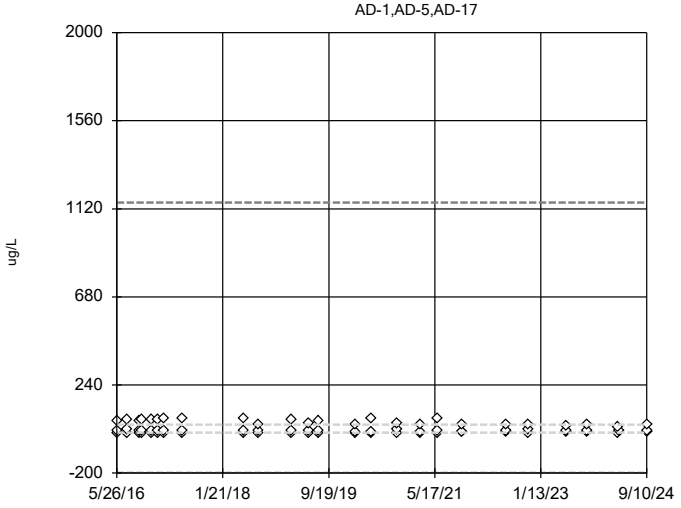
High cutoff = 6.842, low cutoff = 0.01949, based on IQR multiplier of 3.

Constituent: Chromium Analysis Run 11/5/2024 3:39 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 75

No outliers found. Tukey's method selected by user.

Data were cube root transformed to achieve best W statistic (graph shown in original units).

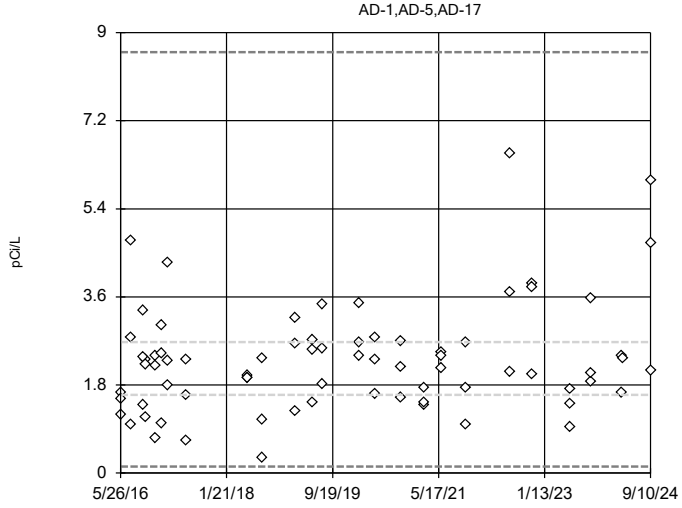
High cutoff = 1151, low cutoff = -199.6, based on IQR multiplier of 3.

Constituent: Cobalt Analysis Run 11/5/2024 3:39 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 75

No outliers found. Tukey's method selected by user.

Data were cube root transformed to achieve best W statistic (graph shown in original units).

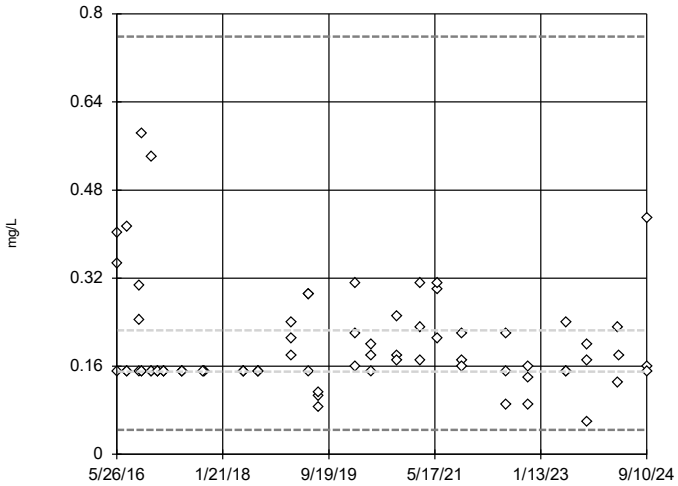
High cutoff = 8.6, low cutoff = 0.1322, based on IQR multiplier of 3.

Constituent: Combined Radium 226 + 228 Analysis Run 11/5/2024 3:39 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 78

No outliers found.
Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

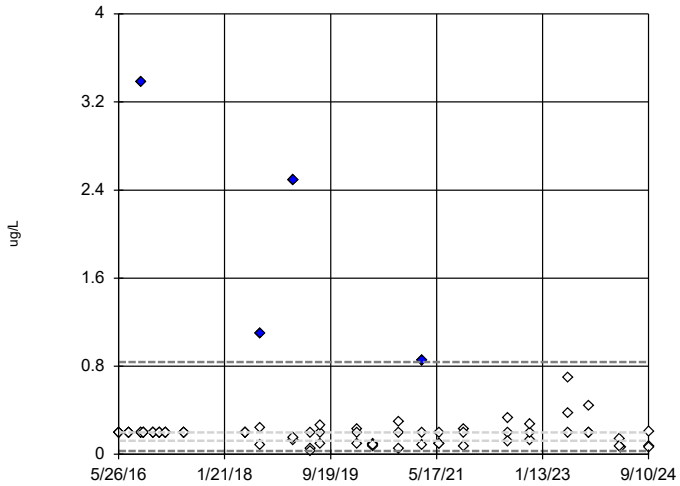
High cutoff = 0.7586, low cutoff = 0.04448, based on IQR multiplier of 3.

Constituent: Fluoride Analysis Run 11/5/2024 3:39 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 75

Outliers are drawn as solid.
Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

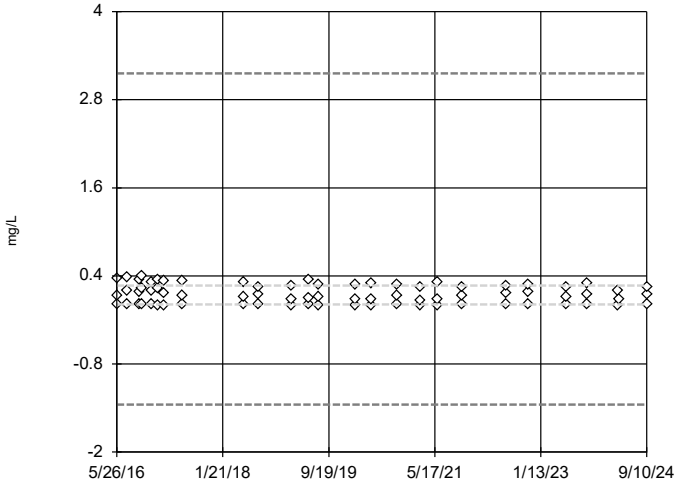
High cutoff = 0.8392, low cutoff = 0.02955, based on IQR multiplier of 3.

Constituent: Lead Analysis Run 11/5/2024 3:39 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 75

No outliers found.
Tukey's method selected by user.

Data were square root transformed to achieve best W statistic (graph shown in original units).

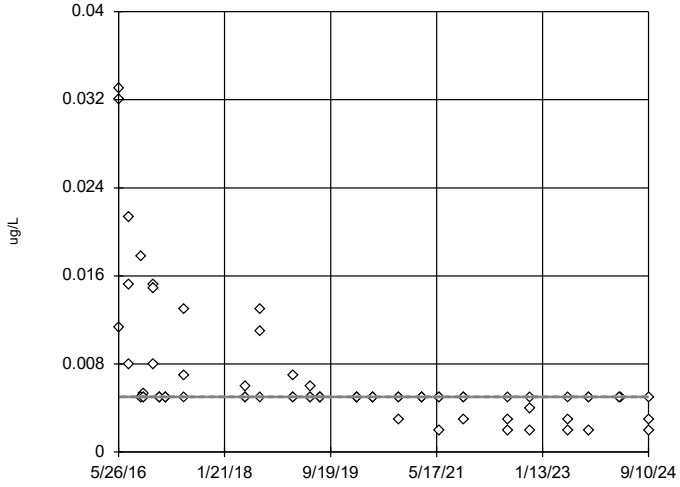
High cutoff = 3.159, low cutoff = -1.355, based on IQR multiplier of 3.

Constituent: Lithium Analysis Run 11/5/2024 3:39 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 75

No outliers found.
Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

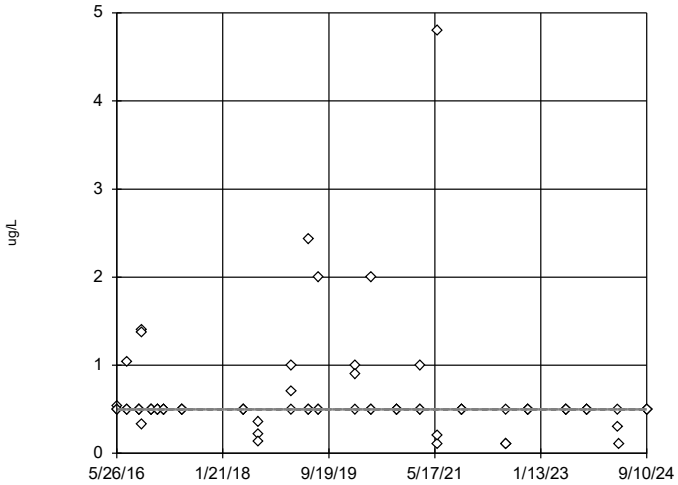
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Mercury Analysis Run 11/5/2024 3:39 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 75

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

The results were invalidated, because the lower and upper quartiles are equal.

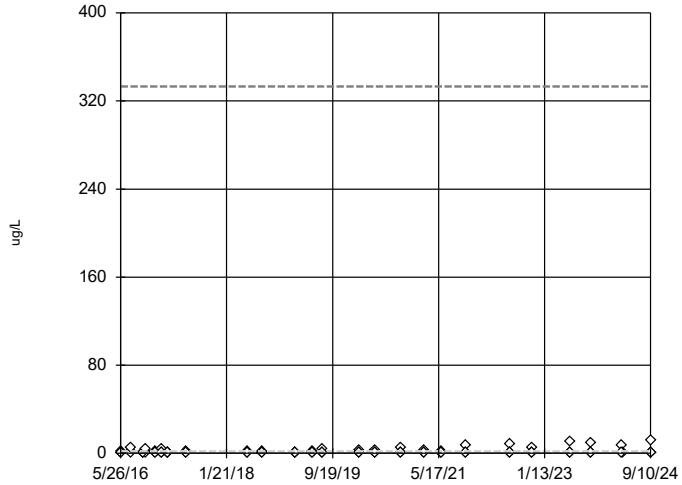
Constituent: Molybdenum Analysis Run 11/5/2024 3:39 PM View: Outliers

Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 75

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 333.1, low cutoff = 0.001746, based on IQR multiplier of 3.

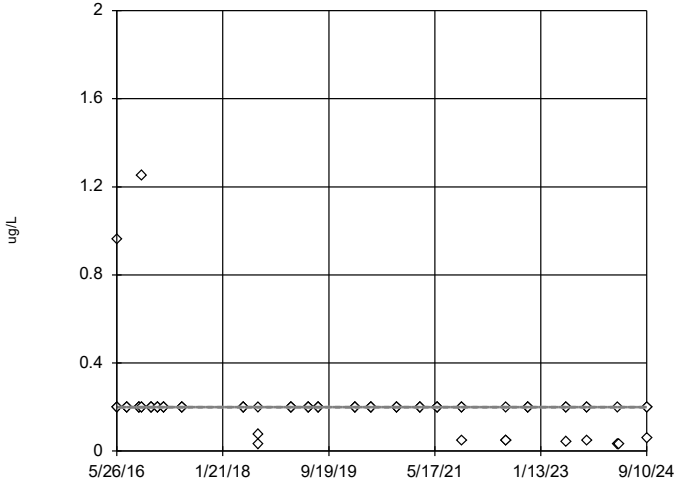
Constituent: Selenium Analysis Run 11/5/2024 3:39 PM View: Outliers

Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 75

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Thallium Analysis Run 11/5/2024 3:39 PM View: Outliers

Welsh BASP Client: Geosyntec Data: Welsh BASP

FIGURE D
Upgradient Trend Tests

Appendix IV Trend Tests - Upgradient Wells - All/Significant Results

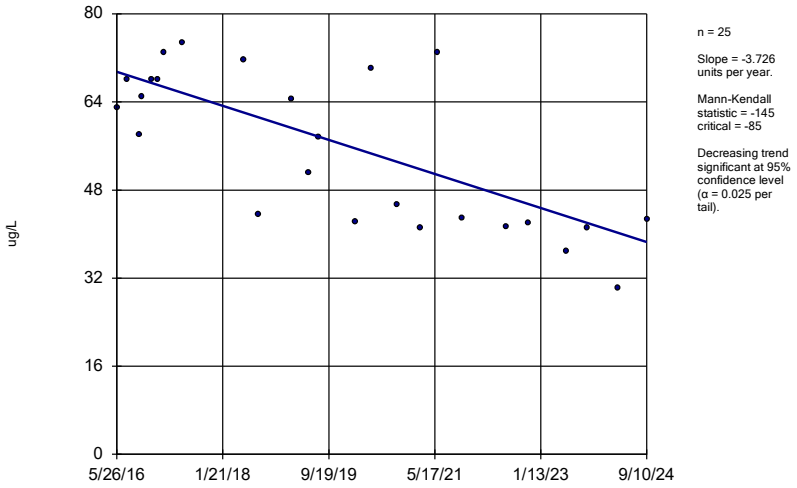
Welsh BASP Client: Geosyntec Data: Welsh BASP Printed 11/5/2024, 3:01 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Cobalt (ug/L)	**AD-17 (bg)**	**-3.726**	**-145**	**-85**	**Yes**	**25**	**0**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	**AD-5 (bg)**	**-0.008486**	**-88**	**-85**	**Yes**	**25**	**0**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	**AD-17 (bg)**	**-0.01509**	**-170**	**-85**	**Yes**	**25**	**0**	**n/a**	**0.05**	**NP**

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Sen's Slope Estimator

AD-17 (bg)



n = 25

Slope = -3.726 units per year.

Mann-Kendall statistic = -145 critical = -85

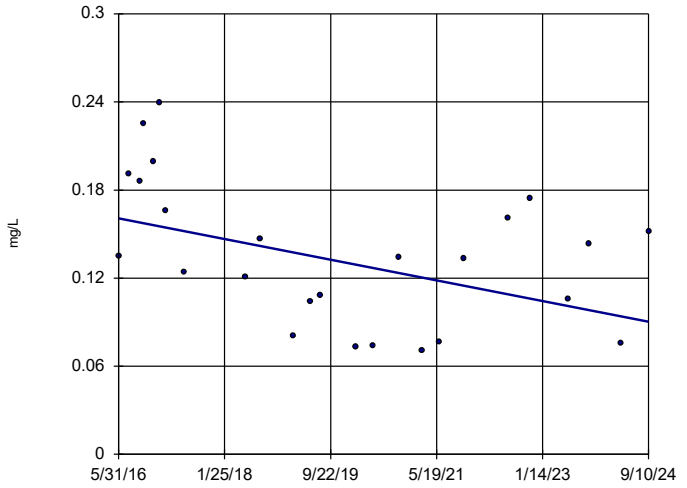
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt Analysis Run 11/5/2024 3:01 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Sen's Slope Estimator

AD-5 (bg)



n = 25

Slope = -0.008486 units per year.

Mann-Kendall statistic = -88 critical = -85

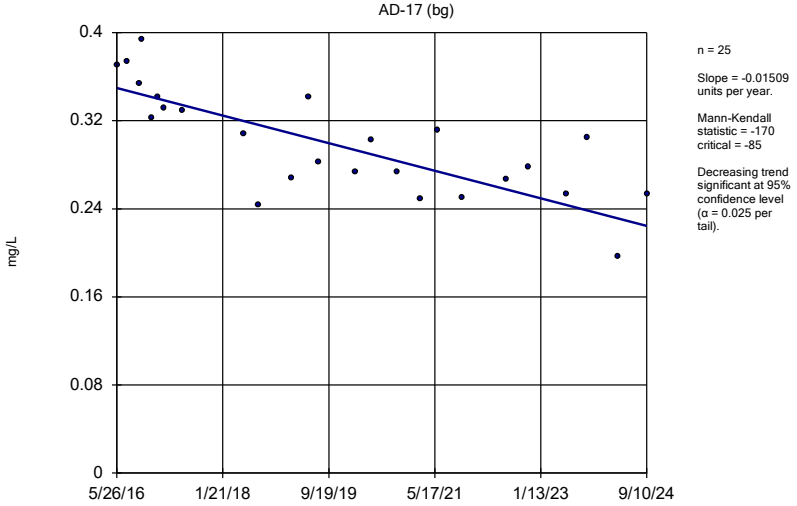
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium Analysis Run 11/5/2024 3:01 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Sen's Slope Estimator

AD-17 (bg)



n = 25

Slope = -0.01509 units per year.

Mann-Kendall statistic = -170 critical = -85

Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium Analysis Run 11/5/2024 3:01 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

FIGURE E

UTLs

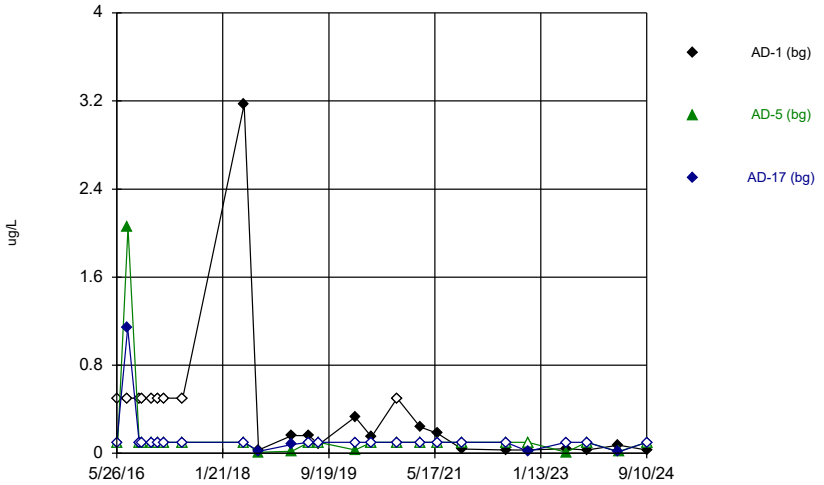
Upper Tolerance Limits

Welsh BASP Client: Geosyntec Data: Welsh BASP Printed 11/6/2024, 12:35 PM

Constituent	Upper Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (ug/L)	3.17	75	n/a	n/a	64	n/a	n/a	0.02134	NP Inter(NDs)
Arsenic (ug/L)	6.28	75	n/a	n/a	25.33	n/a	n/a	0.02134	NP Inter(normality)
Barium (ug/L)	512	75	n/a	n/a	0	n/a	n/a	0.02134	NP Inter(normality)
Beryllium (ug/L)	2.2	75	n/a	n/a	8	n/a	n/a	0.02134	NP Inter(normality)
Cadmium (ug/L)	4	73	n/a	n/a	32.88	n/a	n/a	0.02365	NP Inter(normality)
Chromium (ug/L)	5	74	n/a	n/a	12.16	n/a	n/a	0.02247	NP Inter(normality)
Cobalt (ug/L)	74.8	75	n/a	n/a	0	n/a	n/a	0.02134	NP Inter(normality)
Combined Radium 226 + 228 (pCi/L)	4.718	75	1.477	0.3523	0	None	sqrt(x)	0.05	Inter
Fluoride (mg/L)	0.583	78	n/a	n/a	37.18	n/a	n/a	0.0183	NP Inter(normality)
Lead (ug/L)	1.1	73	n/a	n/a	49.32	n/a	n/a	0.02365	NP Inter(normality)
Lithium (mg/L)	0.394	75	n/a	n/a	1.333	n/a	n/a	0.02134	NP Inter(normality)
Mercury (ug/L)	0.033	75	n/a	n/a	60	n/a	n/a	0.02134	NP Inter(NDs)
Molybdenum (ug/L)	2.43	74	n/a	n/a	70.27	n/a	n/a	0.02247	NP Inter(NDs)
Selenium (ug/L)	11.3	75	n/a	n/a	36	n/a	n/a	0.02134	NP Inter(normality)
Thallium (ug/L)	1.251	75	n/a	n/a	84	n/a	n/a	0.02134	NP Inter(NDs)

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Hollow symbols indicate censored values.

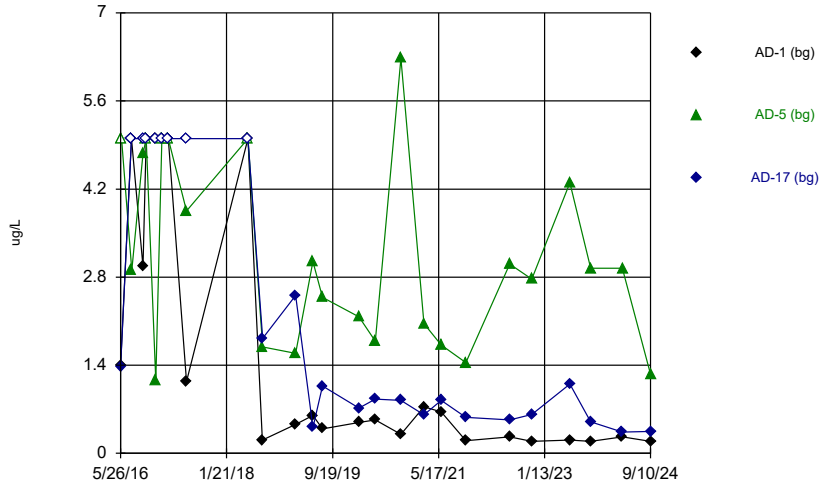
Time Series



Constituent: Antimony Analysis Run 11/6/2024 12:34 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

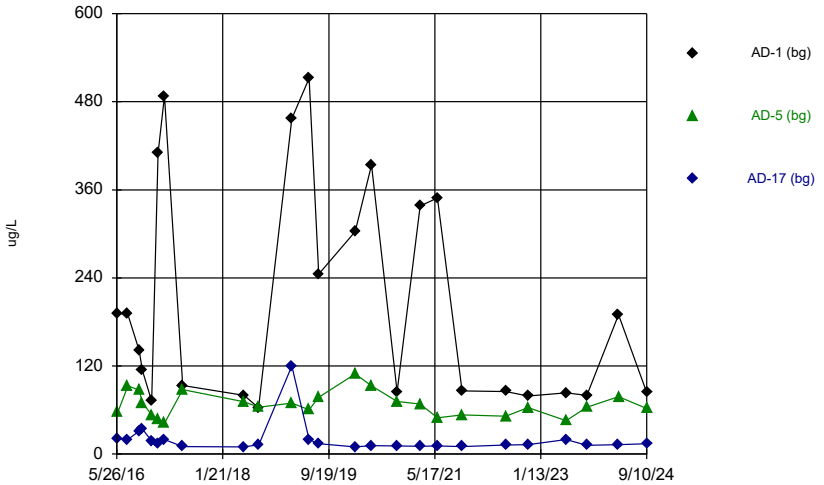
Time Series



Constituent: Arsenic Analysis Run 11/6/2024 12:34 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

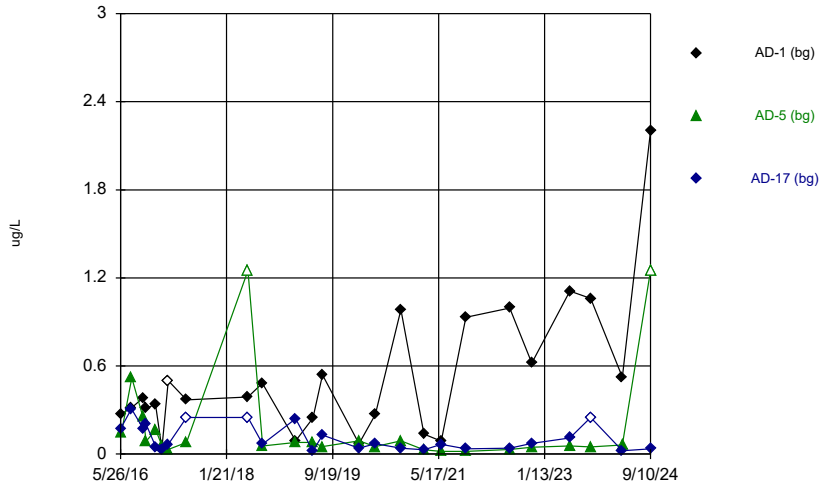
Time Series



Constituent: Barium Analysis Run 11/6/2024 12:34 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

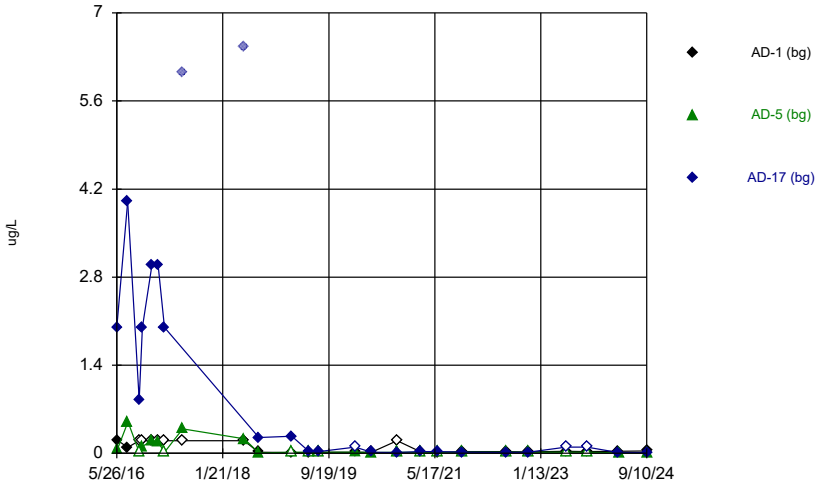
Time Series



Constituent: Beryllium Analysis Run 11/6/2024 12:34 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

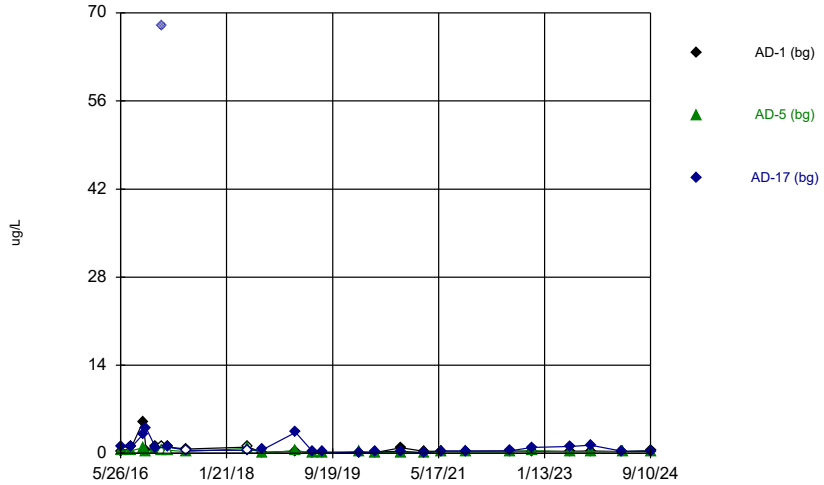
Time Series



Constituent: Cadmium Analysis Run 11/6/2024 12:34 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

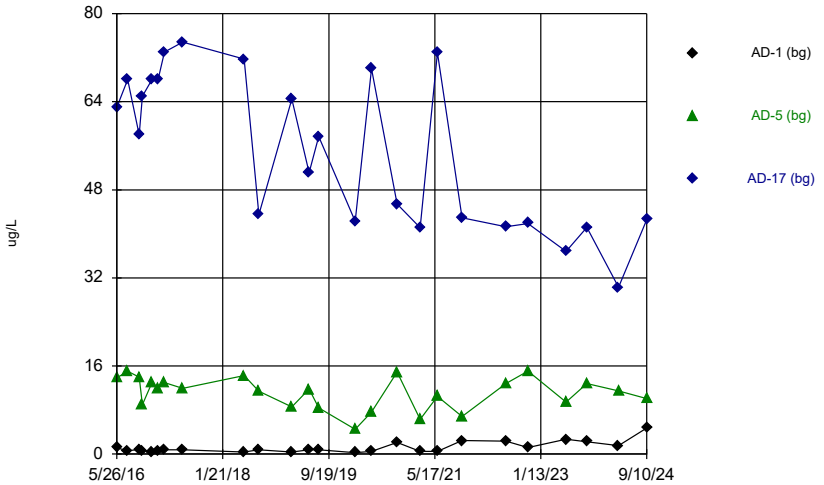
Time Series



Constituent: Chromium Analysis Run 11/6/2024 12:34 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

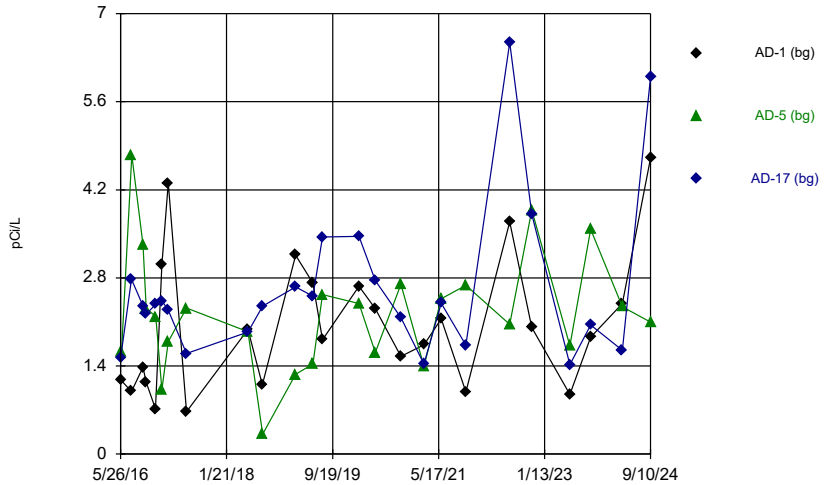
Time Series



Constituent: Cobalt Analysis Run 11/6/2024 12:34 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

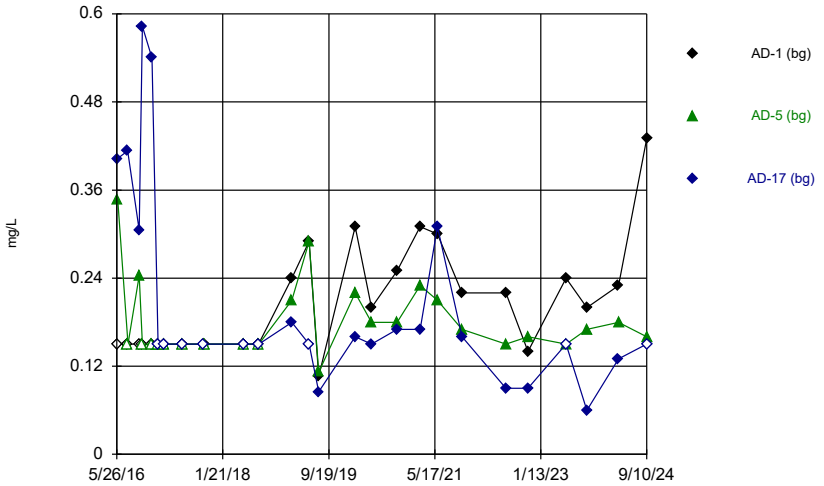
Time Series



Constituent: Combined Radium 226 + 228 Analysis Run 11/6/2024 12:34 PM View: Upper Tolerance Limit
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

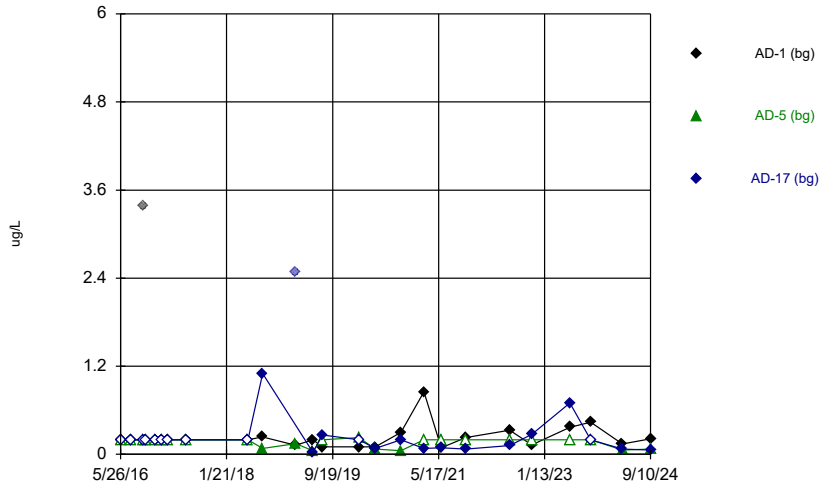
Time Series



Constituent: Fluoride Analysis Run 11/6/2024 12:34 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

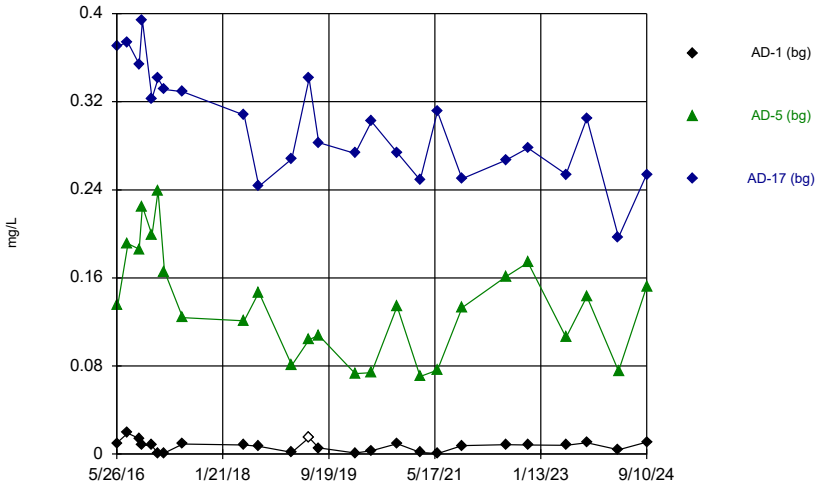
Time Series



Constituent: Lead Analysis Run 11/6/2024 12:34 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

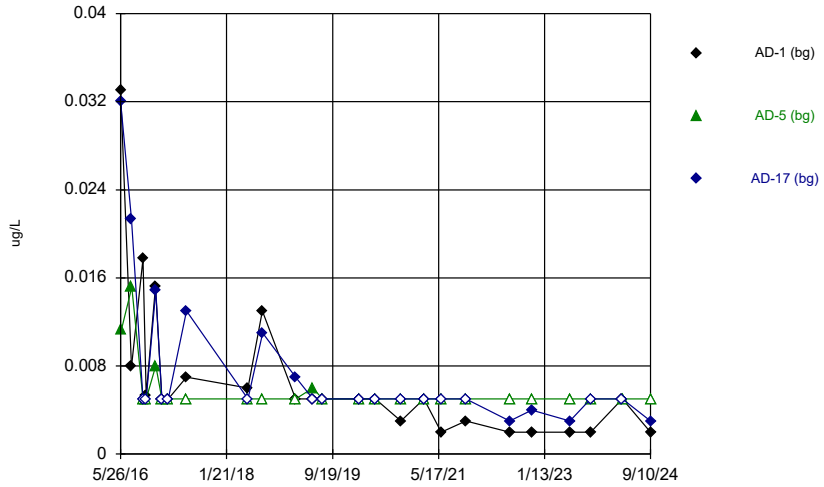
Time Series



Constituent: Lithium Analysis Run 11/6/2024 12:34 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

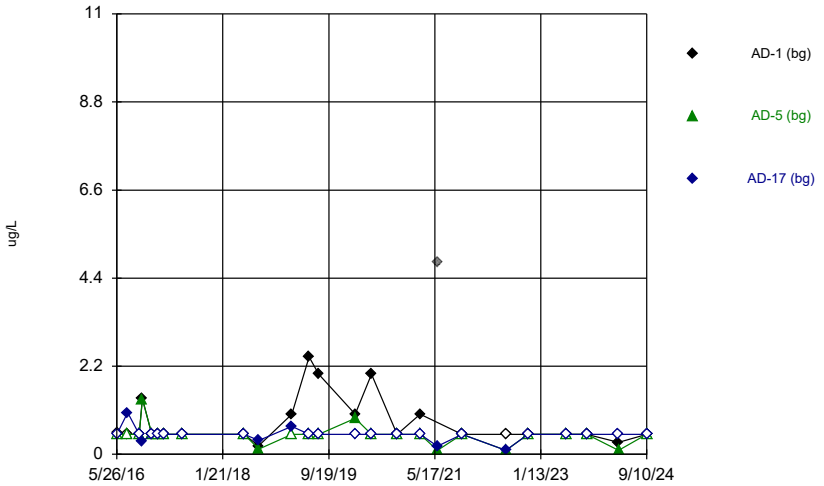
Time Series



Constituent: Mercury Analysis Run 11/6/2024 12:34 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

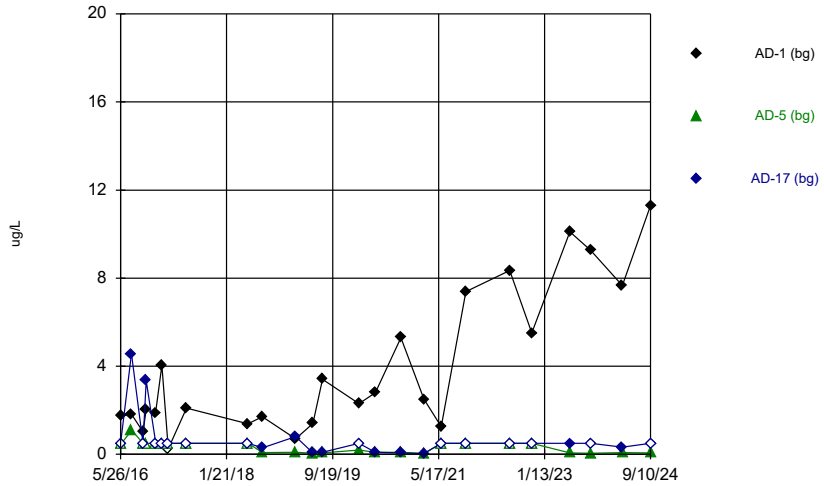
Time Series



Constituent: Molybdenum Analysis Run 11/6/2024 12:34 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

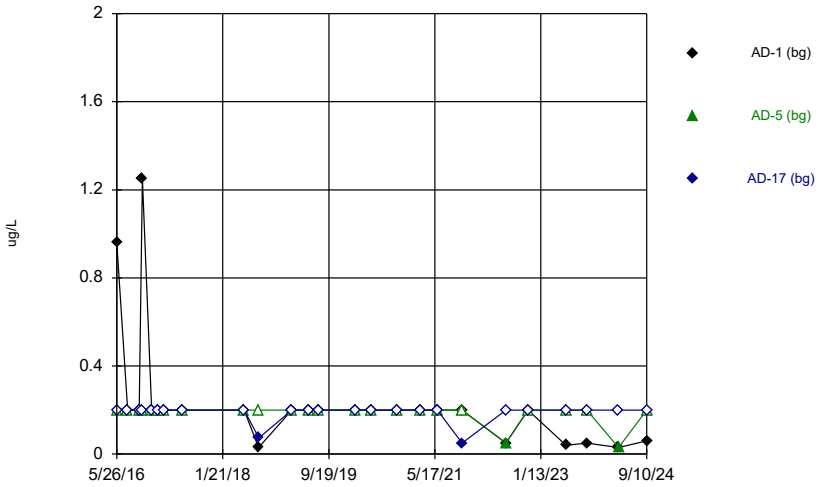
Time Series



Constituent: Selenium Analysis Run 11/6/2024 12:34 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Thallium Analysis Run 11/6/2024 12:34 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



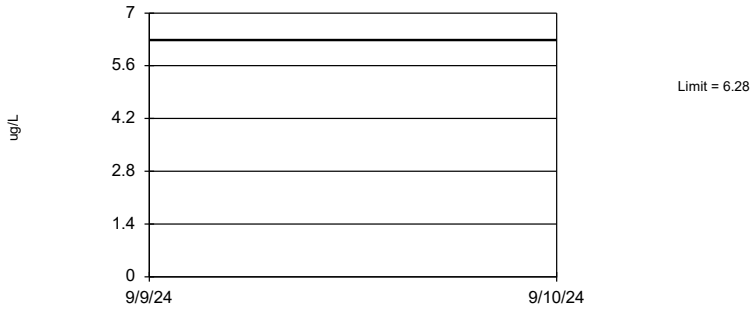
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 75 background values. 64% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02134.

Constituent: Antimony Analysis Run 11/6/2024 12:33 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



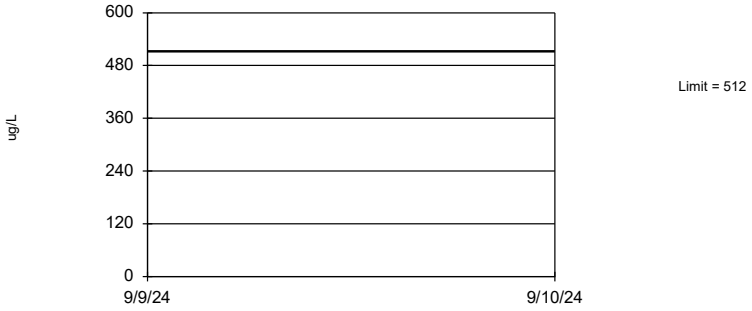
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 75 background values. 25.33% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02134.

Constituent: Arsenic Analysis Run 11/6/2024 12:33 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



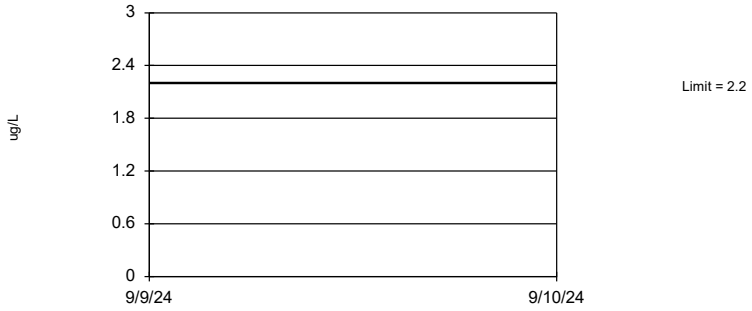
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 75 background values. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02134.

Constituent: Barium Analysis Run 11/6/2024 12:33 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 75 background values. 8% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02134.

Constituent: Beryllium Analysis Run 11/6/2024 12:33 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 73 background values. 32.88% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02365.

Constituent: Cadmium Analysis Run 11/6/2024 12:33 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



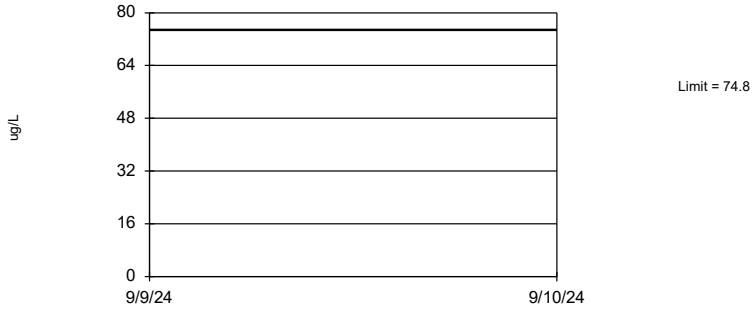
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 74 background values. 12.16% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02247.

Constituent: Chromium Analysis Run 11/6/2024 12:33 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



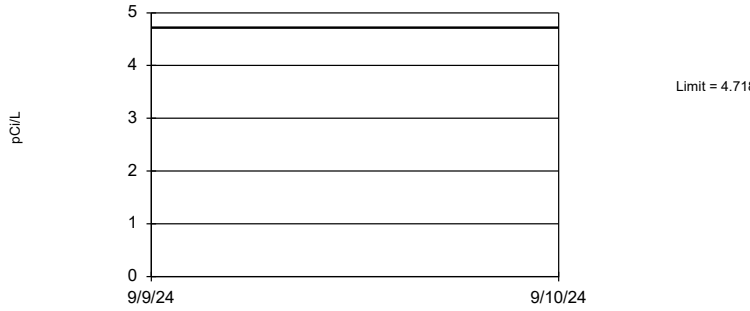
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 75 background values. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02134.

Constituent: Cobalt Analysis Run 11/6/2024 12:33 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Parametric



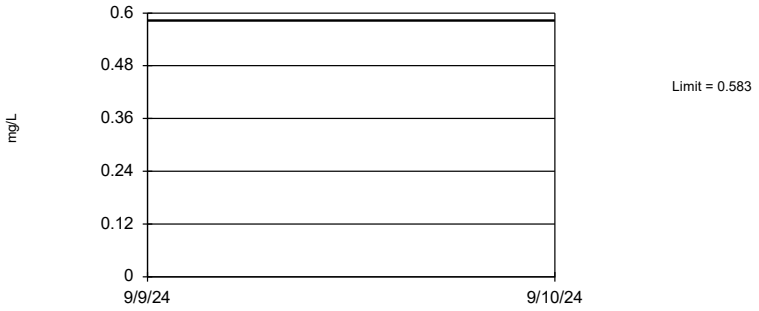
95% coverage. Background Data Summary (based on square root transformation): Mean=1.477, Std. Dev.=0.3523, n=75. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9655, critical = 0.956. Report alpha = 0.05.

Constituent: Combined Radium 226 + 228 Analysis Run 11/6/2024 12:33 PM View: Upper Tolerance Limit
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



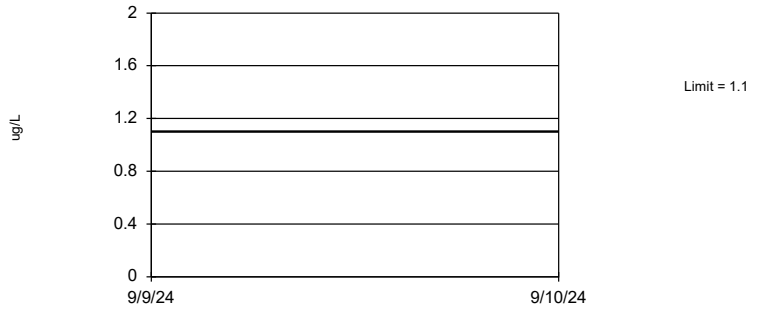
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 78 background values. 37.18% NDs. 94.34% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.0183.

Constituent: Fluoride Analysis Run 11/6/2024 12:33 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



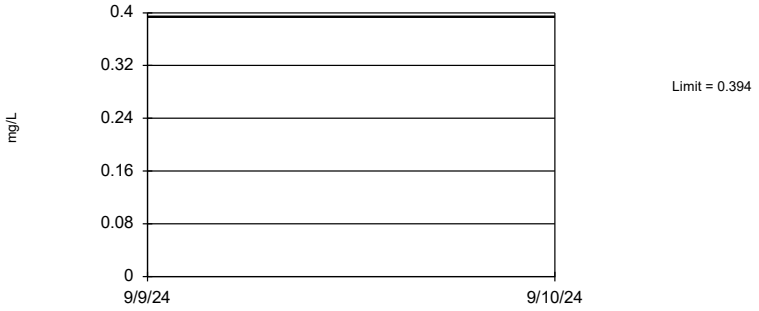
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 73 background values. 49.32% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02365.

Constituent: Lead Analysis Run 11/6/2024 12:33 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



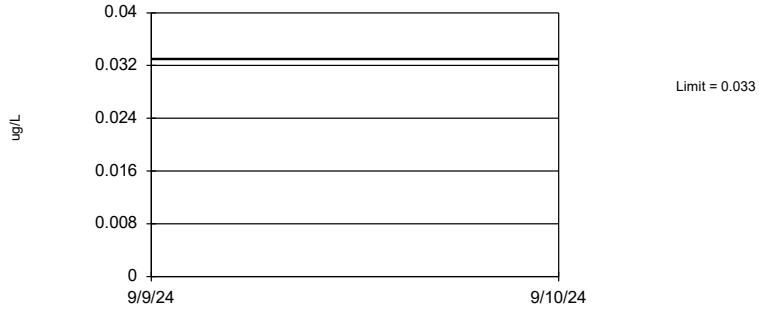
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 75 background values. 1.333% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02134.

Constituent: Lithium Analysis Run 11/6/2024 12:33 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 75 background values. 60% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02134.

Constituent: Mercury Analysis Run 11/6/2024 12:33 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



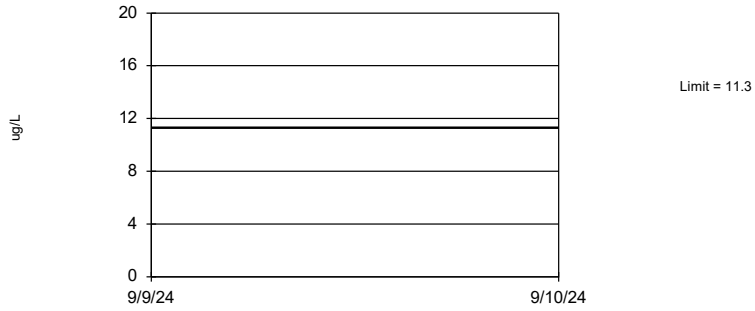
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 74 background values. 70.27% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02247.

Constituent: Molybdenum Analysis Run 11/6/2024 12:33 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



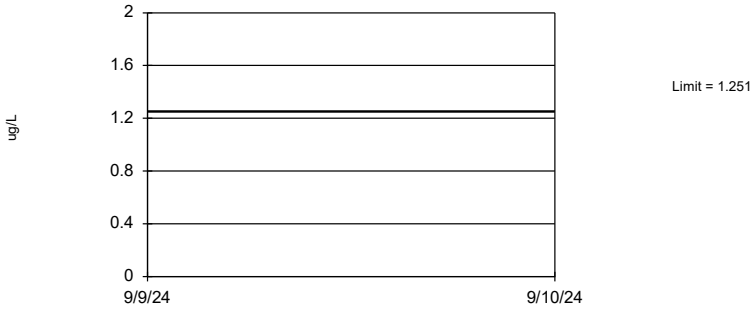
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 75 background values. 36% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02134.

Constituent: Selenium Analysis Run 11/6/2024 12:33 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.23a Software licensed to Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 75 background values. 84% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02134.

Constituent: Thallium Analysis Run 11/6/2024 12:33 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

FIGURE F

GWPS

WELSH BASP GWPS			
Constituent Name	**MCL**	**Background Limit**	**GWPS**
Antimony, Total (ug/L)	6	3.17	6
Arsenic, Total (ug/L)	10	6.28	10
Barium, Total (ug/L)	2000	512	2000
Beryllium, Total (ug/L)	4	2.2	4
Cadmium, Total (ug/L)	5	4	5
Chromium, Total (ug/L)	100	5	100
Cobalt, Total (ug/L)	n/a	74.8	74.8
Combined Radium, Total (pCi/L)	5	4.72	5
Fluoride, Total (mg/L)	4	0.58	4
Lead, Total (ug/L)	n/a	1.1	1.1
Lithium, Total (mg/L)	n/a	0.39	0.39
Mercury, Total (ug/L)	2	0.033	2
Molybdenum, Total (ug/L)	n/a	2.43	2.43
Selenium, Total (ug/L)	50	11.3	50
Thallium, Total (ug/L)	2	1.25	2

**MCL = Maximum Contaminant Level*

**GWPS = Groundwater Protection Standard*

FIGURE G
Confidence Intervals

Confidence Interval Summary Table - Significant Results

Welsh BASP Client: Geosyntec Data: Welsh BASP Printed 11/6/2024, 12:40 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Combined Radium 226 + 228 (pCi/L)	**AD-16R**	**33.73**	**6.33**	**5**	**Yes**	**8**	**12.47**	**9.133**	**0**	**None**	**No**	**0.004**	**NP (normality)**

Confidence Interval Summary Table - All Results

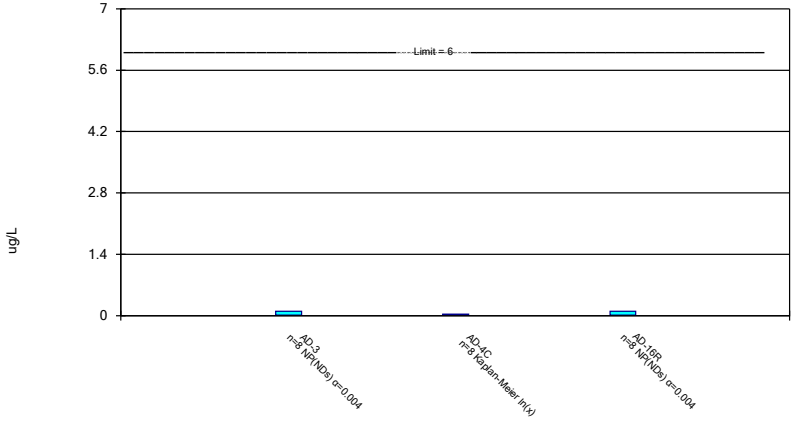
Welsh BASP Client: Geosyntec Data: Welsh BASP Printed 11/6/2024, 12:40 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (ug/L)	AD-3	0.1	0.013	6	No	8	0.06975	0.04185	62.5	None	No	0.004	NP (NDs)
Antimony (ug/L)	AD-4C	0.02967	0.01205	6	No	8	0.0405	0.03758	25	Kaplan-Meier	ln(x)	0.01	Param.
Antimony (ug/L)	AD-16R	0.1	0.011	6	No	8	0.08138	0.03535	75	Kaplan-Meier	No	0.004	NP (NDs)
Arsenic (ug/L)	AD-3	0.526	0.1965	10	No	8	0.3613	0.1554	0	None	No	0.01	Param.
Arsenic (ug/L)	AD-4C	0.7672	0.3953	10	No	8	0.5813	0.1755	0	None	No	0.01	Param.
Arsenic (ug/L)	AD-16R	1.447	0.4602	10	No	8	0.9388	0.5799	0	None	ln(x)	0.01	Param.
Barium (ug/L)	AD-3	45.5	33.58	2000	No	8	39.54	5.621	0	None	No	0.01	Param.
Barium (ug/L)	AD-4C	87.85	46.45	2000	No	8	67.15	19.53	0	None	No	0.01	Param.
Barium (ug/L)	AD-16R	48.11	38.42	2000	No	8	43.26	4.573	0	None	No	0.01	Param.
Beryllium (ug/L)	AD-3	0.2482	0.1583	4	No	8	0.2033	0.04242	0	None	No	0.01	Param.
Beryllium (ug/L)	AD-4C	1.25	0.125	4	No	8	0.3141	0.382	12.5	None	No	0.004	NP (normality)
Beryllium (ug/L)	AD-16R	1.455	0.8137	4	No	8	1.135	0.3027	0	None	No	0.01	Param.
Cadmium (ug/L)	AD-3	0.04742	0.03383	5	No	8	0.04063	0.006413	0	None	No	0.01	Param.
Cadmium (ug/L)	AD-4C	0.4085	0.009416	5	No	8	0.2005	0.3298	12.5	None	x^(1/3)	0.01	Param.
Cadmium (ug/L)	AD-16R	0.7861	0.6732	5	No	8	0.7296	0.05327	0	None	No	0.01	Param.
Chromium (ug/L)	AD-3	0.6541	0.3934	100	No	8	0.5238	0.1229	0	None	No	0.01	Param.
Chromium (ug/L)	AD-4C	0.8919	0.4156	100	No	8	0.6538	0.2247	0	None	No	0.01	Param.
Chromium (ug/L)	AD-16R	0.9165	0.641	100	No	8	0.7788	0.13	0	None	No	0.01	Param.
Cobalt (ug/L)	AD-3	1.431	1.099	74.8	No	8	1.265	0.1562	0	None	No	0.01	Param.
Cobalt (ug/L)	AD-4C	0.8703	0.4494	74.8	No	8	0.6599	0.1986	0	None	No	0.01	Param.
Cobalt (ug/L)	AD-16R	34.01	25.44	74.8	No	8	29.73	4.039	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	AD-3	2.024	0.5262	5	No	8	1.275	0.7065	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	AD-4C	2.825	0.9427	5	No	8	1.884	0.8878	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	**AD-16R**	**33.73**	**6.33**	**5**	**Yes**	**8**	**12.47**	**9.133**	**0**	**None**	**No**	**0.004**	**NP (normality)**
Fluoride (mg/L)	AD-3	0.1604	0.1021	4	No	8	0.1313	0.02748	0	None	No	0.01	Param.
Fluoride (mg/L)	AD-4C	0.1489	0.1036	4	No	8	0.1263	0.02134	0	None	No	0.01	Param.
Fluoride (mg/L)	AD-16R	0.166	0.05585	4	No	8	0.11	0.07191	0	None	ln(x)	0.01	Param.
Lead (ug/L)	AD-3	0.4149	0.104	1.1	No	8	0.2538	0.166	0	None	sqrt(x)	0.01	Param.
Lead (ug/L)	AD-4C	0.235	0.07252	1.1	No	8	0.195	0.06279	37.5	Kaplan-Meier	No	0.01	Param.
Lead (ug/L)	AD-16R	0.3305	0.142	1.1	No	8	0.2363	0.08895	0	None	No	0.01	Param.
Lithium (mg/L)	AD-3	0.01646	0.009572	0.39	No	8	0.01302	0.003249	0	None	No	0.01	Param.
Lithium (mg/L)	AD-4C	0.0087	0.004375	0.39	No	8	0.006538	0.00204	0	None	No	0.01	Param.
Lithium (mg/L)	AD-16R	0.02354	0.01523	0.39	No	8	0.01939	0.003919	0	None	No	0.01	Param.
Mercury (ug/L)	AD-3	0.3491	0.07326	2	No	8	0.2053	0.1603	12.5	None	x^(1/3)	0.01	Param.
Mercury (ug/L)	AD-4C	0.1888	0.05648	2	No	8	0.1226	0.0624	12.5	None	No	0.01	Param.
Mercury (ug/L)	AD-16R	0.03765	0.007394	2	No	8	0.02188	0.01666	0	None	sqrt(x)	0.01	Param.
Molybdenum (ug/L)	AD-3	0.6	0.2	2.43	No	8	0.475	0.1165	75	None	No	0.004	NP (NDs)
Molybdenum (ug/L)	AD-4C	0.5	0.2	2.43	No	8	0.4625	0.1061	87.5	None	No	0.004	NP (NDs)
Selenium (ug/L)	AD-3	0.2208	0.1242	50	No	8	0.1725	0.04559	0	None	No	0.01	Param.
Selenium (ug/L)	AD-4C	0.6116	0.1884	50	No	8	0.4	0.1996	0	None	No	0.01	Param.
Selenium (ug/L)	AD-16R	1.376	0.6331	50	No	8	0.995	0.3807	0	None	x^(1/3)	0.01	Param.
Thallium (ug/L)	AD-3	0.2	0.02	2	No	8	0.1363	0.08815	62.5	None	No	0.004	NP (NDs)
Thallium (ug/L)	AD-4C	0.2	0.02	2	No	8	0.1188	0.08758	50	None	No	0.004	NP (normality)
Thallium (ug/L)	AD-16R	0.5465	0.471	2	No	8	0.5088	0.03563	0	None	No	0.01	Param.

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

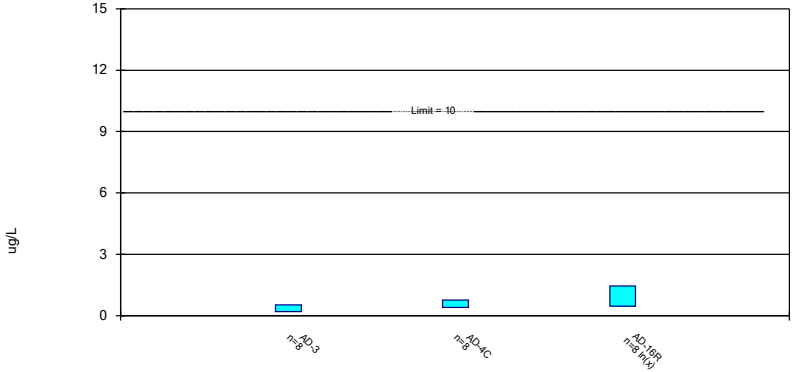


Constituent: Antimony Analysis Run 11/6/2024 12:37 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

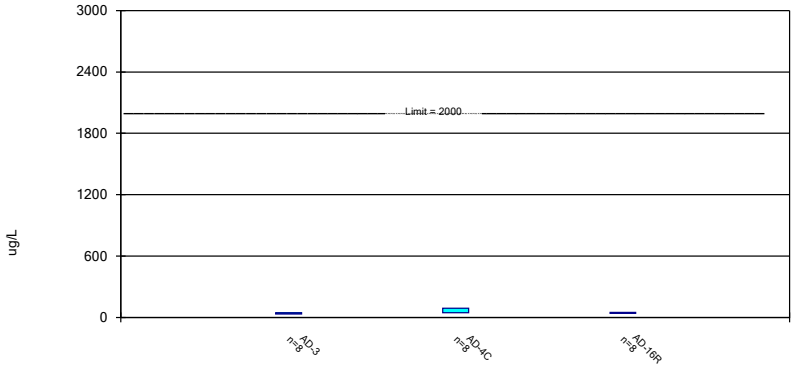


Constituent: Arsenic Analysis Run 11/6/2024 12:37 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

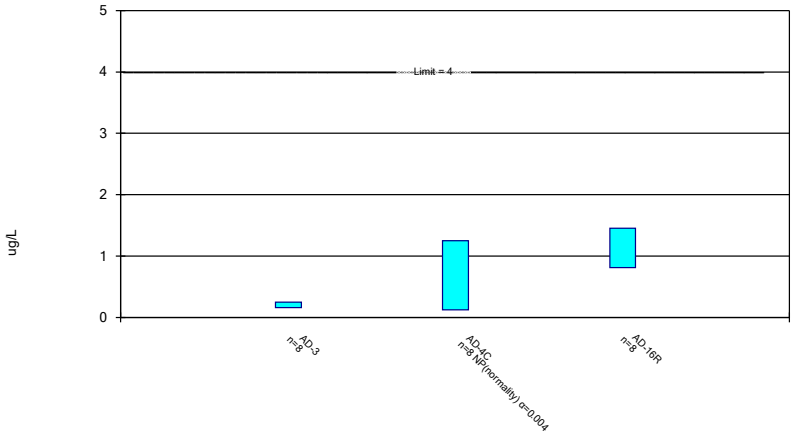


Constituent: Barium Analysis Run 11/6/2024 12:37 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

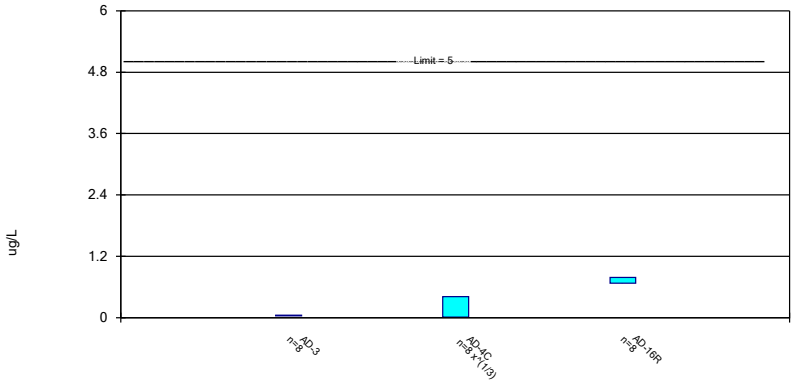


Constituent: Beryllium Analysis Run 11/6/2024 12:37 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

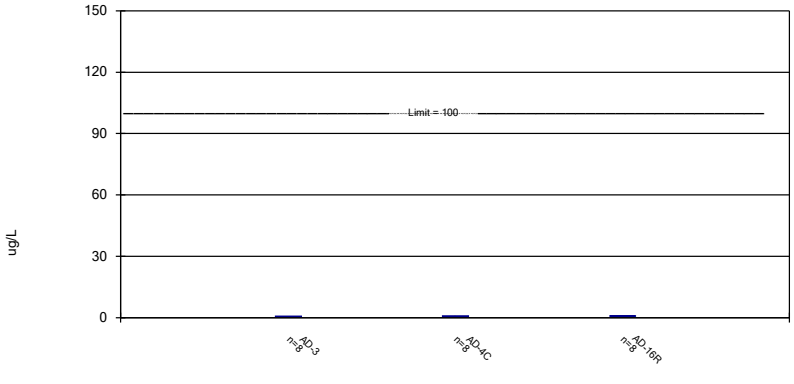


Constituent: Cadmium Analysis Run 11/6/2024 12:37 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

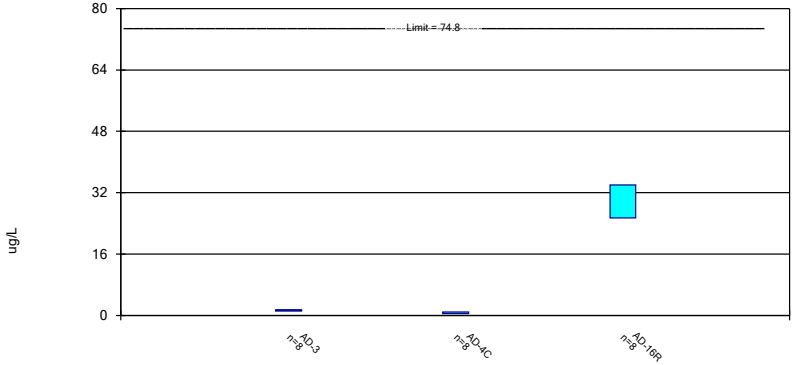


Constituent: Chromium Analysis Run 11/6/2024 12:37 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

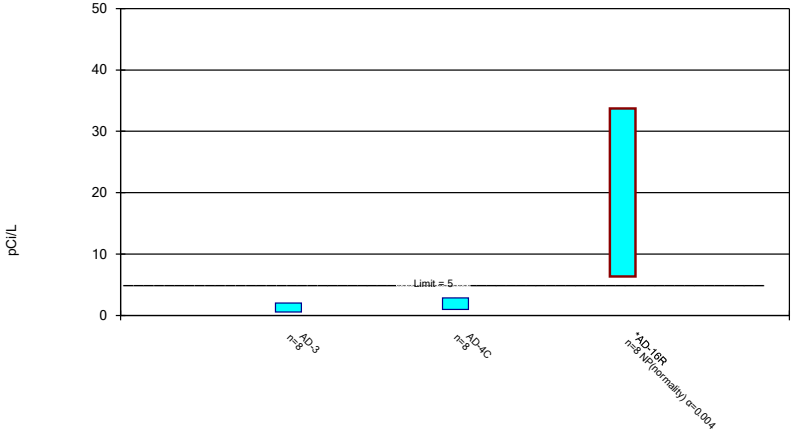


Constituent: Cobalt Analysis Run 11/6/2024 12:37 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

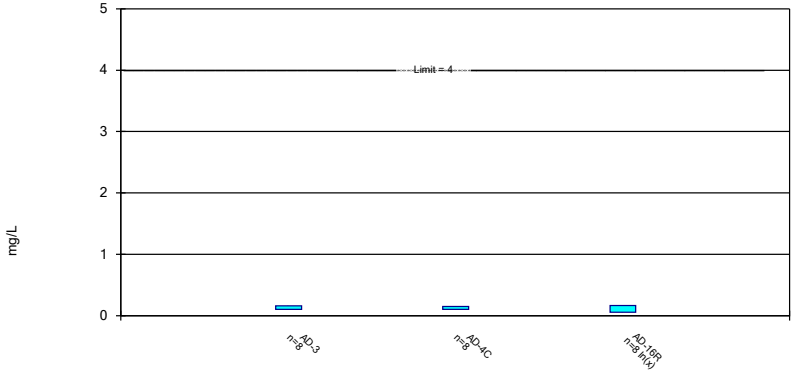


Constituent: Combined Radium 226 + 228 Analysis Run 11/6/2024 12:37 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

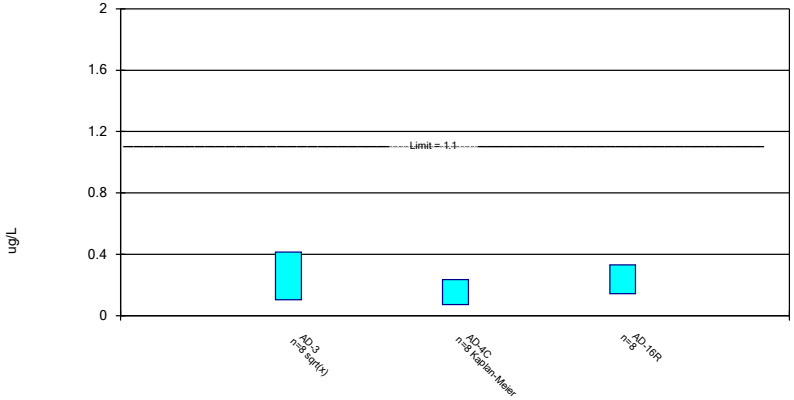


Constituent: Fluoride Analysis Run 11/6/2024 12:37 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

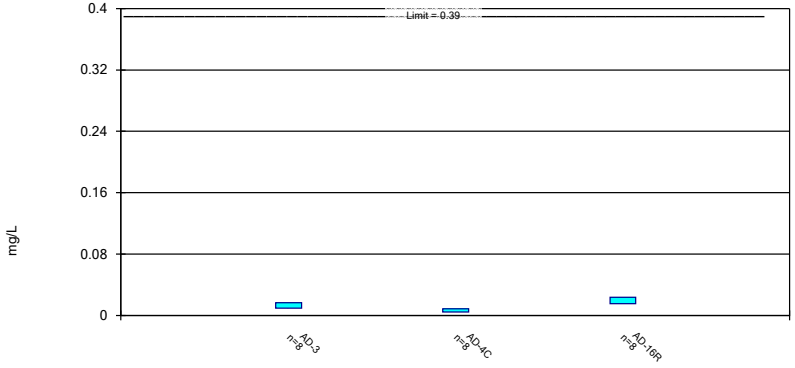


Constituent: Lead Analysis Run 11/6/2024 12:37 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

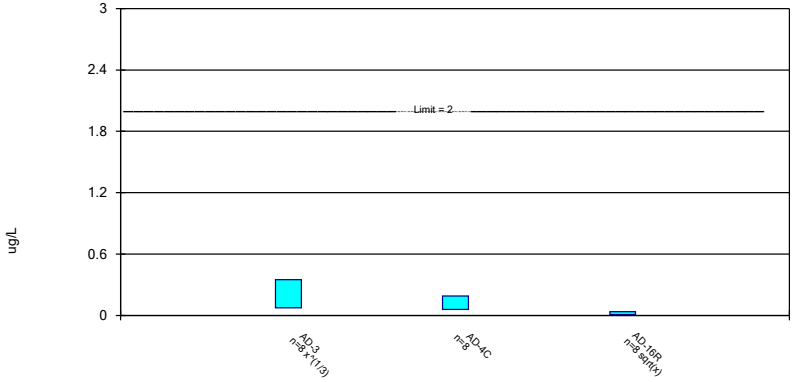


Constituent: Lithium Analysis Run 11/6/2024 12:37 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

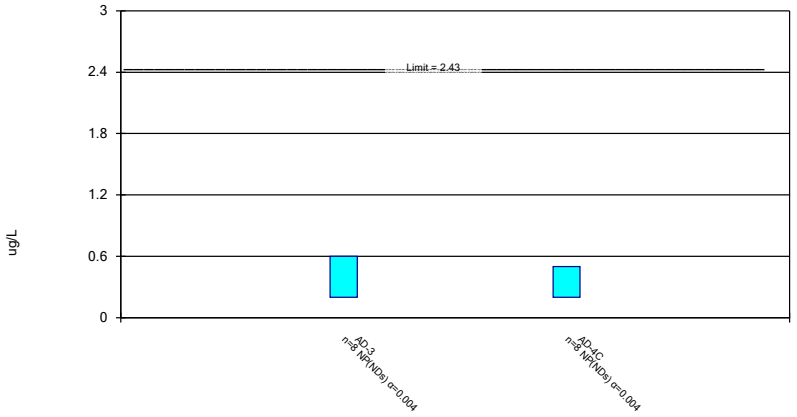


Constituent: Mercury Analysis Run 11/6/2024 12:37 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

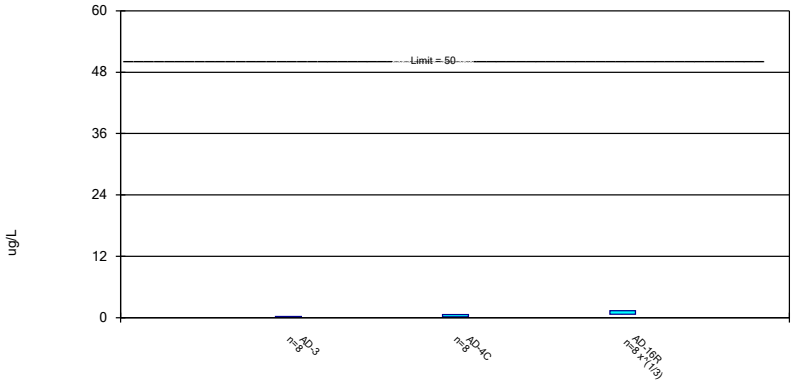


Constituent: Molybdenum Analysis Run 11/6/2024 12:37 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

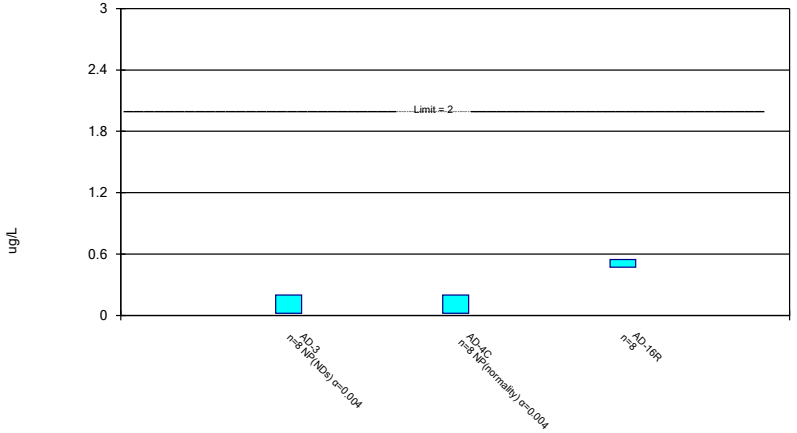


Constituent: Selenium Analysis Run 11/6/2024 12:37 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Thallium Analysis Run 11/6/2024 12:37 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

FIGURE H
Appendix IV Trend Tests

Appendix IV Trend Tests - All Results (No Significant)

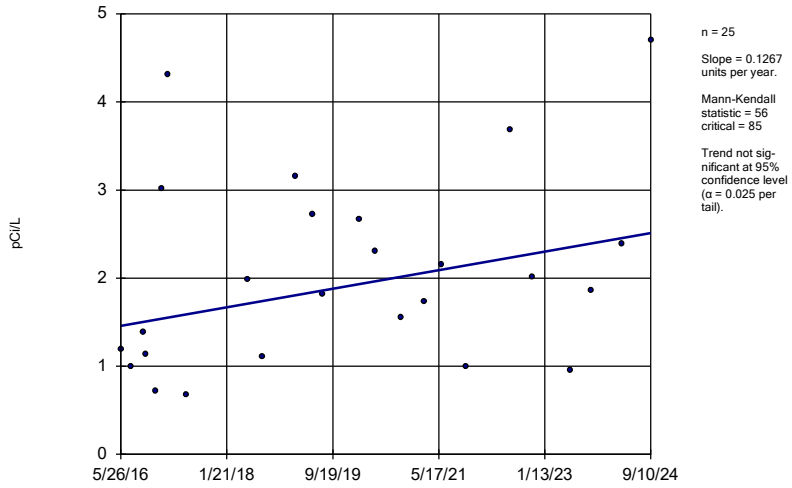
Welsh BASP Client: Geosyntec Data: Welsh BASP Printed 11/1/2024, 10:35 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Combined Radium 226 + 228 (pCi/L)	AD-1 (bg)	0.1267	56	85	No	25	0	n/a	n/a	0.05	NP
Combined Radium 226 + 228 (pCi/L)	AD-5 (bg)	0.05796	34	85	No	25	0	n/a	n/a	0.05	NP
Combined Radium 226 + 228 (pCi/L)	AD-16R	0.15	13	58	No	19	0	n/a	n/a	0.05	NP
Combined Radium 226 + 228 (pCi/L)	AD-17 (bg)	0.03801	22	85	No	25	0	n/a	n/a	0.05	NP

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Sen's Slope Estimator

AD-1 (bg)



n = 25

Slope = 0.1267 units per year.

Mann-Kendall statistic = 56 critical = 85

Trend not significant at 95% confidence level (α = 0.025 per tail).

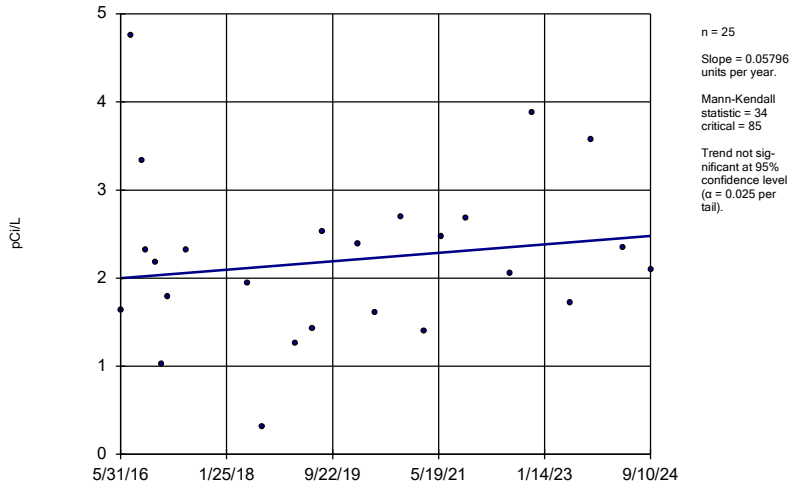
Constituent: Combined Radium 226 + 228 Analysis Run 11/1/2024 10:33 AM View: Trend Tests Appendix

Welsh BASP Client: Geosyntec Data: Welsh BASP

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Sen's Slope Estimator

AD-5 (bg)



n = 25

Slope = 0.05796 units per year.

Mann-Kendall statistic = 34 critical = 85

Trend not significant at 95% confidence level (α = 0.025 per tail).

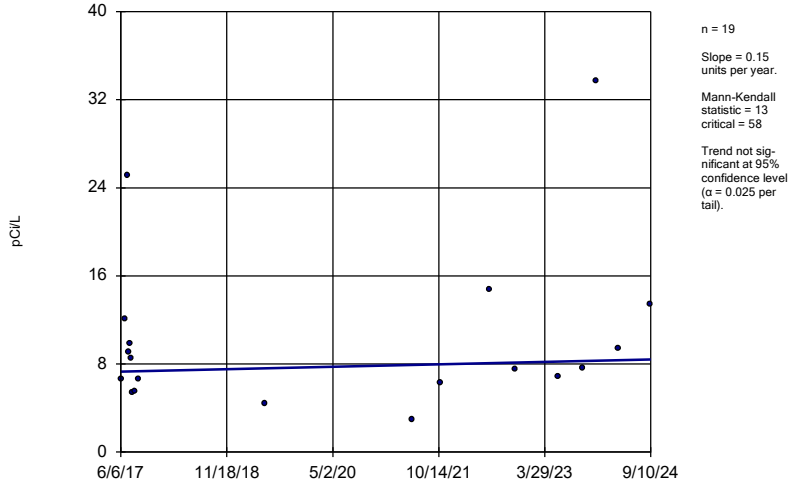
Constituent: Combined Radium 226 + 228 Analysis Run 11/1/2024 10:33 AM View: Trend Tests Appendix

Welsh BASP Client: Geosyntec Data: Welsh BASP

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Sen's Slope Estimator

AD-16R



n = 19

Slope = 0.15 units per year.

Mann-Kendall statistic = 13 critical = 58

Trend not significant at 95% confidence level (α = 0.025 per tail).

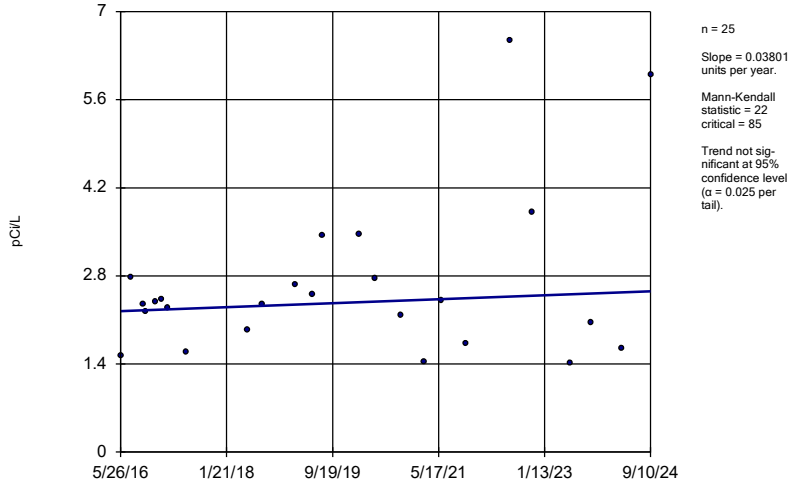
Constituent: Combined Radium 226 + 228 Analysis Run 11/1/2024 10:33 AM View: Trend Tests Appendix

Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.0.20 Software licensed to Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-17 (bg)



n = 25

Slope = 0.03801 units per year.

Mann-Kendall statistic = 22 critical = 85

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Combined Radium 226 + 228 Analysis Run 11/1/2024 10:33 AM View: Trend Tests Appendix

Welsh BASP Client: Geosyntec Data: Welsh BASP

Geosyntec consultants

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Worthington, Ohio 43085
PH 614.468.0415
FAX 614.468.0416
www.geosyntec.com

Memorandum

Date:	October 31, 2025
To:	David Miller (AEP)
Copies to:	Pryce Warren (AEP)
From:	Allison Kreinberg (Geosyntec)
Subject:	Evaluation of Detection Monitoring Data at Welsh Plant's Bottom Ash Storage Pond (BASP)

In accordance with the Texas Commission on Environmental Quality (TCEQ) regulations regarding the disposal of coal combustion residuals (CCR) in landfills and surface impoundments (30 TAC 352, "CCR rule"), the first semiannual detection monitoring event of 2025 at the Bottom Ash Storage Pond (BASP), an existing CCR unit at the Welsh Power Plant in Pittsburg, Texas, was completed on April 29, 2025. Based on the results, a two-of-two verification sampling was completed on June 11, 2025.

A data quality review was completed to assess if the data collected for this semiannual detection monitoring event met the objectives outlined in TCEQ Draft Technical Guidance No. 32 related to groundwater sampling and analysis[1]. The data were generally determined usable for supporting project objectives, as documented in the review memoranda provided in Attachment A. However, a sampling issue was identified for sulfate and total dissolved solids (TDS) during the June 11, 2025 sampling event after the hold time for the analysis had expired. The results for the sulfate and TDS analysis for AD-4C for the verification sampling were not reported.

Background values for the BASP were originally calculated in January 2018 and have been periodically updated as sufficient data becomes available. After a minimum of four additional detection monitoring events, the results of those events were compared to the existing background and the dataset was updated as appropriate. Revised upper prediction limits (UPLs) were calculated for each Appendix III parameter to represent background values. Lower prediction limits (LPLs) were also calculated for pH. Details on the most recent calculation of the revised

[1] TCEQ. Topic: Coal Combustion Residuals (CCR) Groundwater Monitoring and Corrective Action: Draft Technical Guidance No. 32. May 2020.

background values are described in Geosyntec's *Statistical Analysis Summary* report, dated January 15, 2024.

To achieve an acceptably high statistical power while maintaining a site-wide false-positive rate (SWFPR) of 10% per year or less, prediction limits were calculated based on a one-of-two retesting procedure. With this procedure, a statistically significant increase (SSI) is only concluded if both samples in a series of two exceeds the UPL (or are below the LPL for pH). In practice, if the initial result did not exceed the UPL, a second sample was not collected or analyzed.

Detection monitoring results and the relevant background values are compared in Table 1 and noted exceedances are described in the list below.

- Boron concentrations were above the intrawell UPL of 0.0882 milligrams per liter (mg/L) in both the initial (0.312 mg/L) and second (0.406 mg/L) samples collected at AD-4C. Thus, an SSI over background is concluded for boron at AD-4C.

- Calcium concentrations were above the intrawell UPL of 1.44 mg/L in both the initial (2.41 mg/L) and second (3.28 mg/L) samples collected at AD-4C. Thus, an SSI over background is concluded for calcium at AD-4C.

- Chloride concentrations were above the intrawell UPL of 9.40 mg/L in both the initial (11.4 mg/L) and second (10.8 mg/L) samples collected at AD-3. Thus, an SSI over background is concluded for chloride at AD-3.

- The sulfate concentration was above the intrawell UPL of 123 mg/L in the initial (164 mg/L) sample collected at AD-4C. The verification sample was discarded due to a sampling issue. Thus, an SSI over background is assumed for sulfate at AD-4C.

- The TDS concentration was above the intrawell UPL of 332 mg/L in the initial (390 mg/L) sample collected at AD-4C. The verification sample was discarded due to a sampling issue. Thus, an SSI over background is assumed for TDS at AD-4C.

In response to the exceedances noted above, the Welsh BASP CCR unit will either transition to assessment monitoring or an alternative source demonstration (ASD) for boron, calcium, chloride, sulfate, and TDS will be conducted in accordance with 30 TAC 352.941(c). If the ASD is successful, the Welsh BASP will remain in detection monitoring.

The statistical analysis was conducted in accordance with 30 TAC 352.931 and completed within 90 days of sampling and analysis. A certification of these statistics by a qualified professional engineer is provided in Attachment B.

Table 1. Detection Monitoring Data Evaluation
Detection Summary Memorandum
Welsh Plant - Bottom Ash Storage Pond

Analyte	Unit	Description	AD-3		AD-4C		AD-16R
			4/29/2025	6/11/2025	4/29/2025	6/11/2025	4/29/2025
Boron	mg/L	Intrawell Background Value (UPL)	0.0407		0.0882		0.0577
		Analytical Result	0.008	--	**0.312**	**0.406**	0.025
Calcium	mg/L	Intrawell Background Value (UPL)	1.38		1.44		2.90
		Analytical Result	0.67	--	**2.41**	**3.28**	0.44
Chloride	mg/L	Intrawell Background Value (UPL)	9.40		18.6		8.00
		Analytical Result	**11.4**	**10.8**	15.9	--	7.17
Fluoride	mg/L	Intrawell Background Value (UPL)	0.263		0.180		0.296
		Analytical Result	0.14	--	0.17	--	0.16
pH	SU	Intrawell Background Value (UPL)	5.2		5.7		4.6
		Intrawell Background Value (LPL)	3.8		4.0		2.8
		Analytical Result	4.2	--	4.4	--	3.4
Sulfate	mg/L	Intrawell Background Value (UPL)	10.6		123		73.4
		Analytical Result	2.0	--	**164**	**D/N/A**	54.5
Total Dissolved Solids	mg/L	Intrawell Background Value (UPL)	136		332		242
		Analytical Result	110	--	**390**	**D/N/A**	200

Notes:
1. Bold values exceed the background value.
2. Background values are shaded gray.
--: not measured
D/N/A: data not available due to data quality issues.
LPL: Lower prediction limit
mg/L: milligrams per liter
SU: standard units
UPL: Upper prediction limit

ATTACHMENT A
Data Quality Review Memoranda

Geosyntec consultants

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Memorandum

Date:	June 25, 2025
To:	David Miller (AEP)
Copies to:	Pryce Warren (AEP)
From:	Allison Kreinberg (Geosyntec)
Subject:	Data Quality Review – Welsh Power Plant Bottom Ash Storage Pond April 2025 Sampling Event

This memorandum summarizes the findings of a data quality review for groundwater samples collected at the Welsh Power Plant, located in Pittsburg, Texas in April 2025. The groundwater samples were collected from the Bottom Ash Storage Pond (BASP) groundwater monitoring network to comply with the Texas Commission on Environmental Quality's (TCEQ's) regulations regarding the disposal of coal combustion residuals (CCRs) in landfills and surface impoundments (Title 30 Chapter 352, "CCR Rule"). These samples were analyzed for select 40 CFR 257 Appendix III and Appendix IV constituents.

The following sample data groups (SDGs) were associated with the three groundwater samples collected during the April 2025 sampling event and are reviewed in this memorandum:

- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 251141
- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 251169

The data included in these SDGs were reviewed to assess if they met the objectives outlined in TCEQ Draft Technical Guideline No. 32[1] prior to submittal of this data to TCEQ.

The following data quality issues were identified:

- As reported in SDG 251169, chromium and cobalt were detected in the field blank sample "FIELD BLANK - BASP" collected on 4/29/2025. The estimated detected chromium concentration in the field blank (0.26 µg/L) was more than 10% of the detected values for

[1] TCEQ. Topic: Coal Combustion Residuals (CCR) Groundwater Monitoring and Corrective Action: Technical Guidance No. 32. May 2020.

chromium in all groundwater samples, which could result in high bias for all groundwater chromium results.

- As reported in SDG 251169, barium, chromium, and cobalt were detected in the equipment blank sample "EQUIPMENT BLANK - BASP" collected on 4/29/2025. The estimated detected chromium concentration in the equipment blank (0.24 µg/L) was more than 10% of the detected values for chromium in all groundwater samples, which could result in high bias for all groundwater chromium results.

- As reported in SDG 251169, the relative percent differences (RPD) for antimony (38%), chromium (27%), and thallium (40%) concentrations from parent sample "AD-3" and duplicate sample "DUPLICATE - BASP" were above 20%. The AD-3 antimony, chromium, and thallium results should be considered estimated.

- The RPD for radium-226 in the duplicate (DUP) sample "PB25050706" (64%) was above the acceptable limit of 25%. Samples associated with that QC batch on SDG 251169 were flagged P1: the precision between duplicate results was above acceptance limits.

Based on these findings, the majority of the data reported in these SDGs are considered accurate and complete. Although the QC failures mentioned above will result in some limitations of data use since the affected results are considered estimated or have elevated reporting limits, the data are considered usable for supporting project objectives.

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Memorandum

Date:	October 14, 2025
To:	David Miller (AEP)
Copies to:	Pryce Warren (AEP)
From:	Allison Kreinberg (Geosyntec)
Subject:	Data Quality Review – Welsh Power Plant June 2025 Verification Resampling Event

This memorandum summarizes the findings of a data quality review for groundwater samples collected at the Welsh Power Plant, located in Pittsburg, Texas in June 2025. The groundwater samples were collected to comply with the Texas Commission on Environmental Quality's (TCEQ's) regulations regarding the disposal of coal combustion residuals (CCRs) in landfills and surface impoundments (Title 30 Chapter 352, "CCR Rule"). The samples were analyzed for select 40 CFR 257 Appendix III constituents.

The following sample data group (SDG) was associated with the groundwater samples collected during the June 2025 sampling event and is reviewed in this memorandum:

- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 251531

The data included in this SDG was reviewed to assess if they met the objectives outlined in TCEQ Draft Technical Guideline No. 32[1] prior to submittal of this data to TCEQ.

The following data quality issues were identified:

- As reported in SDG 251531, labels were found to be switched for unpreserved bottles. Sulfate and total dissolved solids could not be reanalyzed due to hold times, and samples were discarded.

[1] TCEQ. Topic: Coal Combustion Residuals (CCR) Groundwater Monitoring and Corrective Action: Technical Guidance No. 32. May 2020.

No other data quality issues were identified. Based on these findings, the data reported in this SDG are considered accurate and complete.

ATTACHMENT B

Certification by a Qualified Professional Engineer

CERTIFICATION BY QUALIFIED PROFESSIONAL ENGINEER

I certify that the selected statistical method, described above and in the January 15, 2024 *Statistical Analysis Summary* report, is appropriate for evaluating the groundwater monitoring data for the Welsh BASP CCR management area and that the requirements of 30 TAC 352.931(a) have been met.



David Anthony Miller

Printed Name of Licensed Professional Engineer

David Anthony Miller

Signature

112498	**Texas**	**10.31.2025**
License Number	Licensing State	Date

Geosyntec consultants

engineers | scientists | innovators

STATISTICAL ANALYSIS SUMMARY, 2025 2ND SEMIANNUAL EVENT BOTTOM ASH STORAGE POND

J. Robert Welsh Plant

Pittsburg, Texas

Prepared for

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December 2025

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY 1

2. BOTTOM ASH STORAGE POND EVALUATION 2
   2.1 Data Validation and QA/QC 2
   2.2 Statistical Analysis 2
      2.2.1 Establishment of GWPSs 2
      2.2.2 Evaluation of Potential Appendix IV SSLs 3
      2.2.3 Evaluation of Potential Appendix III SSIs 3
   2.3 Conclusions 3

3. REFERENCES 5

LIST OF TABLES

Table 1: Groundwater Data Summary

Table 2: Appendix IV Groundwater Protection Standards

Table 3: Appendix III Data Summary

LIST OF ATTACHMENTS

Attachment A: Certification by Qualified Professional Engineer

Attachment B: Data Quality Review Memoranda

Attachment C: Statistical Analysis Output

ACRONYMS AND ABBREVIATIONS

ASD	alternative source demonstration
BASP	Bottom Ash Storage Pond
CCR	coal combustion residuals
GWPS	groundwater protection standard
LCL	lower confidence limit
LPL	lower prediction limit
mg/L	milligram per liter
pCi/L	picocuries per liter
QA/QC	quality assurance/quality control
SSI	statistically significant increase
SSL	statistically significant level
TCEQ	Texas Commission on Environmental Quality
TDS	total dissolved solids
UPL	upper prediction limit

1. EXECUTIVE SUMMARY

In accordance with Texas Commission on Environmental Quality's (TCEQ) regulations regarding the disposal of coal combustion residuals (CCRs) in landfills and surface impoundments (Title 30 Chapter 352, "CCR rule"), groundwater monitoring has been conducted at the Bottom Ash Storage Pond (BASP), an existing CCR unit at the Welsh Power Plant in Pittsburg, Texas. Recent groundwater monitoring results were used to identify concentrations of Appendix IV constituents that are above site-specific groundwater protection standards (GWPSs).

Before October 2017, at least eight monitoring events were completed to establish background concentrations and calculate prediction limits for Appendix III and Appendix IV parameters under the CCR rule (Geosyntec 2018). Following the background monitoring period, Welsh BASP initiated detection monitoring.

Based on detection monitoring conducted in 2025, statistically significant increases (SSIs) over background were concluded for boron, calcium, chloride, sulfate, and total dissolved solids (TDS) at the BASP. An alternative source was not identified at the time, so it will move to assessment monitoring. A semiannual sampling event was conducted at the BASP in September 2025 in accordance with § 352.951(a). The results of the September 2025 assessment sampling event are documented in this report.

Before the statistical analyses were conducted, the groundwater data underwent several validation tests, including those for completeness, sample tracking accuracy, transcription errors, and consistent use of measurement units. No data quality issues that would impact data usability were identified.

The monitoring data were submitted to Groundwater Stats Consulting, LLC for statistical analysis. GWPSs were established for the Appendix IV parameters. Confidence intervals were calculated for Appendix IV parameters at the compliance wells to assess whether any were present at statistically significant levels (SSLs) above the corresponding GWPS. SSLs were identified for combined radium. Therefore, either the unit will move to an assessment of corrective measures, or an alternative source demonstration (ASD) will be conducted to evaluate if the unit can remain in assessment monitoring. Certification of the selected statistical methods by a qualified professional engineer is documented in Attachment A.

2. BOTTOM ASH STORAGE POND EVALUATION

2.1 Data Validation and QA/QC

During the September 2025 assessment monitoring event, one set of samples was collected for analysis from each background and compliance well. Samples from September 2025 were analyzed for all Appendix III and Appendix IV parameters. A summary of data collected during this assessment monitoring event may be found in Table 1.

Chemical analysis was completed by a National Environmental Laboratory Accreditation Program–certified analytical laboratory. The laboratory completed analysis of quality assurance and quality control (QA/QC) samples such as laboratory reagent blanks, continuing calibration verification samples, and laboratory fortified blanks.

A data quality review was completed to assess whether the data met the objectives outlined in TCEQ Draft Technical Guidance No. 32 related to groundwater sampling and analysis (TCEQ 2020). As noted in the review memoranda (Attachment B), the data were determined usable for supporting project objectives. The analytical data were imported into a Microsoft Access database, where checks were completed to assess the accuracy of sample location identification and analyte identification. Where necessary, unit conversions were applied to standardize reported units across all sampling events. Exported data files were created for use with the Sanitas™ v.10.1.02 statistics software. The export file was checked against the analytical data for transcription errors and completeness.

2.2 Statistical Analysis

Statistical analyses for the BASP were conducted in accordance with the December 2021 Statistical Analysis Plan (Geosyntec 2021). Time series plots and results for all completed statistical tests are provided in Attachment C. The data obtained in September 2025 were screened for potential outliers. Potential outliers were identified for antimony, cadmium, chromium, and lead. The lead value at AD-1 sampled in April 2025 was flagged and removed from the dataset. All other potential outliers were included in the dataset because values were similar to concentrations in upgradient wells or below the respective maximum contaminant level.

2.2.1 Establishment of GWPSs

A GWPS was established for each Appendix IV parameter in accordance with § 352.951(b) and the Statistical Analysis Plan (Geosyntec 2021). The established GWPS was set to whichever was greater of the background concentration and the maximum contaminant level for each Appendix IV parameter. To determine background concentrations, an upper tolerance limit was calculated using data that were pooled from the background wells collected during the background monitoring and assessment monitoring events. A tolerance limit was calculated parametrically with 95% coverage and 95% confidence for combined radium. Nonparametric tolerance limits were calculated for arsenic, barium, beryllium, cadmium, chromium, cobalt, fluoride, lead, lithium, and selenium, due to apparent nonnormal distributions, and for antimony, mercury, molybdenum, and thallium, due to a high nondetect frequency. Upper tolerance limits and the final GWPSs are summarized in Table 2.

2.2.2 Evaluation of Potential Appendix IV SSLs

A confidence interval was constructed for each Appendix IV parameter at each compliance well. Confidence limits were generally calculated parametrically ($\alpha = 0.01$), but nonparametric confidence limits were calculated in some cases (e.g., when the data did not appear to be normally distributed or when the nondetect frequency was too high). An SSL was concluded if the lower confidence limit (LCL) was above the GWPS (i.e., if the entire confidence interval was above the GWPS). The calculated confidence limits (Attachment C) were compared to the GWPS provided in Table 2.

The following SSLs were identified at the Welsh BASP:

- The LCL for combined radium was above the GWPS of 5 picocuries per liter (pCi/L) at AD-16R (5.48 pCi/L).

As a result, the Welsh BASP will either move to an assessment of corrective measures or an ASD will be conducted to evaluate if the unit can remain in assessment monitoring.

2.2.3 Evaluation of Potential Appendix III SSIs

While SSLs were identified, a review of the Appendix III results were also completed to assess whether concentrations of Appendix III parameters at the compliance wells were above background concentrations. Data collected during the September 2025 assessment monitoring event from each compliance well were compared to previously established prediction limits to assess whether the results were above background limits. The results from this event and the prediction limits are summarized in Table 3. The following were detected above the upper prediction limits (UPLs) or, in the case of pH, below the lower prediction limits (LPLs):

- The boron concentration was detected above the intrawell UPL of 0.0882 milligrams per liter (mg/L) at AD-4C (0.352 mg/L).
- The calcium concentration was detected above the intrawell UPL of 1.44 mg/L at AD-4C (2.63 mg/L).
- The chloride concentration was detected above the intrawell UPL of 9.40 mg/L at AD-3 (11.6 mg/L).
- The sulfate concentration was detected above the intrawell UPL of 123 mg/L at AD-4C (174 mg/L).
- The TDS concentration was detected above the intrawell UPL of 332 mg/L at AD-4C (410 mg/L).

While the prediction limits were calculated for a one-of-two retesting procedure, SSIs were conservatively assumed if the September 2025 sample was above the UPL or, in the case of pH, below the LPL. Therefore, the unit will remain in assessment monitoring.

2.3 Conclusions

A semiannual assessment monitoring event was conducted in accordance with the TCEQ CCR Rule. The laboratory and field data were reviewed prior to statistical analysis, with no QA/QC

issues identified that prevented data usage. A review of outliers identified one outlier for lead from April 2025 that was flagged and removed from the dataset. GWPSs were reestablished for the Appendix IV parameters. A confidence interval was constructed at each compliance well for each Appendix IV parameter; SSLs were concluded if the entire confidence interval was above the GWPS. An SSL was identified for combined radium. Appendix III results were compared to calculated prediction limits, with values above the UPL detected for boron, calcium, chloride, sulfate, and TDS.

3. REFERENCES

Geosyntec. 2018. Statistical Analysis Summary – Bottom Ash Storage Pond, J. Robert Welsh Plant, Pittsburg, Texas. Geosyntec Consultants, Inc. January.

Geosyntec. 2021. Statistical Analysis Plan – J. Robert Welsh Plant. Geosyntec Consultants, Inc. December.

TCEQ. 2020. Draft Technical Guidance No. 32. Coal Combustion Residuals Groundwater Monitoring and Corrective Action. Texas Commission on Environmental Quality. May.

TABLES

Table 1. Groundwater Data Summary
Statistical Analysis Summary
Welsh Plant – Bottom Ash Storage Pond

Parameter	Unit	AD-1	AD-3	AD-4C	AD-5		AD-16R	AD-17
		Background	Compliance	Compliance	Background		Compliance	Background
		9/4/2025	9/4/2025	9/2/2025	9/2/2025	9/3/2025	9/2/2025	9/2/2025
Antimony	µg/L	0.04 J1	0.1 U1	0.1 U1	--	0.1 U1	0.1 U1	0.03 J1
Arsenic	µg/L	0.19	0.16	0.94	--	2.32	0.59	0.46
Barium	µg/L	72.5	41.2	79.7	--	65.3	49	10.6
Beryllium	µg/L	2.03	0.22	0.4 J1	--	0.05	1.1	0.05
Boron	mg/L	1	0.014 J1	0.352	--	0.076	0.024 J1	0.122
Cadmium	µg/L	0.045	0.046	0.179	--	0.02 U1	0.649	0.005 J1
Calcium	mg/L	10.6	0.79	2.63	--	42.2	0.31	169
Chloride	mg/L	4.63	11.6	14.8	--	17.1	7.53	38.5
Chromium	µg/L	0.8	0.38	0.83	--	0.38	0.73	0.47
Cobalt	µg/L	5.66	1.44	1.29	--	12.3	27	43.9
Combined Radium	pCi/L	3.64 L1, P2	2.47 L1, P2	4.09 L1, P2	--	1.33 L1, P2, J1	8.15 L1, P2	3.61 L1, P2
Fluoride	mg/L	0.65	0.13	0.16	--	0.21	0.08	0.13 J1
Lead	µg/L	0.31	0.12 J1	0.08 J1	--	0.08 J1	0.35	0.07 J1
Lithium	mg/L	0.00885	0.0124	0.012	--	0.155	0.0209	0.277
Mercury	µg/L	0.006	0.073	0.092	--	0.005 U1	0.003 J1	0.005 U1
Molybdenum	µg/L	0.87	0.5 U1	0.5 U1	--	0.23 J1	0.5 U1	0.16 J1
Selenium	µg/L	10.3	0.13 J1	0.73	--	0.05 J1	0.85	0.11 J1
Sulfate	mg/L	141	2.72	174	--	103	41.7	1030
Thallium	µg/L	0.1 J1	0.03 J1	0.03 J1	--	0.2 U1	0.51	0.2 U1
Total Dissolved Solids	mg/L	280	100 P1	410	--	290	150	1660
pH	SU	5.49	3.98	4.46	5.56	--	3.33	5.59

Notes:
--: not sampled
J1: estimated value. Parameter was detected in concentrations below the reporting limit.
L1: the associated laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) recovery was outside acceptance limits.
mg/L: milligrams per liter
P1: the precision between duplicate results was above acceptance limits.
P2: the precision on the laboratory control sample duplicate (LCSD) was above acceptance limits.
pCi/L: picocuries per liter
SU: standard unit
U1: non-detect value. For statistical analysis, parameters that were not detected were replaced with the reporting limit.
µg/L: micrograms per liter

Table 2. Appendix IV Groundwater Protection Standards
Statistical Analysis Summary
Welsh Plant – Bottom Ash Storage Pond

Constituent Name	MCL	Calculated UTL	GWPS
Antimony, Total (mg/L)	0.00600	0.00317	0.00600
Arsenic, Total (mg/L)	0.0100	0.00628	0.0100
Barium, Total (mg/L)	2.00	0.512	2.00
Beryllium, Total (mg/L)	0.00400	0.00220	0.00400
Cadmium, Total (mg/L)	0.00500	0.00400	0.00500
Chromium, Total (mg/L)	0.100	0.00500	0.100
Cobalt, Total (mg/L)	n/a	0.0748	0.0748
Combined Radium, Total (pCi/L)	5.00	4.71	5.00
Fluoride, Total (mg/L)	4.00	0.680	4.00
Lead, Total (mg/L)	n/a	0.00110	0.00110
Lithium, Total (mg/L)	n/a	0.394	0.394
Mercury, Total (mg/L)	0.00200	0.0000330	0.00200
Molybdenum, Total (mg/L)	n/a	0.00243	0.00243
Selenium, Total (mg/L)	0.0500	0.0113	0.0500
Thallium, Total (mg/L)	0.00200	0.00125	0.00200

Notes:

1. Calculated UTL (upper tolerance limit) represents site-specific background values.
2. Grey cells indicate the GWPS is based on the calculated UTL. Either the UTL is higher than the MCL or an MCL does not exist.

GWPS: groundwater protection standard

MCL: maximum contaminant level

mg/L: milligrams per liter

n/a: not applicable

pCi/L: picocuries per liter

Table 3. Appendix III Data Summary
Statistical Analysis Summary
Welsh Plant – Bottom Ash Storage Pond

Analyte	Unit	Description	AD-3	AD-4C	AD-16R
			9/4/2025	9/2/2025	9/2/2025
Boron	mg/L	Intrawell Background Value (UPL)	0.0407	0.0882	0.0577
		Analytical Result	0.014	**0.352**	0.024
Calcium	mg/L	Intrawell Background Value (UPL)	1.38	1.44	2.90
		Analytical Result	0.79	**2.63**	0.31
Chloride	mg/L	Intrawell Background Value (UPL)	9.40	18.6	8.00
		Analytical Result	**11.6**	14.8	7.53
Fluoride	mg/L	Intrawell Background Value (UPL)	0.263	0.180	0.296
		Analytical Result	0.13	0.16	0.08
pH	SU	Intrawell Background Value (UPL)	5.2	5.7	4.6
		Intrawell Background Value (LPL)	3.8	4.0	2.8
		Analytical Result	4.0	4.5	3.3
Sulfate	mg/L	Intrawell Background Value (UPL)	10.6	123	73.4
		Analytical Result	2.72	**174**	41.7
Total Dissolved Solids	mg/L	Intrawell Background Value (UPL)	136	332	242
		Analytical Result	100	**410**	150

Notes:
1. Bold values exceed the background value.
2. Background values are shaded gray.
LPL: Lower prediction limit
mg/L: milligrams per liter
SU: standard units
UPL: Upper prediction limit

ATTACHMENT A
Certification by Qualified Professional Engineer

Certification by Qualified Professional Engineer

I certify that selected and above described statistical method is appropriate for evaluating the groundwater monitoring data for the Welsh Bottom Ash Storage Pond CCR management area and that the requirements of § 352.951(a) have been met.



David Anthony Miller

Printed Name of Licensed Professional Engineer

David Anthony Miller

Signature

112498	Texas	12.29.2025
License Number	Licensing State	Date

ATTACHMENT B
Data Quality Review Memoranda

Geosyntec consultants

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Memorandum

Date:	December 19, 2025
To:	David Miller (AEP)
Copies to:	Pryce Warren (AEP)
From:	Allison Kreinberg (Geosyntec)
Subject:	Data Quality Review – Welsh Power Plant September 2025 Sampling Event – Background Wells

This memorandum summarizes the findings of a data quality review for groundwater samples collected at the Welsh Power Plant, located in Pittsburg, Texas in September 2025. The groundwater samples were collected to comply with the Texas Commission on Environmental Quality's (TCEQ's) regulations regarding the disposal of coal combustion residuals (CCRs) in landfills and surface impoundments (Title 30 Chapter 352, "CCR Rule"). 40 CFR 257 Appendix III and IV constituents were analyzed.

The following sample data groups (SDGs) were associated with the groundwater samples collected from the background monitoring wells (AD-1, AD-5, and AD-17) during the September 2025 sampling event and are reviewed in this memorandum:

- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 252320
- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 252368

The data included in these SDGs were reviewed to assess if they met the objectives outlined in TCEQ Draft Technical Guideline No. 32[1] prior to submittal of this data to TCEQ.

The following data quality issues were identified:

- As reported in SDG 252368, boron, calcium, chromium**,** cobalt, and molybdenum were detected in the equipment blank sample "Equip. Blank- Background" collected on

[1] TCEQ. Topic: Coal Combustion Residuals (CCR) Groundwater Monitoring and Corrective Action: Technical Guidance No. 32. May 2020.

9/2/2025. The estimated detected boron concentration in the equipment blank (0.024 mg/L) was more than 10% of the detected values for boron in the groundwater samples from AD-1 and AD-5, which could result in high bias for these groundwater results. The detected chromium concentration in the equipment blank (0.33 µg/L) was more than 10% of the detected values for chromium in all groundwater samples, which could result in high bias for all groundwater chromium results. The estimated detected molybdenum concentration in the equipment blank (0.06 µg/L) was more than 10% of the detected values for molybdenum in the groundwater samples from AD-5 and AD-17, which could result in high bias for these groundwater results.

- As reported in SDG 252368, boron and chromium were detected in the field blank sample "Field Blank-Background" collected on 9/2/2025. The detected chromium concentration in the field blank (0.33 µg/L) was more than 10% of the detected values for chromium in all groundwater samples, which could result in high bias for all groundwater chromium results.

- As reported in SDG 252368, the RPD for lead concentrations from parent sample "AD-1" and duplicate sample "DUP-BACKGROUND" was 30%. The RPD for molybdenum concentrations from AD-1 and the duplicate was 131%. The RPD for thallium concentrations from AD-1 and the duplicate was 35%. The RPD for mercury concentrations from AD-1 and the duplicate was 40%. The AD-1 lead, molybdenum, thallium, and mercury results should be considered estimated; the thallium result at AD-1 was already estimated and flagged J1: analyte was detected between the method detection limit and the reporting limit.

- As reported in SDG 252368, the laboratory control sample duplicate (LCSD) recovery for radium-228 (63.6%) was below the acceptable limit of 75%. The associated samples were flagged L1: the associated laboratory control sample (LCS) or LCSD recovery was outside acceptance limits. The LCSD RPD for radium-228 (30.5) was above the acceptable limit of 25. The associated samples were flagged P2: the precision on the LCSD was above acceptance limits. The AD-1, AD-5, and AD-17 radium-228 results should be considered estimated.

Based on these findings, the majority of the data reported in these SDGs are considered accurate and complete. Although the QC failures mentioned above will result in some limitations of data use since the affected results are considered estimated or have elevated reporting limits, the data are considered usable for supporting project objectives.

Geosyntec consultants

500 West Wilson Bridge Road, Suite 250
Worthington, Ohio 43085
PH 614.468.0415
FAX 614.468.0416
www.geosyntec.com

Memorandum

Date:	December 20, 2025
To:	David Miller (AEP)
Copies to:	Pryce Warren (AEP)
From:	Allison Kreinberg (Geosyntec)
Subject:	Data Quality Review – Welsh Power Plant September 2025 Sampling Event – BASP Compliance Wells

This memorandum summarizes the findings of a data quality review for groundwater samples collected at the Welsh Power Plant, located in Pittsburg, Texas in April 2025. The groundwater samples were collected to comply with the Texas Commission on Environmental Quality's (TCEQ's) regulations regarding the disposal of coal combustion residuals (CCRs) in landfills and surface impoundments (Title 30 Chapter 352, "CCR Rule"). These samples were analyzed for select 40 CFR 257 Appendix III and Appendix IV constituents.

The following sample data groups (SDGs) were associated with groundwater samples collected from the bottom ash storage pond (BASP) compliance wells (AD-3, AD-4C, and AD-16R) during the September 2025 sampling event and are reviewed in this memorandum:

- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 252319
- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 252369

The data included in these SDGs were reviewed to assess if they met the objectives outlined in TCEQ Draft Technical Guideline No. 32[1] prior to submittal of this data to TCEQ.

The following data quality issues were identified:

- As reported in SDG 252369, chromium was detected in the field blank sample "FIELD BLANK-BASP" collected on 9/4/2025. The estimated detected chromium concentration in the field blank (0.28 µg/L) was more than 10% of the detected values for chromium in

[1] TCEQ. Topic: Coal Combustion Residuals (CCR) Groundwater Monitoring and Corrective Action: Technical Guidance No. 32. May 2020.

all groundwater samples, which could result in high bias for all groundwater chromium results.

- As reported in SDG 252369, boron and chromium were detected in the equipment blank sample "EQUIP BLANK-BASP" collected on 9/4/2025. The estimated detected boron concentration in the equipment blank (0.006 mg/L) was more than 10% of the detected values for boron in the groundwater samples from AD-3 and AD-16R, which could result in high bias for these groundwater results. The detected chromium concentration in the equipment blank (0.32 µg/L) was more than 10% of the detected values for chromium in all groundwater samples, which could result in high bias for all groundwater chromium results.

- As reported in SDG 252369, the antimony result for parent sample "AD-4C" was a nondetect (<0.02 µg/L) and the antimony result for duplicate sample "DUP-BASP" was an estimated detection (0.02 µg/L); therefore, the relative perfect difference (RPD) could not be calculated. The antimony result for the duplicate sample was considered estimated and flagged J1: analyte was detected between the method detection limit and the reporting limit.

- As reported in SDG 252369, the relative percent differences (RPD) for thallium (29%) concentrations from parent sample "AD-4C" and duplicate sample "DUP-BASP" was above 20%. The AD-4C thallium result should be considered estimated.

- As reported in SDG 252319, the RPD for total dissolved solids (TDS) in the duplicate (DUP) sample "QC2509060-DUP" (10.3%) was above the acceptable limit of 10%. The associated AD-3 TDS sample was flagged P1: the precision between duplicate results was above acceptance limits.

- As reported in SDG 252369, the laboratory control sample duplicate (LCSD) recovery for radium-228 (63.6%) was below the acceptable limit of 75%. The associated samples were flagged L1: the associated laboratory control sample (LCS) or LCSD recovery was outside acceptance limits. The LCSD RPD for radium-228 (30.5) was above the acceptable limit of 25. The associated samples were flagged P2: the precision on the LCSD was above acceptance limits. The AD-3, AD-4C, and AD-16R radium-228 results should be considered estimated.

Based on these findings, the majority of the data reported in these SDGs are considered accurate and complete. Although the QC failures mentioned above will result in some limitations of data use since the affected results are considered estimated or have elevated reporting limits, the data are considered usable for supporting project objectives.

ATTACHMENT C
Statistical Analysis Output

GROUNDWATER STATS CONSULTING

December 3, 2025

Geosyntec Consultants
Attn: Ms. Allison Kreinberg
500 W. Wilson Bridge Road, Suite 250
Worthington, OH 43085

Re: Welsh BASP – September 2025 Assessment Monitoring Report

Dear Ms. Kreinberg,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the statistical analysis of groundwater data for the September 2025 Assessment Monitoring report for American Electric Power Inc.'s Welsh BASP. The analysis complies with the Texas Commission of Environmental Quality Rule 30 TAC 352 as well as with the United States Environmental Protection Agency (USEPA) Unified Guidance (2009).

Sampling began at the site for the Coal Combustion Residual (CCR) program in 2016. The monitoring well network, as provided by Geosyntec Consultants, consists of the following:

- **Upgradient wells:** AD-1, AD-5, and AD-17
- **Downgradient wells:** AD-3, AD-4C, and AD-16R

Data were sent electronically, and the statistical analysis was reviewed by Dr. Jim Loftis, Civil & Environmental Engineering professor emeritus at Colorado State University and Senior Advisor to Groundwater Stats Consulting. The analysis was conducted according to the Statistical Analysis Plan prepared by GSC and approved by Dr. Cameron, PhD Statistician with MacStat Consulting, primary author of the USEPA Unified Guidance, and Senior Advisor to GSC.

The CCR Assessment Monitoring program consists of the following constituents:

- **Appendix IV** (Assessment Monitoring) **–** antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226 + 228, fluoride, lead, lithium, mercury, molybdenum, selenium, and thallium

Time series plots for Appendix IV parameters are provided for all wells and constituents; and are used to evaluate concentrations over the entire record (Figure A). Additionally, box plots are included for all constituents at upgradient and downgradient wells (Figure B). The time series plots are used to initially screen for suspected outliers and trends, while the box plots provide visual representation of variation within individual wells and between all wells. Values previously identified and flagged as outliers may be seen in the Outlier Summary following this letter (Figure C) and are plotted in a lighter font and disconnected symbol on the time series graphs.

Due to varying detection limits in background data sets, a substitution of the most recent reporting limit is used for all non-detects. In some cases, the reporting limit provided by the laboratory contains varying limits for a given parameter; therefore, the substitution may differ from well to well. Reporting limit changes may vary based on laboratory capabilities. For fluoride, lead, selenium, and thallium, the most reporting limits, as provided by the laboratory, were updated to the most recent limits of 0.06 mg/L, 0.2 ug/L, 0.5 ug/L, 0.2 ug/L, respectively, and applied across all non-detects for all wells.

Summary of Statistical Methods – Appendix IV Parameters

The overall statistical approach involves a comparison of downgradient water quality against upgradient background water quality limits or regulatory limits. The comparison is made using confidence intervals constructed on individual downgradient well-constituent pairs. The lower confidence limit is compared against a Groundwater Protection Standard (GWPS), which is defined by the higher of either the background water quality limits or regulatory limits.

To determine upgradient background water quality limits, parametric tolerance limits are utilized when the screened historical data follow a normal or transformed-normal distribution. When data cannot be normalized or the majority of data are non-detects, a nonparametric test is utilized. The distribution of data is tested using the Shapiro-Wilk/Shapiro-Francia test for normality. After testing for normality and performing any adjustments as discussed below (USEPA, 2009), data are analyzed using either parametric or non-parametric tolerance limits as appropriate.

- No statistical analyses are required on wells and analytes containing 100% non-detects (USEPA Unified Guidance, 2009, Chapter 6).
- When data contain <15% non-detects, simple substitution of one-half the reporting limit is utilized in the statistical analysis. The reporting limit utilized for non-detects is the most recent practical quantification limit (PQL) as reported by the laboratory.
- When data contain between 15-50% non-detects, the Kaplan-Meier non-detect adjustment is applied to the background data for parametric limits. This technique adjusts the mean and standard deviation of the historical concentrations to account for concentrations below the reporting limit.
- Nonparametric tolerance limits are used on data containing greater than 50% non-detects.

Parametric tolerance limits are calculated, with a target of 95% confidence and 95% coverage, when data follow a normal or transformed-normal distribution. When data contained greater than 50% non-detects or did not follow a normal or transformed-normal distribution, non-parametric tolerance limits were constructed using the highest background measurement. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples.

When data followed a normal or transformed-normal distribution, parametric confidence intervals were used for Appendix IV parameters and compared to GWPS to assess compliance. Nonparametric confidence intervals, which use the largest and smallest order statistics depending on the sample size as interval limits, were constructed when data did not follow a normal or transformed-normal distribution or when there were greater than 50% non-detects. The lower confidence limit, which is constructed with 99% confidence for parametric confidence intervals, is compared to the GWPS prepared as described above. The confidence level associated with nonparametric confidence intervals is dependent upon the number of samples available.

For Appendix IV assessment monitoring parameters, compliance is assessed by comparing a full (or truncated) period of record to a GWPS using a confidence interval. The corresponding trend tests for screening and evaluating confidence interval exceedances of Appendix IV constituents are performed at the 95% confidence level to provide greater capability of identifying potential trends than the 99% confidence level without drastically decreasing the false negative rate.

Summary of Background Update – September 2025

Outlier Analysis

Background (upgradient) data sets were evaluated for Appendix IV constituents for the purpose of updating statistical limits through September 2025. Time series plots and Tukey's outlier test were used to identify potential outliers.

For the current analysis, Tukey's outlier test on pooled upgradient well data through September 2025 identified outliers for antimony, cadmium, chromium, and lead. The highest value for lead in upgradient well AD-1 was flagged as an outlier during this analysis since the measurement was not consistent with remaining measurements within its respective well and when compared to pooled upgradient concentrations. All other observations identified by Tukey's test were either similar to concentrations among neighboring upgradient wells or were lower than the respective Maximum Contaminant Level (MCL); therefore, those values were not flagged as outliers. Previously flagged observations were confirmed by Tukey's outlier test and time series graphs.

Downgradient well data through September 2025 were also screened through visual screening using time series graphs. Since the downgradient well data are used to construct confidence intervals, values that are marginally high relative to the rest of the data are retained unless there is particular justification for excluding them. High measurements are flagged only when the concentrations are distinctly different from remaining measurements within a given well. When preceding and subsequent measurements to a single high reported concentration are significantly lower, the assumption is that the increase in a single measurement is spurious and not representative of the true population of groundwater quality. Flagging those measurements as outliers reduces the variance which reduces the width of parametric confidence intervals, as well as reduces the overall mean and thus lowers the entire interval. The intent is to better represent the true mean of the population in downgradient wells.

For downgradient wells, visual screening with the times series graphs did not indicate potential outliers for any of the constituents in downgradient wells; therefore, no formal outlier test was performed during this analysis, and no outliers are flagged for downgradient wells.

Trend Analysis – Upgradient Wells

Data were also screened using time series plots and the Sen's Slope/Mann-Kendall trend test to formally evaluate whether statistically significant trends are present at the 95% confidence level for any extreme trending patterns among upgradient wells that would lead to artificially elevated statistical limits; (Figure H). The following statistically significant trends were identified among upgradient wells:

Increasing

- Beryllium: AD-1
- Cobalt: AD-1
- Fluoride: AD-1
- Selenium: AD-1

Decreasing

- Antimony: AD-1
- Arsenic: AD-1 and AD-17
- Barium: AD-17
- Beryllium: AD-5
- Cadmium: AD-5 and AD-17
- Cobalt: AD-17
- Lithium: AD-17
- Mercury: AD-1 and AD-17
- Selenium: AD-5
- Thallium: AD-1

While identifying these upgradient trends is useful for understanding and characterization of upgradient background groundwater quality, truncation of the records to remove the trend may be appropriate when the trend would result in statistical limits that are not representative of upgradient groundwater quality and/or not able to detect downgradient changes that result from the facility. Deselecting data at upgradient wells is done with caution as similar observations may be observed at one or more downgradient wells depending on transport times.

Several statistically significant trends were identified. In some cases, as all concentrations were below established MCLs or overall concentrations for an individual well were well below remaining pooled upgradient well data from other upgradient wells. Other statistically significant trends were a byproduct of several non-detects early in the record followed by years of trace values and not based on values detected above the reporting limit. In the cases of cobalt and lithium at well AD-17, while decreasing trends were identified, more recent concentrations are not drastically different than those found

earlier. Therefore, no adjustments were required for these well/constituent pairs at this time, and all data from upgradient wells were used to construct interwell tolerance limits. All data will be re-evaluated during the next background update.

Interwell Upper Tolerance Limits

Upper tolerance limits were used to calculate background limits from pooled upgradient well data through September 2025 for Appendix IV parameters (Figure E). These limits are updated on an annual basis and will be updated again during the Fall 2026 sample event report.

Parametric tolerance limits are calculated, with a target of 95% confidence and 95% coverage, when data follow a normal or transformed-normal distribution. When data contained greater than 50% non-detects or did not follow a normal or transformed-normal distribution, non-parametric tolerance limits were constructed using the highest background measurement. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples.

Groundwater Protection Standards

These background limits were compared to the MCLs as shown in the GWPS table following this letter to determine the highest limit for use as the GWPS in the confidence interval comparisons (Figure F).

Evaluation of Appendix IV Parameters – September 2025

Because closure measures have been implemented at this site confidence intervals were constructed using data from June 2021 through September 2025 for downgradient wells for each of the Appendix IV parameters.

The confidence intervals were compared to the GWPS (i.e., the highest limit of the MCL or background limit as discussed above). Confidence intervals were constructed as either parametric or nonparametric confidence intervals depending on the data distribution and percentage of non-detects. When data followed a normal or transformed-normal distribution, parametric confidence intervals were used for Appendix IV parameters. Nonparametric confidence intervals were constructed when data did not follow a normal or transformed-normal distribution or when there were greater than 50% non-detects. The lower confidence limit, which is constructed with 99% confidence for parametric confidence intervals, is compared to the GWPS prepared as described above. The confidence level associated with nonparametric confidence intervals is dependent upon

the number samples available. Only when the entire confidence interval is above a GWPS is the well/constituent pair considered to exceed its respective standard. A summary of the confidence interval results follows this letter (Figure G). An exceedance was identified for the following well/constituent pair:

- Combined Radium 226 + 228: AD-16R

Trend Test Evaluation – Appendix IV

When confidence interval exceedances are identified in downgradient wells, data are further evaluated using the Sen's Slope/Mann Kendall trend test to determine whether concentrations are statistically increasing, decreasing, or stable at the 95% confidence level (Figure H). Upgradient wells are included in the trend analyses for all parameters found to exceed their confidence interval in downgradient wells. When similar patterns exist upgradient of the site, it is an indication of variability in groundwater which may be unrelated to practices at the site. A summary along with complete graphical results of the trend tests follows this report. No statistically significant trends were identified.

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for the Welsh BASP. If you have any questions or comments, please feel free to contact us.

For Groundwater Stats Consulting,

Andrew T. Collins
Project Manager

Kristina L. Rayner
Senior Statistician

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100% Non-Detects: Appendix IV Downgradient

Analysis Run 11/20/2025 1:54 PM View: Confidence Intervals
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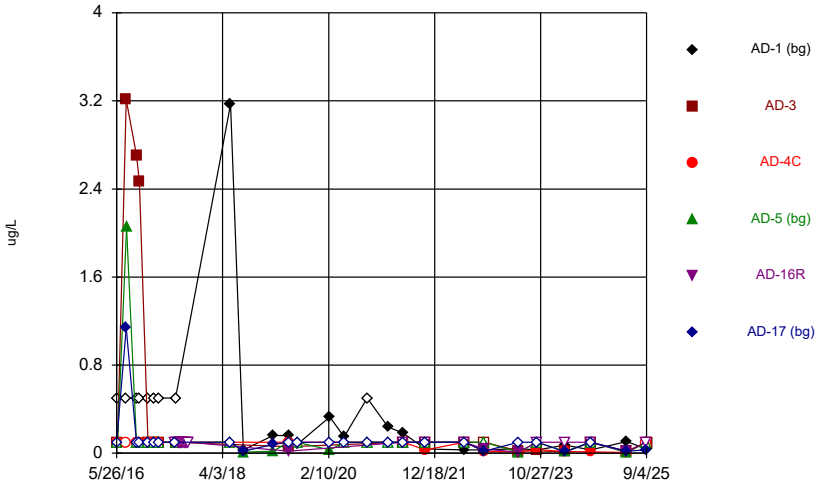
Molybdenum (ug/L)
AD-16R

FIGURE A

Time Series

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Hollow symbols indicate censored values.

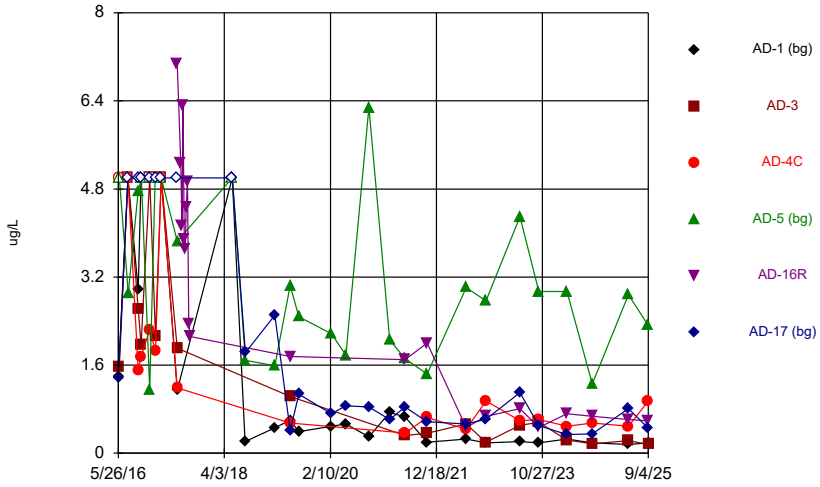
Time Series



Constituent: Antimony Analysis Run 11/20/2025 1:47 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

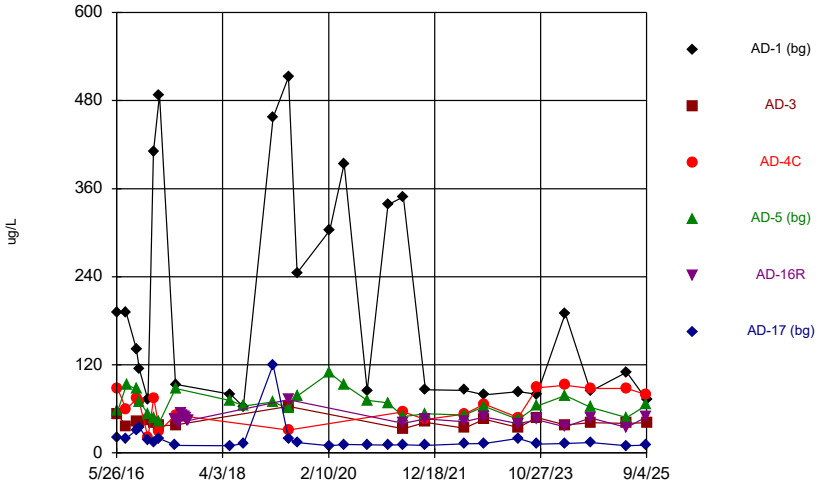
Time Series



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Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG

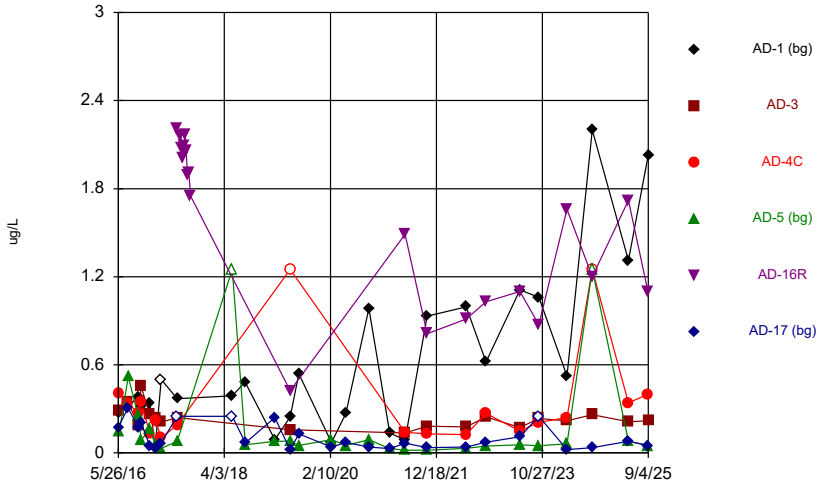
Time Series



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Hollow symbols indicate censored values.

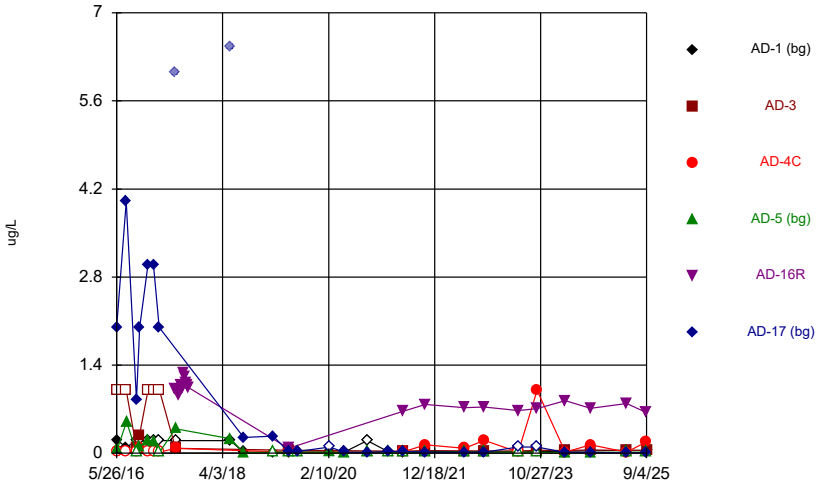
Time Series



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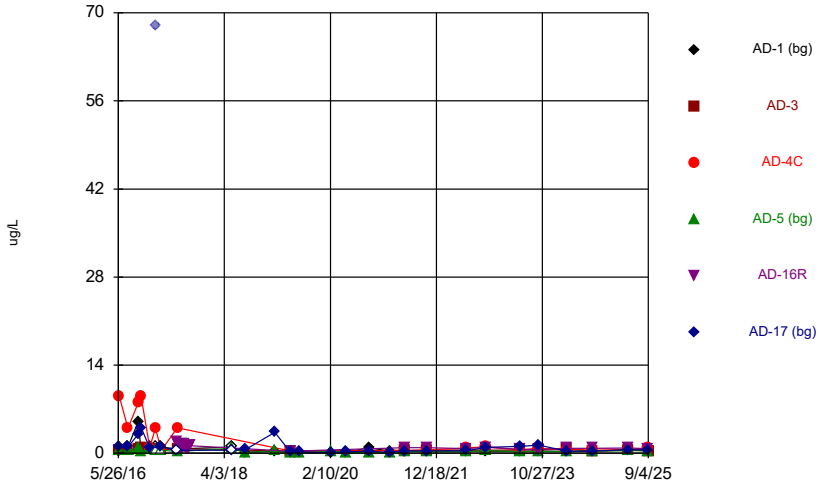
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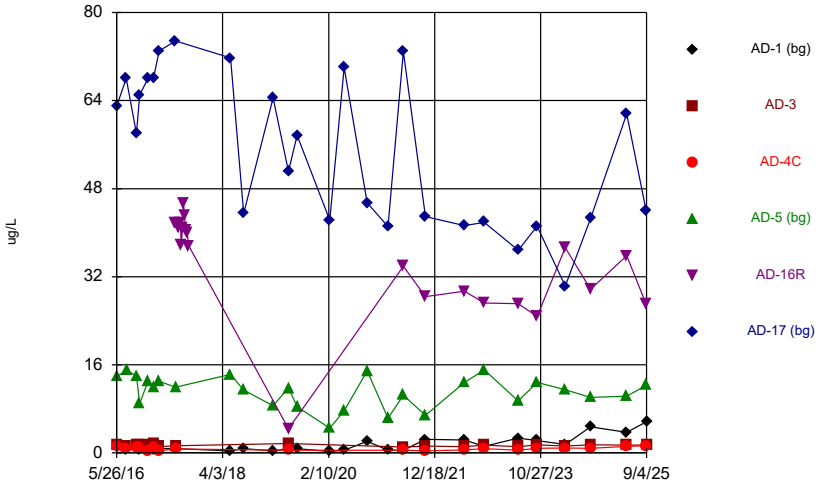
Time Series



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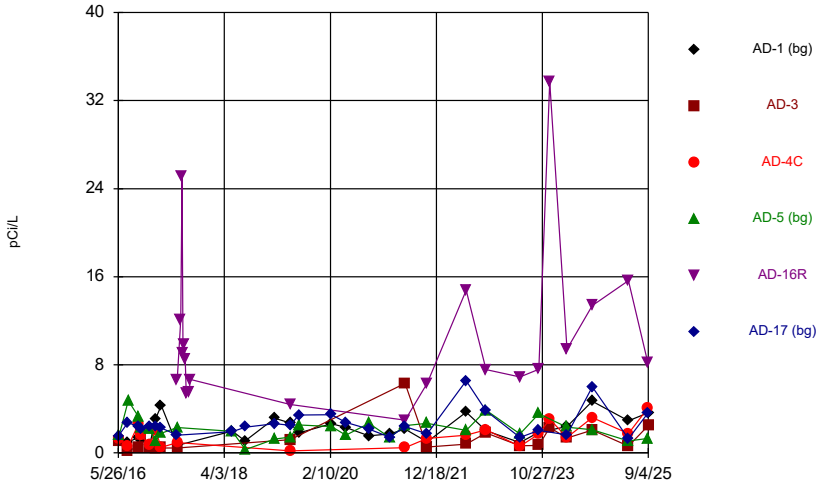
Time Series



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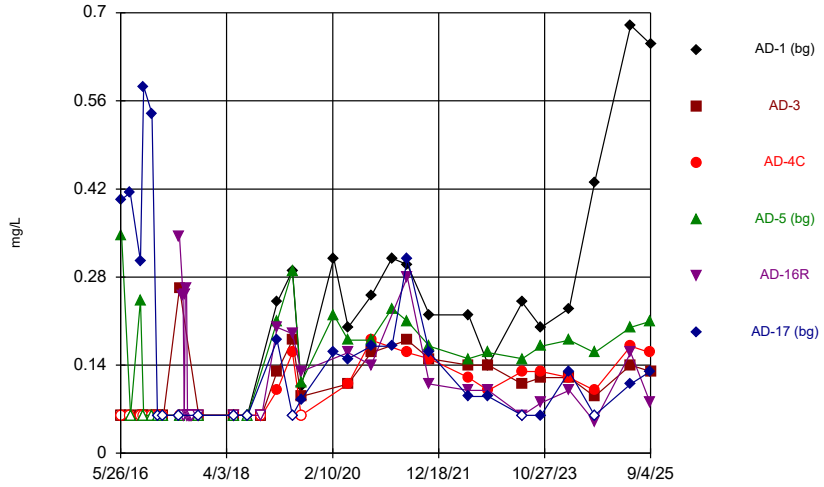
Time Series



Constituent: Combined Radium 226 + 228 Analysis Run 11/20/2025 1:47 PM View: Descriptive
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Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

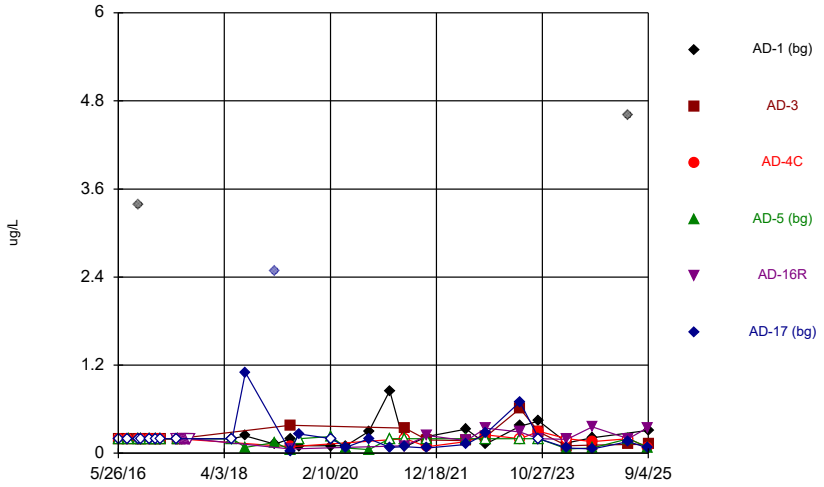
Time Series



Constituent: Fluoride Analysis Run 11/20/2025 1:47 PM View: Descriptive
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Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
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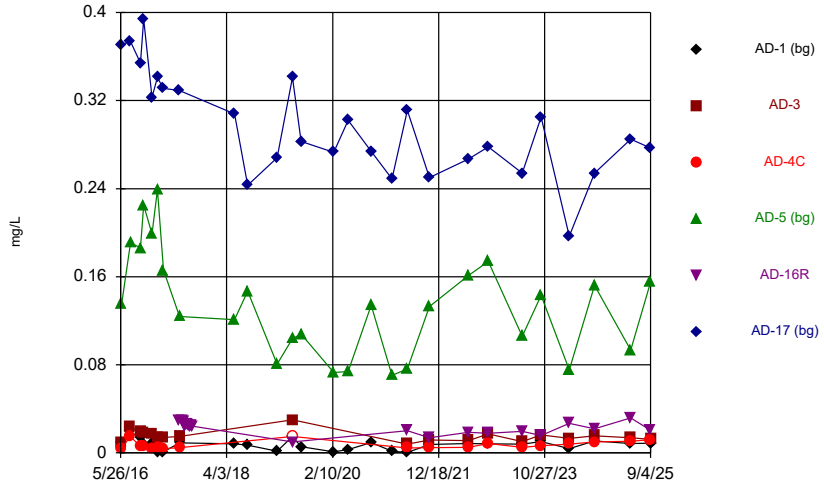
Time Series



Constituent: Lead Analysis Run 11/20/2025 1:47 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

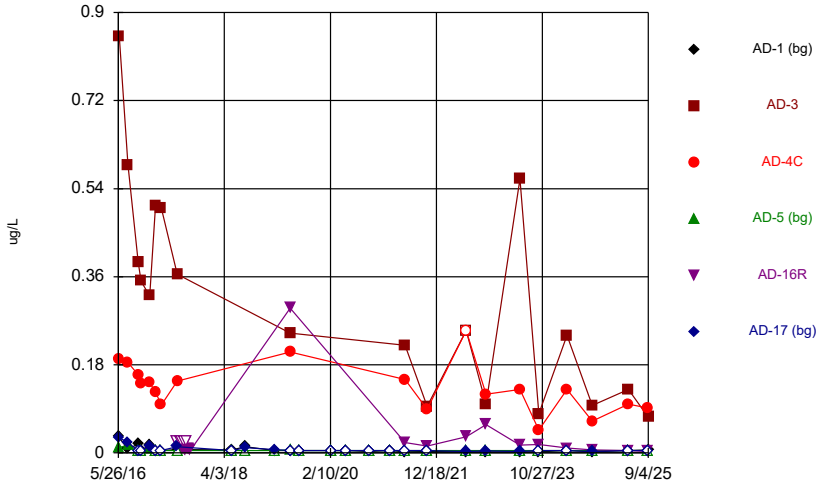
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Constituent: Lithium Analysis Run 11/20/2025 1:47 PM View: Descriptive
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Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
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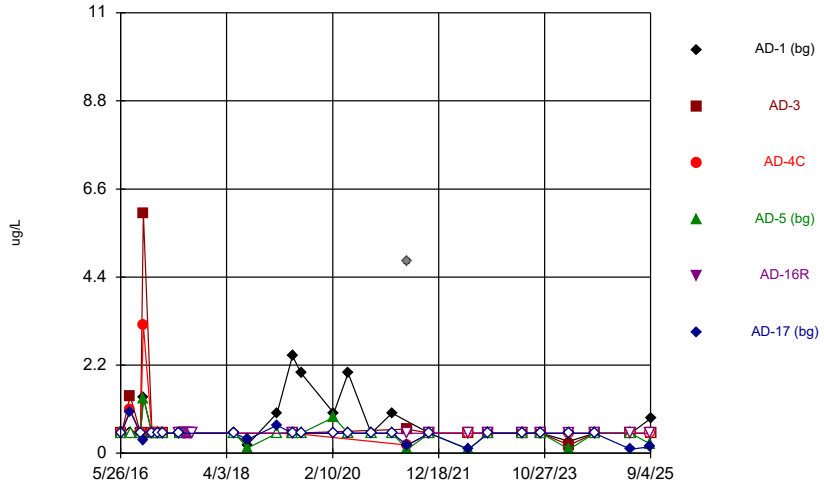
Time Series



Constituent: Mercury Analysis Run 11/20/2025 1:47 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

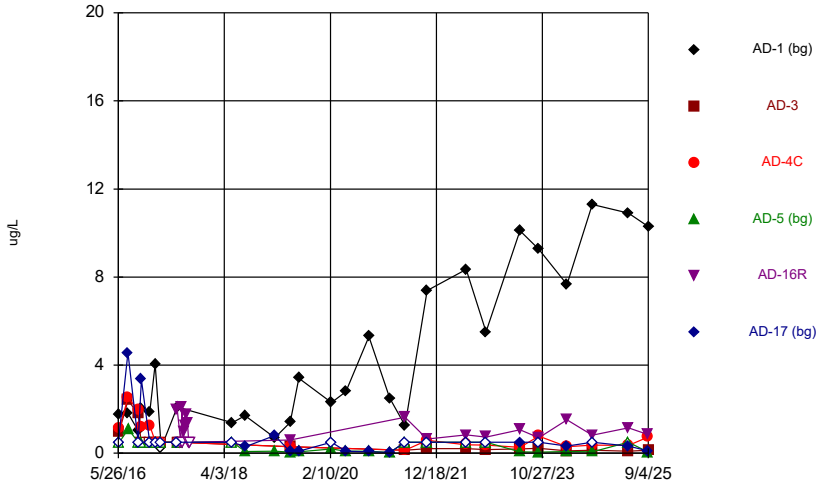
Time Series



Constituent: Molybdenum Analysis Run 11/20/2025 1:47 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

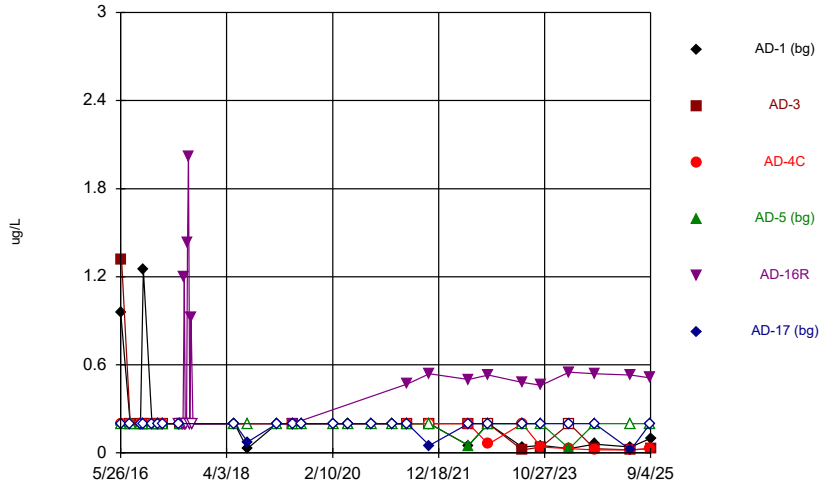
Time Series



Constituent: Selenium Analysis Run 11/20/2025 1:47 PM View: Descriptive
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Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series



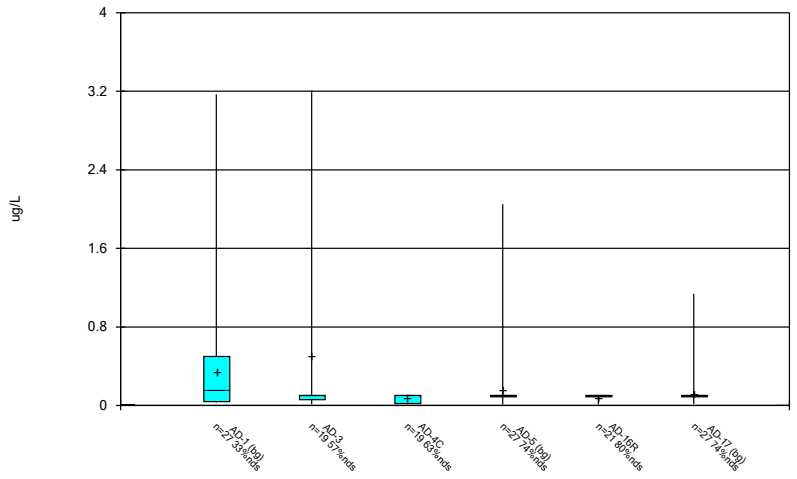
Constituent: Thallium Analysis Run 11/20/2025 1:47 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

FIGURE B

Box Plots

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG

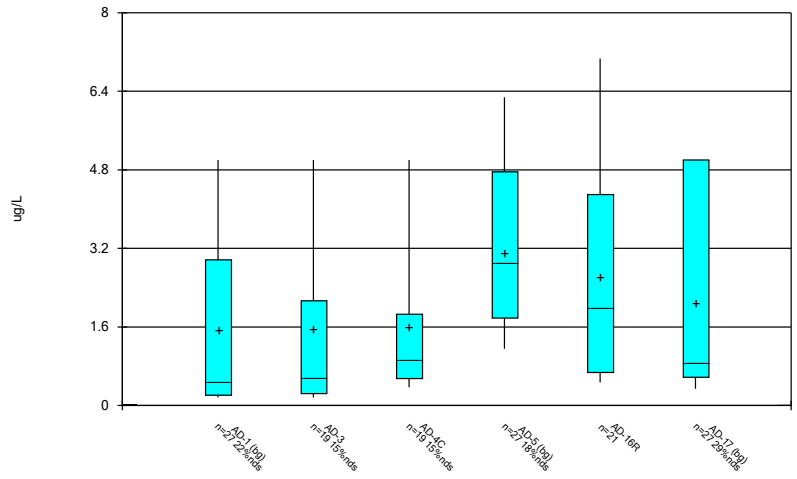
Box & Whiskers Plot



Constituent: Antimony Analysis Run 11/20/2025 1:48 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

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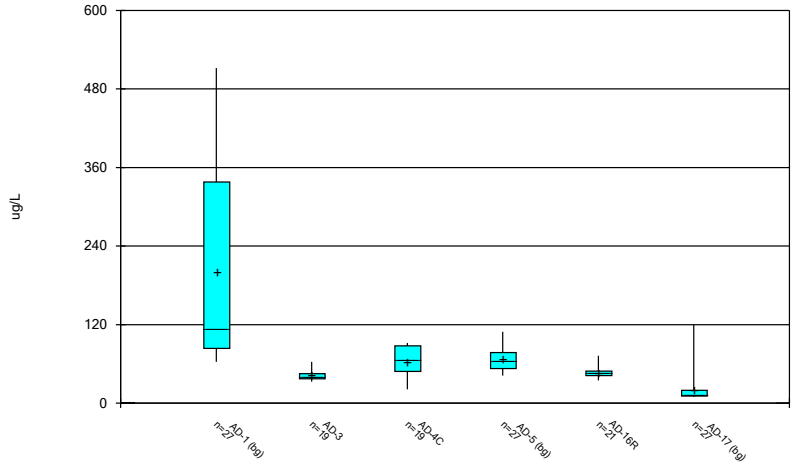
Box & Whiskers Plot



Constituent: Arsenic Analysis Run 11/20/2025 1:48 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

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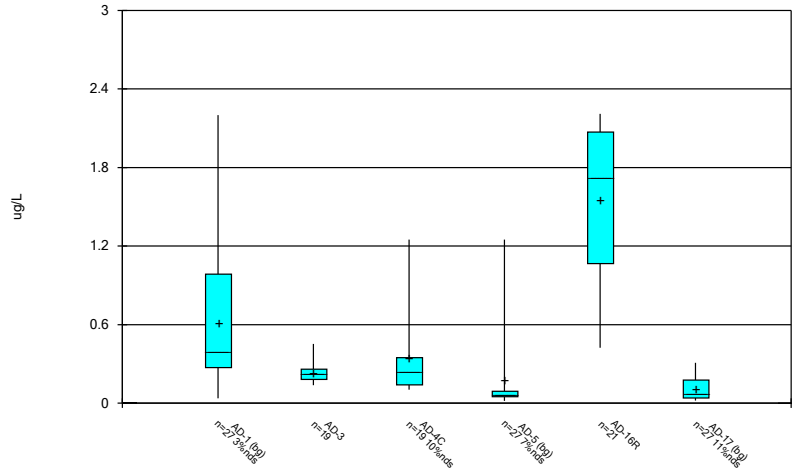
Box & Whiskers Plot



Constituent: Barium Analysis Run 11/20/2025 1:48 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

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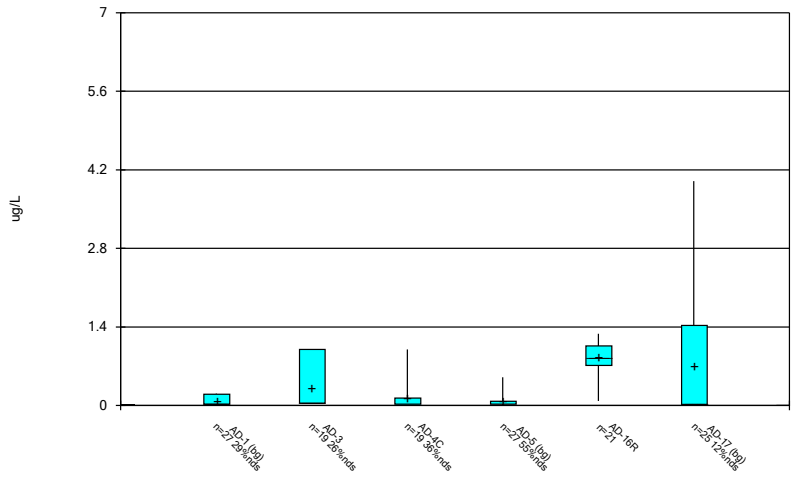
Box & Whiskers Plot



Constituent: Beryllium Analysis Run 11/20/2025 1:48 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

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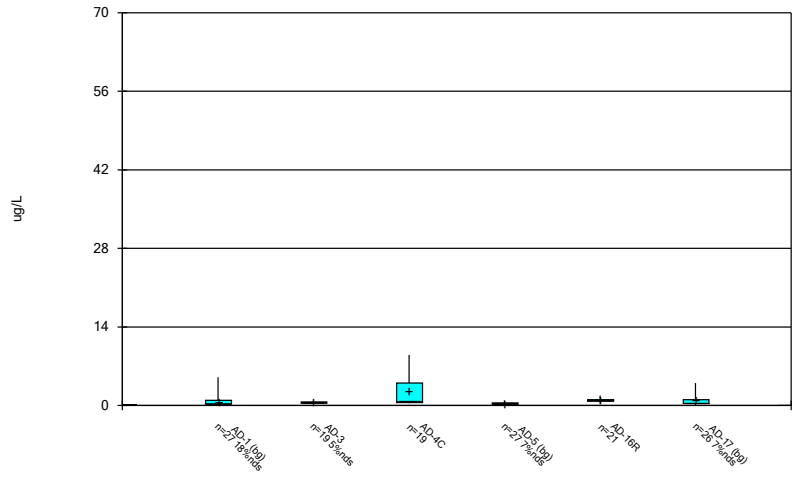
Box & Whiskers Plot



Constituent: Cadmium Analysis Run 11/20/2025 1:48 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

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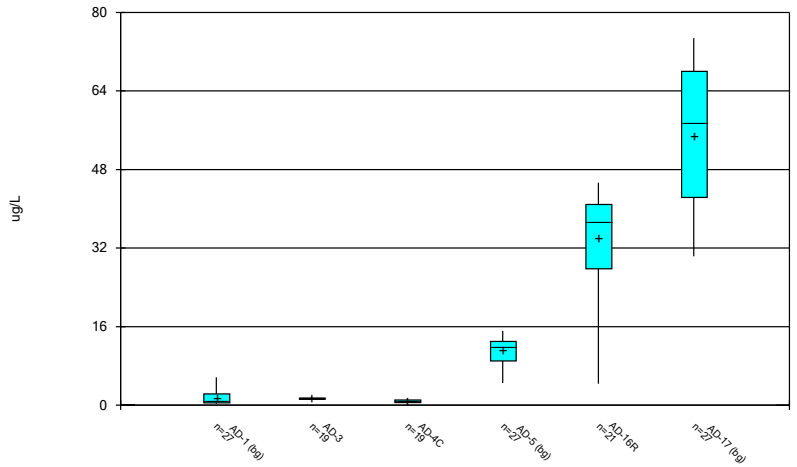
Box & Whiskers Plot



Constituent: Chromium Analysis Run 11/20/2025 1:48 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

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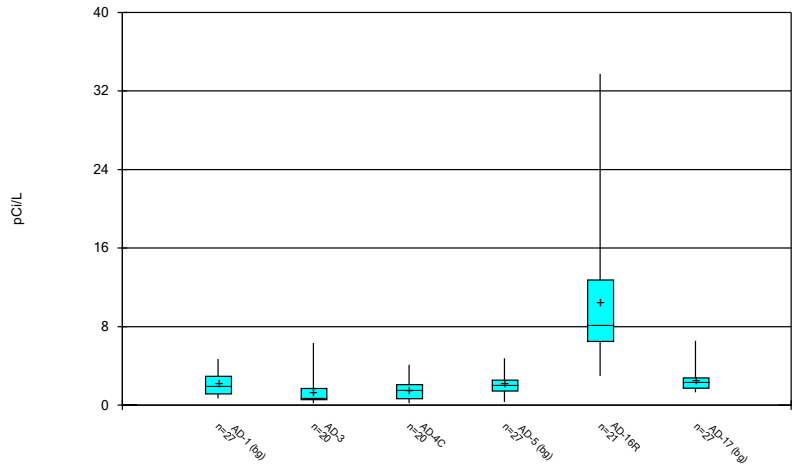
Box & Whiskers Plot



Constituent: Cobalt Analysis Run 11/20/2025 1:48 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG

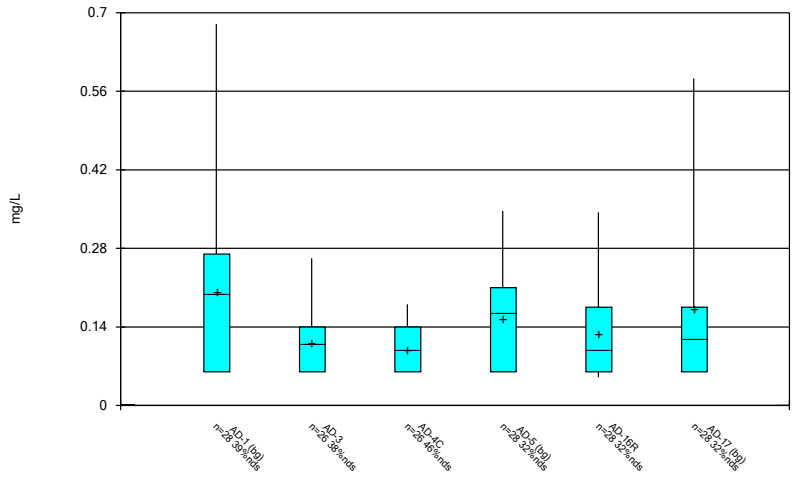
Box & Whiskers Plot



Constituent: Combined Radium 226 + 228 Analysis Run 11/20/2025 1:48 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

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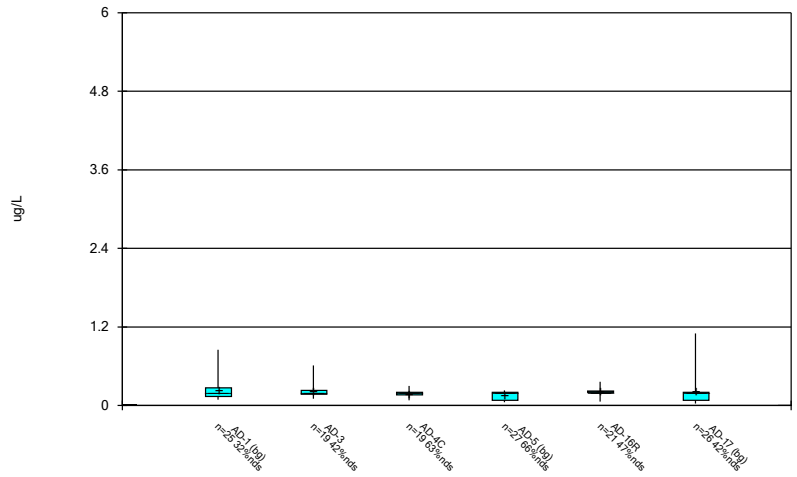
Box & Whiskers Plot



Constituent: Fluoride Analysis Run 11/20/2025 1:48 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

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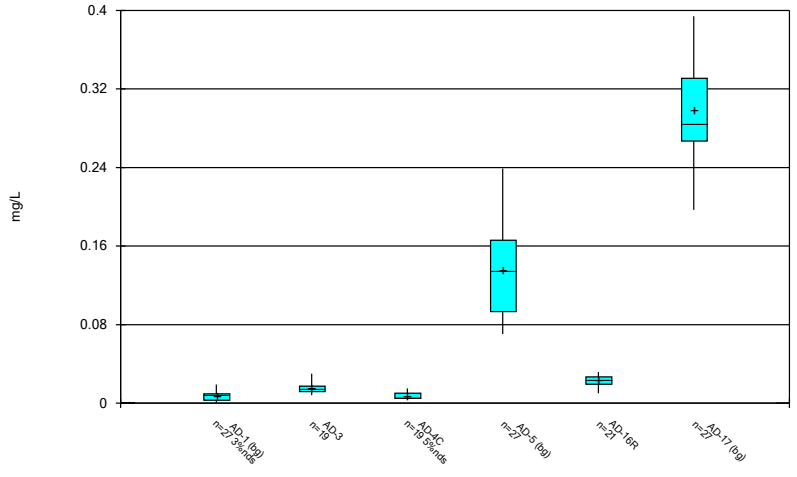
Box & Whiskers Plot



Constituent: Lead Analysis Run 11/20/2025 1:48 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

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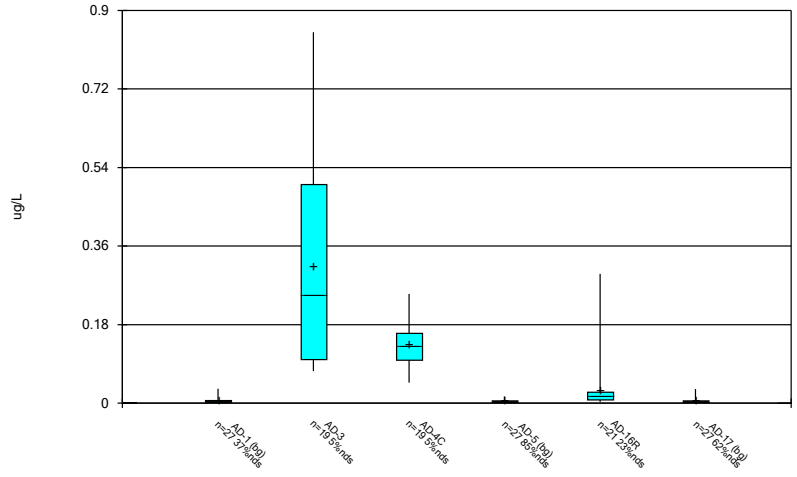
Box & Whiskers Plot



Constituent: Lithium Analysis Run 11/20/2025 1:48 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG

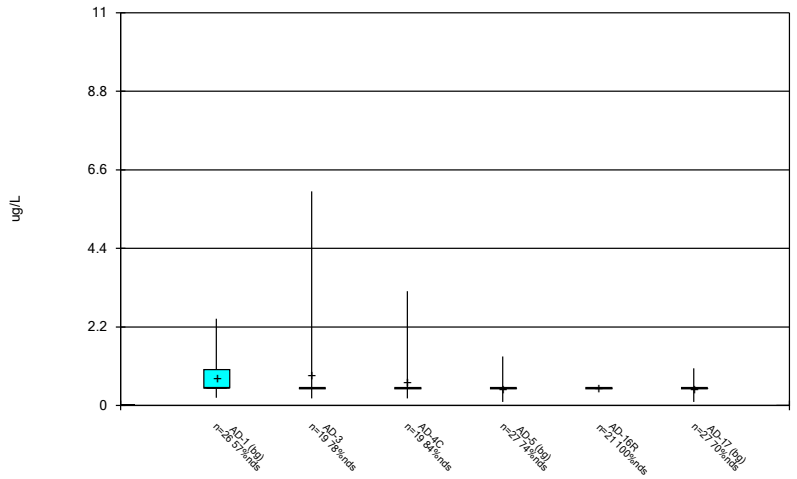
Box & Whiskers Plot



Constituent: Mercury Analysis Run 11/20/2025 1:48 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG

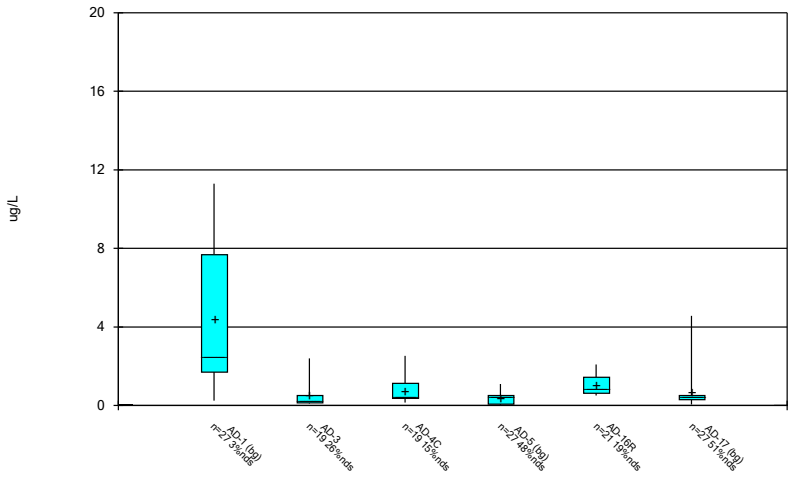
Box & Whiskers Plot



Constituent: Molybdenum Analysis Run 11/20/2025 1:48 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

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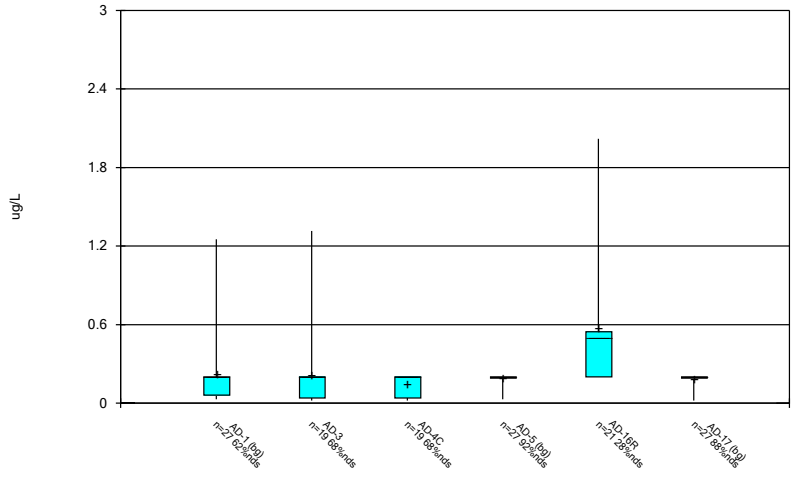
Box & Whiskers Plot



Constituent: Selenium Analysis Run 11/20/2025 1:48 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Thallium Analysis Run 11/20/2025 1:48 PM View: Descriptive
Welsh BASP Client: Geosyntec Data: Welsh BASP

FIGURE C

Outlier Summary and Tukey's Outlier Test

Outlier Summary

Welsh BASP Client: Geosyntec Data: Welsh BASP Printed 12/2/2025, 3:11 PM

	AD-17 Cadmium (ug/L)	AD-17 Chromium (ug/L)	AD-1 Lead (ug/L)	AD-17 Lead (ug/L)	AD-1 Molybdenum (ug/L)
9/30/2016			3.38434 (J,o)		
1/17/2017		68 (o)			
6/6/2017	6.06 (o)				
5/24/2018	6.46 (o)				
2/21/2019				2.49 (o)	
6/2/2021					4.8 (o)
4/29/2025			4.61 (o)		

Tukey's Outlier Test - Upgradient Wells - Significant Results

Welsh BASP Client: Geosyntec Data: Welsh BASP Printed 11/20/2025, 1:30 PM

Constituent	Well	Outlier	Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Antimony (ug/L)	**AD-1,AD-5,AD-17**	**Yes**	**3.17,0.03,0.03,0.03,0.03,0.03,0.33,0.24,0.029,0.0**	**NP**	**NaN**	**81**	**0.1639**	**0.421**	**ln(x)**	**ShapiroFrancia**
Cadmium (ug/L)	**AD-1,AD-5,AD-17**	**Yes**	**2,2,2,4,3,3,6.06,6.46**	**NP**	**NaN**	**81**	**0.4091**	**1.185**	**ln(x)**	**ShapiroFrancia**
Chromium (ug/L)	**AD-1,AD-5,AD-17**	**Yes**	**68**	**NP**	**NaN**	**81**	**1.424**	**7.533**	**ln(x)**	**ShapiroFrancia**
Lead (ug/L)	**AD-1,AD-5,AD-17**	**Yes**	**3.384,4.61,1.1,2.49**	**NP**	**NaN**	**81**	**0.3252**	**0.6663**	**ln(x)**	**ShapiroFrancia**

Tukey's Outlier Test - Upgradient Wells - All Results

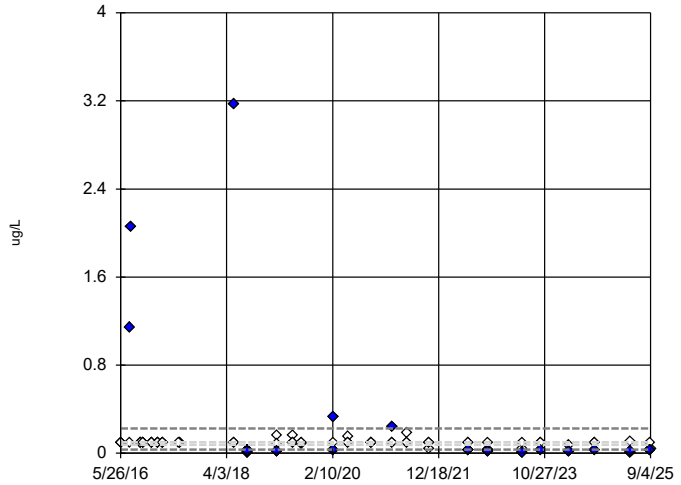
Welsh BASP Client: Geosyntec Data: Welsh BASP Printed 11/20/2025, 1:30 PM

Constituent	Well	Outlier	Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Antimony (ug/L)	**AD-1,AD-5,AD-17**	**Yes**	**3.17,0.03,0.03,0.03,0.03,0.03,0.33,0.24,0.029,0.0**	**NP**	**NaN**	**81**	**0.1639**	**0.421**	**ln(x)**	**ShapiroFrancia**
Arsenic (ug/L)	AD-1,AD-5,AD-17	No	n/a	NP	NaN	81	2.252	1.907	ln(x)	ShapiroFrancia
Barium (ug/L)	AD-1,AD-5,AD-17	No	n/a	NP	NaN	81	95.18	115.5	ln(x)	ShapiroFrancia
Beryllium (ug/L)	AD-1,AD-5,AD-17	No	n/a	NP	NaN	81	0.3461	0.4808	ln(x)	ShapiroFrancia
Cadmium (ug/L)	**AD-1,AD-5,AD-17**	**Yes**	**2,2,2,4,3,3,6.06,6.46**	**NP**	**NaN**	**81**	**0.4091**	**1.185**	**ln(x)**	**ShapiroFrancia**
Chromium (ug/L)	**AD-1,AD-5,AD-17**	**Yes**	**68**	**NP**	**NaN**	**81**	**1.424**	**7.533**	**ln(x)**	**ShapiroFrancia**
Cobalt (ug/L)	AD-1,AD-5,AD-17	No	n/a	NP	NaN	81	22.48	24.7	x^(1/3)	ShapiroFrancia
Combined Radium 226 + 228 (pCi/L)	AD-1,AD-5,AD-17	No	n/a	NP	NaN	81	2.306	1.116	x^(1/3)	ShapiroFrancia
Fluoride (mg/L)	AD-1,AD-5,AD-17	No	n/a	NP	NaN	84	0.1758	0.1377	ln(x)	ShapiroFrancia
Lead (ug/L)	**AD-1,AD-5,AD-17**	**Yes**	**3.384,4.61,1.1,2.49**	**NP**	**NaN**	**81**	**0.3252**	**0.6663**	**ln(x)**	**ShapiroFrancia**
Lithium (mg/L)	AD-1,AD-5,AD-17	No	n/a	NP	NaN	81	0.1466	0.1254	sqrt(x)	ShapiroFrancia
Mercury (ug/L)	AD-1,AD-5,AD-17	n/a	n/a	NP	NaN	81	0.006567	0.005426	unknown	ShapiroFrancia
Molybdenum (ug/L)	AD-1,AD-5,AD-17	n/a	n/a	NP	NaN	81	0.6228	0.6107	unknown	ShapiroFrancia
Selenium (ug/L)	AD-1,AD-5,AD-17	No	n/a	NP	NaN	81	1.788	2.828	ln(x)	ShapiroFrancia
Thallium (ug/L)	AD-1,AD-5,AD-17	n/a	n/a	NP	NaN	81	0.198	0.1576	unknown	ShapiroFrancia

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 81

Outliers are drawn as solid.
Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

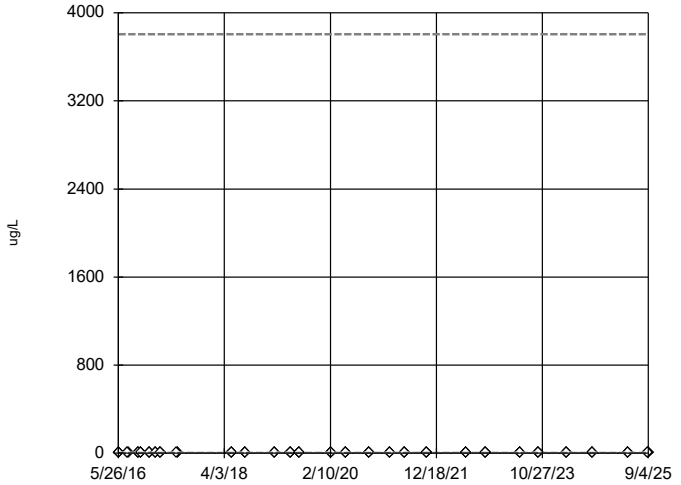
High cutoff = 0.2241, low cutoff = 0.03411, based on IQR multiplier of 3.

Constituent: Antimony Analysis Run 11/20/2025 1:29 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 81

No outliers found.
Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

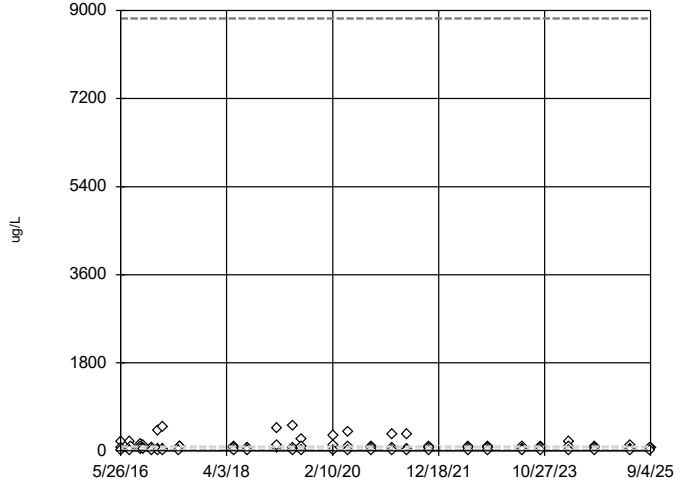
High cutoff = 3806, low cutoff = 0.0006794, based on IQR multiplier of 3.

Constituent: Arsenic Analysis Run 11/20/2025 1:29 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 81

No outliers found.
Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

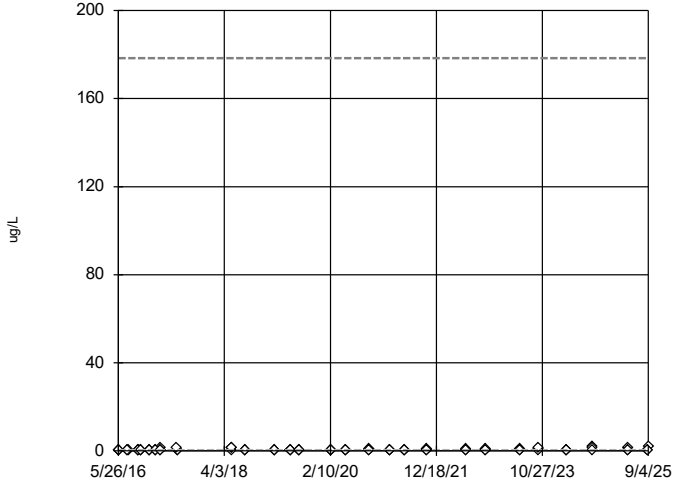
High cutoff = 8835, low cutoff = 0.2004, based on IQR multiplier of 3.

Constituent: Barium Analysis Run 11/20/2025 1:29 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 81

No outliers found.
Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

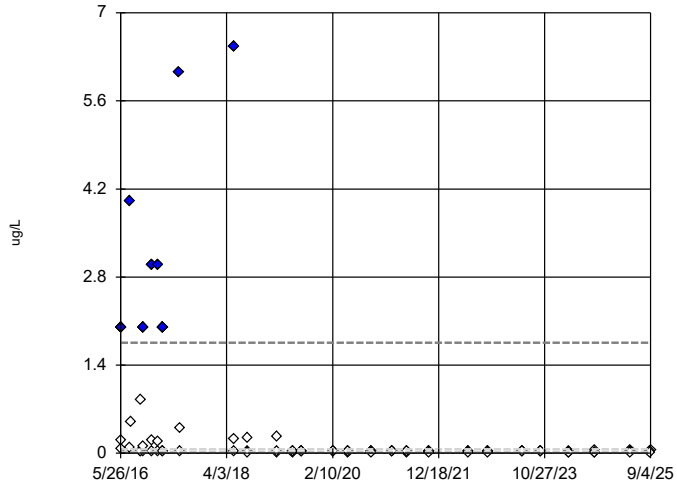
High cutoff = 178.4, low cutoff = 0.0001083, based on IQR multiplier of 3.

Constituent: Beryllium Analysis Run 11/20/2025 1:29 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 81

Outliers are drawn as solid.
Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

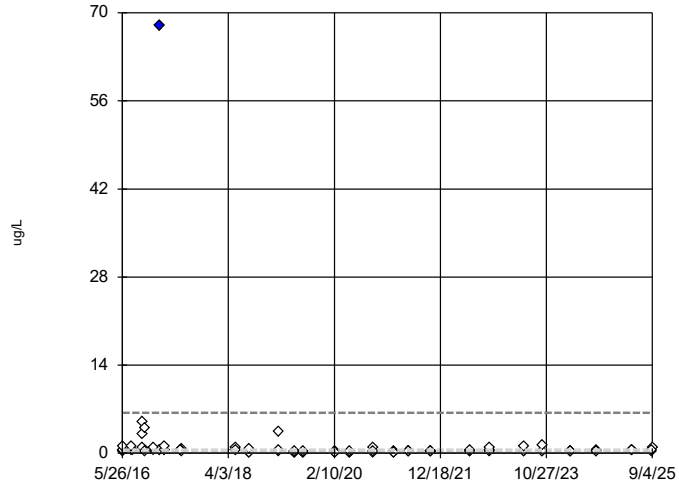
High cutoff = 1.757, low cutoff = 0.0006969, based on IQR multiplier of 3.

Constituent: Cadmium Analysis Run 11/20/2025 1:29 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 81

Outlier is drawn as solid.
Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

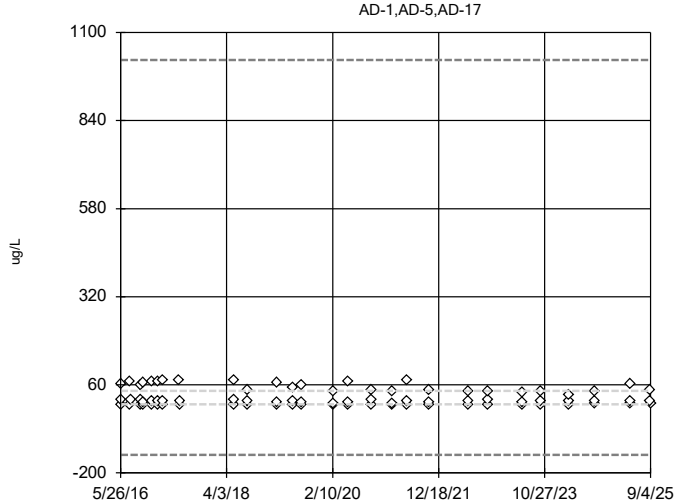
High cutoff = 6.408, low cutoff = 0.02149, based on IQR multiplier of 3.

Constituent: Chromium Analysis Run 11/20/2025 1:29 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 81

No outliers found.
Tukey's method selected by user.

Data were cube root transformed to achieve best W statistic (graph shown in original units).

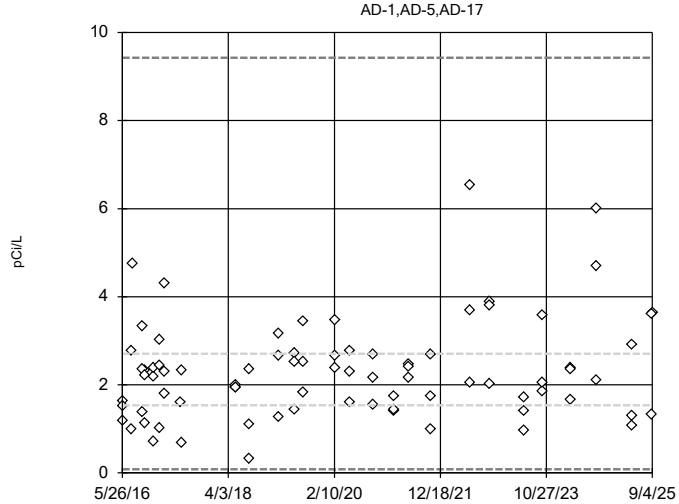
High cutoff = 1018, low cutoff = -146.8, based on IQR multiplier of 3.

Constituent: Cobalt Analysis Run 11/20/2025 1:29 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 81

No outliers found.
Tukey's method selected by user.

Data were cube root transformed to achieve best W statistic (graph shown in original units).

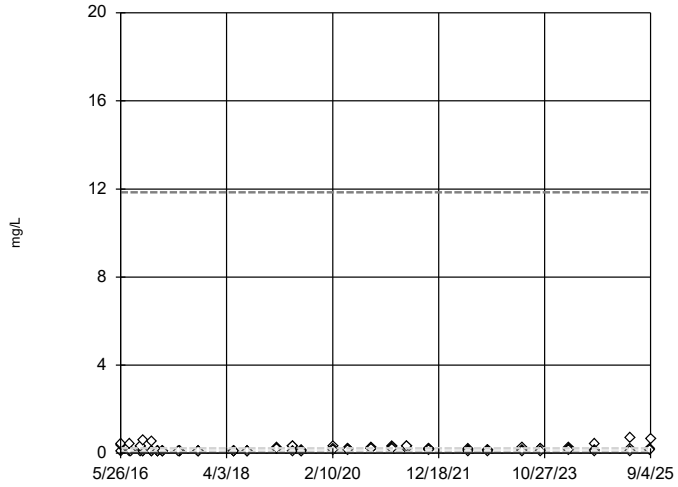
High cutoff = 9.427, low cutoff = 0.0828, based on IQR multiplier of 3.

Constituent: Combined Radium 226 + 228 Analysis Run 11/20/2025 1:29 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 84

No outliers found.
Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

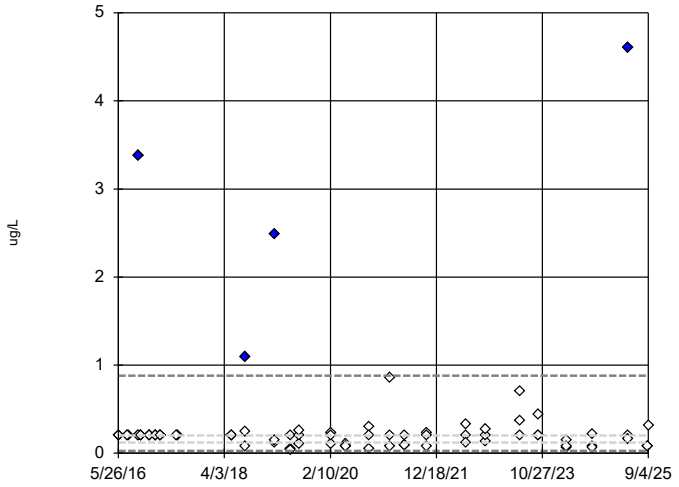
High cutoff = 11.85, low cutoff = 0.001139, based on IQR multiplier of 3.

Constituent: Fluoride Analysis Run 11/20/2025 1:29 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 81

Outliers are drawn as solid.
Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

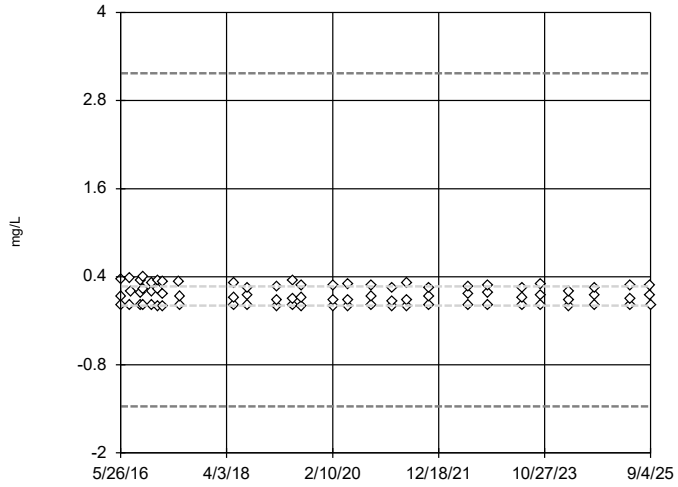
High cutoff = 0.8815, low cutoff = 0.02768, based on IQR multiplier of 3.

Constituent: Lead Analysis Run 11/20/2025 1:29 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 81

No outliers found.
Tukey's method selected by user.

Data were square root transformed to achieve best W statistic (graph shown in original units).

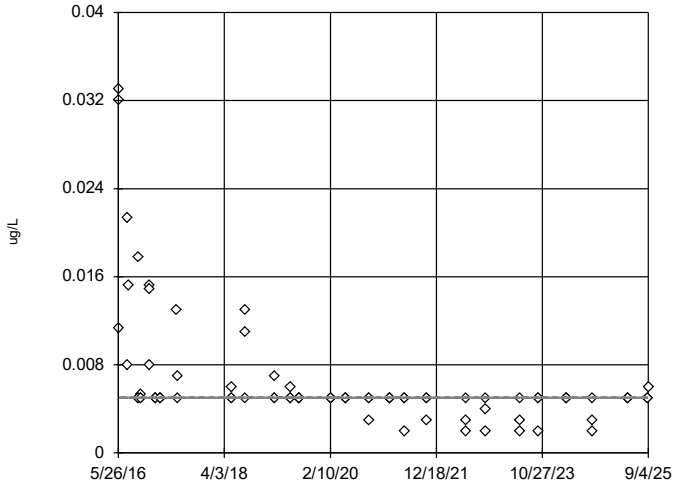
High cutoff = 3.174, low cutoff = -1.366, based on IQR multiplier of 3.

Constituent: Lithium Analysis Run 11/20/2025 1:29 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 81

No outliers found.
Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

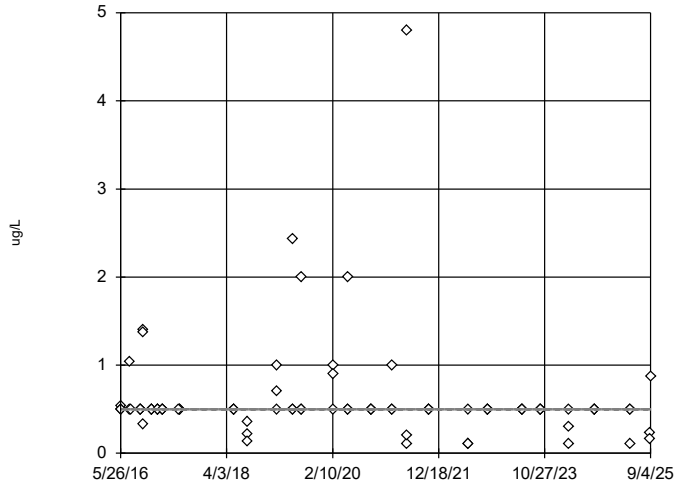
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Mercury Analysis Run 11/20/2025 1:29 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 81

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

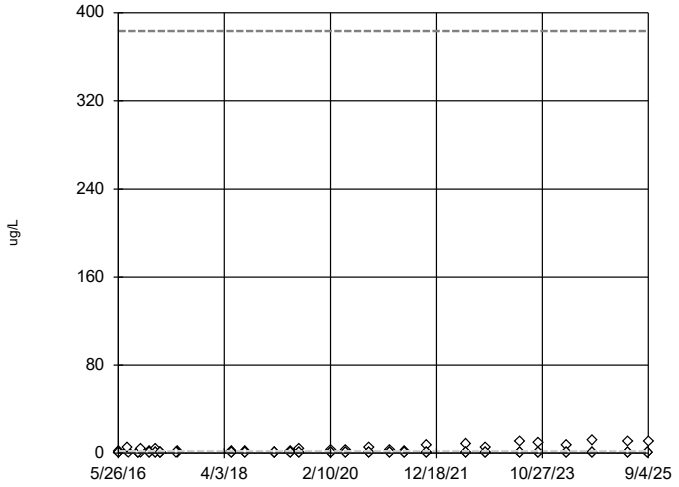
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Molybdenum Analysis Run 11/20/2025 1:29 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 81

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

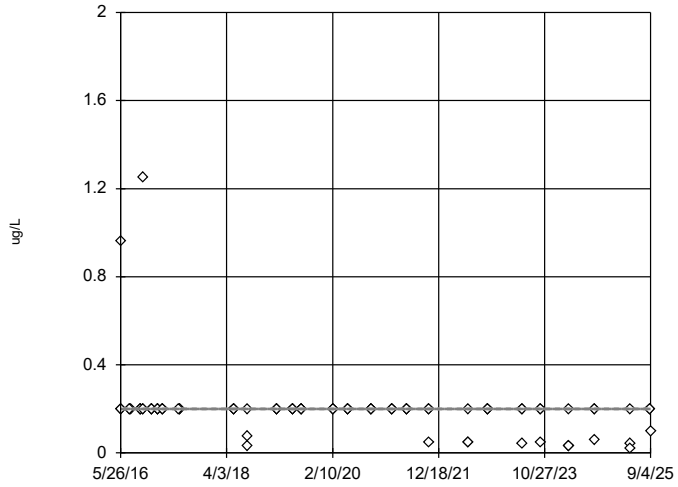
High cutoff = 383.5, low cutoff = 0.001485, based on IQR multiplier of 3.

Constituent: Selenium Analysis Run 11/20/2025 1:29 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG

Tukey's Outlier Screening, Pooled Background

AD-1,AD-5,AD-17



n = 81

No outliers found. Tukey's method selected by user.

Data were natural log transformed to achieve best W statistic (graph shown in original units).

The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Thallium Analysis Run 11/20/2025 1:29 PM View: Outliers
Welsh BASP Client: Geosyntec Data: Welsh BASP

FIGURE D
Upgradient Trend Tests – Appendix IV

Appendix IV Trend Tests - Upgradient Wells - Significant Results

Welsh BASP Client: Geosyntec Data: Welsh BASP Printed 11/20/2025, 1:50 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Antimony (ug/L)	**AD-1 (bg)**	**-0.0534**	**-193**	**-96**	**Yes**	**27**	**33.33**	**n/a**	**0.05**	**NP**
Arsenic (ug/L)	**AD-1 (bg)**	**-0.1635**	**-230**	**-96**	**Yes**	**27**	**22.22**	**n/a**	**0.05**	**NP**
Arsenic (ug/L)	**AD-17 (bg)**	**-0.3244**	**-220**	**-96**	**Yes**	**27**	**29.63**	**n/a**	**0.05**	**NP**
Barium (ug/L)	**AD-17 (bg)**	**-0.7943**	**-121**	**-96**	**Yes**	**27**	**0**	**n/a**	**0.05**	**NP**
Beryllium (ug/L)	**AD-1 (bg)**	**0.1086**	**163**	**96**	**Yes**	**27**	**3.704**	**n/a**	**0.05**	**NP**
Beryllium (ug/L)	**AD-5 (bg)**	**-0.006694**	**-102**	**-96**	**Yes**	**27**	**7.407**	**n/a**	**0.05**	**NP**
Cadmium (ug/L)	**AD-5 (bg)**	**-0.001258**	**-126**	**-96**	**Yes**	**27**	**55.56**	**n/a**	**0.05**	**NP**
Cadmium (ug/L)	**AD-17 (bg)**	**-0.09435**	**-206**	**-85**	**Yes**	**25**	**12**	**n/a**	**0.05**	**NP**
Cobalt (ug/L)	**AD-1 (bg)**	**0.2339**	**145**	**96**	**Yes**	**27**	**0**	**n/a**	**0.05**	**NP**
Cobalt (ug/L)	**AD-17 (bg)**	**-2.986**	**-148**	**-96**	**Yes**	**27**	**0**	**n/a**	**0.05**	**NP**
Fluoride (mg/L)	**AD-1 (bg)**	**0.03163**	**215**	**101**	**Yes**	**28**	**39.29**	**n/a**	**0.05**	**NP**
Lithium (mg/L)	**AD-17 (bg)**	**-0.01248**	**-177**	**-96**	**Yes**	**27**	**0**	**n/a**	**0.05**	**NP**
Mercury (ug/L)	**AD-1 (bg)**	**-0.0007019**	**-187**	**-96**	**Yes**	**27**	**37.04**	**n/a**	**0.05**	**NP**
Mercury (ug/L)	**AD-17 (bg)**	**-0.0002516**	**-150**	**-96**	**Yes**	**27**	**62.96**	**n/a**	**0.05**	**NP**
Selenium (ug/L)	**AD-1 (bg)**	**0.9955**	**211**	**96**	**Yes**	**27**	**3.704**	**n/a**	**0.05**	**NP**
Selenium (ug/L)	**AD-5 (bg)**	**-0.01023**	**-125**	**-96**	**Yes**	**27**	**48.15**	**n/a**	**0.05**	**NP**
Thallium (ug/L)	**AD-1 (bg)**	**-0.01119**	**-148**	**-96**	**Yes**	**27**	**62.96**	**n/a**	**0.05**	**NP**

Appendix IV Trend Tests - Upgradient Wells - All Results

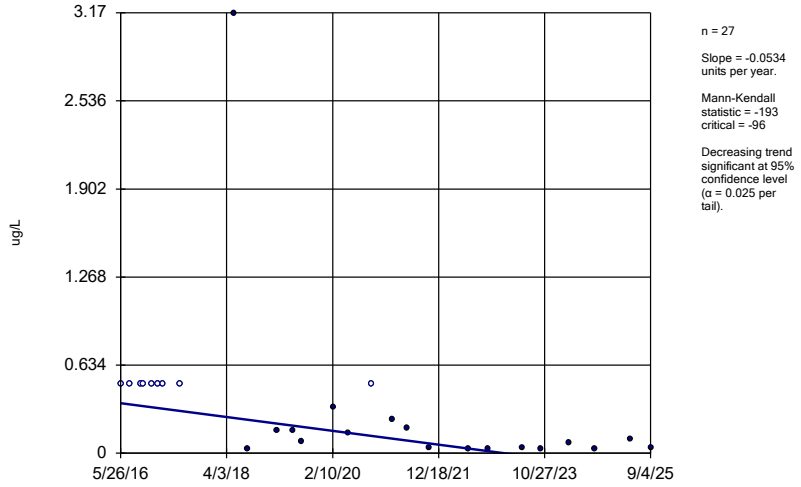
Welsh BASP Client: Geosyntec Data: Welsh BASP Printed 11/20/2025, 1:50 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Antimony (ug/L)	**AD-1 (bg)**	**-0.0534**	**-193**	**-96**	**Yes**	**27**	**33.33**	**n/a**	**0.05**	**NP**
Antimony (ug/L)	AD-5 (bg)	0	-68	-96	No	27	74.07	n/a	0.05	NP
Antimony (ug/L)	AD-17 (bg)	0	-90	-96	No	27	74.07	n/a	0.05	NP
Arsenic (ug/L)	**AD-1 (bg)**	**-0.1635**	**-230**	**-96**	**Yes**	**27**	**22.22**	**n/a**	**0.05**	**NP**
Arsenic (ug/L)	AD-5 (bg)	-0.166	-82	-96	No	27	18.52	n/a	0.05	NP
Arsenic (ug/L)	**AD-17 (bg)**	**-0.3244**	**-220**	**-96**	**Yes**	**27**	**29.63**	**n/a**	**0.05**	**NP**
Barium (ug/L)	AD-1 (bg)	-5.813	-80	-96	No	27	0	n/a	0.05	NP
Barium (ug/L)	AD-5 (bg)	-1.278	-51	-96	No	27	0	n/a	0.05	NP
Barium (ug/L)	**AD-17 (bg)**	**-0.7943**	**-121**	**-96**	**Yes**	**27**	**0**	**n/a**	**0.05**	**NP**
Beryllium (ug/L)	**AD-1 (bg)**	**0.1086**	**163**	**96**	**Yes**	**27**	**3.704**	**n/a**	**0.05**	**NP**
Beryllium (ug/L)	**AD-5 (bg)**	**-0.006694**	**-102**	**-96**	**Yes**	**27**	**7.407**	**n/a**	**0.05**	**NP**
Beryllium (ug/L)	AD-17 (bg)	-0.008116	-82	-96	No	27	11.11	n/a	0.05	NP
Cadmium (ug/L)	AD-1 (bg)	-0.007749	-65	-96	No	27	29.63	n/a	0.05	NP
Cadmium (ug/L)	**AD-5 (bg)**	**-0.001258**	**-126**	**-96**	**Yes**	**27**	**55.56**	**n/a**	**0.05**	**NP**
Cadmium (ug/L)	**AD-17 (bg)**	**-0.09435**	**-206**	**-85**	**Yes**	**25**	**12**	**n/a**	**0.05**	**NP**
Chromium (ug/L)	AD-1 (bg)	-0.01772	-38	-96	No	27	18.52	n/a	0.05	NP
Chromium (ug/L)	AD-5 (bg)	-0.0176	-60	-96	No	27	7.407	n/a	0.05	NP
Chromium (ug/L)	AD-17 (bg)	-0.0515	-69	-90	No	26	7.692	n/a	0.05	NP
Cobalt (ug/L)	**AD-1 (bg)**	**0.2339**	**145**	**96**	**Yes**	**27**	**0**	**n/a**	**0.05**	**NP**
Cobalt (ug/L)	AD-5 (bg)	-0.2965	-76	-96	No	27	0	n/a	0.05	NP
Cobalt (ug/L)	**AD-17 (bg)**	**-2.986**	**-148**	**-96**	**Yes**	**27**	**0**	**n/a**	**0.05**	**NP**
Combined Radium 226 + 228 (pCi/L)	AD-1 (bg)	0.1619	91	96	No	27	0	n/a	0.05	NP
Combined Radium 226 + 228 (pCi/L)	AD-5 (bg)	-0.01082	-5	-96	No	27	0	n/a	0.05	NP
Combined Radium 226 + 228 (pCi/L)	AD-17 (bg)	0.02619	17	96	No	27	0	n/a	0.05	NP
Fluoride (mg/L)	**AD-1 (bg)**	**0.03163**	**215**	**101**	**Yes**	**28**	**39.29**	**n/a**	**0.05**	**NP**
Fluoride (mg/L)	AD-5 (bg)	0.01293	81	101	No	28	32.14	n/a	0.05	NP
Fluoride (mg/L)	AD-17 (bg)	-0.006013	-61	-101	No	28	32.14	n/a	0.05	NP
Lead (ug/L)	AD-1 (bg)	0.001316	41	85	No	25	32	n/a	0.05	NP
Lead (ug/L)	AD-5 (bg)	0	-54	-96	No	27	66.67	n/a	0.05	NP
Lead (ug/L)	AD-17 (bg)	-0.003456	-79	-90	No	26	42.31	n/a	0.05	NP
Lithium (mg/L)	AD-1 (bg)	0.00000771	5	96	No	27	3.704	n/a	0.05	NP
Lithium (mg/L)	AD-5 (bg)	-0.006856	-91	-96	No	27	0	n/a	0.05	NP
Lithium (mg/L)	**AD-17 (bg)**	**-0.01248**	**-177**	**-96**	**Yes**	**27**	**0**	**n/a**	**0.05**	**NP**
Mercury (ug/L)	**AD-1 (bg)**	**-0.0007019**	**-187**	**-96**	**Yes**	**27**	**37.04**	**n/a**	**0.05**	**NP**
Mercury (ug/L)	AD-5 (bg)	0	-76	-96	No	27	85.19	n/a	0.05	NP
Mercury (ug/L)	**AD-17 (bg)**	**-0.0002516**	**-150**	**-96**	**Yes**	**27**	**62.96**	**n/a**	**0.05**	**NP**
Molybdenum (ug/L)	AD-1 (bg)	0	-28	-90	No	26	57.69	n/a	0.05	NP
Molybdenum (ug/L)	AD-5 (bg)	0	-70	-96	No	27	74.07	n/a	0.05	NP
Molybdenum (ug/L)	AD-17 (bg)	0	-73	-96	No	27	70.37	n/a	0.05	NP
Selenium (ug/L)	**AD-1 (bg)**	**0.9955**	**211**	**96**	**Yes**	**27**	**3.704**	**n/a**	**0.05**	**NP**
Selenium (ug/L)	**AD-5 (bg)**	**-0.01023**	**-125**	**-96**	**Yes**	**27**	**48.15**	**n/a**	**0.05**	**NP**
Selenium (ug/L)	AD-17 (bg)	0	-92	-96	No	27	51.85	n/a	0.05	NP
Thallium (ug/L)	**AD-1 (bg)**	**-0.01119**	**-148**	**-96**	**Yes**	**27**	**62.96**	**n/a**	**0.05**	**NP**
Thallium (ug/L)	AD-5 (bg)	0	-33	-96	No	27	92.59	n/a	0.05	NP
Thallium (ug/L)	AD-17 (bg)	0	-29	-96	No	27	88.89	n/a	0.05	NP

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Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-1 (bg)



n = 27

Slope = -0.0534 units per year.

Mann-Kendall statistic = -193 critical = -96

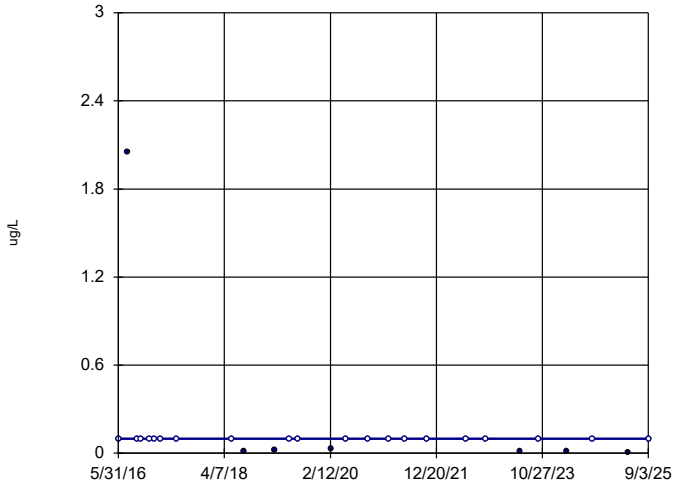
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Antimony Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-5 (bg)



n = 27

Slope = 0 units per year.

Mann-Kendall statistic = -68 critical = -96

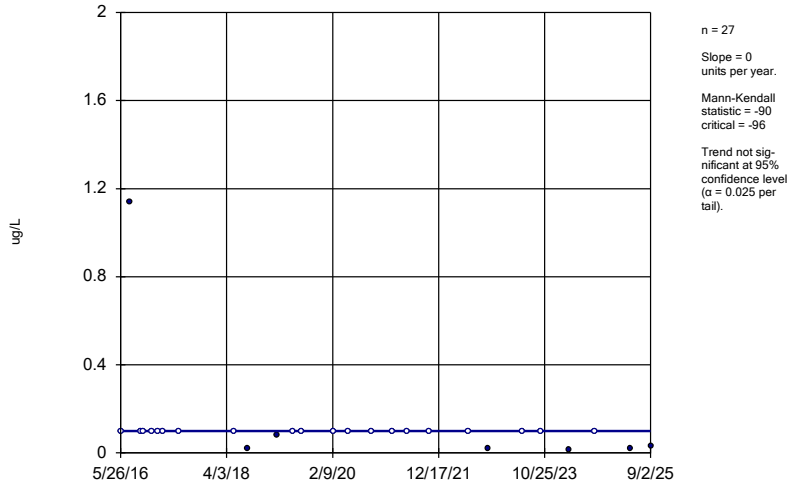
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Antimony Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-17 (bg)



n = 27

Slope = 0 units per year.

Mann-Kendall statistic = -90 critical = -96

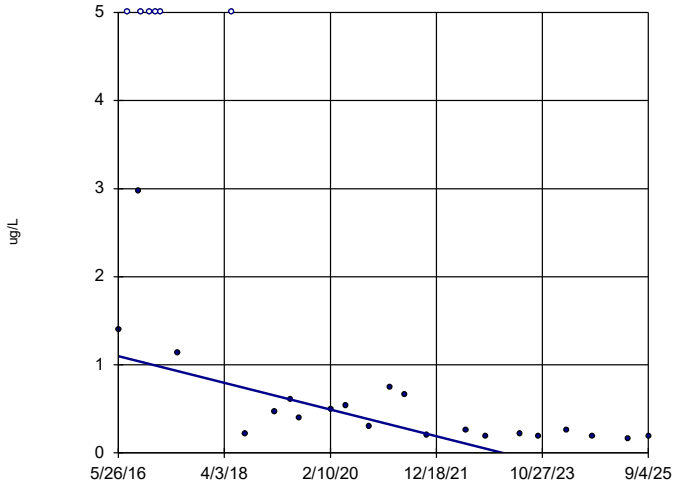
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Antimony Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-1 (bg)



n = 27

Slope = -0.1635 units per year.

Mann-Kendall statistic = -230 critical = -96

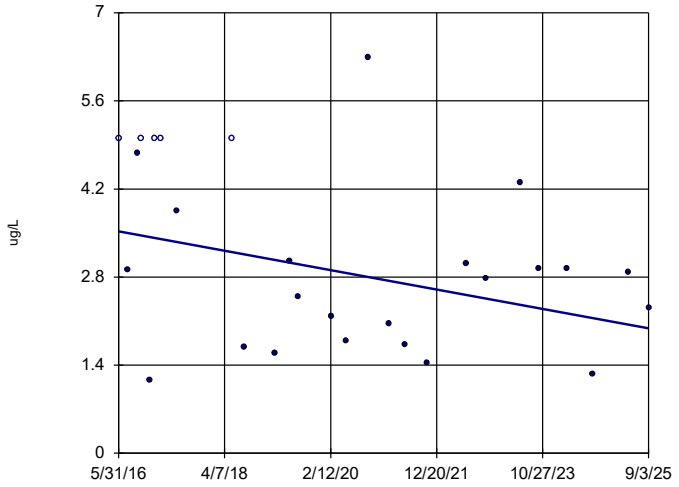
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Arsenic Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-5 (bg)



n = 27

Slope = -0.166 units per year.

Mann-Kendall statistic = -82
critical = -96

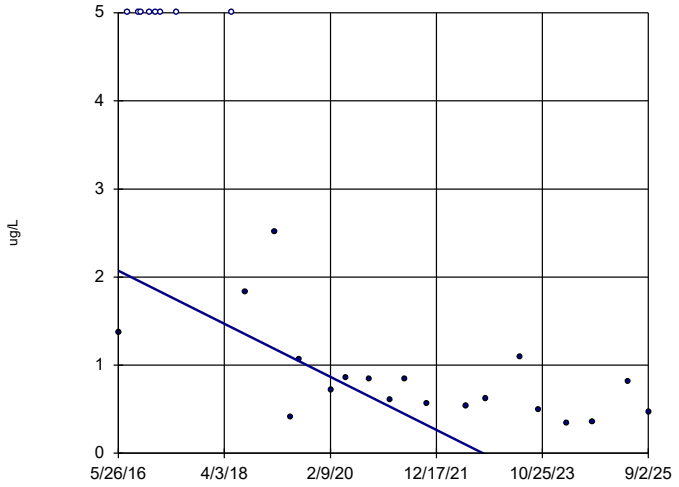
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Arsenic Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-17 (bg)



n = 27

Slope = -0.3244 units per year.

Mann-Kendall statistic = -220
critical = -96

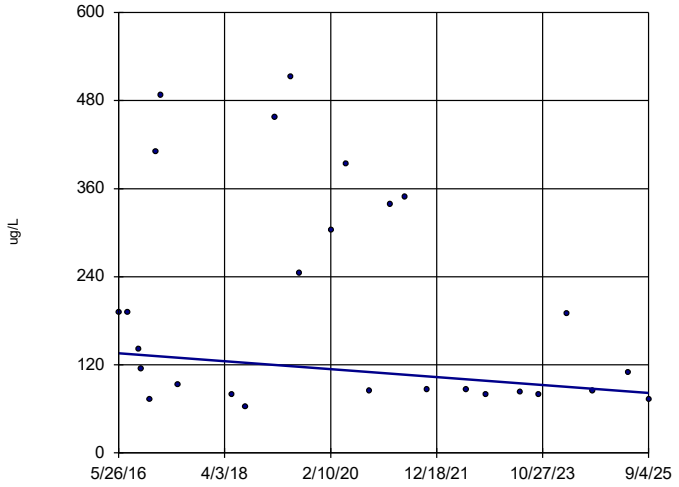
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Arsenic Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Sen's Slope Estimator

AD-1 (bg)



n = 27

Slope = -5.813 units per year.

Mann-Kendall statistic = -80
critical = -96

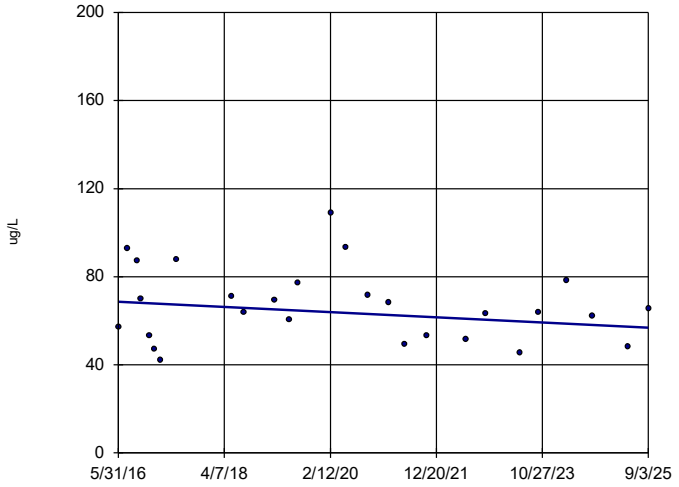
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Barium Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-5 (bg)



n = 27

Slope = -1.278 units per year.

Mann-Kendall statistic = -51
critical = -96

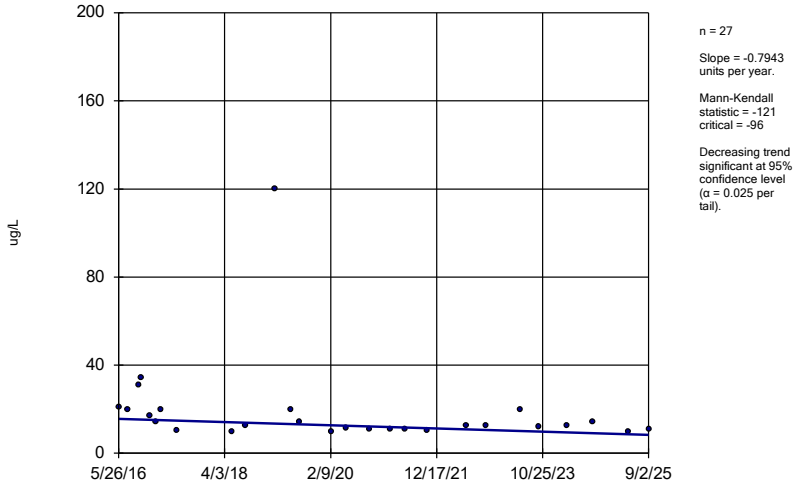
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Barium Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-17 (bg)



n = 27

Slope = -0.7943 units per year.

Mann-Kendall statistic = -121 critical = -96

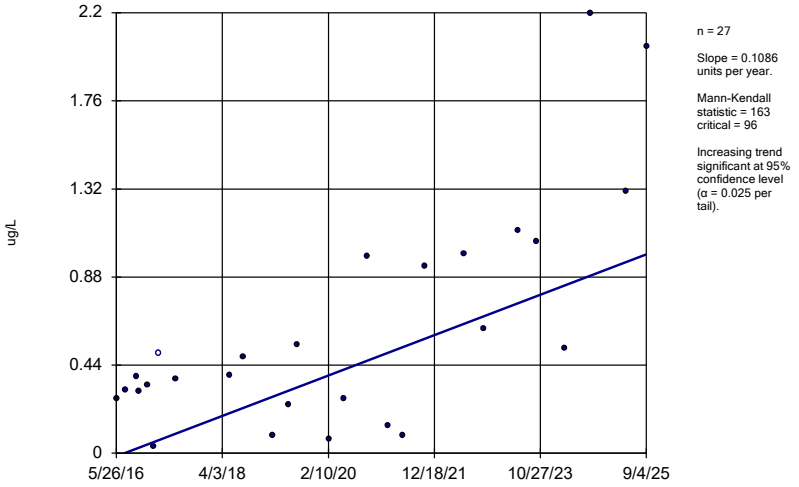
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Barium Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-1 (bg)



n = 27

Slope = 0.1086 units per year.

Mann-Kendall statistic = 163 critical = 96

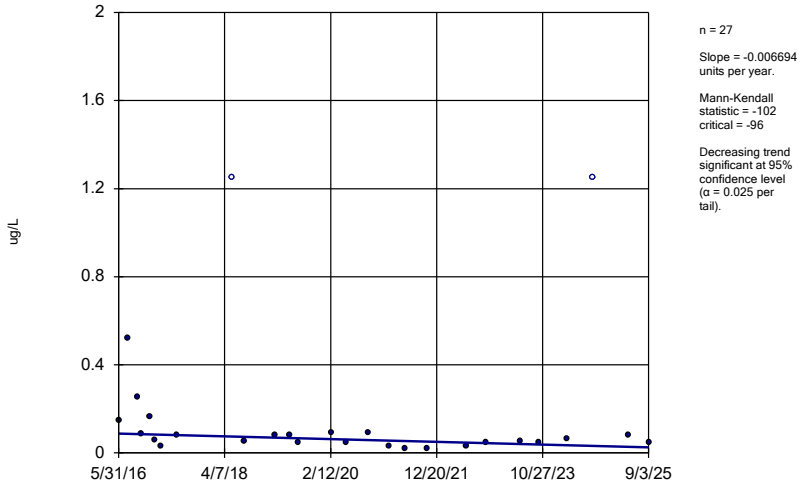
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Beryllium Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-5 (bg)



n = 27

Slope = -0.006694 units per year.

Mann-Kendall statistic = -102 critical = -96

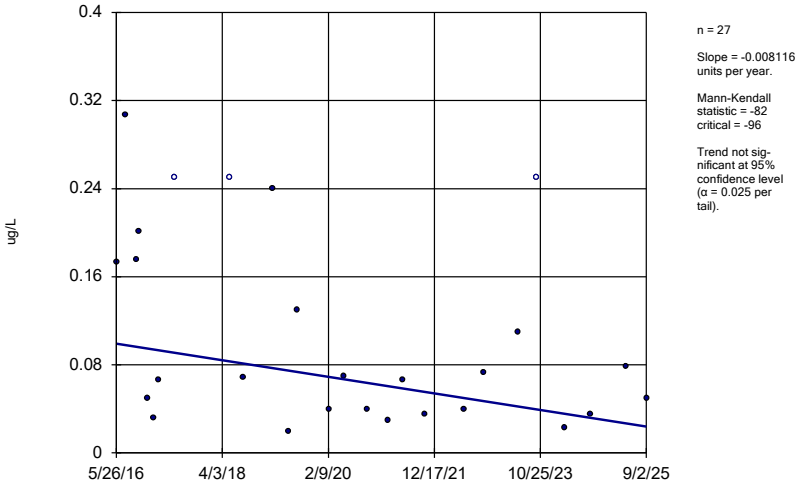
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Beryllium Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-17 (bg)



n = 27

Slope = -0.008116 units per year.

Mann-Kendall statistic = -82 critical = -96

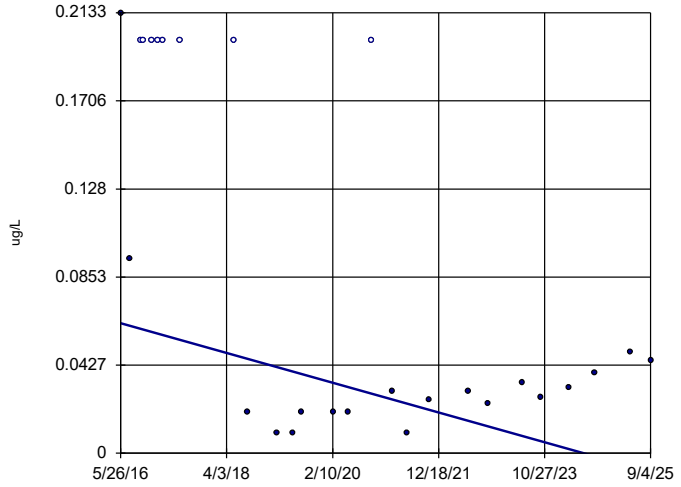
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Beryllium Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-1 (bg)



n = 27

Slope = -0.007749 units per year.

Mann-Kendall statistic = -65
critical = -96

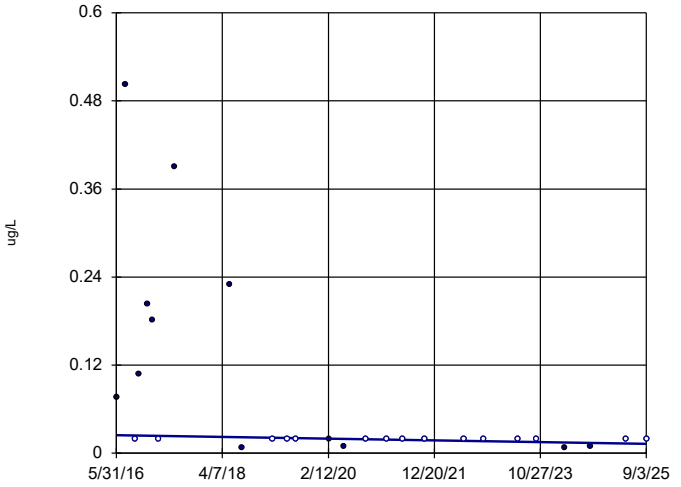
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cadmium Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-5 (bg)



n = 27

Slope = -0.001258 units per year.

Mann-Kendall statistic = -126
critical = -96

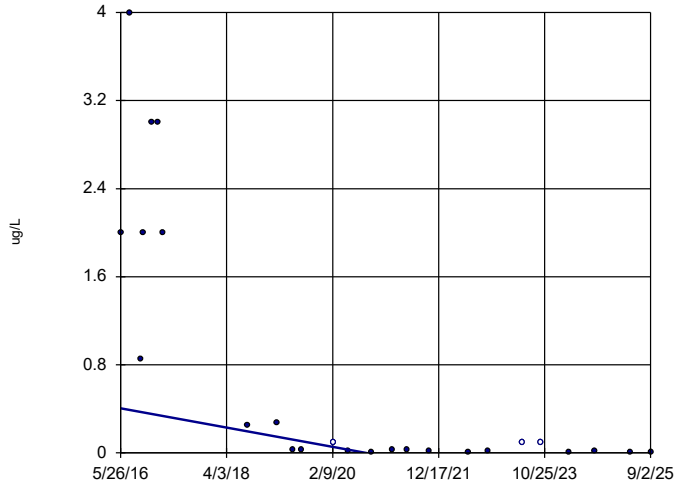
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cadmium Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-17 (bg)



n = 25

Slope = -0.09435 units per year.

Mann-Kendall statistic = -206
critical = -85

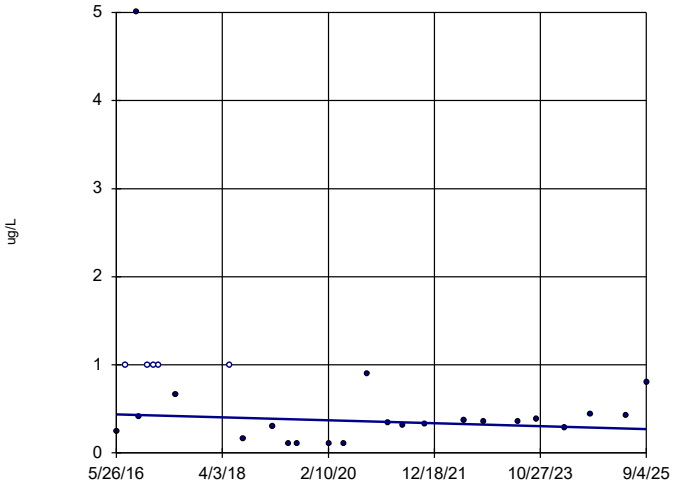
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cadmium Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-1 (bg)



n = 27

Slope = -0.01772 units per year.

Mann-Kendall statistic = -38
critical = -96

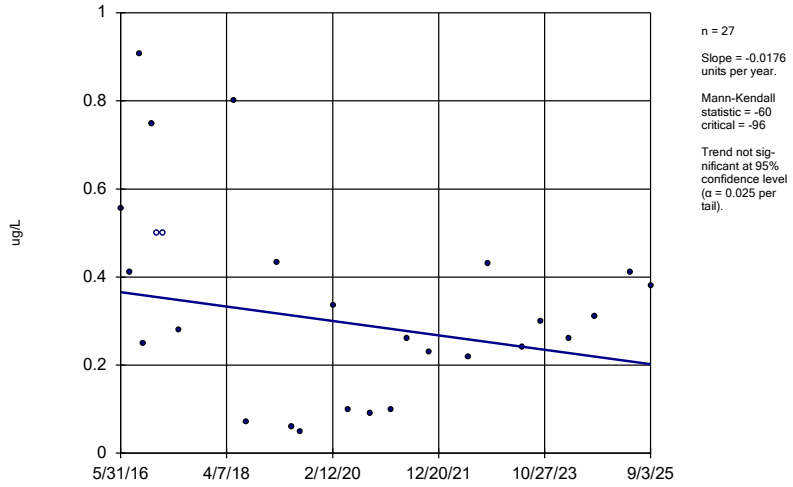
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Chromium Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-5 (bg)



n = 27

Slope = -0.0176 units per year.

Mann-Kendall statistic = -60 critical = -96

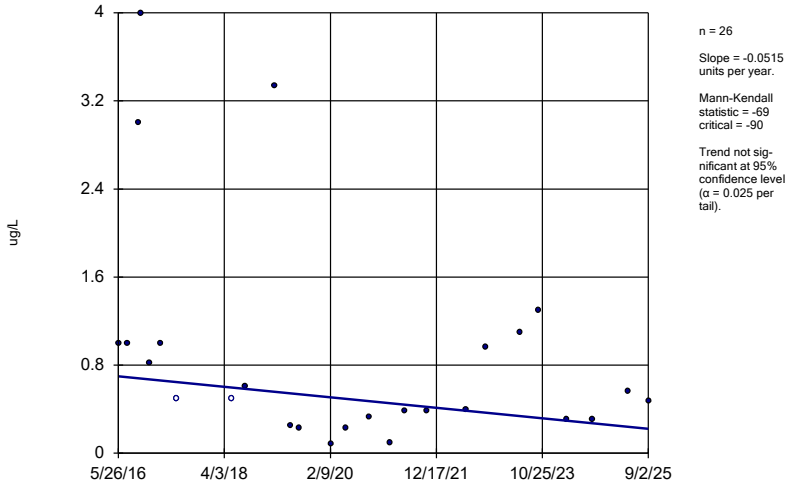
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Chromium Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-17 (bg)



n = 26

Slope = -0.0515 units per year.

Mann-Kendall statistic = -69 critical = -90

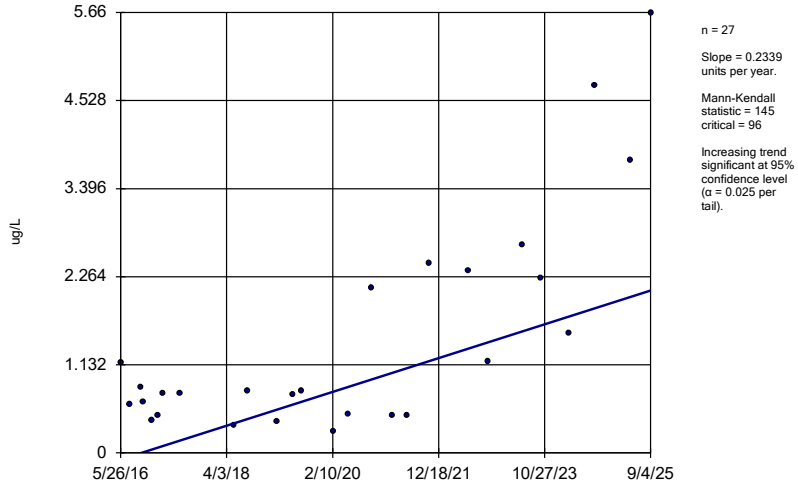
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Chromium Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Sen's Slope Estimator

AD-1 (bg)



n = 27

Slope = 0.2339 units per year.

Mann-Kendall statistic = 145 critical = 96

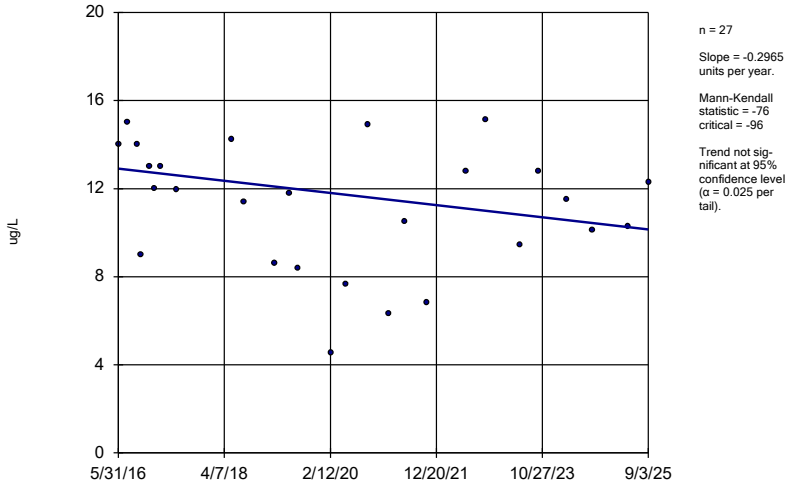
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Sen's Slope Estimator

AD-5 (bg)



n = 27

Slope = -0.2965 units per year.

Mann-Kendall statistic = -76 critical = -96

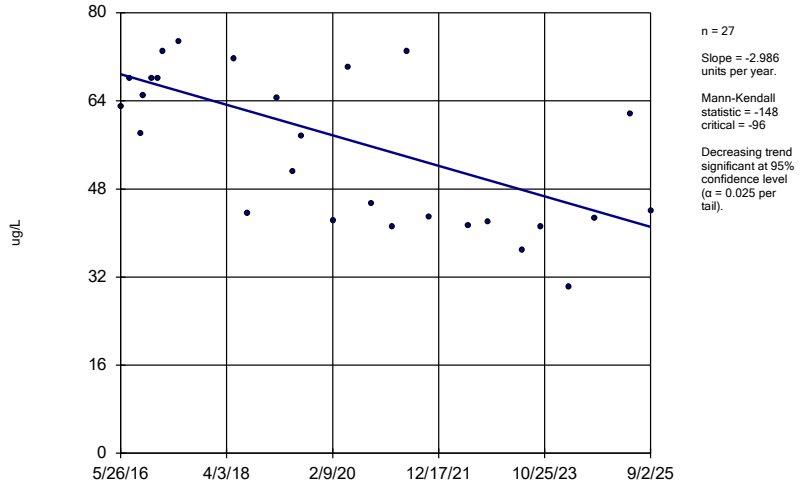
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Sen's Slope Estimator

AD-17 (bg)



n = 27

Slope = -2.986 units per year.

Mann-Kendall statistic = -148 critical = -96

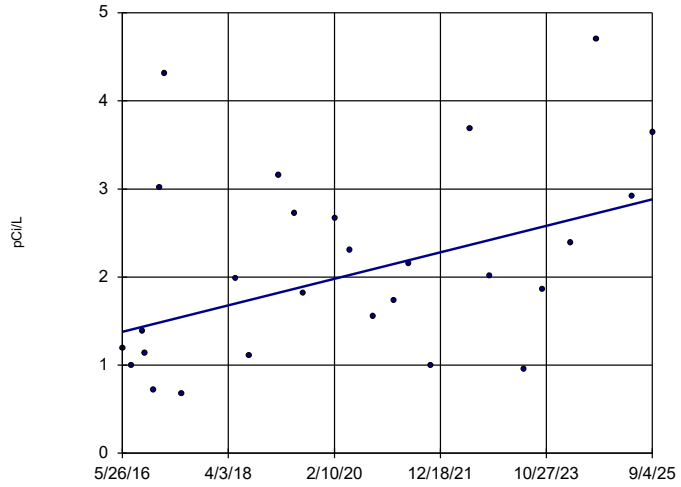
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Sen's Slope Estimator

AD-1 (bg)



n = 27

Slope = 0.1619 units per year.

Mann-Kendall statistic = 91 critical = 96

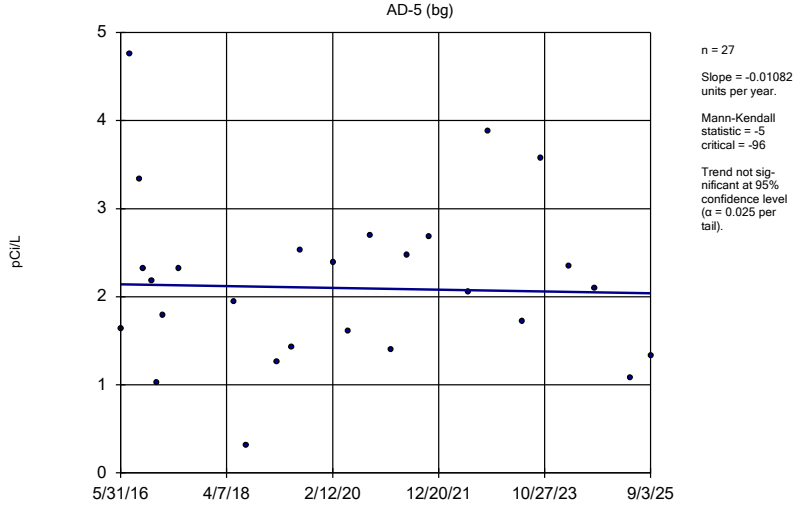
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Combined Radium 226 + 228 Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradi
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-5 (bg)



n = 27

Slope = -0.01082 units per year.

Mann-Kendall statistic = -5 critical = -96

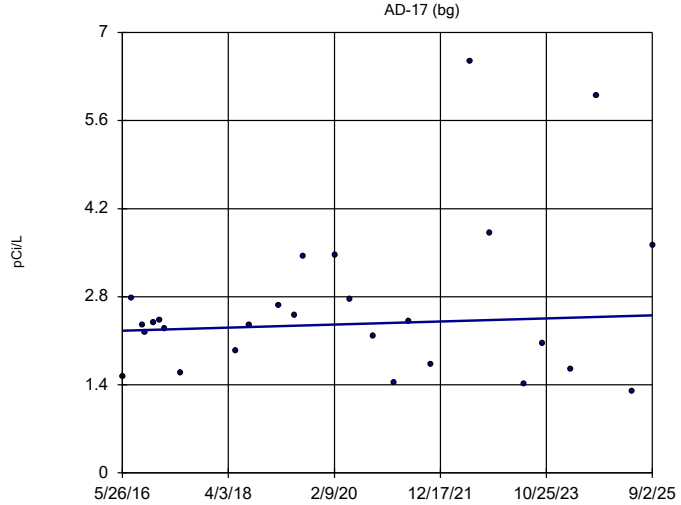
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Combined Radium 226 + 228 Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradi
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Sen's Slope Estimator

AD-17 (bg)



n = 27

Slope = 0.02619 units per year.

Mann-Kendall statistic = 17 critical = 96

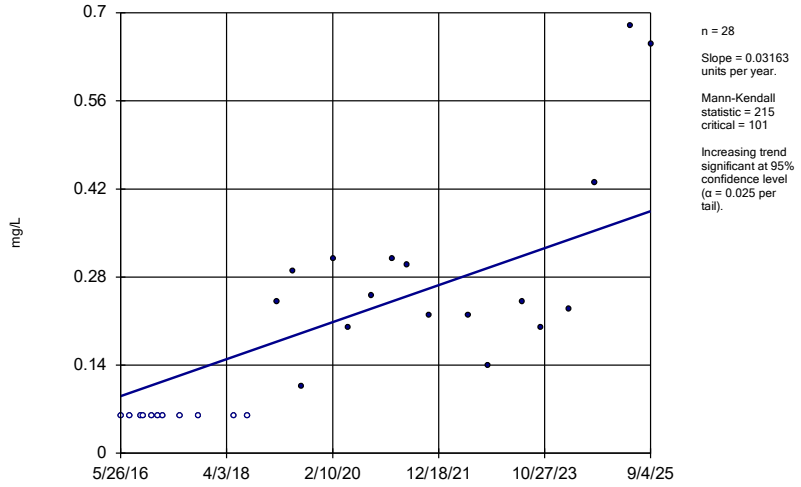
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Combined Radium 226 + 228 Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradi
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-1 (bg)



n = 28

Slope = 0.03163 units per year.

Mann-Kendall statistic = 215
critical = 101

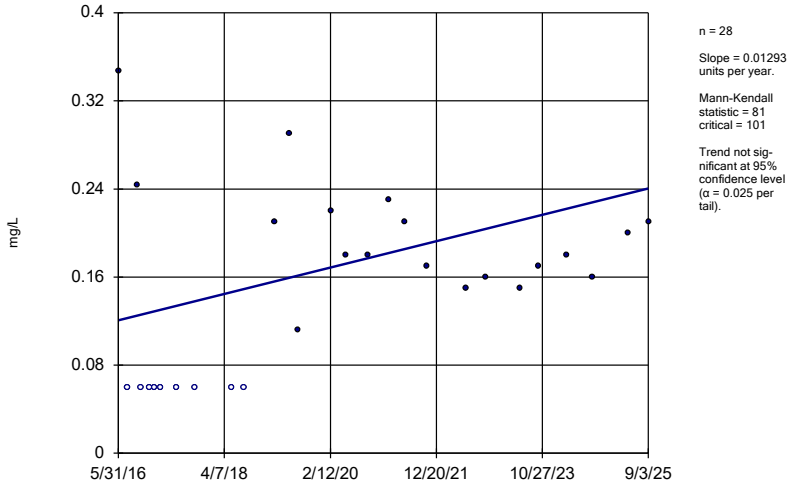
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Fluoride Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-5 (bg)



n = 28

Slope = 0.01293 units per year.

Mann-Kendall statistic = 81
critical = 101

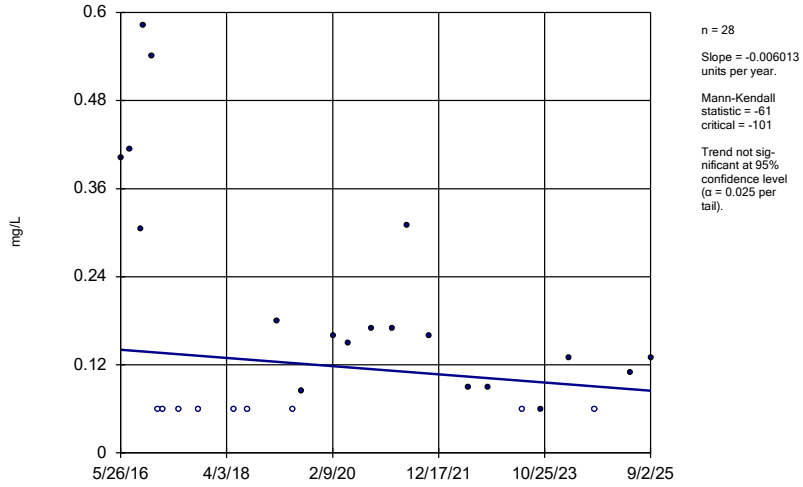
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Fluoride Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-17 (bg)



n = 28

Slope = -0.006013 units per year.

Mann-Kendall statistic = -61
critical = -101

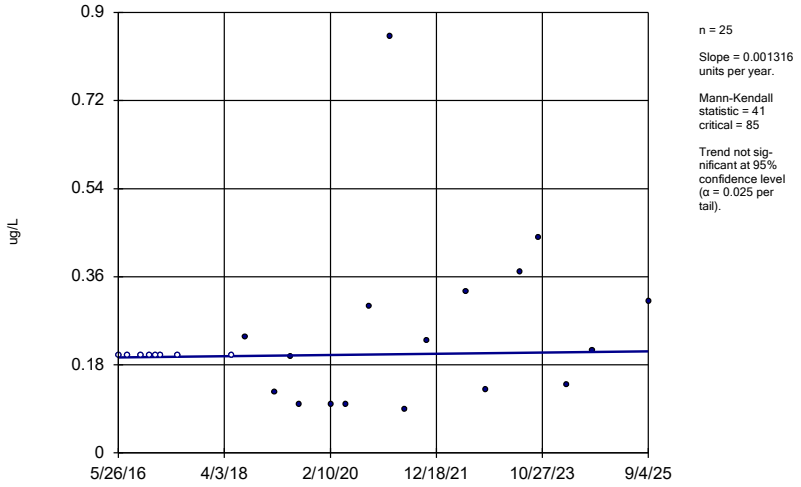
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Fluoride Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-1 (bg)



n = 25

Slope = 0.001316 units per year.

Mann-Kendall statistic = 41
critical = 85

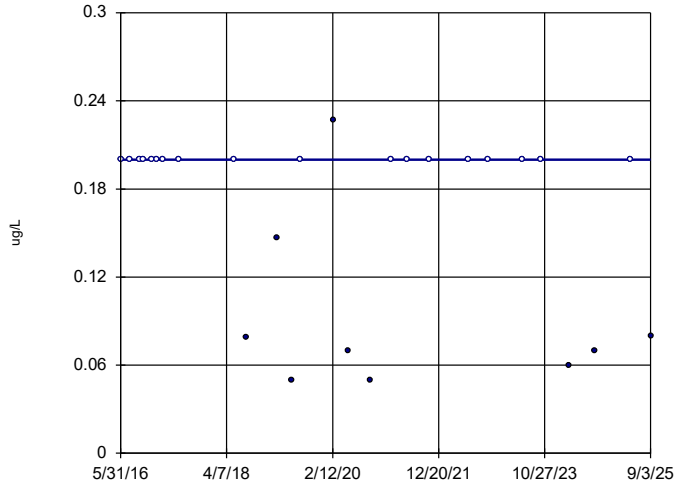
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lead Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-5 (bg)



n = 27

Slope = 0 units per year.

Mann-Kendall statistic = -54 critical = -96

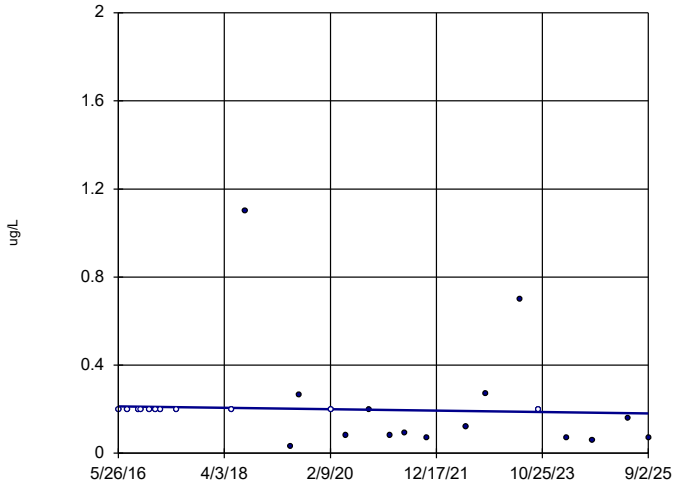
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lead Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-17 (bg)



n = 26

Slope = -0.003456 units per year.

Mann-Kendall statistic = -79 critical = -90

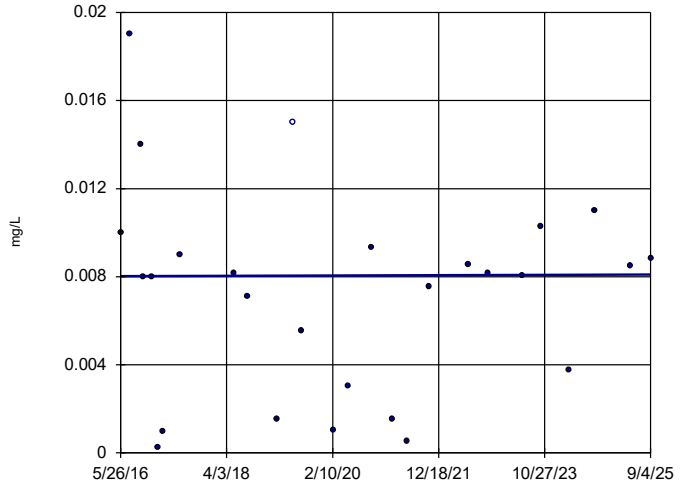
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lead Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-1 (bg)



n = 27

Slope = 0.00000771 units per year.

Mann-Kendall statistic = 5 critical = 96

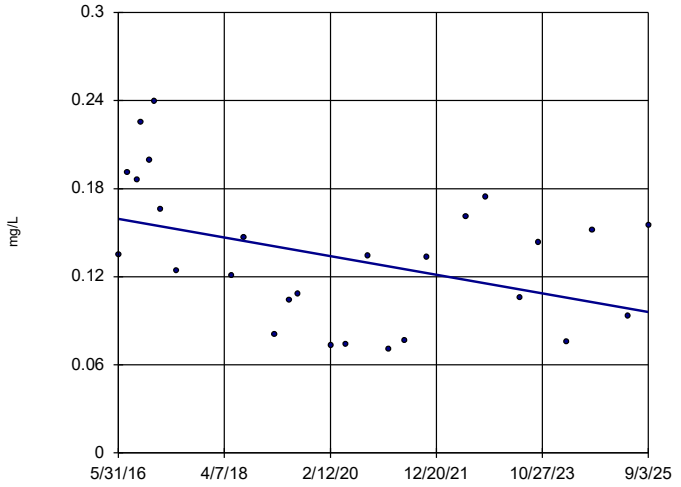
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-5 (bg)



n = 27

Slope = -0.006856 units per year.

Mann-Kendall statistic = -91 critical = -96

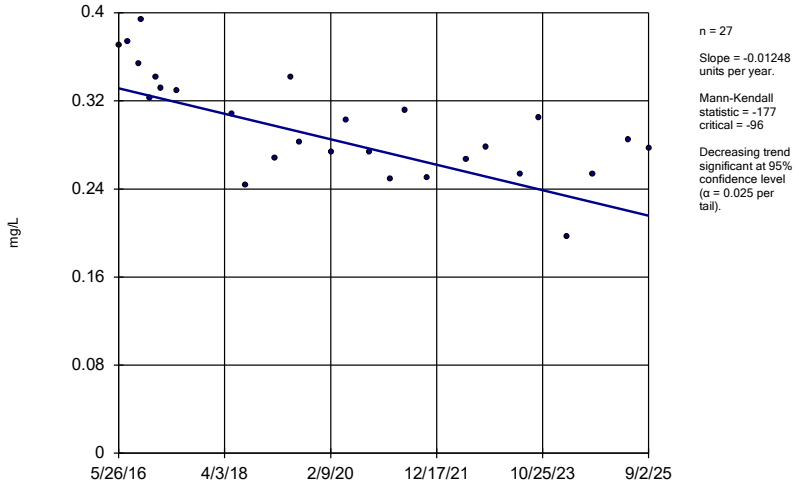
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-17 (bg)



n = 27

Slope = -0.01248 units per year.

Mann-Kendall statistic = -177 critical = -96

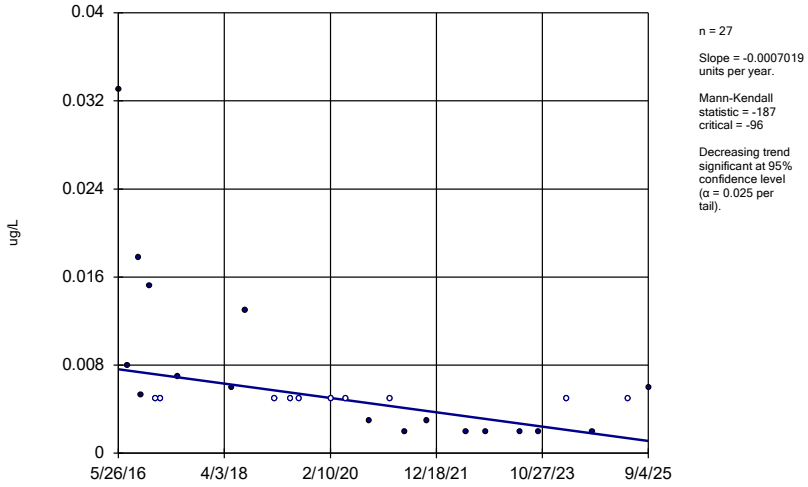
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-1 (bg)



n = 27

Slope = -0.0007019 units per year.

Mann-Kendall statistic = -187 critical = -96

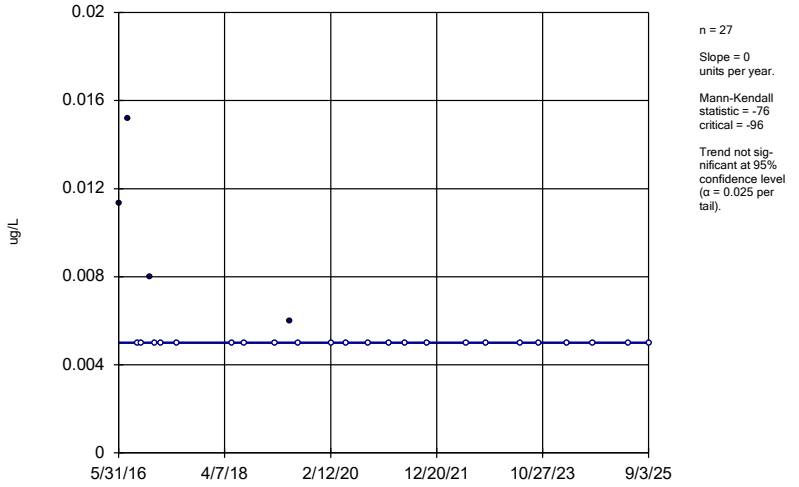
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Mercury Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-5 (bg)



n = 27

Slope = 0 units per year.

Mann-Kendall statistic = -76 critical = -96

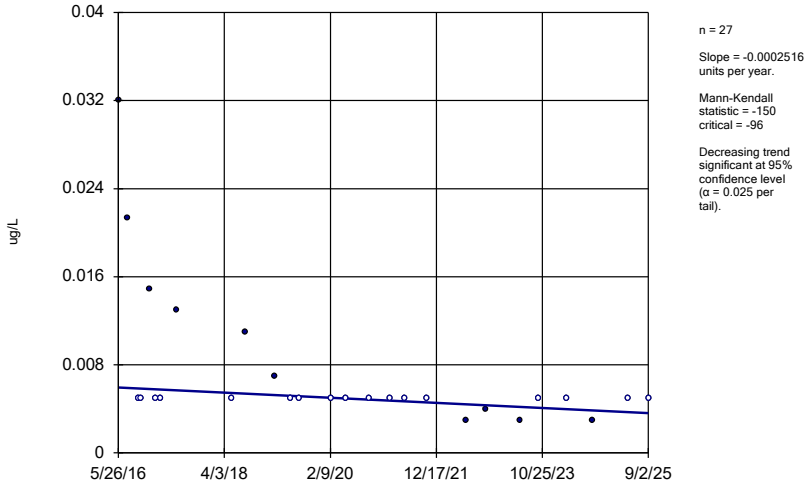
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Mercury Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-17 (bg)



n = 27

Slope = -0.0002516 units per year.

Mann-Kendall statistic = -150 critical = -96

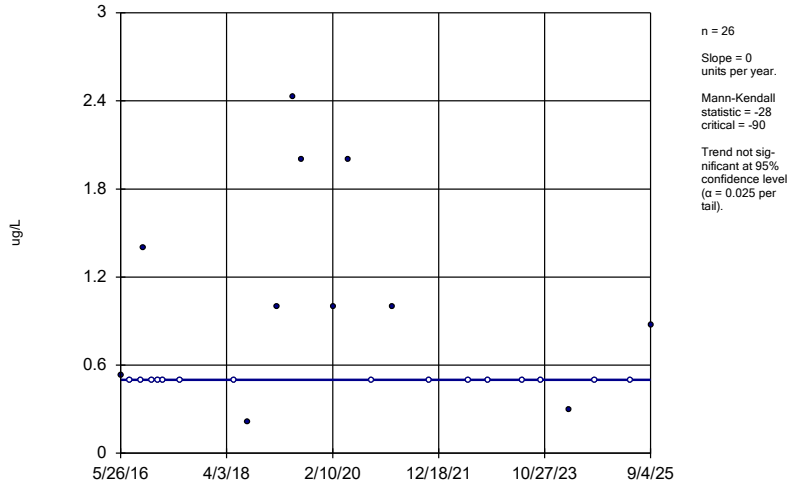
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Mercury Analysis Run 11/20/2025 1:49 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-1 (bg)



n = 26

Slope = 0 units per year.

Mann-Kendall statistic = -28 critical = -90

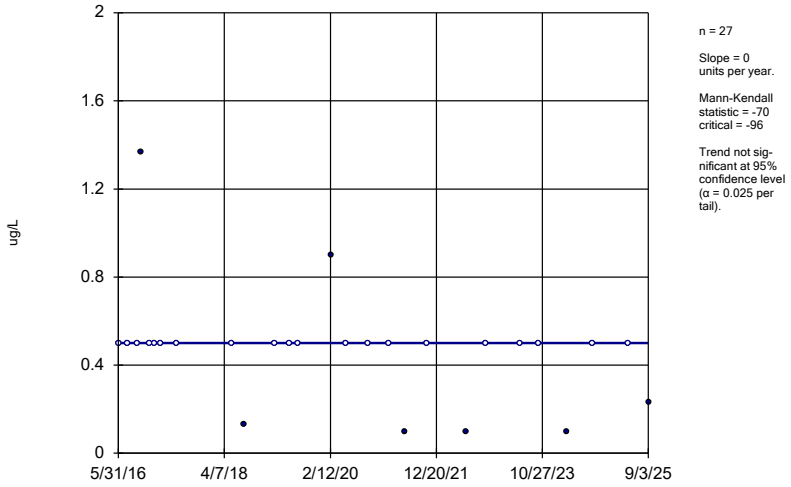
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Molybdenum Analysis Run 11/20/2025 1:50 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-5 (bg)



n = 27

Slope = 0 units per year.

Mann-Kendall statistic = -70 critical = -96

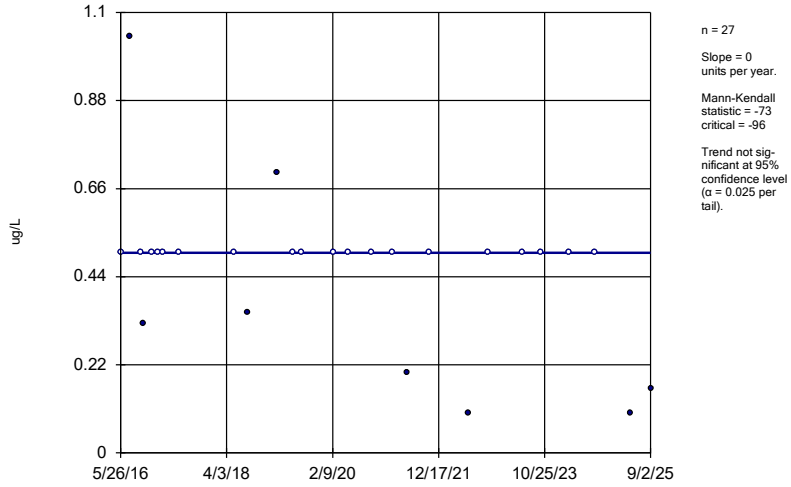
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Molybdenum Analysis Run 11/20/2025 1:50 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-17 (bg)



n = 27

Slope = 0 units per year.

Mann-Kendall statistic = -73 critical = -96

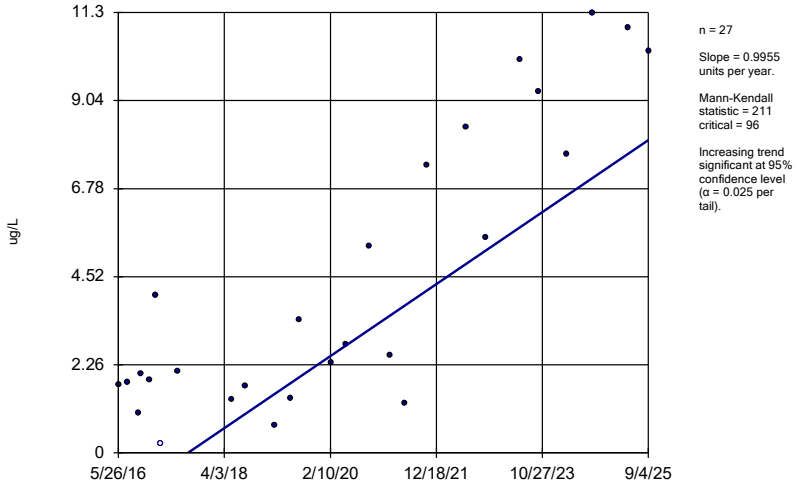
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Molybdenum Analysis Run 11/20/2025 1:50 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-1 (bg)



n = 27

Slope = 0.9955 units per year.

Mann-Kendall statistic = 211 critical = 96

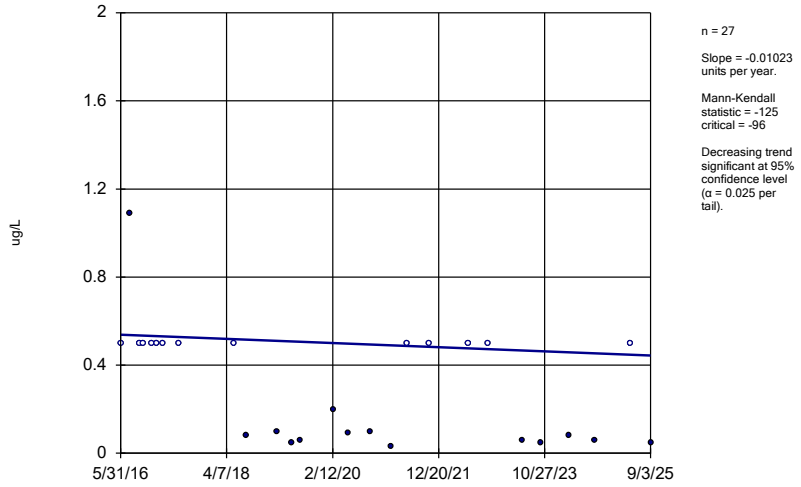
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Selenium Analysis Run 11/20/2025 1:50 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-5 (bg)



n = 27

Slope = -0.01023 units per year.

Mann-Kendall statistic = -125 critical = -96

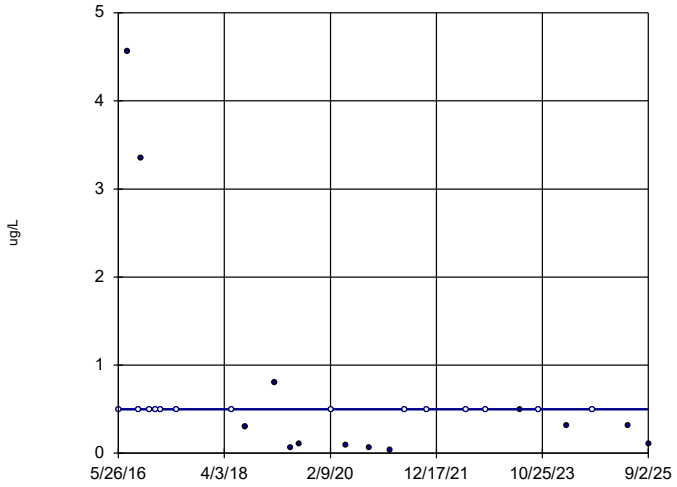
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Selenium Analysis Run 11/20/2025 1:50 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-17 (bg)



n = 27

Slope = 0 units per year.

Mann-Kendall statistic = -92 critical = -96

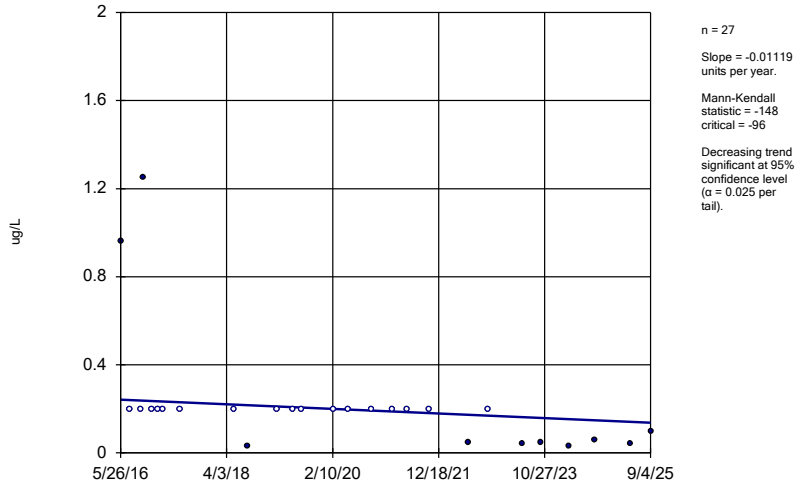
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Selenium Analysis Run 11/20/2025 1:50 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-1 (bg)



n = 27

Slope = -0.01119 units per year.

Mann-Kendall statistic = -148 critical = -96

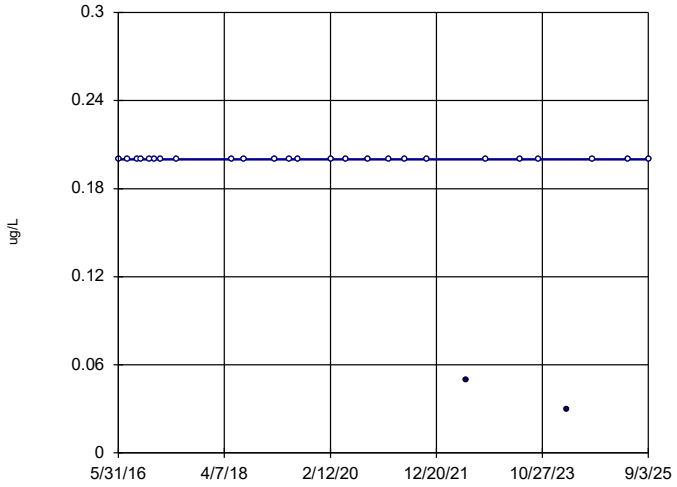
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Thallium Analysis Run 11/20/2025 1:50 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-5 (bg)



n = 27

Slope = 0 units per year.

Mann-Kendall statistic = -33 critical = -96

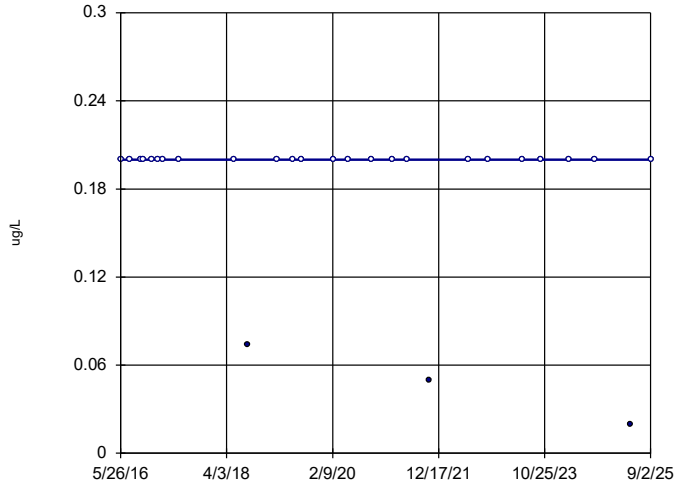
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Thallium Analysis Run 11/20/2025 1:50 PM View: Trend Tests - Upgradient
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-17 (bg)



n = 27

Slope = 0 units per year.

Mann-Kendall statistic = -29 critical = -96

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Thallium Analysis Run 11/20/2025 1:50 PM View: Trend Tests - Upgradient Welsh BASP Client: Geosyntec Data: Welsh BASP

FIGURE E

UTLs

Upper Tolerance Limits Summary Table

Welsh BASP Client: Geosyntec Data: Welsh BASP Printed 11/20/2025, 1:53 PM

Constituent	Upper Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (ug/L)	3.17	81	n/a	n/a	60.49	n/a	n/a	0.01569	NP Inter(NDs)
Arsenic (ug/L)	6.28	81	n/a	n/a	23.46	n/a	n/a	0.01569	NP Inter(normality)
Barium (ug/L)	512	81	n/a	n/a	0	n/a	n/a	0.01569	NP Inter(normality)
Beryllium (ug/L)	2.2	81	n/a	n/a	7.407	n/a	n/a	0.01569	NP Inter(normality)
Cadmium (ug/L)	4	79	n/a	n/a	32.91	n/a	n/a	0.01738	NP Inter(normality)
Chromium (ug/L)	5	80	n/a	n/a	11.25	n/a	n/a	0.01652	NP Inter(normality)
Cobalt (ug/L)	74.8	81	n/a	n/a	0	n/a	n/a	0.01569	NP Inter(normality)
Combined Radium 226 + 228 (pCi/L)	4.712	81	1.477	0.3538	0	None	sqrt(x)	0.05	Inter
Fluoride (mg/L)	0.68	84	n/a	n/a	34.52	n/a	n/a	0.01345	NP Inter(normality)
Lead (ug/L)	1.1	78	n/a	n/a	47.44	n/a	n/a	0.0183	NP Inter(normality)
Lithium (mg/L)	0.394	81	n/a	n/a	1.235	n/a	n/a	0.01569	NP Inter(normality)
Mercury (ug/L)	0.033	81	n/a	n/a	61.73	n/a	n/a	0.01569	NP Inter(NDs)
Molybdenum (ug/L)	2.43	80	n/a	n/a	67.5	n/a	n/a	0.01652	NP Inter(NDs)
Selenium (ug/L)	11.3	81	n/a	n/a	34.57	n/a	n/a	0.01569	NP Inter(normality)
Thallium (ug/L)	1.251	81	n/a	n/a	81.48	n/a	n/a	0.01569	NP Inter(NDs)

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Tolerance Limit

Interwell Non-parametric



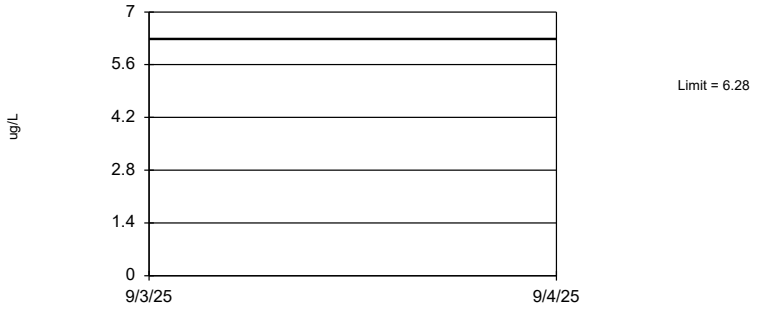
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 81 background values. 60.49% NDs. 94.34% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01569.

Constituent: Antimony Analysis Run 11/20/2025 1:51 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tolerance Limit

Interwell Non-parametric



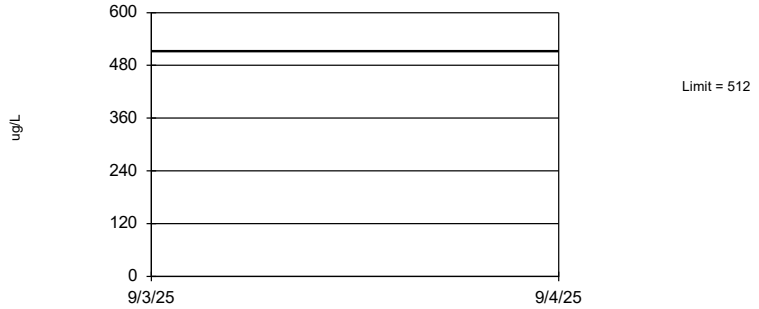
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 81 background values. 23.46% NDs. 94.34% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01569.

Constituent: Arsenic Analysis Run 11/20/2025 1:51 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tolerance Limit

Interwell Non-parametric



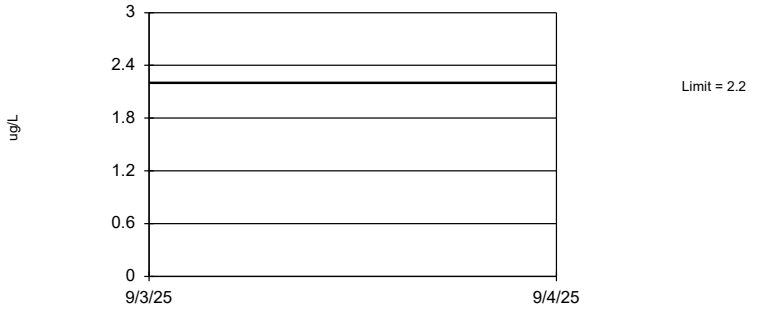
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 81 background values. 94.34% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01569.

Constituent: Barium Analysis Run 11/20/2025 1:51 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 81 background values. 7.407% NDs. 94.34% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01569.

Constituent: Beryllium Analysis Run 11/20/2025 1:51 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 79 background values. 32.91% NDs. 94.34% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01738.

Constituent: Cadmium Analysis Run 11/20/2025 1:51 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



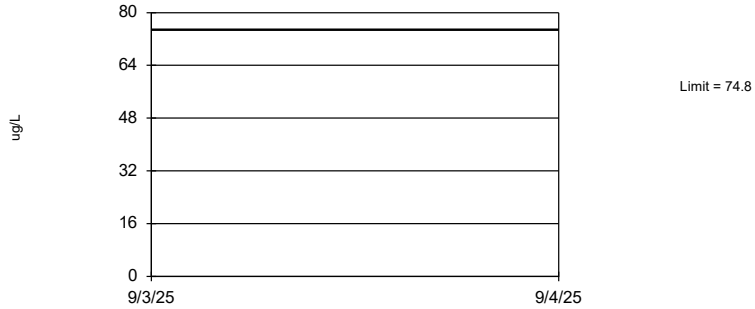
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 80 background values. 11.25% NDs. 94.34% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01652.

Constituent: Chromium Analysis Run 11/20/2025 1:51 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tolerance Limit

Interwell Non-parametric



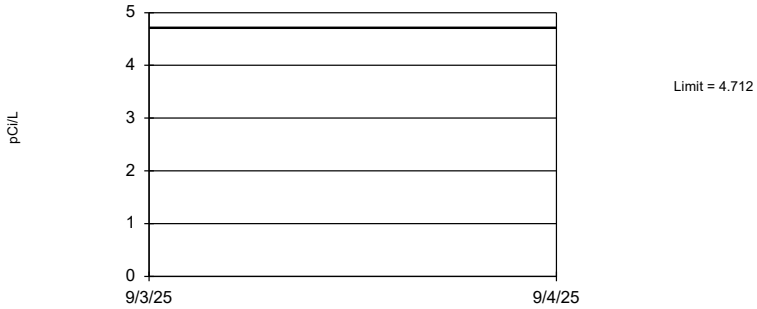
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 81 background values. 94.34% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01569.

Constituent: Cobalt Analysis Run 11/20/2025 1:51 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tolerance Limit

Interwell Parametric



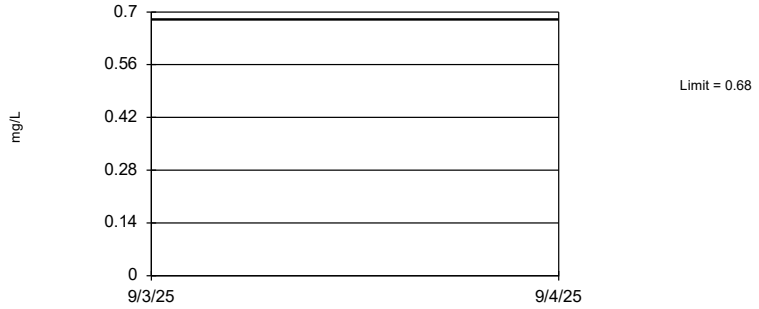
95% coverage. Background Data Summary (based on square root transformation): Mean=1.477, Std. Dev.=0.3538, n=81. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9742, critical = 0.958. Report alpha = 0.05.

Constituent: Combined Radium 226 + 228 Analysis Run 11/20/2025 1:51 PM View: Upper Tolerance Limit
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tolerance Limit

Interwell Non-parametric



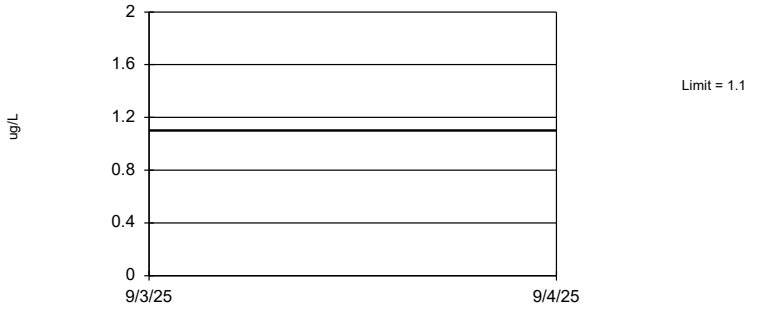
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 84 background values. 34.52% NDs. 94.73% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01345.

Constituent: Fluoride Analysis Run 11/20/2025 1:51 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tolerance Limit

Interwell Non-parametric



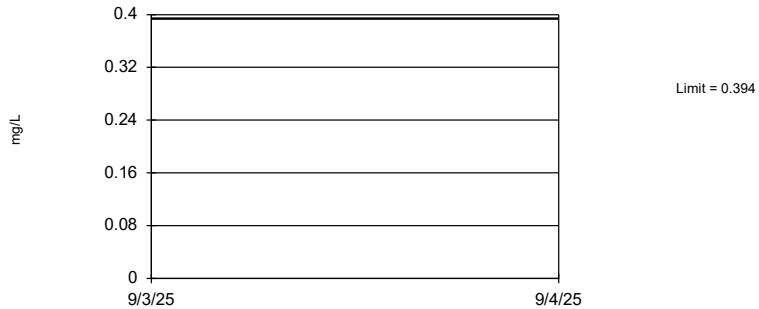
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 78 background values. 47.44% NDs. 94.34% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.0183.

Constituent: Lead Analysis Run 11/20/2025 1:51 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tolerance Limit

Interwell Non-parametric



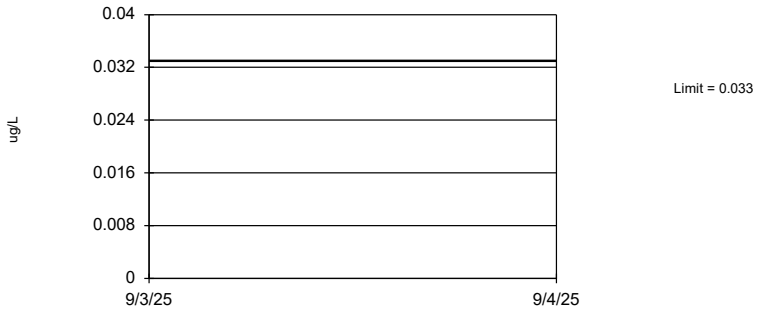
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 81 background values. 1.235% NDs. 94.34% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01569.

Constituent: Lithium Analysis Run 11/20/2025 1:51 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 81 background values. 61.73% NDs. 94.34% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01569.

Constituent: Mercury Analysis Run 11/20/2025 1:51 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



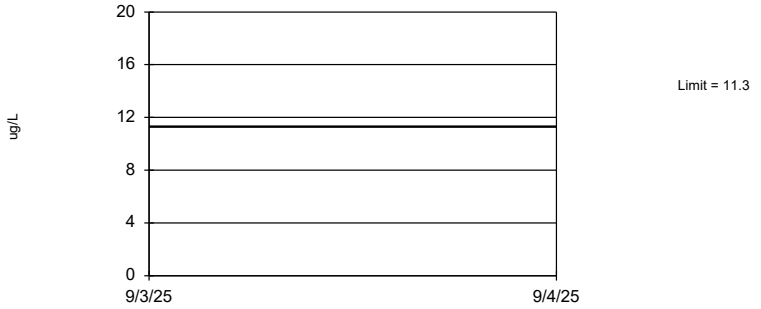
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 80 background values. 67.5% NDs. 94.34% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01652.

Constituent: Molybdenum Analysis Run 11/20/2025 1:51 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



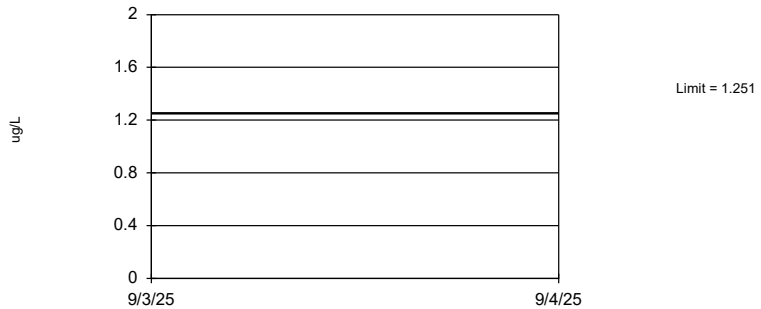
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 81 background values. 34.57% NDs. 94.34% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01569.

Constituent: Selenium Analysis Run 11/20/2025 1:51 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 81 background values. 81.48% NDs. 94.34% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01569.

Constituent: Thallium Analysis Run 11/20/2025 1:51 PM View: Upper Tolerance Limits
Welsh BASP Client: Geosyntec Data: Welsh BASP

FIGURE F

GWPS

WELSH BASP GWPS			
Constituent Name	**MCL**	**Background Limit**	**GWPS**
Antimony, Total (ug/L)	6	3.17	6
Arsenic, Total (ug/L)	10	6.28	10
Barium, Total (ug/L)	2000	512	2000
Beryllium, Total (ug/L)	4	2.2	4
Cadmium, Total (ug/L)	5	4	5
Chromium, Total (ug/L)	100	5	100
Cobalt, Total (ug/L)	n/a	74.8	74.8
Combined Radium, Total (pCi/L)	5	4.71	5
Fluoride, Total (mg/L)	4	0.68	4
Lead, Total (ug/L)	n/a	1.1	1.1
Lithium, Total (mg/L)	n/a	0.39	0.39
Mercury, Total (ug/L)	2	0.033	2
Molybdenum, Total (ug/L)	n/a	2.43	2.43
Selenium, Total (ug/L)	50	11.3	50
Thallium, Total (ug/L)	2	1.25	2

**MCL = Maximum Contaminant Level*

**GWPS = Groundwater Protection Standard*

FIGURE G
Confidence Intervals

Appendix IV Confidence Intervals - Significant Results

Welsh BASP Client: Geosyntec Data: Welsh BASP Printed 11/20/2025, 1:58 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Combined Radium 226 + 228 (pCi/L)	**AD-16R**	**17.03**	**5.478**	**5**	**Yes**	**11**	**11.5**	**8.321**	**0**	**None**	**sqrt(x)**	**0.01**	**Param.**

Appendix IV Confidence Intervals - All Results

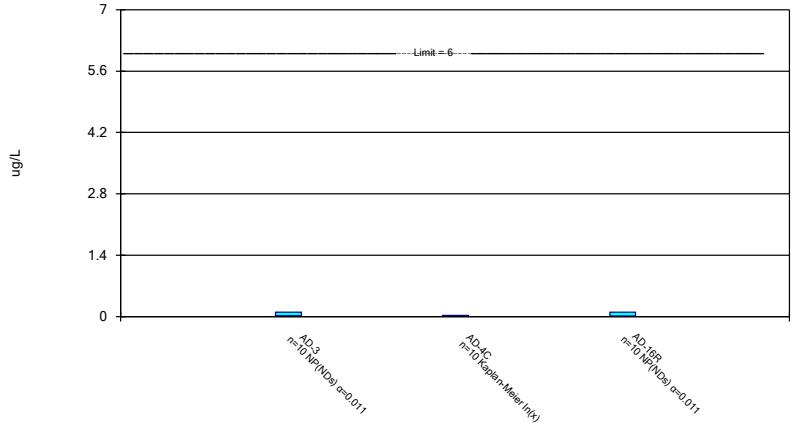
Welsh BASP Client: Geosyntec Data: Welsh BASP Printed 11/20/2025, 1:58 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (ug/L)	AD-3	0.1	0.019	6	No	10	0.0677	0.04178	60	None	No	0.011	NP (NDs)
Antimony (ug/L)	AD-4C	0.02602	0.01075	6	No	10	0.0432	0.04001	30	Kaplan-Meier	ln(x)	0.01	Param.
Antimony (ug/L)	AD-16R	0.1	0.013	6	No	10	0.0764	0.03876	70	Kaplan-Meier	No	0.011	NP (NDs)
Arsenic (ug/L)	AD-3	0.4661	0.1899	10	No	10	0.328	0.1548	0	None	No	0.01	Param.
Arsenic (ug/L)	AD-4C	0.7828	0.4332	10	No	10	0.608	0.1959	0	None	No	0.01	Param.
Arsenic (ug/L)	AD-16R	1.7	0.47	10	No	10	0.871	0.531	0	None	No	0.011	NP (normality)
Barium (ug/L)	AD-3	44.25	35.35	2000	No	10	39.8	4.99	0	None	No	0.01	Param.
Barium (ug/L)	AD-4C	87.1	53.8	2000	No	10	70.45	18.67	0	None	No	0.01	Param.
Barium (ug/L)	AD-16R	47.71	38.21	2000	No	10	42.96	5.325	0	None	No	0.01	Param.
Beryllium (ug/L)	AD-3	0.2397	0.1721	4	No	10	0.2059	0.03786	0	None	No	0.01	Param.
Beryllium (ug/L)	AD-4C	0.4589	0.1309	4	No	10	0.3253	0.338	10	None	ln(x)	0.01	Param.
Beryllium (ug/L)	AD-16R	1.48	0.899	4	No	10	1.19	0.3257	0	None	No	0.01	Param.
Cadmium (ug/L)	AD-3	0.04697	0.03623	5	No	10	0.0416	0.006022	0	None	No	0.01	Param.
Cadmium (ug/L)	AD-4C	0.3035	0.01611	5	No	10	0.1798	0.2966	10	None	x^(1/3)	0.01	Param.
Cadmium (ug/L)	AD-16R	0.7793	0.6761	5	No	10	0.7277	0.05782	0	None	No	0.01	Param.
Chromium (ug/L)	AD-3	0.6128	0.4032	100	No	10	0.508	0.1175	0	None	No	0.01	Param.
Chromium (ug/L)	AD-4C	0.8483	0.4757	100	No	10	0.662	0.2088	0	None	No	0.01	Param.
Chromium (ug/L)	AD-16R	0.8849	0.6751	100	No	10	0.78	0.1176	0	None	No	0.01	Param.
Cobalt (ug/L)	AD-3	1.436	1.16	74.8	No	10	1.298	0.1544	0	None	No	0.01	Param.
Cobalt (ug/L)	AD-4C	1.05	0.5059	74.8	No	10	0.7779	0.3048	0	None	No	0.01	Param.
Cobalt (ug/L)	AD-16R	33.79	26.33	74.8	No	10	30.06	4.182	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	AD-3	2.708	0.662	5	No	11	1.783	1.672	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	AD-4C	2.871	1.021	5	No	11	1.946	1.11	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	**AD-16R**	**17.03**	**5.478**	**5**	**Yes**	**11**	**11.5**	**8.321**	**0**	**None**	**sqrt(x)**	**0.01**	**Param.**
Fluoride (mg/L)	AD-3	0.1538	0.1102	4	No	10	0.132	0.0244	0	None	No	0.01	Param.
Fluoride (mg/L)	AD-4C	0.1563	0.1117	4	No	10	0.134	0.02503	0	None	No	0.01	Param.
Fluoride (mg/L)	AD-16R	0.1615	0.06097	4	No	10	0.112	0.0663	0	None	sqrt(x)	0.01	Param.
Lead (ug/L)	AD-3	0.3433	0.1062	1.1	No	10	0.227	0.1569	0	None	sqrt(x)	0.01	Param.
Lead (ug/L)	AD-4C	0.2052	0.07078	1.1	No	10	0.184	0.06637	40	Kaplan-Meier	No	0.01	Param.
Lead (ug/L)	AD-16R	0.3221	0.1659	1.1	No	10	0.244	0.08758	0	None	No	0.01	Param.
Lithium (mg/L)	AD-3	0.01562	0.01047	0.39	No	10	0.01304	0.002888	0	None	No	0.01	Param.
Lithium (mg/L)	AD-4C	0.009935	0.005065	0.39	No	10	0.0075	0.002729	0	None	No	0.01	Param.
Lithium (mg/L)	AD-16R	0.0254	0.01614	0.39	No	10	0.02077	0.005188	0	None	No	0.01	Param.
Mercury (ug/L)	AD-3	0.2815	0.07815	2	No	10	0.1845	0.1486	10	None	x^(1/3)	0.01	Param.
Mercury (ug/L)	AD-4C	0.1674	0.06716	2	No	10	0.1173	0.0562	10	None	No	0.01	Param.
Mercury (ug/L)	AD-16R	0.03034	0.005612	2	No	10	0.0183	0.01652	0	None	sqrt(x)	0.01	Param.
Molybdenum (ug/L)	AD-3	0.5	0.5	2.43	No	10	0.48	0.1033	80	None	No	0.011	NP (NDs)
Molybdenum (ug/L)	AD-4C	0.5	0.5	2.43	No	10	0.47	0.09487	90	None	No	0.011	NP (NDs)
Selenium (ug/L)	AD-3	0.2034	0.1186	50	No	10	0.161	0.04748	0	None	No	0.01	Param.
Selenium (ug/L)	AD-4C	0.6126	0.2454	50	No	10	0.429	0.2058	0	None	No	0.01	Param.
Selenium (ug/L)	AD-16R	1.304	0.6904	50	No	10	0.997	0.3436	0	None	No	0.01	Param.
Thallium (ug/L)	AD-3	0.2	0.02	2	No	10	0.114	0.09082	50	None	No	0.011	NP (normality)
Thallium (ug/L)	AD-4C	0.2	0.02	2	No	10	0.1	0.08679	40	None	No	0.011	NP (normality)
Thallium (ug/L)	AD-16R	0.5397	0.4823	2	No	10	0.511	0.03213	0	None	No	0.01	Param.

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

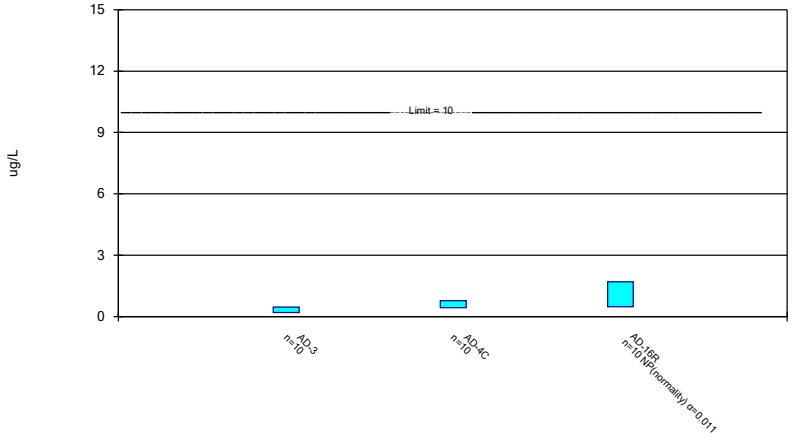


Constituent: Antimony Analysis Run 11/20/2025 1:57 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric and Non-Parametric (NP) Confidence Interval

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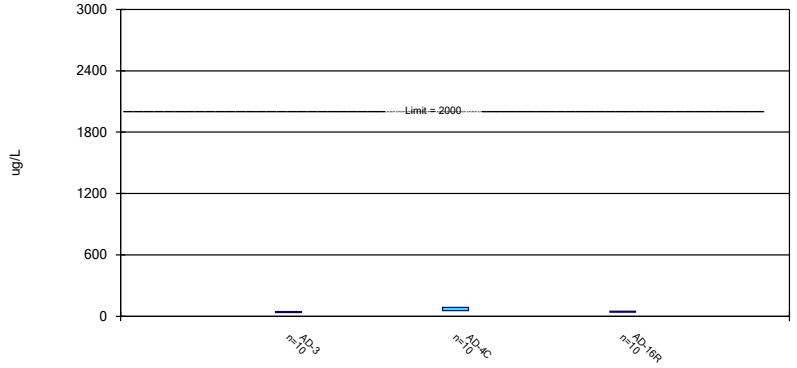


Constituent: Arsenic Analysis Run 11/20/2025 1:57 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

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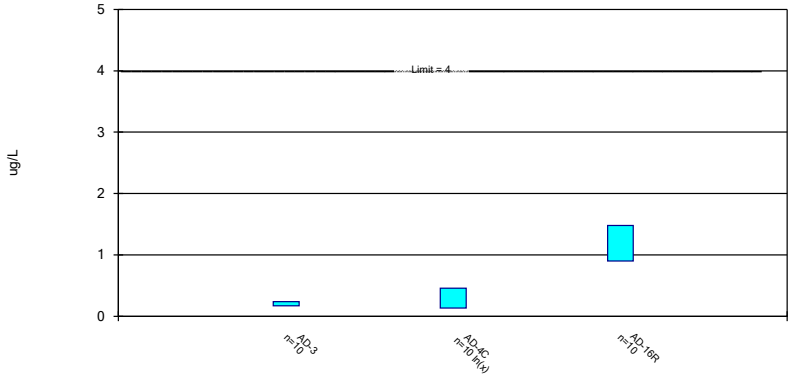


Constituent: Barium Analysis Run 11/20/2025 1:57 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

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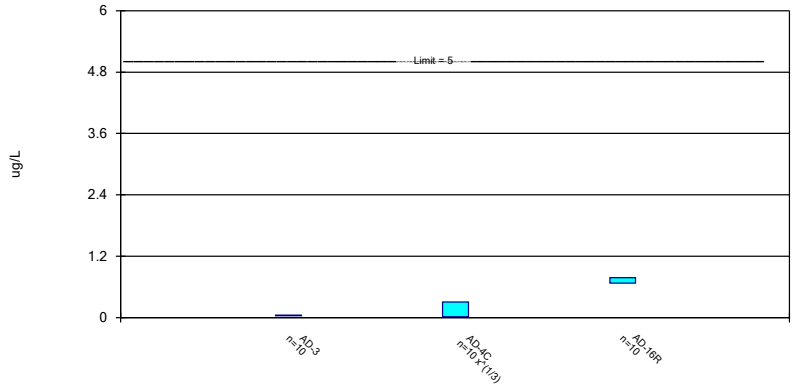


Constituent: Beryllium Analysis Run 11/20/2025 1:57 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

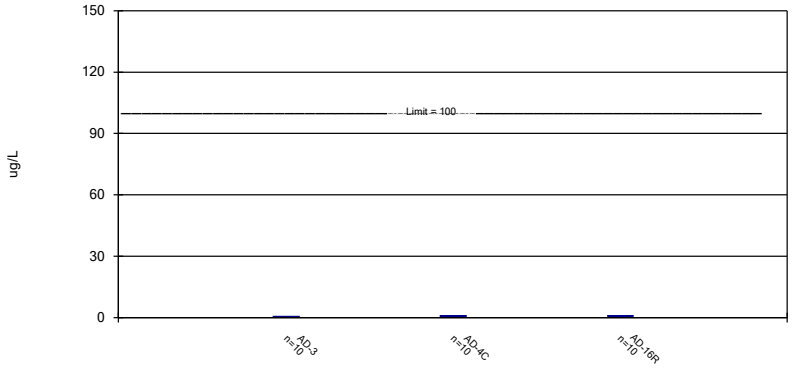


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Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

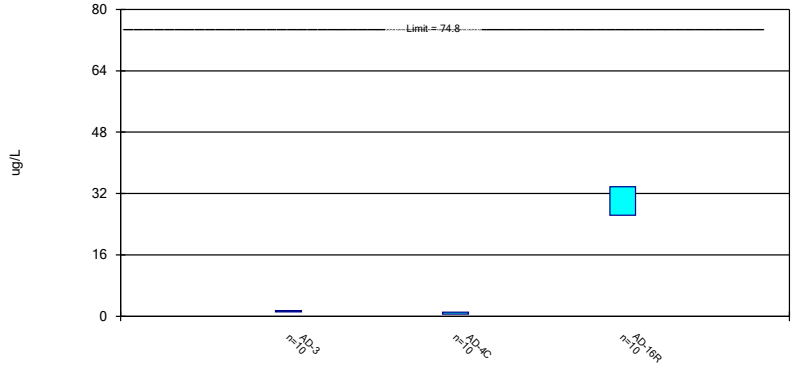


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Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

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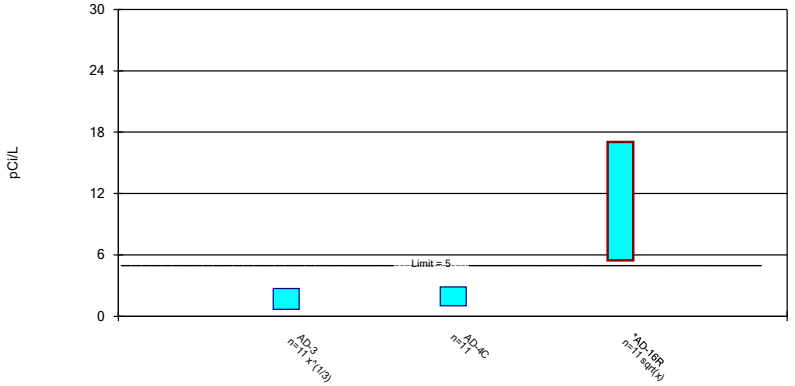


Constituent: Cobalt Analysis Run 11/20/2025 1:57 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

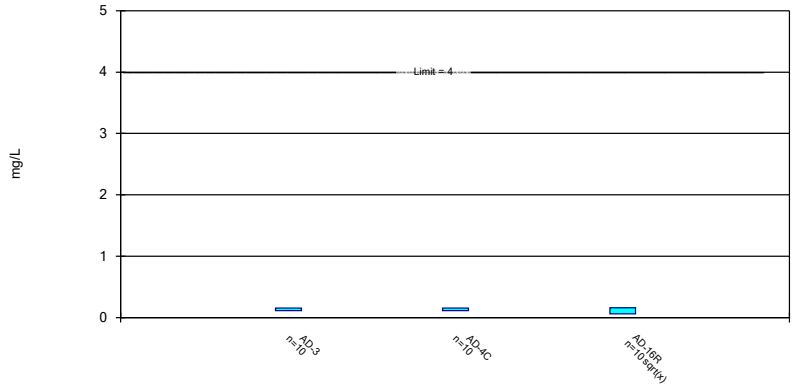


Constituent: Combined Radium 226 + 228 Analysis Run 11/20/2025 1:57 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

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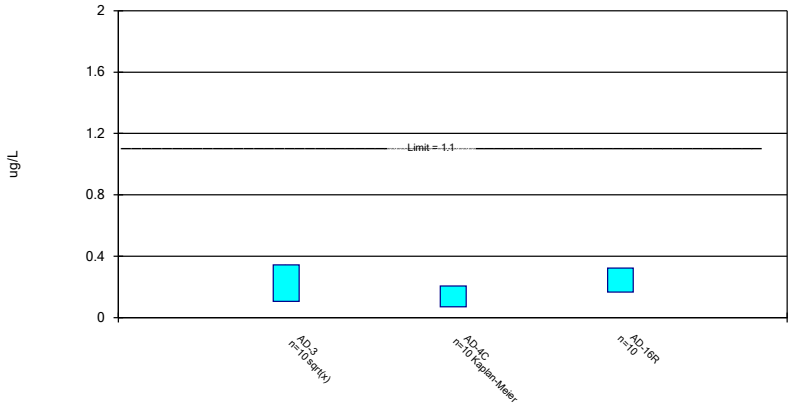


Constituent: Fluoride Analysis Run 11/20/2025 1:57 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

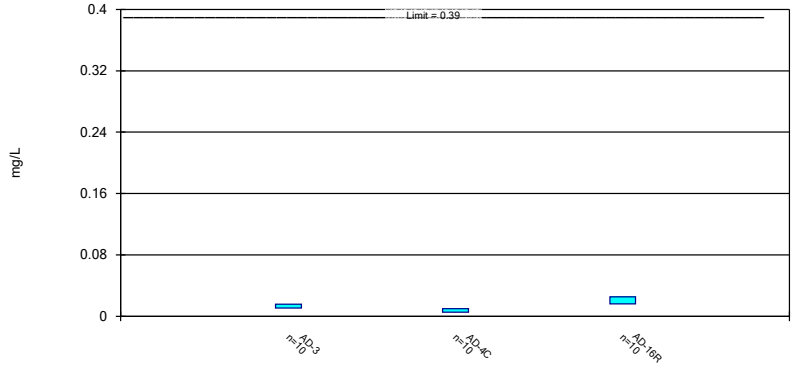


Constituent: Lead Analysis Run 11/20/2025 1:57 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

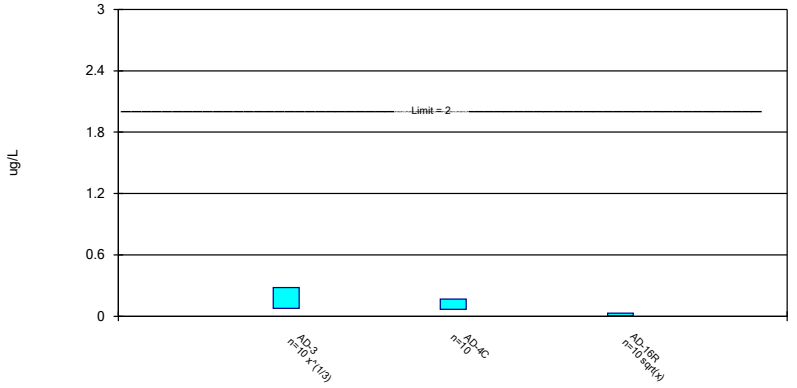


Constituent: Lithium Analysis Run 11/20/2025 1:57 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

Sanitas™ v.10.1.02 Software licensed to Groundwater Stats Consulting. UG

Parametric Confidence Interval

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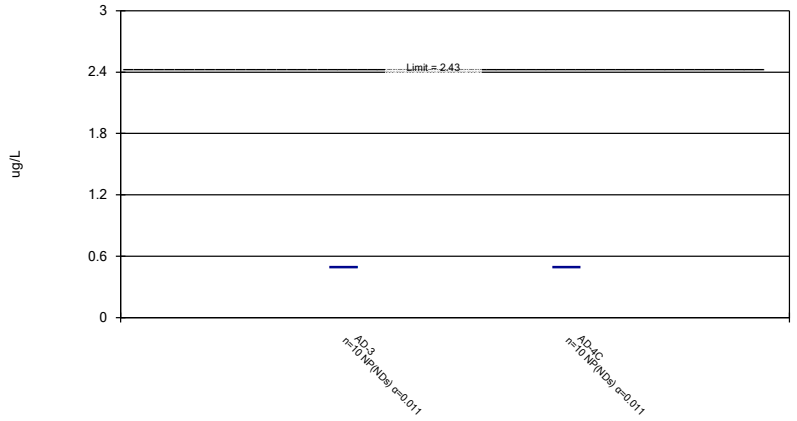


Constituent: Mercury Analysis Run 11/20/2025 1:57 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

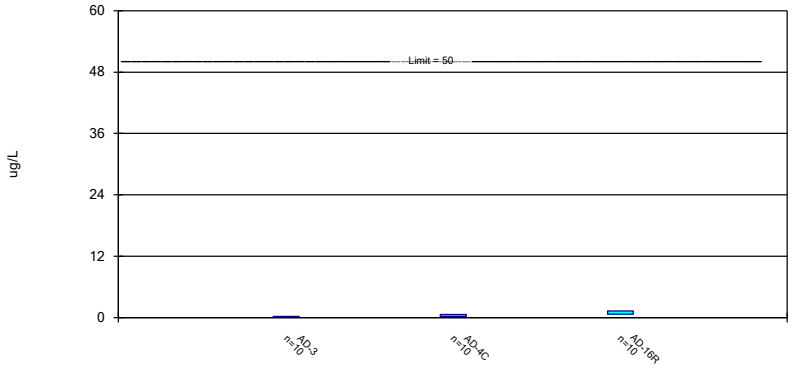


Constituent: Molybdenum Analysis Run 11/20/2025 1:57 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

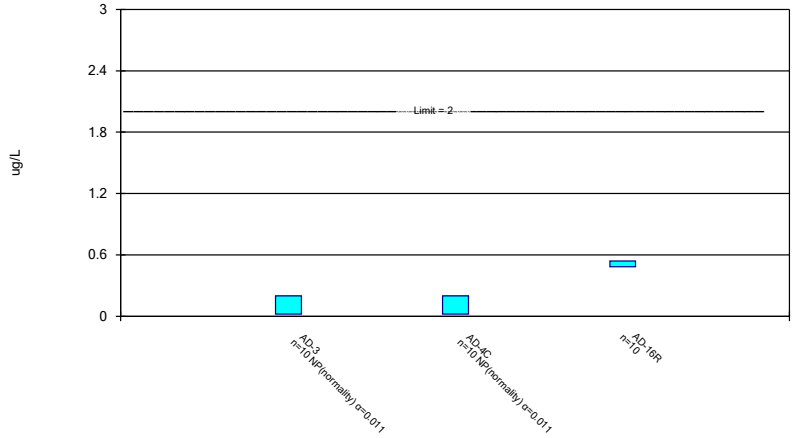


Constituent: Selenium Analysis Run 11/20/2025 1:57 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Thallium Analysis Run 11/20/2025 1:57 PM View: Confidence Intervals
Welsh BASP Client: Geosyntec Data: Welsh BASP

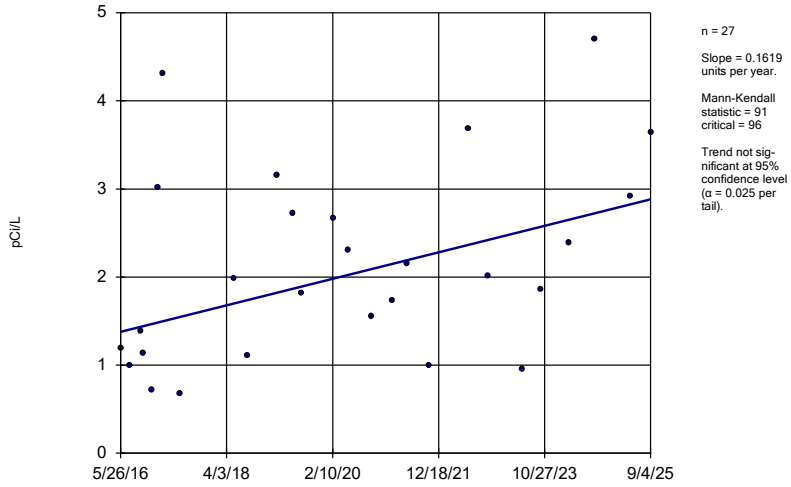
FIGURE H

Trend Tests

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Sen's Slope Estimator

AD-1 (bg)



n = 27

Slope = 0.1619 units per year.

Mann-Kendall statistic = 91 critical = 96

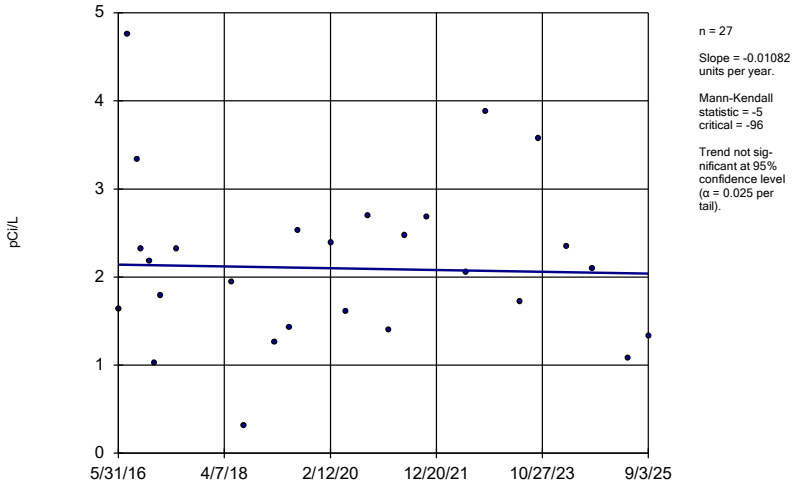
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Combined Radium 226 + 228 Analysis Run 11/20/2025 1:59 PM View: Trend Tests Appendix
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Sen's Slope Estimator

AD-5 (bg)



n = 27

Slope = -0.01082 units per year.

Mann-Kendall statistic = -5 critical = -96

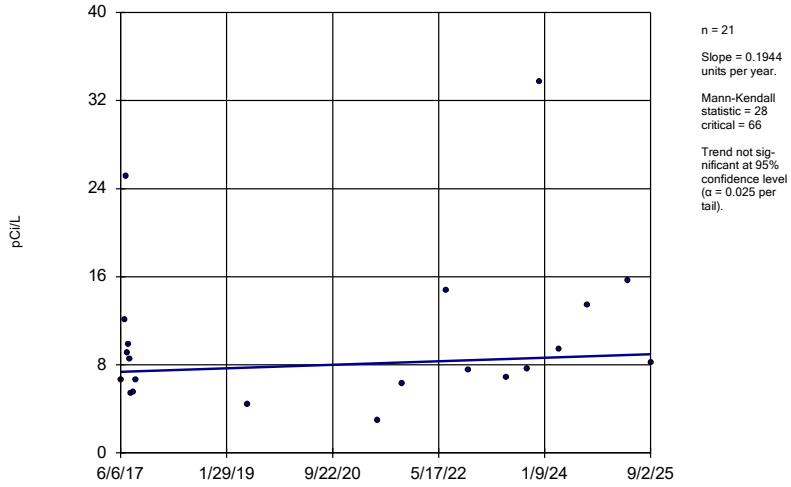
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Combined Radium 226 + 228 Analysis Run 11/20/2025 1:59 PM View: Trend Tests Appendix
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Sen's Slope Estimator

AD-16R



n = 21

Slope = 0.1944 units per year.

Mann-Kendall statistic = 28 critical = 66

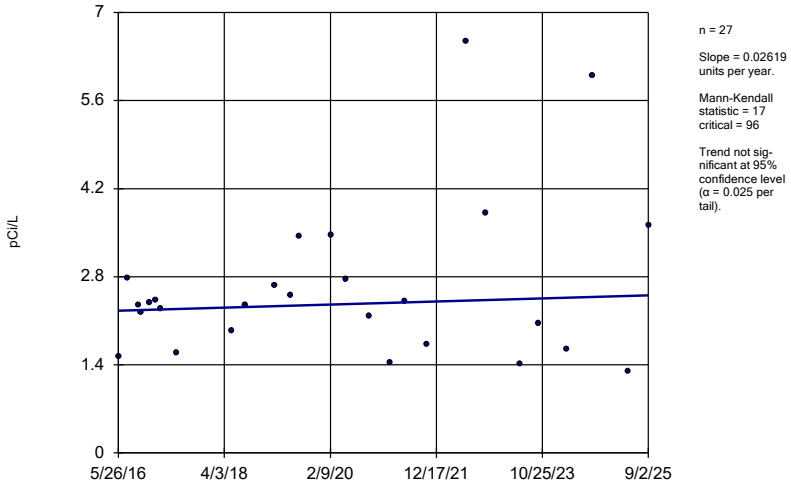
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Combined Radium 226 + 228 Analysis Run 11/20/2025 1:59 PM View: Trend Tests Appendix
Welsh BASP Client: Geosyntec Data: Welsh BASP

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Sen's Slope Estimator

AD-17 (bg)



n = 27

Slope = 0.02619 units per year.

Mann-Kendall statistic = 17 critical = 96

Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Combined Radium 226 + 228 Analysis Run 11/20/2025 1:59 PM View: Trend Tests Appendix
Welsh BASP Client: Geosyntec Data: Welsh BASP

APPENDIX 3

Alternative Source Demonstrations

Geosyntec consultants

engineers | scientists | innovators

AMERICAN ELECTRIC POWER

BOUNDLESS ENERGY™

ALTERNATIVE SOURCE DEMONSTRATION REPORT

2024 SECOND SEMIANNUAL EVENT

TEXAS STATE CCR RULE

Welsh Power Plant
Bottom Ash Storage Pond
Registration No. CCR 110
Pittsburg, Texas

Prepared for

American Electric Power
1 Riverside Plaza
Columbus, Ohio 43215-2372

Prepared by

Geosyntec Consultants, Inc.
500 West Wilson Bridge Road, Suite 250
Worthington, Ohio 43085

Project CHA8495B

March 2025

Geosyntec consultants

TABLE OF CONTENTS

1. INTRODUCTION AND SUMMARY 1
   1.1 CCR Rule Requirements 1
   1.2 Demonstration of Alternative Sources 2

2. SUMMARY OF SITE CONDITIONS 3
   2.1 BASP Location and Design 3
   2.2 Regional Geology and Site Hydrogeology 3
   2.3 BASP Monitoring Well Network and Flow Conditions 4

3. ALTERNATIVE SOURCE DEMONSTRATION 5
   3.1 Proposed Alternative Sources 5
      3.1.1 Comparison to Background Concentrations - Boron 5
      3.1.2 Comparison to Background Concentrations - TDS 6
      3.1.3 Comparison to Background Concentrations - Chloride 6
      3.1.4 AD-3 and AD-4C Aqueous Geochemical Stability 7

4. CONCLUSIONS AND RECOMMENDATIONS 8

5. REFERENCES 9

LIST OF TABLES

Table 1 Detection Monitoring Data Summary

LIST OF FIGURES

Figure 1 Site Layout

Figure 2 Groundwater Potentiometric Map, September 2024

Figure 3 Boron Time Series Graph

Figure 4 Chloride Time Series Graph

Figure 5 Total Dissolved Solids Time Series Graph

Figure 6 Titus County TDS Concentrations in Shallow (<60’ Depth) Wells

Figure 7 Titus County Chloride Concentrations in Shallow (<60’ Depth) Wells

Figure 8 AD-3 and AD-4C Piper Diagram

LIST OF ATTACHMENTS

Attachment A Geologic Cross Sections

Attachment B Historical Potentiometric Maps

Attachment C Laboratory Analytical Data – Aquifer Solids

Attachment D Chemical Analysis of Wells in Titus County

Attachment E Certification by a Qualified Professional Engineer

LIST OF ACRONYMS AND ABBREVIATIONS

AEP	American Electric Power
ASD	alternative source demonstration
BASP	Bottom Ash Storage Pond
CCR	coal combustion residuals
EPRI	Electric Power Research Institute
HDPE	high-density polyethylene
LPL	lower prediction limit
meq/kg	milliequivalents per kilogram
mg/L	milligrams per liter
PBAP	Primary Bottom Ash Pond
SSI	statistically significant increase
SU	standard units
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TDS	total dissolved solids
TRRP	Texas Risk Reduction Program
UPL	upper prediction limit

1. INTRODUCTION AND SUMMARY

This alternative source demonstration (ASD) report has been prepared to address statistically significant increases (SSIs) for boron, chloride, and total dissolved solids (TDS) in the groundwater monitoring network at the Bottom Ash Storage Pond (BASP) located at the Welsh Power Plant (Welsh Plant) in Pittsburg, Texas, following the second semiannual detection monitoring event of 2024. The Welsh Plant has three coal combustion residuals (CCR) storage units regulated by the Texas Commission on Environmental Quality (TCEQ) under Registration No. CCR 110, including the BASP (**Figure 1**). The BASP was undergoing closure by CCR removal at the time of the detection monitoring event, and the other two CCR units were still active.

Background groundwater values for the BASP were originally calculated in January 2018 and have been updated periodically in accordance with the *Statistical Analysis Plan* prepared for the Welsh Plant (Geosyntec 2021). Under this plan, prediction limits were calculated for each well using intrawell comparisons. Applicable background values for the second semiannual event of 2024 are the revised upper prediction limits (UPLs) calculated in January 2024 for each Appendix III parameter (Geosyntec 2024). Revised lower prediction limits (LPLs) were also calculated for pH. Prediction limits were calculated based on a one-of-two retesting procedure to maintain an appropriate site-wide false positive rate. With this procedure, an SSI is concluded only if both samples in a series of two have reported results above the UPL or, in the case of pH, are below the LPL. In practice, if the initial result was not above the UPL or was not below the LPL, a second sample was not collected or analyzed.

The second semiannual detection monitoring event of 2024 was performed in September 2024 (initial sampling event), and the results were compared to the calculated prediction limits. Where initial values were identified above the UPL or below the LPL, verification resampling was completed in November 2024. Following verification resampling, intrawell comparisons identified SSIs for boron and TDS at monitoring well AD-4C and chloride at monitoring well AD-3. A summary of the detection monitoring analytical results for the downgradient compliance wells and the calculated prediction limits to which they were compared is provided in **Table 1**.

1.1 CCR Rule Requirements

TCEQ regulations regarding detection monitoring programs for CCR landfills and surface impoundments provide owners and operators with the option to make an ASD when an SSI is identified (Texas Administrative Code (TAC) Title 30 §352.941(c)(2)[30 TAC §352.941(c)(2)]):

> In making a demonstration under this section, the owner or operator must . . . within 90 days of making a determination of an SSI over the background value for any Appendix III constituent adopted by reference in §352.1421 of this title, submit a report prepared and certified in accordance with §352.4 of this title (relating to Engineering and Geoscientific Information), to the executive director, and any local pollution agency with jurisdiction that has requested to be notified, demonstrating that a source other than a coal combustion residuals unit caused the SSI or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

Pursuant to this regulation, Geosyntec Consultants, Inc. (Geosyntec) has prepared this ASD report to document that the SSIs identified for boron and TDS at well AD-4C and chloride at well AD-3 are from sources other than a release from the BASP.

1.2 Demonstration of Alternative Sources

An evaluation was completed to assess possible alternative sources to which each identified SSI could be attributed. Alternative sources were categorized into the following five types, based on methods provided by the Electric Power Research Institute (EPRI 2017):

- ASD Type I: Sampling Causes
- ASD Type II: Laboratory Causes
- ASD Type III: Statistical Evaluation Causes
- ASD Type IV: Natural Variation
- ASD Type V: Anthropogenic Sources

A demonstration was conducted to show that the identified SSIs at AD-3 and AD-4C were based on Type IV (natural variation) causes and not by a release from the BASP.

2. SUMMARY OF SITE CONDITIONS

The site background summary included in this section was primarily taken from Arcadis (2022), unless otherwise noted.

2.1 BASP Location and Design

The BASP was a 22-acre CCR surface impoundment located in the southern portion of the Welsh Plant, immediately south of the Landfill and Primary Bottom Ash Pond (PBAP) (**Figure 1**). It was designed with approximately 20-foot-high compacted-clay perimeter embankments and a 60-mil-thick high-density polyethylene (HDPE) liner placed over the base of the pond and the interior embankment slopes. The BASP was constructed and placed into operation in 2000 to receive bottom ash and economizer ash dredged and sluiced from the PBAP.

A Closure Plan for the BASP was developed in October 2016 and revised most recently in December 2024 (AEP 2024). This document details the closure activities which are to take place throughout the closure of the BASP. AEP submitted a certified notification that as of April 6, 2021, the BASP ceased receipt of CCR and non-CCR waste streams and closure activities had been initiated in accordance with the certified Closure Plan (AEP 2021). Thus, the BASP no longer received CCR material or transport waters and no longer received non-CCR wastewaters such as stormwater runoff from the landfill and surrounding areas. In November 2021, removal of the CCR material from the BASP began with the CCR material stockpiled in the northern portion of the BASP (AEP 2022a). Dewatering activities began in early 2022 and included installation of dewatering pumps and trenches. As a result of the closure activities, the BASP no longer contained impounded water as of November 3, 2022 (AEP 2022b). The removal of all CCR materials from the BASP as part of closure activities was completed in August 2024. The removal of all CCR materials from the BASP as part of closure activities was completed in August 2024 (AEP, 2024), and the removal of the HDPE liner and 12 inches of soil below the CCR materials was completed in September 2024.

2.2 Regional Geology and Site Hydrogeology

The Welsh Plant is located within the West Gulf Coastal Plain. The BASP is immediately underlain by the Eocene-age Recklaw Formation, which consists of very-fine- to fine-grained sand and clay (Flawn 1966). The Recklaw Formation ranges in thickness from approximately 10 to 110 feet in Titus County, where the Welsh Plant is located. This formation is underlain by the Eocene-age Carrizo Sand, consisting of fine to coarse sand, silt, and clay.

The uppermost aquifer in the vicinity of the BASP consists of an interval of the Recklaw Formation that is approximately 12-feet thick and composed of very-fine- to fine-grained silty sand and sandy silt. This aquifer is first encountered approximately 8 feet below the base of the BASP (Arcadis 2022). It is recharged primarily through infiltration of regional precipitation. Groundwater flow velocities in the uppermost aquifer in the vicinity of the BASP have been reported as approximately 1–20 feet per year (AEP 2022a).

Monitoring well AD-3 is screened from 7-17 feet below ground surface and monitoring well AD-4C is screened from 5-15 feet below ground surface. Both monitoring wells AD-3 and AD-4C are screened within the Recklaw Formation. Subsurface lithology at and near monitoring wells AD-3 and AD-4C are shown on geologic cross sections from Arcadis (2022) (**Attachment A**).

2.3 BASP Monitoring Well Network and Flow Conditions

The BASP monitoring well sampling network consists of background monitoring wells AD-1, AD-5, and AD-17 and downgradient compliance monitoring wells AD-3, AD-4C, and AD-16R (**Figure 1**). Well AD-16R was installed in April 2017 to replace well AD-16, which was frequently unable to yield an adequate volume of water for sampling. The groundwater flow direction near the BASP is generally to the southeast (**Figure 2**). Potentiometric groundwater flow maps from sampling events completed within the past two years are provided as **Attachment B**. Seasonal variability in groundwater flow direction has not been observed in the immediate vicinity of the BASP.

3. ALTERNATIVE SOURCE DEMONSTRATION

The ASD evaluation method and proposed alternative source of boron and TDS at well AD-4C and chloride at well AD-3 are described below.

3.1 Proposed Alternative Sources

An initial review of groundwater sampling field forms did not identify alternative sources due to a Type I (sampling) issue. A review of the laboratory quality assurance and quality control data and the statistical analyses did not identify any Type II (laboratory) or Type III (statistical evaluation) issues. Groundwater sampling, laboratory analysis, and statistical evaluations were generally completed in accordance with 30 TAC §352.941(a) and draft TCEQ guidance for groundwater monitoring (TCEQ 2020).

As described below, the SSIs for boron, TDS, and chloride have been attributed to natural variation, which is a Type IV issue.

3.1.1 Comparison to Background Concentrations - Boron

Recent fluctuations of aqueous boron concentrations at downgradient well AD-4C are attributed to natural variability of boron in the uppermost aquifer. The maximum boron concentration observed at AD-4C of 0.251 milligrams per liter (mg/L) falls within the range of boron concentrations observed in the background wells also screened within the Recklaw Formation and located upgradient or cross-gradient of the BASP (**Figure 3; Attachment A**). Background monitoring well AD-1 has consistently contained reported boron concentrations greater than the AD-4C maximum reported value of 0.251 mg/L. Until 2023, background monitoring well AD-17 also consistently had reported boron concentrations greater than or comparable to those for AD-4C during the same sampling events. It is noted that groundwater boron concentrations at all well locations discussed are lower than the Texas Risk Reduction Program (TRRP) Class I residential ingestion pathway limit ($^{GW}GW_{Ing}$) of 4.9 mg/L (TCEQ 2009; TCEQ 2025), and groundwater boron concentrations at AD-4C are more than 20 times less than the TRRP limit.

Aquifer solids samples were collected from a soil boring advanced adjacent to background monitoring well AD-17 in December 2024. Two samples were collected at depths associated with the screened interval for AD-17 and analyzed for total solid-phase boron.[1] Boron was detected in one sample collected from 29 to 30 feet below ground surface at 5.05 milligrams per kilogram (mg/kg); boron was not detected in the second sample at concentrations above the reporting limit (**Attachment C**). Further, TCEQ established a Texas-specific soil background concentration of 30 mg/kg of boron in 30 TAC §350.51(m). Given the detection of boron in site soils (and its abundance across Texas more broadly), some contribution of boron to groundwater from the aquifer is anticipated.

If the SSI for boron in AD-4C was due to a release from the BASP, we would anticipate similar trends for the concentrations of other CCR constituents, particularly those known to be known to

[1] Additional samples were collected from adjacent to downgradient well AD-16R. All samples were also submitted for analysis of total thorium, uranium, radium-226, and radium-228. These results are excluded from the discussion included herein to emphasize the relevant boron findings. The data is available in **Attachment C**.

be more chemically conservative, such as chloride. However, the observed chloride concentrations at AD-4C have not exhibited increasing trends (**Figure 4**).

3.1.2 Comparison to Background Concentrations – TDS

TDS measurements, which are typically reported in mg/L, represent the total mass of dissolved constituents in a sample rather than a single chemical constituent. TDS concentrations at background wells AD-1, AD-5, and AD-17, which are located upgradient or cross-gradient of the BASP and AD-4C (**Figure 2**), have historically been similar to or greater than those observed at AD-4C (**Figure 5**). TDS values at background well AD-17 continue to be notably greater than those observed at AD-4C, demonstrating the existing variability of TDS concentrations in groundwater throughout the plant. Background monitoring wells AD-1 and AD-5 have historically contained TDS concentrations greater than AD-4C and have both demonstrated significant natural variability in TDS concentrations since monitoring began. TDS concentrations at AD-1 have ranged from 150 mg/L in May 2018 to 612 mg/L in February 2017, and TDS concentrations at AD-5 have ranged from 210 mg/L in April 2024 to 484 mg/L in December 2016. The most recent TDS concentration reported for AD-4C groundwater (390 mg/L) falls within the range of reported values for both background wells. Monitoring well AD-4C is screened within the same hydrostratigraphic unit, the uppermost water-bearing unit, as all three BASP background wells (Arcadis 2022), so the variable TDS ranges within background wells demonstrate the degree of natural variability within the geologic unit monitored by AD-4C. TDS changes at AD-4C are well within the expected natural range of the unit.

Regional scale sampling data from shallow (60 feet or less) wells located in Titus County (**Attachment D**; Texas Water Commission 1965) provide additional examples of TDS variability within groundwater at comparable depths at the regional scale. At the time of publication in 1965, TDS concentrations were reported for 39 samples from 39 wells within Titus County screened at or less than 60 feet in depth (**Figure 6**). This dataset contained an average TDS concentration of 393 mg/L, a median concentration of 178 mg/L, and a maximum concentration of 1,903 mg/L. The average value of this dataset exceeds the TDS UPL of 332 mg/L at AD-4C. These data demonstrate the range of natural variability in TDS concentrations from shallow groundwater in this region and indicate that TDS concentrations at AD-4C groundwater are within expectations.

3.1.3 Comparison to Background Concentrations - Chloride

Chloride concentrations at downgradient well AD-3 have remained generally consistent since monitoring began in 2016, with chloride values less than those recorded for background well AD-17, located upgradient of the BASP, and background well AD-5, located cross-gradient of the BASP (**Figures 2 and 4**). Chloride concentrations at AD-3 are also comparable to and often lower than those observed at the downgradient monitoring well AD-4C. This indicates that the recent chloride concentration exists naturally in the groundwater of the uppermost aquifer at concentrations which exceed the UPL for AD-3 (9.40 mg/L).

Protective concentration levels have not been established for chloride in groundwater through the TRRP program; however, the TRRP protective concentration level tables (TCEQ 2025) list a secondary maximum contaminant level (MCL) for chloride of 250 mg/L. A secondary MCL is a non-enforceable guideline regulating containments that may cause cosmetic effects or aesthetic effects in drinking water. The maximum chloride concentration observed at AD-3 of 10.9 mg/L is approximately 25 times lower than this secondary MCL.

Regional scale sampling data from shallow wells located in Titus County (**Attachment D**; Texas Water Commission 1965) further support the existence of naturally occurring chloride concentrations exceeding the UPL of 9.40 mg/L. At the time of publication in 1965, chloride concentrations were reported for 44 samples from 27 wells within Titus County screened at shallow (60 feet or less) depths. Of these 44 samples, only 6 contained reported chloride concentrations below the UPL of 9.40 mg/L (**Figure 7**). This dataset contained an average chloride concentration of 130.4 mg/L, a median concentration of 39.5 mg/L, and a maximum of 450 mg/L. Both the average and the median values exceed the chloride UPL of 9.40 mg/L at well AD-3. These data indicate that chloride concentrations vary within groundwater at comparable depths at the regional scale.

3.1.4 AD-3 and AD-4C Aqueous Geochemical Stability

A release from the BASP would be expected to impact the geochemical conditions of downgradient groundwater such that groundwater at compliance monitoring wells would alter to reflect the geochemistry of the CCR source (i.e., BASP water). A Piper diagram was created to visualize the major ion chemistry of AD-3 and AD-4C groundwater (**Figure 8**). Piper diagrams represent the relative proportions of major cations and anions in water samples in the lower left and right triangles respectively and provide a combined view in the middle diamond which is created by projecting each triangle's axes onto a singular plot. Placement of data on the diamond therefore does not incorporate the full extent of the data plotted in individual triangles (i.e., movement along one axis in each triangle is not reflected in the diamond). The BASP sample included on **Figure 8**, which was collected in August 2020, is the most recently collected water sample from the unit and represents the final geochemical composition prior to the initiation of pond dewatering. No additional BASP samples can be collected due to pond closure activities.

The geochemical signature of AD-4C groundwater has displayed some variability (particularly among anion proportions) but has remained generally similar throughout the monitoring period, as illustrated by the clustering of sample results on the Piper diagram (**Figure 7**). In the event of a BASP release, AD-4C groundwater chemistry would be expected to shift to reflect the major ion signature of the BASP sample. The cation signature of AD-4C groundwater has remained consistent, and the anion signature has diverged further from the BASP sample since well installation. The lack of a temporal shift towards the BASP sample suggests a lack of influence from the BASP on the groundwater chemistry of AD-4C. This conclusion reinforces the determination that recently observed chemical concentrations at AD-4C are associated with natural variability in groundwater composition of the uppermost aquifer.

AD-3 groundwater has also displayed some variability (particularly among anion proportions) throughout the monitoring period but has remained generally consistent. In the event of a BASP release, AD-3 groundwater chemistry would be expected to shift to reflect the major ion signature of the BASP sample. The cation signature of AD-3 has remained consistent except for one sample collected in 2019, and the anion signature does not display a clear temporal trend among the minor variability. This observation reinforces the determination that chloride concentrations at AD-3 are not associated with a BASP release, but rather due to natural variability in groundwater composition of the uppermost aquifer.

4. CONCLUSIONS AND RECOMMENDATIONS

The preceding information serves as the ASD prepared in accordance with 30 TAC §352.941(c)(2) and supports the position that the boron and TDS SSIs at AD-4C and the chloride SSI at AD-3 identified during the second semiannual detection monitoring event of 2024 should be attributed to natural variation and not to a release from the Welsh BASP. Therefore, no further action is warranted. Certification of this ASD by a qualified professional engineer is provided in **Attachment E**.

5. REFERENCES

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TABLES

Table 1. Detection Monitoring Data Summary
Alternative Source Demonstration Report - 2024 Second Semiannual Event
Welsh Plant - Bottom Ash Storage Pond

Analyte	Unit	Description	AD-3	AD-3	AD-4C	AD-4C	AD-16R	AD-16R
			9/10/2024	11/4/2024	9/10/2024	11/4/2024	9/10/2024	11/4/2024
Boron	mg/L	Intrawell Background Value (UPL)	0.0407		0.0882		0.0577	
		Analytical Result	0.010	--	**0.251**	**0.205**	0.020	--
Calcium	mg/L	Intrawell Background Value (UPL)	1.38		1.44		2.90	
		Analytical Result	0.78	--	**1.74**	1.30	0.32	--
Chloride	mg/L	Intrawell Background Value (UPL)	9.40		18.6		8.00	
		Analytical Result	**9.89**	**10.9**	15.9	--	7.30	--
Fluoride	mg/L	Intrawell Background Value (UPL)	0.263		0.180		0.296	
		Analytical Result	0.09	--	0.10	--	0.05	--
pH	SU	Intrawell Background Value (UPL)	5.2		5.7		4.6	
		Intrawell Background Value (LPL)	3.8		4.0		2.8	
		Analytical Result	**3.2**	4.5	4.9	4.8	**2.5**	3.7
Sulfate	mg/L	Intrawell Background Value (UPL)	10.6		123		73.4	
		Analytical Result	4.0	--	123	--	44.7	--
Total Dissolved Solids	mg/L	Intrawell Background Value (UPL)	136		332		242	
		Analytical Result	120	--	**360**	**390**	180	--

Notes:
1. Bold values exceed the background value.
2. Background values are shaded gray.
--: not measured
LPL: Lower prediction limit
mg/L: milligrams per liter
SU: standard units
UPL: Upper prediction limit

FIGURES



Legend

- Downgradient Sampling Location
- Background Sampling Location
- CCR Units

Notes

- Monitoring well coordinates provided by AEP.
- Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis, 2022).
- Aerial imagery provided by Google Earth Pro, dated December 29, 2023.
- AEP: American Electric Power
- CCR: Coal combustion residuals

500 250 0 500 Feet

Site Layout
Bottom Ash Storage Pond

AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2024/12/19

Figure **1**

A:\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\AEP-Welsh_Updated_BASP_Site_Layout.mxd. Okiemute.Commander. 12/19/2024. CHA8423/14/08.



Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction
- CCR Units

Notes

1. Monitoring well coordinates and water level data (collected on September 8, 9, and 10, 2024) provided by AEP.
2. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis 2022).
3. Groundwater elevation units are feet above mean sea level (ft amsl).
4. Aerial imagery provided by Google Earth Pro, dated December 29, 2023.

500 250 0 500 Feet

Beth Ann Gross

1/13/2025
Geosyntec Consultants, Inc. Texas
Firm Registration No. 1182

STATE OF TEXAS
BETH ANN GROSS
79864
LICENSED
PROFESSIONAL ENGINEER

Groundwater Potentiometric Map
September 2024

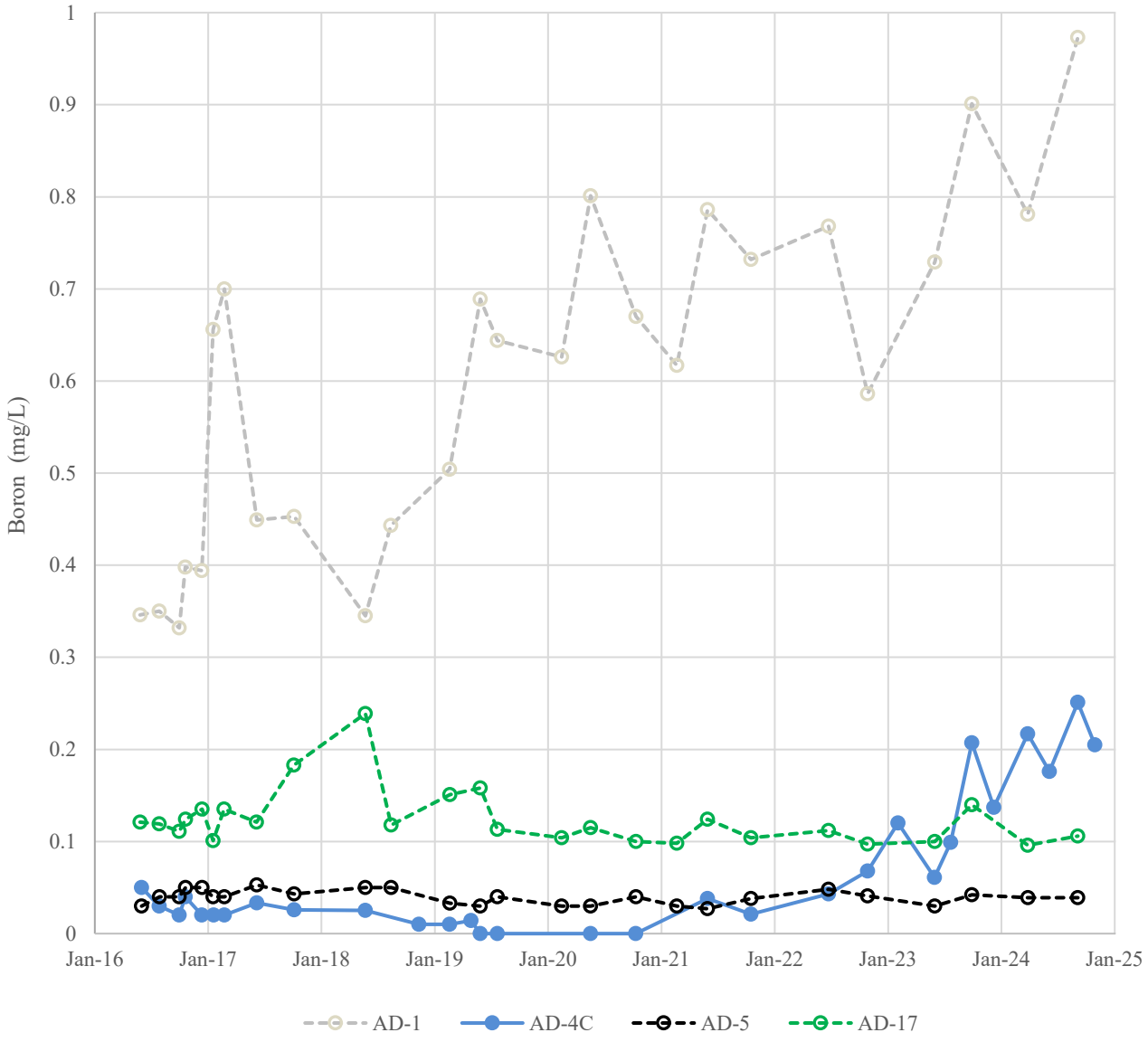
AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2025/01/13

Figure
2

\\annarbor-01\Data\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2024\AEP-Welsh_GW_2024-09Sep.mxd. ASoltero. 1/13/2025. CHA8423/14/08.



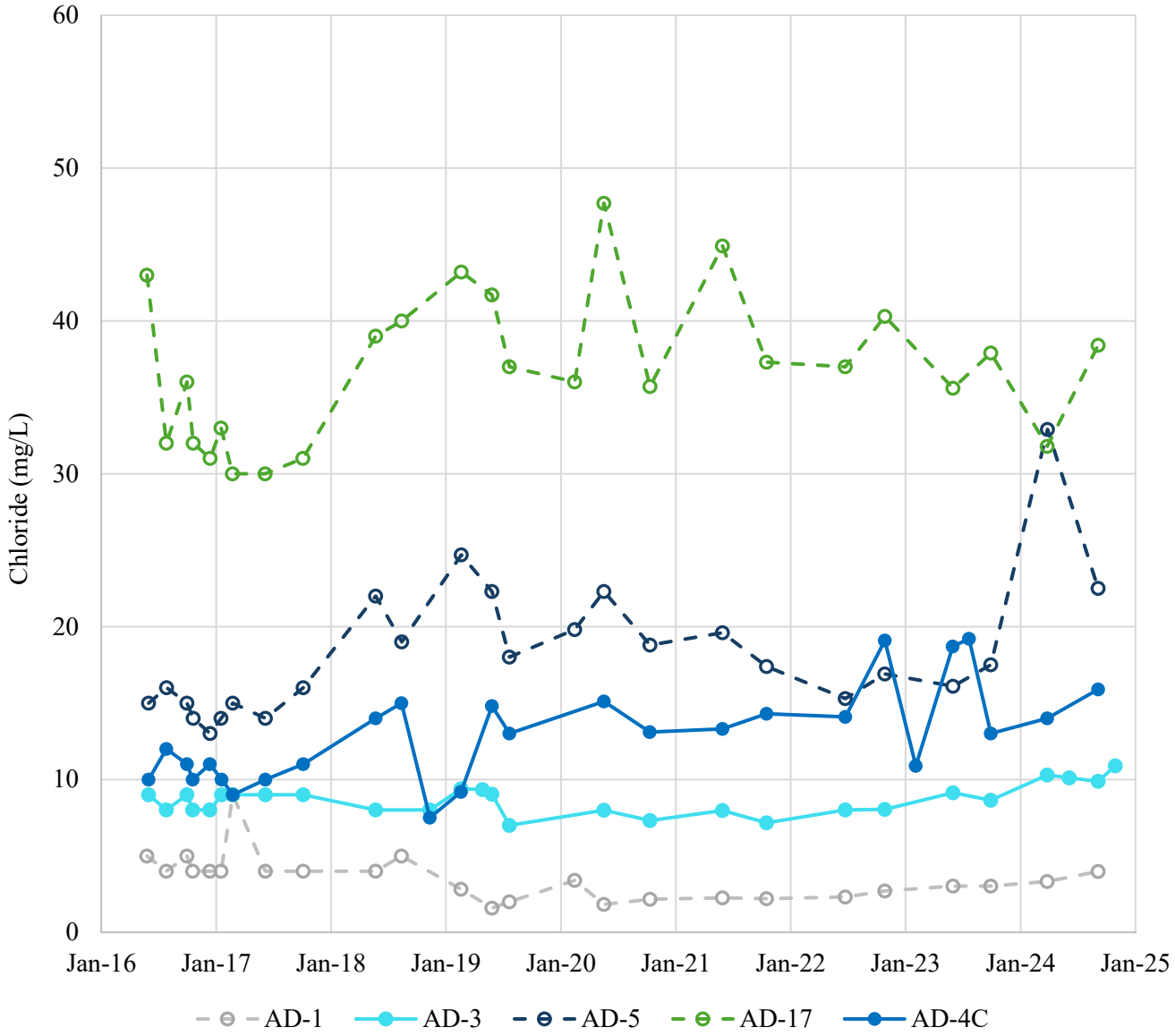
Notes: Boron time series diagram for BASP background wells AD-1, AD-5, and AD-17 (dashed lines) and downgradient well AD-4C (solid line). Data collected as part of the federal coal combustion residuals (CCR) program. Results are shown in milligrams per liter (mg/L).

Boron Time Series Graph
Welsh Bottom Ash Storage Pond

Geosyntec consultants | AMERICAN ELECTRIC POWER

Columbus, Ohio | January 2025

Figure **3**



Notes: Chloride time series diagram for BASP background wells AD-1, AD-5, and AD-17 (dashed lines) and downgradient wells AD-3 and AD-4C (solid lines). Data collected as part of the federal coal combustion residuals (CCR) program. Results are shown in milligrams per liter (mg/L).

Chloride Time Series Graph
Welsh Bottom Ash Storage Pond

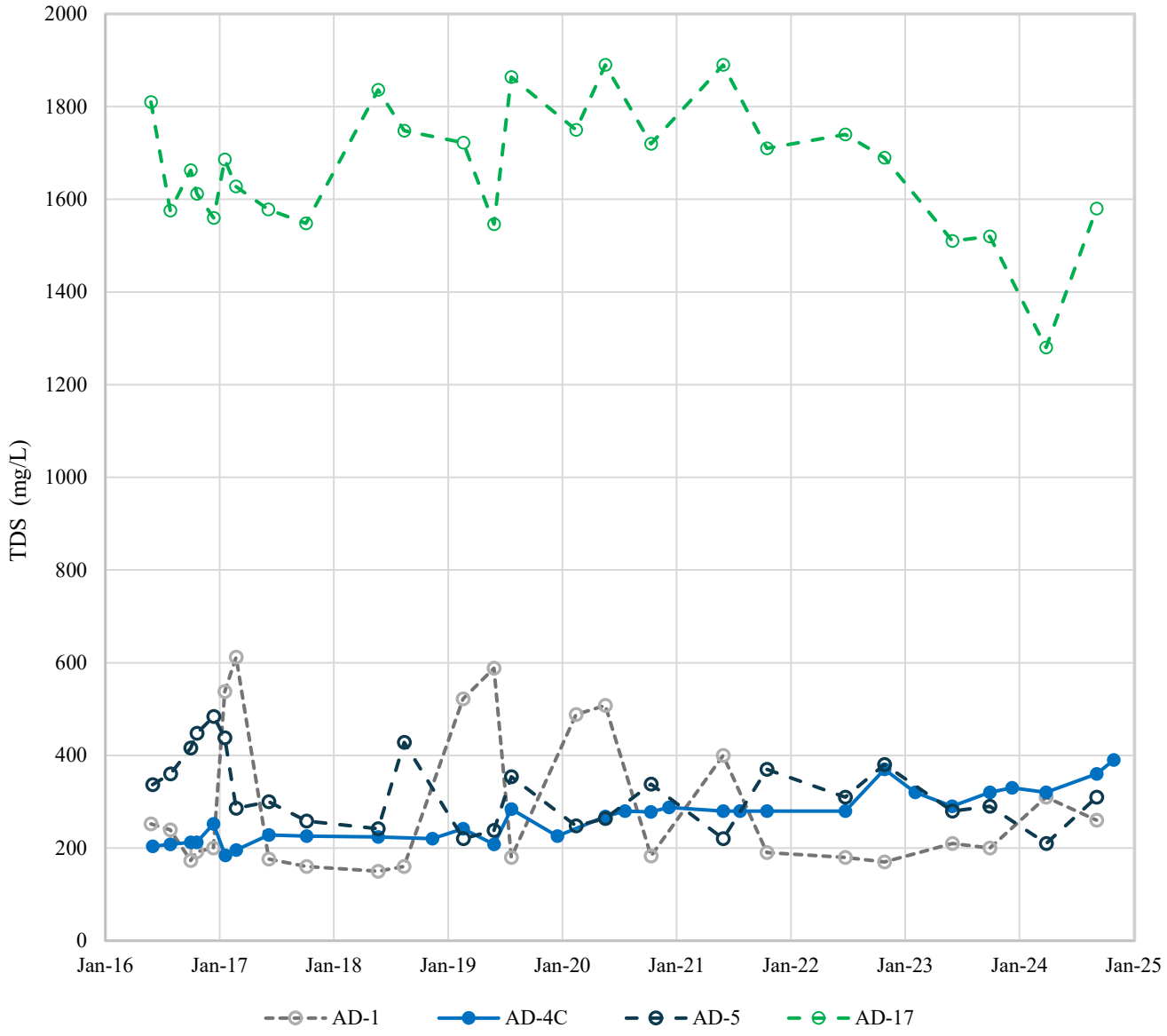
Geosyntec consultants

AMERICAN ELECTRIC POWER

Columbus, Ohio

March 2025

Figure 4



Notes: Total Dissolved Solids (TDS) time series diagram for BASP background wells AD-1, AD-5, and AD-17 (dashed lines) and downgradient well AD-4C (solid line). Data collected as part of the federal coal combustion residuals (CCR) program. Results are shown in milligrams per liter (mg/L).

Total Dissolved Solids
Time Series Graph
Welsh Bottom Ash Storage Pond

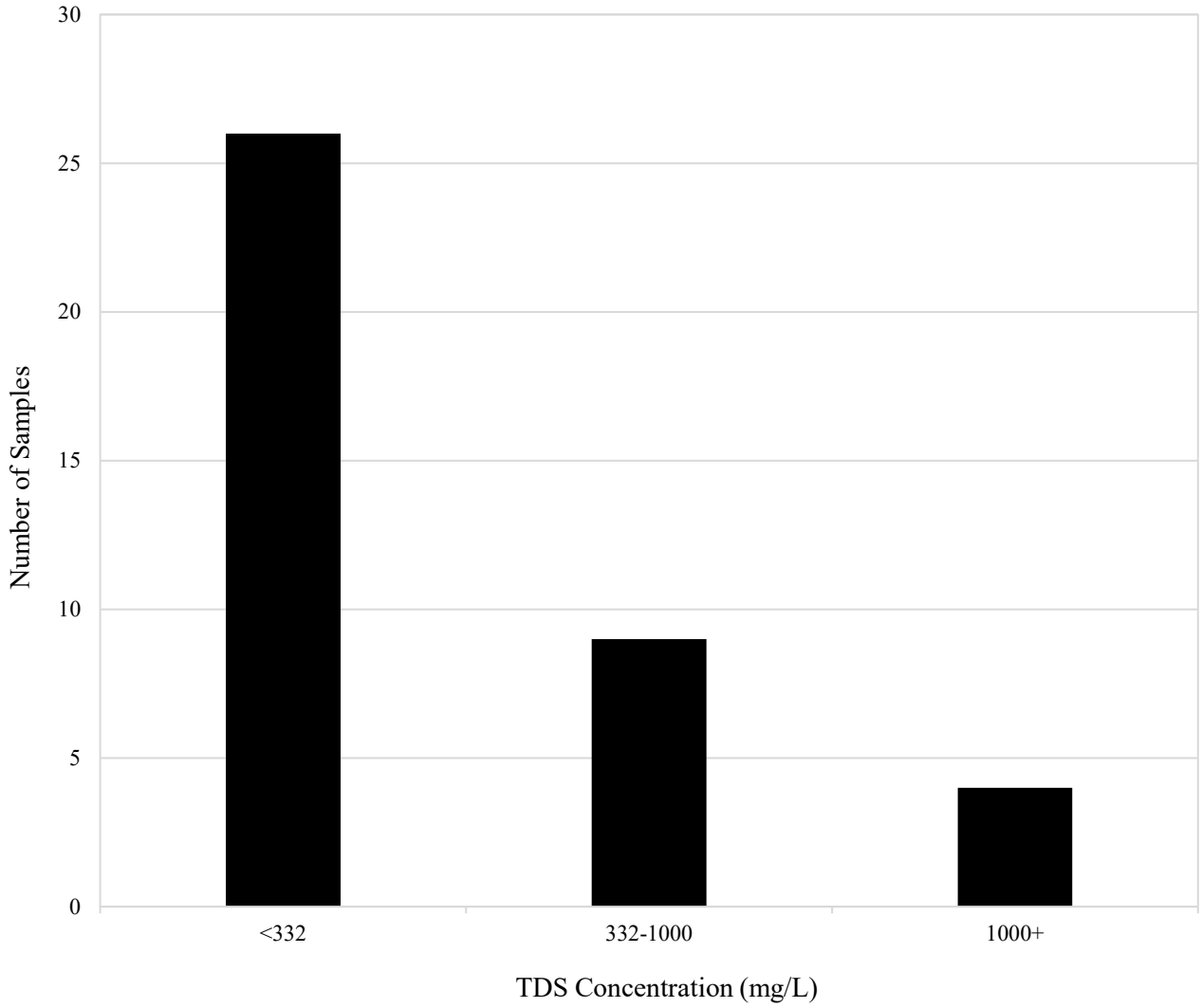
Geosyntec consultants

AMERICAN ELECTRIC POWER

Figure **5**

Columbus, Ohio

March 2025



Notes: Total dissolved solids (TDS) analytical data is shown for 39 groundwater samples collected from 39 groundwater wells screened at a depth of less than 60 feet below ground surface (bgs). Results are grouped in bins in units of milligrams per liter (mg/L). From Texas Water Commission 1965 (provided as **Attachment C**).

Titus County TDS Concentrations in Shallow (<60' Depth) Wells

Welsh Bottom Ash Storage Pond

Geosyntec consultants

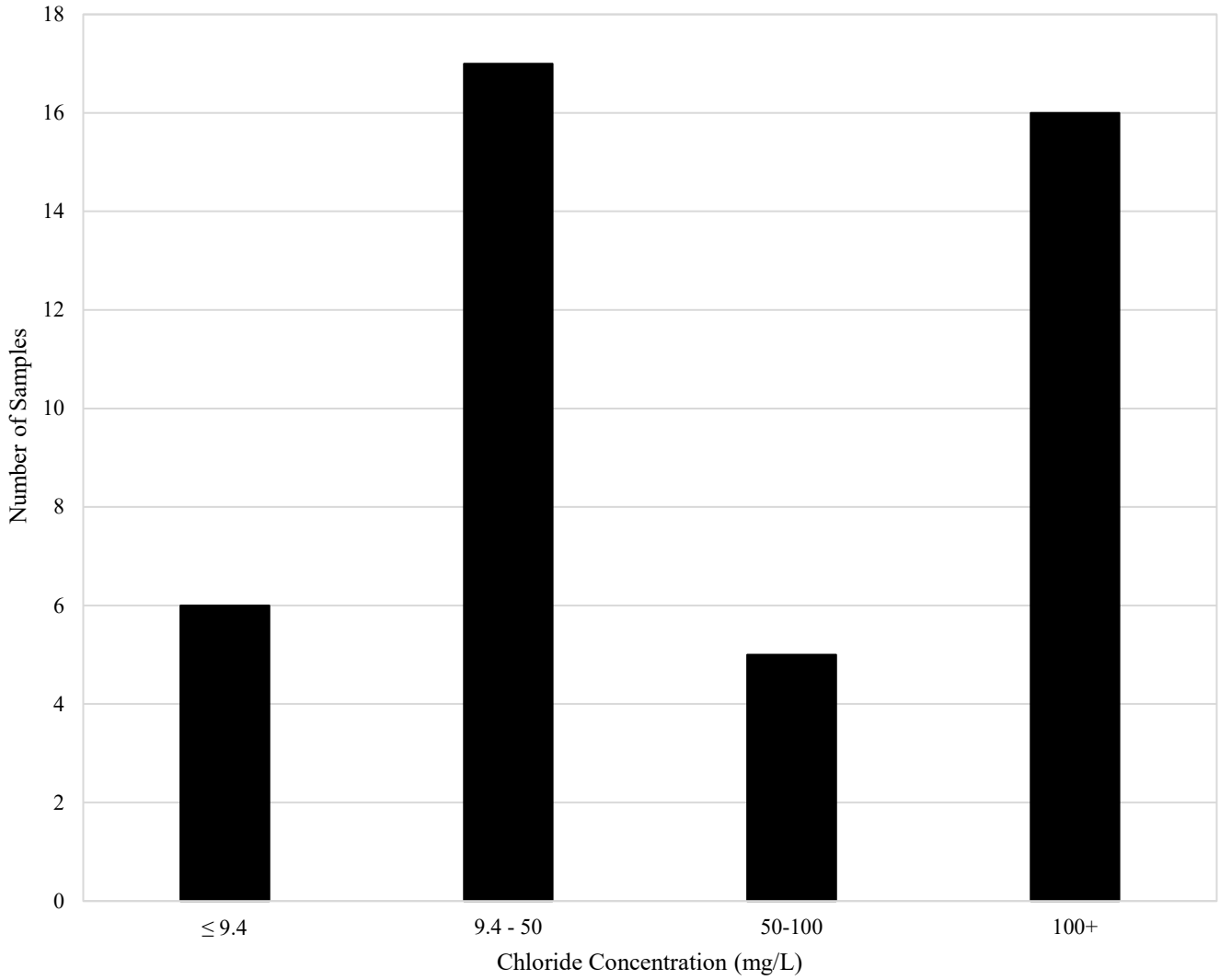
AMERICAN ELECTRIC POWER

Figure **6**

Columbus, Ohio

March 2025

\\cmanbos-01\Data\Projects\AEP\Legal Department - ASD Review\Welsh\BASP\2021-10 1st Event 2021\Figures



Notes: Chloride analytical data is shown for 44 groundwater samples collected from 27 groundwater wells screened at a depth of less than 60 feet below ground surface (bgs). Results are grouped in bins in units of milligrams per liter (mg/L). From Texas Water Commission 1965 (provided as **Attachment C**).

Titus County Chloride Concentrations in Shallow (<60' Depth) Wells

Welsh Bottom Ash Storage Pond

Geosyntec consultants

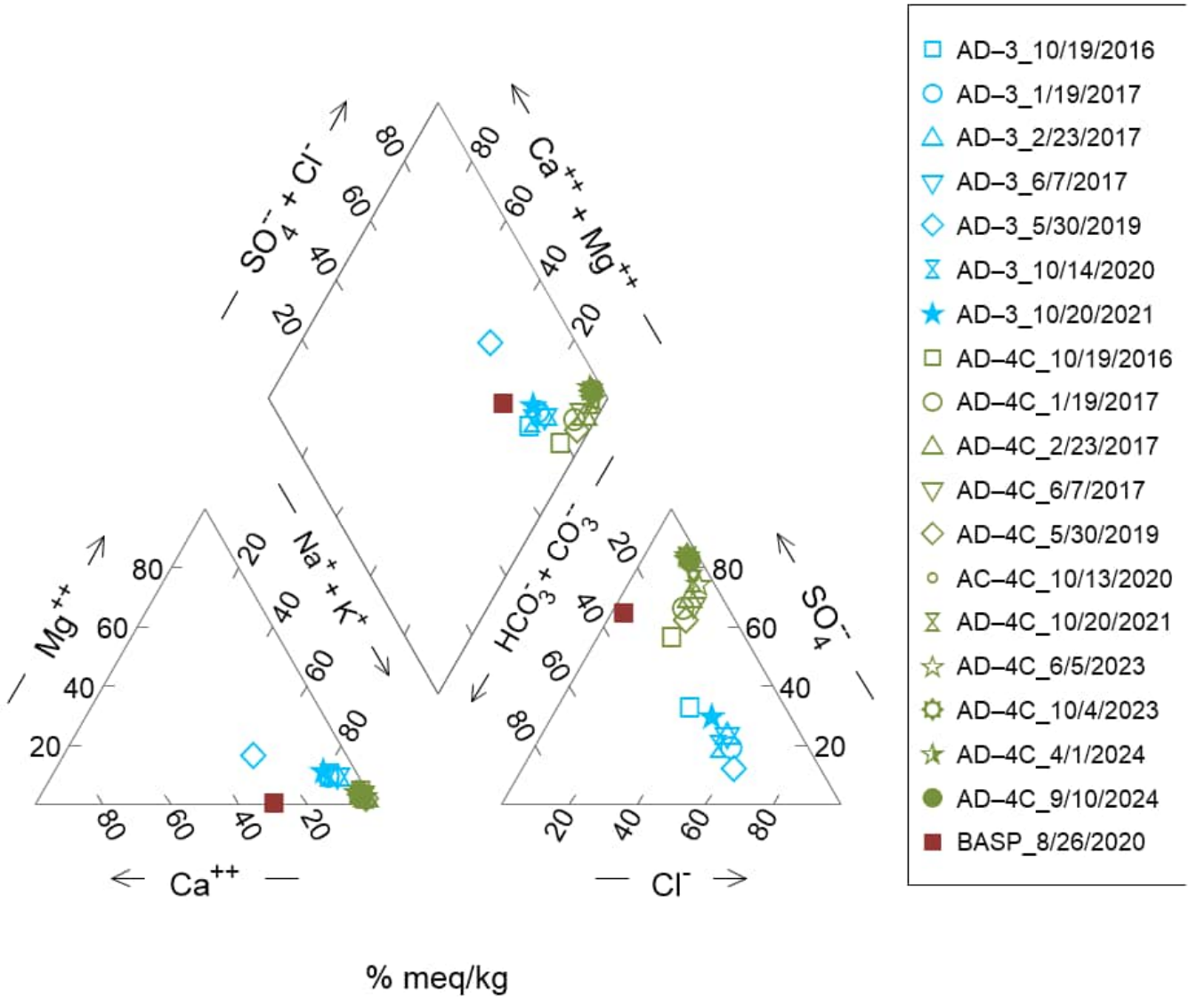
AMERICAN ELECTRIC POWER

Figure **7**

Columbus, Ohio

March 2025

\\cmnas04-01\Data\Projects\AEP\Legal Department - ASD Review\Welsh\BASP\2021-10 1st Event 2021\Figures



Notes: Groundwater samples from monitoring wells AD-3 and AD-4C which contain analytical results for all major ions are plotted on the Piper diagram with the most recent BASP water sample collected. Results are shown in milliequivalents per kilogram (meq/kg). In instances where the total alkalinity and potassium analytical results were not detected, the method detection limit was provided for the Piper diagram.

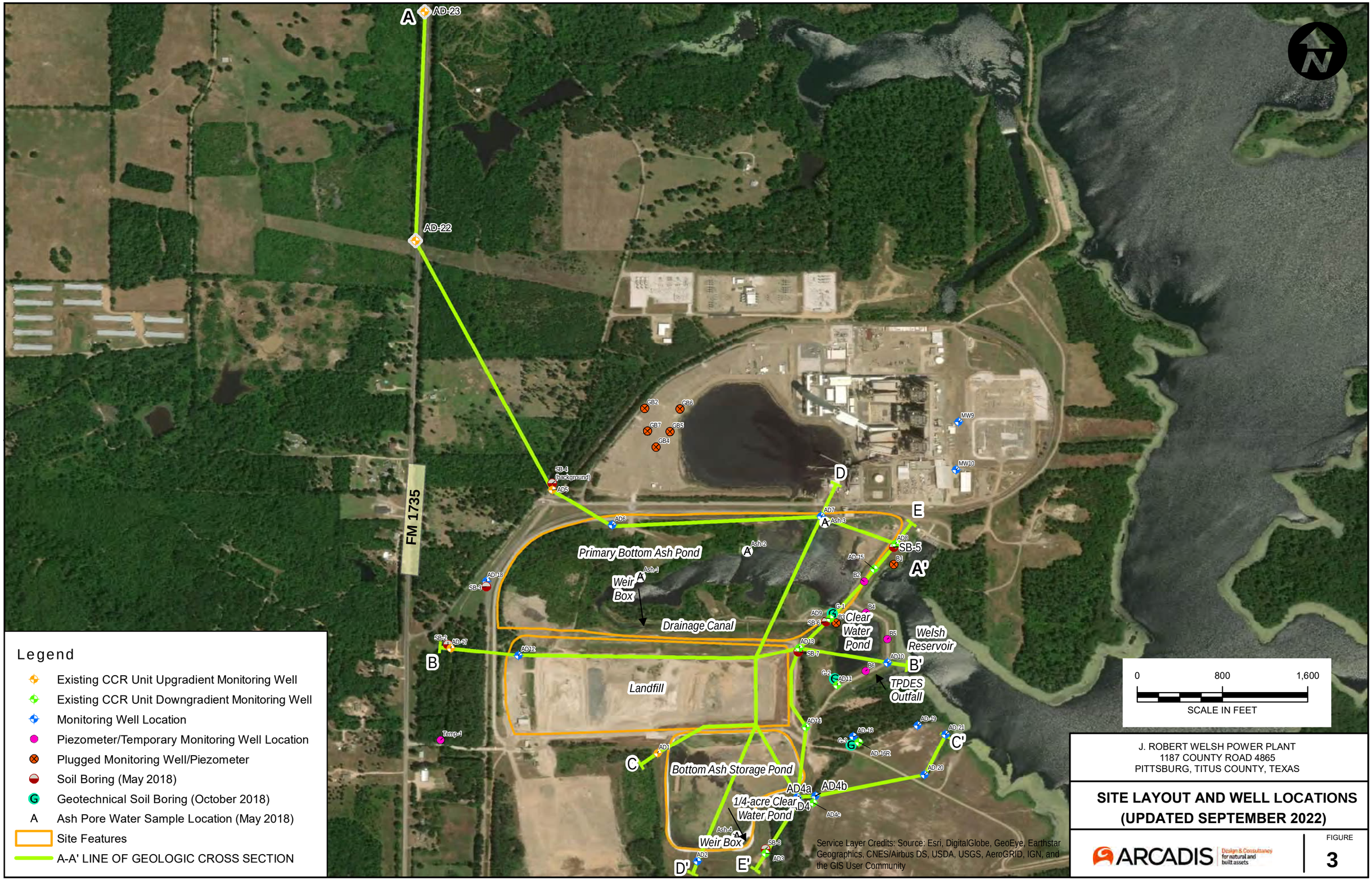
AD-3 and AD-4C Piper Diagram
Welsh Bottom Ash Storage Pond

Geosyntec consultants | AMERICAN ELECTRIC POWER | Figure 8

Columbus, Ohio | March 2025

ATTACHMENT A
Geologic Cross Sections

Document Path: Z:\GISProjects_ENV\AEP\Welsh Plant\MXD\Landfill report\September 2019\Fig2-3-Cross Section LocationsREV.mxd



J. ROBERT WELSH POWER PLANT
1187 COUNTY ROAD 4865
PITTSBURG, TITUS COUNTY, TEXAS

SITE LAYOUT AND WELL LOCATIONS (UPDATED SEPTEMBER 2022)

ARCADIS Design & Consultancy for natural and built assets

FIGURE
3

Cross sections excerpted from "Bottom Ash Storage Pond - CCR Groundwater Monitoring Well Network Evaluation", Rev 3: 11-2022. Arcadis.

CITY: DIV/GROUP: DB: LD: AM: PD: TM: TR: LYR:ON=*;OFF=*REF*
C:\Users\bsmith\OneDrive - ARCADIS\BIM360 - OneDrive Sync Location\AUS-AEP-J. ROBERT WELSH POWER PLANT-PITTSBURG Texas\2022\01-In Progress\01-DWG\Figure 6 Cross Section C-C'.dwg LAYOUT: C-C SAVED: 9/28/2022 11:33 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: -
PLOTSTYLETABLE: ACAD.CTB PLOTTED: 9/28/2022 11:49 AM BY: SMITH, BOB

WEST

C

EAST

C'

BOTTOM ASH STORAGE POND

WELSH RESERVOIR

370'
360'
350'
340'
330'
320'
310'
300'

PERIMETER ROAD (EL. 360')

PERIMETER ROAD (EL. 360')

AD-1

B-12

B-13

AD-4A

AD-4B AD-4C

AD-20

AD-21

SILTY CLAY AND SANDY CLAY, BROWN TO GRAY.

CLAYEY SAND, DRY

BOTTOM ASH STORAGE 60-ML. HDPE LINER (PROJECTED)

SANDY SILT AND SILTY SAND, VERY FINE TO FINE GRAINED, GRAY TO TAN.

SANDY CLAY

REDDISH BROWN TO GRAY, SILTY CLAY.

DARK GRAY SILTY, SANDY CLAY.
(confining unit)

RECKLAW FORMATION
(AVERAGE HYDRAULIC CONDUCTIVITY = 0.95 ft/day)
(EFFECTIVE POROSITY = 0.21)

ELEVATION (FEET MSL)

ELEVATION (FEET MSL)

NOTES:
1. BASE OF BOTTOM ASH STORAGE HAS A 60-MIL. HDPE LINER AT ELEVATION 340.0', TAKEN FROM FREESE AND NICHOLS "HYDRAULIC ANALYSIS OF WELSH POWER PLANT ASH PONDS, AMERICAN ELECTRIC POWER COMPANY", DATED DECEMBER 2010.
2. HYDRAULIC CONDUCTIVITY CALCULATED BASED ON ON-SITE AQUIFER TEST OF MONITORING WELL AD-6 ON 9-17-21; AND SLUG TESTING OF MONITORING WELLS AD-6, AD-9, AD-13, AD-17, AND AD-19 DURING OCTOBER 2018.
3. EFFECTIVE POROSITY ESTIMATED AT 0.21 BASED ON SITE LITHOLOGY. SITE SPECIFIC YIELD FOR FINE SAND, REFERENCE: C. W. FETTER, "APPLIED HYDROGEOLOGY", UNIVERSITY OF WISCONSIN - OSHKOSH, 1980.

STATE OF TEXAS
Kenneth J. Brandner
Geology
1787
LICENSED PROFESSIONAL GEOSCIENTIST

9-29-22

LEGEND

MONITORING WELL SCREENED INTERVAL

WATER LEVEL IN MONITORING WELL (10/29/18)

PROJECTED BASE OF ASH STORAGE (SEE NOTE)

0 200'
HORIZONTAL SCALE

J. ROBERT WELSH POWER PLANT
1187 COUNTY ROAD 4865
PITTSBURG, TITUS COUNTY, TEXAS

CROSS SECTION
C - C'
(UPDATED SEPTEMBER 2022)

ARCADIS

FIGURE 6

Cross sections excerpted from "Bottom Ash Storage Pond - CCR Groundwater Monitoring Well Network Evaluation", Rev 3: 11-2022. Arcadis.

CITY: DIV/GROUP: DB: LD: AM: PD: TM: TR: LYR:ON=*;OFF=*REF*
C:\Users\smith\OneDrive - ARCADIS\BIM360 - OneDrive Sync Location\AUS_AEP-J. ROBERT WELSH POWER PLANT-PITTSBURG Texas\2022\01-In Progress\01-DWG\Figure 7 Cross Section D-D'.dwg LAYOUT: D-D SAVED: 9/28/2022 11:41 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: ---
PLOTSTYLETABLE: ACAD.CTB PLOTTED: 9/28/2022 11:50 AM BY: SMITH, BOB

NORTH

D

SOUTH

D'

PRIMARY BOTTOM ASH POND

LANDFILL

BOTTOM ASH STORAGE

ELEVATION (FEET MSL)

380'
370'
360'
350'
340'
330'
320'
310'
300'

AD-7

AD-2

B-10

B-13

PERIMETER ROAD (EL. 360')

PERIMETER ROAD (EL. 360')

FILL WITH (ASH-COAL PIECES)

FILL WITH (ASH-COAL PIECES)

CLAYEY SAND, DRY

60-ML. HDPE LINER (PROJECTED)

CLAY AND SANDY CLAY, GRAY TO TAN.

CLAY AND SANDY CLAY

FILL WITH (ASH-COAL PIECES)

SAND AND CLAYEY SAND, GRAY TO BROWN.

SAND

CLAY

SILTY CLAY

SILTY CLAY, GRAY TO BROWN. (CONFINING UNIT)

RECKLAW FORMATION

(AVERAGE HYDRAULIC CONDUCTIVITY 0.95 ft/day)

(EFFECTIVE POROSITY = 0.21)

STATE OF TEXAS
Kenneth J. Brandner
Geology
1787
LICENSED
PROFESSIONAL GEOSCIENTIST

9-29-22

LEGEND

- MONITORING WELL SCREENED INTERVAL
- WATER LEVEL IN MONITORING WELL (5/12/15)
- BASE OF CCR UNIT

0 300'
HORIZONTAL SCALE

NOTES:
1. BASE OF ASH POND TAKEN FROM "WELSH POWER PLANT-UNIT 1 FLY ASH STORAGE AREA PHASE I " DRAWING ID WEPX-88, DATED 12-3-76; AND U.S. GEOLOGICAL SURVEY 7 1/2 MINUTE SERIES TOPOGRAPHIC MAP, CASON, TX QUADRANGLE, 1964 (PHOTO REVISED 1980).
2. HYDRAULIC CONDUCTIVITY CALCULATED BASED ON ON-SITE AQUIFER TEST OF MONITORING WELL AD-6 ON 9-17-21; AND SLUG TESTING OF MONITORING WELLS AD-6, AD-9, AD-13, AD-17, AND AD-19 DURING OCTOBER 2018.
3. EFFECTIVE POROSITY ESTIMATED AT 0.21 BASED ON SITE LITHOLOGY. SITE SPECIFIC YIELD FOR FINE SAND, REFERENCE: C. W. FETTER, "APPLIED HYDROGEOLOGY", UNIVERSITY OF WISCONSIN - OSHKOSH, 1980.

J. ROBERT WELSH POWER PLANT
1187 COUNTY ROAD 4865
PITTSBURG, TITUS COUNTY, TEXAS

CROSS SECTION D - D' (UPDATED SEPTEMBER 2022)

ARCADIS

FIGURE 7

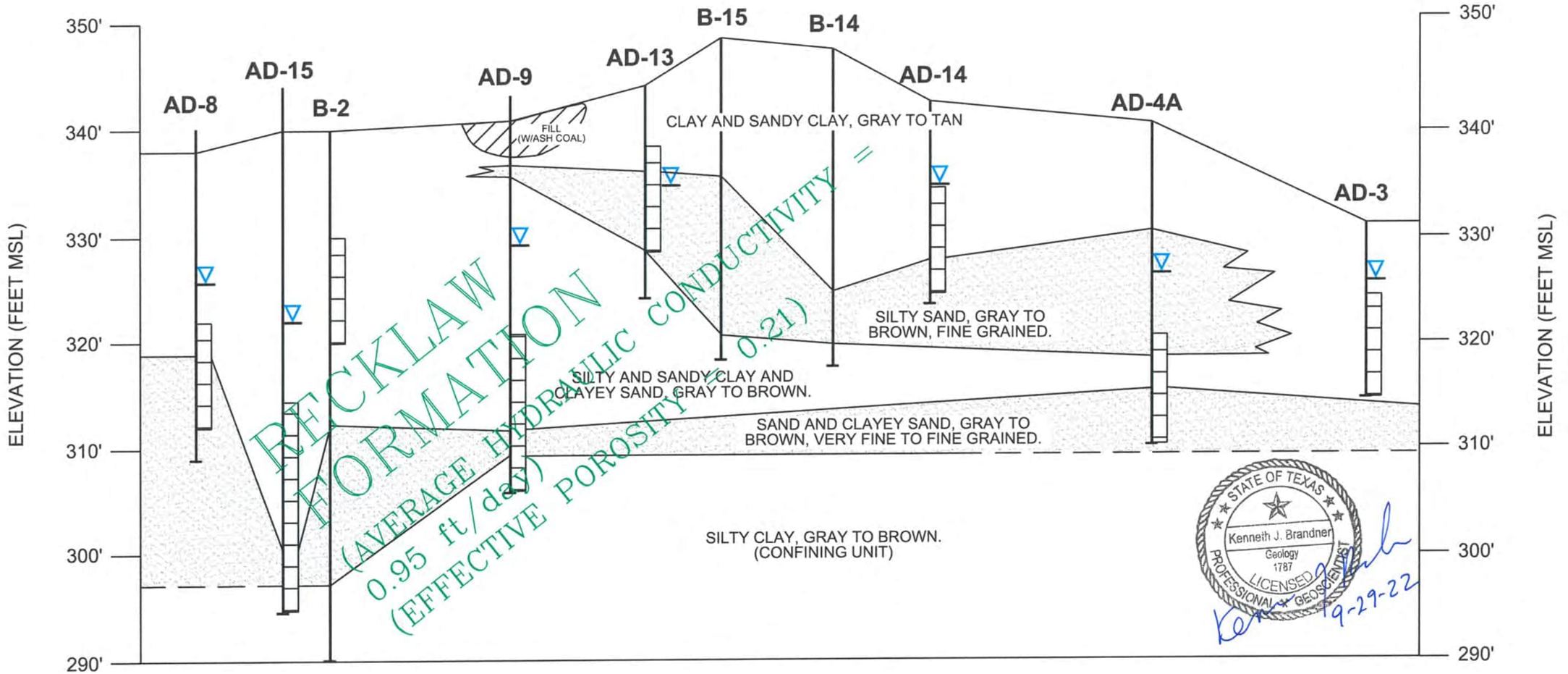
Cross sections excerpted from "Bottom Ash Storage Pond - CCR Groundwater Monitoring Well Network Evaluation", Rev 3: 11-2022. Arcadis.

NORTH

E

SOUTH

E'



RECKLAW FORMATION
(AVERAGE HYDRAULIC CONDUCTIVITY = 0.95 ft/day)
(EFFECTIVE POROSITY = 0.21)

STATE OF TEXAS
Kenneth J. Brandner
Geology
1787
LICENSED
PROFESSIONAL GEOSCIENTIST
9-29-22

NOTES:
1. BASE OF ASH POND TAKEN FROM "WELSH POWER PLANT-UNIT 1 FLY ASH STORAGE AREA PHASE I " DRAWING ID WEPX-88, DATED 12-3-76; AND U.S. GEOLOGICAL SURVEY 7 1/2 MINUTE SERIES TOPOGRAPHIC MAP, CASON, TX QUADRANGLE, 1964 (PHOTO REVISED 1980).
2. HYDRAULIC CONDUCTIVITY CALCULATED BASED ON ON-SITE AQUIFER TEST OF MONITORING WELL AD-6 ON 9-17-21; AND SLUG TESTING OF MONITORING WELLS AD-6, AD-9, AD-13, AD-17, AND AD-19 DURING OCTOBER 2018.
3. EFFECTIVE POROSITY ESTIMATED AT 0.21 BASED ON SITE LITHOLOGY. SITE SPECIFIC YIELD FOR FINE SAND, REFERENCE: C. W. FETTER, "APPLIED HYDROGEOLOGY", UNIVERSITY OF WISCONSIN - OSHKOSH, 1980.

LEGEND

MONITORING WELL SCREENED INTERVAL

WATER LEVEL IN MONITORING WELL (3/4/16)

0 300'
HORIZONTAL SCALE

J. ROBERT WELSH POWER PLANT
1187 COUNTY ROAD 4865
PITTSBURG, TITUS COUNTY, TEXAS

CROSS SECTION
E - E'
(UPDATED SEPTEMBER 2022)

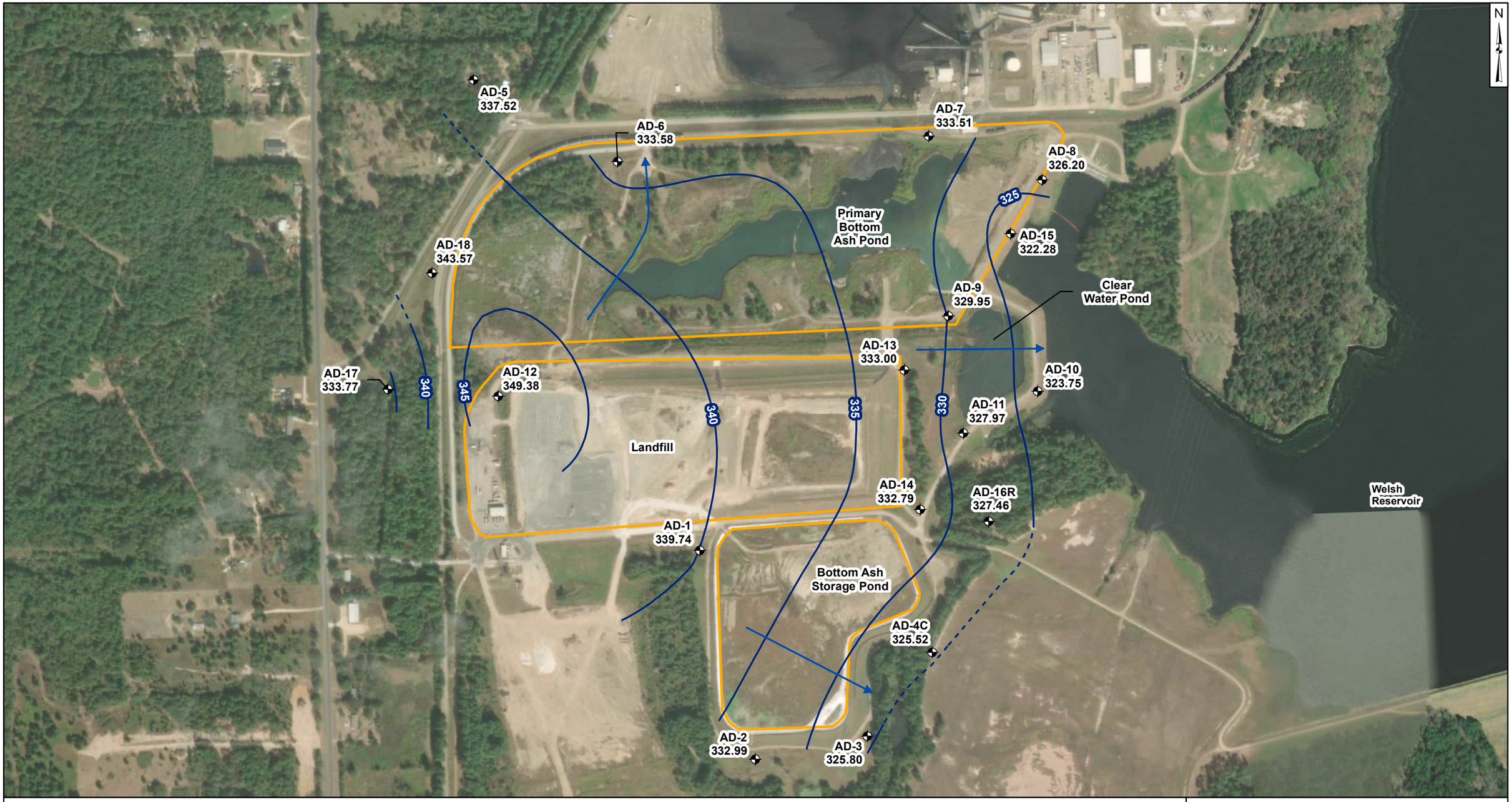
ARCADIS

FIGURE
8

CITY: DIVIGROUP: DB: LD: AM: PD: TM: TR: LYR:ON=*;OFF=*REF*
C:\Users\asmith\OneDrive - ARCADIS\BIM360 - OneDrive Sync Location\AIS-AEP-J. ROBERT WELSH POWER PLANT-PITTSBURG Texas\2022\01-In Progress\01-DWG\Figure 8 Cross Section E-E'.dwg LAYOUT: E-E SAVED: 9/27/2022 10:43 AM ACADVER: 24.25 (LMS TECH) PAGESETUP: —
PLOTSTYLETABLE: ACAD.CTB PLOTTED: 9/28/2022 11:46 AM BY: SMITH, BOB

Cross sections excerpted from "Bottom Ash Storage Pond - CCR Groundwater Monitoring Well Network Evaluation", Rev 3: 11-2022. Arcadis.

ATTACHMENT B
Historical Potentiometric Maps



Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction
- CCR Units

Notes

1. Monitoring well coordinates and water level data (collected on February 6 and 7, 2023) provided by AEP.
2. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis 2022).
3. Groundwater elevation units are feet above mean sea level.
4. Satellite imagery provided by ESRI.

500 250 0 500 Feet

STATE OF TEXAS
BETH ANN GROSS
79864
LICENSED
PROFESSIONAL ENGINEER

Beth Ann Gross

November 30, 2023

Geosyntec Consultants, Inc.
Texas Firm Registration No. 1182

Groundwater Potentiometric Map
February 2023

AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2023/11/30

Figure
B-1

\\annarbor-01\Data\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2023\AEP-Welsh_GW_2023-02Feb.mxd. ASoltero. 11/30/2023. CHA8423/14/08.

AD-5
336.58

AD-6
333.20

AD-7
333.59

AD-8
325.51

Primary
Bottom
Ash Pond

AD-15
321.42

335

340

330

325

AD-18
342.25

Clear
Water Pond

AD-9
328.86

AD-13
330.98

AD-10
323.40

AD-12

335

AD-17
333.87

AD-11
327.20

Landfill

AD-14
330.04

Welsh
Reservoir

AD-1
339.19

AD-16R
327.51

Bottom Ash
Storage Pond

AD-4C
324.44

AD-2
331.15

AD-3
324.06

N

Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction
- CCR Units

Notes

1. Monitoring well coordinates and water level data (collected on June 6, 2023) provided by AEP.
2. AD-12 was not gauged during the June 2023 event.
3. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis 2022).
4. Groundwater elevation units are feet above mean sea level.
5 Satellite imagery provided by ESRI.

500 250 0 500 Feet

STATE OF TEXAS
BETH ANN GROSS
79864
LICENSED
PROFESSIONAL ENGINEER

Beth Ann Gross

November 30, 2023

Geosyntec Consultants, Inc.
Texas Firm Registration No. 1182

Groundwater Potentiometric Map
June 2023

AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2023/11/30

Figure
B-2

\\annarbor-01\Data\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2023\AEP-Welsh_GW_2023-06June.mxd. ASoltero. 11/30/2023. CHA8423/14/08.

AD-5
AD-7
AD-6
AD-8
335
AD-15
340
AD-18
330
325
AD-9
AD-13
AD-17
AD-12
AD-10
AD-11
AD-14
AD-16R
Welsh Reservoir
AD-1
AD-4C
324.76
AD-2
AD-3
N

Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction
- CCR Units

Notes

1. Monitoring well coordinates and water level data (collected on July 27, 2023) provided by AEP.
2. Only well AD-04C was gauged during the July 2023 verification event.Groundwater contours based on June 2023 sampling event.
3. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis, 2018).
4. Groundwater elevation units are feet above mean sea level.
5 Satellite imagery provided by ESRI.

500 250 0 500 Feet

STATE OF TEXAS
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Beth Ann Gross

November 29, 2023

Geosyntec Consultants, Inc.
Texas Firm Registration No. 1182

Groundwater Potentiometric Map
July 2023

AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2023/11/29

Figure
B-3

\\annarbor-01\Data\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2023\AEP-Welsh_GW_2023-07July_ver.mxd. ASoltero. 11/29/2023. CHA8423/14/08.



Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction
- CCR Units

Notes

1. Monitoring well coordinates and water level data (collected on October 3 and 4, 2023) provided by AEP.
2. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis 2022).
3. Groundwater elevation units are feet above mean sea level.
4. Satellite imagery provided by ESRI.

500 250 0 500 Feet

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November 30, 2023

Geosyntec Consultants, Inc.
Texas Firm Registration No. 1182

Groundwater Potentiometric Map
October 2023

AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2023/11/30

Figure **B-4**

\\annarbor-01\Data\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2023\AEP-Welsh_GW_2023-10Oct.mxd. ASoltero. 11/30/2023. CHA8423/14/08.



Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction
- CCR Units

Notes

1. Monitoring well coordinates and water level data (collected on December 14, 2023) provided by AEP.
2. Only wells AD-3, AD-4C, and AD-16R were gauged during the December 2023 verification event. Groundwater contours based on October 2023 sampling event.
3. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis, 2018).
4. Groundwater elevation units are feet above mean sea level.
5 Aerial imagery provided by Google Earth Pro, dated December 29, 2023.

500 250 0 500
Feet

STATE OF TEXAS
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PROFESSIONAL ENGINEER

Beth Ann Gross
February 19, 2024

Geosyntec Consultants, Inc.
Texas Firm Registration No. 1182

Groundwater Potentiometric Map
December 2023

AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2024/12/23

Figure
B-5

A:\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2023\AEP-Welsh_GW_2023-12Dec_ver.mxd. Okiemute.Commander. 12/23/2024. CHA8423/14/08.



Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction
- CCR Units

Notes

1. Monitoring well coordinates and water level data (collected on February 26, 2024) provided by AEP.
2. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis 2022).
3. Groundwater elevation units are feet above mean sea level (ft amsl).
4. Satellite imagery provided by ESRI (updated February 19, 2024).

500 250 0 500 Feet

Beth Ann Gross

August 19, 2024
Geosyntec Consultants, Inc.
Texas Firm Registration
No. 1182

STATE OF TEXAS
BETH ANN GROSS
79864
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PROFESSIONAL ENGINEER

Groundwater Potentiometric Map
February 2024

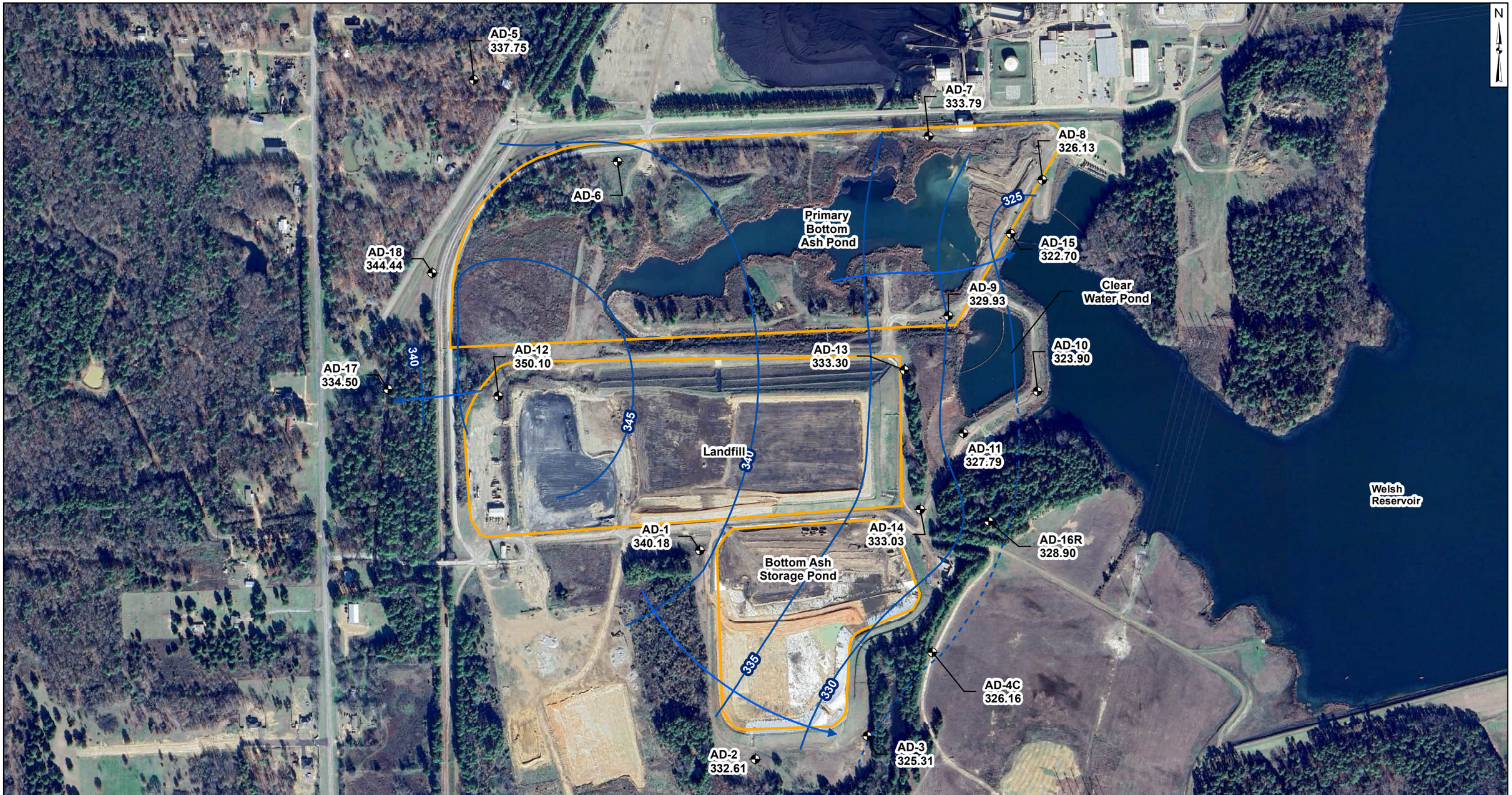
AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2024/07/16

Figure
B-6

A:\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2024\AEP-Welsh_GW_2024-02Feb.mxd. Okiemute.Commander. 7/16/2024. CHA8423/14/08.



Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction
- CCR Units

Notes

1. Monitoring well coordinates and water level data (collected on April 1 and 2, 2024) provided by AEP.
2. AD-6 was not gauged during the April 2024 event
3. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis 2022).
4. Groundwater elevation units are feet above mean sea level (ft amsl).
5. Satellite imagery provided by ESRI (updated February 19, 2024).

500 250 0 500 Feet

Beth Ann Gross

August 19, 2024
Geosyntec Consultants, Inc.
Texas Firm Registration
No. 1182

STATE OF TEXAS
BETH ANN GROSS
79864
LICENSED
PROFESSIONAL ENGINEER

Groundwater Potentiometric Map
April 2024

AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2024/06/14

Figure
B-7

A:\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2024\AEP-Welsh_GW_2024-04Apr.mxd. Okiemute.Commander. 6/14/2024. CHA8423/14/08.



Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction
- CCR Units

Notes

1. Monitoring well coordinates and water level data (collected on September 8, 9, and 10, 2024) provided by AEP.
2. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis 2022).
3. Groundwater elevation units are feet above mean sea level (ft amsl).
4. Aerial imagery provided by Google Earth Pro, dated December 29, 2023.

500 250 0 500 Feet

Beth Ann Gross

1/13/2025
Geosyntec Consultants, Inc. Texas
Firm Registration No. 1182

STATE OF TEXAS
BETH ANN GROSS
79864
LICENSED
PROFESSIONAL ENGINEER

Groundwater Potentiometric Map
September 2024

AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2025/01/13

Figure
B-8

\\annarbor-01\Data\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2024\AEP-Welsh_GW_2024-09Sep.mxd. ASoltero. 1/13/2025. CHA8423/14/08.

ATTACHMENT C
Laboratory Analytical Report - Aquifer Solids

ANALYTICAL REPORT

PREPARED FOR

Attn: Allison Kreinberg
Geosyntec Consultants Inc
500 West Wilson Bridge Road
Suite 250
Worthington, Ohio 43085

Generated 1/9/2025 10:43:38 PM

JOB DESCRIPTION

AEP Welsh

JOB NUMBER

820-16585-1

Eurofins Lubbock
6701 Aberdeen Ave.
Suite 8
Lubbock TX 79424

See page two for job notes and contact information.

Eurofins Lubbock

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



Generated
1/9/2025 10:43:38 PM

Authorized for release by
Holly Taylor, Project Manager
Holly.Taylor@et.eurofinsus.com
(806)794-1296

Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
Case Narrative 5
Client Sample Results 7
QC Sample Results 9
QC Association Summary 11
Lab Chronicle 13
Certification Summary 15
Method Summary 16
Sample Summary 17
Chain of Custody 18
Receipt Checklists 21

Definitions/Glossary

Client: Geosyntec Consultants Inc
Job ID: 820-16585-1
Project/Site: AEP Welsh

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Job Narrative
820-16585-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/12/2024 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.1°C.

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

Gamma Spectroscopy
Method GA_01_R_Ra: Gamma Prep Batch 160-694203:

The sample results for AD-16R-RELOG-14'-15' (820-16585-1), AD-16R-RELOG-19'-20' (820-16585-2), AD-17-RELOG-29'-30' (820-16585-3) and AD-17-RELOG-33'-34' (820-16585-4) are based upon sample as received (i.e. wet weight).

Method GA_01_R_Ra: Gamma Prep Batch 160-694203
Many isotopes requested by gamma spectrometry analysis do not have any gamma emissions, the gamma emissions they do have are very poor, and/or are reported by assuming secular equilibrium with a longer-lived parent (or vice-versa). For example, Th-232 (which does not have a good gamma-ray) is often reported assuming the shorter-lived Ra-228 daughter is in equilibrium with the Th-232 parent. Or, Pb-214 and/or Bi-214, daughters of potentially volatile Rn-222 in the Ra-226 decay chain, may not be in equilibrium with the parent unless sufficient time has been allowed since the break in equilibrium (e.g. 21 days in the case of Ra-226-supported ingrowth). The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

AD-16R-RELOG-14'-15' (820-16585-1), AD-16R-RELOG-19'-20' (820-16585-2), AD-17-RELOG-29'-30' (820-16585-3), AD-17-RELOG-33'-34' (820-16585-4), (570-210742-A-1-A) and (570-210742-A-1-B DU)

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

Client Sample ID: AD-16R-RELOG-14'-15'
Lab Sample ID: 820-16585-1

Date Collected: 12/11/24 08:10
Matrix: Solid
Date Received: 12/12/24 09:00

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<1.84	U	4.24	1.84	mg/Kg		12/18/24 11:11	12/18/24 14:56	5
Thorium	3.93		0.424	0.424	mg/Kg		01/08/25 17:45	01/09/25 12:04	5
Uranium	0.436		0.424	0.119	mg/Kg		12/18/24 11:11	12/18/24 14:56	5

Method: DOE GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.04		0.207	0.231	1.00	0.166	pCi/g	12/17/24 15:34	01/07/25 14:34	1
Radium-228	1.37		0.286	0.316		0.116	pCi/g	12/17/24 15:34	01/07/25 14:34	1

Client Sample ID: AD-16R-RELOG-19'-20'
Lab Sample ID: 820-16585-2

Date Collected: 12/11/24 08:20
Matrix: Solid
Date Received: 12/12/24 09:00

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.93	J	4.24	1.84	mg/Kg		12/18/24 11:11	12/19/24 12:37	5
Thorium	6.89		0.424	0.424	mg/Kg		01/08/25 17:45	01/09/25 12:10	5
Uranium	1.13		0.424	0.119	mg/Kg		12/18/24 11:11	12/18/24 15:12	5

Method: DOE GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.32		0.228	0.263	1.00	0.200	pCi/g	12/17/24 15:34	01/07/25 15:50	1
Radium-228	1.52		0.362	0.390		0.243	pCi/g	12/17/24 15:34	01/07/25 15:50	1

Client Sample ID: AD-17-RELOG-29'-30'
Lab Sample ID: 820-16585-3

Date Collected: 12/11/24 09:50
Matrix: Solid
Date Received: 12/12/24 09:00

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5.05		4.39	1.91	mg/Kg		12/18/24 11:11	12/19/24 12:39	5
Thorium	5.84		0.439	0.439	mg/Kg		01/08/25 17:45	01/09/25 12:11	5
Uranium	1.75		0.439	0.123	mg/Kg		12/18/24 11:11	12/18/24 15:14	5

Method: DOE GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.20		0.204	0.236	1.00	0.182	pCi/g	12/17/24 15:34	01/07/25 16:27	1
Radium-228	1.21		0.276	0.300		0.148	pCi/g	12/17/24 15:34	01/07/25 16:27	1

Client Sample ID: AD-17-RELOG-33'-34'
Lab Sample ID: 820-16585-4

Date Collected: 12/11/24 10:10
Matrix: Solid
Date Received: 12/12/24 09:00

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<1.81	U	4.17	1.81	mg/Kg		12/18/24 11:11	12/19/24 12:41	5

Client: Geosyntec Consultants Inc
Job ID: 820-16585-1
Project/Site: AEP Welsh

Client Sample ID: AD-17-RELOG-33'-34'
Lab Sample ID: 820-16585-4
Date Collected: 12/11/24 10:10
Matrix: Solid
Date Received: 12/12/24 09:00

Method: SW846 6020B - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thorium	1.52		0.417	0.417	mg/Kg		01/08/25 17:45	01/09/25 12:12	5
Uranium	0.325	J	0.417	0.117	mg/Kg		12/18/24 11:11	12/18/24 15:16	5

Method: DOE GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.526		0.131	0.141	1.00	0.112	pCi/g	12/17/24 15:34	01/07/25 18:10	1
Radium-228	0.372		0.233	0.236		0.242	pCi/g	12/17/24 15:34	01/07/25 18:10	1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 860-206256/1-A
Matrix: Solid
Analysis Batch: 206368

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 206256

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.435	U	1.00	0.435	mg/Kg		12/18/24 11:11	12/18/24 14:50	1
Uranium	<0.0281	U	0.100	0.0281	mg/Kg		12/18/24 11:11	12/18/24 14:50	1

Lab Sample ID: LCS 860-206256/2-A
Matrix: Solid
Analysis Batch: 206368

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 206256

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	10.0	9.943		mg/Kg		99	80 - 120
Uranium	2.49	2.387		mg/Kg		96	80 - 120

Lab Sample ID: LCSD 860-206256/3-A
Matrix: Solid
Analysis Batch: 206368

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 206256

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	10.0	10.20		mg/Kg		102	80 - 120	3	20
Uranium	2.49	2.372		mg/Kg		95	80 - 120	1	20

Lab Sample ID: 820-16585-1 MS
Matrix: Solid
Analysis Batch: 206368

Client Sample ID: AD-16R-RELOG-14'-15'
Prep Type: Total/NA
Prep Batch: 206256

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	<1.84	U	8.33	6.304		mg/Kg		76	75 - 125
Uranium	0.436		2.07	2.209		mg/Kg		86	75 - 125

Lab Sample ID: 820-16585-1 MSD
Matrix: Solid
Analysis Batch: 206368

Client Sample ID: AD-16R-RELOG-14'-15'
Prep Type: Total/NA
Prep Batch: 206256

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	<1.84	U	8.77	7.187		mg/Kg		82	75 - 125	13	20
Uranium	0.436		2.18	2.328		mg/Kg		87	75 - 125	5	20

Lab Sample ID: MB 860-209800/1-A
Matrix: Solid
Analysis Batch: 209977

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209800

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thorium	<0.100	U	0.100	0.100	mg/Kg		01/08/25 17:45	01/09/25 12:00	1

Lab Sample ID: LCS 860-209800/2-A
Matrix: Solid
Analysis Batch: 209977

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209800

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Thorium	5.00	4.580		mg/Kg		92	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 860-209800/3-A
Matrix: Solid
Analysis Batch: 209977

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 209800

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thorium			5.00	4.531		mg/Kg		91	80 - 120	1	20

Lab Sample ID: 820-16585-1 MS
Matrix: Solid
Analysis Batch: 209977

Client Sample ID: AD-16R-RELOG-14'-15'
Prep Type: Total/NA
Prep Batch: 209800

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Thorium	3.93		4.17	8.774		mg/Kg		116	75 - 125		

Lab Sample ID: 820-16585-1 MSD
Matrix: Solid
Analysis Batch: 209977

Client Sample ID: AD-16R-RELOG-14'-15'
Prep Type: Total/NA
Prep Batch: 209800

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thorium	3.93		4.39	8.997		mg/Kg		116	75 - 125	3	20

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-694203/1-A
Matrix: Solid
Analysis Batch: 697154

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 694203

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.08231	U	0.264	0.264	1.00	0.456	pCi/g	12/17/24 15:34	01/07/25 13:13	1
Radium-228	-0.1363	U	0.298	0.298		0.456	pCi/g	12/17/24 15:34	01/07/25 13:13	1

Lab Sample ID: LCS 160-694203/2-A
Matrix: Solid
Analysis Batch: 697157

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 694203

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Americium-241			351	360.5		37.1		1.26	pCi/g	103	75 - 125		
Cesium-137			105	111.6		11.0		0.367	pCi/g	107	75 - 125		
Cobalt-60			38.0	40.11		3.96		0.184	pCi/g	105	75 - 125		

Metals

Prep Batch: 206256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-16585-1	AD-16R-RELOG-14'-15'	Total/NA	Solid	3051A	
820-16585-2	AD-16R-RELOG-19'-20'	Total/NA	Solid	3051A	
820-16585-3	AD-17-RELOG-29'-30'	Total/NA	Solid	3051A	
820-16585-4	AD-17-RELOG-33'-34'	Total/NA	Solid	3051A	
MB 860-206256/1-A	Method Blank	Total/NA	Solid	3051A	
LCS 860-206256/2-A	Lab Control Sample	Total/NA	Solid	3051A	
LCSD 860-206256/3-A	Lab Control Sample Dup	Total/NA	Solid	3051A	
820-16585-1 MS	AD-16R-RELOG-14'-15'	Total/NA	Solid	3051A	
820-16585-1 MSD	AD-16R-RELOG-14'-15'	Total/NA	Solid	3051A	

Analysis Batch: 206368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-16585-1	AD-16R-RELOG-14'-15'	Total/NA	Solid	6020B	206256
820-16585-2	AD-16R-RELOG-19'-20'	Total/NA	Solid	6020B	206256
820-16585-3	AD-17-RELOG-29'-30'	Total/NA	Solid	6020B	206256
820-16585-4	AD-17-RELOG-33'-34'	Total/NA	Solid	6020B	206256
MB 860-206256/1-A	Method Blank	Total/NA	Solid	6020B	206256
LCS 860-206256/2-A	Lab Control Sample	Total/NA	Solid	6020B	206256
LCSD 860-206256/3-A	Lab Control Sample Dup	Total/NA	Solid	6020B	206256
820-16585-1 MS	AD-16R-RELOG-14'-15'	Total/NA	Solid	6020B	206256
820-16585-1 MSD	AD-16R-RELOG-14'-15'	Total/NA	Solid	6020B	206256

Analysis Batch: 206622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-16585-2	AD-16R-RELOG-19'-20'	Total/NA	Solid	6020B	206256
820-16585-3	AD-17-RELOG-29'-30'	Total/NA	Solid	6020B	206256
820-16585-4	AD-17-RELOG-33'-34'	Total/NA	Solid	6020B	206256

Prep Batch: 209800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-16585-1	AD-16R-RELOG-14'-15'	Total/NA	Solid	3051A	
820-16585-2	AD-16R-RELOG-19'-20'	Total/NA	Solid	3051A	
820-16585-3	AD-17-RELOG-29'-30'	Total/NA	Solid	3051A	
820-16585-4	AD-17-RELOG-33'-34'	Total/NA	Solid	3051A	
MB 860-209800/1-A	Method Blank	Total/NA	Solid	3051A	
LCS 860-209800/2-A	Lab Control Sample	Total/NA	Solid	3051A	
LCSD 860-209800/3-A	Lab Control Sample Dup	Total/NA	Solid	3051A	
820-16585-1 MS	AD-16R-RELOG-14'-15'	Total/NA	Solid	3051A	
820-16585-1 MSD	AD-16R-RELOG-14'-15'	Total/NA	Solid	3051A	

Analysis Batch: 209977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-16585-1	AD-16R-RELOG-14'-15'	Total/NA	Solid	6020B	209800
820-16585-2	AD-16R-RELOG-19'-20'	Total/NA	Solid	6020B	209800
820-16585-3	AD-17-RELOG-29'-30'	Total/NA	Solid	6020B	209800
820-16585-4	AD-17-RELOG-33'-34'	Total/NA	Solid	6020B	209800
MB 860-209800/1-A	Method Blank	Total/NA	Solid	6020B	209800
LCS 860-209800/2-A	Lab Control Sample	Total/NA	Solid	6020B	209800
LCSD 860-209800/3-A	Lab Control Sample Dup	Total/NA	Solid	6020B	209800
820-16585-1 MS	AD-16R-RELOG-14'-15'	Total/NA	Solid	6020B	209800
820-16585-1 MSD	AD-16R-RELOG-14'-15'	Total/NA	Solid	6020B	209800

QC Association Summary

Client: Geosyntec Consultants Inc
Project/Site: AEP Welsh

Job ID: 820-16585-1

Rad

Leach Batch: 693515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-16585-1	AD-16R-RELOG-14'-15'	Total/NA	Solid	Dry and Grind	
820-16585-2	AD-16R-RELOG-19'-20'	Total/NA	Solid	Dry and Grind	
820-16585-3	AD-17-RELOG-29'-30'	Total/NA	Solid	Dry and Grind	
820-16585-4	AD-17-RELOG-33'-34'	Total/NA	Solid	Dry and Grind	

Prep Batch: 694203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-16585-1	AD-16R-RELOG-14'-15'	Total/NA	Solid	Fill_Geo-21	693515
820-16585-2	AD-16R-RELOG-19'-20'	Total/NA	Solid	Fill_Geo-21	693515
820-16585-3	AD-17-RELOG-29'-30'	Total/NA	Solid	Fill_Geo-21	693515
820-16585-4	AD-17-RELOG-33'-34'	Total/NA	Solid	Fill_Geo-21	693515
MB 160-694203/1-A	Method Blank	Total/NA	Solid	Fill_Geo-21	
LCS 160-694203/2-A	Lab Control Sample	Total/NA	Solid	Fill_Geo-21	

Lab Chronicle

Client: Geosyntec Consultants Inc
Job ID: 820-16585-1
Project/Site: AEP Welsh

Client Sample ID: AD-16R-RELOG-14'-15'
Lab Sample ID: 820-16585-1
Date Collected: 12/11/24 08:10
Matrix: Solid
Date Received: 12/12/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.59 g	50 mL	206256	12/18/24 11:11	PB	EET HOU
Total/NA	Analysis	6020B		5			206368	12/18/24 14:56	DP	EET HOU
Total/NA	Prep	3051A			.59 g	50 mL	209800	01/08/25 17:45	PB	EET HOU
Total/NA	Analysis	6020B		5			209977	01/09/25 12:04	DP	EET HOU
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	693515	12/13/24 14:02	SAC	EET SL
Total/NA	Prep	Fill_Geo-21			296.5000 g	1.0 g	694203	12/17/24 15:34	HGB	EET SL
Total/NA	Analysis	GA-01-R		1			697155	01/07/25 14:34	CAH	EET SL

Client Sample ID: AD-16R-RELOG-19'-20'
Lab Sample ID: 820-16585-2
Date Collected: 12/11/24 08:20
Matrix: Solid
Date Received: 12/12/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.59 g	50 mL	206256	12/18/24 11:11	PB	EET HOU
Total/NA	Analysis	6020B		5			206368	12/18/24 15:12	DP	EET HOU
Total/NA	Prep	3051A			.59 g	50 mL	206256	12/18/24 11:11	PB	EET HOU
Total/NA	Analysis	6020B		5			206622	12/19/24 12:37	DP	EET HOU
Total/NA	Prep	3051A			.59 g	50 mL	209800	01/08/25 17:45	PB	EET HOU
Total/NA	Analysis	6020B		5			209977	01/09/25 12:10	DP	EET HOU
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	693515	12/13/24 14:02	SAC	EET SL
Total/NA	Prep	Fill_Geo-21			290.1000 g	1.0 g	694203	12/17/24 15:34	HGB	EET SL
Total/NA	Analysis	GA-01-R		1			697155	01/07/25 15:50	CAH	EET SL

Client Sample ID: AD-17-RELOG-29'-30'
Lab Sample ID: 820-16585-3
Date Collected: 12/11/24 09:50
Matrix: Solid
Date Received: 12/12/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.57 g	50 mL	206256	12/18/24 11:11	PB	EET HOU
Total/NA	Analysis	6020B		5			206368	12/18/24 15:14	DP	EET HOU
Total/NA	Prep	3051A			.57 g	50 mL	206256	12/18/24 11:11	PB	EET HOU
Total/NA	Analysis	6020B		5			206622	12/19/24 12:39	DP	EET HOU
Total/NA	Prep	3051A			.57 g	50 mL	209800	01/08/25 17:45	PB	EET HOU
Total/NA	Analysis	6020B		5			209977	01/09/25 12:11	DP	EET HOU
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	693515	12/13/24 14:02	SAC	EET SL
Total/NA	Prep	Fill_Geo-21			333.9000 g	1.0 g	694203	12/17/24 15:34	HGB	EET SL
Total/NA	Analysis	GA-01-R		1			697155	01/07/25 16:27	CAH	EET SL

Client Sample ID: AD-17-RELOG-33'-34'
Lab Sample ID: 820-16585-4
Date Collected: 12/11/24 10:10
Matrix: Solid
Date Received: 12/12/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.6 g	50 mL	206256	12/18/24 11:11	PB	EET HOU
Total/NA	Analysis	6020B		5			206368	12/18/24 15:16	DP	EET HOU

Lab Chronicle

Client: Geosyntec Consultants Inc
Job ID: 820-16585-1
Project/Site: AEP Welsh

Client Sample ID: AD-17-RELOG-33'-34'
Lab Sample ID: 820-16585-4
Date Collected: 12/11/24 10:10
Matrix: Solid
Date Received: 12/12/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.6 g	50 mL	206256	12/18/24 11:11	PB	EET HOU
Total/NA	Analysis	6020B		5			206622	12/19/24 12:41	DP	EET HOU
Total/NA	Prep	3051A			.6 g	50 mL	209800	01/08/25 17:45	PB	EET HOU
Total/NA	Analysis	6020B		5			209977	01/09/25 12:12	DP	EET HOU
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	693515	12/13/24 14:02	SAC	EET SL
Total/NA	Prep	Fill_Geo-21			390.1000 g	1.0 g	694203	12/17/24 15:34	HGB	EET SL
Total/NA	Analysis	GA-01-R		1			697155	01/07/25 18:10	CAH	EET SL

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

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

Accreditation/Certification Summary

Client: Geosyntec Consultants Inc
Job ID: 820-16585-1
Project/Site: AEP Welsh

Laboratory: Eurofins Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215	06-30-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
6020B	3051A	Solid	Thorium
6020B	3051A	Solid	Uranium

Laboratory: Eurofins St. Louis

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704193	07-31-25

Method Summary

Client: Geosyntec Consultants Inc
Project/Site: AEP Welsh

Job ID: 820-16585-1

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET HOU
GA-01-R	Radium-226 & Other Gamma Emitters (GS)	DOE	EET SL
3051A	Preparation, Metals, Microwave Assisted	SW846	EET HOU
Dry and Grind	Preparation, Dry and Grind	None	EET SL
Fill_Geo-21	Fill Geometry, 21-Day In-Growth	None	EET SL

Protocol References:

DOE = U.S. Department of Energy

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

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

Sample Summary

Client: Geosyntec Consultants Inc
Project/Site: AEP Welsh

Job ID: 820-16585-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
820-16585-1	AD-16R-RELOG-14'-15'	Solid	12/11/24 08:10	12/12/24 09:00
820-16585-2	AD-16R-RELOG-19'-20'	Solid	12/11/24 08:20	12/12/24 09:00
820-16585-3	AD-17-RELOG-29'-30'	Solid	12/11/24 09:50	12/12/24 09:00
820-16585-4	AD-17-RELOG-33'-34'	Solid	12/11/24 10:10	12/12/24 09:00

Loc: 820
16585

Houston
riar Dr
77477
40-4200

Chain of Custody Record

eurofins | Environment Testing

rmation	Sampler: Alondra Salters	Lab PM: Taylor, Holly	Carrier Tracking No(s):	COC No: 860-34474-11813.1
Allison Kreinberg	Phone: (915)253-7813	E-Mail: Holly.Taylor@et.eurofinsus.com	State of Origin: TX	Page: Page 1 of 1
Company: Geosyntec Consultants Inc	PWSID:	Analysis Requested		Job #: CHA8495
Address: 500 West Wilson Bridge Road Suite 250	Due Date Requested:			Preservation Codes: N - None
City: Worthington	TAT Requested (days): 2 weeks			
State, Zip: OH, 43085	Compliance Project: Δ Yes ✕ No			
Phone: 614-468-0421(Tel)	PO #: Purchase Order Requested			
Email: akreinberg@geosyntec.com	WO #:			Other:
Project Name: Radiological Testing	Project #: 86007851			
Site: AEP Welsh	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020B - Th, U	GA_01_R_Ra - Radium-226/228	Boron	Total Number of containers	Special Instructions/Note:
Preservation Code:							N	N			
AD-16R-RELOG-14'-15'	12/11/24	0810	G	Solid	N	N	X	X	X	3	
AD-16R-RELOG-19'-20'	12/11/24	0820	G	Solid	N	N	X	X	X	3	
AD-17-RELOG-29'-30'	12/11/24	0950	G	Solid	N	N	X	X	X	3	
AD-17-RELOG-33'-34'	12/11/24	1010	G	Solid	N	N	X	X	X	3	

820-16585 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: FedEx

	Date/Time	Company		Date/Time	Company
Relinquished by: Alondra Salters	12/11/24 1430	Geosyntec	Received by: YP	12/12/24 9:00	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.9/3.1 IR1/10.2

YP 12/12/24

Ver: 10/10/2024

1/9/2025

Eurofins Lubbock
6701 Aberdeen Ave. Suite 8
Lubbock, TX 79424
Phone: 806-794-1296

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Taylor, Holly	Carrier Tracking No(s): N/A	COC No: 820-10176.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Holly.Taylor@et.eurofinsus.com	State of Origin: Texas	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 820-16585-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/8/2025			
City: Earth City	TAT Requested (days): N/A			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Radiological Testing	Project #: 86007851			
Site: N/A	SSOW#: N/A			

Analysis Requested

Preservation Codes:

Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	GA_01_R_Ra/Dry_Grind Radium-226/228	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AD-16R-RELOG-14'-15' (820-16585-1)	12/11/24	08:10 Central	G	Solid			X	2	
AD-16R-RELOG-19'-20' (820-16585-2)	12/11/24	08:20 Central	G	Solid			X	2	
AD-17-RELOG-29'-30' (820-16585-3)	12/11/24	09:50 Central	G	Solid			X	2	
AD-17-RELOG-33'-34' (820-16585-4)	12/11/24	10:10 Central	G	Solid			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/12/24 1700			0820 DEC 13 2024	ETA-STL
2				Cheyenne Forrest		
3						

Custody Seals Intact: | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Eurofins Lubbock
6701 Aberdeen Ave. Suite 8
Lubbock, TX 79424
Phone: 806-794-1296

Chain of Custody Record

eurofins Environment Testing

1/9/2025

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Taylor Holly	Carrier Tracking No(s): N/A	COC No: 820-10177 1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Holly Taylor@et.eurofinsus.com	State of Origin: Texas	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP Texas		Job #: 820-16585-1
Address: 4145 Greenbriar Dr	Due Date Requested: 1/10/2025			
City: Stafford	TAT Requested (days): N/A			
State, Zip: TX, 77477				
Phone: 281-240-4200(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Radiological Testing	Project #: 86007851			
Site: N/A	SSOW#: N/A			

Analysis Requested

Preservation Codes:

Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020B/3051A (MOD) Th, U	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AD-16R-RELOG-14 15' (820-16585-1)	12/11/24	08:10 Central	G	Solid			X	1	
AD-16R-RELOG-19'-20' (820-16585-2)	12/11/24	08:20 Central	G	Solid			X	1	
AD-17-RELOG-29'-30' (820-16585-3)	12/11/24	09:50 Central	G	Solid			X	1	
AD-17-RELOG-33'-34 (820-16585-4)	12/11/24	10:10 Central	G	Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I II III, IV Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
YF	12/12/24 YF				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 12-13-24 1017	Company

Custody Seals Intact: Custody Seal No.

Cooler Temperature(s) °C and Other Remarks: IR-7B 3.7°

Login Sample Receipt Checklist

Client: Geosyntec Consultants Inc

Job Number: 820-16585-1

Login Number: 16585

List Source: Eurofins Lubbock

List Number: 1

Creator: Pena, Yazmeane

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Geosyntec Consultants Inc

Job Number: 820-16585-1

Login Number: 16585
List Number: 3
Creator: Baker, Jeremiah

List Source: Eurofins Houston
List Creation: 12/13/24 12:45 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

Login Sample Receipt Checklist

Client: Geosyntec Consultants Inc

Job Number: 820-16585-1

Login Number: 16585
List Number: 2
Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis
List Creation: 12/13/24 11:49 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ATTACHMENT D
Chemical Analysis of Wells in Titus County

Table 11.--Chemical analyses of water from wells and springs in Camp, Franklin, Morris, Titus, and adjoining counties--Continued

Titus County

Well	Depth of well (ft)	Date of collection	Silica (SiO_2)	Iron (Fe) (total)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphate (PO_4)	Boron (B)	Dissolved solids	Hardness as $CaCO_3$	Percent sodium	Sodium adsorption ratio (SAR)	Residual sodium carbonate (RSC)	Specific conductance (micromhos at 25°C)	pH
YA-16-41-101	22	Aug. 20, 1963	--	--	--	--	--	*17		7	0.0	18	--	40	--	--	--	27	57	1.4	0.00	149	5.1
102	34	do	--	--	--	--	--	--		34	--	358	--	--	--	--	--	324	--	--	--	1,250	5.8
201	30	May 26, 1942	--	--	--	12	1.2	*32		55	15	24	--	15	--	--	127	36	--	--	--	--	--
301	60	do	--	--	--	179	126	*126		12	1,025	115	0	3.0	--	--	1,580	968	--	--	--	--	--
302	60	do	--	--	--	134	39	*152		116	211	361	--	1.0	--	--	955	494	--	--	--	--	--
801	200	Feb. 25, 1963	13	0.13	--	6.8	2.0	*147		308	.0	65	.4	.0	--	--	385	25	93	13	4.55	703	7.3
802	31	do	--	--	--	--	--	--		22	4.0	238	--	44	--	--	--	181	--	--	.00	955	5.2
902	470	July 30, 1963	11	.13	--	3.2	.7	*326		406	.0	272	.9	1.5	--	--	815	11	98	43	6.43	1,410	7.5
903	27	May 26, 1942	--	--	--	82	63	*155		268	296	191	0	3.0	--	--	922	464	--	--	--	--	--
42-401	48	June 3, 1942	--	--	--	226	63	*421		549	33	890	--	0	--	--	1,903	824	--	--	--	--	--
702	22	do	--	--	--	12	5.8	*58		55	18	77	--	10	--	--	208	54	--	--	--	--	--
49-103	20	May 22, 1942	--	--	--	.8	1.0	*12		18	11	3.0	--	1.5	--	--	38	6	--	--	--	--	--
202	315	Feb. 20, 1963	51	22	--	9.8	3.2	*24		91	.0	11	.1	.0	--	--	144	38	58	1.7	.74	215	5.8
203	30	do	--	--	--	--	--	*275		64	1,420	700	--	--	--	--	--	1,920	24	2.7	.00	4,090	5.5
206	485	Feb. 25, 1963	14	.68	--	20	.7	*58		122	13	13	.2	1.0	--	--	162	8	94	8.9	1.84	284	7.3
301	24	May 26, 1942	--	--	--	2.4	1.2	*28		31	7	22	--	10	--	--	86	11	--	--	--	--	--
401	24	May 22, 1942	--	--	--	21	3.6	*13		43	26	20	--	7.0	--	--	112	67	--	--	--	--	--
402	395	Mar. 12, 1963	50	11	--	9.0	3.9	16	2.6	64	3.4	14	.2	0	--	0.00	130	38	45	1.1	.28	156	5.9
503	360	Feb. 20, 1963	54	12	--	9	3.2	*26		78	4.6	16	.1	.0	--	--	151	36	61	1.9	.57	218	5.8
601	22	May 25, 1942	--	--	--	49	19	*109		171	74	138	.2	33	--	--	506	202	--	--	--	--	--
603	350	July 30, 1963	11	.12	--	1.5	.1	*86		204	.0	16	.2	1.8	--	--	217	4	98	19	3.26	353	7.4
701	437	May 27, 1942	20	.07	--	3.7	1.2	*231		370	2	149	.2	2.0	--	--	594	14	--	--	--	--	8.2
701	437	June 22, 1949	15	.14	--	1.6	.7	196	1.6	a337	1.6	109	.1	2.2	--	.79	509	--	--	--	--	869	8.5
701	437	Feb. 19, 1963	12	2.8	--	1.5	.5	170	1.1	322	3.2	74	.2	.0	--	.20	421	6	98	30	5.17	758	7.4
702	597	May 27, 1942	20	.05	--	3.8	1.0	224	--	380	2	132	0	.0	--	--	567	14	--	--	--	--	8.4
702	597	Feb. 19, 1963	12	1.4	--	2.5	.7	218	1.2	368	.0	126	.3	.0	--	.27	542	9	98	32	5.85	991	7.7
706	430	May 14, 1942	39	5.6	--	14	6.6	30	--	126	2	15	.1	.5	--	--	176	62	--	--	--	--	--

See footnotes at end of table.

Table 11.--Chemical analyses of water from wells and springs in Camp, Franklin, Morris, Titus, and adjoining counties--Continued

Titus County

Well	Depth of well (ft)	Date of collection	Silica (SiO_2)	Iron (Fe) (total)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphate (PO_4)	Boron (B)	Dissolved solids	Hardness as $CaCO_3$	Percent sodium	Sodium adsorption ratio (SAR)	Residual sodium carbonate (RSC)	Specific conductance (micromhos at 25°C)	pH
YA-16-49-708	460	Mar. 14, 1963	13	0.13	--	1.5	0.2	152	.8	298	3.2	62	0.2	0.0	--	0.10	380	5	98	30	4.78	651	8.0
804	18	May 14, 1942	--	--	--	10	1.2		*7.4	24	18	6.0	--	0	--	--	55	31	--	--	--	--	--
924	300	Apr. 25, 1963	33	2.7	--	20	4.0		*55	156	13	31	.5	.0	--	--	234	66	64	2.9	1.23	352	7.1
50-101	35	June 3, 1942	--	--	--	13	2.4		*46	49	12	14	--	86	--	--	197	42	--	--	--	--	--
102	31	do	--	--	--	79	35		*44	110	11	141	--	169	--	--	533	342	--	--	--	--	--
202	48	do	--	--	--	47	12		*38	49	2	125	--	39	--	--	287	168	--	--	--	--	--
403	310	July 30, 1963	18	.09	--	27	6.9		*107	284	57	26	.2	.0	--	--	382	96	71	4.8	2.73	601	7.2
404	10	May 25, 1942	--	--	--	31	28		*6.4	18	74	78	--	5.0	--	--	231	192	--	--	--	--	--
409	300	July 30, 1963	12	.05	--	4.2	.9		*116	270	23	13	.2	2.0	--	--	304	14	95	13	4.15	485	7.3
501	37	May 25, 1942	--	--	--	308	97		*76	488	274	460	0	2.0	--	--	1,457	1,170	--	--	--	--	--
703	18	June 3, 1942	--	--	--	1.6	3.2		*2.3	12	4	4.0	.3	2.0	--	--	23	17	--	--	--	--	--
57-102	246	Aug. 22, 1963	34	2.9	--	45	9.7		*34	130	75	29	.2	.2	--	--	291	152	33	1.2	.00	452	6.6
110	700	June 3, 1963	12	.09	--	4.5	1.2		*420	396	0	425	.5	.7	--	--	1,060	16	98	46	6.17	1,890	7.6
114	475	Aug. 22, 1963	13	.06	--	6.0	.7		*56	155	.0	8.5	.2	.5	--	--	161	18	87	5.7	2.18	272	7.2
301	20	May 13, 1942	--	--	--	4.8	3.6		*10	12	26	7.0	.2	2.0	--	--	60	27	--	--	--	--	--
302	420	July 31, 1963	13	.22	--	3.5	.5		*104	266	.2	15	.2	2.2	--	.06	271	11	95	14	4.14	440	7.3
401	300	Aug. 22, 1963	13	--	--	4.8	1.0		*157	286	.0	86	.6	.0	--	--	403	16	96	17	4.37	688	7.7
402	300	May 1, 1963	13	1.1	0.00	5.0	1.1	157	1.6	296	.2	88	.5	.0	0.94	.28	414	17	95	17	4.51	708	7.5
601	18	May 13, 1942	--	--	--	8.8	2.4		*11	18	5	18	.2	12	--	--	67	32	--	--	--	--	--
58-101	9	May 14, 1942	--	--	--	12	6.1		*31	12	63	29	.2	6.0	--	--	153	54	--	--	--	--	--
103	24	do	--	--	--	8.8	3.6		*13	6	12	20	--	25	--	--	85	37	--	--	--	--	--
203	21	do	--	--	--	13	2.4		*29	61	5	28	--	12	--	--	119	42	--	--	--	--	--
401	13	May 13, 1942	--	--	--	4.8	2.4		*8.1	18	2	10	.1	10	--	--	47	22	--	--	--	--	--
701	25	May 14, 1942	--	--	--	13	12		*38	12	2	35	--	130	--	--	236	83	--	--	--	--	--
17-48-102	26	Aug. 21, 1963	--	--	--	--	--		--	53	--	38	--	--	--	--	--	53	--	--	.00	299	5.6
202	18	Mar. 22, 1942	--	--	--	11	1.0		*104	12	30	84	--	120	--	--	356	31	--	--	--	--	--
202	18	Aug. 21, 1963	--	--	--	--	--		--	22	--	89	--	--	--	--	--	86	--	--	.00	696	5.6

See footnotes at end of table.

Table 11.--Chemical analyses of water from wells and springs in Camp, Franklin, Morris, Titus, and adjoining counties--Continued

Titus County

Well	Depth of well (ft)	Date of collection	Silica (SiO_2)	Iron (Fe) (total)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphate (PO_4)	Boron (B)	Dissolved solids	Hardness as $CaCO_3$	Percent sodium	Sodium adsorption ratio (SAR)	Residual sodium carbonate (RSC)	Specific conductance (micromhos at 25°C)	pH
YA-17-48-801	13	May 22, 1942	--	--	--	11	4.9	*37		43	12	40	--	29	--	--	155	48	--	--	--	--	--
802	18	May 20, 1942	--	--	--	5.6	6.1	*17		31	7	12	--	33	--	--	96	39	--	--	--	--	--
901	25	May 22, 1942	--	--	--	13	4.9	*37		12	22	39	--	55	--	--	177	53	--	--	--	--	--
56-201	40	May 27, 1942	--	--	--	22	15	*17		12	2	18	--	141	--	--	221	114	--	--	--	--	--
303	20	May 20, 1942	--	--	--	26	4.6	*34		55	11	65	--	10	--	--	178	83	--	--	--	--	--
304	310	Aug. 13, 1963	18	1.8	--	7.5	2.6	*117		190	74	35	0.2	.0	--	--	347	29	90	9.4	2.53	560	7.2
401	11	May 27, 1942	--	--	--	16	7.3	*134		31	122	102	--	82	--	--	478	70	--	--	--	--	--
402	30	do	--	--	--	4.4	1.2	*19		18	30	4.0	.2	6.0	--	--	74	16	--	--	--	--	--
415	225	Jan. 17, 1963	12	.37	--	3.5	1.2	*132		248	71	15	.1	2.8	--	--	360	14	96	15	3.79	526	7.5
601	28	May 20, 1942	--	--	--	98	55	*67		171	185	199	.1	1.5	--	--	690	469	--	--	--	--	--
701	38	May 15, 1942	--	--	--	6.0	0	*5.1		18	4	5.0	0	0	--	--	29	15	--	--	--	--	--
† 707	260	Oct. 15, 1962	22	.1	--	6.7	2.5	*191.1		201.3	198	50.0	--	--	--	--	--	27	--	--	--	892	8.02
707	260	July 27, 1963	7.8	1.7	0.00	8.2	2.3	182	2.4	184	202	50	.1	2.8	0.24	0.09	548	30	92	14	2.42	866	7.0
801	Spring	May 15, 1942	--	--	--	8.8	2.4	*1.2		37	2	1.0	--	1.5	--	--	35	32	--	--	--	--	--
901	502	May 29, 1942	--	--	--	5.2	4.9	*297		323	2	288	.2	7.0	--	--	764	33	--	--	--	--	--
64-101	380	July 31, 1963	14	.09	--	3.8	.9	*82		187	1.8	24	.2	1.2	--	--	220	13	93	9.9	2.80	356	7.5
102	17	May 15, 1942	--	--	--	4.8	2.4	*22		49	3	15	.1	6.0	--	--	77	22	--	--	--	--	--
201	48	do	--	--	--	48	22	*124		43	30	254	--	66	--	--	565	208	--	--	--	--	--
301	40	do	--	--	--	205	126	*239		580	418	450	0	9.0	--	--	1,732	1,033	--	--	--	--	--
401	32	do	--	--	--	24	18	*127		98	30	195	--	32	--	--	474	136	--	--	--	--	--

* Sodium and potassium calculated as sodium (Na).
† Analyses by Curtis Laboratories.
a/ Includes the equivalent of 5 ppm as carbonate (CO_3).

ATTACHMENT E
Certification by a Qualified Professional Engineer

CERTIFICATION BY A QUALIFIED PROFESSIONAL ENGINEER

I certify that the selected and above described alternative source demonstration is appropriate for evaluating the groundwater monitoring data for the Welsh Bottom Ash Storage Pond CCR management area and that the requirements of 30 TAC §352.941(c) have been met.



Beth Ann Gross
Printed Name of Licensed Professional Engineer

Beth Ann Gross
Signature

Geosyntec Consultants
2039 Centre Pointe Blvd, Suite 103
Tallahassee, Florida 32308

Texas Registered Engineering Firm
No. F-1182

79864	Texas	March 27, 2025
License Number	Licensing State	Date

Geosyntec consultants

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AMERICAN ELECTRIC POWER

BOUNDLESS ENERGY

ALTERNATIVE SOURCE DEMONSTRATION REPORT - RADIUM

2024 SECOND SEMIANNUAL EVENT

TEXAS STATE CCR RULE

Welsh Power Plant

Bottom Ash Storage Pond

Registration No. CCR 110

Pittsburg, Texas

Prepared for

American Electric Power
1 Riverside Plaza
Columbus, Ohio 43215-2372

Prepared by

Geosyntec Consultants, Inc.
500 West Wilson Bridge Road, Suite 250
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Project CHA8495B

March 2025

Geosyntec consultants

TABLE OF CONTENTS

1. INTRODUCTION AND SUMMARY 1
   1.1 CCR Rule Requirements 1
   1.2 Demonstration of Alternative Sources 2

2. SUMMARY OF SITE CONDITIONS 3
   2.1 BASP Location and Design 3
   2.2 Regional Geology and Site Hydrogeology 3
   2.3 BASP Monitoring Well Network and Flow Conditions 3

3. ALTERNATIVE SOURCE DEMONSTRATION 4
   3.1 Proposed Alternative Sources 4
      3.1.1 Geogenic Radium in Aquifer Solids 4
      3.1.2 Radium Solubility at AD-16R 5
      3.1.3 AD-16R Comparison to BASP Water 5
      3.1.4 AD-16R Chloride Stability 6
      3.1.5 Conceptual Site Model 6

4. CONCLUSIONS AND RECOMMENDATIONS 7

5. REFERENCES 8

LIST OF TABLES

Table 1 Aquifer Solids Analytical Results Summary

LIST OF FIGURES

Figure 1 Site Layout

Figure 2 Groundwater Potentiometric Map, September 2024

Figure 3 pH Time Series Graph

Figure 4 pH vs Combined Radium

Figure 5 AD-16R Piper Diagram

Figure 6 Chloride Time Series Graph

LIST OF ATTACHMENTS

Attachment A	Geologic Cross Sections
Attachment B	Historical Potentiometric Maps
Attachment C	Laboratory Analytical Report – Aquifer Solids
Attachment D	Laboratory Analytical Report – BASP Closure Evaluation Soil Sampling
Attachment E	Laboratory Analytical Report – August 2020 BASP Water Sample
Attachment F	Certification by a Qualified Professional Engineer

LIST OF ACRONYMS AND ABBREVIATIONS

AEP	American Electric Power
ASD	alternative source demonstration
BASP	Bottom Ash Storage Pond
CCR	coal combustion residuals
EPRI	Electric Power Research Institute
GWPS	groundwater protection standard
HDPE	high-density polyethylene
LCL	lower confidence limit
meq/kg	milliequivalents per kilogram
mg/L	milligrams per liter
PBAP	Primary Bottom Ash Pond
pCi/L	picocuries per liter
SSL	statistically significant level
SU	standard units
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality

1. INTRODUCTION AND SUMMARY

This alternative source demonstration (ASD) report has been prepared to address statistically significant levels (SSLs) for combined radium in the groundwater monitoring network at the Bottom Ash Storage Pond (BASP) located at the Welsh Power Plant (Welsh Plant) in Pittsburg, Texas, following the second semiannual monitoring event of 2024. The Welsh Plant has three coal combustion residuals (CCR) storage units regulated by the Texas Commission on Environmental Quality (TCEQ) under Registration No. CCR 110, including the BASP (**Figure 1**). The BASP was undergoing closure by CCR removal at the time of the monitoring event, and the other two CCR units were still active.

In September 2024, the second semiannual groundwater monitoring event of 2024 was conducted at the BASP. The BASP unit is currently in detection monitoring. The BASP closure plan states that closure is completed at the unit when all CCR materials and any underlying affected soils are removed and groundwater monitoring demonstrates that all Appendix III and Appendix IV constituents are below background values for two consecutive sampling events (American Electric Power [AEP] 2024). The removal of all CCR materials from the BASP was completed in August 2024, and the removal of at least 12 inches soil below the CCR materials was completed in September 2024. Therefore, the results of the September 2024 event are being used to assess the completion of closure.

The September 2024 semiannual monitoring event at the BASP monitoring well network followed monitoring protocol for Appendix IV constituents in accordance with the Texas Administrative Code (TAC) Title 30, §352.951(a) [30 TAC §352.951(a)]. The monitoring data were submitted to Groundwater Stats Consulting, LLC for statistical analysis. Confidence intervals were recalculated for the Appendix IV parameters at the compliance wells to assess whether these parameters were present at SSLs above the groundwater protection standards (GWPSs) for the parameters. An SSL was concluded if the lower confidence limit (LCL) of a parameter exceeded the GWPS (i.e., if the entire confidence interval exceeded the GWPS). The following SSL was identified at the Welsh BASP (Geosyntec 2024):

- The LCL for combined radium was above the GWPS of 5.00 picocuries per liter (pCi/L) at AD-16R (6.33 pCi/L).

No other Appendix IV SSLs were identified.

1.1 CCR Rule Requirements

TCEQ regulations regarding assessment monitoring programs for CCR landfills and surface impoundments provide owners and operators with the option to make an ASD when an SSL is identified:

> In making a demonstration under this subsection, the owner or operator must, within 90 days of detecting a statistically significant level above the groundwater protection standard of any constituent listed in Appendix IV adopted by reference in §352.1431 of this title, submit a report prepared and certified in accordance with §352.4 of this title (relating to Engineering and Geoscientific Information) to the executive director, and any local pollution agency with jurisdiction that has requested to be notified, demonstrating that a source other than a CCR unit caused the exceedance or that the exceedance resulted from

error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. (30 TAC §352.951(e))

Pursuant to 30 TAC §352.951(e), Geosyntec Consultants, Inc. (Geosyntec) has prepared this ASD report to document that the SSL identified for combined radium in the groundwater monitoring network for the BASP is from a source other than the BASP.

1.2 Demonstration of Alternative Sources

An evaluation was completed to assess possible alternative sources to which the identified SSL may be attributed. Alternative sources were categorized into the following five types, based on methods provided by the Electric Power Research Institute (EPRI 2017):

- ASD Type I: Sampling Causes
- ASD Type II: Laboratory Causes
- ASD Type III: Statistical Evaluation Causes
- ASD Type IV: Natural Variation
- ASD Type V: Anthropogenic Sources

A demonstration was conducted to show that the identified SSL at AD-16R was based on Type IV (natural variation) causes and not by a release from the BASP.

2. SUMMARY OF SITE CONDITIONS

The site background summary included in this section was primarily taken from Arcadis (2022), unless otherwise noted.

2.1 BASP Location and Design

The BASP was a 22-acre CCR surface impoundment located in the southern portion of the Welsh Plant, immediately south of the Landfill and Primary Bottom Ash Pond (PBAP) (**Figure 1**). It was designed with approximately 20-foot-high compacted-clay perimeter embankments and a 60-mil-thick high-density polyethylene (HDPE) liner placed over the base of the pond and the interior embankment slopes. The BASP was constructed and placed into operation in 2000 to receive bottom ash and economizer ash dredged and sluiced from the PBAP.

The BASP ceased receipt of CCR materials in 2021 (AEP 2021), and the removal of all CCR materials, the HDPE liner, and at least 12 inches of underlying soil was completed in 2024 (AEP 2024).

2.2 Regional Geology and Site Hydrogeology

The Welsh Plant is located within the West Gulf Coastal Plain. The BASP is immediately underlain by the Eocene-age Recklaw Formation, which consists of very-fine- to fine-grained sand and clay (Flawn 1966). The Recklaw Formation ranges in thickness from approximately 10 to 110 feet in Titus County, where the Welsh Plant is located. This formation is underlain by the Eocene-age Carrizo Sand, consisting of fine to coarse sand, silt, and clay.

The uppermost aquifer in the vicinity of the BASP consists of an interval of the Recklaw Formation that is approximately 12-feet thick and comprised of very-fine- to fine-grained silty sand and sandy silt. This aquifer is first encountered approximately 8 feet below the base of the BASP (Arcadis 2022). It is recharged primarily through infiltration of regional precipitation. Groundwater flow velocities in the uppermost aquifer in the vicinity of the BASP have been reported as approximately 1–20 feet per year (AEP 2022).

Monitoring well AD-16R is screened from 12-27 feet below ground surface within the Recklaw Formation. Subsurface lithology near monitoring well AD-16R is shown on geologic cross sections from Arcadis (2022) (**Attachment A**).

2.3 BASP Monitoring Well Network and Flow Conditions

The BASP monitoring well sampling network consists of background monitoring wells AD-1, AD-5, and AD-17 and downgradient compliance monitoring wells AD-3, AD-4C, and AD-16R (**Figure 1**). Well AD-16R was installed in April 2017 to replace well AD-16, which was frequently unable to yield an adequate volume of water for sampling. The groundwater flow direction near the BASP is generally to the southeast (**Figure 2**). Potentiometric groundwater flow maps from sampling events completed within the past two years are provided as **Attachment B**. Seasonal variability in groundwater flow direction has not been observed in the immediate vicinity of the BASP.

3. ALTERNATIVE SOURCE DEMONSTRATION

The ASD evaluation method and proposed alternative source of combined radium at well AD-16R are described below.

3.1 Proposed Alternative Sources

An initial review of groundwater sampling field forms did not identify alternative sources due to a Type I (sampling) issue. A review of the laboratory quality assurance and quality control data and the statistical analyses did not identify any Type II (laboratory) or Type III (statistical evaluation) issues. Groundwater sampling, laboratory analysis, and statistical evaluations were generally completed in accordance with 30 TAC §352.931 and draft TCEQ guidance for groundwater monitoring (TCEQ 2020).

As described below, the SSL for combined radium has been attributed to natural variation, which is a Type IV issue.

3.1.1 Geogenic Radium in Aquifer Solids

Four radium isotopes are observed in nature. Radium-226 and radium-228 are the two most common isotopes due to the short (less than one hour) half-lives of the other two naturally observed isotopes (radium-224 and radium-223). Combined radium as monitored in the groundwater compliance program reflects the sum of the reported radium-226 and radium-228 values.

All radium isotopes are products of radioactive decay: radium-226 is the decay product of uranium-238, and radium-228 is the decay product of thorium-232. Radium in groundwater is therefore generally sourced either directly from a parent phase (uranium or thorium) or mobilized from an existing radium-bearing solid phase (Iyengar 1990, Ku et al. 1992).

Aquifer solids samples were collected from soil borings advanced adjacent to compliance monitoring well AD-16R and background monitoring well AD-17 in December 2024. Two samples were collected at depths associated with the screened interval for each of the two monitoring wells, and analyzed for total solid-phase boron, uranium, thorium, radium-226, and radium-228. The laboratory analytical report is included as **Attachment C** and results are summarized in **Table 1**. Solid phase uranium and thorium were detected in both samples collected near compliance well AD-16R as well as both samples collected near background well AD-17, indicating that radium parent phases are present in aquifer solids both upgradient and downgradient of the BASP (**Table 1**). Further, radium-226 and radium-228 isotopes were both directly detected in AD-16R and AD-17 solid phase samples at combined radium concentrations ranging from 0.90 pCi/g to 2.84 pCi/g. Uranium and thorium parent phases constitute potential alternative sources of aqueous radium via radioactive decay. Solid-phase radium constitutes an additional potential source of radium to groundwater via mobilization through mineral dissolution (typically co-precipitated radium within crystal structures of sulfate salts and/or metal oxides) or desorption from solids. The occurrence of these materials in aquifer solids both upgradient and downgradient of the BASP indicate that sources of radium in groundwater are naturally ubiquitous in the subsurface of the Welsh Plant.

Soil samples were collected at 21 locations within the former BASP footprint following the removal of overlying CCR material, the HDPE liner, and 12 inches of underlying soil during

closure activities. Of these samples, 11 were analyzed for solid-phase combined radium (**Attachment D**). Combined radium was detected above the reporting limit in every sample analyzed at concentrations ranging from 1.26 pCi/g to 2.43 pCi/g. These concentrations are comparable to those detected in aquifer solids samples from AD-16R and AD-17 (**Table 1**), indicating that solid-phase combined radium is not elevated in soils that were previously underlying CCR materials relative to background solids. This observation suggests that a component of combined radium exists naturally in soils and aquifer solids throughout the Welsh plant, rather than from a release from the CCR unit.

3.1.2 Radium Solubility at AD-16R

Aqueous radium is moderately soluble in most natural waters, with solubility governed strongly by sulfate complexation and aqueous pH (Iyengar 1990). Aqueous radium is known to be enriched in low pH water (Iyengar 1990, Sanchez et al. 1999) due primarily to the thermodynamic instability of sulfate salt complexes at low pH, which have a high affinity for co-precipitation of aqueous radium. pH levels at monitoring well AD-16R are consistently lowest among all monitoring wells in the BASP network (**Figure 3**). Low pH values at AD-16R generally correlate with elevated combined radium concentrations (**Figure 4**).

3.1.3 AD-16R Comparison to BASP Water

A CCR unit release would be expected to impact the geochemical conditions of downgradient groundwater such that groundwater at compliance monitoring wells would alter to reflect the geochemistry of the CCR source (i.e., BASP water). Major ion chemistry of AD-16R groundwater is shown on a Piper diagram (**Figure 5**) along with a BASP water sample collected in August 2020, which represents the most recently collected BASP water sample prior to pond dewatering (**Attachment E**). This sample reflects final geochemical conditions of BASP water prior to the initiation of closure activities. Piper diagrams represent the relative proportions of major cations and anions in water samples in the lower left and right triangles respectively and provide a combined view in the middle diamond which is created by projecting each triangle's axes onto a singular plot. Placement of data on the diamond therefore does not incorporate the full extent of the data plotted in individual triangles (i.e., movement along one axis in each triangle is not reflected in the diamond).

The geochemical signature of AD-16R groundwater has exhibited some minor variability (particularly among anion proportions) but has remained generally similar throughout the monitoring period, as illustrated by the clustering of sample results on the Piper diagram (**Figure 5**). In the event of a BASP release, AD-16R groundwater chemistry would be expected to shift to reflect the major ion signature of the BASP sample. The cation signature of AD-16R groundwater has remained consistent, and the anion signature has diverged further from the BASP sample since well installation. The lack of a temporal shift towards the BASP sample suggests a lack of influence from the BASP on the groundwater chemistry of AD-16R.

The BASP is not a likely source of combined radium in downgradient groundwater at AD-16R, as the 2020 BASP pond water sample contained lower combined radium concentrations than AD-16R groundwater since monitoring began. The BASP pond water sample contained a combined radium concentration of 0.501 picocuries per liter (pCi/L) (**Attachment E**). This value is approximately six times lower than the minimum combined radium value of 2.98 pCi/L detected at AD-16R.

Based on the above, a release from the BASP is unlikely to be a source of elevated combined radium at AD-16R.

3.1.4 AD-16R Chloride Stability

Chloride is a geochemically conservative parameter that is not readily attenuated in groundwater during advective flow. Chloride concentrations in the groundwater monitoring network wells are unlikely to be modified as a result of geochemical processes common in clastic aquifers. Increases in chloride concentrations at downgradient compliance wells would be expected following a BASP release.

Chloride concentrations at compliance well AD-16R have remained consistent since monitoring began in 2017 (with the exception of one outlier collected in July 2017) and are within the range of concentrations reported at background monitoring locations (**Figure 6**). Chloride was detected in the most recent BASP pond water sample at a concentration of 16.3 mg/L (**Attachment E**), which is more than double the concentrations typically observed at AD-16R. If a release from the BASP had occurred, the effect of physical mixing is likely to be observed in downgradient groundwater chloride concentrations due to the notably greater concentrations detected in the former BASP sample relative to AD-16R groundwater. Concentrations of this geochemically conservative parameter have remained consistently low in AD-16R groundwater since monitoring began, indicating that a release from the former BASP is unlikely to be impacting AD-16R groundwater.

3.1.5 Conceptual Site Model

Radium parent phases uranium and thorium were detected in aquifer solids at depths associated with monitoring well screened intervals in both background and compliance locations within the BASP network. Solid-phase radium isotopes radium-226 and radium-228 were also both detected in these solids, indicating that radium parent phases and radium isotopes are ubiquitous within aquifer solids across the Welsh plant. The lower groundwater pH at AD-16R results in increased solubility (greater aqueous concentrations) of detected geogenic radium and parent phases within aquifer solids at this location.

Additionally, the low combined radium reported value in BASP water as well as observed stability of major ion chemistry and conservative CCR indicator parameters at AD-16R groundwater do not suggest influence from former BASP water. Rather, the combined radium concentrations at AD-16R are attributed to the natural conditions at this location as described above (Type IV cause).

4. CONCLUSIONS AND RECOMMENDATIONS

The preceding information serves as the ASD prepared in accordance with 30 TAC §352.951(e) and supports the position that the combined radium SSL at AD-16R identified during the second semiannual monitoring event of 2024 should be attributed to natural variation and not to a release from the Welsh BASP. Therefore, no further action is warranted. Certification of this ASD by a qualified professional engineer is provided in **Attachment F**.

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TABLES

Table 1 - Aquifer Solids Analytical Results Summary
Alternative Source Demonstration - 2nd Event 2024
Welsh Bottom Ash Storage Pond

Adjacent Monitoring Well	**AD-16R**		**AD-17**	
Well Type	Compliance		Background	
Depth (feet bgs)	14-15	19-20	29-30	33-34
Boron	<1.84	1.93	5.05	<1.81
Thorium	3.93	6.89	5.84	1.52
Uranium	0.436	1.13	1.75	0.325 J
Radium-226	1.04	1.32	1.20	0.526
Radium-228	1.37	1.52	1.21	0.372
Combined Radium	2.41	2.84	2.41	0.90

Notes:
1. Boron, thorium, and uranium are shown in units of milligrams per kilogram (mg/kg).
2. Radium-226 and radium-228 are shown in units of picocuries per gram (pCi/g).
3. Combined radium represents the sum of the radium-226 and radium-228 reported valu
bgs: below ground surface
J: Result is less than the reporting limit but greater than or equal to the method detection limit. Result is an approximate value.
<: Result is less than the indicated method detection limit.

FIGURES



Legend

- Downgradient Sampling Location
- Background Sampling Location
- CCR Units

Notes

- Monitoring well coordinates provided by AEP.
- Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis, 2022).
- Satellite imagery provided by ESRI (Updated on December 19, 2024).
- AEP: American Electric Power
- CCR: Coal combustion residuals

500 250 0 500 Feet

Site Layout
Bottom Ash Storage Pond

AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2024/12/19

Figure **1**

A:\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\AEP-Welsh_Updated_BASP_Site_Layout.mxd. Okiemute.Commander. 12/19/2024. CHA8423/14/08.



Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction
- CCR Units

Notes

1. Monitoring well coordinates and water level data (collected on September 8, 9, and 10, 2024) provided by AEP.
2. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis 2022).
3. Groundwater elevation units are feet above mean sea level (ft amsl).
4. Aerial imagery provided by Google Earth Pro, dated December 29, 2023.

500 250 0 500 Feet

Beth Ann Gross

1/13/2025
Geosyntec Consultants, Inc. Texas
Firm Registration No. 1182

STATE OF TEXAS
BETH ANN GROSS
79864
LICENSED
PROFESSIONAL ENGINEER

Groundwater Potentiometric Map
September 2024

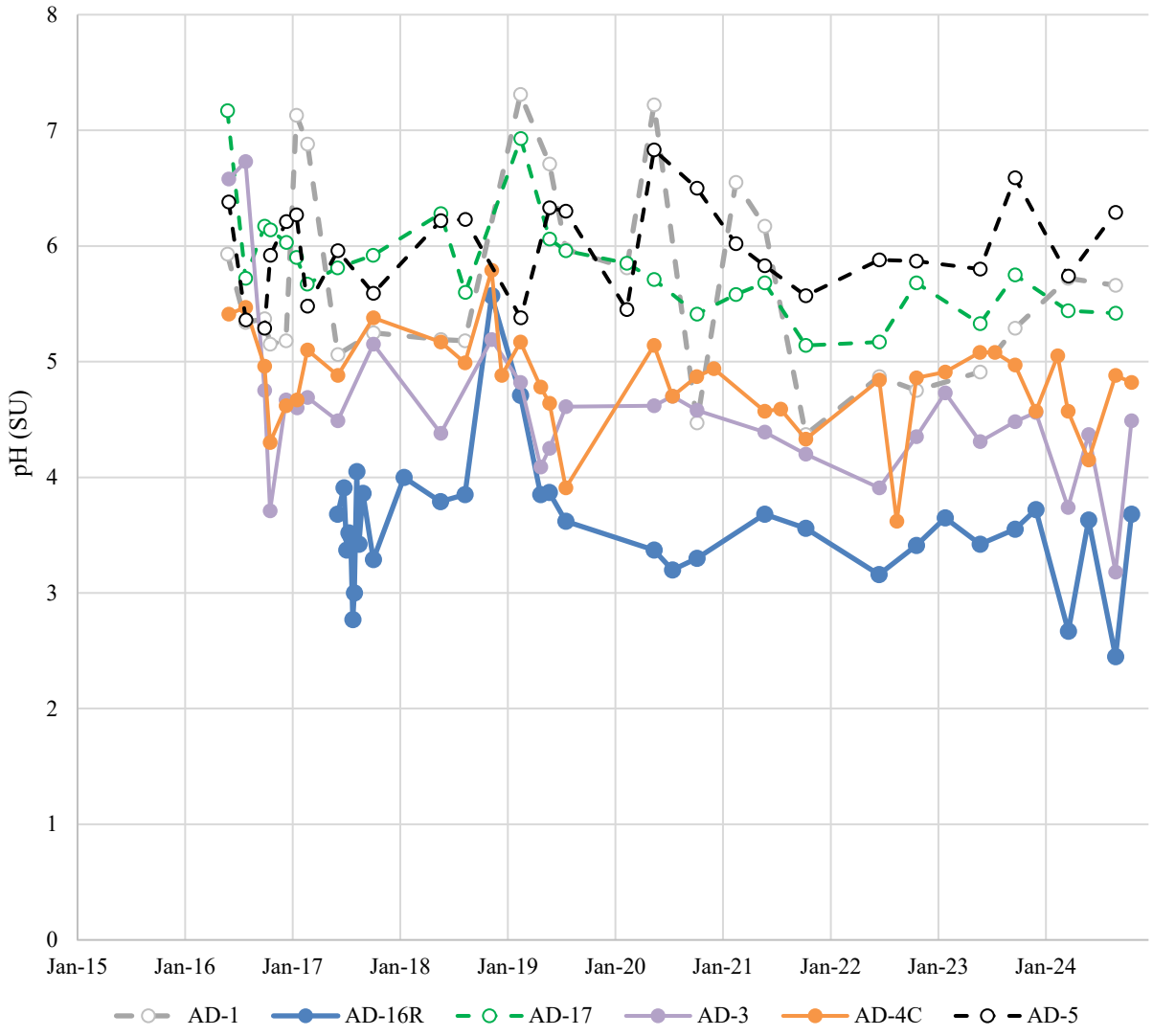
AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2025/01/13

Figure
2

\\annarbor-01\Data\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2024\AEP-Welsh_GW_2024-09Sep.mxd. ASoltero. 1/13/2025. CHA8423/14/08.



Notes: pH time series diagram for BASP background wells AD-1, AD-5, and AD-17 (dashed lines) and downgradient wells AD-16R, AD-3, and AD-4C (solid lines). Data collected as part of the federal coal combustion residuals (CCR) program. Results are shown in standard units (SU).

pH Time Series Graph
Welsh Bottom Ash Storage Pond

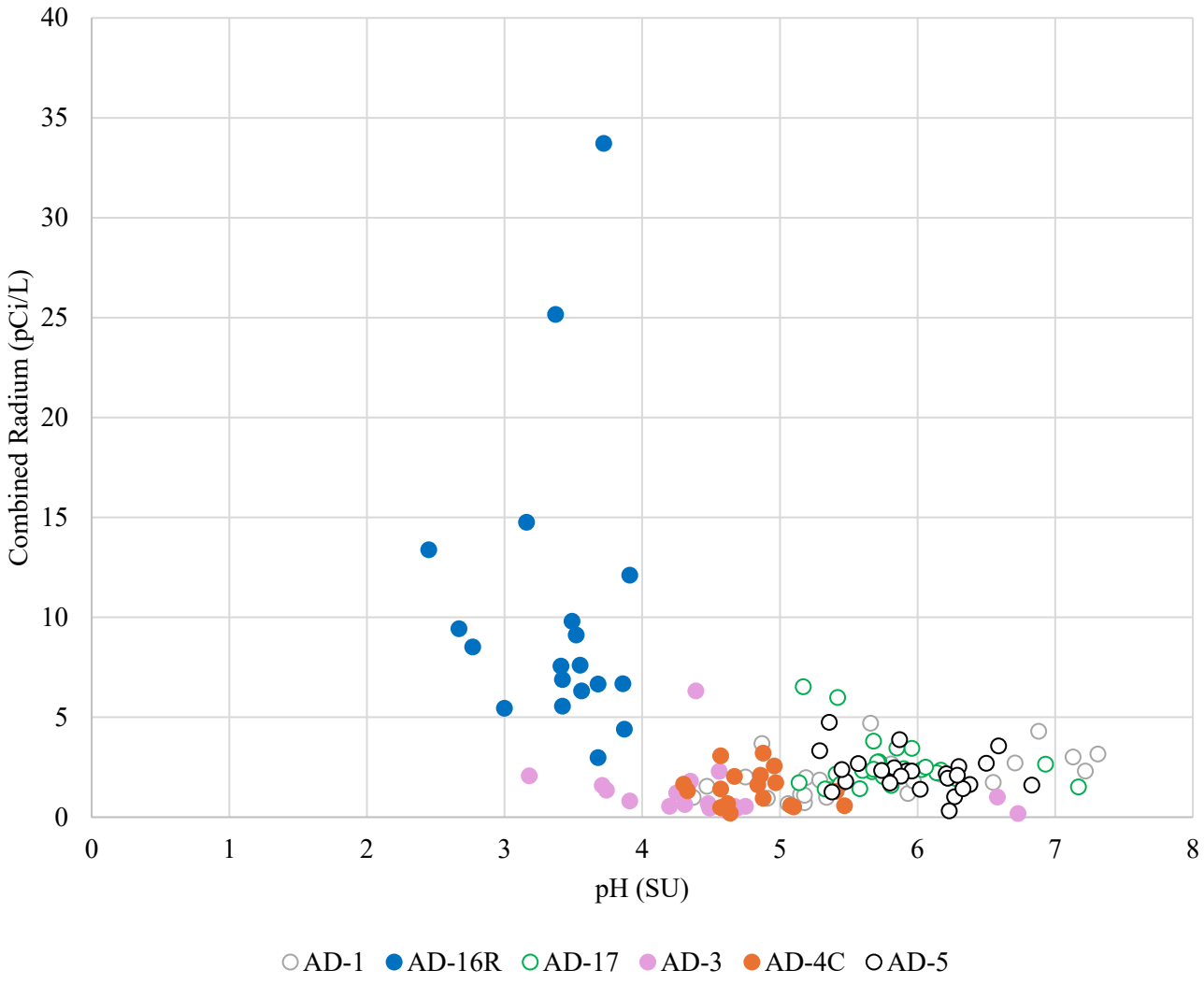
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Columbus, Ohio

March 2025

Figure **3**



Notes: Combined radium reflects the summed individual values for radium-226 and radium-228. pH values are measured in the field during monitoring events. Data are collected as part of the federal coal combustion residuals (CCR) program. pH values are shown in standard units (SU). Combined radium values are shown in picocuries per liter (pCi/L).

pH vs Combined Radium
Welsh Bottom Ash Storage Pond

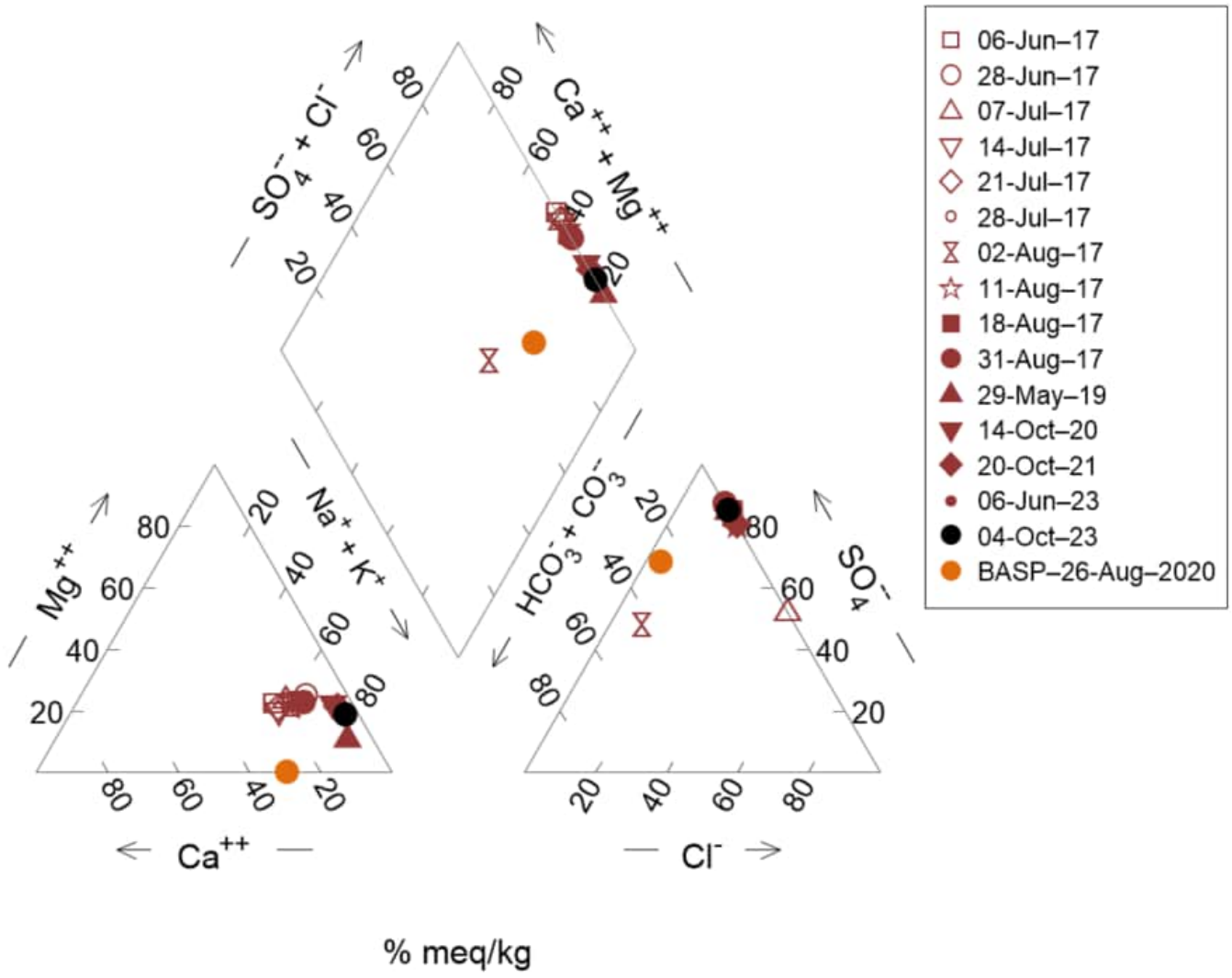
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Figure **4**

Columbus, Ohio

March 2025



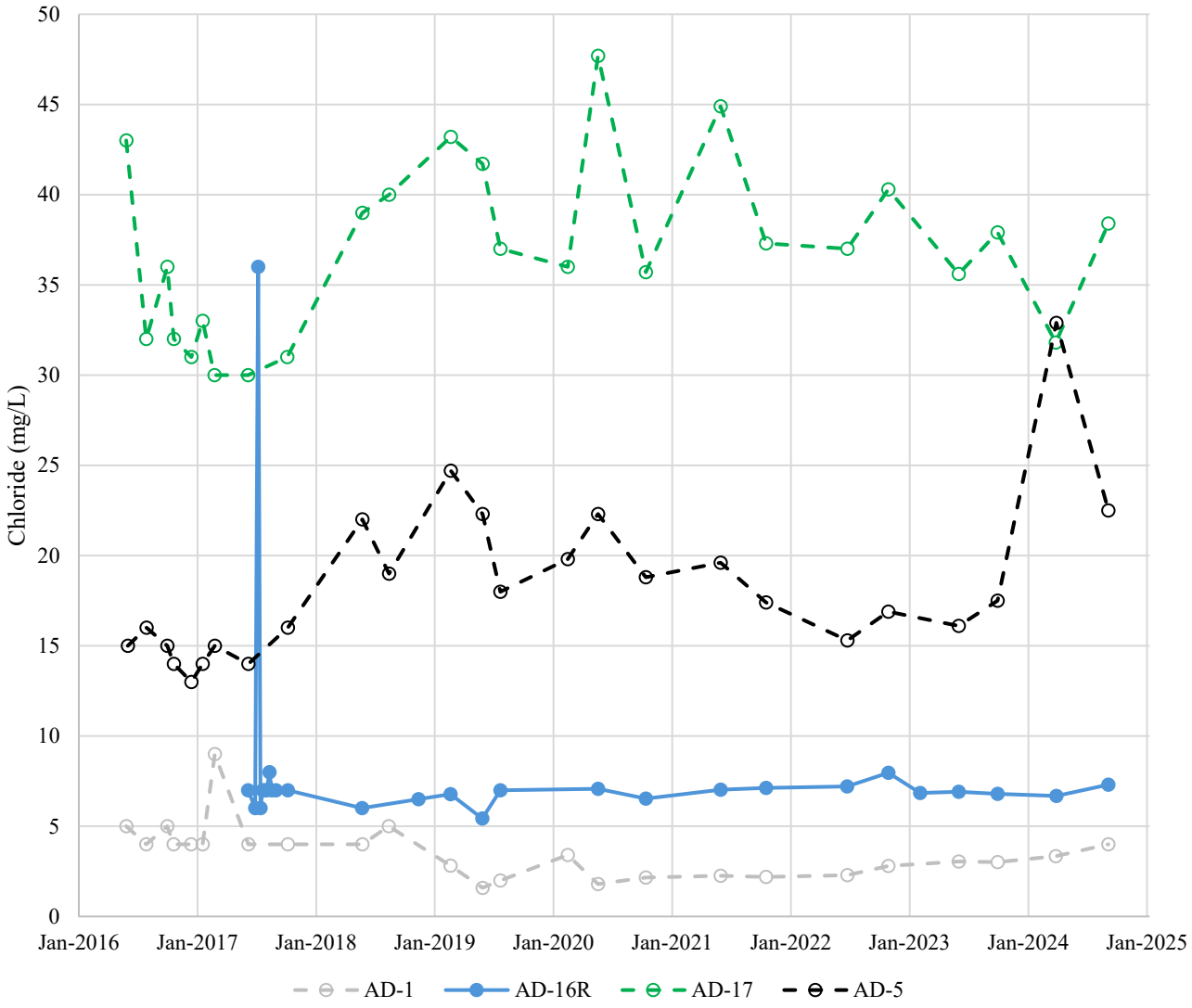
Notes: Historical geochemical data from monitoring well AD-16R which contain analytical results for all major ions are plotted on the Piper diagram along with the most recent Bottom Ash Storage Pond (BASP) sample. Results are shown in milliequivalents per kilogram (meq/kg).

AD-16R Piper Diagram
Welsh Bottom Ash Storage Pond

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Columbus, Ohio | March 2025

Figure **5**



Notes: Chloride time series diagram for BASP background wells AD-1, AD-5, and AD-17 (dashed lines) and downgradient well AD-16R (solid line). Data collected as part of the federal coal combustion residuals (CCR) program. Results are shown in milligrams per liter (mg/L).

Chloride Time Series Graph

Welsh Bottom Ash Storage Pond

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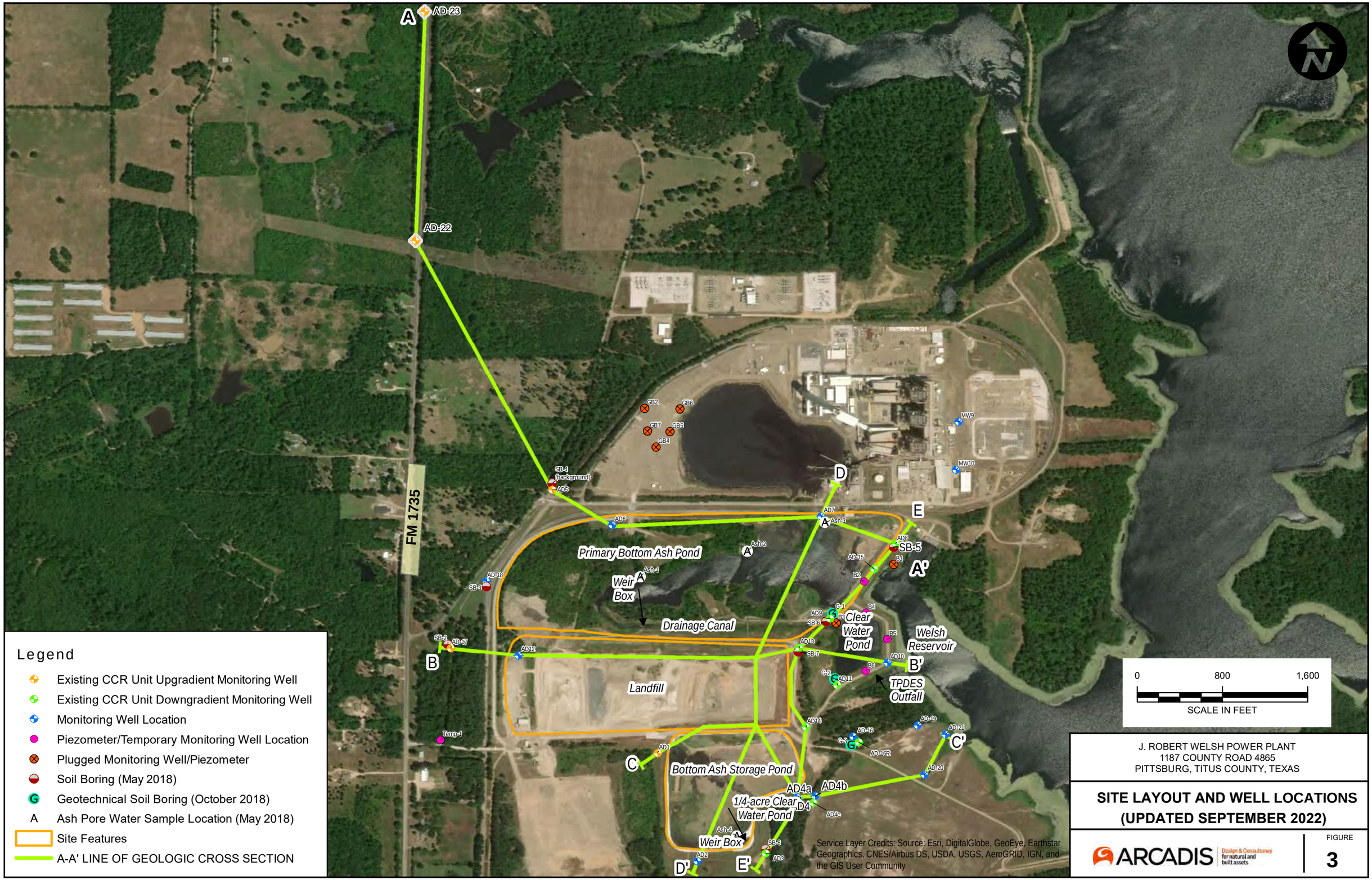
Columbus, Ohio

March 2025

Figure 6

ATTACHMENT A
Geologic Cross Sections

Document Path: Z:\GISProjects_ENV\AEP\Welsh Plant\MXD\Landfill report\September 2019\Fig2-3-Cross Section LocationsREV.mxd



J. ROBERT WELSH POWER PLANT
1187 COUNTY ROAD 4865
PITTSBURG, TITUS COUNTY, TEXAS

SITE LAYOUT AND WELL LOCATIONS (UPDATED SEPTEMBER 2022)

ARCADIS Design & Consultancy for natural and built assets

FIGURE
3

Cross sections excerpted from "Bottom Ash Storage Pond - CCR Groundwater Monitoring Well Network Evaluation", Rev 3: 11-2022. Arcadis.

CITY: DIV/GROUP: DB: LD: AM: PD: TM: TR: LYR:ON=*;OFF=*REF*
C:\Users\bsmith\OneDrive - ARCADIS\BIM360 - OneDrive Sync Location\AUS-AEP-J. ROBERT WELSH POWER PLANT-PITTSBURG Texas\2022\01-In Progress\01-DWG\Figure 6 Cross Section C-C'.dwg LAYOUT: C-C SAVED: 9/28/2022 11:33 AM ACADVER: 24.2S (LMS TECH) PAGESETUP: -
PLOTSTYLETABLE: ACAD.CTB PLOTTED: 9/28/2022 11:49 AM BY: SMITH, BOB

WEST

C

EAST

C'

BOTTOM ASH STORAGE POND

WELSH RESERVOIR

370'
360'
350'
340'
330'
320'
310'
300'

PERIMETER ROAD (EL. 360')

PERIMETER ROAD (EL. 360')

AD-1

B-12

B-13

AD-4A

AD-4B AD-4C

AD-20

AD-21

SILTY CLAY AND SANDY CLAY, BROWN TO GRAY.

CLAYEY SAND, DRY

BOTTOM ASH STORAGE 60-ML. HDPE LINER (PROJECTED)

SANDY SILT AND SILTY SAND, VERY FINE TO FINE GRAINED, GRAY TO TAN.

SANDY CLAY

REDDISH BROWN TO GRAY, SILTY CLAY.

DARK GRAY SILTY, SANDY CLAY.
(confining unit)

RECKLAW FORMATION
(AVERAGE HYDRAULIC CONDUCTIVITY = 0.95 ft/day)
(EFFECTIVE POROSITY = 0.21)

ELEVATION (FEET MSL)

ELEVATION (FEET MSL)

NOTES:
1. BASE OF BOTTOM ASH STORAGE HAS A 60-MIL. HDPE LINER AT ELEVATION 340.0', TAKEN FROM FREESE AND NICHOLS "HYDRAULIC ANALYSIS OF WELSH POWER PLANT ASH PONDS, AMERICAN ELECTRIC POWER COMPANY", DATED DECEMBER 2010.
2. HYDRAULIC CONDUCTIVITY CALCULATED BASED ON ON-SITE AQUIFER TEST OF MONITORING WELL AD-6 ON 9-17-21; AND SLUG TESTING OF MONITORING WELLS AD-6, AD-9, AD-13, AD-17, AND AD-19 DURING OCTOBER 2018.
3. EFFECTIVE POROSITY ESTIMATED AT 0.21 BASED ON SITE LITHOLOGY. SITE SPECIFIC YIELD FOR FINE SAND, REFERENCE: C. W. FETTER, "APPLIED HYDROGEOLOGY", UNIVERSITY OF WISCONSIN - OSHKOSH, 1980.

STATE OF TEXAS
Kenneth J. Brandner
Geology
1787
LICENSED PROFESSIONAL GEOSCIENTIST

9-29-22

LEGEND

MONITORING WELL SCREENED INTERVAL

WATER LEVEL IN MONITORING WELL (10/29/18)

PROJECTED BASE OF ASH STORAGE (SEE NOTE)

0 200'
HORIZONTAL SCALE

J. ROBERT WELSH POWER PLANT
1187 COUNTY ROAD 4865
PITTSBURG, TITUS COUNTY, TEXAS

CROSS SECTION
C - C'
(UPDATED SEPTEMBER 2022)

ARCADIS

FIGURE 6

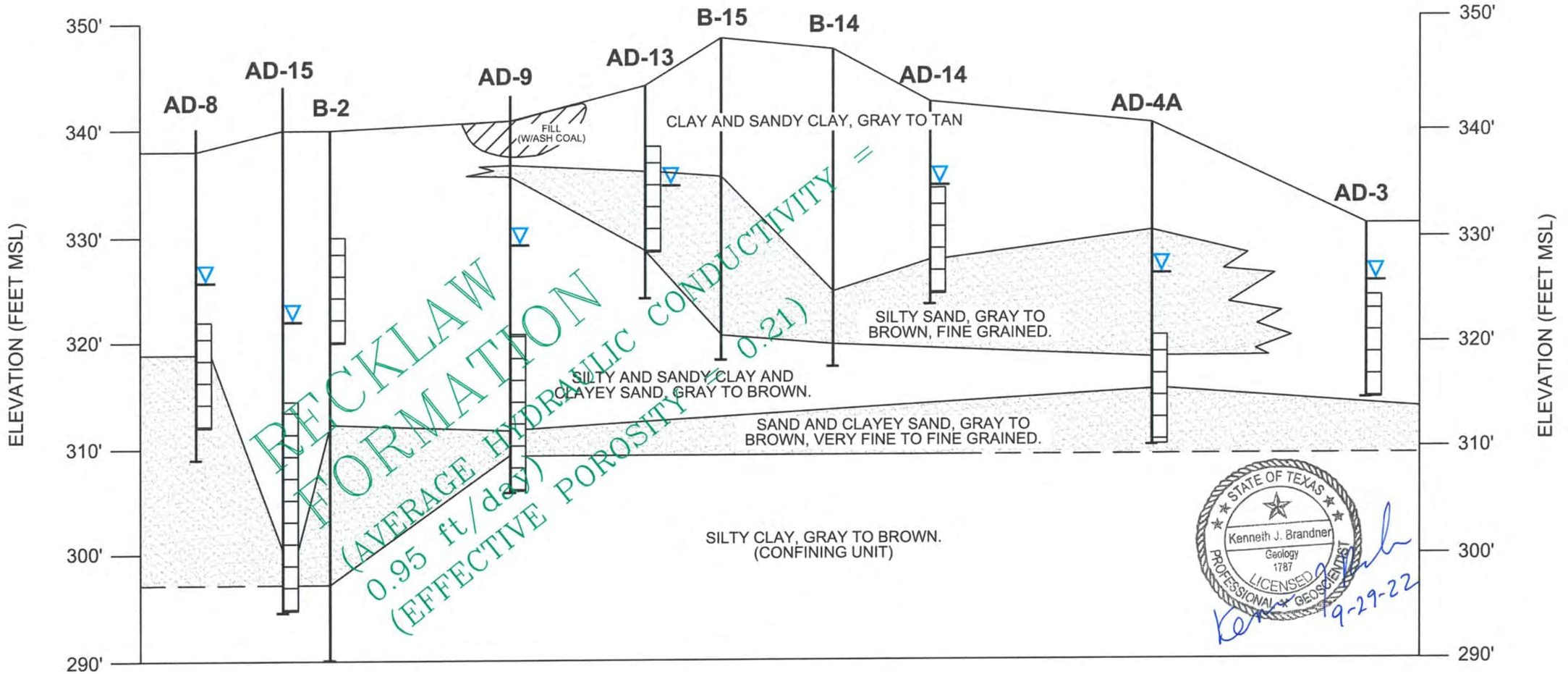
Cross sections excerpted from "Bottom Ash Storage Pond - CCR Groundwater Monitoring Well Network Evaluation", Rev 3: 11-2022. Arcadis.

NORTH

E

SOUTH

E'



RECKLAW FORMATION
(AVERAGE HYDRAULIC CONDUCTIVITY = 0.95 ft/day)
(EFFECTIVE POROSITY = 0.21)

STATE OF TEXAS
Kenneth J. Brandner
Geology
1787
LICENSED
PROFESSIONAL GEOSCIENTIST
9-29-22

NOTES:
1. BASE OF ASH POND TAKEN FROM "WELSH POWER PLANT-UNIT 1 FLY ASH STORAGE AREA PHASE I " DRAWING ID WEPX-88, DATED 12-3-76; AND U.S. GEOLOGICAL SURVEY 7 1/2 MINUTE SERIES TOPOGRAPHIC MAP, CASON, TX QUADRANGLE, 1964 (PHOTO REVISED 1980).
2. HYDRAULIC CONDUCTIVITY CALCULATED BASED ON ON-SITE AQUIFER TEST OF MONITORING WELL AD-6 ON 9-17-21; AND SLUG TESTING OF MONITORING WELLS AD-6, AD-9, AD-13, AD-17, AND AD-19 DURING OCTOBER 2018.
3. EFFECTIVE POROSITY ESTIMATED AT 0.21 BASED ON SITE LITHOLOGY. SITE SPECIFIC YIELD FOR FINE SAND, REFERENCE: C. W. FETTER, "APPLIED HYDROGEOLOGY", UNIVERSITY OF WISCONSIN - OSHKOSH, 1980.

LEGEND

MONITORING WELL SCREENED INTERVAL

WATER LEVEL IN MONITORING WELL (3/4/16)

0 300'
HORIZONTAL SCALE

J. ROBERT WELSH POWER PLANT
1187 COUNTY ROAD 4865
PITTSBURG, TITUS COUNTY, TEXAS

CROSS SECTION
E - E'
(UPDATED SEPTEMBER 2022)

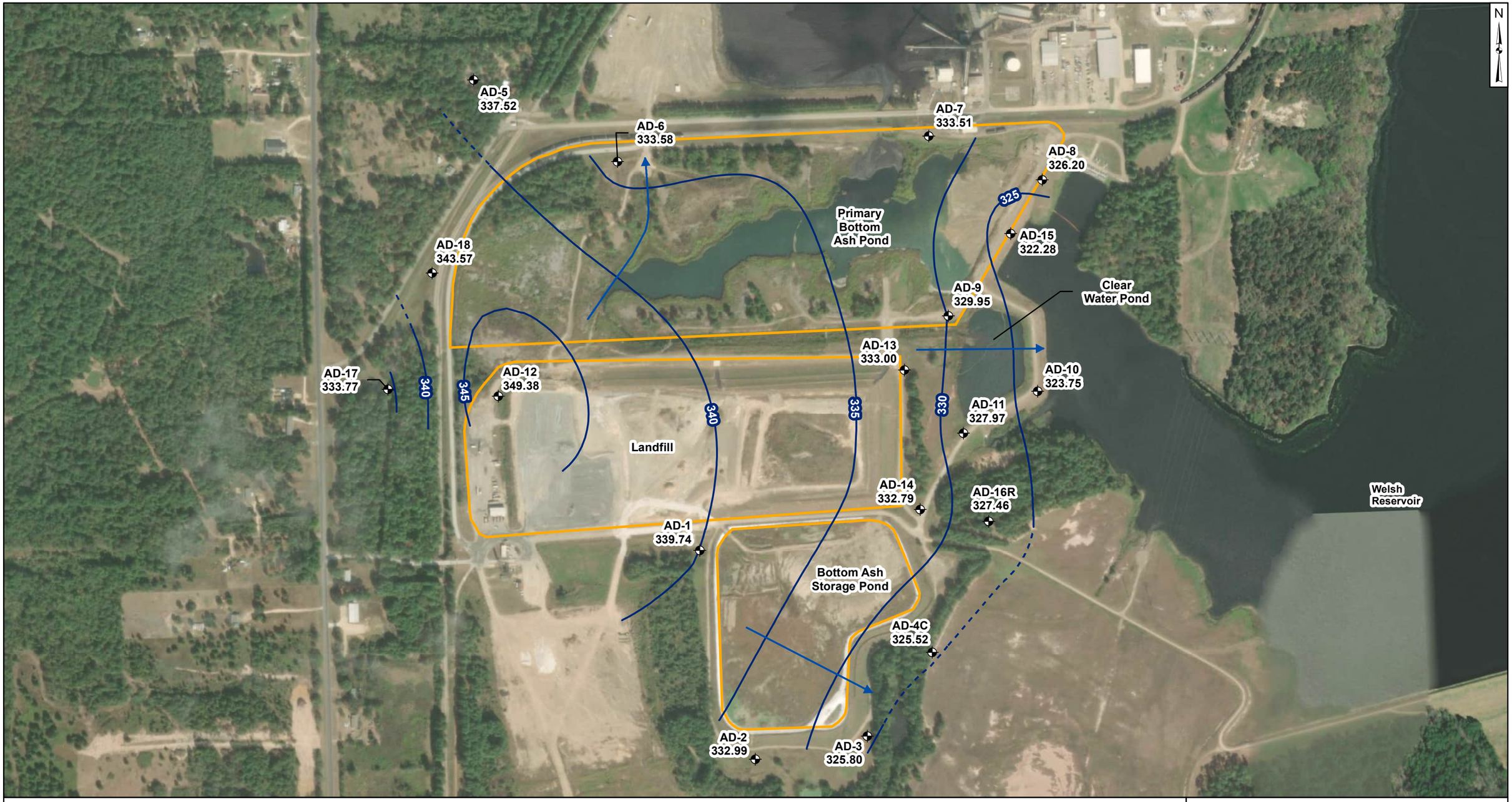
ARCADIS

FIGURE
8

CITY: DIVIGROUP: DB: LD: AM: PD: TM: TR: LYR:ON=*;OFF=*REF*
C:\Users\asmith\OneDrive - ARCADIS\BIM360 - OneDrive Sync Location\AIS-AEP-J. ROBERT WELSH POWER PLANT-PITTSBURG Texas\2022\01-In Progress\01-DWG\Figure 8 Cross Section E-E'.dwg LAYOUT: E-E SAVED: 9/27/2022 10:43 AM ACADVER: 24.25 (LMS TECH) PAGESETUP: —
PLOTSTYLETABLE: ACAD.CTB PLOTTED: 9/28/2022 11:46 AM BY: SMITH, BOB

Cross sections excerpted from "Bottom Ash Storage Pond - CCR Groundwater Monitoring Well Network Evaluation", Rev 3: 11-2022. Arcadis.

ATTACHMENT B
Historical Potentiometric Maps



Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction
- CCR Units

Notes

1. Monitoring well coordinates and water level data (collected on February 6 and 7, 2023) provided by AEP.
2. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis 2022).
3. Groundwater elevation units are feet above mean sea level.
4. Satellite imagery provided by ESRI.

500 250 0 500 Feet

STATE OF TEXAS
BETH ANN GROSS
79864
LICENSED
PROFESSIONAL ENGINEER

Beth Ann Gross

November 30, 2023

Geosyntec Consultants, Inc.
Texas Firm Registration No. 1182

Groundwater Potentiometric Map
February 2023

AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2023/11/30

Figure
B-1

\\annarbor-01\Data\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2023\AEP-Welsh_GW_2023-02Feb.mxd. ASoltero. 11/30/2023. CHA8423/14/08.

AD-5
336.58

AD-6
333.20

AD-7
333.59

AD-8
325.51

Primary
Bottom
Ash Pond

AD-15
321.42

335

340

330

325

AD-18
342.25

Clear
Water Pond

AD-9
328.86

AD-13
330.98

AD-10
323.40

AD-12

335

AD-17
333.87

AD-11
327.20

Landfill

AD-14
330.04

Welsh
Reservoir

AD-1
339.19

AD-16R
327.51

Bottom Ash
Storage Pond

AD-4C
324.44

AD-2
331.15

AD-3
324.06

N

Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction
- CCR Units

Notes

1. Monitoring well coordinates and water level data (collected on June 6, 2023) provided by AEP.
2. AD-12 was not gauged during the June 2023 event.
3. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis 2022).
4. Groundwater elevation units are feet above mean sea level.
5 Satellite imagery provided by ESRI.

500 250 0 500 Feet

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BETH ANN GROSS
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LICENSED
PROFESSIONAL ENGINEER

Beth Ann Gross

November 30, 2023

Geosyntec Consultants, Inc.
Texas Firm Registration No. 1182

Groundwater Potentiometric Map
June 2023

AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2023/11/30

Figure
B-2

\\annarbor-01\Data\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2023\AEP-Welsh_GW_2023-06June.mxd. ASoltero. 11/30/2023. CHA8423/14/08.

AD-5
AD-7
AD-6
AD-8
335
AD-15
340
AD-18
330
325
AD-9
AD-13
AD-17
AD-12
AD-10
AD-11
AD-14
AD-16R
Welsh Reservoir
AD-1
AD-4C
324.76
AD-2
AD-3
N

Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction
- CCR Units

Notes

1. Monitoring well coordinates and water level data (collected on July 27, 2023) provided by AEP.
2. Only well AD-04C was gauged during the July 2023 verification event.Groundwater contours based on June 2023 sampling event.
3. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis, 2018).
4. Groundwater elevation units are feet above mean sea level.
5 Satellite imagery provided by ESRI.

500 250 0 500 Feet

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Beth Ann Gross

November 29, 2023

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Texas Firm Registration No. 1182

Groundwater Potentiometric Map
July 2023

AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2023/11/29

Figure
B-3

\\annarbor-01\Data\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2023\AEP-Welsh_GW_2023-07July_ver.mxd. ASoltero. 11/29/2023. CHA8423/14/08.



Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction
- CCR Units

Notes

1. Monitoring well coordinates and water level data (collected on October 3 and 4, 2023) provided by AEP.
2. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis 2022).
3. Groundwater elevation units are feet above mean sea level.
4. Satellite imagery provided by ESRI.

500 250 0 500 Feet

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November 30, 2023

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Texas Firm Registration No. 1182

Groundwater Potentiometric Map
October 2023

AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2023/11/30

Figure **B-4**

\\annarbor-01\Data\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2023\AEP-Welsh_GW_2023-10Oct.mxd. ASoltero. 11/30/2023. CHA8423/14/08.



Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction
- CCR Units

Notes

1. Monitoring well coordinates and water level data (collected on December 14, 2023) provided by AEP.
2. Only wells AD-3, AD-4C, and AD-16R were gauged during the December 2023 verification event. Groundwater contours based on October 2023 sampling event.
3. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis, 2018).
4. Groundwater elevation units are feet above mean sea level.
5 Aerial imagery provided by Google Earth Pro, dated December 29, 2023.

500 250 0 500
Feet

STATE OF TEXAS
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PROFESSIONAL ENGINEER

Beth Ann Gross
February 19, 2024

Geosyntec Consultants, Inc.
Texas Firm Registration No. 1182

Groundwater Potentiometric Map
December 2023

AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2024/12/23

Figure
B-5

A:\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2023\AEP-Welsh_GW_2023-12Dec_ver.mxd. Okiemute.Commander. 12/23/2024. CHA8423/14/08.



Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction
- CCR Units

Notes

1. Monitoring well coordinates and water level data (collected on February 26, 2024) provided by AEP.
2. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis 2022).
3. Groundwater elevation units are feet above mean sea level (ft amsl).
4. Satellite imagery provided by ESRI (updated February 19, 2024).

500 250 0 500 Feet

Beth Ann Gross

August 19, 2024
Geosyntec Consultants, Inc.
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No. 1182

STATE OF TEXAS
BETH ANN GROSS
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PROFESSIONAL ENGINEER

Groundwater Potentiometric Map
February 2024

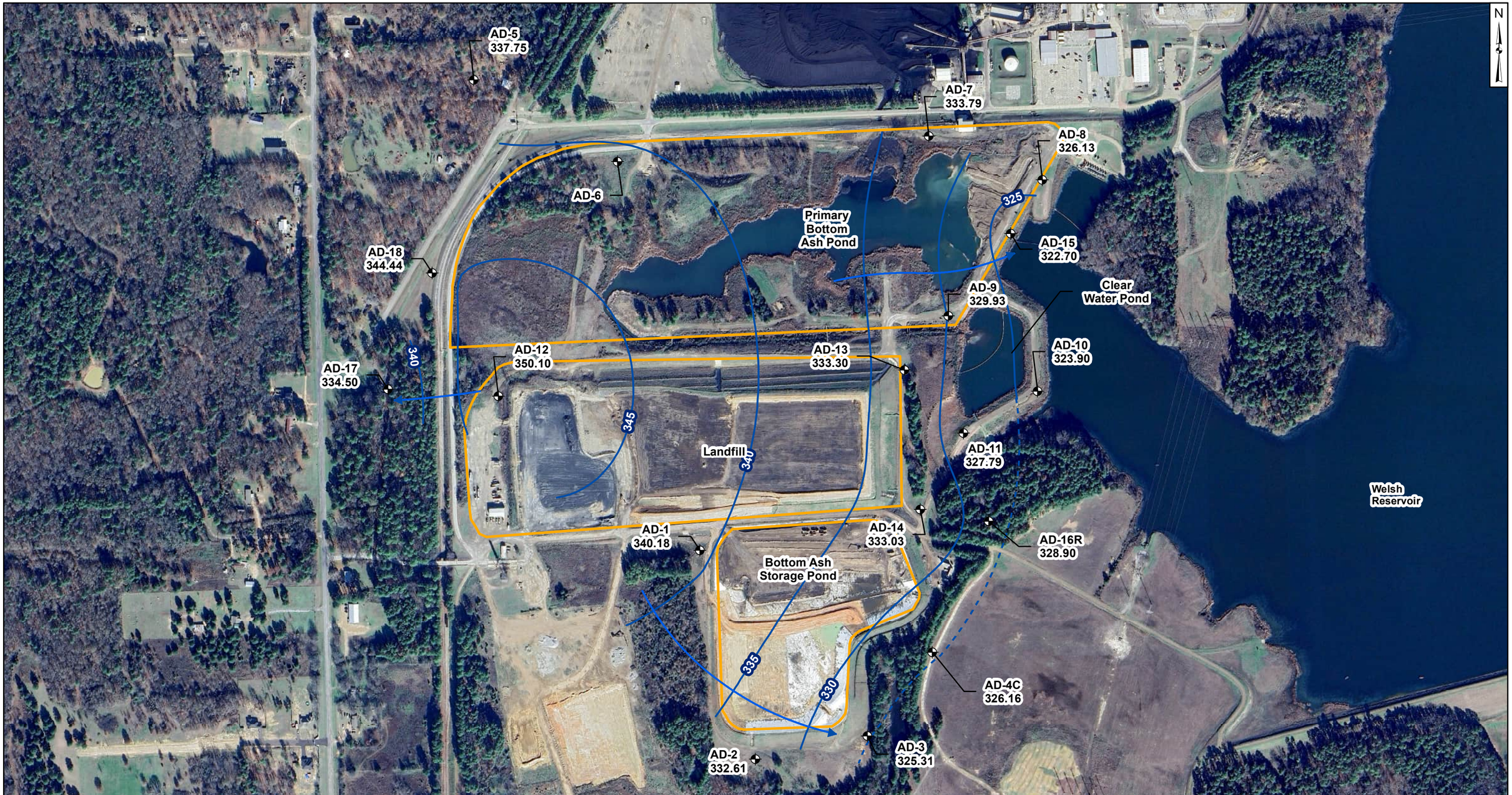
AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2024/07/16

Figure
B-6

A:\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2024\AEP-Welsh_GW_2024-02Feb.mxd. Okiemute.Commander. 7/16/2024. CHA8423/14/08.



Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction
- CCR Units

Notes

1. Monitoring well coordinates and water level data (collected on April 1 and 2, 2024) provided by AEP.
2. AD-6 was not gauged during the April 2024 event
3. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis 2022).
4. Groundwater elevation units are feet above mean sea level (ft amsl).
5. Satellite imagery provided by ESRI (updated February 19, 2024).

500 250 0 500 Feet

Beth Ann Gross

August 19, 2024
Geosyntec Consultants, Inc.
Texas Firm Registration
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STATE OF TEXAS
BETH ANN GROSS
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Groundwater Potentiometric Map
April 2024

AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2024/06/14

Figure
B-7

A:\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2024\AEP-Welsh_GW_2024-04Apr.mxd. Okiemute.Commander. 6/14/2024. CHA8423/14/08.



Legend

- Groundwater Monitoring Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction
- CCR Units

Notes

1. Monitoring well coordinates and water level data (collected on September 8, 9, and 10, 2024) provided by AEP.
2. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation (Arcadis 2022).
3. Groundwater elevation units are feet above mean sea level (ft amsl).
4. Aerial imagery provided by Google Earth Pro, dated December 29, 2023.

500 250 0 500 Feet

Beth Ann Gross

1/13/2025
Geosyntec Consultants, Inc. Texas
Firm Registration No. 1182

STATE OF TEXAS
BETH ANN GROSS
79864
LICENSED
PROFESSIONAL ENGINEER

Groundwater Potentiometric Map
September 2024

AEP Welsh Power Plant
Cason, Texas

Geosyntec consultants

Columbus, Ohio | 2025/01/13

Figure
B-8

\\annarbor-01\Data\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Welsh\2024\AEP-Welsh_GW_2024-09Sep.mxd. ASoltero. 1/13/2025. CHA8423/14/08.

ATTACHMENT C
Laboratory Analytical Report – Aquifer Solids

ANALYTICAL REPORT

PREPARED FOR

Attn: Allison Kreinberg
Geosyntec Consultants Inc
500 West Wilson Bridge Road
Suite 250
Worthington, Ohio 43085

Generated 1/9/2025 10:43:38 PM

JOB DESCRIPTION

AEP Welsh

JOB NUMBER

820-16585-1

Eurofins Lubbock
6701 Aberdeen Ave.
Suite 8
Lubbock TX 79424

See page two for job notes and contact information.

Eurofins Lubbock

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



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1/9/2025 10:43:38 PM

Authorized for release by
Holly Taylor, Project Manager
Holly.Taylor@et.eurofinsus.com
(806)794-1296

Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
Case Narrative 5
Client Sample Results 7
QC Sample Results 9
QC Association Summary 11
Lab Chronicle 13
Certification Summary 15
Method Summary 16
Sample Summary 17
Chain of Custody 18
Receipt Checklists 21

Definitions/Glossary

Client: Geosyntec Consultants Inc
Job ID: 820-16585-1
Project/Site: AEP Welsh

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Job Narrative
820-16585-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 12/12/2024 9:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.1°C.

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

Gamma Spectroscopy
Method GA_01_R_Ra: Gamma Prep Batch 160-694203:

The sample results for AD-16R-RELOG-14'-15' (820-16585-1), AD-16R-RELOG-19'-20' (820-16585-2), AD-17-RELOG-29'-30' (820-16585-3) and AD-17-RELOG-33'-34' (820-16585-4) are based upon sample as received (i.e. wet weight).

Method GA_01_R_Ra: Gamma Prep Batch 160-694203
Many isotopes requested by gamma spectrometry analysis do not have any gamma emissions, the gamma emissions they do have are very poor, and/or are reported by assuming secular equilibrium with a longer-lived parent (or vice-versa). For example, Th-232 (which does not have a good gamma-ray) is often reported assuming the shorter-lived Ra-228 daughter is in equilibrium with the Th-232 parent. Or, Pb-214 and/or Bi-214, daughters of potentially volatile Rn-222 in the Ra-226 decay chain, may not be in equilibrium with the parent unless sufficient time has been allowed since the break in equilibrium (e.g. 21 days in the case of Ra-226-supported ingrowth). The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

AD-16R-RELOG-14'-15' (820-16585-1), AD-16R-RELOG-19'-20' (820-16585-2), AD-17-RELOG-29'-30' (820-16585-3), AD-17-RELOG-33'-34' (820-16585-4), (570-210742-A-1-A) and (570-210742-A-1-B DU)

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

Client Sample ID: AD-16R-RELOG-14'-15'
Lab Sample ID: 820-16585-1

Date Collected: 12/11/24 08:10
Matrix: Solid
Date Received: 12/12/24 09:00

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<1.84	U	4.24	1.84	mg/Kg		12/18/24 11:11	12/18/24 14:56	5
Thorium	3.93		0.424	0.424	mg/Kg		01/08/25 17:45	01/09/25 12:04	5
Uranium	0.436		0.424	0.119	mg/Kg		12/18/24 11:11	12/18/24 14:56	5

Method: DOE GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.04		0.207	0.231	1.00	0.166	pCi/g	12/17/24 15:34	01/07/25 14:34	1
Radium-228	1.37		0.286	0.316		0.116	pCi/g	12/17/24 15:34	01/07/25 14:34	1

Client Sample ID: AD-16R-RELOG-19'-20'
Lab Sample ID: 820-16585-2

Date Collected: 12/11/24 08:20
Matrix: Solid
Date Received: 12/12/24 09:00

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.93	J	4.24	1.84	mg/Kg		12/18/24 11:11	12/19/24 12:37	5
Thorium	6.89		0.424	0.424	mg/Kg		01/08/25 17:45	01/09/25 12:10	5
Uranium	1.13		0.424	0.119	mg/Kg		12/18/24 11:11	12/18/24 15:12	5

Method: DOE GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.32		0.228	0.263	1.00	0.200	pCi/g	12/17/24 15:34	01/07/25 15:50	1
Radium-228	1.52		0.362	0.390		0.243	pCi/g	12/17/24 15:34	01/07/25 15:50	1

Client Sample ID: AD-17-RELOG-29'-30'
Lab Sample ID: 820-16585-3

Date Collected: 12/11/24 09:50
Matrix: Solid
Date Received: 12/12/24 09:00

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5.05		4.39	1.91	mg/Kg		12/18/24 11:11	12/19/24 12:39	5
Thorium	5.84		0.439	0.439	mg/Kg		01/08/25 17:45	01/09/25 12:11	5
Uranium	1.75		0.439	0.123	mg/Kg		12/18/24 11:11	12/18/24 15:14	5

Method: DOE GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.20		0.204	0.236	1.00	0.182	pCi/g	12/17/24 15:34	01/07/25 16:27	1
Radium-228	1.21		0.276	0.300		0.148	pCi/g	12/17/24 15:34	01/07/25 16:27	1

Client Sample ID: AD-17-RELOG-33'-34'
Lab Sample ID: 820-16585-4

Date Collected: 12/11/24 10:10
Matrix: Solid
Date Received: 12/12/24 09:00

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<1.81	U	4.17	1.81	mg/Kg		12/18/24 11:11	12/19/24 12:41	5

Client: Geosyntec Consultants Inc
Job ID: 820-16585-1
Project/Site: AEP Welsh

Client Sample ID: AD-17-RELOG-33'-34'
Lab Sample ID: 820-16585-4
Date Collected: 12/11/24 10:10
Matrix: Solid
Date Received: 12/12/24 09:00

Method: SW846 6020B - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thorium	1.52		0.417	0.417	mg/Kg		01/08/25 17:45	01/09/25 12:12	5
Uranium	0.325	J	0.417	0.117	mg/Kg		12/18/24 11:11	12/18/24 15:16	5

Method: DOE GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.526		0.131	0.141	1.00	0.112	pCi/g	12/17/24 15:34	01/07/25 18:10	1
Radium-228	0.372		0.233	0.236		0.242	pCi/g	12/17/24 15:34	01/07/25 18:10	1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 860-206256/1-A
Matrix: Solid
Analysis Batch: 206368

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 206256

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.435	U	1.00	0.435	mg/Kg		12/18/24 11:11	12/18/24 14:50	1
Uranium	<0.0281	U	0.100	0.0281	mg/Kg		12/18/24 11:11	12/18/24 14:50	1

Lab Sample ID: LCS 860-206256/2-A
Matrix: Solid
Analysis Batch: 206368

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 206256

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	10.0	9.943		mg/Kg		99	80 - 120
Uranium	2.49	2.387		mg/Kg		96	80 - 120

Lab Sample ID: LCSD 860-206256/3-A
Matrix: Solid
Analysis Batch: 206368

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 206256

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	10.0	10.20		mg/Kg		102	80 - 120	3	20
Uranium	2.49	2.372		mg/Kg		95	80 - 120	1	20

Lab Sample ID: 820-16585-1 MS
Matrix: Solid
Analysis Batch: 206368

Client Sample ID: AD-16R-RELOG-14'-15'
Prep Type: Total/NA
Prep Batch: 206256

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	<1.84	U	8.33	6.304		mg/Kg		76	75 - 125
Uranium	0.436		2.07	2.209		mg/Kg		86	75 - 125

Lab Sample ID: 820-16585-1 MSD
Matrix: Solid
Analysis Batch: 206368

Client Sample ID: AD-16R-RELOG-14'-15'
Prep Type: Total/NA
Prep Batch: 206256

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	<1.84	U	8.77	7.187		mg/Kg		82	75 - 125	13	20
Uranium	0.436		2.18	2.328		mg/Kg		87	75 - 125	5	20

Lab Sample ID: MB 860-209800/1-A
Matrix: Solid
Analysis Batch: 209977

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209800

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thorium	<0.100	U	0.100	0.100	mg/Kg		01/08/25 17:45	01/09/25 12:00	1

Lab Sample ID: LCS 860-209800/2-A
Matrix: Solid
Analysis Batch: 209977

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209800

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Thorium	5.00	4.580		mg/Kg		92	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 860-209800/3-A
Matrix: Solid
Analysis Batch: 209977

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 209800

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thorium			5.00	4.531		mg/Kg		91	80 - 120	1	20

Lab Sample ID: 820-16585-1 MS
Matrix: Solid
Analysis Batch: 209977

Client Sample ID: AD-16R-RELOG-14'-15'
Prep Type: Total/NA
Prep Batch: 209800

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Thorium	3.93		4.17	8.774		mg/Kg		116	75 - 125		

Lab Sample ID: 820-16585-1 MSD
Matrix: Solid
Analysis Batch: 209977

Client Sample ID: AD-16R-RELOG-14'-15'
Prep Type: Total/NA
Prep Batch: 209800

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Thorium	3.93		4.39	8.997		mg/Kg		116	75 - 125	3	20

Method: GA-01-R - Radium-226 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-694203/1-A
Matrix: Solid
Analysis Batch: 697154

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 694203

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.08231	U	0.264	0.264	1.00	0.456	pCi/g	12/17/24 15:34	01/07/25 13:13	1
Radium-228	-0.1363	U	0.298	0.298		0.456	pCi/g	12/17/24 15:34	01/07/25 13:13	1

Lab Sample ID: LCS 160-694203/2-A
Matrix: Solid
Analysis Batch: 697157

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 694203

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits		
Americium-241			351	360.5		37.1		1.26	pCi/g	103	75 - 125		
Cesium-137			105	111.6		11.0		0.367	pCi/g	107	75 - 125		
Cobalt-60			38.0	40.11		3.96		0.184	pCi/g	105	75 - 125		

Metals

Prep Batch: 206256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-16585-1	AD-16R-RELOG-14'-15'	Total/NA	Solid	3051A	
820-16585-2	AD-16R-RELOG-19'-20'	Total/NA	Solid	3051A	
820-16585-3	AD-17-RELOG-29'-30'	Total/NA	Solid	3051A	
820-16585-4	AD-17-RELOG-33'-34'	Total/NA	Solid	3051A	
MB 860-206256/1-A	Method Blank	Total/NA	Solid	3051A	
LCS 860-206256/2-A	Lab Control Sample	Total/NA	Solid	3051A	
LCSD 860-206256/3-A	Lab Control Sample Dup	Total/NA	Solid	3051A	
820-16585-1 MS	AD-16R-RELOG-14'-15'	Total/NA	Solid	3051A	
820-16585-1 MSD	AD-16R-RELOG-14'-15'	Total/NA	Solid	3051A	

Analysis Batch: 206368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-16585-1	AD-16R-RELOG-14'-15'	Total/NA	Solid	6020B	206256
820-16585-2	AD-16R-RELOG-19'-20'	Total/NA	Solid	6020B	206256
820-16585-3	AD-17-RELOG-29'-30'	Total/NA	Solid	6020B	206256
820-16585-4	AD-17-RELOG-33'-34'	Total/NA	Solid	6020B	206256
MB 860-206256/1-A	Method Blank	Total/NA	Solid	6020B	206256
LCS 860-206256/2-A	Lab Control Sample	Total/NA	Solid	6020B	206256
LCSD 860-206256/3-A	Lab Control Sample Dup	Total/NA	Solid	6020B	206256
820-16585-1 MS	AD-16R-RELOG-14'-15'	Total/NA	Solid	6020B	206256
820-16585-1 MSD	AD-16R-RELOG-14'-15'	Total/NA	Solid	6020B	206256

Analysis Batch: 206622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-16585-2	AD-16R-RELOG-19'-20'	Total/NA	Solid	6020B	206256
820-16585-3	AD-17-RELOG-29'-30'	Total/NA	Solid	6020B	206256
820-16585-4	AD-17-RELOG-33'-34'	Total/NA	Solid	6020B	206256

Prep Batch: 209800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-16585-1	AD-16R-RELOG-14'-15'	Total/NA	Solid	3051A	
820-16585-2	AD-16R-RELOG-19'-20'	Total/NA	Solid	3051A	
820-16585-3	AD-17-RELOG-29'-30'	Total/NA	Solid	3051A	
820-16585-4	AD-17-RELOG-33'-34'	Total/NA	Solid	3051A	
MB 860-209800/1-A	Method Blank	Total/NA	Solid	3051A	
LCS 860-209800/2-A	Lab Control Sample	Total/NA	Solid	3051A	
LCSD 860-209800/3-A	Lab Control Sample Dup	Total/NA	Solid	3051A	
820-16585-1 MS	AD-16R-RELOG-14'-15'	Total/NA	Solid	3051A	
820-16585-1 MSD	AD-16R-RELOG-14'-15'	Total/NA	Solid	3051A	

Analysis Batch: 209977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-16585-1	AD-16R-RELOG-14'-15'	Total/NA	Solid	6020B	209800
820-16585-2	AD-16R-RELOG-19'-20'	Total/NA	Solid	6020B	209800
820-16585-3	AD-17-RELOG-29'-30'	Total/NA	Solid	6020B	209800
820-16585-4	AD-17-RELOG-33'-34'	Total/NA	Solid	6020B	209800
MB 860-209800/1-A	Method Blank	Total/NA	Solid	6020B	209800
LCS 860-209800/2-A	Lab Control Sample	Total/NA	Solid	6020B	209800
LCSD 860-209800/3-A	Lab Control Sample Dup	Total/NA	Solid	6020B	209800
820-16585-1 MS	AD-16R-RELOG-14'-15'	Total/NA	Solid	6020B	209800
820-16585-1 MSD	AD-16R-RELOG-14'-15'	Total/NA	Solid	6020B	209800

QC Association Summary

Client: Geosyntec Consultants Inc
Project/Site: AEP Welsh

Job ID: 820-16585-1

Rad

Leach Batch: 693515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-16585-1	AD-16R-RELOG-14'-15'	Total/NA	Solid	Dry and Grind	
820-16585-2	AD-16R-RELOG-19'-20'	Total/NA	Solid	Dry and Grind	
820-16585-3	AD-17-RELOG-29'-30'	Total/NA	Solid	Dry and Grind	
820-16585-4	AD-17-RELOG-33'-34'	Total/NA	Solid	Dry and Grind	

Prep Batch: 694203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
820-16585-1	AD-16R-RELOG-14'-15'	Total/NA	Solid	Fill_Geo-21	693515
820-16585-2	AD-16R-RELOG-19'-20'	Total/NA	Solid	Fill_Geo-21	693515
820-16585-3	AD-17-RELOG-29'-30'	Total/NA	Solid	Fill_Geo-21	693515
820-16585-4	AD-17-RELOG-33'-34'	Total/NA	Solid	Fill_Geo-21	693515
MB 160-694203/1-A	Method Blank	Total/NA	Solid	Fill_Geo-21	
LCS 160-694203/2-A	Lab Control Sample	Total/NA	Solid	Fill_Geo-21	

Lab Chronicle

Client: Geosyntec Consultants Inc
Job ID: 820-16585-1
Project/Site: AEP Welsh

Client Sample ID: AD-16R-RELOG-14'-15'
Lab Sample ID: 820-16585-1
Date Collected: 12/11/24 08:10
Matrix: Solid
Date Received: 12/12/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.59 g	50 mL	206256	12/18/24 11:11	PB	EET HOU
Total/NA	Analysis	6020B		5			206368	12/18/24 14:56	DP	EET HOU
Total/NA	Prep	3051A			.59 g	50 mL	209800	01/08/25 17:45	PB	EET HOU
Total/NA	Analysis	6020B		5			209977	01/09/25 12:04	DP	EET HOU
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	693515	12/13/24 14:02	SAC	EET SL
Total/NA	Prep	Fill_Geo-21			296.5000 g	1.0 g	694203	12/17/24 15:34	HGB	EET SL
Total/NA	Analysis	GA-01-R		1			697155	01/07/25 14:34	CAH	EET SL

Client Sample ID: AD-16R-RELOG-19'-20'
Lab Sample ID: 820-16585-2
Date Collected: 12/11/24 08:20
Matrix: Solid
Date Received: 12/12/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.59 g	50 mL	206256	12/18/24 11:11	PB	EET HOU
Total/NA	Analysis	6020B		5			206368	12/18/24 15:12	DP	EET HOU
Total/NA	Prep	3051A			.59 g	50 mL	206256	12/18/24 11:11	PB	EET HOU
Total/NA	Analysis	6020B		5			206622	12/19/24 12:37	DP	EET HOU
Total/NA	Prep	3051A			.59 g	50 mL	209800	01/08/25 17:45	PB	EET HOU
Total/NA	Analysis	6020B		5			209977	01/09/25 12:10	DP	EET HOU
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	693515	12/13/24 14:02	SAC	EET SL
Total/NA	Prep	Fill_Geo-21			290.1000 g	1.0 g	694203	12/17/24 15:34	HGB	EET SL
Total/NA	Analysis	GA-01-R		1			697155	01/07/25 15:50	CAH	EET SL

Client Sample ID: AD-17-RELOG-29'-30'
Lab Sample ID: 820-16585-3
Date Collected: 12/11/24 09:50
Matrix: Solid
Date Received: 12/12/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.57 g	50 mL	206256	12/18/24 11:11	PB	EET HOU
Total/NA	Analysis	6020B		5			206368	12/18/24 15:14	DP	EET HOU
Total/NA	Prep	3051A			.57 g	50 mL	206256	12/18/24 11:11	PB	EET HOU
Total/NA	Analysis	6020B		5			206622	12/19/24 12:39	DP	EET HOU
Total/NA	Prep	3051A			.57 g	50 mL	209800	01/08/25 17:45	PB	EET HOU
Total/NA	Analysis	6020B		5			209977	01/09/25 12:11	DP	EET HOU
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	693515	12/13/24 14:02	SAC	EET SL
Total/NA	Prep	Fill_Geo-21			333.9000 g	1.0 g	694203	12/17/24 15:34	HGB	EET SL
Total/NA	Analysis	GA-01-R		1			697155	01/07/25 16:27	CAH	EET SL

Client Sample ID: AD-17-RELOG-33'-34'
Lab Sample ID: 820-16585-4
Date Collected: 12/11/24 10:10
Matrix: Solid
Date Received: 12/12/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.6 g	50 mL	206256	12/18/24 11:11	PB	EET HOU
Total/NA	Analysis	6020B		5			206368	12/18/24 15:16	DP	EET HOU

Lab Chronicle

Client: Geosyntec Consultants Inc
Job ID: 820-16585-1
Project/Site: AEP Welsh

Client Sample ID: AD-17-RELOG-33'-34'
Lab Sample ID: 820-16585-4
Date Collected: 12/11/24 10:10
Matrix: Solid
Date Received: 12/12/24 09:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.6 g	50 mL	206256	12/18/24 11:11	PB	EET HOU
Total/NA	Analysis	6020B		5			206622	12/19/24 12:41	DP	EET HOU
Total/NA	Prep	3051A			.6 g	50 mL	209800	01/08/25 17:45	PB	EET HOU
Total/NA	Analysis	6020B		5			209977	01/09/25 12:12	DP	EET HOU
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	693515	12/13/24 14:02	SAC	EET SL
Total/NA	Prep	Fill_Geo-21			390.1000 g	1.0 g	694203	12/17/24 15:34	HGB	EET SL
Total/NA	Analysis	GA-01-R		1			697155	01/07/25 18:10	CAH	EET SL

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

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

Accreditation/Certification Summary

Client: Geosyntec Consultants Inc
Job ID: 820-16585-1
Project/Site: AEP Welsh

Laboratory: Eurofins Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215	06-30-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
6020B	3051A	Solid	Thorium
6020B	3051A	Solid	Uranium

Laboratory: Eurofins St. Louis

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704193	07-31-25

Method Summary

Client: Geosyntec Consultants Inc
Project/Site: AEP Welsh

Job ID: 820-16585-1

Method	Method Description	Protocol	Laboratory
6020B	Metals (ICP/MS)	SW846	EET HOU
GA-01-R	Radium-226 & Other Gamma Emitters (GS)	DOE	EET SL
3051A	Preparation, Metals, Microwave Assisted	SW846	EET HOU
Dry and Grind	Preparation, Dry and Grind	None	EET SL
Fill_Geo-21	Fill Geometry, 21-Day In-Growth	None	EET SL

Protocol References:

DOE = U.S. Department of Energy

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

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

Sample Summary

Client: Geosyntec Consultants Inc
Project/Site: AEP Welsh

Job ID: 820-16585-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
820-16585-1	AD-16R-RELOG-14'-15'	Solid	12/11/24 08:10	12/12/24 09:00
820-16585-2	AD-16R-RELOG-19'-20'	Solid	12/11/24 08:20	12/12/24 09:00
820-16585-3	AD-17-RELOG-29'-30'	Solid	12/11/24 09:50	12/12/24 09:00
820-16585-4	AD-17-RELOG-33'-34'	Solid	12/11/24 10:10	12/12/24 09:00

Loc: 820
16585

Houston
riar Dr
77477
40-4200

Chain of Custody Record

eurofins | Environment Testing

rmation	Sampler: Alondra Salters	Lab PM: Taylor, Holly	Carrier Tracking No(s):	COC No: 860-34474-11813.1
Allison Kreinberg	Phone: (915)253-7813	E-Mail: Holly.Taylor@et.eurofinsus.com	State of Origin: TX	Page: Page 1 of 1
Company: Geosyntec Consultants Inc	PWSID:	Analysis Requested		Job #: CHA8495
Address: 500 West Wilson Bridge Road Suite 250	Due Date Requested:			Preservation Codes: N - None
City: Worthington	TAT Requested (days): 2 weeks			
State, Zip: OH, 43085	Compliance Project: Δ Yes ✕ No			
Phone: 614-468-0421(Tel)	PO #: Purchase Order Requested			
Email: akreinberg@geosyntec.com	WO #:			Other:
Project Name: Radiological Testing	Project #: 86007851			
Site: AEP Welsh	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020B - Th, U	GA_01_R_Ra - Radium-226/228	Boron	Total Number of containers	Special Instructions/Note:
Preservation Code:							N	N			
AD-16R-RELOG-14'-15'	12/11/24	0810	G	Solid	N	N	X	X	X	3	
AD-16R-RELOG-19'-20'	12/11/24	0820	G	Solid	N	N	X	X	X	3	
AD-17-RELOG-29'-30'	12/11/24	0950	G	Solid	N	N	X	X	X	3	
AD-17-RELOG-33'-34'	12/11/24	1010	G	Solid	N	N	X	X	X	3	

820-16585 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: FedEx

	Date/Time	Company		Date/Time	Company
Relinquished by: Alondra Salters	12/11/24 1430	Geosyntec	Received by: YP	12/12/24 9:00	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.9/3.1 IR1/10.2

YP 12/12/24

Ver: 10/10/2024

1/9/2025

Eurofins Lubbock
6701 Aberdeen Ave. Suite 8
Lubbock, TX 79424
Phone: 806-794-1296

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Taylor, Holly	Carrier Tracking No(s): N/A	COC No: 820-10176.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Holly.Taylor@et.eurofinsus.com	State of Origin: Texas	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 820-16585-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/8/2025			
City: Earth City	TAT Requested (days): N/A			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Radiological Testing	Project #: 86007851			
Site: N/A	SSOW#: N/A			

Analysis Requested

Preservation Codes:

Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	GA_01_R_Ra/Dry_Grind Radium-226/228	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AD-16R-RELOG-14'-15' (820-16585-1)	12/11/24	08:10 Central	G	Solid			X	2	
AD-16R-RELOG-19'-20' (820-16585-2)	12/11/24	08:20 Central	G	Solid			X	2	
AD-17-RELOG-29'-30' (820-16585-3)	12/11/24	09:50 Central	G	Solid			X	2	
AD-17-RELOG-33'-34' (820-16585-4)	12/11/24	10:10 Central	G	Solid			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		12/12/24 1700			0820 DEC 13 2024	ETA-STL
2				Cheyenne Forrest		
3						

Custody Seals Intact: | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Eurofins Lubbock
6701 Aberdeen Ave. Suite 8
Lubbock, TX 79424
Phone: 806-794-1296

Chain of Custody Record

eurofins Environment Testing

1/9/2025

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Taylor Holly	Carrier Tracking No(s): N/A	COC No: 820-10177 1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Holly Taylor@et.eurofinsus.com	State of Origin: Texas	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP Texas		Job #: 820-16585-1
Address: 4145 Greenbriar Dr	Due Date Requested: 1/10/2025			
City: Stafford	TAT Requested (days): N/A			
State, Zip: TX, 77477				
Phone: 281-240-4200(Tel)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: Radiological Testing	Project #: 86007851			
Site: N/A	SSOW#: N/A			

Analysis Requested

Preservation Codes:

Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020B/3051A (MOD) Th, U	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
AD-16R-RELOG-14 15' (820-16585-1)	12/11/24	08:10 Central	G	Solid			X	1	
AD-16R-RELOG-19'-20' (820-16585-2)	12/11/24	08:20 Central	G	Solid			X	1	
AD-17-RELOG-29'-30' (820-16585-3)	12/11/24	09:50 Central	G	Solid			X	1	
AD-17-RELOG-33'-34 (820-16585-4)	12/11/24	10:10 Central	G	Solid			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I II III, IV Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
YF	12/12/24 YF				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 12-13-24 1017	Company

Custody Seals Intact: Custody Seal No.

Cooler Temperature(s) °C and Other Remarks: IR-7B 3.7°

Login Sample Receipt Checklist

Client: Geosyntec Consultants Inc

Job Number: 820-16585-1

Login Number: 16585

List Source: Eurofins Lubbock

List Number: 1

Creator: Pena, Yazmeane

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Geosyntec Consultants Inc

Job Number: 820-16585-1

Login Number: 16585
List Number: 3
Creator: Baker, Jeremiah

List Source: Eurofins Houston
List Creation: 12/13/24 12:45 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

Login Sample Receipt Checklist

Client: Geosyntec Consultants Inc

Job Number: 820-16585-1

Login Number: 16585
List Number: 2
Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis
List Creation: 12/13/24 11:49 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ATTACHMENT D
Laboratory Analytical Report – BASP Closure Evaluation Soil Sampling

ANALYTICAL REPORT

PREPARED FOR

Attn: Ms. Debi Farber
Arcadis US Inc.
98 San Jacinto Blvd.
Suite 414
Austin, Texas 78701

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JOB DESCRIPTION

AEP Hallsville TX

JOB NUMBER

860-89099-1

Eurofins Houston
4145 Greenbriar Dr
Stafford TX 77477

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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Revision 2

Authorized for release by
Sachin Kudchadkar, Senior Project Manager
Sachin.Kudchadkar@et.eurofinsus.com
(281)748-9025

Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
State Forms 5
DCS Report 5
TRRP Checklist 6
Case Narrative 10
Detection Summary 13
Client Sample Results 17
QC Sample Results 31
QC Association Summary 43
Lab Chronicle 52
Certification Summary 63
Method Summary 65
Sample Summary 66
Chain of Custody 67
Receipt Checklists 76

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
N1	MS, MSD: Spike recovery exceeds upper or lower control limits.
U	Analyte was not detected at or above the SDL.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.
N1	MS, MSD: Spike recovery exceeds upper or lower control limits.
U	Analyte was not detected at or above the SDL.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

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

Detection Check Summary

Client: Arcadis US Inc.
Project/Site: AEP Hallsville TX

Job ID: 860-89099-1

Method: 6020B - Metals (ICP/MS)

Matrix: Solid — **Prep Type: Total/NA**
Prep Method: 3051A-Preparation, Metals, Microwave Assisted
Instrument: A364 — **Detector: MSD/0**

Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Antimony	0.160	0.15	J	mg/Kg	0.40	0.12	12/13/2024	860-205346
Selenium	0.120	0.13	J	mg/Kg	0.20	0.095	12/13/2024	860-205346
Thallium	0.120	0.13	J	mg/Kg	0.20	0.054	12/13/2024	860-205346
Arsenic	0.240	0.28	J	mg/Kg	0.40	0.10	12/13/2024	860-205346
Barium	0.240	0.27	J	mg/Kg	0.40	0.14	12/13/2024	860-205346
Beryllium	0.120	0.13	J	mg/Kg	0.20	0.051	12/13/2024	860-205346
Cadmium	0.120	0.13	J	mg/Kg	0.20	0.053	12/13/2024	860-205346
Chromium	0.240	0.27	J	mg/Kg	0.40	0.054	12/13/2024	860-205346
Cobalt	0.120	0.14	J	mg/Kg	0.20	0.060	12/13/2024	860-205346
Lead	0.120	0.13	J	mg/Kg	0.20	0.063	12/13/2024	860-205346
Molybdenum	0.120	0.13	J	mg/Kg	0.20	0.092	12/13/2024	860-205346

Matrix: Solid — **Prep Type: Total/NA**
Prep Method: 3051A-Preparation, Metals, Microwave Assisted
Instrument: A384 — **Detector: MSD/0**

Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Antimony	0.160	0.18	J	mg/Kg	0.40	0.12	12/13/2024	860-205410
Selenium	0.160	0.21		mg/Kg	0.20	0.095	12/13/2024	860-205410
Thallium	0.160	0.17	J	mg/Kg	0.20	0.054	12/13/2024	860-205410
Arsenic	0.320	0.35	J	mg/Kg	0.40	0.10	12/13/2024	860-205410
Barium	0.320	0.34	J	mg/Kg	0.40	0.14	12/13/2024	860-205410
Beryllium	0.160	0.18	J	mg/Kg	0.20	0.051	12/13/2024	860-205410
Cadmium	0.160	0.19	J	mg/Kg	0.20	0.053	12/13/2024	860-205410
Chromium	0.320	0.36	J	mg/Kg	0.40	0.054	12/13/2024	860-205410
Cobalt	0.160	0.18	J	mg/Kg	0.20	0.060	12/13/2024	860-205410
Lead	0.160	0.18	J	mg/Kg	0.20	0.063	12/13/2024	860-205410
Molybdenum	0.160	0.19	J	mg/Kg	0.20	0.092	12/13/2024	860-205410

Method: 7471B - Mercury (CVAA)

Matrix: Solid — **Prep Type: Total/NA**
Prep Method: 7471B-Preparation, Mercury
Instrument: A336 — **Detector: AA/0**

Analyte	Spike Added	Result	Qualifier	Unit	RL	MDL	Analysis Date	Analysis Batch
Mercury	0.0130	0.011	J	mg/Kg	0.020	0.0090	11/21/2024	860-201419

Appendix A

Laboratory Data Package Cover Page - Page 1 of 4

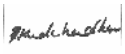
This data package is for Job No. 860-89099-1 and consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- ☑ R1- Field chain-of-custody documentation;
- ☑ R2 - Sample identification cross-reference;
- ☑ R3 - Test reports (analytical data sheets) for each environmental sample that includes:
  a. Items consistent with NELAC Chapter 5,
  b. dilution factors,
  c. preparation methods,
  d. cleanup methods, and
  e. if required for the project, tentatively identified coumpounds (TICs).
- ☑ R4 - Surrogate recovery data including:
  a. Calculated recovery (%R), and
  b. The laboratory's surrogate QC limits.
- ☑ R5 - Test reports/summary forms for blank samples;
- ☑ R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
  a. LCS spiking amounts,
  b. Calculated %R for each analyte, and
  c. The laboratory's LCS QC limits.
- ☑ R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  a. Samples associated with the MS/MSD clearly identified,
  b. MS/MSD spiking amounts,
  c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  d. Calculated %Rs and relative percent differences (RPDs), and
  e. The laboratory's MS/MSD QC limits
- ☑ R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
  a. The amount of analyte measured in the duplicate,
  b. The calculated RPD, and
  c. The laboratory's QC limits for analytical duplicates.
- ☑ R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- ☑ R10 - Other problems or anomalies.
- ☑ Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: ☑ This laboratory meets an exception under 30 TAC §25.6 and was last inspected by TCEQ or on __/__/__. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is b signature affirming the above release statement is true.

Name (Printed)	Signature	Official Title (Printed)	Date
Sachin Kudchadkar		Senior Project Manager	02/17/2025

Laboratory Data Package Cover Page - Page 2 of 4

Laboratory Name: Eurofins Houston	LRC Date: 02/17/2025
Project Name: AEP Hallsville TX	Laboratory Job Number: 860-89099-1
Reviewer Name: Sachin Kudchadkar	

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	**Chain-of-custody (C-O-C)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓				
		Were all departures from standard conditions described in an exception report?	✓				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	✓				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	✓				
		Were calculations checked by a peer or supervisor?	✓				
		Were all analyte identifications checked by a peer or supervisor?	✓				
		Were sample detection limits reported for all analytes not detected?	✓				
		Were all results for soil and sediment samples reported on a dry weight basis?	✓				
		Were % moisture (or solids) reported for all soil and sediment samples?	✓				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?	✓				
		If required for the project, are TICs reported?	✓				
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	✓				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	✓				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	✓				
		Were blanks analyzed at the appropriate frequency?	✓				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	✓				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?	✓				
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	✓				
		Were MS/MSD analyzed at the appropriate frequency?	✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	✓				
		Were MS/MSD RPDs within laboratory QC limits?	✓				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	✓				
		Were analytical duplicates analyzed at the appropriate frequency?	✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?	✓				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	✓				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	✓				

Laboratory Data Package Cover Page - Page 3 of 4

Laboratory Name: Eurofins Houston	LRC Date: 02/17/2025
Project Name: AEP Hallsville TX	Laboratory Job Number: 860-89099-1
Reviewer Name: Sachin Kudchadkar	

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	✓				
		Was the number of standards recommended in the method used for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?	✓				
		Has the initial calibration curve been verified using an appropriate second source standard?	✓				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**					
		Was the CCV analyzed at the method-required frequency?	✓				
		Were percent differences for each analyte within the method-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	✓				
S3	O	**Mass spectral tuning**					
		Was the appropriate compound for the method used for tuning?	✓				
		Were ion abundance data within the method-required QC limits?	✓				
S4	O	**Internal standards (IS)**					
		Were IS area counts and retention times within the method-required QC limits?	✓				
S5	OI	**Raw data (NELAC Section 5.5.10)**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?	✓				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?	✓				
S7	O	**Tentatively identified compounds (TICs)**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	✓				
S8	I	**Interference Check Sample (ICS) results**					
		Were percent recoveries within method QC limits?	✓				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	✓				
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	✓				
		Is the MDL either adjusted or supported by the analysis of DCSs?	✓				
S11	OI	**Proficiency test reports**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	✓				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	✓				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	✓				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5?	✓				
		Is documentation of the analyst's competency up-to-date and on file?	✓				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	✓				
S16	OI	**Laboratory standard operating procedures (SOPs)**					
		Are laboratory SOPs current and on file for each method performed?	✓				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period;
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Cover Page - Page 4 of 4

Laboratory Name: Eurofins Houston	LRC Date: 02/17/2025
Project Name: AEP Hallsville TX	Laboratory Job Number: 860-89099-1
Reviewer Name: Sachin Kudchadkar	

ER#[1]	Description
	No Exceptions

1. ER# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

Job ID: 860-89099-1 — Eurofins Houston

Job Narrative
860-89099-1

Revision
The report being provided is a revision of the original report sent on 1/14/2025. The report (revision 2) is being revised due to: sample 860-89-99-67 cancelled per client..

Report revision history
Revision 1 - 2/13/2025 - Reason - TRRP format needed.

Receipt
The samples were received on 12/12/2024 12:05 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 7 coolers at receipt time were 1.4º C, 2.8º C, 3.1º C, 3.7º C, 4.4º C, 4.9º C and 4.9º C.

Receipt Exceptions

We received 38 containers when the COC only listed 14.
Samples not listed on the COC are:
A-12
A-20
A-26
A-27
A-28
A-29
A-30
A-31
A-51
A-52
A-54
A-55
A-57
A-58
A-60
A-61
B-62
A-63
B-63
A-64
B-64
A-66
B-66

C5-3 (12102024) (860-89099-12), C3-2 (12102024) (860-89099-20), A3-2 (12102024) (860-89099-26), A3-3 (12102024) (860-89099-27), A5-2 (12112024) (860-89099-28), A5-3 (12112024) (860-89099-29), B4-2 (12112024) (860-89099-30), B4-3 (12112024) (860-89099-31), E3-2 (12112024) (860-89099-51), E3-3 (12112024) (860-89099-52), E1-2 (12112024) (860-89099-54), E1-3 (12112024) (860-89099-55), D2-2 (12112024) (860-89099-57), D2-3 (12112024) (860-89099-58), C1-2 (12112024) (860-89099-60), C1-3 (12112024) (860-89099-61), B2-2 (12112024) (860-89099-63), B2-3 (12112024) (860-89099-64) and A1-2 (12112024) (860-89099-66)

One container for the following sample was received broken E3-1 (12112024) (860-89099-50).

Affected Container

A-50

RAD
Method 901.1: Gamma Prep Batch 160-694774

Job ID: 860-89099-1 (Continued) Eurofins Houston

Many isotopes requested by gamma spectrometry analysis do not have any gamma emissions, the gamma emissions they do have are very poor, and/or are reported by assuming secular equilibrium with a longer-lived parent (or vice-versa). For example, Th-232 (which does not have a good gamma-ray) is often reported assuming the shorter-lived Ra-228 daughter is in equilibrium with the Th-232 parent. Or, Pb-214 and/or Bi-214, daughters of potentially volatile Rn-222 in the Ra-226 decay chain, may not be in equilibrium with the parent unless sufficient time has been allowed since the break in equilibrium (e.g. 21 days in the case of Ra-226-supported ingrowth). The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227
Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

A5-1 (12102024) (860-89099-1), B4-1 (12102024) (860-89099-4), C5-1 (12102024) (860-89099-10), C3-1 (12102024) (860-89099-19), A3-1 (12102024) (860-89099-25), E1-1 (12112024) (860-89099-53), D2-1 (12112024) (860-89099-56), C1-1 (12112024) (860-89099-59), A1-1 (12112024) (860-89099-65), A1-3 (12112024) (860-89099-67) and (860-89099-A-1-E DU)

Methods 901.1, GA-01-R: Gamma Prep Batch 160-694770

Many isotopes requested by gamma spectrometry analysis do not have any gamma emissions, the gamma emissions they do have are very poor, and/or are reported by assuming secular equilibrium with a longer-lived parent (or vice-versa). For example, Th-232 (which does not have a good gamma-ray) is often reported assuming the shorter-lived Ra-228 daughter is in equilibrium with the Th-232 parent. Or, Pb-214 and/or Bi-214, daughters of potentially volatile Rn-222 in the Ra-226 decay chain, may not be in equilibrium with the parent unless sufficient time has been allowed since the break in equilibrium (e.g. 21 days in the case of Ra-226-supported ingrowth). The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:

Inferred from	Reported to Analyte
Th-234	Pa-234
Th-234	U-238
Pb-210	Po-210
Pb-210	Bi-210
Cs-137	Ba-137m
Pb-212	Po-216
Xe-131m	Xe-131
Sb-125	Te-125m
Ag-108m	Ag-108
Rh-106	Ru-106
Pb-212	Th-228
Pb-212	Ra-224
U-235	Th-231
Ac-228	Th-232
Ac-228	Ra-228
Th-227	Ra-223
Th-227	Ac-227

Th-227	Bi-211
Th-227	Pb-211
Bi-214	Ra-226

**The method blank (MB) Z-score is not within limits and is located in the level IV raw data.

E3-1 (12112024) (860-89099-50), B2-1 (12112024) (860-89099-62) and (860-89099-A-50-C DU)

Method Fill_Geo-21:

Method Fill_Geo-21:

Method Fill_Geo-21:

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

Metals
Method 6020B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-205392 and analytical batch 860-205729 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6020B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-205382 and analytical batch 860-206019 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

General Chemistry
Method Moisture: The sample duplicate (DUP) precision for analytical batch 860-206051 was outside control limits. Sample non-homogeneity is suspected.

Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-205593 and 860-205594 and analytical batch 860-205896 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method Moisture: The sample duplicate (DUP) precision for analytical batch 860-206335 was outside control limits. Sample non-homogeneity is suspected.

Method Dry and Grind:

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

Detection Summary

Client: Arcadis US Inc.
Project/Site: AEP Hallsville TX

Job ID: 860-89099-1

Client Sample ID: A5-1 (12102024) — Lab Sample ID: 860-89099-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.666		0.500	0.100	mg/L	1		300.0	SPLP West
Arsenic	1.36	J	3.54	0.911	mg/Kg	5	☼	6020B	Total/NA
Barium	51.7		3.54	1.21	mg/Kg	5	☼	6020B	Total/NA
Chromium	5.54		3.54	0.478	mg/Kg	5	☼	6020B	Total/NA
Cobalt	0.609	J	1.77	0.533	mg/Kg	5	☼	6020B	Total/NA
Lead	7.59		1.77	0.561	mg/Kg	5	☼	6020B	Total/NA
Selenium	1.34	J	1.77	0.836	mg/Kg	5	☼	6020B	Total/NA

Client Sample ID: B4-1 (12102024) — Lab Sample ID: 860-89099-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.775		0.500	0.100	mg/L	1		300.0	SPLP West
Arsenic	1.28	J	1.96	0.506	mg/Kg	5	☼	6020B	Total/NA
Barium	11.0		1.96	0.673	mg/Kg	5	☼	6020B	Total/NA
Chromium	1.33	J	1.96	0.265	mg/Kg	5	☼	6020B	Total/NA
Lead	3.17		0.982	0.311	mg/Kg	5	☼	6020B	Total/NA
Selenium	0.550	J	0.982	0.464	mg/Kg	5	☼	6020B	Total/NA
Mercury	0.0130	J	0.0211	0.00943	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: B5-1 (12102024) — Lab Sample ID: 860-89099-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.209	J	0.500	0.100	mg/L	1		300.0	SPLP West
Arsenic	0.973	J	2.03	0.523	mg/Kg	5	☼	6020B	Total/NA
Barium	5.80		2.03	0.696	mg/Kg	5	☼	6020B	Total/NA
Chromium	1.10	J	2.03	0.274	mg/Kg	5	☼	6020B	Total/NA
Lead	2.69		1.02	0.322	mg/Kg	5	☼	6020B	Total/NA

Client Sample ID: C5-1 (12102024) — Lab Sample ID: 860-89099-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.123	J	0.500	0.100	mg/L	1		300.0	SPLP West
Barium	4.27		1.86	0.638	mg/Kg	5	☼	6020B	Total/NA
Chromium	1.14	J	1.86	0.251	mg/Kg	5	☼	6020B	Total/NA
Lead	3.19		0.931	0.295	mg/Kg	5	☼	6020B	Total/NA

Client Sample ID: C4-1 (12102024) — Lab Sample ID: 860-89099-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.278	J	0.500	0.100	mg/L	1		300.0	SPLP West
Barium	8.96		1.95	0.669	mg/Kg	5	☼	6020B	Total/NA
Chromium	1.84	J	1.95	0.264	mg/Kg	5	☼	6020B	Total/NA
Lead	3.19		0.977	0.310	mg/Kg	5	☼	6020B	Total/NA

Client Sample ID: D3-1 (12102024) — Lab Sample ID: 860-89099-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.133	J	0.500	0.100	mg/L	1		300.0	SPLP West
Arsenic	1.77	J	1.97	0.507	mg/Kg	5	☼	6020B	Total/NA
Barium	16.4		1.97	0.674	mg/Kg	5	☼	6020B	Total/NA
Chromium	4.52		1.97	0.266	mg/Kg	5	☼	6020B	Total/NA
Cobalt	0.521	J	0.984	0.297	mg/Kg	5	☼	6020B	Total/NA
Lead	4.43		0.984	0.312	mg/Kg	5	☼	6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Houston

Client Sample ID: D3-1 (12102024) (Continued) — Lab Sample ID: 860-89099-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0.0305		0.0219	0.00981	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: C3-1 (12102024) — Lab Sample ID: 860-89099-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.129	J	0.500	0.100	mg/L	1		300.0	SPLP West
Arsenic	0.767	J	2.10	0.540	mg/Kg	5	☼	6020B	Total/NA
Barium	9.92		2.10	0.718	mg/Kg	5	☼	6020B	Total/NA
Chromium	2.62		2.10	0.283	mg/Kg	5	☼	6020B	Total/NA
Lead	3.06		1.05	0.332	mg/Kg	5	☼	6020B	Total/NA
Mercury	0.0155	J	0.0221	0.00990	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: B3-1 (12102024) — Lab Sample ID: 860-89099-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.145	J	0.500	0.100	mg/L	1		300.0	SPLP West
Barium	5.72		2.04	0.698	mg/Kg	5	☼	6020B	Total/NA
Chromium	0.621	J	2.04	0.275	mg/Kg	5	☼	6020B	Total/NA
Lead	1.83		1.02	0.323	mg/Kg	5	☼	6020B	Total/NA

Client Sample ID: A3-1 (12102024) — Lab Sample ID: 860-89099-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.148	J	0.500	0.100	mg/L	1		300.0	SPLP West
Barium	6.10		2.36	0.809	mg/Kg	5	☼	6020B	Total/NA
Chromium	0.862	J	2.36	0.319	mg/Kg	5	☼	6020B	Total/NA
Lead	2.40		1.18	0.374	mg/Kg	5	☼	6020B	Total/NA

Client Sample ID: A4-1 (12112024) — Lab Sample ID: 860-89099-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.159	J	0.500	0.100	mg/L	1		300.0	SPLP West
Arsenic	1.17	J	2.48	0.640	mg/Kg	5	☼	6020B	Total/NA
Barium	8.68		2.48	0.851	mg/Kg	5	☼	6020B	Total/NA
Chromium	1.44	J	2.48	0.335	mg/Kg	5	☼	6020B	Total/NA
Lead	2.79		1.24	0.394	mg/Kg	5	☼	6020B	Total/NA

Client Sample ID: A2-1 (12112024) — Lab Sample ID: 860-89099-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.560		0.500	0.100	mg/L	1		300.0	SPLP West
Arsenic	0.724	J	2.12	0.545	mg/Kg	5	☼	6020B	Total/NA
Barium	22.9		2.12	0.725	mg/Kg	5	☼	6020B	Total/NA
Chromium	1.62	J	2.12	0.286	mg/Kg	5	☼	6020B	Total/NA
Lead	3.34		1.06	0.336	mg/Kg	5	☼	6020B	Total/NA
Selenium	0.523	J	1.06	0.500	mg/Kg	5	☼	6020B	Total/NA

Client Sample ID: B1-1 (12112024) — Lab Sample ID: 860-89099-38

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.284	J	0.500	0.100	mg/L	1		300.0	SPLP West
Barium	6.89		2.07	0.709	mg/Kg	5	☼	6020B	Total/NA
Chromium	1.23	J	2.07	0.279	mg/Kg	5	☼	6020B	Total/NA
Lead	2.61		1.03	0.328	mg/Kg	5	☼	6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arcadis US Inc.
Project/Site: AEP Hallsville TX

Job ID: 860-89099-1

Client Sample ID: C2-1 (12112024) — Lab Sample ID: 860-89099-41

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.332	J	0.500	0.100	mg/L	1		300.0	SPLP West
Arsenic	1.21	J	2.00	0.516	mg/Kg	5	☼	6020B	Total/NA
Barium	31.3		2.00	0.686	mg/Kg	5	☼	6020B	Total/NA
Chromium	1.83	J	2.00	0.270	mg/Kg	5	☼	6020B	Total/NA
Cobalt	0.385	J	1.00	0.302	mg/Kg	5	☼	6020B	Total/NA
Lead	4.31		1.00	0.318	mg/Kg	5	☼	6020B	Total/NA
Selenium	0.813	J	1.00	0.473	mg/Kg	5	☼	6020B	Total/NA

Client Sample ID: D1-1 (12112024) — Lab Sample ID: 860-89099-44

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.343	J	0.500	0.100	mg/L	1		300.0	SPLP West
Barium	72.5		2.12	0.727	mg/Kg	5	☼	6020B	Total/NA
Chromium	2.54		2.12	0.287	mg/Kg	5	☼	6020B	Total/NA
Cobalt	0.495	J	1.06	0.320	mg/Kg	5	☼	6020B	Total/NA
Lead	5.21		1.06	0.337	mg/Kg	5	☼	6020B	Total/NA
Selenium	0.592	J	1.06	0.502	mg/Kg	5	☼	6020B	Total/NA
Mercury	0.0179	J	0.0240	0.0108	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: E2-1 (12112024) — Lab Sample ID: 860-89099-47

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.405	J	0.500	0.100	mg/L	1		300.0	SPLP West
Arsenic	0.575	J	2.12	0.547	mg/Kg	5	☼	6020B	Total/NA
Barium	25.8		2.12	0.727	mg/Kg	5	☼	6020B	Total/NA
Chromium	3.94		2.12	0.287	mg/Kg	5	☼	6020B	Total/NA
Cobalt	0.862	J	1.06	0.320	mg/Kg	5	☼	6020B	Total/NA
Lead	5.20		1.06	0.337	mg/Kg	5	☼	6020B	Total/NA
Selenium	0.766	J	1.06	0.502	mg/Kg	5	☼	6020B	Total/NA

Client Sample ID: E3-1 (12112024) — Lab Sample ID: 860-89099-50

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.131	J	0.500	0.100	mg/L	1		300.0	SPLP West
Arsenic	2.86		2.00	0.514	mg/Kg	5	☼	6020B	Total/NA
Barium	23.9		2.00	0.683	mg/Kg	5	☼	6020B	Total/NA
Chromium	8.78		2.00	0.269	mg/Kg	5	☼	6020B	Total/NA
Cobalt	0.646	J	0.998	0.301	mg/Kg	5	☼	6020B	Total/NA
Lead	5.30		0.998	0.316	mg/Kg	5	☼	6020B	Total/NA
Selenium	0.740	J	0.998	0.471	mg/Kg	5	☼	6020B	Total/NA
Mercury	0.0214	J	0.0223	0.00996	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: E1-1 (12112024) — Lab Sample ID: 860-89099-53

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.238	J	0.500	0.100	mg/L	1		300.0	SPLP West
Barium	20.9		2.39	0.820	mg/Kg	5	☼	6020B	Total/NA
Chromium	1.63	J	2.39	0.323	mg/Kg	5	☼	6020B	Total/NA
Cobalt	0.427	J	1.20	0.361	mg/Kg	5	☼	6020B	Total/NA
Lead	3.08		1.20	0.379	mg/Kg	5	☼	6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arcadis US Inc.
Project/Site: AEP Hallsville TX

Job ID: 860-89099-1

Client Sample ID: D2-1 (12112024) — Lab Sample ID: 860-89099-56

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.348	J	0.500	0.100	mg/L	1		300.0	SPLP West
Barium	29.5		2.56	0.876	mg/Kg	5	☼	6020B	Total/NA
Chromium	2.05	J	2.56	0.345	mg/Kg	5	☼	6020B	Total/NA
Cobalt	0.554	J	1.28	0.386	mg/Kg	5	☼	6020B	Total/NA
Lead	3.88		1.28	0.405	mg/Kg	5	☼	6020B	Total/NA
Selenium	0.646	J	1.28	0.604	mg/Kg	5	☼	6020B	Total/NA

Client Sample ID: C1-1 (12112024) — Lab Sample ID: 860-89099-59

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.247	J	0.500	0.100	mg/L	1		300.0	SPLP West
Barium	5.75		2.07	0.710	mg/Kg	5	☼	6020B	Total/NA
Chromium	0.839	J	2.07	0.280	mg/Kg	5	☼	6020B	Total/NA
Lead	2.09		1.04	0.329	mg/Kg	5	☼	6020B	Total/NA

Client Sample ID: B2-1 (12112024) — Lab Sample ID: 860-89099-62

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.129	J	0.500	0.100	mg/L	1		300.0	SPLP West
Arsenic	0.538	J	1.95	0.502	mg/Kg	5	☼	6020B	Total/NA
Barium	19.4		1.95	0.667	mg/Kg	5	☼	6020B	Total/NA
Chromium	3.42		1.95	0.263	mg/Kg	5	☼	6020B	Total/NA
Cobalt	0.504	J	0.974	0.294	mg/Kg	5	☼	6020B	Total/NA
Lead	3.56		0.974	0.309	mg/Kg	5	☼	6020B	Total/NA
Selenium	0.586	J	0.974	0.460	mg/Kg	5	☼	6020B	Total/NA
Mercury	0.0118	J	0.0213	0.00953	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: A1-1 (12112024) — Lab Sample ID: 860-89099-65

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.278	J	0.500	0.100	mg/L	1		300.0	SPLP West
Arsenic	0.804	J	2.40	0.618	mg/Kg	5	☼	6020B	Total/NA
Barium	17.0		2.40	0.822	mg/Kg	5	☼	6020B	Total/NA
Chromium	1.96	J	2.40	0.324	mg/Kg	5	☼	6020B	Total/NA
Lead	5.48		1.20	0.381	mg/Kg	5	☼	6020B	Total/NA
Selenium	1.06	J	1.20	0.567	mg/Kg	5	☼	6020B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: A5-1 (12102024)

Lab Sample ID: 860-89099-1
Date Collected: 12/10/24 11:00
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 47.9

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.666**		0.500	0.100	mg/L			12/17/24 12:03	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:04	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.04	U	3.54	1.04	mg/Kg	☼	12/13/24 14:55	12/17/24 11:08	5
Arsenic	**1.36**	**J**	3.54	0.911	mg/Kg	☼	12/13/24 14:55	12/17/24 11:08	5
Barium	**51.7**		3.54	1.21	mg/Kg	☼	12/13/24 14:55	12/17/24 11:08	5
Beryllium	0.448	U	1.77	0.448	mg/Kg	☼	12/13/24 14:55	12/17/24 11:08	5
Cadmium	0.472	U	1.77	0.472	mg/Kg	☼	12/13/24 14:55	12/17/24 11:08	5
Chromium	**5.54**		3.54	0.478	mg/Kg	☼	12/13/24 14:55	12/17/24 11:08	5
Cobalt	**0.609**	**J**	1.77	0.533	mg/Kg	☼	12/13/24 14:55	12/17/24 11:08	5
Lead	**7.59**		1.77	0.561	mg/Kg	☼	12/13/24 14:55	12/17/24 11:08	5
Molybdenum	0.817	U	1.77	0.817	mg/Kg	☼	12/13/24 14:55	12/17/24 11:08	5
Selenium	**1.34**	**J**	1.77	0.836	mg/Kg	☼	12/13/24 14:55	12/17/24 11:08	5
Thallium	0.477	U	1.77	0.477	mg/Kg	☼	12/13/24 14:55	12/17/24 11:08	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0173	U	0.0387	0.0173	mg/Kg	☼	12/18/24 07:02	12/18/24 20:41	1

Method: EPA 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.767**		0.167	0.183	1.00	0.134	pCi/g	12/18/24 10:19	01/08/25 15:21	1
Radium-228	**0.862**		0.217	0.233		0.108	pCi/g	12/18/24 10:19	01/08/25 15:21	1
Radium 226 and 228 (positive only)	**1.63**		0.274	0.296		0.134	pCi/g	12/18/24 10:19	01/08/25 15:21	1

Client Sample ID: B4-1 (12102024)

Lab Sample ID: 860-89099-4
Date Collected: 12/10/24 11:20
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 86.3

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.775**		0.500	0.100	mg/L			12/17/24 17:36	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:16	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.576	U	1.96	0.576	mg/Kg	☼	12/13/24 14:55	12/17/24 11:23	5
Arsenic	**1.28**	**J**	1.96	0.506	mg/Kg	☼	12/13/24 14:55	12/17/24 11:23	5
Barium	**11.0**		1.96	0.673	mg/Kg	☼	12/13/24 14:55	12/17/24 11:23	5
Beryllium	0.248	U	0.982	0.248	mg/Kg	☼	12/13/24 14:55	12/17/24 11:23	5
Cadmium	0.262	U	0.982	0.262	mg/Kg	☼	12/13/24 14:55	12/17/24 11:23	5

Client Sample ID: B4-1 (12102024)

Lab Sample ID: 860-89099-4
Date Collected: 12/10/24 11:20
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 86.3

Method: SW846 6020B - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**1.33**	**J**	1.96	0.265	mg/Kg	☼	12/13/24 14:55	12/17/24 11:23	5
Cobalt	0.296	U	0.982	0.296	mg/Kg	☼	12/13/24 14:55	12/17/24 11:23	5
Lead	**3.17**		0.982	0.311	mg/Kg	☼	12/13/24 14:55	12/17/24 11:23	5
Molybdenum	0.454	U	0.982	0.454	mg/Kg	☼	12/13/24 14:55	12/17/24 11:23	5
Selenium	**0.550**	**J**	0.982	0.464	mg/Kg	☼	12/13/24 14:55	12/17/24 11:23	5
Thallium	0.265	U	0.982	0.265	mg/Kg	☼	12/13/24 14:55	12/17/24 11:23	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0130**	**J**	0.0211	0.00943	mg/Kg	☼	12/18/24 07:02	12/18/24 20:51	1

Method: EPA 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.737**		0.177	0.191	1.00	0.136	pCi/g	12/18/24 10:19	01/08/25 18:07	1
Radium-228	**1.18**		0.311	0.332		0.150	pCi/g	12/18/24 10:19	01/08/25 18:07	1
Radium 226 and 228 (positive only)	**1.92**		0.358	0.383		0.150	pCi/g	12/18/24 10:19	01/08/25 18:07	1

Client Sample ID: B5-1 (12102024)

Lab Sample ID: 860-89099-7
Date Collected: 12/10/24 12:00
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 82.0

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.209**	**J**	0.500	0.100	mg/L			12/17/24 13:03	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:18	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.597	U	2.03	0.597	mg/Kg	☼	12/13/24 14:55	12/17/24 11:25	5
Arsenic	**0.973**	**J**	2.03	0.523	mg/Kg	☼	12/13/24 14:55	12/17/24 11:25	5
Barium	**5.80**		2.03	0.696	mg/Kg	☼	12/13/24 14:55	12/17/24 11:25	5
Beryllium	0.257	U	1.02	0.257	mg/Kg	☼	12/13/24 14:55	12/17/24 11:25	5
Cadmium	0.271	U	1.02	0.271	mg/Kg	☼	12/13/24 14:55	12/17/24 11:25	5
Chromium	**1.10**	**J**	2.03	0.274	mg/Kg	☼	12/13/24 14:55	12/17/24 11:25	5
Cobalt	0.306	U	1.02	0.306	mg/Kg	☼	12/13/24 14:55	12/17/24 11:25	5
Lead	**2.69**		1.02	0.322	mg/Kg	☼	12/13/24 14:55	12/17/24 11:25	5
Molybdenum	0.470	U	1.02	0.470	mg/Kg	☼	12/13/24 14:55	12/17/24 11:25	5
Selenium	0.480	U	1.02	0.480	mg/Kg	☼	12/13/24 14:55	12/17/24 11:25	5
Thallium	0.274	U	1.02	0.274	mg/Kg	☼	12/13/24 14:55	12/17/24 11:25	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0103	U	0.0230	0.0103	mg/Kg	☼	12/18/24 07:02	12/18/24 21:03	1

Client Sample ID: C5-1 (12102024)

Lab Sample ID: 860-89099-10
Date Collected: 12/10/24 12:25
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 94.2

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.123**	**J**	0.500	0.100	mg/L			12/17/24 12:48	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:20	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.546	U	1.86	0.546	mg/Kg	☼	12/13/24 14:55	12/17/24 11:27	5
Arsenic	0.479	U	1.86	0.479	mg/Kg	☼	12/13/24 14:55	12/17/24 11:27	5
Barium	**4.27**		1.86	0.638	mg/Kg	☼	12/13/24 14:55	12/17/24 11:27	5
Beryllium	0.235	U	0.931	0.235	mg/Kg	☼	12/13/24 14:55	12/17/24 11:27	5
Cadmium	0.248	U	0.931	0.248	mg/Kg	☼	12/13/24 14:55	12/17/24 11:27	5
Chromium	**1.14**	**J**	1.86	0.251	mg/Kg	☼	12/13/24 14:55	12/17/24 11:27	5
Cobalt	0.281	U	0.931	0.281	mg/Kg	☼	12/13/24 14:55	12/17/24 11:27	5
Lead	**3.19**		0.931	0.295	mg/Kg	☼	12/13/24 14:55	12/17/24 11:27	5
Molybdenum	0.430	U	0.931	0.430	mg/Kg	☼	12/13/24 14:55	12/17/24 11:27	5
Selenium	0.440	U	0.931	0.440	mg/Kg	☼	12/13/24 14:55	12/17/24 11:27	5
Thallium	0.251	U	0.931	0.251	mg/Kg	☼	12/13/24 14:55	12/17/24 11:27	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00931	U	0.0208	0.00931	mg/Kg	☼	12/18/24 07:02	12/18/24 20:52	1

Method: EPA 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.740**		0.152	0.169	1.00	0.120	pCi/g	12/18/24 10:19	01/08/25 18:07	1
Radium-228	**0.526**		0.191	0.198		0.232	pCi/g	12/18/24 10:19	01/08/25 18:07	1
Radium 226 and 228 (positive only)	**1.27**		0.244	0.260		0.232	pCi/g	12/18/24 10:19	01/08/25 18:07	1

Client Sample ID: C4-1 (12102024)

Lab Sample ID: 860-89099-13
Date Collected: 12/10/24 14:35
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 85.3

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.278**	**J**	0.500	0.100	mg/L			12/17/24 18:36	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:21	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.573	U	1.95	0.573	mg/Kg	☼	12/13/24 14:55	12/17/24 11:29	5
Arsenic	0.503	U	1.95	0.503	mg/Kg	☼	12/13/24 14:55	12/17/24 11:29	5
Barium	**8.96**		1.95	0.669	mg/Kg	☼	12/13/24 14:55	12/17/24 11:29	5
Beryllium	0.247	U	0.977	0.247	mg/Kg	☼	12/13/24 14:55	12/17/24 11:29	5
Cadmium	0.261	U	0.977	0.261	mg/Kg	☼	12/13/24 14:55	12/17/24 11:29	5

Client Sample ID: C4-1 (12102024)

Lab Sample ID: 860-89099-13
Date Collected: 12/10/24 14:35
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 85.3

Method: SW846 6020B - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**1.84**	**J**	1.95	0.264	mg/Kg	☼	12/13/24 14:55	12/17/24 11:29	5
Cobalt	0.295	U	0.977	0.295	mg/Kg	☼	12/13/24 14:55	12/17/24 11:29	5
Lead	**3.19**		0.977	0.310	mg/Kg	☼	12/13/24 14:55	12/17/24 11:29	5
Molybdenum	0.451	U	0.977	0.451	mg/Kg	☼	12/13/24 14:55	12/17/24 11:29	5
Selenium	0.462	U	0.977	0.462	mg/Kg	☼	12/13/24 14:55	12/17/24 11:29	5
Thallium	0.263	U	0.977	0.263	mg/Kg	☼	12/13/24 14:55	12/17/24 11:29	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00972	U	0.0217	0.00972	mg/Kg	☼	12/18/24 07:02	12/18/24 20:54	1

Client Sample ID: D3-1 (12102024)

Lab Sample ID: 860-89099-16
Date Collected: 12/10/24 15:00
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 86.1

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.133**	**J**	0.500	0.100	mg/L			12/17/24 18:21	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:23	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.578	U	1.97	0.578	mg/Kg	☼	12/13/24 14:55	12/17/24 11:31	5
Arsenic	**1.77**	**J**	1.97	0.507	mg/Kg	☼	12/13/24 14:55	12/17/24 11:31	5
Barium	**16.4**		1.97	0.674	mg/Kg	☼	12/13/24 14:55	12/17/24 11:31	5
Beryllium	0.249	U	0.984	0.249	mg/Kg	☼	12/13/24 14:55	12/17/24 11:31	5
Cadmium	0.263	U	0.984	0.263	mg/Kg	☼	12/13/24 14:55	12/17/24 11:31	5
Chromium	**4.52**		1.97	0.266	mg/Kg	☼	12/13/24 14:55	12/17/24 11:31	5
Cobalt	**0.521**	**J**	0.984	0.297	mg/Kg	☼	12/13/24 14:55	12/17/24 11:31	5
Lead	**4.43**		0.984	0.312	mg/Kg	☼	12/13/24 14:55	12/17/24 11:31	5
Molybdenum	0.455	U	0.984	0.455	mg/Kg	☼	12/13/24 14:55	12/17/24 11:31	5
Selenium	0.465	U	0.984	0.465	mg/Kg	☼	12/13/24 14:55	12/17/24 11:31	5
Thallium	0.265	U	0.984	0.265	mg/Kg	☼	12/13/24 14:55	12/17/24 11:31	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0305**		0.0219	0.00981	mg/Kg	☼	12/18/24 07:02	12/18/24 20:55	1

Client Sample ID: C3-1 (12102024)

Lab Sample ID: 860-89099-19
Date Collected: 12/10/24 15:20
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 83.7

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.129**	**J**	0.500	0.100	mg/L			12/17/24 18:06	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:25	1

Client Sample ID: C3-1 (12102024)

Lab Sample ID: 860-89099-19
Date Collected: 12/10/24 15:20
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 83.7

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.615	U	2.10	0.615	mg/Kg	☼	12/13/24 14:55	12/17/24 11:33	5
Arsenic	**0.767**	**J**	2.10	0.540	mg/Kg	☼	12/13/24 14:55	12/17/24 11:33	5
Barium	**9.92**		2.10	0.718	mg/Kg	☼	12/13/24 14:55	12/17/24 11:33	5
Beryllium	0.265	U	1.05	0.265	mg/Kg	☼	12/13/24 14:55	12/17/24 11:33	5
Cadmium	0.280	U	1.05	0.280	mg/Kg	☼	12/13/24 14:55	12/17/24 11:33	5
Chromium	**2.62**		2.10	0.283	mg/Kg	☼	12/13/24 14:55	12/17/24 11:33	5
Cobalt	0.316	U	1.05	0.316	mg/Kg	☼	12/13/24 14:55	12/17/24 11:33	5
Lead	**3.06**		1.05	0.332	mg/Kg	☼	12/13/24 14:55	12/17/24 11:33	5
Molybdenum	0.484	U	1.05	0.484	mg/Kg	☼	12/13/24 14:55	12/17/24 11:33	5
Selenium	0.495	U	1.05	0.495	mg/Kg	☼	12/13/24 14:55	12/17/24 11:33	5
Thallium	0.282	U	1.05	0.282	mg/Kg	☼	12/13/24 14:55	12/17/24 11:33	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0155**	**J**	0.0221	0.00990	mg/Kg	☼	12/18/24 07:02	12/18/24 20:56	1

Method: EPA 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.952**		0.175	0.198	1.00	0.143	pCi/g	12/18/24 10:19	01/08/25 18:07	1
Radium-228	**0.814**		0.235	0.248		0.190	pCi/g	12/18/24 10:19	01/08/25 18:07	1
Radium 226 and 228 (positive only)	**1.77**		0.293	0.317		0.190	pCi/g	12/18/24 10:19	01/08/25 18:07	1

Client Sample ID: B3-1 (12102024)

Lab Sample ID: 860-89099-22
Date Collected: 12/10/24 15:40
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 84.6

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.145**	**J**	0.500	0.100	mg/L			12/17/24 17:51	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:27	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.598	U	2.04	0.598	mg/Kg	☼	12/13/24 14:55	12/17/24 11:35	5
Arsenic	0.525	U	2.04	0.525	mg/Kg	☼	12/13/24 14:55	12/17/24 11:35	5
Barium	**5.72**		2.04	0.698	mg/Kg	☼	12/13/24 14:55	12/17/24 11:35	5
Beryllium	0.258	U	1.02	0.258	mg/Kg	☼	12/13/24 14:55	12/17/24 11:35	5
Cadmium	0.272	U	1.02	0.272	mg/Kg	☼	12/13/24 14:55	12/17/24 11:35	5
Chromium	**0.621**	**J**	2.04	0.275	mg/Kg	☼	12/13/24 14:55	12/17/24 11:35	5
Cobalt	0.307	U	1.02	0.307	mg/Kg	☼	12/13/24 14:55	12/17/24 11:35	5
Lead	**1.83**		1.02	0.323	mg/Kg	☼	12/13/24 14:55	12/17/24 11:35	5
Molybdenum	0.471	U	1.02	0.471	mg/Kg	☼	12/13/24 14:55	12/17/24 11:35	5
Selenium	0.481	U	1.02	0.481	mg/Kg	☼	12/13/24 14:55	12/17/24 11:35	5
Thallium	0.275	U	1.02	0.275	mg/Kg	☼	12/13/24 14:55	12/17/24 11:35	5

Client Sample ID: B3-1 (12102024)

Lab Sample ID: 860-89099-22
Date Collected: 12/10/24 15:40
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 84.6

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00962	U	0.0215	0.00962	mg/Kg	☼	12/18/24 07:02	12/18/24 20:58	1

Client Sample ID: A3-1 (12102024)

Lab Sample ID: 860-89099-25
Date Collected: 12/10/24 16:00
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 71.8

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.148**	**J**	0.500	0.100	mg/L			12/17/24 12:33	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:28	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.693	U	2.36	0.693	mg/Kg	☼	12/13/24 14:55	12/17/24 11:37	5
Arsenic	0.608	U	2.36	0.608	mg/Kg	☼	12/13/24 14:55	12/17/24 11:37	5
Barium	**6.10**		2.36	0.809	mg/Kg	☼	12/13/24 14:55	12/17/24 11:37	5
Beryllium	0.299	U	1.18	0.299	mg/Kg	☼	12/13/24 14:55	12/17/24 11:37	5
Cadmium	0.315	U	1.18	0.315	mg/Kg	☼	12/13/24 14:55	12/17/24 11:37	5
Chromium	**0.862**	**J**	2.36	0.319	mg/Kg	☼	12/13/24 14:55	12/17/24 11:37	5
Cobalt	0.356	U	1.18	0.356	mg/Kg	☼	12/13/24 14:55	12/17/24 11:37	5
Lead	**2.40**		1.18	0.374	mg/Kg	☼	12/13/24 14:55	12/17/24 11:37	5
Molybdenum	0.545	U	1.18	0.545	mg/Kg	☼	12/13/24 14:55	12/17/24 11:37	5
Selenium	0.558	U	1.18	0.558	mg/Kg	☼	12/13/24 14:55	12/17/24 11:37	5
Thallium	0.318	U	1.18	0.318	mg/Kg	☼	12/13/24 14:55	12/17/24 11:37	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0125	U	0.0279	0.0125	mg/Kg	☼	12/18/24 07:02	12/18/24 21:02	1

Method: EPA 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.714**		0.169	0.183	1.00	0.171	pCi/g	12/18/24 10:19	01/08/25 18:08	1
Radium-228	**0.926**		0.238	0.254		0.181	pCi/g	12/18/24 10:19	01/08/25 18:08	1
Radium 226 and 228 (positive only)	**1.64**		0.292	0.313		0.181	pCi/g	12/18/24 10:19	01/08/25 18:08	1

Client Sample ID: A4-1 (12112024)

Lab Sample ID: 860-89099-32
Date Collected: 12/11/24 12:50
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 67.1

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.159**	**J**	0.500	0.100	mg/L			12/17/24 20:06	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:30	1

Client Sample ID: A4-1 (12112024)

Lab Sample ID: 860-89099-32
Date Collected: 12/11/24 12:50
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 67.1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.729	U	2.48	0.729	mg/Kg	☼	12/13/24 14:55	12/17/24 11:39	5
Arsenic	**1.17**	**J**	2.48	0.640	mg/Kg	☼	12/13/24 14:55	12/17/24 11:39	5
Barium	**8.68**		2.48	0.851	mg/Kg	☼	12/13/24 14:55	12/17/24 11:39	5
Beryllium	0.314	U	1.24	0.314	mg/Kg	☼	12/13/24 14:55	12/17/24 11:39	5
Cadmium	0.332	U	1.24	0.332	mg/Kg	☼	12/13/24 14:55	12/17/24 11:39	5
Chromium	**1.44**	**J**	2.48	0.335	mg/Kg	☼	12/13/24 14:55	12/17/24 11:39	5
Cobalt	0.374	U	1.24	0.374	mg/Kg	☼	12/13/24 14:55	12/17/24 11:39	5
Lead	**2.79**		1.24	0.394	mg/Kg	☼	12/13/24 14:55	12/17/24 11:39	5
Molybdenum	0.574	U	1.24	0.574	mg/Kg	☼	12/13/24 14:55	12/17/24 11:39	5
Selenium	0.587	U	1.24	0.587	mg/Kg	☼	12/13/24 14:55	12/17/24 11:39	5
Thallium	0.335	U	1.24	0.335	mg/Kg	☼	12/13/24 14:55	12/17/24 11:39	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0121	U	0.0271	0.0121	mg/Kg	☼	12/18/24 07:02	12/18/24 21:05	1

Client Sample ID: A2-1 (12112024)

Lab Sample ID: 860-89099-35
Date Collected: 12/11/24 13:05
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 78.7

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.560**		0.500	0.100	mg/L			12/17/24 19:51	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:32	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.622	U	2.12	0.622	mg/Kg	☼	12/13/24 14:55	12/17/24 11:41	5
Arsenic	**0.724**	**J**	2.12	0.545	mg/Kg	☼	12/13/24 14:55	12/17/24 11:41	5
Barium	**22.9**		2.12	0.725	mg/Kg	☼	12/13/24 14:55	12/17/24 11:41	5
Beryllium	0.268	U	1.06	0.268	mg/Kg	☼	12/13/24 14:55	12/17/24 11:41	5
Cadmium	0.283	U	1.06	0.283	mg/Kg	☼	12/13/24 14:55	12/17/24 11:41	5
Chromium	**1.62**	**J**	2.12	0.286	mg/Kg	☼	12/13/24 14:55	12/17/24 11:41	5
Cobalt	0.319	U	1.06	0.319	mg/Kg	☼	12/13/24 14:55	12/17/24 11:41	5
Lead	**3.34**		1.06	0.336	mg/Kg	☼	12/13/24 14:55	12/17/24 11:41	5
Molybdenum	0.489	U	1.06	0.489	mg/Kg	☼	12/13/24 14:55	12/17/24 11:41	5
Selenium	**0.523**	**J**	1.06	0.500	mg/Kg	☼	12/13/24 14:55	12/17/24 11:41	5
Thallium	0.285	U	1.06	0.285	mg/Kg	☼	12/13/24 14:55	12/17/24 11:41	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0105	U	0.0235	0.0105	mg/Kg	☼	12/18/24 07:02	12/18/24 21:06	1

Client Sample ID: B1-1 (12112024)

Lab Sample ID: 860-89099-38
Date Collected: 12/11/24 13:15
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 84.8

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.284**	**J**	0.500	0.100	mg/L			12/17/24 19:36	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:37	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.607	U	2.07	0.607	mg/Kg	☼	12/13/24 14:55	12/17/24 11:53	5
Arsenic	0.533	U	2.07	0.533	mg/Kg	☼	12/13/24 14:55	12/17/24 11:53	5
Barium	**6.89**		2.07	0.709	mg/Kg	☼	12/13/24 14:55	12/17/24 11:53	5
Beryllium	0.262	U	1.03	0.262	mg/Kg	☼	12/13/24 14:55	12/17/24 11:53	5
Cadmium	0.276	U	1.03	0.276	mg/Kg	☼	12/13/24 14:55	12/17/24 11:53	5
Chromium	**1.23**	**J**	2.07	0.279	mg/Kg	☼	12/13/24 14:55	12/17/24 11:53	5
Cobalt	0.312	U	1.03	0.312	mg/Kg	☼	12/13/24 14:55	12/17/24 11:53	5
Lead	**2.61**		1.03	0.328	mg/Kg	☼	12/13/24 14:55	12/17/24 11:53	5
Molybdenum	0.478	U	1.03	0.478	mg/Kg	☼	12/13/24 14:55	12/17/24 11:53	5
Selenium	0.489	U	1.03	0.489	mg/Kg	☼	12/13/24 14:55	12/17/24 11:53	5
Thallium	0.279	U	1.03	0.279	mg/Kg	☼	12/13/24 14:55	12/17/24 11:53	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0106	U	0.0236	0.0106	mg/Kg	☼	12/18/24 07:02	12/18/24 21:14	1

Client Sample ID: C2-1 (12112024)

Lab Sample ID: 860-89099-41
Date Collected: 12/11/24 13:30
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 84.6

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.332**	**J**	0.500	0.100	mg/L			12/17/24 19:21	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:39	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.588	U	2.00	0.588	mg/Kg	☼	12/13/24 14:55	12/17/24 11:55	5
Arsenic	**1.21**	**J**	2.00	0.516	mg/Kg	☼	12/13/24 14:55	12/17/24 11:55	5
Barium	**31.3**		2.00	0.686	mg/Kg	☼	12/13/24 14:55	12/17/24 11:55	5
Beryllium	0.253	U	1.00	0.253	mg/Kg	☼	12/13/24 14:55	12/17/24 11:55	5
Cadmium	0.267	U	1.00	0.267	mg/Kg	☼	12/13/24 14:55	12/17/24 11:55	5
Chromium	**1.83**	**J**	2.00	0.270	mg/Kg	☼	12/13/24 14:55	12/17/24 11:55	5
Cobalt	**0.385**	**J**	1.00	0.302	mg/Kg	☼	12/13/24 14:55	12/17/24 11:55	5
Lead	**4.31**		1.00	0.318	mg/Kg	☼	12/13/24 14:55	12/17/24 11:55	5
Molybdenum	0.463	U	1.00	0.463	mg/Kg	☼	12/13/24 14:55	12/17/24 11:55	5
Selenium	**0.813**	**J**	1.00	0.473	mg/Kg	☼	12/13/24 14:55	12/17/24 11:55	5
Thallium	0.270	U	1.00	0.270	mg/Kg	☼	12/13/24 14:55	12/17/24 11:55	5

Client Sample ID: C2-1 (12112024)

Lab Sample ID: 860-89099-41
Date Collected: 12/11/24 13:30
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 84.6

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00962	U	0.0215	0.00962	mg/Kg	☼	12/18/24 07:02	12/18/24 21:18	1

Client Sample ID: D1-1 (12112024)

Lab Sample ID: 860-89099-44
Date Collected: 12/11/24 13:40
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 78.5

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.343**	**J**	0.500	0.100	mg/L			12/17/24 19:06	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:40	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.623	U	2.12	0.623	mg/Kg	☼	12/13/24 14:55	12/17/24 11:57	5
Arsenic	0.547	U	2.12	0.547	mg/Kg	☼	12/13/24 14:55	12/17/24 11:57	5
Barium	**72.5**		2.12	0.727	mg/Kg	☼	12/13/24 14:55	12/17/24 11:57	5
Beryllium	0.269	U	1.06	0.269	mg/Kg	☼	12/13/24 14:55	12/17/24 11:57	5
Cadmium	0.283	U	1.06	0.283	mg/Kg	☼	12/13/24 14:55	12/17/24 11:57	5
Chromium	**2.54**		2.12	0.287	mg/Kg	☼	12/13/24 14:55	12/17/24 11:57	5
Cobalt	**0.495**	**J**	1.06	0.320	mg/Kg	☼	12/13/24 14:55	12/17/24 11:57	5
Lead	**5.21**		1.06	0.337	mg/Kg	☼	12/13/24 14:55	12/17/24 11:57	5
Molybdenum	0.490	U	1.06	0.490	mg/Kg	☼	12/13/24 14:55	12/17/24 11:57	5
Selenium	**0.592**	**J**	1.06	0.502	mg/Kg	☼	12/13/24 14:55	12/17/24 11:57	5
Thallium	0.286	U	1.06	0.286	mg/Kg	☼	12/13/24 14:55	12/17/24 11:57	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0179**	**J**	0.0240	0.0108	mg/Kg	☼	12/18/24 07:02	12/18/24 21:19	1

Client Sample ID: E2-1 (12112024)

Lab Sample ID: 860-89099-47
Date Collected: 12/11/24 13:50
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 82.6

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.405**	**J**	0.500	0.100	mg/L			12/17/24 21:37	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:42	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.623	U	2.12	0.623	mg/Kg	☼	12/13/24 14:55	12/17/24 11:59	5
Arsenic	**0.575**	**J**	2.12	0.547	mg/Kg	☼	12/13/24 14:55	12/17/24 11:59	5
Barium	**25.8**		2.12	0.727	mg/Kg	☼	12/13/24 14:55	12/17/24 11:59	5
Beryllium	0.269	U	1.06	0.269	mg/Kg	☼	12/13/24 14:55	12/17/24 11:59	5
Cadmium	0.284	U	1.06	0.284	mg/Kg	☼	12/13/24 14:55	12/17/24 11:59	5
Chromium	**3.94**		2.12	0.287	mg/Kg	☼	12/13/24 14:55	12/17/24 11:59	5

Client Sample ID: E2-1 (12112024)

Lab Sample ID: 860-89099-47
Date Collected: 12/11/24 13:50
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 82.6

Method: SW846 6020B - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.862**	**J**	1.06	0.320	mg/Kg	☼	12/13/24 14:55	12/17/24 11:59	5
Lead	**5.20**		1.06	0.337	mg/Kg	☼	12/13/24 14:55	12/17/24 11:59	5
Molybdenum	0.491	U	1.06	0.491	mg/Kg	☼	12/13/24 14:55	12/17/24 11:59	5
Selenium	**0.766**	**J**	1.06	0.502	mg/Kg	☼	12/13/24 14:55	12/17/24 11:59	5
Thallium	0.286	U	1.06	0.286	mg/Kg	☼	12/13/24 14:55	12/17/24 11:59	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0100	U	0.0224	0.0100	mg/Kg	☼	12/18/24 07:02	12/18/24 21:21	1

Client Sample ID: E3-1 (12112024)

Lab Sample ID: 860-89099-50
Date Collected: 12/11/24 14:05
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 86.4

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.131**	**J**	0.500	0.100	mg/L			12/17/24 21:22	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:44	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.586	U	2.00	0.586	mg/Kg	☼	12/13/24 14:55	12/17/24 12:01	5
Arsenic	**2.86**		2.00	0.514	mg/Kg	☼	12/13/24 14:55	12/17/24 12:01	5
Barium	**23.9**		2.00	0.683	mg/Kg	☼	12/13/24 14:55	12/17/24 12:01	5
Beryllium	0.252	U	0.998	0.252	mg/Kg	☼	12/13/24 14:55	12/17/24 12:01	5
Cadmium	0.266	U	0.998	0.266	mg/Kg	☼	12/13/24 14:55	12/17/24 12:01	5
Chromium	**8.78**		2.00	0.269	mg/Kg	☼	12/13/24 14:55	12/17/24 12:01	5
Cobalt	**0.646**	**J**	0.998	0.301	mg/Kg	☼	12/13/24 14:55	12/17/24 12:01	5
Lead	**5.30**		0.998	0.316	mg/Kg	☼	12/13/24 14:55	12/17/24 12:01	5
Molybdenum	0.461	U	0.998	0.461	mg/Kg	☼	12/13/24 14:55	12/17/24 12:01	5
Selenium	**0.740**	**J**	0.998	0.471	mg/Kg	☼	12/13/24 14:55	12/17/24 12:01	5
Thallium	0.269	U	0.998	0.269	mg/Kg	☼	12/13/24 14:55	12/17/24 12:01	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0214**	**J**	0.0223	0.00996	mg/Kg	☼	12/18/24 07:02	12/18/24 21:22	1

Method: EPA 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.40**		0.263	0.298	1.00	0.170	pCi/g	12/20/24 11:10	01/13/25 10:00	1
Radium-228	**1.03**		0.236	0.256		0.248	pCi/g	12/20/24 11:10	01/13/25 10:00	1
Radium 226 and 228 (positive only)	**2.43**		0.353	0.393		0.248	pCi/g	12/20/24 11:10	01/13/25 10:00	1

Client Sample ID: E1-1 (12112024)

Lab Sample ID: 860-89099-53
Date Collected: 12/11/24 14:25
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 70.8

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.238**	**J**	0.500	0.100	mg/L			12/17/24 20:52	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:45	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.703	U	2.39	0.703	mg/Kg	☼	12/13/24 14:55	12/17/24 12:03	5
Arsenic	0.616	U	2.39	0.616	mg/Kg	☼	12/13/24 14:55	12/17/24 12:03	5
Barium	**20.9**		2.39	0.820	mg/Kg	☼	12/13/24 14:55	12/17/24 12:03	5
Beryllium	0.303	U	1.20	0.303	mg/Kg	☼	12/13/24 14:55	12/17/24 12:03	5
Cadmium	0.320	U	1.20	0.320	mg/Kg	☼	12/13/24 14:55	12/17/24 12:03	5
Chromium	**1.63**	**J**	2.39	0.323	mg/Kg	☼	12/13/24 14:55	12/17/24 12:03	5
Cobalt	**0.427**	**J**	1.20	0.361	mg/Kg	☼	12/13/24 14:55	12/17/24 12:03	5
Lead	**3.08**		1.20	0.379	mg/Kg	☼	12/13/24 14:55	12/17/24 12:03	5
Molybdenum	0.553	U	1.20	0.553	mg/Kg	☼	12/13/24 14:55	12/17/24 12:03	5
Selenium	0.566	U	1.20	0.566	mg/Kg	☼	12/13/24 14:55	12/17/24 12:03	5
Thallium	0.323	U	1.20	0.323	mg/Kg	☼	12/13/24 14:55	12/17/24 12:03	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0115	U	0.0257	0.0115	mg/Kg	☼	12/18/24 07:02	12/18/24 21:24	1

Method: EPA 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.831**		0.211	0.226	1.00	0.188	pCi/g	12/18/24 10:19	01/08/25 18:08	1
Radium-228	**0.704**		0.391	0.397		0.392	pCi/g	12/18/24 10:19	01/08/25 18:08	1
Radium 226 and 228 (positive only)	**1.54**		0.444	0.457		0.392	pCi/g	12/18/24 10:19	01/08/25 18:08	1

Client Sample ID: D2-1 (12112024)

Lab Sample ID: 860-89099-56
Date Collected: 12/11/24 14:40
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 68.6

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.348**	**J**	0.500	0.100	mg/L			12/17/24 21:07	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:47	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.751	U	2.56	0.751	mg/Kg	☼	12/13/24 14:55	12/17/24 12:05	5
Arsenic	0.659	U	2.56	0.659	mg/Kg	☼	12/13/24 14:55	12/17/24 12:05	5
Barium	**29.5**		2.56	0.876	mg/Kg	☼	12/13/24 14:55	12/17/24 12:05	5
Beryllium	0.324	U	1.28	0.324	mg/Kg	☼	12/13/24 14:55	12/17/24 12:05	5
Cadmium	0.341	U	1.28	0.341	mg/Kg	☼	12/13/24 14:55	12/17/24 12:05	5

Client Sample ID: D2-1 (12112024)

Lab Sample ID: 860-89099-56
Date Collected: 12/11/24 14:40
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 68.6

Method: SW846 6020B - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**2.05**	**J**	2.56	0.345	mg/Kg	☼	12/13/24 14:55	12/17/24 12:05	5
Cobalt	**0.554**	**J**	1.28	0.386	mg/Kg	☼	12/13/24 14:55	12/17/24 12:05	5
Lead	**3.88**		1.28	0.405	mg/Kg	☼	12/13/24 14:55	12/17/24 12:05	5
Molybdenum	0.591	U	1.28	0.591	mg/Kg	☼	12/13/24 14:55	12/17/24 12:05	5
Selenium	**0.646**	**J**	1.28	0.604	mg/Kg	☼	12/13/24 14:55	12/17/24 12:05	5
Thallium	0.345	U	1.28	0.345	mg/Kg	☼	12/13/24 14:55	12/17/24 12:05	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0121	U	0.0270	0.0121	mg/Kg	☼	12/18/24 07:02	12/18/24 21:25	1

Method: EPA 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.826**		0.169	0.188	1.00	0.119	pCi/g	12/18/24 10:19	01/08/25 18:43	1
Radium-228	**0.431**		0.180	0.185		0.394	pCi/g	12/18/24 10:19	01/08/25 18:43	1
Radium 226 and 228 (positive only)	**1.26**		0.247	0.264		0.394	pCi/g	12/18/24 10:19	01/08/25 18:43	1

Client Sample ID: C1-1 (12112024)

Lab Sample ID: 860-89099-59
Date Collected: 12/11/24 14:55
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 80.4

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.247**	**J**	0.500	0.100	mg/L			12/18/24 10:53	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/18/24 09:00	12/18/24 16:26	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.608	U	2.07	0.608	mg/Kg	☼	12/13/24 14:55	12/17/24 12:07	5
Arsenic	0.534	U	2.07	0.534	mg/Kg	☼	12/13/24 14:55	12/17/24 12:07	5
Barium	**5.75**		2.07	0.710	mg/Kg	☼	12/13/24 14:55	12/17/24 12:07	5
Beryllium	0.262	U	1.04	0.262	mg/Kg	☼	12/13/24 14:55	12/17/24 12:07	5
Cadmium	0.277	U	1.04	0.277	mg/Kg	☼	12/13/24 14:55	12/17/24 12:07	5
Chromium	**0.839**	**J**	2.07	0.280	mg/Kg	☼	12/13/24 14:55	12/17/24 12:07	5
Cobalt	0.313	U	1.04	0.313	mg/Kg	☼	12/13/24 14:55	12/17/24 12:07	5
Lead	**2.09**		1.04	0.329	mg/Kg	☼	12/13/24 14:55	12/17/24 12:07	5
Molybdenum	0.479	U	1.04	0.479	mg/Kg	☼	12/13/24 14:55	12/17/24 12:07	5
Selenium	0.490	U	1.04	0.490	mg/Kg	☼	12/13/24 14:55	12/17/24 12:07	5
Thallium	0.279	U	1.04	0.279	mg/Kg	☼	12/13/24 14:55	12/17/24 12:07	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0109	U	0.0244	0.0109	mg/Kg	☼	12/18/24 07:02	12/18/24 21:26	1

Client Sample ID: C1-1 (12112024)

Lab Sample ID: 860-89099-59
Date Collected: 12/11/24 14:55
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 80.4

Method: EPA 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.594		0.136	0.148	1.00	0.113	pCi/g	12/18/24 10:19	01/08/25 18:44	1
Radium-228	0.921		0.187	0.207		0.144	pCi/g	12/18/24 10:19	01/08/25 18:44	1
Radium 226 and 228 (positive only)	1.52		0.231	0.254		0.144	pCi/g	12/18/24 10:19	01/08/25 18:44	1

Client Sample ID: B2-1 (12112024)

Lab Sample ID: 860-89099-62
Date Collected: 12/11/24 15:10
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 87.0

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.129	J	0.500	0.100	mg/L			12/17/24 20:37	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:49	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.572	U	1.95	0.572	mg/Kg	☼	12/13/24 14:55	12/17/24 12:09	5
Arsenic	0.538	J	1.95	0.502	mg/Kg	☼	12/13/24 14:55	12/17/24 12:09	5
Barium	19.4		1.95	0.667	mg/Kg	☼	12/13/24 14:55	12/17/24 12:09	5
Beryllium	0.246	U	0.974	0.246	mg/Kg	☼	12/13/24 14:55	12/17/24 12:09	5
Cadmium	0.260	U	0.974	0.260	mg/Kg	☼	12/13/24 14:55	12/17/24 12:09	5
Chromium	3.42		1.95	0.263	mg/Kg	☼	12/13/24 14:55	12/17/24 12:09	5
Cobalt	0.504	J	0.974	0.294	mg/Kg	☼	12/13/24 14:55	12/17/24 12:09	5
Lead	3.56		0.974	0.309	mg/Kg	☼	12/13/24 14:55	12/17/24 12:09	5
Molybdenum	0.450	U	0.974	0.450	mg/Kg	☼	12/13/24 14:55	12/17/24 12:09	5
Selenium	0.586	J	0.974	0.460	mg/Kg	☼	12/13/24 14:55	12/17/24 12:09	5
Thallium	0.263	U	0.974	0.263	mg/Kg	☼	12/13/24 14:55	12/17/24 12:09	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0118	J	0.0213	0.00953	mg/Kg	☼	12/18/24 07:02	12/18/24 21:28	1

Method: EPA 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.05		0.165	0.195	1.00	0.110	pCi/g	12/20/24 11:10	01/13/25 10:00	1
Radium-228	1.10		0.224	0.249		0.0847	pCi/g	12/20/24 11:10	01/13/25 10:00	1
Radium 226 and 228 (positive only)	2.15		0.278	0.316		0.110	pCi/g	12/20/24 11:10	01/13/25 10:00	1

Client: Arcadis US Inc.
Project/Site: AEP Hallsville TX

Job ID: 860-89099-1

Client Sample ID: A1-1 (12112024)

Date Collected: 12/11/24 15:35
Date Received: 12/12/24 12:05

Lab Sample ID: 860-89099-65

Matrix: Solid
Percent Solids: 70.6

Method: EPA 300.0 - Anions, Ion Chromatography - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.278**	**J**	0.500	0.100	mg/L			12/17/24 22:37	1

Method: SW846 6010D - Metals (ICP) - SPLP West

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 08:30	12/17/24 18:08	1

Method: SW846 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.705	U	2.40	0.705	mg/Kg	☼	12/13/24 14:58	12/13/24 20:13	5
Arsenic	**0.804**	**J**	2.40	0.618	mg/Kg	☼	12/13/24 14:58	12/13/24 20:13	5
Barium	**17.0**		2.40	0.822	mg/Kg	☼	12/13/24 14:58	12/13/24 20:13	5
Beryllium	0.304	U	1.20	0.304	mg/Kg	☼	12/13/24 14:58	12/13/24 20:13	5
Cadmium	0.320	U	1.20	0.320	mg/Kg	☼	12/13/24 14:58	12/13/24 20:13	5
Chromium	**1.96**	**J**	2.40	0.324	mg/Kg	☼	12/13/24 14:58	12/13/24 20:13	5
Cobalt	0.362	U	1.20	0.362	mg/Kg	☼	12/13/24 14:58	12/13/24 20:13	5
Lead	**5.48**		1.20	0.381	mg/Kg	☼	12/13/24 14:58	12/13/24 20:13	5
Molybdenum	0.555	U	1.20	0.555	mg/Kg	☼	12/13/24 14:58	12/13/24 20:13	5
Selenium	**1.06**	**J**	1.20	0.567	mg/Kg	☼	12/13/24 14:58	12/13/24 20:13	5
Thallium	0.323	U	1.20	0.323	mg/Kg	☼	12/13/24 14:58	12/13/24 20:13	5

Method: SW846 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0115	U	0.0258	0.0115	mg/Kg	☼	12/18/24 06:59	12/18/24 20:22	1

Method: EPA 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.674**		0.180	0.192	1.00	0.140	pCi/g	12/18/24 10:19	01/08/25 18:45	1
Radium-228	**0.598**		0.294	0.300		0.446	pCi/g	12/18/24 10:19	01/08/25 18:45	1
Radium 226 and 228 (positive only)	**1.27**		0.345	0.356		0.446	pCi/g	12/18/24 10:19	01/08/25 18:45	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 860-205896/3
Matrix: Solid
Analysis Batch: 205896

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.100	U	0.500	0.100	mg/L			12/17/24 10:03	1

Lab Sample ID: MB 860-205896/62
Matrix: Solid
Analysis Batch: 205896

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.100	U	0.500	0.100	mg/L			12/17/24 22:07	1

Lab Sample ID: LCS 860-205896/4
Matrix: Solid
Analysis Batch: 205896

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	9.385		mg/L		94	90 - 110

Lab Sample ID: LCS 860-205896/63
Matrix: Solid
Analysis Batch: 205896

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	9.656		mg/L		97	90 - 110

Lab Sample ID: LCSD 860-205896/5
Matrix: Solid
Analysis Batch: 205896

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	10.0	9.851		mg/L		99	90 - 110	5	20

Lab Sample ID: LCSD 860-205896/64
Matrix: Solid
Analysis Batch: 205896

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	10.0	10.11		mg/L		101	90 - 110	5	20

Lab Sample ID: MB 860-206238/3
Matrix: Solid
Analysis Batch: 206238

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.100	U	0.500	0.100	mg/L			12/18/24 10:20	1

Lab Sample ID: LCS 860-206238/4
Matrix: Solid
Analysis Batch: 206238

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	10.0	10.05		mg/L		101	90 - 110

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCSD 860-206238/5
Matrix: Solid
Analysis Batch: 206238

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	10.0	10.03		mg/L		100	90 - 110	0	20

Lab Sample ID: LLCS 860-206238/6
Matrix: Solid
Analysis Batch: 206238

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

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.500	0.5043		mg/L		101	50 - 150

Lab Sample ID: LB 860-205593/1-A
Matrix: Solid
Analysis Batch: 205896

Client Sample ID: Method Blank
Prep Type: SPLP West

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.100	U	0.500	0.100	mg/L			12/17/24 11:25	1

Lab Sample ID: LB 860-205594/1-A
Matrix: Solid
Analysis Batch: 205896

Client Sample ID: Method Blank
Prep Type: SPLP West

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.100	U	0.500	0.100	mg/L			12/17/24 22:30	1

Lab Sample ID: 860-89099-1 MS
Matrix: Solid
Analysis Batch: 205896

Client Sample ID: A5-1 (12102024)
Prep Type: SPLP West

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.666		10.0	7.823	N1	mg/L		72	90 - 110

Lab Sample ID: 860-89099-1 MSD
Matrix: Solid
Analysis Batch: 205896

Client Sample ID: A5-1 (12102024)
Prep Type: SPLP West

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	0.666		10.0	7.938	N1	mg/L		73	90 - 110	1	15

Lab Sample ID: 860-89099-65 MSD
Matrix: Solid
Analysis Batch: 205896

Client Sample ID: A1-1 (12112024)
Prep Type: SPLP West

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	0.278	J	10.0	11.75	N1	mg/L		115	90 - 110	0	15

Lab Sample ID: 860-89099-C-65-D MS
Matrix: Solid
Analysis Batch: 205896

Client Sample ID: 860-89099-C-65-D MS
Prep Type: SPLP West

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	1.00	U	10.0	11.80	N1	mg/L		118	90 - 110

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LB 860-206003/1-A
Matrix: Solid
Analysis Batch: 206238

Client Sample ID: Method Blank
Prep Type: SPLP West

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.100	U	0.500	0.100	mg/L			12/18/24 10:47	1

Lab Sample ID: 860-89099-59 MS
Matrix: Solid
Analysis Batch: 206238

Client Sample ID: C1-1 (12112024)
Prep Type: SPLP West

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.247	J	10.0	10.93		mg/L		107	90 - 110

Lab Sample ID: 860-89099-59 MSD
Matrix: Solid
Analysis Batch: 206238

Client Sample ID: C1-1 (12112024)
Prep Type: SPLP West

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	0.247	J	10.0	10.95		mg/L		107	90 - 110	0	15

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 860-205873/1-A
Matrix: Solid
Analysis Batch: 206208

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205873

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 08:30	12/17/24 17:44	1

Lab Sample ID: LCS 860-205873/2-A
Matrix: Solid
Analysis Batch: 206208

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205873

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	0.9960		mg/L		100	80 - 120

Lab Sample ID: LCSD 860-205873/3-A
Matrix: Solid
Analysis Batch: 206208

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205873

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	1.00	0.9980		mg/L		100	80 - 120	0	20

Lab Sample ID: MB 860-205894/1-A
Matrix: Solid
Analysis Batch: 206223

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205894

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 16:57	1

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: LCS 860-205894/2-A
Matrix: Solid
Analysis Batch: 206223

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205894

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	0.9370		mg/L		94	80 - 120

Lab Sample ID: LCSD 860-205894/3-A
Matrix: Solid
Analysis Batch: 206223

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205894

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	1.00	0.9410		mg/L		94	80 - 120	0	20

Lab Sample ID: MB 860-206225/1-A
Matrix: Solid
Analysis Batch: 206521

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 206225

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/18/24 09:00	12/18/24 16:19	1

Lab Sample ID: LCS 860-206225/2-A
Matrix: Solid
Analysis Batch: 206521

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 206225

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	1.020		mg/L		102	80 - 120

Lab Sample ID: LCSD 860-206225/3-A
Matrix: Solid
Analysis Batch: 206521

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 206225

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	1.00	1.020		mg/L		102	80 - 120	0	20

Lab Sample ID: LB 860-205594/1-B
Matrix: Solid
Analysis Batch: 206208

Client Sample ID: Method Blank
Prep Type: SPLP West
Prep Batch: 205873

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 08:30	12/17/24 17:49	1

Lab Sample ID: 880-51786-A-4-H MS
Matrix: Solid
Analysis Batch: 206208

Client Sample ID: Matrix Spike
Prep Type: SPLP West
Prep Batch: 205873

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.0174	U	1.00	1.000		mg/L		100	75 - 125

Lab Sample ID: 880-51786-A-4-I MSD
Matrix: Solid
Analysis Batch: 206208

Client Sample ID: Matrix Spike Duplicate
Prep Type: SPLP West
Prep Batch: 205873

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.0174	U	1.00	0.9890		mg/L		99	75 - 125	1	20

Method: 6010D - Metals (ICP)

Lab Sample ID: LB 860-205593/1-B
Matrix: Solid
Analysis Batch: 206223

Client Sample ID: Method Blank
Prep Type: SPLP West
Prep Batch: 205894

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/17/24 09:30	12/17/24 17:02	1

Lab Sample ID: 860-89099-1 MS
Matrix: Solid
Analysis Batch: 206223

Client Sample ID: A5-1 (12102024)
Prep Type: SPLP West
Prep Batch: 205894

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.0174	U	1.00	0.8480		mg/L		85	75 - 125

Lab Sample ID: 860-89099-1 MSD
Matrix: Solid
Analysis Batch: 206223

Client Sample ID: A5-1 (12102024)
Prep Type: SPLP West
Prep Batch: 205894

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.0174	U	1.00	0.7700		mg/L		77	75 - 125	10	20

Lab Sample ID: LB 860-206003/1-B
Matrix: Solid
Analysis Batch: 206521

Client Sample ID: Method Blank
Prep Type: SPLP West
Prep Batch: 206225

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.0174	U	0.0400	0.0174	mg/L		12/18/24 09:00	12/18/24 16:24	1

Lab Sample ID: 860-89099-59 MS
Matrix: Solid
Analysis Batch: 206521

Client Sample ID: C1-1 (12112024)
Prep Type: SPLP West
Prep Batch: 206225

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.0174	U	1.00	1.010		mg/L		101	75 - 125

Lab Sample ID: 860-89099-59 MSD
Matrix: Solid
Analysis Batch: 206521

Client Sample ID: C1-1 (12112024)
Prep Type: SPLP West
Prep Batch: 206225

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.0174	U	1.00	1.020		mg/L		102	75 - 125	1	20

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 860-205382/1-A
Matrix: Solid
Analysis Batch: 206019

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205382

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.117	U	0.400	0.117	mg/Kg		12/13/24 14:55	12/17/24 11:00	1
Arsenic	0.103	U	0.400	0.103	mg/Kg		12/13/24 14:55	12/17/24 11:00	1
Barium	0.137	U	0.400	0.137	mg/Kg		12/13/24 14:55	12/17/24 11:00	1
Beryllium	0.0506	U	0.200	0.0506	mg/Kg		12/13/24 14:55	12/17/24 11:00	1
Cadmium	0.0534	U	0.200	0.0534	mg/Kg		12/13/24 14:55	12/17/24 11:00	1
Chromium	0.0540	U	0.400	0.0540	mg/Kg		12/13/24 14:55	12/17/24 11:00	1

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 860-205382/1-A
Matrix: Solid
Analysis Batch: 206019

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205382

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0603	U	0.200	0.0603	mg/Kg		12/13/24 14:55	12/17/24 11:00	1
Lead	0.0634	U	0.200	0.0634	mg/Kg		12/13/24 14:55	12/17/24 11:00	1
Molybdenum	0.0924	U	0.200	0.0924	mg/Kg		12/13/24 14:55	12/17/24 11:00	1
Selenium	0.0945	U	0.200	0.0945	mg/Kg		12/13/24 14:55	12/17/24 11:00	1
Thallium	0.0539	U	0.200	0.0539	mg/Kg		12/13/24 14:55	12/17/24 11:00	1

Lab Sample ID: LCS 860-205382/2-A
Matrix: Solid
Analysis Batch: 206019

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205382

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	10.0	9.781		mg/Kg		98	80 - 120
Arsenic	10.0	9.769		mg/Kg		98	80 - 120
Barium	10.0	9.341		mg/Kg		93	80 - 120
Beryllium	10.0	9.586		mg/Kg		96	80 - 120
Cadmium	10.0	9.609		mg/Kg		96	80 - 120
Chromium	10.0	9.643		mg/Kg		96	80 - 120
Cobalt	10.0	9.131		mg/Kg		91	80 - 120
Lead	10.0	9.490		mg/Kg		95	80 - 120
Molybdenum	10.0	9.750		mg/Kg		98	80 - 120
Selenium	10.0	9.641		mg/Kg		96	80 - 120
Thallium	10.0	9.485		mg/Kg		95	80 - 120

Lab Sample ID: LCSD 860-205382/3-A
Matrix: Solid
Analysis Batch: 206019

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205382

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	10.0	9.795		mg/Kg		98	80 - 120	0	20
Arsenic	10.0	9.722		mg/Kg		97	80 - 120	0	20
Barium	10.0	9.248		mg/Kg		92	80 - 120	1	20
Beryllium	10.0	9.458		mg/Kg		95	80 - 120	1	20
Cadmium	10.0	9.571		mg/Kg		96	80 - 120	0	20
Chromium	10.0	9.618		mg/Kg		96	80 - 120	0	20
Cobalt	10.0	9.105		mg/Kg		91	80 - 120	0	20
Lead	10.0	9.463		mg/Kg		95	80 - 120	0	20
Molybdenum	10.0	9.784		mg/Kg		98	80 - 120	0	20
Selenium	10.0	9.455		mg/Kg		95	80 - 120	2	20
Thallium	10.0	9.353		mg/Kg		94	80 - 120	1	20

Lab Sample ID: 860-89099-1 MS
Matrix: Solid
Analysis Batch: 206019

Client Sample ID: A5-1 (12102024)
Prep Type: Total/NA
Prep Batch: 205382

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	1.04	U	17.4	5.553	N1	mg/Kg	☼	32	75 - 125
Arsenic	1.36	J	17.4	13.79	N1	mg/Kg	☼	71	75 - 125
Barium	51.7		17.4	48.00	N1	mg/Kg	☼	-21	75 - 125
Beryllium	0.448	U	17.4	12.93	N1	mg/Kg	☼	74	75 - 125

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 860-89099-1 MS
Matrix: Solid
Analysis Batch: 206019

Client Sample ID: A5-1 (12102024)
Prep Type: Total/NA
Prep Batch: 205382

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	0.472	U	17.4	12.94	N1	mg/Kg	☼	74	75 - 125
Chromium	5.54		17.4	18.67		mg/Kg	☼	75	75 - 125
Cobalt	0.609	J	17.4	13.40	N1	mg/Kg	☼	74	75 - 125
Lead	7.59		17.4	18.63	N1	mg/Kg	☼	64	75 - 125
Molybdenum	0.817	U	17.4	12.22	N1	mg/Kg	☼	70	75 - 125
Selenium	1.34	J	17.4	13.34	N1	mg/Kg	☼	69	75 - 125
Thallium	0.477	U	17.4	13.09		mg/Kg	☼	75	75 - 125

Lab Sample ID: 860-89099-1 MSD
Matrix: Solid
Analysis Batch: 206019

Client Sample ID: A5-1 (12102024)
Prep Type: Total/NA
Prep Batch: 205382

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	1.04	U	18.0	5.834	N1	mg/Kg	☼	32	75 - 125	5	20
Arsenic	1.36	J	18.0	14.41	N1	mg/Kg	☼	72	75 - 125	4	20
Barium	51.7		18.0	50.23	N1	mg/Kg	☼	-8	75 - 125	5	20
Beryllium	0.448	U	18.0	13.37	N1	mg/Kg	☼	74	75 - 125	3	20
Cadmium	0.472	U	18.0	13.45		mg/Kg	☼	75	75 - 125	4	20
Chromium	5.54		18.0	19.62		mg/Kg	☼	78	75 - 125	5	20
Cobalt	0.609	J	18.0	14.02		mg/Kg	☼	75	75 - 125	4	20
Lead	7.59		18.0	19.49	N1	mg/Kg	☼	66	75 - 125	4	20
Molybdenum	0.817	U	18.0	12.73	N1	mg/Kg	☼	71	75 - 125	4	20
Selenium	1.34	J	18.0	13.88	N1	mg/Kg	☼	70	75 - 125	4	20
Thallium	0.477	U	18.0	13.65		mg/Kg	☼	76	75 - 125	4	20

Lab Sample ID: MB 860-205392/1-A
Matrix: Solid
Analysis Batch: 205729

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 205392

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.117	U	0.400	0.117	mg/Kg		12/13/24 14:58	12/13/24 19:11	1
Arsenic	0.103	U	0.400	0.103	mg/Kg		12/13/24 14:58	12/13/24 19:11	1
Barium	0.137	U	0.400	0.137	mg/Kg		12/13/24 14:58	12/13/24 19:11	1
Beryllium	0.0506	U	0.200	0.0506	mg/Kg		12/13/24 14:58	12/13/24 19:11	1
Cadmium	0.0534	U	0.200	0.0534	mg/Kg		12/13/24 14:58	12/13/24 19:11	1
Chromium	0.0540	U	0.400	0.0540	mg/Kg		12/13/24 14:58	12/13/24 19:11	1
Cobalt	0.0603	U	0.200	0.0603	mg/Kg		12/13/24 14:58	12/13/24 19:11	1
Lead	0.0634	U	0.200	0.0634	mg/Kg		12/13/24 14:58	12/13/24 19:11	1
Molybdenum	0.0924	U	0.200	0.0924	mg/Kg		12/13/24 14:58	12/13/24 19:11	1
Selenium	0.0945	U	0.200	0.0945	mg/Kg		12/13/24 14:58	12/13/24 19:11	1
Thallium	0.0539	U	0.200	0.0539	mg/Kg		12/13/24 14:58	12/13/24 19:11	1

Lab Sample ID: LCS 860-205392/2-A
Matrix: Solid
Analysis Batch: 205729

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205392

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	10.0	9.354		mg/Kg		94	80 - 120
Arsenic	10.0	9.975		mg/Kg		100	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 860-205392/2-A
Matrix: Solid
Analysis Batch: 205729

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 205392

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Barium	10.0	9.804		mg/Kg		98	80 - 120
Beryllium	10.0	9.702		mg/Kg		97	80 - 120
Cadmium	10.0	9.862		mg/Kg		99	80 - 120
Chromium	10.0	9.969		mg/Kg		100	80 - 120
Cobalt	10.0	9.928		mg/Kg		99	80 - 120
Lead	10.0	9.876		mg/Kg		99	80 - 120
Molybdenum	10.0	9.800		mg/Kg		98	80 - 120
Selenium	10.0	9.741		mg/Kg		97	80 - 120
Thallium	10.0	10.05		mg/Kg		100	80 - 120

Lab Sample ID: LCSD 860-205392/3-A
Matrix: Solid
Analysis Batch: 205729

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 205392

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	10.0	9.598		mg/Kg		96	80 - 120	3	20
Arsenic	10.0	10.13		mg/Kg		101	80 - 120	1	20
Barium	10.0	9.666		mg/Kg		97	80 - 120	1	20
Beryllium	10.0	9.930		mg/Kg		99	80 - 120	2	20
Cadmium	10.0	10.04		mg/Kg		100	80 - 120	2	20
Chromium	10.0	10.02		mg/Kg		100	80 - 120	0	20
Cobalt	10.0	10.01		mg/Kg		100	80 - 120	1	20
Lead	10.0	9.873		mg/Kg		99	80 - 120	0	20
Molybdenum	10.0	9.909		mg/Kg		99	80 - 120	1	20
Selenium	10.0	10.12		mg/Kg		101	80 - 120	4	20
Thallium	10.0	9.980		mg/Kg		100	80 - 120	1	20

Lab Sample ID: 860-89092-A-1-E MS ^5
Matrix: Solid
Analysis Batch: 205729

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 205392

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.555	J	8.33	3.008	N1	mg/Kg		29	75 - 125
Arsenic	3.30		8.33	8.925	N1	mg/Kg		67	75 - 125
Barium	121		8.33	123.8	4	mg/Kg		33	75 - 125
Beryllium	0.364	J	8.33	6.615		mg/Kg		75	75 - 125
Cadmium	0.297	J	8.33	6.349	N1	mg/Kg		73	75 - 125
Chromium	7.94		8.33	13.97	N1	mg/Kg		72	75 - 125
Cobalt	2.26		8.33	8.355	N1	mg/Kg		73	75 - 125
Lead	9.73		8.33	16.48		mg/Kg		81	75 - 125
Molybdenum	1.22		8.33	6.668	N1	mg/Kg		65	75 - 125
Selenium	0.787	J	8.33	7.188		mg/Kg		77	75 - 125
Thallium	0.228	U	8.33	6.242		mg/Kg		75	75 - 125

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 860-89092-A-1-F MSD ^5
Matrix: Solid
Analysis Batch: 205729

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 205392

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.555	J	8.77	3.075	N1	mg/Kg		29	75 - 125	2	20
Arsenic	3.30		8.77	9.381	N1	mg/Kg		69	75 - 125	5	20
Barium	121		8.77	128.0	4	mg/Kg		80	75 - 125	3	20
Beryllium	0.364	J	8.77	7.050		mg/Kg		76	75 - 125	6	20
Cadmium	0.297	J	8.77	6.666	N1	mg/Kg		73	75 - 125	5	20
Chromium	7.94		8.77	14.76		mg/Kg		78	75 - 125	5	20
Cobalt	2.26		8.77	8.854		mg/Kg		75	75 - 125	6	20
Lead	9.73		8.77	17.47		mg/Kg		88	75 - 125	6	20
Molybdenum	1.22		8.77	6.926	N1	mg/Kg		65	75 - 125	4	20
Selenium	0.787	J	8.77	7.232	N1	mg/Kg		73	75 - 125	1	20
Thallium	0.228	U	8.77	6.555		mg/Kg		75	75 - 125	5	20

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 860-206180/10-A
Matrix: Solid
Analysis Batch: 206452

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 206180

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00895	U	0.0200	0.00895	mg/Kg		12/18/24 06:59	12/18/24 19:46	1

Lab Sample ID: LCS 860-206180/11-A
Matrix: Solid
Analysis Batch: 206452

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 206180

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.200	0.1985		mg/Kg		99	80 - 120

Lab Sample ID: LCSD 860-206180/12-A
Matrix: Solid
Analysis Batch: 206452

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 206180

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.200	0.2002		mg/Kg		100	80 - 120	1	20

Lab Sample ID: 860-89345-C-3-C MS
Matrix: Solid
Analysis Batch: 206452

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 206180

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00937	U	0.190	0.1899		mg/Kg	☼	100	75 - 125

Lab Sample ID: 860-89345-C-3-D MSD
Matrix: Solid
Analysis Batch: 206452

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 206180

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00937	U	0.198	0.1957		mg/Kg	☼	99	75 - 125	3	20

Method: 7471B - Mercury (CVAA) (Continued)

Lab Sample ID: MB 860-206182/1-A
Matrix: Solid
Analysis Batch: 206452

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 206182

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00895	U	0.0200	0.00895	mg/Kg		12/18/24 07:02	12/18/24 20:37	1

Lab Sample ID: LCS 860-206182/2-A
Matrix: Solid
Analysis Batch: 206452

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 206182

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.200	0.1934		mg/Kg		97	80 - 120

Lab Sample ID: LCSD 860-206182/3-A
Matrix: Solid
Analysis Batch: 206452

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 206182

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.200	0.2012		mg/Kg		101	80 - 120	4	20

Lab Sample ID: 860-89099-1 MS
Matrix: Solid
Analysis Batch: 206452

Client Sample ID: A5-1 (12102024)
Prep Type: Total/NA
Prep Batch: 206182

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.0173	U	0.394	0.3829		mg/Kg	☼	97	75 - 125

Lab Sample ID: 860-89099-1 MSD
Matrix: Solid
Analysis Batch: 206452

Client Sample ID: A5-1 (12102024)
Prep Type: Total/NA
Prep Batch: 206182

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.0173	U	0.410	0.3926		mg/Kg	☼	96	75 - 125	3	20

Lab Sample ID: 860-89099-35 MS
Matrix: Solid
Analysis Batch: 206452

Client Sample ID: A2-1 (12112024)
Prep Type: Total/NA
Prep Batch: 206182

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.0105	U	0.254	0.2637		mg/Kg	☼	104	75 - 125

Lab Sample ID: 860-89099-35 MSD
Matrix: Solid
Analysis Batch: 206452

Client Sample ID: A2-1 (12112024)
Prep Type: Total/NA
Prep Batch: 206182

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.0105	U	0.244	0.2568		mg/Kg	☼	105	75 - 125	3	20

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-694770/1-A
Matrix: Solid
Analysis Batch: 698039

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 694770

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.1096	U	0.166	0.166	1.00	0.391	pCi/g	12/20/24 11:10	01/13/25 10:02	1
Radium-228	-0.1035	U	0.126	0.127		0.336	pCi/g	12/20/24 11:10	01/13/25 10:02	1
Radium 226 and 228 (positive only)	0.0000	U	0.208	0.209		0.391	pCi/g	12/20/24 11:10	01/13/25 10:02	1

Lab Sample ID: LCS 160-694770/2-A
Matrix: Solid
Analysis Batch: 698040

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 694770

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Americium-241	95.8	104.8		11.4		1.08	pCi/g	109	75 - 125
Cesium-137	24.3	26.01		2.65		0.192	pCi/g	107	75 - 125
Cobalt-60	5.53	5.770		0.618		0.0818	pCi/g	104	75 - 125

Lab Sample ID: 860-89099-50 DU
Matrix: Solid
Analysis Batch: 698039

Client Sample ID: E3-1 (12112024)
Prep Type: Total/NA
Prep Batch: 694770

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	1.40		1.315		0.263	1.00	0.147	pCi/g	0.15	1
Radium-228	1.03		0.9714		0.213		0.128	pCi/g	0.12	1
Radium 226 and 228 (positive only)	2.43		2.286		0.338		0.147	pCi/g	0.20	

Lab Sample ID: MB 160-694774/1-A
Matrix: Solid
Analysis Batch: 697185

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 694774

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.07628	U	0.187	0.187	1.00	0.325	pCi/g	12/18/24 10:19	01/08/25 15:20	1
Radium-228	-0.1128	U	0.204	0.205		0.282	pCi/g	12/18/24 10:19	01/08/25 15:20	1
Radium 226 and 228 (positive only)	0.0000	U	0.277	0.277		0.325	pCi/g	12/18/24 10:19	01/08/25 15:20	1

Lab Sample ID: LCS 160-694774/2-A
Matrix: Solid
Analysis Batch: 697184

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 694774

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec Limits
Americium-241	95.8	96.08		10.5		1.16	pCi/g	100	75 - 125
Cesium-137	24.3	25.40		2.59		0.184	pCi/g	104	75 - 125
Cobalt-60	5.54	5.550		0.597		0.0685	pCi/g	100	75 - 125

Client: Arcadis US Inc.
Project/Site: AEP Hallsville TX

Job ID: 860-89099-1

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS) (Continued)

Lab Sample ID: 860-89099-1 DU
Matrix: Solid
Analysis Batch: 697188

Client Sample ID: A5-1 (12102024)
Prep Type: Total/NA
Prep Batch: 694774

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium-226	0.767			0.6980		0.173	1.00	0.125	pCi/g			0.19	1
Radium-228	0.862			0.7969		0.256		0.376	pCi/g			0.13	1
Radium 226 and 228 (positive only)	1.63			1.495		0.309		0.376	pCi/g			0.22	

HPLC/IC

Leach Batch: 205593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-1	A5-1 (12102024)	SPLP West	Solid	1312	
860-89099-4	B4-1 (12102024)	SPLP West	Solid	1312	
860-89099-7	B5-1 (12102024)	SPLP West	Solid	1312	
860-89099-10	C5-1 (12102024)	SPLP West	Solid	1312	
860-89099-13	C4-1 (12102024)	SPLP West	Solid	1312	
860-89099-16	D3-1 (12102024)	SPLP West	Solid	1312	
860-89099-19	C3-1 (12102024)	SPLP West	Solid	1312	
860-89099-22	B3-1 (12102024)	SPLP West	Solid	1312	
860-89099-25	A3-1 (12102024)	SPLP West	Solid	1312	
860-89099-32	A4-1 (12112024)	SPLP West	Solid	1312	
860-89099-35	A2-1 (12112024)	SPLP West	Solid	1312	
860-89099-38	B1-1 (12112024)	SPLP West	Solid	1312	
860-89099-41	C2-1 (12112024)	SPLP West	Solid	1312	
860-89099-44	D1-1 (12112024)	SPLP West	Solid	1312	
860-89099-47	E2-1 (12112024)	SPLP West	Solid	1312	
860-89099-50	E3-1 (12112024)	SPLP West	Solid	1312	
860-89099-53	E1-1 (12112024)	SPLP West	Solid	1312	
860-89099-56	D2-1 (12112024)	SPLP West	Solid	1312	
860-89099-62	B2-1 (12112024)	SPLP West	Solid	1312	
LB 860-205593/1-A	Method Blank	SPLP West	Solid	1312	
860-89099-1 MS	A5-1 (12102024)	SPLP West	Solid	1312	
860-89099-1 MSD	A5-1 (12102024)	SPLP West	Solid	1312	

Leach Batch: 205594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-65	A1-1 (12112024)	SPLP West	Solid	1312	
LB 860-205594/1-A	Method Blank	SPLP West	Solid	1312	
860-89099-65 MSD	A1-1 (12112024)	SPLP West	Solid	1312	
860-89099-C-65-D MS	860-89099-C-65-D MS	SPLP West	Solid	1312	

Analysis Batch: 205896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-1	A5-1 (12102024)	SPLP West	Solid	300.0	205593
860-89099-4	B4-1 (12102024)	SPLP West	Solid	300.0	205593
860-89099-7	B5-1 (12102024)	SPLP West	Solid	300.0	205593
860-89099-10	C5-1 (12102024)	SPLP West	Solid	300.0	205593
860-89099-13	C4-1 (12102024)	SPLP West	Solid	300.0	205593
860-89099-16	D3-1 (12102024)	SPLP West	Solid	300.0	205593
860-89099-19	C3-1 (12102024)	SPLP West	Solid	300.0	205593
860-89099-22	B3-1 (12102024)	SPLP West	Solid	300.0	205593
860-89099-25	A3-1 (12102024)	SPLP West	Solid	300.0	205593
860-89099-32	A4-1 (12112024)	SPLP West	Solid	300.0	205593
860-89099-35	A2-1 (12112024)	SPLP West	Solid	300.0	205593
860-89099-38	B1-1 (12112024)	SPLP West	Solid	300.0	205593
860-89099-41	C2-1 (12112024)	SPLP West	Solid	300.0	205593
860-89099-44	D1-1 (12112024)	SPLP West	Solid	300.0	205593
860-89099-47	E2-1 (12112024)	SPLP West	Solid	300.0	205593
860-89099-50	E3-1 (12112024)	SPLP West	Solid	300.0	205593
860-89099-53	E1-1 (12112024)	SPLP West	Solid	300.0	205593
860-89099-56	D2-1 (12112024)	SPLP West	Solid	300.0	205593
860-89099-62	B2-1 (12112024)	SPLP West	Solid	300.0	205593

HPLC/IC (Continued)

Analysis Batch: 205896 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-65	A1-1 (12112024)	SPLP West	Solid	300.0	205594
LB 860-205593/1-A	Method Blank	SPLP West	Solid	300.0	205593
LB 860-205594/1-A	Method Blank	SPLP West	Solid	300.0	205594
MB 860-205896/3	Method Blank	Total/NA	Solid	300.0	
MB 860-205896/62	Method Blank	Total/NA	Solid	300.0	
LCS 860-205896/4	Lab Control Sample	Total/NA	Solid	300.0	
LCS 860-205896/63	Lab Control Sample	Total/NA	Solid	300.0	
LCSD 860-205896/5	Lab Control Sample Dup	Total/NA	Solid	300.0	
LCSD 860-205896/64	Lab Control Sample Dup	Total/NA	Solid	300.0	
860-89099-1 MS	A5-1 (12102024)	SPLP West	Solid	300.0	205593
860-89099-1 MSD	A5-1 (12102024)	SPLP West	Solid	300.0	205593
860-89099-65 MSD	A1-1 (12112024)	SPLP West	Solid	300.0	205594
860-89099-C-65-D MS	860-89099-C-65-D MS	SPLP West	Solid	300.0	205594

Leach Batch: 206003

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-59	C1-1 (12112024)	SPLP West	Solid	1312	
LB 860-206003/1-A	Method Blank	SPLP West	Solid	1312	
860-89099-59 MS	C1-1 (12112024)	SPLP West	Solid	1312	
860-89099-59 MSD	C1-1 (12112024)	SPLP West	Solid	1312	

Analysis Batch: 206238

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-59	C1-1 (12112024)	SPLP West	Solid	300.0	206003
LB 860-206003/1-A	Method Blank	SPLP West	Solid	300.0	206003
MB 860-206238/3	Method Blank	Total/NA	Solid	300.0	
LCS 860-206238/4	Lab Control Sample	Total/NA	Solid	300.0	
LCSD 860-206238/5	Lab Control Sample Dup	Total/NA	Solid	300.0	
LLCS 860-206238/6	Lab Control Sample	Total/NA	Solid	300.0	
860-89099-59 MS	C1-1 (12112024)	SPLP West	Solid	300.0	206003
860-89099-59 MSD	C1-1 (12112024)	SPLP West	Solid	300.0	206003

Metals

Prep Batch: 205382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-1	A5-1 (12102024)	Total/NA	Solid	3051A	
860-89099-4	B4-1 (12102024)	Total/NA	Solid	3051A	
860-89099-7	B5-1 (12102024)	Total/NA	Solid	3051A	
860-89099-10	C5-1 (12102024)	Total/NA	Solid	3051A	
860-89099-13	C4-1 (12102024)	Total/NA	Solid	3051A	
860-89099-16	D3-1 (12102024)	Total/NA	Solid	3051A	
860-89099-19	C3-1 (12102024)	Total/NA	Solid	3051A	
860-89099-22	B3-1 (12102024)	Total/NA	Solid	3051A	
860-89099-25	A3-1 (12102024)	Total/NA	Solid	3051A	
860-89099-32	A4-1 (12112024)	Total/NA	Solid	3051A	
860-89099-35	A2-1 (12112024)	Total/NA	Solid	3051A	
860-89099-38	B1-1 (12112024)	Total/NA	Solid	3051A	
860-89099-41	C2-1 (12112024)	Total/NA	Solid	3051A	
860-89099-44	D1-1 (12112024)	Total/NA	Solid	3051A	
860-89099-47	E2-1 (12112024)	Total/NA	Solid	3051A	

Metals (Continued)

Prep Batch: 205382 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-50	E3-1 (12112024)	Total/NA	Solid	3051A	
860-89099-53	E1-1 (12112024)	Total/NA	Solid	3051A	
860-89099-56	D2-1 (12112024)	Total/NA	Solid	3051A	
860-89099-59	C1-1 (12112024)	Total/NA	Solid	3051A	
860-89099-62	B2-1 (12112024)	Total/NA	Solid	3051A	
MB 860-205382/1-A	Method Blank	Total/NA	Solid	3051A	
LCS 860-205382/2-A	Lab Control Sample	Total/NA	Solid	3051A	
LCSD 860-205382/3-A	Lab Control Sample Dup	Total/NA	Solid	3051A	
860-89099-1 MS	A5-1 (12102024)	Total/NA	Solid	3051A	
860-89099-1 MSD	A5-1 (12102024)	Total/NA	Solid	3051A	

Prep Batch: 205392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-65	A1-1 (12112024)	Total/NA	Solid	3051A	
MB 860-205392/1-A	Method Blank	Total/NA	Solid	3051A	
LCS 860-205392/2-A	Lab Control Sample	Total/NA	Solid	3051A	
LCSD 860-205392/3-A	Lab Control Sample Dup	Total/NA	Solid	3051A	
860-89092-A-1-E MS ^5	Matrix Spike	Total/NA	Solid	3051A	
860-89092-A-1-F MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	3051A	

Leach Batch: 205593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-1	A5-1 (12102024)	SPLP West	Solid	1312	
860-89099-4	B4-1 (12102024)	SPLP West	Solid	1312	
860-89099-7	B5-1 (12102024)	SPLP West	Solid	1312	
860-89099-10	C5-1 (12102024)	SPLP West	Solid	1312	
860-89099-13	C4-1 (12102024)	SPLP West	Solid	1312	
860-89099-16	D3-1 (12102024)	SPLP West	Solid	1312	
860-89099-19	C3-1 (12102024)	SPLP West	Solid	1312	
860-89099-22	B3-1 (12102024)	SPLP West	Solid	1312	
860-89099-25	A3-1 (12102024)	SPLP West	Solid	1312	
860-89099-32	A4-1 (12112024)	SPLP West	Solid	1312	
860-89099-35	A2-1 (12112024)	SPLP West	Solid	1312	
860-89099-38	B1-1 (12112024)	SPLP West	Solid	1312	
860-89099-41	C2-1 (12112024)	SPLP West	Solid	1312	
860-89099-44	D1-1 (12112024)	SPLP West	Solid	1312	
860-89099-47	E2-1 (12112024)	SPLP West	Solid	1312	
860-89099-50	E3-1 (12112024)	SPLP West	Solid	1312	
860-89099-53	E1-1 (12112024)	SPLP West	Solid	1312	
860-89099-56	D2-1 (12112024)	SPLP West	Solid	1312	
860-89099-62	B2-1 (12112024)	SPLP West	Solid	1312	
LB 860-205593/1-B	Method Blank	SPLP West	Solid	1312	
860-89099-1 MS	A5-1 (12102024)	SPLP West	Solid	1312	
860-89099-1 MSD	A5-1 (12102024)	SPLP West	Solid	1312	

Leach Batch: 205594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-65	A1-1 (12112024)	SPLP West	Solid	1312	
LB 860-205594/1-B	Method Blank	SPLP West	Solid	1312	
880-51786-A-4-H MS	Matrix Spike	SPLP West	Solid	1312	
880-51786-A-4-I MSD	Matrix Spike Duplicate	SPLP West	Solid	1312	

Metals

Analysis Batch: 205729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-65	A1-1 (12112024)	Total/NA	Solid	6020B	205392
MB 860-205392/1-A	Method Blank	Total/NA	Solid	6020B	205392
LCS 860-205392/2-A	Lab Control Sample	Total/NA	Solid	6020B	205392
LCSD 860-205392/3-A	Lab Control Sample Dup	Total/NA	Solid	6020B	205392
860-89092-A-1-E MS ^5	Matrix Spike	Total/NA	Solid	6020B	205392
860-89092-A-1-F MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	6020B	205392

Prep Batch: 205873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-65	A1-1 (12112024)	SPLP West	Solid	3010A	205594
LB 860-205594/1-B	Method Blank	SPLP West	Solid	3010A	205594
MB 860-205873/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 860-205873/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 860-205873/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	
880-51786-A-4-H MS	Matrix Spike	SPLP West	Solid	3010A	205594
880-51786-A-4-I MSD	Matrix Spike Duplicate	SPLP West	Solid	3010A	205594

Prep Batch: 205894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-1	A5-1 (12102024)	SPLP West	Solid	3010A	205593
860-89099-4	B4-1 (12102024)	SPLP West	Solid	3010A	205593
860-89099-7	B5-1 (12102024)	SPLP West	Solid	3010A	205593
860-89099-10	C5-1 (12102024)	SPLP West	Solid	3010A	205593
860-89099-13	C4-1 (12102024)	SPLP West	Solid	3010A	205593
860-89099-16	D3-1 (12102024)	SPLP West	Solid	3010A	205593
860-89099-19	C3-1 (12102024)	SPLP West	Solid	3010A	205593
860-89099-22	B3-1 (12102024)	SPLP West	Solid	3010A	205593
860-89099-25	A3-1 (12102024)	SPLP West	Solid	3010A	205593
860-89099-32	A4-1 (12112024)	SPLP West	Solid	3010A	205593
860-89099-35	A2-1 (12112024)	SPLP West	Solid	3010A	205593
860-89099-38	B1-1 (12112024)	SPLP West	Solid	3010A	205593
860-89099-41	C2-1 (12112024)	SPLP West	Solid	3010A	205593
860-89099-44	D1-1 (12112024)	SPLP West	Solid	3010A	205593
860-89099-47	E2-1 (12112024)	SPLP West	Solid	3010A	205593
860-89099-50	E3-1 (12112024)	SPLP West	Solid	3010A	205593
860-89099-53	E1-1 (12112024)	SPLP West	Solid	3010A	205593
860-89099-56	D2-1 (12112024)	SPLP West	Solid	3010A	205593
860-89099-62	B2-1 (12112024)	SPLP West	Solid	3010A	205593
LB 860-205593/1-B	Method Blank	SPLP West	Solid	3010A	205593
MB 860-205894/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 860-205894/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 860-205894/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	
860-89099-1 MS	A5-1 (12102024)	SPLP West	Solid	3010A	205593
860-89099-1 MSD	A5-1 (12102024)	SPLP West	Solid	3010A	205593

Leach Batch: 206003

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-59	C1-1 (12112024)	SPLP West	Solid	1312	
LB 860-206003/1-B	Method Blank	SPLP West	Solid	1312	
860-89099-59 MS	C1-1 (12112024)	SPLP West	Solid	1312	
860-89099-59 MSD	C1-1 (12112024)	SPLP West	Solid	1312	

Metals

Analysis Batch: 206019

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-1	A5-1 (12102024)	Total/NA	Solid	6020B	205382
860-89099-4	B4-1 (12102024)	Total/NA	Solid	6020B	205382
860-89099-7	B5-1 (12102024)	Total/NA	Solid	6020B	205382
860-89099-10	C5-1 (12102024)	Total/NA	Solid	6020B	205382
860-89099-13	C4-1 (12102024)	Total/NA	Solid	6020B	205382
860-89099-16	D3-1 (12102024)	Total/NA	Solid	6020B	205382
860-89099-19	C3-1 (12102024)	Total/NA	Solid	6020B	205382
860-89099-22	B3-1 (12102024)	Total/NA	Solid	6020B	205382
860-89099-25	A3-1 (12102024)	Total/NA	Solid	6020B	205382
860-89099-32	A4-1 (12112024)	Total/NA	Solid	6020B	205382
860-89099-35	A2-1 (12112024)	Total/NA	Solid	6020B	205382
860-89099-38	B1-1 (12112024)	Total/NA	Solid	6020B	205382
860-89099-41	C2-1 (12112024)	Total/NA	Solid	6020B	205382
860-89099-44	D1-1 (12112024)	Total/NA	Solid	6020B	205382
860-89099-47	E2-1 (12112024)	Total/NA	Solid	6020B	205382
860-89099-50	E3-1 (12112024)	Total/NA	Solid	6020B	205382
860-89099-53	E1-1 (12112024)	Total/NA	Solid	6020B	205382
860-89099-56	D2-1 (12112024)	Total/NA	Solid	6020B	205382
860-89099-59	C1-1 (12112024)	Total/NA	Solid	6020B	205382
860-89099-62	B2-1 (12112024)	Total/NA	Solid	6020B	205382
MB 860-205382/1-A	Method Blank	Total/NA	Solid	6020B	205382
LCS 860-205382/2-A	Lab Control Sample	Total/NA	Solid	6020B	205382
LCSD 860-205382/3-A	Lab Control Sample Dup	Total/NA	Solid	6020B	205382
860-89099-1 MS	A5-1 (12102024)	Total/NA	Solid	6020B	205382
860-89099-1 MSD	A5-1 (12102024)	Total/NA	Solid	6020B	205382

Prep Batch: 206180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-65	A1-1 (12112024)	Total/NA	Solid	7471B	
MB 860-206180/10-A	Method Blank	Total/NA	Solid	7471B	
LCS 860-206180/11-A	Lab Control Sample	Total/NA	Solid	7471B	
LCSD 860-206180/12-A	Lab Control Sample Dup	Total/NA	Solid	7471B	
860-89345-C-3-C MS	Matrix Spike	Total/NA	Solid	7471B	
860-89345-C-3-D MSD	Matrix Spike Duplicate	Total/NA	Solid	7471B	

Prep Batch: 206182

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-1	A5-1 (12102024)	Total/NA	Solid	7471B	
860-89099-4	B4-1 (12102024)	Total/NA	Solid	7471B	
860-89099-7	B5-1 (12102024)	Total/NA	Solid	7471B	
860-89099-10	C5-1 (12102024)	Total/NA	Solid	7471B	
860-89099-13	C4-1 (12102024)	Total/NA	Solid	7471B	
860-89099-16	D3-1 (12102024)	Total/NA	Solid	7471B	
860-89099-19	C3-1 (12102024)	Total/NA	Solid	7471B	
860-89099-22	B3-1 (12102024)	Total/NA	Solid	7471B	
860-89099-25	A3-1 (12102024)	Total/NA	Solid	7471B	
860-89099-32	A4-1 (12112024)	Total/NA	Solid	7471B	
860-89099-35	A2-1 (12112024)	Total/NA	Solid	7471B	
860-89099-38	B1-1 (12112024)	Total/NA	Solid	7471B	
860-89099-41	C2-1 (12112024)	Total/NA	Solid	7471B	
860-89099-44	D1-1 (12112024)	Total/NA	Solid	7471B	

Metals (Continued)

Prep Batch: 206182 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-47	E2-1 (12112024)	Total/NA	Solid	7471B	
860-89099-50	E3-1 (12112024)	Total/NA	Solid	7471B	
860-89099-53	E1-1 (12112024)	Total/NA	Solid	7471B	
860-89099-56	D2-1 (12112024)	Total/NA	Solid	7471B	
860-89099-59	C1-1 (12112024)	Total/NA	Solid	7471B	
860-89099-62	B2-1 (12112024)	Total/NA	Solid	7471B	
MB 860-206182/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 860-206182/2-A	Lab Control Sample	Total/NA	Solid	7471B	
LCSD 860-206182/3-A	Lab Control Sample Dup	Total/NA	Solid	7471B	
860-89099-1 MS	A5-1 (12102024)	Total/NA	Solid	7471B	
860-89099-1 MSD	A5-1 (12102024)	Total/NA	Solid	7471B	
860-89099-35 MS	A2-1 (12112024)	Total/NA	Solid	7471B	
860-89099-35 MSD	A2-1 (12112024)	Total/NA	Solid	7471B	

Analysis Batch: 206208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-65	A1-1 (12112024)	SPLP West	Solid	6010D	205873
LB 860-205594/1-B	Method Blank	SPLP West	Solid	6010D	205873
MB 860-205873/1-A	Method Blank	Total/NA	Solid	6010D	205873
LCS 860-205873/2-A	Lab Control Sample	Total/NA	Solid	6010D	205873
LCSD 860-205873/3-A	Lab Control Sample Dup	Total/NA	Solid	6010D	205873
880-51786-A-4-H MS	Matrix Spike	SPLP West	Solid	6010D	205873
880-51786-A-4-I MSD	Matrix Spike Duplicate	SPLP West	Solid	6010D	205873

Analysis Batch: 206223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-1	A5-1 (12102024)	SPLP West	Solid	6010D	205894
860-89099-4	B4-1 (12102024)	SPLP West	Solid	6010D	205894
860-89099-7	B5-1 (12102024)	SPLP West	Solid	6010D	205894
860-89099-10	C5-1 (12102024)	SPLP West	Solid	6010D	205894
860-89099-13	C4-1 (12102024)	SPLP West	Solid	6010D	205894
860-89099-16	D3-1 (12102024)	SPLP West	Solid	6010D	205894
860-89099-19	C3-1 (12102024)	SPLP West	Solid	6010D	205894
860-89099-22	B3-1 (12102024)	SPLP West	Solid	6010D	205894
860-89099-25	A3-1 (12102024)	SPLP West	Solid	6010D	205894
860-89099-32	A4-1 (12112024)	SPLP West	Solid	6010D	205894
860-89099-35	A2-1 (12112024)	SPLP West	Solid	6010D	205894
860-89099-38	B1-1 (12112024)	SPLP West	Solid	6010D	205894
860-89099-41	C2-1 (12112024)	SPLP West	Solid	6010D	205894
860-89099-44	D1-1 (12112024)	SPLP West	Solid	6010D	205894
860-89099-47	E2-1 (12112024)	SPLP West	Solid	6010D	205894
860-89099-50	E3-1 (12112024)	SPLP West	Solid	6010D	205894
860-89099-53	E1-1 (12112024)	SPLP West	Solid	6010D	205894
860-89099-56	D2-1 (12112024)	SPLP West	Solid	6010D	205894
860-89099-62	B2-1 (12112024)	SPLP West	Solid	6010D	205894
LB 860-205593/1-B	Method Blank	SPLP West	Solid	6010D	205894
MB 860-205894/1-A	Method Blank	Total/NA	Solid	6010D	205894
LCS 860-205894/2-A	Lab Control Sample	Total/NA	Solid	6010D	205894
LCSD 860-205894/3-A	Lab Control Sample Dup	Total/NA	Solid	6010D	205894
860-89099-1 MS	A5-1 (12102024)	SPLP West	Solid	6010D	205894
860-89099-1 MSD	A5-1 (12102024)	SPLP West	Solid	6010D	205894

Metals

Prep Batch: 206225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-59	C1-1 (12112024)	SPLP West	Solid	3010A	206003
LB 860-206003/1-B	Method Blank	SPLP West	Solid	3010A	206003
MB 860-206225/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 860-206225/2-A	Lab Control Sample	Total/NA	Solid	3010A	
LCSD 860-206225/3-A	Lab Control Sample Dup	Total/NA	Solid	3010A	
860-89099-59 MS	C1-1 (12112024)	SPLP West	Solid	3010A	206003
860-89099-59 MSD	C1-1 (12112024)	SPLP West	Solid	3010A	206003

Analysis Batch: 206452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-1	A5-1 (12102024)	Total/NA	Solid	7471B	206182
860-89099-4	B4-1 (12102024)	Total/NA	Solid	7471B	206182
860-89099-7	B5-1 (12102024)	Total/NA	Solid	7471B	206182
860-89099-10	C5-1 (12102024)	Total/NA	Solid	7471B	206182
860-89099-13	C4-1 (12102024)	Total/NA	Solid	7471B	206182
860-89099-16	D3-1 (12102024)	Total/NA	Solid	7471B	206182
860-89099-19	C3-1 (12102024)	Total/NA	Solid	7471B	206182
860-89099-22	B3-1 (12102024)	Total/NA	Solid	7471B	206182
860-89099-25	A3-1 (12102024)	Total/NA	Solid	7471B	206182
860-89099-32	A4-1 (12112024)	Total/NA	Solid	7471B	206182
860-89099-35	A2-1 (12112024)	Total/NA	Solid	7471B	206182
860-89099-38	B1-1 (12112024)	Total/NA	Solid	7471B	206182
860-89099-41	C2-1 (12112024)	Total/NA	Solid	7471B	206182
860-89099-44	D1-1 (12112024)	Total/NA	Solid	7471B	206182
860-89099-47	E2-1 (12112024)	Total/NA	Solid	7471B	206182
860-89099-50	E3-1 (12112024)	Total/NA	Solid	7471B	206182
860-89099-53	E1-1 (12112024)	Total/NA	Solid	7471B	206182
860-89099-56	D2-1 (12112024)	Total/NA	Solid	7471B	206182
860-89099-59	C1-1 (12112024)	Total/NA	Solid	7471B	206182
860-89099-62	B2-1 (12112024)	Total/NA	Solid	7471B	206182
860-89099-65	A1-1 (12112024)	Total/NA	Solid	7471B	206180
MB 860-206180/10-A	Method Blank	Total/NA	Solid	7471B	206180
MB 860-206182/1-A	Method Blank	Total/NA	Solid	7471B	206182
LCS 860-206180/11-A	Lab Control Sample	Total/NA	Solid	7471B	206180
LCS 860-206182/2-A	Lab Control Sample	Total/NA	Solid	7471B	206182
LCSD 860-206180/12-A	Lab Control Sample Dup	Total/NA	Solid	7471B	206180
LCSD 860-206182/3-A	Lab Control Sample Dup	Total/NA	Solid	7471B	206182
860-89099-1 MS	A5-1 (12102024)	Total/NA	Solid	7471B	206182
860-89099-1 MSD	A5-1 (12102024)	Total/NA	Solid	7471B	206182
860-89099-35 MS	A2-1 (12112024)	Total/NA	Solid	7471B	206182
860-89099-35 MSD	A2-1 (12112024)	Total/NA	Solid	7471B	206182
860-89345-C-3-C MS	Matrix Spike	Total/NA	Solid	7471B	206180
860-89345-C-3-D MSD	Matrix Spike Duplicate	Total/NA	Solid	7471B	206180

Analysis Batch: 206521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-59	C1-1 (12112024)	SPLP West	Solid	6010D	206225
LB 860-206003/1-B	Method Blank	SPLP West	Solid	6010D	206225
MB 860-206225/1-A	Method Blank	Total/NA	Solid	6010D	206225
LCS 860-206225/2-A	Lab Control Sample	Total/NA	Solid	6010D	206225
LCSD 860-206225/3-A	Lab Control Sample Dup	Total/NA	Solid	6010D	206225

Metals (Continued)

Analysis Batch: 206521 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-59 MS	C1-1 (12112024)	SPLP West	Solid	6010D	206225
860-89099-59 MSD	C1-1 (12112024)	SPLP West	Solid	6010D	206225

General Chemistry

Analysis Batch: 206051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-1	A5-1 (12102024)	Total/NA	Solid	Moisture	
860-89099-4	B4-1 (12102024)	Total/NA	Solid	Moisture	
MB 860-206051/1	Method Blank	Total/NA	Solid	Moisture	
860-88448-A-30 DU	Duplicate	Total/NA	Solid	Moisture	

Analysis Batch: 206055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-10	C5-1 (12102024)	Total/NA	Solid	Moisture	
860-89099-13	C4-1 (12102024)	Total/NA	Solid	Moisture	
860-89099-16	D3-1 (12102024)	Total/NA	Solid	Moisture	
860-89099-19	C3-1 (12102024)	Total/NA	Solid	Moisture	
860-89099-22	B3-1 (12102024)	Total/NA	Solid	Moisture	
860-89099-25	A3-1 (12102024)	Total/NA	Solid	Moisture	
MB 860-206055/1	Method Blank	Total/NA	Solid	Moisture	
860-89099-10 DU	C5-1 (12102024)	Total/NA	Solid	Moisture	

Analysis Batch: 206121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-32	A4-1 (12112024)	Total/NA	Solid	Moisture	
860-89099-35	A2-1 (12112024)	Total/NA	Solid	Moisture	
860-89099-38	B1-1 (12112024)	Total/NA	Solid	Moisture	
860-89099-41	C2-1 (12112024)	Total/NA	Solid	Moisture	
860-89099-44	D1-1 (12112024)	Total/NA	Solid	Moisture	
860-89099-47	E2-1 (12112024)	Total/NA	Solid	Moisture	
860-89099-50	E3-1 (12112024)	Total/NA	Solid	Moisture	
860-89099-53	E1-1 (12112024)	Total/NA	Solid	Moisture	
860-89099-56	D2-1 (12112024)	Total/NA	Solid	Moisture	
860-89099-59	C1-1 (12112024)	Total/NA	Solid	Moisture	
860-89099-62	B2-1 (12112024)	Total/NA	Solid	Moisture	
860-89099-65	A1-1 (12112024)	Total/NA	Solid	Moisture	
MB 860-206121/1	Method Blank	Total/NA	Solid	Moisture	
860-89052-F-7 DU	Duplicate	Total/NA	Solid	Moisture	

Analysis Batch: 206335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-7	B5-1 (12102024)	Total/NA	Solid	Moisture	
MB 860-206335/1	Method Blank	Total/NA	Solid	Moisture	
860-89136-A-1 DU	Duplicate	Total/NA	Solid	Moisture	

Rad

Leach Batch: 694033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-1	A5-1 (12102024)	Total/NA	Solid	Dry and Grind	
860-89099-4	B4-1 (12102024)	Total/NA	Solid	Dry and Grind	

Rad (Continued)

Leach Batch: 694033 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-10	C5-1 (12102024)	Total/NA	Solid	Dry and Grind	
860-89099-19	C3-1 (12102024)	Total/NA	Solid	Dry and Grind	
860-89099-25	A3-1 (12102024)	Total/NA	Solid	Dry and Grind	
860-89099-53	E1-1 (12112024)	Total/NA	Solid	Dry and Grind	
860-89099-56	D2-1 (12112024)	Total/NA	Solid	Dry and Grind	
860-89099-59	C1-1 (12112024)	Total/NA	Solid	Dry and Grind	
860-89099-62	B2-1 (12112024)	Total/NA	Solid	Dry and Grind	
860-89099-65	A1-1 (12112024)	Total/NA	Solid	Dry and Grind	
860-89099-1 DU	A5-1 (12102024)	Total/NA	Solid	Dry and Grind	

Leach Batch: 694208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-50	E3-1 (12112024)	Total/NA	Solid	Dry and Grind	
860-89099-50 DU	E3-1 (12112024)	Total/NA	Solid	Dry and Grind	

Prep Batch: 694770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-50	E3-1 (12112024)	Total/NA	Solid	Fill_Geo-21	694208
860-89099-62	B2-1 (12112024)	Total/NA	Solid	Fill_Geo-21	694033
MB 160-694770/1-A	Method Blank	Total/NA	Solid	Fill_Geo-21	
LCS 160-694770/2-A	Lab Control Sample	Total/NA	Solid	Fill_Geo-21	
860-89099-50 DU	E3-1 (12112024)	Total/NA	Solid	Fill_Geo-21	694208

Prep Batch: 694774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
860-89099-1	A5-1 (12102024)	Total/NA	Solid	Fill_Geo-21	694033
860-89099-4	B4-1 (12102024)	Total/NA	Solid	Fill_Geo-21	694033
860-89099-10	C5-1 (12102024)	Total/NA	Solid	Fill_Geo-21	694033
860-89099-19	C3-1 (12102024)	Total/NA	Solid	Fill_Geo-21	694033
860-89099-25	A3-1 (12102024)	Total/NA	Solid	Fill_Geo-21	694033
860-89099-53	E1-1 (12112024)	Total/NA	Solid	Fill_Geo-21	694033
860-89099-56	D2-1 (12112024)	Total/NA	Solid	Fill_Geo-21	694033
860-89099-59	C1-1 (12112024)	Total/NA	Solid	Fill_Geo-21	694033
860-89099-65	A1-1 (12112024)	Total/NA	Solid	Fill_Geo-21	694033
MB 160-694774/1-A	Method Blank	Total/NA	Solid	Fill_Geo-21	
LCS 160-694774/2-A	Lab Control Sample	Total/NA	Solid	Fill_Geo-21	
860-89099-1 DU	A5-1 (12102024)	Total/NA	Solid	Fill_Geo-21	694033

Client Sample ID: A5-1 (12102024)

Lab Sample ID: 860-89099-1

Date Collected: 12/10/24 11:00

Matrix: Solid

Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.13 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 12:03	HN	EET HOU
SPLP West	Leach	1312			100.13 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205894	12/17/24 09:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206223	12/17/24 17:04	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206051	12/17/24 15:36	JC	EET HOU
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	694033	12/16/24 17:08	SRE	EET SL
Total/NA	Prep	Fill_Geo-21			381.3000 g	1.0 g	694774	12/18/24 10:19	SRE	EET SL
Total/NA	Analysis	901.1		1			697183	01/08/25 15:21	CAH	EET SL

Client Sample ID: A5-1 (12102024)

Lab Sample ID: 860-89099-1

Date Collected: 12/10/24 11:00

Matrix: Solid

Date Received: 12/12/24 12:05

Percent Solids: 47.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.59 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 11:08	DP	EET HOU
Total/NA	Prep	7471B			.54 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 20:41	SHZ	EET HOU

Client Sample ID: B4-1 (12102024)

Lab Sample ID: 860-89099-4

Date Collected: 12/10/24 11:20

Matrix: Solid

Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.12 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 17:36	HN	EET HOU
SPLP West	Leach	1312			100.12 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205894	12/17/24 09:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206223	12/17/24 17:16	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206051	12/17/24 15:36	JC	EET HOU
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	694033	12/16/24 17:08	SRE	EET SL
Total/NA	Prep	Fill_Geo-21			383.5000 g	1.0 g	694774	12/18/24 10:19	SRE	EET SL
Total/NA	Analysis	901.1		1			697190	01/08/25 18:07	CAH	EET SL

Client Sample ID: B4-1 (12102024)

Lab Sample ID: 860-89099-4

Date Collected: 12/10/24 11:20

Matrix: Solid

Date Received: 12/12/24 12:05

Percent Solids: 86.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.59 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 11:23	DP	EET HOU
Total/NA	Prep	7471B			.55 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 20:51	SHZ	EET HOU

Client Sample ID: B5-1 (12102024)

Lab Sample ID: 860-89099-7

Date Collected: 12/10/24 12:00

Matrix: Solid

Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.00 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 13:03	HN	EET HOU
SPLP West	Leach	1312			100.00 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205894	12/17/24 09:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206223	12/17/24 17:18	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206335	12/17/24 18:11	JC	EET HOU

Client Sample ID: B5-1 (12102024)

Lab Sample ID: 860-89099-7

Date Collected: 12/10/24 12:00

Matrix: Solid

Date Received: 12/12/24 12:05

Percent Solids: 82.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.6 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 11:25	DP	EET HOU
Total/NA	Prep	7471B			.53 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 21:03	SHZ	EET HOU

Client Sample ID: C5-1 (12102024)

Lab Sample ID: 860-89099-10

Date Collected: 12/10/24 12:25

Matrix: Solid

Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.02 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 12:48	HN	EET HOU
SPLP West	Leach	1312			100.02 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205894	12/17/24 09:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206223	12/17/24 17:20	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206055	12/17/24 15:36	JC	EET HOU
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	694033	12/16/24 17:08	SRE	EET SL
Total/NA	Prep	Fill_Geo-21			341.7000 g	1.0 g	694774	12/18/24 10:19	SRE	EET SL
Total/NA	Analysis	901.1		1			697186	01/08/25 18:07	CAH	EET SL

Client Sample ID: C5-1 (12102024)

Lab Sample ID: 860-89099-10

Date Collected: 12/10/24 12:25

Matrix: Solid

Date Received: 12/12/24 12:05

Percent Solids: 94.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.57 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 11:27	DP	EET HOU
Total/NA	Prep	7471B			.51 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 20:52	SHZ	EET HOU

Client Sample ID: C4-1 (12102024)

Lab Sample ID: 860-89099-13
Date Collected: 12/10/24 14:35
Matrix: Solid
Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.03 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 18:36	HN	EET HOU
SPLP West	Leach	1312			100.03 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205894	12/17/24 09:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206223	12/17/24 17:21	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206055	12/17/24 15:36	JC	EET HOU

Client Sample ID: C4-1 (12102024)

Lab Sample ID: 860-89099-13
Date Collected: 12/10/24 14:35
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 85.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.6 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 11:29	DP	EET HOU
Total/NA	Prep	7471B			.54 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 20:54	SHZ	EET HOU

Client Sample ID: D3-1 (12102024)

Lab Sample ID: 860-89099-16
Date Collected: 12/10/24 15:00
Matrix: Solid
Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.12 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 18:21	HN	EET HOU
SPLP West	Leach	1312			100.12 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205894	12/17/24 09:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206223	12/17/24 17:23	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206055	12/17/24 15:36	JC	EET HOU

Client Sample ID: D3-1 (12102024)

Lab Sample ID: 860-89099-16
Date Collected: 12/10/24 15:00
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.59 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 11:31	DP	EET HOU
Total/NA	Prep	7471B			.53 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 20:55	SHZ	EET HOU

Client Sample ID: C3-1 (12102024)

Lab Sample ID: 860-89099-19
Date Collected: 12/10/24 15:20
Matrix: Solid
Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.02 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 18:06	HN	EET HOU

Client Sample ID: C3-1 (12102024)

Lab Sample ID: 860-89099-19

Date Collected: 12/10/24 15:20

Matrix: Solid

Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.02 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205894	12/17/24 09:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206223	12/17/24 17:25	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206055	12/17/24 15:36	JC	EET HOU
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	694033	12/16/24 17:08	SRE	EET SL
Total/NA	Prep	Fill_Geo-21			334.3000 g	1.0 g	694774	12/18/24 10:19	SRE	EET SL
Total/NA	Analysis	901.1		1			697185	01/08/25 18:07	CAH	EET SL

Client Sample ID: C3-1 (12102024)

Lab Sample ID: 860-89099-19

Date Collected: 12/10/24 15:20

Matrix: Solid

Date Received: 12/12/24 12:05

Percent Solids: 83.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.57 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 11:33	DP	EET HOU
Total/NA	Prep	7471B			.54 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 20:56	SHZ	EET HOU

Client Sample ID: B3-1 (12102024)

Lab Sample ID: 860-89099-22

Date Collected: 12/10/24 15:40

Matrix: Solid

Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.03 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 17:51	HN	EET HOU
SPLP West	Leach	1312			100.03 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205894	12/17/24 09:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206223	12/17/24 17:27	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206055	12/17/24 15:36	JC	EET HOU

Client Sample ID: B3-1 (12102024)

Lab Sample ID: 860-89099-22

Date Collected: 12/10/24 15:40

Matrix: Solid

Date Received: 12/12/24 12:05

Percent Solids: 84.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.58 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 11:35	DP	EET HOU
Total/NA	Prep	7471B			.55 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 20:58	SHZ	EET HOU

Client Sample ID: A3-1 (12102024)

Lab Sample ID: 860-89099-25

Date Collected: 12/10/24 16:00

Matrix: Solid

Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.10 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 12:33	HN	EET HOU
SPLP West	Leach	1312			100.10 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205894	12/17/24 09:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206223	12/17/24 17:28	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206055	12/17/24 15:36	JC	EET HOU
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	694033	12/16/24 17:08	SRE	EET SL
Total/NA	Prep	Fill_Geo-21			324.3000 g	1.0 g	694774	12/18/24 10:19	SRE	EET SL
Total/NA	Analysis	901.1		1			697184	01/08/25 18:08	CAH	EET SL

Client Sample ID: A3-1 (12102024)

Lab Sample ID: 860-89099-25

Date Collected: 12/10/24 16:00

Matrix: Solid

Date Received: 12/12/24 12:05

Percent Solids: 71.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.59 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 11:37	DP	EET HOU
Total/NA	Prep	7471B			.5 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 21:02	SHZ	EET HOU

Client Sample ID: A4-1 (12112024)

Lab Sample ID: 860-89099-32

Date Collected: 12/11/24 12:50

Matrix: Solid

Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.02 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 20:06	HN	EET HOU
SPLP West	Leach	1312			100.02 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205894	12/17/24 09:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206223	12/17/24 17:30	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206121	12/17/24 18:11	JC	EET HOU

Client Sample ID: A4-1 (12112024)

Lab Sample ID: 860-89099-32

Date Collected: 12/11/24 12:50

Matrix: Solid

Date Received: 12/12/24 12:05

Percent Solids: 67.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.6 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 11:39	DP	EET HOU
Total/NA	Prep	7471B			.55 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 21:05	SHZ	EET HOU

Client Sample ID: A2-1 (12112024)

Lab Sample ID: 860-89099-35

Date Collected: 12/11/24 13:05

Matrix: Solid

Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.02 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 19:51	HN	EET HOU
SPLP West	Leach	1312			100.02 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205894	12/17/24 09:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206223	12/17/24 17:32	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206121	12/17/24 18:11	JC	EET HOU

Client Sample ID: A2-1 (12112024)

Lab Sample ID: 860-89099-35

Date Collected: 12/11/24 13:05

Matrix: Solid

Date Received: 12/12/24 12:05

Percent Solids: 78.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.6 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 11:41	DP	EET HOU
Total/NA	Prep	7471B			.54 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 21:06	SHZ	EET HOU

Client Sample ID: B1-1 (12112024)

Lab Sample ID: 860-89099-38

Date Collected: 12/11/24 13:15

Matrix: Solid

Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.00 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 19:36	HN	EET HOU
SPLP West	Leach	1312			100.00 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205894	12/17/24 09:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206223	12/17/24 17:37	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206121	12/17/24 18:11	JC	EET HOU

Client Sample ID: B1-1 (12112024)

Lab Sample ID: 860-89099-38

Date Collected: 12/11/24 13:15

Matrix: Solid

Date Received: 12/12/24 12:05

Percent Solids: 84.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.57 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 11:53	DP	EET HOU
Total/NA	Prep	7471B			.5 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 21:14	SHZ	EET HOU

Client Sample ID: C2-1 (12112024)

Lab Sample ID: 860-89099-41

Date Collected: 12/11/24 13:30

Matrix: Solid

Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.03 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 19:21	HN	EET HOU

Client Sample ID: C2-1 (12112024)

Lab Sample ID: 860-89099-41

Date Collected: 12/11/24 13:30
Matrix: Solid
Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.03 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205894	12/17/24 09:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206223	12/17/24 17:39	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206121	12/17/24 18:11	JC	EET HOU

Client Sample ID: C2-1 (12112024)

Lab Sample ID: 860-89099-41

Date Collected: 12/11/24 13:30
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 84.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.59 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 11:55	DP	EET HOU
Total/NA	Prep	7471B			.55 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 21:18	SHZ	EET HOU

Client Sample ID: D1-1 (12112024)

Lab Sample ID: 860-89099-44

Date Collected: 12/11/24 13:40
Matrix: Solid
Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.00 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 19:06	HN	EET HOU
SPLP West	Leach	1312			100.00 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205894	12/17/24 09:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206223	12/17/24 17:40	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206121	12/17/24 18:11	JC	EET HOU

Client Sample ID: D1-1 (12112024)

Lab Sample ID: 860-89099-44

Date Collected: 12/11/24 13:40
Matrix: Solid
Date Received: 12/12/24 12:05
Percent Solids: 78.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.6 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 11:57	DP	EET HOU
Total/NA	Prep	7471B			.53 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 21:19	SHZ	EET HOU

Client Sample ID: E2-1 (12112024)

Lab Sample ID: 860-89099-47

Date Collected: 12/11/24 13:50
Matrix: Solid
Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.03 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 21:37	HN	EET HOU

Client Sample ID: E2-1 (12112024)

Lab Sample ID: 860-89099-47

Date Collected: 12/11/24 13:50

Matrix: Solid

Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.03 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205894	12/17/24 09:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206223	12/17/24 17:42	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206121	12/17/24 18:11	JC	EET HOU

Client Sample ID: E2-1 (12112024)

Lab Sample ID: 860-89099-47

Date Collected: 12/11/24 13:50

Matrix: Solid

Date Received: 12/12/24 12:05

Percent Solids: 82.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.57 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 11:59	DP	EET HOU
Total/NA	Prep	7471B			.54 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 21:21	SHZ	EET HOU

Client Sample ID: E3-1 (12112024)

Lab Sample ID: 860-89099-50

Date Collected: 12/11/24 14:05

Matrix: Solid

Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.05 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 21:22	HN	EET HOU
SPLP West	Leach	1312			100.05 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205894	12/17/24 09:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206223	12/17/24 17:44	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206121	12/17/24 18:11	JC	EET HOU
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	694208	12/17/24 15:56	SRE	EET SL
Total/NA	Prep	Fill_Geo-21			334.7000 g	1.0 g	694770	12/20/24 11:10	SAC	EET SL
Total/NA	Analysis	901.1		1			698041	01/13/25 10:00	CAH	EET SL

Client Sample ID: E3-1 (12112024)

Lab Sample ID: 860-89099-50

Date Collected: 12/11/24 14:05

Matrix: Solid

Date Received: 12/12/24 12:05

Percent Solids: 86.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.58 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 12:01	DP	EET HOU
Total/NA	Prep	7471B			.52 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 21:22	SHZ	EET HOU

Client Sample ID: E1-1 (12112024)

Lab Sample ID: 860-89099-53

Date Collected: 12/11/24 14:25

Matrix: Solid

Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.00 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 20:52	HN	EET HOU
SPLP West	Leach	1312			100.00 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205894	12/17/24 09:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206223	12/17/24 17:45	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206121	12/17/24 18:11	JC	EET HOU
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	694033	12/16/24 17:08	SRE	EET SL
Total/NA	Prep	Fill_Geo-21			303.2000 g	1.0 g	694774	12/18/24 10:19	SRE	EET SL
Total/NA	Analysis	901.1		1			697183	01/08/25 18:08	CAH	EET SL

Client Sample ID: E1-1 (12112024)

Lab Sample ID: 860-89099-53

Date Collected: 12/11/24 14:25

Matrix: Solid

Date Received: 12/12/24 12:05

Percent Solids: 70.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.59 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 12:03	DP	EET HOU
Total/NA	Prep	7471B			.55 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 21:24	SHZ	EET HOU

Client Sample ID: D2-1 (12112024)

Lab Sample ID: 860-89099-56

Date Collected: 12/11/24 14:40

Matrix: Solid

Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.15 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 21:07	HN	EET HOU
SPLP West	Leach	1312			100.15 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205894	12/17/24 09:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206223	12/17/24 17:47	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206121	12/17/24 18:11	JC	EET HOU
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	694033	12/16/24 17:08	SRE	EET SL
Total/NA	Prep	Fill_Geo-21			363.9000 g	1.0 g	694774	12/18/24 10:19	SRE	EET SL
Total/NA	Analysis	901.1		1			697188	01/08/25 18:43	CAH	EET SL

Client Sample ID: D2-1 (12112024)

Lab Sample ID: 860-89099-56

Date Collected: 12/11/24 14:40

Matrix: Solid

Date Received: 12/12/24 12:05

Percent Solids: 68.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.57 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 12:05	DP	EET HOU
Total/NA	Prep	7471B			.54 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 21:25	SHZ	EET HOU

Client Sample ID: C1-1 (12112024)

Lab Sample ID: 860-89099-59

Date Collected: 12/11/24 14:55

Matrix: Solid

Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.02 g	2000 mL	206003	12/17/24 13:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			206238	12/18/24 10:53	AK1	EET HOU
SPLP West	Leach	1312			100.02 g	2000 mL	206003	12/17/24 13:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	206225	12/18/24 09:00	MD	EET HOU
SPLP West	Analysis	6010D		1			206521	12/18/24 16:26	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206121	12/17/24 18:11	JC	EET HOU
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	694033	12/16/24 17:08	SRE	EET SL
Total/NA	Prep	Fill_Geo-21			427.3000 g	1.0 g	694774	12/18/24 10:19	SRE	EET SL
Total/NA	Analysis	901.1		1			697189	01/08/25 18:44	CAH	EET SL

Client Sample ID: C1-1 (12112024)

Lab Sample ID: 860-89099-59

Date Collected: 12/11/24 14:55

Matrix: Solid

Date Received: 12/12/24 12:05

Percent Solids: 80.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.6 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 12:07	DP	EET HOU
Total/NA	Prep	7471B			.51 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 21:26	SHZ	EET HOU

Client Sample ID: B2-1 (12112024)

Lab Sample ID: 860-89099-62

Date Collected: 12/11/24 15:10

Matrix: Solid

Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.12 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 20:37	HN	EET HOU
SPLP West	Leach	1312			100.12 g	2000 mL	205593	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205894	12/17/24 09:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206223	12/17/24 17:49	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206121	12/17/24 18:11	JC	EET HOU
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	694033	12/16/24 17:08	SRE	EET SL
Total/NA	Prep	Fill_Geo-21			337.2000 g	1.0 g	694770	12/20/24 11:10	SAC	EET SL
Total/NA	Analysis	901.1		1			698045	01/13/25 10:00	CAH	EET SL

Client Sample ID: B2-1 (12112024)

Lab Sample ID: 860-89099-62

Date Collected: 12/11/24 15:10

Matrix: Solid

Date Received: 12/12/24 12:05

Percent Solids: 87.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.59 g	50 mL	205382	12/13/24 14:55	PB	EET HOU
Total/NA	Analysis	6020B		5			206019	12/17/24 12:09	DP	EET HOU
Total/NA	Prep	7471B			.54 g	50 mL	206182	12/18/24 07:02	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 21:28	SHZ	EET HOU

Lab Chronicle

Client: Arcadis US Inc.
Project/Site: AEP Hallsville TX

Job ID: 860-89099-1

Client Sample ID: A1-1 (12112024)

Lab Sample ID: 860-89099-65

Date Collected: 12/11/24 15:35

Matrix: Solid

Date Received: 12/12/24 12:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP West	Leach	1312			100.10 g	2000 mL	205594	12/16/24 11:00	EMC	EET HOU
SPLP West	Analysis	300.0		1			205896	12/17/24 22:37	HN	EET HOU
SPLP West	Leach	1312			100.10 g	2000 mL	205594	12/16/24 11:00	EMC	EET HOU
SPLP West	Prep	3010A			50 mL	50 mL	205873	12/17/24 08:30	MD	EET HOU
SPLP West	Analysis	6010D		1			206208	12/17/24 18:08	JDM	EET HOU
Total/NA	Analysis	Moisture		1			206121	12/17/24 18:11	JC	EET HOU
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	694033	12/16/24 17:08	SRE	EET SL
Total/NA	Prep	Fill_Geo-21			344.1000 g	1.0 g	694774	12/18/24 10:19	SRE	EET SL
Total/NA	Analysis	901.1		1			697190	01/08/25 18:45	CAH	EET SL

Client Sample ID: A1-1 (12112024)

Lab Sample ID: 860-89099-65

Date Collected: 12/11/24 15:35

Matrix: Solid

Date Received: 12/12/24 12:05

Percent Solids: 70.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3051A			.59 g	50 mL	205392	12/13/24 14:58	PB	EET HOU
Total/NA	Analysis	6020B		5			205729	12/13/24 20:13	DP	EET HOU
Total/NA	Prep	7471B			.55 g	50 mL	206180	12/18/24 06:59	AGR	EET HOU
Total/NA	Analysis	7471B		1			206452	12/18/24 20:22	SHZ	EET HOU

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

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

Accreditation/Certification Summary

Client: Arcadis US Inc.
Project/Site: AEP Hallsville TX

Job ID: 860-89099-1

Laboratory: Eurofins Houston

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-00759	08-04-25
Florida	NELAP	E871002	06-30-25
Louisiana (All)	NELAP	03054	12-18-24
Oklahoma	NELAP	1306	12-31-24
Texas	NELAP	T104704215	01-27-25
Texas	TCEQ Water Supply	T104704215	12-28-25
USDA	US Federal Programs	525-23-79-79507	03-20-26

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-25
ANAB	Dept. of Defense ELAP	L2305	04-06-25
ANAB	Dept. of Energy	L2305.01	04-06-25
ANAB	ISO/IEC 17025	L2305	02-13-25
Arizona	State	AZ0813	12-08-25
California	Los Angeles County Sanitation Districts	10259	06-30-22 *
California	State	2886	06-30-25
Connecticut	State	PH-0241	03-31-25
Florida	NELAP	E87689	06-30-25
HI - RadChem Recognition	State	n/a	06-30-25
Illinois	NELAP	200023	11-30-25
Iowa	State	373	12-01-26
Kansas	NELAP	E-10236	10-31-25
Kentucky (DW)	State	KY90125	12-31-25
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-25
Louisiana	NELAP	04080	06-30-22 *
Louisiana (All)	NELAP	04080	06-30-25
Louisiana (DW)	State	LA011	12-31-25
Maryland	State	310	09-30-25
Massachusetts	State	M-MO054	06-30-25
MI - RadChem Recognition	State	9005	06-30-25
Missouri	State	780	06-30-25
Nevada	State	MO00054	07-31-25
New Jersey	NELAP	MO002	06-30-25
New Mexico	State	MO00054	06-30-25
New York	NELAP	11616	03-31-25
North Carolina (DW)	State	29700	07-31-25
North Dakota	State	R-207	06-30-24 *
Oklahoma	NELAP	9997	08-31-25
Oregon	NELAP	4157	09-01-25
Pennsylvania	NELAP	68-00540	02-28-25
South Carolina	State	85002001	06-30-25
Texas	NELAP	T104704193	07-31-25
US Fish & Wildlife	US Federal Programs	058448	07-31-25
USDA	US Federal Programs	P330-17-00028	05-18-26
Utah	NELAP	MO00054	07-31-25
Virginia	NELAP	460230	06-14-25

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

Accreditation/Certification Summary

Client: Arcadis US Inc.
Project/Site: AEP Hallsville TX

Job ID: 860-89099-1

Laboratory: Eurofins St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C592	08-30-25
West Virginia DEP	State	381	10-31-25

Method Summary

Client: Arcadis US Inc.
Project/Site: AEP Hallsville TX

Job ID: 860-89099-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET HOU
6010D	Metals (ICP)	SW846	EET HOU
6020B	Metals (ICP/MS)	SW846	EET HOU
7471B	Mercury (CVAA)	SW846	EET HOU
Moisture	Percent Moisture	EPA	EET HOU
901.1	Radium-226 & Other Gamma Emitters (GS)	EPA	EET SL
1312	SPLP Extraction	SW846	EET HOU
3010A	Preparation, Total Metals	SW846	EET HOU
3051A	Preparation, Metals, Microwave Assisted	SW846	EET HOU
7471B	Preparation, Mercury	SW846	EET HOU
Dry and Grind	Preparation, Dry and Grind	None	EET SL
Fill_Geo-21	Fill Geometry, 21-Day In-Growth	None	EET SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

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

Sample Summary

Client: Arcadis US Inc.
Project/Site: AEP Hallsville TX

Job ID: 860-89099-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
860-89099-1	A5-1 (12102024)	Solid	12/10/24 11:00	12/12/24 12:05
860-89099-4	B4-1 (12102024)	Solid	12/10/24 11:20	12/12/24 12:05
860-89099-7	B5-1 (12102024)	Solid	12/10/24 12:00	12/12/24 12:05
860-89099-10	C5-1 (12102024)	Solid	12/10/24 12:25	12/12/24 12:05
860-89099-13	C4-1 (12102024)	Solid	12/10/24 14:35	12/12/24 12:05
860-89099-16	D3-1 (12102024)	Solid	12/10/24 15:00	12/12/24 12:05
860-89099-19	C3-1 (12102024)	Solid	12/10/24 15:20	12/12/24 12:05
860-89099-22	B3-1 (12102024)	Solid	12/10/24 15:40	12/12/24 12:05
860-89099-25	A3-1 (12102024)	Solid	12/10/24 16:00	12/12/24 12:05
860-89099-32	A4-1 (12112024)	Solid	12/11/24 12:50	12/12/24 12:05
860-89099-35	A2-1 (12112024)	Solid	12/11/24 13:05	12/12/24 12:05
860-89099-38	B1-1 (12112024)	Solid	12/11/24 13:15	12/12/24 12:05
860-89099-41	C2-1 (12112024)	Solid	12/11/24 13:30	12/12/24 12:05
860-89099-44	D1-1 (12112024)	Solid	12/11/24 13:40	12/12/24 12:05
860-89099-47	E2-1 (12112024)	Solid	12/11/24 13:50	12/12/24 12:05
860-89099-50	E3-1 (12112024)	Solid	12/11/24 14:05	12/12/24 12:05
860-89099-53	E1-1 (12112024)	Solid	12/11/24 14:25	12/12/24 12:05
860-89099-56	D2-1 (12112024)	Solid	12/11/24 14:40	12/12/24 12:05
860-89099-59	C1-1 (12112024)	Solid	12/11/24 14:55	12/12/24 12:05
860-89099-62	B2-1 (12112024)	Solid	12/11/24 15:10	12/12/24 12:05
860-89099-65	A1-1 (12112024)	Solid	12/11/24 15:35	12/12/24 12:05

Eurofins Houston
4145 Greenbriar Dr
Stafford, TX 77477
Phone (281) 240-4200

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler	Lab PM: Kudchadkar Sachin G	Carrier Tracking No(s):	COC No: 860-34160-11705.1
Client Contact: Ms. Debi Farber	Phone:	E-Mail: Sachin.Kudchadkar@et.eurofinsus.com	State of Origin:	Page: Page 1 of 7
Company: Arcadis US Inc.	PWSID:	Analysis Requested		Job #:
Address: 98 San Jacinto Blvd. Suite 414	Due Date Requested:			Preservation Codes: N None
City: Austin	TAT Requested (days):			
State, Zip: TX, 78701	Compliance Project: Δ Yes Δ No			
Phone: 512-658-6287(Tel)	PO #:			
Email: debi.farber@arcadis.com	WO #:			
Project Name: AEP Hallsville TX	Project #: 86007817			
Site:	SSOW#:			

860-89099 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Ra (MOD) Radium-226/228-Total (Eurofins St. Louis) - one 32 oz glass container	1312/ 6010D SPLP Lithium	1312/ 300- SPLP Fluoride	6020B- Sb, As, Ba, be, cd, Cr, Co, Pb, Mo, Se, Tl	7471B- Hg	Total Number of	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N		
A5-1 (12102024)	12-10-24	1100	G	Solid			X	X	X	X	X		Temp. 4.5 IR ID:HOU-368 C/F.-0.1 Corrected Temp: 4.4
A5-2 (12102024)		1100	G	Solid				X	X	X	X		* Hold pending analysis
A5-3 (12102024)		1100	G	Solid				X	X	X	X		Temp: 3.8 IR ID:HOU-368 C/F:-0.1 Corrected Temp: 3.7 * Hold pending analysis
B4-1 (12102024)		1120	G	Solid			X	X	X	X	X		
B4-2 (12102024)		1120	G	Solid				X	X	X	X		Temp. 1.5 IR ID:HOU-368 C/F:-0.1 Corrected Temp: 1.4 * Hold pending analysis
B4-3 (12102024)		1120	G	Solid				X	X	X	X		* Hold pending analysis
B5-1 (12102024)		1200	G	Solid				X	X	X	X		Temp. 2.9 IR ID:HOU-368 C/F:-0.1 Corrected Temp: 2.8
B5-2 (12102024)		1200	G	Solid				X	X	X	X		* Hold pending analysis
B5-3 (12102024)		1200	G	Solid				X	X	X	X		Temp: 5.0 IR ID:HOU-368 C/F:-0.1 Corrected Temp: 4.9 * Hold pending analysis
C5-1 (12102024)		1225	G	Solid			X	X	X	X	X		
C5-2 (12102024)	12-10-24	1225	G	Solid			X	X	X	X	X		Temp: 3.2 IR ID:HOU-368 C/F.-0.1 Corrected Temp: 3.1 * Hold pending analysis

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee ma
☐ Return To Client

(longer than 1 month)
e For _____ Months

Deliverable Requested: I, II, III, IV Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time: 12-12-24 1205	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 12-12-24 1205	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver 05/06/2024

Eurofins Houston
4145 Greenbriar Dr
Stafford, TX 77477
Phone (281) 240-4200

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler	Lab PM: Kudchadkar Sachin G	Carrier Tracking No(s):	COC No: 860-34160-11705.1
Client Contact: Ms. Debi Farber	Phone:	E-Mail: Sachin.Kudchadkar@et.eurofinsus.com	State of Origin:	Page: Page 2 of 7
Company: Arcadis US Inc.	PWSID:			Job #:
Address: 98 San Jacinto Blvd. Suite 414	Due Date Requested:			
City: Austin	TAT Requested (days):			
State, Zip: TX, 78701	Compliance Project: Δ Yes Δ No			
Phone: 512-658-6287(Tel)	PO #:			
Email: debi.farber@arcadis.com	WO #:			
Project Name: AEP Hallsville TX	Project #: 86007817			
Site:	SSOW#:			

Analysis Requested

Preservation Codes: N None; Other

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Wewater, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Ra (MOD) Radium-226/228-Total (Eurofins St. Louis) - one 32 oz glass container	1312/ 6010D SPLP Lithium	1312/ 300- SPLP Fluoride	6020B- Sb, As, Ba, be, cd, Cr Co, Pb, Mo, Se, Tl	7471B- Hg	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N		
C5-3 (12102024)	12 10 24	1225	G	Solid			X	X	X	X	X		* hold pending analysis
C4-1 (12102024)		1435		Solid				X	X	X	X		
C4-2 (12102024)		1435		Solid				X	X	X	X		* hold pending analysis
C4-3 (12102024)		1435		Solid				X	X	X	X		* hold
D3-1 (12102024)		1500		Solid				X	X	X	X		
D3-2 (12102024)		1500		Solid				X	X	X	X		* hold
D3-3 (12102024)		1500		Solid				X	X	X	X		* hold
C3-1 (12102024)		1520		Solid			X	X	X	X	X		
C3-2 (12102024)		1520		Solid			X	X	X	X	X		* hold
C3-3 (12102024)		1520		Solid			X	X	X	X	X		* hold
B3-1 (12102024)	12 10 24	1540	G	Solid				X	X	X	X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I II III, IV Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	12-12-24 1205				
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 12-12-24 1205	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No. | Cooler Temperature(s) °C and Other Remarks:

Ver 05/06/2024

Eurofins Houston
4145 Greenbriar Dr
Stafford, TX 77477
Phone (281) 240-4200

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler	Lab PM: Kudchadkar Sachin G	Carrier Tracking No(s):	COC No: 860-34160-11705.1
Client Contact: Ms. Debi Farber	Phone:	E-Mail: Sachin.Kudchadkar@et.eurofinsus.com	State of Origin:	Page: Page 3 of 7
Company: Arcadis US Inc.	PWSID:			Job #:
Address: 98 San Jacinto Blvd. Suite 414	Due Date Requested:			
City: Austin	TAT Requested (days):			
State, Zip: TX, 78701	Compliance Project: Δ Yes Δ No			
Phone: 512-658-6287(Tel)	PO #:			
Email: debi.farber@arcadis.com	WO #:			
Project Name: AEP Hallsville TX	Project #: 86007817			
Site:	SSOW#:			

Analysis Requested

Preservation Codes: N None; Other

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Ra (MOD) Radium-226/228-Total (Eurofins St. Louis) - one 32 oz glass container	1312/ 6010D SPLP Lithium	1312/ 300- SPLP Fluoride	6020B- Sb, As, Ba, be, cd, Cr Co, Pb, Mo, Se, Tl	7471B- Hg	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N		
B3-2 (12102024)	121024	1540	G	Solid				X	X	X	X		^ Hold
B3-3 (12102024)		1540		Solid			X	X	X	X	X		No Radium analysis
A3-1 (12102024)		1600		Solid			X	X	X	X	X		
A3-2 (12102024)		1600		Solid			X	X	X	X	X		^ Hold
A3-3 (12102024)	121024	1600	G	Solid			X	X	X	X	X		^ Hold
A5-2 (12112024)	121124	1215	G	Solid			X						^ Hold
A5-3 (12112024)		1215		Solid			X						^ Hold
B4-2 (12112024)		1230		Solid			X						^ Hold
B4-3 (12112024)		1230		Solid			X						^ Hold
A4-1 (12112024)		1250		Solid				X	X	X	X		
A4-2 (12112024)	121124	1250	G	Solid				X	X	X	X		^ Hold

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III IV Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		12-12-24 1205				
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 12-12-24 1205	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Ver: 05/06/2024

2/17/2025 (Rev. 2)

Page 69 of 77

Eurofins Houston
4145 Greenbriar Dr
Stafford, TX 77477
Phone: 281-240-4200

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler	Lab PM: Kudchadkar Sachin G	Carrier Tracking No(s):	COC No: 860-34603-11870.1
Client Contact: Ms. Debi Farber	Phone:	E-Mail: Sachin.Kudchadkar@et.eurofinsus.com	State of Origin:	Page: ~~Page 1 of 3~~ Page 4 of 7
Company: Arcadis US Inc.	PWSID:	Analysis Requested		Job #:
Address: 98 San Jacinto Blvd. Suite 414	Due Date Requested:			Preservation Codes:
City: Austin	TAT Requested (days):			
State, Zip: TX, 78701	Compliance Project: Δ Yes Δ No			
Phone: 512-658-6287(Tel)	PO #: 30209409			
Email: debi.farber@arcadis.com	WO #:			
Project Name: AEP Hallsville TX	Project #: 86007817			Other
Site:	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1, Ra (GFPC), Radium 226/228 (Total)	1312/6010D - SPLP Lithium	1312/300 SPLP Fluoride	6020B Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mn, Mo, Ni, Se, Tl	7471B - Hg	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
A4-3 (12112024)	12-11-24	1250	G	Solid				X	X	X	X		* Hold
A2-1 (12112024)		1305		Solid				X	X	X	X		
A2-2 (12112024)		1305		Solid				X	X	X	X		* Hold
A2-3 (12112024)		1305		Solid				X	X	X	X		* Hold
B1-1 (12112024)		1315		Solid				X	X	X	X		
B1-2 (12112024)		1315		Solid				X	X	X	X		* Hold
B1-3 (12112024)		1315		Solid				X	X	X	X		* Hold
C2-1 (12112024)		1330		Solid				X	X	X	X		
C2-2 (12112024)		1330		Solid				X	X	X	X		* Hold
C2-3 (12112024)		1330		Solid				X	X	X	X		* Hold
D1-1 (12112024)	12-11-24	1340	G	Solid				X	X	X	X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	12-12-24 1205				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 12.12.24 1205	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver 10/10/2024

Eurofins Houston
4145 Greenbriar Dr
Stafford, TX 77477
Phone: 281-240-4200

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler	Lab PM: Kudchadkar Sachin G	Carrier Tracking No(s):	COC No: 860-34603-11870.2
Client Contact: Ms. Debi Farber	Phone:	E-Mail: Sachin.Kudchadkar@et.eurofinsus.com	State of Origin:	Page: Page ~~2 of 3~~ 5 of 7
Company: Arcadis US Inc.	PWSID:	Analysis Requested		Job #:
Address: 98 San Jacinto Blvd. Suite 414	Due Date Requested:			Preservation Codes:
City: Austin	TAT Requested (days):			
State, Zip: TX, 78701	Compliance Project: Δ Yes Δ No			
Phone: 512-658-6287(Tel)	PO #: 30209409			
Email: debi.farber@arcadis.com	WO #:			
Project Name: AEP Hallsville TX	Project #: 86007817			Other
Site:	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1 - Ra - (Mod) Radium 226 Total	1312 / 6010D - SPLP Lithium	1312 / 300 - SPLP Fluoride - 6020B - Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, Tl	74-71B - Hg	Total Number of containers	Special Instructions/Note:
			Preservation Code:									
D1-2 (12112024)	12 11-24	1340	G	Solid				X	X X X	X		^ Hold
D1-3 (12112024)		1340		Solid				X	X X X	X		^ Hold
E2-1 (12112024)		1350		Solid				X	X X X	X		
E2-2 (12112024)		1350		Solid				X	X X X	X		^ Hold
E2-3 (12112024)		1350		Solid				X	X X X	X		^ Hold
E3-1 (12112024)		1405		Solid			X	X	X X X	X		
E3-2 (12112024)		1405		Solid			X	X	X X X	X		^ Hold
E3-3 (12112024)		1405		Solid			X	X	X X X	X		^ Hold
E1-1 (12112024)		1425		Solid			X	X	X X X	X		
E1-2 (12112024)		1425		Solid			X	X	X X X	X		^ Hold
E1-3 (12112024)	12 11-24	1425	G	Solid			X	X	X X X	X		^ Hold

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
RSh	12-12-24 1205				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 12-12-24 1205	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver 10/10/2024

Eurofins Houston
4145 Greenbriar Dr
Stafford TX 77477
Phone: 281-240-4200

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler	Lab PM: Kudchadkar Sachin G	Carrier Tracking No(s):	COC No: 860-34603-11870.3
Client Contact: Ms. Debi Farber	Phone:	E-Mail: Sachin.Kudchadkar@et.eurofinsus.com	State of Origin:	Page: ~~Page 9 of 5~~ Page 6 of 7
Company: Arcadis US Inc.	PWSID:	Analysis Requested		Job #:
Address: 98 San Jacinto Blvd. Suite 414	Due Date Requested:			Preservation Codes:
City: Austin	TAT Requested (days):			
State, Zip: TX, 78701	Compliance Project: Δ Yes Δ No			
Phone: 512-658-6287(Tel)	PO #: 30209409			
Email: debi.farber@arcadis.com	WO #:			Other
Project Name: AEP Hallsville TX	Project #: 86007817			
Site:	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Solid, Ra-226 + Ra-228 Total	1312/6010D - SPLP Lithium	1312/300 - SPLP Fluoride	6020B - Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, Tl	7471B - Hg	Total Number of containers	Special Instructions/Note:
			Preservation Code:										
D2-1 (12112024)	12-11-24	1440	G	Solid			X	X	X	X	X		
D2-2 (12112024)		1440		Solid			X	X	X	X	X		* Hold
D2-3 (12112024)		1440					X	X	X	X	X		* Hold
C1-1 (12112024)		1455					X	X	X	X	X		
C1-2 (12112024)		1455					X	X	X	X	X		* Hold
C1-3 (12112024)		1455					X	X	X	X	X		* Hold
B2-1 (12112024)		1510					X	X	X	X	X		
B2-2 (12112024)		1510					X	X	X	X	X		* Hold
B2-3 (12112024)		1510					X	X	X	X	X		* Hold
A1-1 (12112024)		1535					X	X	X	X	X		
A1-2 (12112024)	12-11-24	1535	G	Solid			X	X	X	X	X		* Hold

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		12-12-24/1205				
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 12-12-24 1205	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver 10/10/2024

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Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager	~~Sachin Kandekar~~ Debi Farber	Bill to: (if different)	
Company Name:	Arcadis US Inc	Company Name:	
Address:	98 San Jacinto Blvd Ste 414	Address:	
City State ZIP:	Austin TX 78701	City State ZIP:	
Phone:	512-655-6287	Email:	debi.Farber@arcadis.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	AEP Hallsville TX	Turn Around	
Project Number:	86007817	☐ Routine ☐ Rush	
Project Location:		Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT	Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:		
Cooler Custody Seals:	Yes No N/A	Correction Factor:		
Sample Custody Seals:	Yes No N/A	Temperature Reading:		
Total Containers:		Corrected Temperature:		

Preservative Codes

None: NO — DI Water: H_2O
Cool: Cool — MeOH: Me
HCL: HC — HNO_3: HN
H_2SO_4: H_2 — NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	9011 - Ra-(and) Radium 226/228 Total	6010D - SPLP Lithium	300 - SPLP Fluoride	6020B - Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, Tl	7473 - Hg	Sample Comments
A1-3 (12112024)	S	12 11 24	1535		G			X	X	X	X	X	

Parameters

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of $85.00 will be applied to each project and a charge of $5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		12-12-24 1205	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Eurofins Houston
4145 Greenbriar Dr
Stafford, TX 77477
Phone: 281-240-4200

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s): N/A	COC No: 860-182866.1
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Sachin.Kudchadkar@et.eurofinsus.com	State of Origin: Texas	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 860-89099-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 12/26/2024			
City: Earth City	TAT Requested (days): N/A			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: AEP Hallsville TX	Project #: 86007817			
Site: N/A	SSOW#: N/A			

Analysis Requested

Preservation Codes: -

Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra226_228GFP_PE	901.1_Ra/Dry_Grind (MOD) Radium-226/228	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
A5-1 (12102024) (860-89099-1)	12/10/24	11:00 Central	G	Solid			X	X	1	
B4-1 (12102024) (860-89099-4)	12/10/24	11:20 Central	G	Solid			X	X	1	
C5-1 (12102024) (860-89099-10)	12/10/24	12:25 Central	G	Solid			X	X	1	
C3-1 (12102024) (860-89099-19)	12/10/24	15:20 Central	G	Solid			X	X	1	
A3-1 (12102024) (860-89099-25)	12/10/24	16:00 Central	G	Solid			X	X	1	
E3-1 (12112024) (860-89099-50)	12/11/24	14:05 Central	G	Solid			X	X	1	
E1-1 (12112024) (860-89099-53)	12/11/24	14:25 Central	G	Solid			X	X	1	
D2-1 (12112024) (860-89099-56)	12/11/24	14:40 Central	G	Solid			X	X	1	
C1-1 (12112024) (860-89099-59)	12/11/24	14:55 Central	G	Solid			X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/13/24 17:00			0830 DEC 16 2024	ETA-STR
2	Relinquished by:	Date/Time:	Company	Received by: Cheyenne Forrest	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 10/10/2024

Eurofins Houston
4145 Greenbriar Dr
Stafford, TX 77477
Phone: 281-240-4200

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler: N/A	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s): N/A	COC No: 860-182866.2
Client Contact: Shipping/Receiving	Phone: N/A	E-Mail: Sachin.Kudchadkar@et.eurofinsus.com	State of Origin: Texas	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Texas		Job #: 860-89099-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 12/26/2024			Preservation Codes: -
City: Earth City	TAT Requested (days): N/A			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #: N/A			
Email: N/A	WO #: N/A			
Project Name: AEP Hallsville TX	Project #: 86007817			
Site: N/A	SSOW#: N/A			Other: N/A

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Ra226_228GFP_PE	901.1_Ra/Dry_Grind (MOD) Radium-226/228	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
B2-1 (12112024) (860-89099-62)	12/11/24	15:10 Central	G	Solid			X	X	1	
A1-1 (12112024) (860-89099-65)	12/11/24	15:35 Central	G	Solid			X	X	2	
A1-3 (12112024) (860-89099-67)	12/11/24	15:35 Central	G	Solid			X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing South Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 12/13/24 17:06	Company	Received by:	Date/Time: 0830 DEC 16 2024	Company ETA-STL
Relinquished by:	Date/Time:	Company	Received by: Christine Forrest	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 10/10/2024

2/17/2025 (Rev. 2)

Login Sample Receipt Checklist

Client: Arcadis US Inc.

Job Number: 860-89099-1

Login Number: 89099
List Number: 1
Creator: Torrez, Lisandra

List Source: Eurofins Houston

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

Login Sample Receipt Checklist

Client: Arcadis US Inc.

Job Number: 860-89099-1

Login Number: 89099
List Number: 2
Creator: Forrest, Cheyenne L

List Source: Eurofins St. Louis
List Creation: 12/16/24 01:11 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	False	Coc states 14 containers but we received 38.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Container B-62 was received w/ a cracked lid and Container A-50 was fully broken
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	

This receipt checklist is generated for all samples received in this Login. It may not be applicable to all Jobs associated with this Login.

ATTACHMENT E
Laboratory Analytical Report – August 2020
BASP Water Sample

Form REP-703
Rev. 2, 05/2016

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
T: 614-836-4221, Audinet 210-4221
F: 614-836-4168, Audinet 210-4168
http://aepenv/labs

Water Analysis

Location: Welsh PS ***Report Date: 9/15/2020***

ASD BASP

Sample Number: 202592-001 **Date Collected: 08/26/2020 08:40** **Date Received: 8/27/2020**

Parameter	Result	Units	Data Qual	RL	MDL	Analysis By	Analysis Date/Time	Method
Antimony, Sb	0.21	ug/L		0.1	0.02	JDB	09/02/2020 21:13	EPA 200.8-1994, Rev. 5.4
Arsenic, As	4.17	ug/L		0.1	0.03	JDB	09/02/2020 21:13	EPA 200.8-1994, Rev. 5.4
Barium, Ba	131	ug/L		0.2	0.05	JDB	09/02/2020 21:13	EPA 200.8-1994, Rev. 5.4
•The RPD between the MS/MSD exceeds 20%.								
Beryllium, Be	< 0.02	ug/L	U	0.1	0.02	JDB	09/02/2020 21:13	EPA 200.8-1994, Rev. 5.4
Cadmium, Cd	< 0.01	ug/L	U	0.05	0.01	JDB	09/02/2020 21:13	EPA 200.8-1994, Rev. 5.4
Chromium, Cr	0.384	ug/L		0.2	0.04	JDB	09/02/2020 21:13	EPA 200.8-1994, Rev. 5.4
Cobalt, Co	0.076	ug/L		0.05	0.02	JDB	09/02/2020 21:13	EPA 200.8-1994, Rev. 5.4
Lead, Pb	0.460	ug/L		0.2	0.05	JDB	09/02/2020 21:13	EPA 200.8-1994, Rev. 5.4
Mercury, Hg	0.004	ug/L	J	0.005	0.002	JAB	09/04/2020	EPA 245.7-2005, Rev. 2.0
Molybdenum, Mo	81.1	ug/L		2	0.4	JDB	09/02/2020 21:13	EPA 200.8-1994, Rev. 5.4
Selenium, Se	8.3	ug/L		0.2	0.03	JDB	09/02/2020 21:13	EPA 200.8-1994, Rev. 5.4
Thallium, Tl	< 0.1	ug/L	U	0.5	0.1	JDB	09/02/2020 21:13	EPA 200.8-1994, Rev. 5.4
Boron, B	4.58	mg/L		0.05	0.02	JDB	09/02/2020 21:13	EPA 200.8-1994, Rev. 5.4
Calcium, Ca	60.4	mg/L		0.3	0.1	DAM	09/01/2020 16:34	EPA 200.7-1994, Rev. 4.4
Lithium, Li	0.00387	mg/L		0.0002	0.00005	JDB	09/02/2020 21:13	EPA 200.8-1994, Rev. 5.4
Magnesium, Mg	0.08	mg/L	J	0.1	0.02	DAM	09/01/2020 16:34	EPA 200.7-1994, Rev. 4.4
Potassium, K	27.4	mg/L		1	0.2	DAM	09/01/2020 16:34	EPA 200.7-1994, Rev. 4.4
Sodium, Na	150	mg/L		0.5	0.1	DAM	09/01/2020 16:34	EPA 200.7-1994, Rev. 4.4
Strontium, Sr	2.74	mg/L		0.01	0.002	DAM	09/01/2020 16:34	EPA 200.7-1994, Rev. 4.4
Alkalinity, as CaCO3	176	mg/L		20	5	MGK	09/01/2020 10:08	SM 2320B-2011
Bromide, Br	0.08	mg/L	J	0.2	0.04	CRJ	08/28/2020 10:51	EPA 300.1-1997, Rev. 1.0
Chloride, Cl	16.3	mg/L		0.04	0.01	CRJ	08/28/2020 10:51	EPA 300.1-1997, Rev. 1.0
Fluoride, F	0.34	mg/L		0.06	0.01	CRJ	08/28/2020 10:51	EPA 300.1-1997, Rev. 1.0
Residue, Filterable, TDS	790	mg/L		100	40	HRF	08/31/2020	SM 2540C-2011
Sulfate, SO4	343	mg/L		2	0.3	CRJ	08/28/2020 11:26	EPA 300.1-1997, Rev. 1.0

U: Analyte was analyzed and not detected at or above adjusted Method Detection Limit
J: Analyte was positively identified, though the quantitation was below Reporting Limit.

Radiochemistry*	Result	Units	UNC* (+ / -)	MDA*	Analysis By	Analysis Date/Time	Method
Radium-228	0.403	pCi/L	0.18	0.60	ttp	9/14/2020	SW-846 9320-2014,Rev. 1.0
Radium-226	0.0979	pCi/L	0.060	0.17	ttp	9/14/2020	SW-846 9315-1986,Rev. 0

****The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.***

ASD BASP dissolved

Sample Number: 202592-001A **Date Collected: 08/26/2020 08:40** **Date Received: 8/27/2020**

Parameter	Result	Units	Data Qual	RL	MDL	Analysis By	Analysis Date/Time	Method
Antimony, Sb	0.19	ug/L		0.1	0.02	JDB	09/02/2020 23:00	EPA 200.8-1994, Rev. 5.4
Arsenic, As	4.07	ug/L		0.1	0.03	JDB	09/02/2020 23:00	EPA 200.8-1994, Rev. 5.4
Barium, Ba	122	ug/L		0.2	0.05	JDB	09/02/2020 23:00	EPA 200.8-1994, Rev. 5.4
Beryllium, Be	< 0.02	ug/L	U	0.1	0.02	JDB	09/02/2020 23:00	EPA 200.8-1994, Rev. 5.4
Cadmium, Cd	< 0.01	ug/L	U	0.05	0.01	JDB	09/02/2020 23:00	EPA 200.8-1994, Rev. 5.4
Chromium, Cr	0.324	ug/L		0.2	0.04	JDB	09/02/2020 23:00	EPA 200.8-1994, Rev. 5.4
Cobalt, Co	0.04	ug/L	J	0.05	0.02	JDB	09/02/2020 23:00	EPA 200.8-1994, Rev. 5.4
Lead, Pb	0.1	ug/L	J	0.2	0.05	JDB	09/02/2020 23:00	EPA 200.8-1994, Rev. 5.4
Molybdenum, Mo	77.7	ug/L		2	0.4	JDB	09/02/2020 23:00	EPA 200.8-1994, Rev. 5.4
Selenium, Se	8.3	ug/L		0.2	0.03	JDB	09/02/2020 23:00	EPA 200.8-1994, Rev. 5.4
Thallium, Tl	< 0.1	ug/L	U	0.5	0.1	JDB	09/02/2020 23:00	EPA 200.8-1994, Rev. 5.4
Boron, B	4.40	mg/L		0.05	0.02	JDB	09/02/2020 23:00	EPA 200.8-1994, Rev. 5.4
Calcium, Ca	60.2	mg/L		0.3	0.1	DAM	09/01/2020 17:13	EPA 200.7-1994, Rev. 4.4
Lithium, Li	0.00394	mg/L		0.0002	0.00005	JDB	09/02/2020 23:00	EPA 200.8-1994, Rev. 5.4
Magnesium, Mg	0.02	mg/L	J	0.1	0.02	DAM	09/01/2020 17:13	EPA 200.7-1994, Rev. 4.4
Potassium, K	27.5	mg/L		1	0.2	DAM	09/01/2020 17:13	EPA 200.7-1994, Rev. 4.4
Sodium, Na	149	mg/L		0.5	0.1	DAM	09/01/2020 17:13	EPA 200.7-1994, Rev. 4.4
Strontium, Sr	2.73	mg/L		0.01	0.002	DAM	09/01/2020 17:13	EPA 200.7-1994, Rev. 4.4
Alkalinity, as CaCO3	153	mg/L		20	5	MGK	09/01/2020 10:08	SM 2320B-2011
Bromide, Br	0.08	mg/L	J	0.2	0.04	CRJ	08/28/2020 15:14	EPA 300.1-1997, Rev. 1.0
Chloride, Cl	16.3	mg/L		0.04	0.01	CRJ	08/28/2020 15:14	EPA 300.1-1997, Rev. 1.0
Fluoride, F	0.29	mg/L		0.06	0.01	CRJ	08/28/2020 15:14	EPA 300.1-1997, Rev. 1.0
Residue, Filterable, TDS	771	mg/L		50	20	HRF	08/31/2020	SM 2540C-2011
Sulfate, SO4	339	mg/L		2	0.3	CRJ	08/28/2020 13:58	EPA 300.1-1997, Rev. 1.0

U: Analyte was analyzed and not detected at or above adjusted Method Detection Limit
J: Analyte was positively identified, though the quantitation was below Reporting Limit.

The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Michael Ohlinger, Chemist

Email msohlinger@aep.com Tel.

Fax 614-836-4168 Audinet 8-210-

THIS TEST REPORT RELATES ONLY TO THE ITEMS TESTED AND SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THE LABORATORY. ALL TEST RESULTS MEET ALL OF THE REQUIREMENTS OF THE ACCREDITING AUTHORITY, UNLESS OTHERWISE NOTED.

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Dolan Chemical Laboratory (DCL)
4001 Bixby Road
Groveport, Ohio 43125
Jonathan Barnhill (318-673-3803)
Contacts:
Michael Ohlinger (614-836-4184)

Project Name: Welsh PP
Contact Name: Jill Parker-Witt
Contact Phone:
Sampler(s): Kenny McDonald

Analysis Turnaround Time (in Calendar Days)
14 day request

Site Contact: | **Date:**

For Lab Use Only:
COC/Order #: 202592

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	500 mL bottle, pH<2, HNO_3 — B, Ca, Li, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, TL and Na, K, Mg, Sr	Field-filter 500 mL bottle, then pH<2, HNO_3 — Dissolved Ca, Na, K, Mg, Sr	1 L bottle, Cool, 0-6°C — TDS, F, Cl, SO_4, and Br, Alkalinity	3-1 L bottles, pH<2, HNO_3 — Ra-226, Ra-228	125 mL PTFE lined bottle, HCL**, pH<2 — Hg	16 oz Glass — B, F, Li, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, TL, Total Radium, Hg	Field filter, 1 L bottle, Cool 0-6 C — B, Ca, Li, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, TL, Na, K, Mg, Sr, TDS, F, Cl, SO_4, and Br, Alkalinity	Sample Specific Notes:
ASD BASP water	8/26/2020	840	G	GW	8		X	X	X	X	X		X	
ASD BASP solids	8/26/2020	840	G	Solid	1							X		SPLP CCR Metals and Radium
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____; F= filter in field							4	F4	1	4				

** Six 1L Bottles must be collected for Radium for every 10th sample.*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company: EAGLE	Date/Time: 08/26/20 1200	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Date/Time: 8.26.20 12.55

AEP WATER & WASTE SAMPLE RECEIPT FORM

Package Type	Delivery Type
Cooler Box Bag Envelope	PONY UPS FedEX USPS
	Other _____

Plant/Customer Welsh **Number of Plastic Containers:** 7

Opened By SM **Number of Glass Containers:** _____

Date/Time 8-26-20 12:55 **Number of Mercury Containers:** 1

Were all temperatures within 0-6°C? Y / N or N/A **Initial:** SM on ice / no ice

(IR Gun Ser# #2 (192635988), *Expir.* 11/12/2021) - If No, specify each deviation: _____

Was container in good condition? Y / N Comments _____

Was Chain of Custody received? Y / N Comments _____

Requested turnaround: 2 weeks If **RUSH**, who was notified? _____

pH (15 min)	Cr^{+6} (pres) (24 hr)	NO_2 or NO_3 (48 hr)	*ortho*-PO_4 (48 hr)	Hg-diss (pres) (48 hr)

Was COC filled out properly? Y / N Comments _____

Were samples labeled properly? Y / N Comments _____

Were correct containers used? Y / N Comments _____

Was pH checked & Color Coding done? Y / N or N/A **Initial & Date:** SM 8-26-20

- Was Add'l Preservative needed? Y / N If Yes: By whom & when: Hg Lab (See Prep Book)

Is sample filtration requested? Y / N Comments _____ (See Prep Book)

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 202592 Initial & Date & Time : _____

Logged by SM Comments: Solid sample coc? copied this to give to DAM for waste. GAB

Reviewed by GAB

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the "Notes" field in the LIMS to be included on the report to the customer.

ATTACHMENT F
Certification by a Qualified Professional Engineer

CERTIFICATION BY A QUALIFIED PROFESSIONAL ENGINEER

I certify that the selected and above described alternative source demonstration is appropriate for evaluating the groundwater monitoring data for the Welsh Bottom Ash Storage Pond CCR management area and that the requirements of 30 TAC §352.951(e) have been met.



Beth Ann Gross
Printed Name of Licensed Professional Engineer

Beth Ann Gross
Signature

Geosyntec Consultants
2039 Centre Pointe Blvd, Suite 103
Tallahassee, Florida 32308

Texas Registered Engineering Firm
No. F-1182

79864	Texas	March 28, 2025
License Number	Licensing State	Date

APPENDIX 4

Notices for Monitoring Program Transitions

Welsh Power Plant

Notice of Initiating an Assessment Monitoring Program

Bottom Ash Storage Pond

On October 31, 2025, it was determined that Welsh Power Plant's Bottom Ash Storage Pond (BASP) had statistically significant increases over background for boron, calcium, chloride, sulfate and TDS. Alternative source demonstrations were not successful within the 90-day period, prompting the initiation of an assessment monitoring program, which was established on December 29, 2025, as required by §352.1421(d).

APPENDIX 5

Well Installation/Decommissioning Logs – NA

APPENDIX 6

Groundwater monitoring Field and Laboratory Reports

CCR Groundwater Monitoring Well Inspection Form

Facility: AEP WMSH PP Sampling Period: APRIL 2025

Sampling Contractor: EAGLE Signature: [signature]

Well No.	Well Locked	Lock Functioning	Well Locked After Sampling	Access to Well Maintained	Well Casing, Housing, and Pad in Good Shape	Well Properly Labeled	Well cap present	Comments
AD-13	✓	✓	✓	✓	✓	✓	✓	
AD-08	✓	✓	✓	✓	✓	✓	✓	
AD-09	✓	✓	✓	✓	✓	✓	✓	
AD-05	✓	✓	✓	✓	✓	✓	✓	
AD-04c	✓	✓	✓	✓	✓	✓	✓	
AD-04b	✓	✓	✓	✓	✓	✓	✓	DTW 7.75
AD-04	✓	✓	✓	✓	✓	✓	✓	DTW 16.81
AD-04a	✓	✓	✓	✓	✓	✓	✓	DTW 16.86
AD-01	✓	✓	✓	✓	✓	✓	✓	

Instructions: Complete form and submit to AEP Environmental Services with Field Data. Place check mark for items that are satisfactory. Unsatisfactory items should be left blank with a note in the comments section on what needs to be remedied.

CCR Groundwater Monitoring Well Inspection Form

Facility: Welsh Sampling Period: April 2025

Sampling Contractor: Eagle Signature: Scott Bowden

Well No.	Well Locked	Fastener and Lock Functioning	Well Locked After Sampling	Access to Well Maintained	Well Casing, Protective Cover, Barriers and Pad in Good Shape	Well Properly Labeled	Well Cap Present and Vented*	Comments
AD-15	✓	–	–	–	–	–	–	
AD-16	✓	–	–	–	–	–	–	
AD-11	✓	✓	–	✓	✓	✓	✓	
AD-14	–	–	–	–	–	–	✓	
AD-3	✓	–	–	✓	–	–	✓	
AD-2	✓	✓	✓	✓	✓	–	✓	
AD-7	✓	–	–	–	–	–	✓	
AD-16A	✓	✓	✓	–	–	✓	✓	
AD-12	✓	–	–	–	–	–	✓	
AD-6	–	–	–	–	–	–	✓	
AD-17	✓	–	✓	–	–	–	✓	
AD-18	✓	–	–	–	–	–	✓	

*Not all wells will be vented, especially flush mounted wells. If that is the case, please note "flush mount well" in the comments.

Facility Name	AEP WELSH
Sample by	Kenny McDonald

Sample Location ID	AD-01

Depth to water, feet (TOC)	16.95
Measured Total Depth, feet (TOC)	28.71

Depth to water date	04/29/25

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
0942	17.01	208	5.41	424	0.0	1.43	291	23.74		
0947	17.01	208	5.38	428	0.0	1.37	271	22.66		
0952	17.02	208	5.38	429	0.0	1.36	267	22.63		
0957	16.98	208	5.37	431	0.0	1.34	265	22.60		

Total volume purged	
Sample appearance	CLEAR
Sample time	0959
Sample date	04/29/25

BKGD DUPLICATE 1100

Facility Name	Welsh
Sample by	Matt Hamilton

Depth to water, feet (TOC)	8.76
Measured Total Depth, feet (TOC)	20.13

Sample Location ID	AD-03
Depth to water date	4-24-25

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
852	9.31	300	4.50	68	12.7	0.44	443	23.37		
857	9.61	300	4.27	71	4.9	1.08	452	21.56		
902	9.77	300	4.22	76	4.5	1.16	453	21.35		

Total volume purged	
Sample appearance	clear
Sample time	904
Sample date	4-24-25

Dup - BASP

1155

Facility Name	AEP WELSH
Sample by	Kenny McDonald

Sample Location ID	AP-04c

Depth to water, feet (TOC)	8.10
Measured Total Depth, feet (TOC)	18.82

Depth to water date	04/29/25

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
0849	8.14	210	4.39	467	2.8	2.11	410	23.39		
0854	8.12	210	4.36	467	2.4	2.06	305	23.37		
0859	8.13	210	4.37	466	2.1	2.02	302	23.37		
0904	8.14	210	4.36	466	2.0	1.98	300	23.35		

Total volume purged	
Sample appearance	Clear
Sample time	0906
Sample date	04/29/25

Facility Name	AEP WMSHPP
Sample by	Kenny McDonald

Sample Location ID	AD-05

Depth to water, feet (TOC)	13.55
Measured Total Depth, feet (TOC)	32.88

Depth to water date	04/28/25

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
1118	14.61	98	5.62	341	297	1.48	349	23.51		
1123	15.53	98	5.53	352	201	1.32	337	23.47		
				WON'T HOLD WATER LEVEL						

Total volume purged	
Sample appearance	TURBID
Sample time	1104
Sample date	04/29/25

Facility Name	AEP Wright PD
Sample by	Kenny McDonald

Sample Location ID	AD-08

Depth to water, feet (TOC)	13.65
Measured Total Depth, feet (TOC)	29.04

Depth to water date	04/28/25

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
0852	13.87	200	6.59	417	2.4	1.97	387	24.16		
0857	13.93	200	6.54	417	2.1	1.95	381	24.09		
0902	14.01	200	6.51	416	2.0	1.96	383	24.03		
~~0907~~										

Total volume purged	
Sample appearance	Clear
Sample time	0904
Sample date	04/28/25

PDAP Duplicate #00

Facility Name	AFB WELSH PP
Sample by	KENNY McDONALD

Sample Location ID	AO-09

Depth to water, feet (TOC)	13.73
Measured Total Depth, feet (TOC)	36.45

Depth to water date	04/28/25

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
1003	13.84	220	5.19	346	0.0	2.13	420	24.95		
1008	13.84	220	5.08	347	0.6	2.06	419	24.12		
1013	13.86	220	5.05	351	6.0	2.05	417	24.08		
1018	13.87	220	5.04	356	0.0	2.03	413	24.06		

Total volume purged	
Sample appearance	CLEAR
Sample time	1020
Sample date	04/28/25

Facility Name	Welsh
Sample by	M-H H.mith

Depth to water, feet (TOC)	18.37
Measured Total Depth, feet (TOC)	22.16

Sample Location ID	AP-11
Depth to water date	4-28-25

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
1000	18.48	200	4.38	200	170	0.68	329	24.63		
1005	18.53	200	4.15	201	107	0.76	334	23.51		
1010	18.60	200	4.09	203	83.4	0.81	333	22.38		
1015	18.63	200	4.08	203	[redacted] 22.6	0.81	330	22.14		
1020	18.64	200	4.07	204	22.5	0.79	328	22.06		

Total volume purged	
Sample appearance	Clear
Sample time	1022
Sample date	4-28-25

Duplicate

Landfill

1210

Facility Name	AEP WMSH PP
Sample by	Kenny McDonald

Sample Location ID	AD-13

Depth to water, feet (TOC)	16.82
Measured Total Depth, feet (TOC)	19.40

Depth to water date	04/28/25

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
0836	17.91	100	4.85	423	25.9	2.43	446	24.21		
0841	18.83	100	4.82	427	22.8	2.17	432	23.79		
				WON'T HOLD WATER LEVEL						

Total volume purged	
Sample appearance	SLIGHTLY TURBID
Sample time	0832
Sample date	04/29/25

DTW 19.11 @ 11:05 04/28

DTW 16.86 @ 0830 04/29

Facility Name	Welsh
Sample by	Matt Hamilton

Sample Location ID	AD-14

Depth to water, feet (TOC)	15.34
Measured Total Depth, feet (TOC)	21.27

Depth to water date	4-28-25

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
1107	15.65	220	4.40	713	32.0	0.36	378	24.64		
1112	15.66	221	4.68	639	7.6	0.78	366	22.88		
1117	15.67	220	4.83	627	7.8	0.74	361	22.43		

Total volume purged	
Sample appearance	clear
Sample time	1119
Sample date	4-28-25

Facility Name	Welsh
Sample by	Matt Hamilton

Sample Location ID	AD-15
Depth to water date	4.28.25

Depth to water, feet (TOC)	20.85
Measured Total Depth, feet (TOC)	49.15

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
908	21.57	250	4.19	96	105	0.80	288	24.17		
913	21.55	280	4.21	77	66.1	0.74	250	24.23		
918	21.60	280	4.35	76	52.3	0.72	234	24.32		
923	21.60	280	4.39	75	48.3	0.64	226	24.41		
928	21.60	280	4.41	74	37.9	0.62	224	24.49		

Total volume purged	
Sample appearance	clear
Sample time	930
Sample date	4.28.25

AD-10 . 19.30

AD-2 - 14.68

AD-01 - 16.81

AD-12 - 19.77

AD-6 - 13.92

AD-18 - 6.62

AD-22 8.42

AD-23 9.07

Facility Name	Welsh
Sample by	Matt Hamilton

Sample Location ID	AD-16R

Depth to water, feet (TOC)	24.79
Measured Total Depth, feet (TOC)	31.30

Depth to water date	4-29-25

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
1007	25.23	150	3.54	188	2.6	1.31	454	23.91		
1012	25.32	150	3.42	207	0	1.23	454	21.88		
1017	25.38	150	3.40	214	0	1.20	454	21.65		

Total volume purged	
Sample appearance	clear
Sample time	1019
Sample date	4-29-25

Facility Name	Welsh
Sample by	Matt Hamilton

Sample Location ID	AD-17
Depth to water date	4-25-25

Depth to water, feet (TOC)	22.43
Measured Total Depth, feet (TOC)	41.47

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
815	23.24	100	5.89	1,980	96.9	1.33	153	23.42		
820	24.01	100	5.86	2,030	80.8	1.21	42	21.9c		
			Will not hold water level							
				Pumped dry & Sampled after						

Total volume purged	
Sample appearance	slightly turbid
Sample time	11c1
Sample date	4-24-25

Facility Name	Aerwash PP
Sample by	Ryan McDonald

Sample Location ID	AO-3

Depth to water, feet (TOC)	8.49
Measured Total Depth, feet (TOC)	20.13

Depth to water date	06/11/25

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
0855	8.63	220	4.75	87	4.2	2.13	342	24.07		
0900	8.67	220	4.42	85	2.7	1.17	351	23.81		
0905	8.68	220	4.39	85	2.5	1.13	356	23.79		
0910	8.71	220	4.38	82	2.8	1.09	360	23.76		

Total volume purged	
Sample appearance	Clear
Sample time	0912
Sample date	06/11/25

Facility Name	AEP WELSH PP
Sample by	Kerry McDonald

Sample Location ID	AD-04c

Depth to water, feet (TOC)	7.28
Measured Total Depth, feet (TOC)	18.82

Depth to water date	06/11/25

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
0810	7.71	220	4.42	529	6.5	2.31	410	23.39		
0815	7.71	220	4.46	525	3.3	2.08	305	23.37		
0820	7.69	220	4.47	524	3.2	2.03	302	23.37		
0825	7.70	220	4.47	522	3.0	2.02	300	23.35		

Total volume purged	
Sample appearance	CLEAR
Sample time	0827
Sample date	06/11/25

Facility Name	
Sample by	

Sample Location ID	

Depth to water, feet (TOC)	
Measured Total Depth, feet (TOC)	

Depth to water date	

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		

Total volume purged	
Sample appearance	
Sample time	
Sample date	

AD-01 16.72
AD-02 13.47
AD-04 16.09
AD-04a 16.15

AD-04b 6.94
AD-05 13.21
AD-06 ——
AD-07 16.35

AD-08 13.10
AD-09 13.23
AD-10 18.99
AD-11 18.16

AD-12 20.08
AD-13 16.07
AD-14 14.69
AD-15 20.28

AD-16R 24.42
AD-17 21.63
AD-18 5.36
AD-22 3.97
AD-23 4.82

CCR Groundwater Monitoring Well Inspection Form

Facility: Welsh

Sampling Period: Sept 2025

Sampling Contractor: Eagle

Signature:

Well No.	Well Locked	Fastener and Lock Functioning	Well Locked After Sampling	Access to Well Maintained	Well Casing, Protective Cover, Barriers and Pad in Good Shape	Well Properly Labeled	Well Cap Present and Vented*	Comments
AD-15	✓	✓	✓	✓	✓	✓	✓	
AD-16R	✓	✓	✓	✓	✓	✓	✓	
AD-17	✓	✓	✓	✓	✓	✓	✓	
AD-09	✓	✓	✓	✓	✓	✓	✓	
AD-08	✓	✓	✓	✓	✓	✓	✓	
AD-10	✓	✓	✓	✓	✓	✓	✓	DTW 18.94
AD-14	✓	✓	✓	✓	✓	✓	✓	
AD-06	✓	✓	✓	✓	✓	✓	✓	DTW 13.51
AD-03	✓	✓	✓	✓	✓	✓	✓	lock needs replacing soon
AD-02	✓	✓	✓	✓	✓	✓	✓	DTW 15.03
AD-11	✓	✓	✓	✓	✓	✓	✓	lock needs replacing soon
AD-07	✓	✓	✓	✓	✓	✓	✓	DTW 16.74
AD-12	✓	✓	✓	✓	✓	✓	✓	DTW 19.86

*Not all wells will be vented, especially flush mounted wells. If that is the case, please note "flush mount well" in the comments.

CCR Groundwater Monitoring Well Inspection Form

Facility: AEP Welsh PP

Sampling Period: September 2025

Sampling Contractor: Eagle

Signature:

Well No.	Well Locked	Fastener and Lock Functioning	Well Locked After Sampling	Access to Well Maintained	Well Casing, Protective Cover, Barriers and Pad in Good Shape	Well Properly Labeled	Well Cap Present and Vented*	Comments
AD-05	✓	—	✓	✓	✓	✓	✓	
AD-13	✓	✓	✓	✓	✓	✓	✓	
AD-04c	—	✓	✓	✓	✓	✓	—	
AD-04b	—	✓	✓	✓	✓	✓	✓	DTW 8.79
AD-04	—	✓	✓	✓	✓	✓	✓	DTW 17.58
AD-04a	✓	✓	✓	✓	✓	✓	✓	DTW 17.68
AD-18	✓	✓	✓	✓	✓	✓	✓	DTW 8.95
AD-22	—	—	—	—	—	✓	✓	DTW 11.45
AD-23	✓	✓	—	✓	—	✓	✓	DTW 12.91

*Not all wells will be vented, especially flush mounted wells. If that is the case, please note "flush mount well" in the comments.

Facility Name	Walsh
Sample by	M-H H-mith

Sample Location ID	AP-01
Depth to water date	9-4-25

Depth to water, feet (TOC)	17.66
Measured Total Depth, feet (TOC)	28.71

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
952	18.08	220	5.63	395	12	2.60	397	24.57		
957	18.18	220	5.48	4.4	15.4	0.74	395	23.54		
1002	18.23	220	5.48	406	12.5	0.65	393	23.32		
1007	18.23	220	5.49	408	12.5	0.67	392	23.27		

Total volume purged	
Sample appearance	Clear
Sample time	1009
Sample date	9-4-25

Dup - Background

1133

Facility Name	Welsh
Sample by	Matt Hamilton

Sample Location ID	AD-03

Depth to water, feet (TOC)	9.35
Measured Total Depth, feet (TOC)	20.13

Depth to water date	9-4-25

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
858	10.12	300	4.24	121	12.9	2.03	391	24.18		
903	10.18	300	4.01	87	12.2	2.37	414	23.46		
908	10.22	300	3.94	84	12.1	2.60	411	23.24		
913	10.25	300	3.98	81	12.1	2.65	408	23.13		

Total volume purged	
Sample appearance	Clear
Sample time	915
Sample date	9-4-25

Facility Name	Welch AP
Sample by	Brad Bates

Sample Location ID	AD-04C
Depth to water date	8/2/25

Depth to water, feet (TOC)	8.97
Measured Total Depth, feet (TOC)	18.82

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
1115	9.02	220	4.53	493	14.9	2.24	282	30.27		
1120	9.03	220	4.49	498	10.1	2.17	264	25.86		
1125	9.04	220	4.47	499	6.2	2.13	257	25.19		
1130	9.04	220	4.46	499	6.0	2.09	253	24.97		

Total volume purged	
Sample appearance	clear
Sample time	1135
Sample date	8/2/25

Dup BASP
124

Facility Name	Welch PP
Sample by	Brad Bates

Sample Location ID	AD-05
Depth to water date	9/2/25

Depth to water, feet (TOC)	14.56
Measured Total Depth, feet (TOC)	32.88

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
0858	15.31	100	5.60	392	131	1.11	274	24.55		
0903	16.02	100	5.56	384	120	1.43	298	23.82		
			Will not Hold							

Total volume purged	
Sample appearance	Turbid
Sample time	847
Sample date	9-3-25

Facility Name	~~Kaelish~~ Welsh
Sample by	Matt Hamilton

Sample Location ID	AD-08
Depth to water date	9-3-25

Depth to water, feet (TOC)	14.11
Measured Total Depth, feet (TOC)	29.04

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
1014	14.50	200	5.56	438	22.9	4.17	318	26.31		
1019	14.55	200	5.73	436	10.6	0.51	290	25.92		
1024	14.57	200	5.76	434	8.5	0.48	268	25.91		
1026	14.58	200	5.78	432	8.4	0.44	252	25.91		

Total volume purged	
Sample appearance	clear
Sample time	1031
Sample date	9-3-25

Facility Name	Welch
Sample by	Hamlin

Sample Location ID	AD-09

Depth to water, feet (TOC)	13.89
Measured Total Depth, feet (TOC)	36.45

Depth to water date	9-3-25

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
911	14.21	220	4.33	364	13.7	5.14	344	24.17		
916	14.31	220	4.36	376	8.3	0.61	322	23.84		
921	14.34	220	4.48	375	6.8	0.50	308	23.60		
926	14.36	220	4.48	375	6.9	0.48	304	23.57		

Total volume purged	
Sample appearance	clear
Sample time	926
Sample date	9-3-25

Facility Name	Welsh
Sample by	Matt Hamilton

Sample Location ID	AD-11
Depth to water date	9-4-25

Depth to water, feet (TOC)	18.06
Measured Total Depth, feet (TOC)	22.10

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
1051	18.22	220	4.34	251	21.1	4.36	422	27.61		
1056	18.29	220	4.17	216	9.1	0.90	425	26.64		
1101	18.30	220	4.11	212	9.0	0.86	424	25.96		

Total volume purged	
Sample appearance	clear
Sample time	1103
Sample date	9-4-25

Facility Name	Welsh PP
Sample by	Brad Bates

Sample Location ID	AO-13
Depth to water date	9/2/25

Depth to water, feet (TOC)	17.41
Measured Total Depth, feet (TOC)	19.40

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
0946	17.34	100	5.21	458	33.3	2.68	408	23.62		
0957	19.09	100	4.94	439	21.6	2.40	423	23.39		
			WELL NOT HOLD							
			INSUFFICIENT RECHARGE							
			Only Sampled Water Qualities							
			and Metals							

Total volume purged	
Sample appearance	Slightly turbid
Sample time	1215
Sample date	9/2/25

Facility Name	W.C.S.F
Sample by	Matt Hamilton

Depth to water, feet (TOC)	16.67
Measured Total Depth, feet (TOC)	21.27

Sample Location ID	AD-14
Depth to water date	9-3-25

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
1116	16.46	220	4.52	812	45.9	0.54	343	26.37		
1121	17.12	220	4.41	716	20.1	0.29	329	25.23		
1126	17.12	220	4.39	674	11.8	0.27	322	24.69		
1131	17.12	220	4.37	651	11.6	0.26	318	24.68		

Total volume purged	
Sample appearance	Clear
Sample time	1133
Sample date	9-3-25

Dap - Landfill

1228

Facility Name	Welsh
Sample by	Matt Hamilton

Sample Location ID	AD-15

Depth to water, feet (TOC)	21.66
Measured Total Depth, feet (TOC)	49.15

Depth to water date	9-2-25

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
945	22.07	300	4.33	175	154	4.22	254	29.00		
950	22.14	300	4.19	162	60.3	2.99	251	27.16		
955	22.14	300	4.23	154	29.5	1.87	240	26.38		
1000	22.14	300	4.28	149	12.3	1.25	235	25.25		
1005	22.15	300	4.33	145	10.0	1.20	234	24.99		
1010	22.15	300	4.35	142	9.9	1.18	233	24.86		

Total volume purged	
Sample appearance	clear
Sample time	1012
Sample date	9-2-25

Duplicate - PBAP
125

Facility Name	Wash
Sample by	M-H Hamilton

Sample Location ID	AP-169

Depth to water, feet (TOC)	26.01
Measured Total Depth, feet (TOC)	31.30

Depth to water date	4-2-25

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
1111	26.24	220	3.51	167	7.11	2.33	384	24.42		
1116	26.43	220	3.36	163	4.19	1.78	394	25.75		
1121	26.52	220	3.33	149	4.18	1.74	404	25.51		

Total volume purged	
Sample appearance	Clear
Sample time	1123
Sample date	4-7-25

Facility Name	Welch
Sample by	Matt Hamilton

Sample Location ID	AD-17

Depth to water, feet (TOC)	22.66
Measured Total Depth, feet (TOC)	41.47

Depth to water date	9-2-25

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
845	23.35	100	5.34	1,360	40.1	2.93	245	27.91		
850	24.05	100	5.59	1,520	32.5	2.58	99	24.12		
				Will not Hold						

Total volume purged	
Sample appearance	clear
Sample time	1216
Sample date	9-2-25

Facility Name	Welch
Sample by	Matt Hamlin

Sample Location ID	AD-01
Depth to water date	11-12-25

Depth to water, feet (TOC)	18.69
Measured Total Depth, feet (TOC)	28.71

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
1013	19.02	220	5.15	341	1.8	0.64	456	20.75		
1018	19.12	220	4.54	351	0	0.23	456	20.73		
1023	19.20	220	4.46	352	0	0.21	449	20.76		
1028	19.21	220	4.44	353	0	0.20	447	20.82		

Total volume purged	
Sample appearance	clear
Sample time	1030
Sample date	11-12-25

AD-2 15.79
AD-4 18.27
AD-4A 18.36
AD-4B 9.46
AD-5 14.44
AD-8 14.88
AD-9 13.19
AD-10 19.44
AD-11 18.03
AD-12 22.56
AD-13 17.83
AD-15 22.74
AD-16R 27.62
AD-17 22.95
AD-18 10.78
AD-22 9.41
AD-23 10.63

Bicarbonate, Total Alk, Cl, SO4

Ca, Mg, Na, K

Facility Name	Welsh
Sample by	Matt Hamilton

Sample Location ID	AD-03
Depth to water date	11-12-25

Depth to water, feet (TOC)	9.91
Measured Total Depth, feet (TOC)	20.13

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
946	10.42	300	4.83	65	4.1	2.54	464	19.45		
951	10.45	300	4.83	60	0.3	0.90	470	20.80		
956	10.49	300	4.77	60	0	0.88	467	20.97		

Total volume purged	
Sample appearance	clear
Sample time	958
Sample date	11-12-25

Chloride

Facility Name	Welch
Sample by	Matt Hamilton

Sample Location ID	MD-04C

Depth to water, feet (TOC)	9.61
Measured Total Depth, feet (TOC)	18.82

Depth to water date	11-12-25

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)		
1043	9.87	220	4.89	494	4.7	1.17	448	22.58		
1048	10.02	220	4.89	497	0.3	0.99	443	22.80		
1053	10.12	220	4.85	495	9.8	0.87	436	22.84		
1058	10.13	220	4.92	494	58.7	1.17	425	22.94		
1103	10.14	220	4.91	499	64.7	0.90	415	22.87		
1108	10.14	220	4.84	500	52.8	0.79	416	23.00		
1113	10.15	220	4.87	498	32.5	0.68	402	23.08		
1118	10.15	220	4.86	498	32.8	0.69	399	23.10		

Total volume purged	
Sample appearance	Clear
Sample time	1120
Sample date	11-12-25

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251144 **Customer: Welsh Power Station** **Date Reported: 05/20/2025**

Customer Sample ID: AD-01
Customer Description: TG-32
Lab Number: 251144-001
Preparation:
Date Collected: 04/29/2025 10:59 EDT
Date Received: 05/01/2025 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	4.63	mg/L	2	0.06	0.02		CRJ	05/14/2025 21:30	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.68	mg/L	2	0.06	0.02		CRJ	05/14/2025 21:30	EPA 300.1 -1997, Rev. 1.0
Sulfate	144	mg/L	10	3.0	0.6		CRJ	05/14/2025 17:00	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
TDS, Filterable Residue	300	mg/L	1	50	20		BLB	05/02/2025 09:14	SM 2540C-2015

Customer Sample ID: AD-5
Customer Description: TG-32
Lab Number: 251144-002
Preparation:
Date Collected: 04/29/2025 12:04 EDT
Date Received: 05/01/2025 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	24.3	mg/L	2	0.06	0.02		CRJ	05/14/2025 22:12	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.20	mg/L	2	0.06	0.02		CRJ	05/14/2025 22:12	EPA 300.1 -1997, Rev. 1.0
Sulfate	64.8	mg/L	2	0.6	0.1		CRJ	05/14/2025 22:12	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
TDS, Filterable Residue	220	mg/L	1	50	20		BLB	05/02/2025 09:14	SM 2540C-2015

Customer Sample ID: AD-17
Customer Description: TG-32
Lab Number: 251144-003
Preparation:
Date Collected: 04/29/2025 12:07 EDT
Date Received: 05/01/2025 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	41.4	mg/L	5	0.15	0.05		CRJ	05/14/2025 16:19	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.11	mg/L	5	0.15	0.05	J1	CRJ	05/14/2025 16:19	EPA 300.1 -1997, Rev. 1.0
Sulfate	993	mg/L	50	15	3		CRJ	05/14/2025 15:58	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
TDS, Filterable Residue	1600	mg/L	2	100	40		BLB	05/02/2025 09:20	SM 2540C-2015

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251144 **Customer: Welsh Power Station** **Date Reported: 05/20/2025**

Customer Sample ID: Duplicate - Background
Customer Description: TG-32
Lab Number: 251144-004
Preparation:
Date Collected: 04/29/2025 12:00 EDT
Date Received: 05/01/2025 10:00 EDT

Ion Chromatography

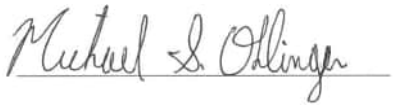
Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	4.65	mg/L	2	0.06	0.02		CRJ	05/14/2025 22:32	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.68	mg/L	2	0.06	0.02		CRJ	05/14/2025 22:32	EPA 300.1 -1997, Rev. 1.0
Sulfate	144	mg/L	10	3.0	0.6		CRJ	05/14/2025 17:42	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
TDS, Filterable Residue	320	mg/L	1	50	20		BLB	05/02/2025 09:20	SM 2540C-2015

Report Verification

This report and the above data have been confirmed by the following analyst.



Michael Ohlinger, Chemist
Email: msohlinger@aep.com
Phone: 614-836-4184
Audinet: 8-210-4184

THIS TEST REPORT RELATES ONLY TO THE ITEMS TESTED AND SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THE LABORATORY. ALL TEST RESULTS MEET ALL OF THE REQUIREMENTS OF THE ACCREDITING AUTHORITY, UNLESS OTHERWISE NOTED. ALL TIMES LISTED ARE IN THE EASTERN TIME ZONE.

Data Qualifer Legend

J1 - Concentration estimated. Analyte was detected between the method detection limit and the reporting limit.

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Dolan Chemical Laboratory (DCL)
4001 Bixby Road
Groveport, Ohio 43125

Contacts: Michael Ohlinger (614-836-4184)

Project Name: Welsh Background
Contact Name: Pryce Warren
Contact Phone: (325) 310-6668
Sampler(s): Matt Hamilton Kenny McDonald

Site Contact:

Date:

For Lab Use Only:
COC/Order #: 251144

Analysis Turnaround Time (in Calendar Days)
Routine (28 days)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	250 mL bottle, pH<2, HNO_3 B, Ca, Li, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, TL	Field-filter 500 mL bottle, then pH<2, HNO_3 dissolved Fe and Mn	1 L bottle, Cool, 0-6°C TDS, F, Cl, SO_4	Three (six every 10th*) 1 L bottles, pH<2, HNO_3 Ra-226, Ra-228	40 mL Glass vial or 125 mL PTFE lined bottle, HCL**, pH<2 Hg			Sample Specific Notes:
AD-1	4/29/2025	959	G	GW	1				X					TG-32 needed
AD-5	4/29/2025	1104	G	GW	1				X					
AD-17	4/29/2025	1107	G	GW	1				X					
DUPLICATE - BACKGROUND	4/29/2025	1100	G	GW	1				X					
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____; F= filter in field							4	F4	1	4				

* *Six 1L Bottles must be collected for Radium for every 10th sample.*

Special Instructions/QC Requirements & Comments:

Relinquished by	Company	Date/Time	Received by	Date/Time
Matt Hamilton	Eagle	4-30-25 1600		
Relinquished by	Company	Date/Time	Received by	Date/Time
Relinquished by	Company	Date/Time	Received in Laboratory by:	Date/Time
				05/01/25 10:00A

WATER & WASTE SAMPLE RECEIPT FORM

Form SOP-7102 Sample Receipt Form Rev.10, 01/03/25

Package Type	Delivery Type
(Cooler) Box Bag Envelope	(UPS) FedEX USPS Other _____

Plant/Customer Welsh-Badgley **Total # of Containers RECEIVED in Job:** 4

Opened By Misgna

Date/Time 05/01/25 10:00 Am

Were all required temperatures, per BN-water-900, T≤6°C *w/o sample freezing*? (Y) / N or N/A

Initial/Date: MGH 05/01/25 on ice / no ice

If No, specify each deviation(s) on back of form. (IR Gun Ser# 240093386, *Expir.* 05/20/2025

Was container in good condition? (Y) / N Comments _____

Was Chain of Custody received? (Y) / N Comments _____

Requested turnaround: 28 days If **RUSH**, who was notified? _____

pH (15 min) Cr^{+6} (pres) (24 hr) NO_2 or NO_3 (48 hr) *ortho*-PO_4 (48 hr) Hg-diss (pres) (48 hr)

Were pH requirements met for required samples, per BN-water-900? (Y) / N or N/A

Initial/Date: MGH 05/01/25

pH paper: mfr Lab Rat Supplies, PN RS-4801, LOT# X000RWDG21, EXPIR DATE 05/31/2026

*** Note changes to pH paper in comments below*

Was Add'l Preservative needed? Y / (N) If Yes: By whom & when: _____ (See Prep Book)

(Dissolved) Is sample filtration requested? Y (N) Comments _____ (See Prep Book)

Was COC filled out properly? (Y) / N Comments _____

Were samples labeled properly? (Y) / N Comments _____

Were correct containers used? (Y) / N Comments _____

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 251144 Initial & Date & Time : _____

Logged by MGH Comments: _____

(Record Test Count on back of form)

Total # of Containers LISTED on COC: 4

WATER & WASTE SAMPLE RECEIPT FORM (CONT)

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the Sample or Job "Comments" field in the LIMS. **Comments below**:
i.e. Mark "LF" if needs Lab filtered, Temperature or Preservative deviation, Preserved upon arrival , etc.

JOB # : 251144 **Initial/ Date:** MHC 05/01/25 **Peer Review Initial/ Date:** WCW 05/01/25

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
4	251144-001		4
4	251144-002		4
4	251144-003		4
4	251144-004		4

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [x] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Tim Arnold		Principle Chemist	5/16/25
Name (printed)	Signature	Official Title	Date

Ion Chromatography Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Background

Reviewer Name: Tim Arnold

LRC Date: 5/16/25

Laboratory Job Number: 251144

Prep Batch Number(s): QC2505110

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	Yes	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	Yes	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	Yes	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Ion Chromatography Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Background

Reviewer Name: Tim Arnold

LRC Date: 5/16/25

Laboratory Job Number: 251144

Prep Batch Number(s): QC2505110

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Ion Chromatography Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Background

Reviewer Name: Tim Arnold

LRC Date: 5/16/25

Laboratory Job Number: 251144

Prep Batch Number(s): QC2505110

Exception Report No.	Description
ER1	CCB acceptance criteria is CCB<MQL.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).

[3] NA - Not applicable; NR - Not reviewed.

[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NA] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Sandra Williams	Sandra D. Williams	Chemist	5/19/2025
Name (printed)	Signature	Official Title	Date

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sandra Williams

LRC Date: 5/19/2025

Laboratory Job Number: 251144

Prep Batch Number(s): QC2505046

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	NA	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	NA	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	NA	
	I	Were MS/MSD analyzed at the appropriate frequency?	NA	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	NA	
	I	Were MS/MSD RPDs within laboratory QC limits?	NA	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sandra Williams

LRC Date: 5/19/2025

Laboratory Job Number: 251144

Prep Batch Number(s): QC2505046

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	NA	
	I	Was the number of standards recommended in the method used for all analytes?	NA	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	NA	
	I	Are ICAL data available for all instruments used?	NA	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	NA	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	NA	
	I	Were percent differences for each analyte within the method-required QC limits?	NA	
	I	Was the ICAL curve verified for each analyte?	NA	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	NA	
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sandra Williams

LRC Date: 5/19/2025

Laboratory Job Number: 251144

Prep Batch Number(s): QC2505046

Exception Report No.	Description

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).

[3] NA - Not applicable; NR - Not reviewed.

[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251171 **Customer: Welsh Power Station** **Date Reported: 05/30/2025**

Customer Sample ID: AD-1
Lab Number: 251171-001
Date Collected: 04/29/2025 10:59 EDT

Customer Description:
Preparation:
Date Received: 05/05/2025 11:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.105	µg/L	1	0.100	0.008		GES	05/08/2025 17:44	EPA 200.8-1994, Rev. 5.4
Arsenic	0.16	µg/L	1	0.10	0.03		GES	05/08/2025 17:44	EPA 200.8-1994, Rev. 5.4
Barium	110	µg/L	1	0.20	0.05		GES	05/08/2025 17:44	EPA 200.8-1994, Rev. 5.4
Beryllium	1.31	µg/L	1	0.050	0.007		GES	05/08/2025 17:44	EPA 200.8-1994, Rev. 5.4
Boron	0.916	mg/L	1	0.050	0.007		GES	05/08/2025 17:44	EPA 200.8-1994, Rev. 5.4
Cadmium	0.049	µg/L	1	0.020	0.004		GES	05/08/2025 17:44	EPA 200.8-1994, Rev. 5.4
Calcium	19.7	mg/L	1	0.05	0.02		GES	05/08/2025 17:44	EPA 200.8-1994, Rev. 5.4
Chromium	0.43	µg/L	1	0.30	0.07		GES	05/08/2025 17:44	EPA 200.8-1994, Rev. 5.4
Cobalt	3.76	µg/L	1	0.020	0.005		GES	05/08/2025 17:44	EPA 200.8-1994, Rev. 5.4
Lead	4.61	µg/L	1	0.20	0.05		GES	05/08/2025 17:44	EPA 200.8-1994, Rev. 5.4
Lithium	0.00851	mg/L	1	0.00030	0.00006		GES	05/08/2025 17:44	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/06/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2025 17:44	EPA 200.8-1994, Rev. 5.4
Selenium	10.9	µg/L	1	0.50	0.04		GES	05/08/2025 17:44	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	05/08/2025 17:44	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	2.02	pCi/L	0.39	0.42		WCG	05/09/2025 16:44	SW-846 9315-1986, Rev. 0
Carrier Recovery	87.7	%						
Radium-228	0.90	pCi/L	0.17	0.56		TTP	05/22/2025 19:08	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	79.1	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251171 **Customer: Welsh Power Station** **Date Reported: 05/30/2025**

Customer Sample ID: AD-5
Lab Number: 251171-002
Date Collected: 04/29/2025 12:04 EDT

Customer Description:
Preparation:
Date Received: 05/05/2025 11:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.008	µg/L	1	0.100	0.008	J1	GES	05/08/2025 18:55	EPA 200.8-1994, Rev. 5.4
Arsenic	2.88	µg/L	1	0.10	0.03		GES	05/08/2025 18:55	EPA 200.8-1994, Rev. 5.4
Barium	48.1	µg/L	1	0.20	0.05		GES	05/08/2025 18:55	EPA 200.8-1994, Rev. 5.4
Beryllium	0.080	µg/L	1	0.050	0.007		GES	05/08/2025 18:55	EPA 200.8-1994, Rev. 5.4
Boron	0.027	mg/L	1	0.050	0.007	J1	GES	05/08/2025 18:55	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	05/08/2025 18:55	EPA 200.8-1994, Rev. 5.4
Calcium	22.5	mg/L	1	0.05	0.02		GES	05/08/2025 18:55	EPA 200.8-1994, Rev. 5.4
Chromium	0.41	µg/L	1	0.30	0.07		GES	05/08/2025 18:55	EPA 200.8-1994, Rev. 5.4
Cobalt	10.3	µg/L	1	0.020	0.005		GES	05/08/2025 18:55	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2025 18:55	EPA 200.8-1994, Rev. 5.4
Lithium	0.0933	mg/L	1	0.00030	0.00006		GES	05/08/2025 18:55	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/06/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2025 18:55	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/08/2025 18:55	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/08/2025 18:55	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.48	pCi/L	0.11	0.18		ST	05/27/2025 10:05	SW-846 9315-1986, Rev. 0
Carrier Recovery	91.5	%						
Radium-228	0.60	pCi/L	0.17	0.57		TTP	05/22/2025 19:08	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	83.6	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251171 **Customer: Welsh Power Station** **Date Reported: 05/30/2025**

Customer Sample ID: AD-17
Lab Number: 251171-003
Date Collected: 04/29/2025 12:07 EDT

Customer Description:
Preparation:
Date Received: 05/05/2025 11:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.019	µg/L	1	0.100	0.008	J1	GES	05/08/2025 19:00	EPA 200.8-1994, Rev. 5.4
Arsenic	0.81	µg/L	1	0.10	0.03		GES	05/08/2025 19:00	EPA 200.8-1994, Rev. 5.4
Barium	9.95	µg/L	1	0.20	0.05		GES	05/08/2025 19:00	EPA 200.8-1994, Rev. 5.4
Beryllium	0.079	µg/L	1	0.050	0.007		GES	05/08/2025 19:00	EPA 200.8-1994, Rev. 5.4
Boron	0.106	mg/L	1	0.050	0.007		GES	05/08/2025 19:00	EPA 200.8-1994, Rev. 5.4
Cadmium	0.007	µg/L	1	0.020	0.004	J1	GES	05/08/2025 19:00	EPA 200.8-1994, Rev. 5.4
Calcium	201	mg/L	10	0.5	0.2		GES	05/22/2025 13:32	EPA 200.8-1994, Rev. 5.4
Chromium	0.56	µg/L	1	0.30	0.07		GES	05/08/2025 19:00	EPA 200.8-1994, Rev. 5.4
Cobalt	61.6	µg/L	1	0.020	0.005		GES	05/08/2025 19:00	EPA 200.8-1994, Rev. 5.4
Lead	0.16	µg/L	1	0.20	0.05	J1	GES	05/08/2025 19:00	EPA 200.8-1994, Rev. 5.4
Lithium	0.285	mg/L	1	0.00030	0.00006		GES	05/08/2025 19:00	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/06/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	0.1	µg/L	1	0.5	0.1	J1	GES	05/08/2025 19:00	EPA 200.8-1994, Rev. 5.4
Selenium	0.32	µg/L	1	0.50	0.04	J1	GES	05/08/2025 19:00	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	GES	05/08/2025 19:00	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.48	pCi/L	0.11	0.21		ST	05/27/2025 10:05	SW-846 9315-1986, Rev. 0
Carrier Recovery	99.6	%						
Radium-228	0.82	pCi/L	0.12	0.39		TTP	05/22/2025 19:08	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	91.5	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251171 **Customer: Welsh Power Station** **Date Reported: 05/30/2025**

Customer Sample ID: DUPLICATE - BACKGROUND
Lab Number: 251171-004
Date Collected: 04/29/2025 12:00 EDT

Customer Description:
Preparation:
Date Received: 05/05/2025 11:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.037	µg/L	1	0.100	0.008	J1	GES	05/08/2025 19:06	EPA 200.8-1994, Rev. 5.4
Arsenic	0.16	µg/L	1	0.10	0.03		GES	05/08/2025 19:06	EPA 200.8-1994, Rev. 5.4
Barium	106	µg/L	1	0.20	0.05		GES	05/08/2025 19:06	EPA 200.8-1994, Rev. 5.4
Beryllium	1.35	µg/L	1	0.050	0.007		GES	05/08/2025 19:06	EPA 200.8-1994, Rev. 5.4
Boron	0.895	mg/L	1	0.050	0.007		GES	05/08/2025 19:06	EPA 200.8-1994, Rev. 5.4
Cadmium	0.047	µg/L	1	0.020	0.004		GES	05/08/2025 19:06	EPA 200.8-1994, Rev. 5.4
Calcium	18.9	mg/L	1	0.05	0.02		GES	05/08/2025 19:06	EPA 200.8-1994, Rev. 5.4
Chromium	0.35	µg/L	1	0.30	0.07		GES	05/08/2025 19:06	EPA 200.8-1994, Rev. 5.4
Cobalt	3.77	µg/L	1	0.020	0.005		GES	05/08/2025 19:06	EPA 200.8-1994, Rev. 5.4
Lead	0.14	µg/L	1	0.20	0.05	J1	GES	05/08/2025 19:06	EPA 200.8-1994, Rev. 5.4
Lithium	0.00845	mg/L	1	0.00030	0.00006		GES	05/08/2025 19:06	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/06/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2025 19:06	EPA 200.8-1994, Rev. 5.4
Selenium	10.8	µg/L	1	0.50	0.04		GES	05/08/2025 19:06	EPA 200.8-1994, Rev. 5.4
Thallium	0.05	µg/L	1	0.20	0.02	J1	GES	05/08/2025 19:06	EPA 200.8-1994, Rev. 5.4

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251171 **Customer: Welsh Power Station** **Date Reported: 05/30/2025**

Customer Sample ID: EQUIPMENT BLANK - BACKGROUND
Customer Description:
Lab Number: 251171-005
Preparation:
Date Collected: 04/29/2025 11:58 EDT
Date Received: 05/05/2025 11:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.050	µg/L	1	0.100	0.008	J1	GES	05/08/2025 19:11	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	05/08/2025 19:11	EPA 200.8-1994, Rev. 5.4
Barium	0.11	µg/L	1	0.20	0.05	J1	GES	05/08/2025 19:11	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	GES	05/08/2025 19:11	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	GES	05/08/2025 19:11	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	05/08/2025 19:11	EPA 200.8-1994, Rev. 5.4
Calcium	<0.02	mg/L	1	0.05	0.02	U1	GES	05/08/2025 19:11	EPA 200.8-1994, Rev. 5.4
Chromium	0.28	µg/L	1	0.30	0.07	J1	GES	05/08/2025 19:11	EPA 200.8-1994, Rev. 5.4
Cobalt	<0.005	µg/L	1	0.020	0.005	U1	GES	05/08/2025 19:11	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2025 19:11	EPA 200.8-1994, Rev. 5.4
Lithium	0.00008	mg/L	1	0.00030	0.00006	J1	GES	05/08/2025 19:11	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/06/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2025 19:11	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/08/2025 19:11	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/08/2025 19:11	EPA 200.8-1994, Rev. 5.4

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251171 **Customer: Welsh Power Station** **Date Reported: 05/30/2025**

Customer Sample ID: FIELD BLANK - BACKGROUND
Lab Number: 251171-006
Date Collected: 04/29/2025 11:59 EDT

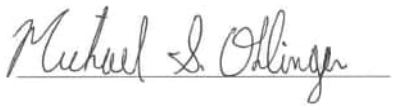
Customer Description:
Preparation:
Date Received: 05/05/2025 11:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.019	µg/L	1	0.100	0.008	J1	GES	05/08/2025 19:17	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	05/08/2025 19:17	EPA 200.8-1994, Rev. 5.4
Barium	0.14	µg/L	1	0.20	0.05	J1	GES	05/08/2025 19:17	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	GES	05/08/2025 19:17	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	GES	05/08/2025 19:17	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	05/08/2025 19:17	EPA 200.8-1994, Rev. 5.4
Calcium	<0.02	mg/L	1	0.05	0.02	U1	GES	05/08/2025 19:17	EPA 200.8-1994, Rev. 5.4
Chromium	0.25	µg/L	1	0.30	0.07	J1	GES	05/08/2025 19:17	EPA 200.8-1994, Rev. 5.4
Cobalt	0.005	µg/L	1	0.020	0.005	J1	GES	05/08/2025 19:17	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2025 19:17	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00006	mg/L	1	0.00030	0.00006	U1	GES	05/08/2025 19:17	EPA 200.8-1994, Rev. 5.4
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2025 19:17	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/08/2025 19:17	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/08/2025 19:17	EPA 200.8-1994, Rev. 5.4

Report Verification

This report and the above data have been confirmed by the following analyst.



Michael Ohlinger, Chemist
Email: msohlinger@aep.com
Phone: 614-836-4184
Audinet: 8-210-4184

THIS TEST REPORT RELATES ONLY TO THE ITEMS TESTED AND SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THE LABORATORY. ALL TEST RESULTS MEET ALL OF THE REQUIREMENTS OF THE ACCREDITING AUTHORITY, UNLESS OTHERWISE NOTED. ALL TIMES LISTED ARE IN THE EASTERN TIME ZONE.

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251171 **Customer: Welsh Power Station** **Date Reported: 05/30/2025**

Data Qualifer Legend

U1 - Not detected at or below method detection limit (MDL).

J1 - Concentration estimated. Analyte was detected between the method detection limit and the reporting limit.

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Dolan Chemical Laboratory (DCL)
4001 Bixby Road
Groveport, Ohio 43125

Contacts: Michael Ohlinger (614-836-4184)

Project Name: Welsh Background
Contact Name: Pryce Warren
Contact Phone: (325) 310-6668
Sampler(s): Matt Hamilton Kenny McDonald

Analysis Turnaround Time (in Calendar Days): Routine (28 days)

Site Contact: 14 2 Date: 1

For Lab Use Only: COC/Order #: 251171

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	250 mL bottle, pH<2, HNO_3 B, Ca, Ll, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, TL	Field-filter 500 mL bottle, then pH<2, HNO_3 dissolved Fe and Mn	1 L bottle, Cool, 0-6°C TDS, F, Cl, SO_4	Three (six every 10th*) 1 L bottles, pH<2, HNO_3 Ra-226, Ra-228	250 mL Glass bottle, HCL**, pH<2 Hg			Sample Specific Notes:
AD-1	4/29/2025	959	G	GW	8		X			X	X			Routine (28 days)
AD-5	4/29/2025	1104	G	GW	5		X			X	X			TG-32 needed
AD-17	4/29/2025	1107	G	GW	5		X			X	X			
DUPLICATE - BACKGROUND	4/29/2025	1100	G	GW	2		X				X			
EQUIPMENT BLANK - BACKGROUND	4/29/2025	1058	G	GW	2		X				X			
FIELD BLANK - BACKGROUND	4/29/2025	1059	G	GW	1		X							
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____; F= filter in field							4	F4	1	4	2			

* *Six 1L Bottles must be collected for Radium for every 10th sample.*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Matt Hamilton	Eagle	4-30-25 16a		
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: Michael Ohlinger	Date/Time: 5/5/25 11:00

WATER & WASTE SAMPLE RECEIPT FORM

Form SOP-7102 — Sample Receipt Form Rev.10, 01/03/25

Package Type	Delivery Type
(Cooler) Box Bag Envelope	UPS (RedEX) USPS
	Other _____

Plant/Customer Welsh **Total # of Containers RECEIVED in Job:** 25

Opened By MSO

Date/Time 5/5/25 10:00

Were all required temperatures, per BN-water-900, T≤6°C *w/o sample freezing*? Y / N or (N/A)

Initial/Date: _____ on ice / no ice

If No, specify each deviation(s) on back of form. (IR Gun Ser# 240093386, *Expir.* 01/31/26)

Was container in good condition? (Y) / N Comments _____

Was Chain of Custody received? (Y) / N Comments _____

Requested turnaround: 28 days If **RUSH**, who was notified? _____

pH (15 min) Cr^{+6} (pres) (24 hr) NO_2 or NO_3 (48 hr) *ortho*-PO_4 (48 hr) Hg-diss (pres) (48 hr)

Were pH requirements met for required samples, per BN-water-900? (Y) / N or N/A

Initial/Date: MSO 5/5/25

***pH paper*: mfr Lab Rat Supplies, PN LRS-4801 LOT# X000RWDG21, EXPIR DATE 09/30/2026

*** Note changes to pH paper in comments below***

Was Add'l Preservative needed? (Y) N If Yes: By whom & when: MSO 5/5/25 (See Prep Book)

(Dissolved) Is sample filtration requested? Y / (N) Comments _____ (See Prep Book)

Was COC filled out properly? (Y) N Comments _____

Were samples labeled properly? (Y) / N Comments _____

Were correct containers used? (Y) N Comments _____

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 251171 Initial & Date & Time : _____

Logged by MSO Comments: _____

(Record Test Count on back of form)

Total # of Containers LISTED on COC: 23

WATER & WASTE SAMPLE RECEIPT FORM (CONT)

Form SOP-7102 Sample Receipt Form Rev.10, 01/03/25

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the Sample or Job "Comments" field in the LIMS. **Comments below**:
i.e. Mark "LF" if needs Lab filtered, Temperature or Preservative deviation, Preserved upon arrival , etc.

JOB # : 251171 **Initial/ Date:** MSO 5/5/25 **Peer Review Initial/ Date:** WLG 5/6/25

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
17	251171-001		17
17	" -002	HNO3 added to 251171-002-R3	17
17	" -003		17
15	" -004		15
15	" -005		15
14	" -006		14

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NA] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Sunita Timsina		Chemist Associate	05/28/2025
Name (printed)	Signature	Official Title	Date

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sunita Timsina

LRC Date: 05/28/2025

Laboratory Job Number: 251171

Prep Batch Number(s): PB25050706

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	NA	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	NA	
	I	Were MS/MSD RPDs within laboratory QC limits?	NA	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	NO	ER1
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sunita Timsina

LRC Date: 05/28/2025

Laboratory Job Number: 251171

Prep Batch Number(s): PB25050706

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	NA	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	NA	
	I	Were percent differences for each analyte within the method-required QC limits?	NA	
	I	Was the ICAL curve verified for each analyte?	NA	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	NA	
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sunita Timsina

LRC Date: 05/28/2025

Laboratory Job Number: 251171

Prep Batch Number(s): PB25050706

Exception Report No.	Description
ER1	The precision between duplicate results was above acceptance limits.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
[3] NA - Not applicable; NR - Not reviewed.
[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NA] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Sunita Timsina		Chemist Associate	05/28/2025
Name (printed)	Signature	Official Title	Date

Radium Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power - Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sunita Timsina

LRC Date: 05/28/2025

Laboratory Job Number: 251171

Prep Batch Number(s): PB25050707

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	NA	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	NO	ER1
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	NA	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Table 2. Supporting Data.

Laboratory Name: American Electric Power - Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sunita Timsina

LRC Date: 05/28/2025

Laboratory Job Number: 251171

Prep Batch Number(s): PB25050707

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	NA	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	NA	
	I	Were percent differences for each analyte within the method-required QC limits?	NA	
	I	Was the ICAL curve verified for each analyte?	NA	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	NA	
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power - Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sunita Timsina

LRC Date: 05/28/2025

Laboratory Job Number: 251171

Prep Batch Number(s): PB25050707

Exception Report No.	Description
ER1	The precision on the matrix spike duplicate was above acceptance limit.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
[3] NA - Not applicable; NR - Not reviewed.
[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NA] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Kelsey Huff		Chemist	05/29/2025
Name (printed)	Signature	Official Title	Date

Mercury Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh

Reviewer Name: Kelsey Huff

LRC Date: 05/29/2025

Laboratory Job Number: 251171

Prep Batch Number(s): PB25050603

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	Yes	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Mercury Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	NA	
	I	Were analytical duplicates analyzed at the appropriate frequency?	NA	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	NA	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Mercury Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh

Reviewer Name: Kelsey Huff

LRC Date: 05/29/2025

Laboratory Job Number: 251171

Prep Batch Number(s): PB25050603

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh

Reviewer Name: Kelsey Huff

LRC Date: 05/29/2025

Laboratory Job Number: 251171

Prep Batch Number(s): PB25050603

Exception Report No.	Description
ER1	CCB acceptance criteria is CCB<MQL.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
[3] NA - Not applicable; NR - Not reviewed.
[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

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- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NA] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Elizabeth Hoitink	Elizabeth L Hoitink Digitally signed by Elizabeth L Hoitink Date: 2025.05.29 07:37:49 -04'00'	Chemist	5-29-2025
Name (printed)	Signature	Official Title	Date

ICP-MS Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 5-29-2025

Laboratory Job Number: 251171

Prep Batch Number(s): PB25050703, QC2505072, QC2505179

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	No	ER1
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

ICP-MS Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 5-29-2025

Laboratory Job Number: 251171

Prep Batch Number(s): PB25050703, QC2505072, QC2505179

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER2
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	Yes	
	I	Were ion abundance data within the method-required QC limits?	Yes	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	Yes	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

ICP-MS Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 5-29-2025

Laboratory Job Number: 251171

Prep Batch Number(s): PB25050703, QC2505072, QC2505179

Exception Report No.	Description
ER1	Linear Dynamic Range (LDR) study used to determine upper limit of analyte calibration.
ER2	CCB acceptance criteria is CCB<2.2*MDL.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
[3] NA - Not applicable; NR - Not reviewed.
[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251141 **Customer: Welsh Power Station** **Date Reported: 05/16/2025**

Customer Sample ID: AD-3
Customer Description: TG-32
Lab Number: 251141-001
Preparation:
Date Collected: 04/29/2025 10:04 EDT
Date Received: 05/01/2025 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	11.4	mg/L	2	0.06	0.02		CRJ	05/13/2025 18:06	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.14	mg/L	2	0.06	0.02		CRJ	05/13/2025 18:06	EPA 300.1 -1997, Rev. 1.0
Sulfate	2.0	mg/L	2	0.6	0.1		CRJ	05/13/2025 18:06	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
TDS, Filterable Residue	110	mg/L	1	50	20		BLB	05/02/2025 08:24	SM 2540C-2015

Customer Sample ID: AD-4c
Customer Description: TG-32
Lab Number: 251141-002
Preparation:
Date Collected: 04/29/2025 10:06 EDT
Date Received: 05/01/2025 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	15.9	mg/L	2	0.06	0.02		CRJ	05/13/2025 22:36	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.17	mg/L	2	0.06	0.02		CRJ	05/13/2025 22:36	EPA 300.1 -1997, Rev. 1.0
Sulfate	164	mg/L	10	3.0	0.6		CRJ	05/13/2025 21:13	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	<5	mg/L	1	20	5	J8, U1	MGK	05/07/2025 12:54	SM 2320B-2011
Bicarbonate Alkalinity	<5	mg/L	1	20	5	Q14, J8, U1	MGK	05/07/2025 12:54	SM 4500 CO2D-2011
TDS, Filterable Residue	390	mg/L	1	50	20		BLB	05/02/2025 08:24	SM 2540C-2015

AMERICAN ELECTRIC POWER

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Job ID: 251141 **Customer: Welsh Power Station** **Date Reported: 05/16/2025**

Customer Sample ID: AD-16R
Customer Description: TG-32
Lab Number: 251141-003
Preparation:
Date Collected: 04/29/2025 11:19 EDT
Date Received: 05/01/2025 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	7.17	mg/L	2	0.06	0.02		CRJ	05/13/2025 23:18	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.16	mg/L	2	0.06	0.02		CRJ	05/13/2025 23:18	EPA 300.1 -1997, Rev. 1.0
Sulfate	54.5	mg/L	2	0.6	0.1		CRJ	05/13/2025 23:18	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
TDS, Filterable Residue	200	mg/L	1	50	20		BLB	05/02/2025 08:30	SM 2540C-2015

Customer Sample ID: Duplicate - BASP
Customer Description: TG-32
Lab Number: 251141-004
Preparation:
Date Collected: 04/29/2025 12:55 EDT
Date Received: 05/01/2025 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	11.6	mg/L	2	0.06	0.02		CRJ	05/13/2025 22:15	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.14	mg/L	2	0.06	0.02		CRJ	05/13/2025 22:15	EPA 300.1 -1997, Rev. 1.0
Sulfate	2.1	mg/L	2	0.6	0.1		CRJ	05/13/2025 22:15	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
TDS, Filterable Residue	110	mg/L	1	50	20		BLB	05/02/2025 08:30	SM 2540C-2015

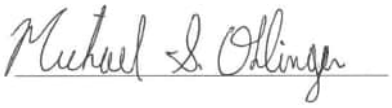
Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251141 **Customer: Welsh Power Station** **Date Reported: 05/16/2025**

Report Verification

This report and the above data have been confirmed by the following analyst.



Michael Ohlinger, Chemist
Email: msohlinger@aep.com
Phone: 614-836-4184
Audinet: 8-210-4184

THIS TEST REPORT RELATES ONLY TO THE ITEMS TESTED AND SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THE LABORATORY. ALL TEST RESULTS MEET ALL OF THE REQUIREMENTS OF THE ACCREDITING AUTHORITY, UNLESS OTHERWISE NOTED. ALL TIMES LISTED ARE IN THE EASTERN TIME ZONE.

Data Qualifer Legend

J8 - Concentration estimated. Per the method, this Low Alkalinity sample (< 20 mg/L) was titrated to a fixed pH 4.4.
U1 - Not detected at or below method detection limit (MDL).
Q14 - This analyte and method are not included on the primary Laboratory Scope of TNI Accreditation.

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Dolan Chemical Laboratory (DCL)
4001 Bixby Road
Groveport, Ohio 43125

Contacts: Michael Ohlinger (614-836-4184)

Project Name: Welsh BASP
Contact Name: Pryce Warren
Contact Phone: (325) 310-6668
Sampler(s): Matt Hamilton Kenny McDonald

Site Contact:

Date:

For Lab Use Only:
COC/Order #: 25/141

Analysis Turnaround Time (In Calendar Days)
Routine (28 days)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	250 mL bottle, pH<2, HNO_3 B, Ca	500 mL bottle, pH<2, HNO_3 B, Ca, Li, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, Tl	1 L bottle, Cool, 0-6°C Total Alkalinity, Bicarbonate Alkalinity, TDS, F, Cl, SO_4	1 L bottle, Cool, 0-6°C TDS, F, Cl, SO_4	Three (six every 10th*) 1 L bottles, pH<2, HNO_3 Ra-226, Ra-228	40 mL GLASS vial or 250 mL PTFE lined bottle, HCL**, pH<2 Hg	filter 500 mL bottle, then pH<2, HNO_3 dissolved Fe and Mn	Sample Specific Notes:
AD-3	4/19/2025	904	G	GW	1					X				TG-32 needed
AD-4c	4/29/2025	906	G	GW	1				X					
AD-16R	4/29/2025	1019	G	GW	1					X				
DUPLICATE - BASP	4/29/2025	1155	G	GW	1					X				
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____; F= filter in field							4	F4		1	4			

** Six 1L Bottles must be collected for Radium for every 10th sample.*

Special Instructions/QC Requirements & Comments:

Relinquished by: Matt Hamilton	Company: Eagle	Date/Time: 4-30-25 10:00	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Date/Time: 05/01/25 10:00 Am

WATER & WASTE SAMPLE RECEIPT FORM

Form SOP-7102 Sample Receipt Form Rev 10, 01/03/25

Package Type

(Cooler) Box Bag Envelope

Delivery Type

(UPS) FedEX USPS

Other _____

Plant/Customer Welsh BASP **Total # of Containers RECEIVED in Job:** 4

Opened By Misgana

Date/Time 05/01/25 10:00 Am

Were all required temperatures, per BN-water-900, T≤6°C *w/o sample freezing*? (Y) N or N/A

Initial/Date: MGH 05/01/25 on ice / no ice

If No, specify each deviation(s) on back of form. (IR Gun Ser# 240093386, *Expir.* 05/20/2025

Was container in good condition? (Y) / N Comments _____

Was Chain of Custody received? (Y) / N Comments _____

Requested turnaround: 28 days If **RUSH**, who was notified? _____

pH (15 min) Cr^{+6} (pres) (24 hr) NO_2 or NO_3 (48 hr) *ortho*-PO_4 (48 hr) Hg-diss (pres) (48 hr)

Were pH requirements met for required samples, per BN-water-900? (Y) / N or N/A

Initial/Date: MGH 05/01/25

pH paper: mfr Lab Rat Supplies, PN RS-4801, LOT# X000RWDG21, EXPIR DATE 05/31/2026

*** Note changes to pH paper in comments below*

Was Add'l Preservative needed? Y / (N) If Yes: By whom & when: _____ (See Prep Book)

(Dissolved) Is sample filtration requested? Y / (N) Comments _____ (See Prep Book)

Was COC filled out properly? (Y) / N Comments _____

Were samples labeled properly? (Y) / N Comments _____

Were correct containers used? (Y) / N Comments _____

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 251141 Initial & Date & Time : _____

Logged by MGH Comments: _____

(Record Test Count on back of form)

Total # of Containers LISTED on COC: 4

WATER & WASTE SAMPLE RECEIPT FORM (CONT)

Form SOP-7102 Sample Receipt Form Rev 10, 01/03/25

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the Sample or Job "Comments" field in the LIMS. **Comments below**.

i.e. Mark "LF" if needs Lab filtered, Temperature or Preservative deviation, Preserved upon arrival , etc.

JOB # : 251141 **Initial/ Date:** MBL 05/01/25 **Peer Review Initial/ Date:** WLL 5/1/25

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
4	251141-01		4
6	251141-02		6
4	251141-03		4
4	251141004		4

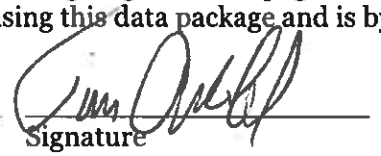
Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [x] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Tim Arnold		Principle Chemist	5/14/25
Name (printed)	Signature	Official Title	Date

Ion Chromatography Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh BASP

Reviewer Name: Tim Arnold

LRC Date: 5/14/25

Laboratory Job Number: 251141

Prep Batch Number(s): QC2505092

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	Yes	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	Yes	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	Yes	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Ion Chromatography Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Ion Chromatography Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh BASP

Reviewer Name: Tim Arnold

LRC Date: 5/14/25

Laboratory Job Number: 251141

Prep Batch Number(s): QC2505092

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Ion Chromatography Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Ion Chromatography Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh BASP

Reviewer Name: Tim Arnold

LRC Date: 5/14/25

Laboratory Job Number: 251141

Prep Batch Number(s): QC2505092

Exception Report No.	Description
ER1	CCB acceptance criteria is CCB<MQL.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).

[3] NA - Not applicable; NR - Not reviewed.

[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NA] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Sandra Williams	Sandra D. Williams	Chemist	05/16/2025
Name (printed)	Signature	Official Title	Date

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sandra Williams

LRC Date: 05/16/2025

Laboratory Job Number: 241141

Prep Batch Number(s): QC2505046

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	NA	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	NA	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

TDS Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	NA	
	I	Were MS/MSD analyzed at the appropriate frequency?	NA	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	NA	
	I	Were MS/MSD RPDs within laboratory QC limits?	NA	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sandra Williams

LRC Date: 05/16/2025

Laboratory Job Number: 241141

Prep Batch Number(s): QC2505046

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	NA	
	I	Was the number of standards recommended in the method used for all analytes?	NA	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	NA	
	I	Are ICAL data available for all instruments used?	NA	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	NA	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	NA	
	I	Were percent differences for each analyte within the method-required QC limits?	NA	
	I	Was the ICAL curve verified for each analyte?	NA	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	NA	
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sandra Williams

LRC Date: 05/16/2025

Laboratory Job Number: 241141

Prep Batch Number(s): QC2505046

Exception Report No.	Description

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
[3] NA - Not applicable; NR - Not reviewed.
[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Municipal Solid Waste Laboratory Review Checklist

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  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NR] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Michael Ohlinger	Michael Ohlinger	Chemist	05/15/2025
Name (printed)	Signature	Official Title	Date

Alkalinity Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Plant

Reviewer Name: Michael Ohlinger

LRC Date: 05/15/2025

Laboratory Job Number: 251141

Prep Batch Number(s): QC2505048

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	NA	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Alkalinity Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	NA	
	I	Were MS/MSD analyzed at the appropriate frequency?	NA	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	NA	
	I	Were MS/MSD RPDs within laboratory QC limits?	NA	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	ER2
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Plant

Reviewer Name: Michael Ohlinger

LRC Date: 05/15/2025

Laboratory Job Number: 251141

Prep Batch Number(s): QC2505048

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	NA	
	I	Was the number of standards recommended in the method used for all analytes?	NA	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	NA	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	NA	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Alkalinity Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Alkalinity Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Plant

Reviewer Name: Michael Ohlinger

LRC Date: 05/15/2025

Laboratory Job Number: 251141

Prep Batch Number(s): QC2505048

Exception Report No.	Description
ER1	CCB acceptance criteria is CCB<0.5*MQL.
ER2	Concentration estimated. Per the method, this Low Alkalinity sample (<20 mg/L) was titrated to a fixed pH 4.4.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).

[3] NA - Not applicable; NR - Not reviewed.

[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251169 **Customer: Welsh Power Station** **Date Reported: 05/30/2025**

Customer Sample ID: AD-3
Customer Description: TG-32
Lab Number: 251169-001
Preparation:
Date Collected: 04/29/2025 10:04 EDT
Date Received: 05/05/2025 11:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.019	µg/L	1	0.100	0.008	J1	GES	05/08/2025 14:05	EPA 200.8-1994, Rev. 5.4
Arsenic	0.23	µg/L	1	0.10	0.03		GES	05/08/2025 14:05	EPA 200.8-1994, Rev. 5.4
Barium	40.5	µg/L	1	0.20	0.05		GES	05/08/2025 14:05	EPA 200.8-1994, Rev. 5.4
Beryllium	0.213	µg/L	1	0.050	0.007		GES	05/08/2025 14:05	EPA 200.8-1994, Rev. 5.4
Boron	0.008	mg/L	1	0.050	0.007	J1	GES	05/08/2025 14:05	EPA 200.8-1994, Rev. 5.4
Cadmium	0.045	µg/L	1	0.020	0.004		GES	05/08/2025 14:05	EPA 200.8-1994, Rev. 5.4
Calcium	0.67	mg/L	1	0.05	0.02		GES	05/08/2025 14:05	EPA 200.8-1994, Rev. 5.4
Chromium	0.51	µg/L	1	0.30	0.07		GES	05/08/2025 14:05	EPA 200.8-1994, Rev. 5.4
Cobalt	1.42	µg/L	1	0.020	0.005		GES	05/08/2025 14:05	EPA 200.8-1994, Rev. 5.4
Lead	0.12	µg/L	1	0.20	0.05	J1	GES	05/08/2025 14:05	EPA 200.8-1994, Rev. 5.4
Lithium	0.0139	mg/L	1	0.00030	0.00006		GES	05/08/2025 14:05	EPA 200.8-1994, Rev. 5.4
Mercury	130	ng/L	10	50	20		RLP	05/06/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2025 14:05	EPA 200.8-1994, Rev. 5.4
Selenium	0.10	µg/L	1	0.50	0.04	J1	GES	05/08/2025 14:05	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	GES	05/08/2025 14:05	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.62	pCi/L	0.22	0.50	P1	WCG	05/09/2025 16:44	SW-846 9315-1986, Rev. 0
Carrier Recovery	101	%						
Radium-228	-0.51	pCi/L	0.10	0.38		TTP	05/22/2025 19:08	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	91.2	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251169 **Customer: Welsh Power Station** **Date Reported: 05/30/2025**

Customer Sample ID: AD-4c
Customer Description: TG-32
Lab Number: 251169-002
Preparation:
Date Collected: 04/29/2025 10:06 EDT
Date Received: 05/05/2025 11:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.008	µg/L	1	0.100	0.008	J1	GES	05/08/2025 14:11	EPA 200.8-1994, Rev. 5.4
Arsenic	0.49	µg/L	1	0.10	0.03		GES	05/08/2025 14:11	EPA 200.8-1994, Rev. 5.4
Barium	87.6	µg/L	1	0.20	0.05		GES	05/08/2025 14:11	EPA 200.8-1994, Rev. 5.4
Beryllium	0.34	µg/L	5	0.25	0.04		GES	05/08/2025 14:38	EPA 200.8-1994, Rev. 5.4
Boron	0.312	mg/L	1	0.050	0.007		GES	05/08/2025 14:11	EPA 200.8-1994, Rev. 5.4
Cadmium	0.015	µg/L	1	0.020	0.004	J1	GES	05/08/2025 14:11	EPA 200.8-1994, Rev. 5.4
Calcium	2.41	mg/L	1	0.05	0.02		GES	05/08/2025 14:11	EPA 200.8-1994, Rev. 5.4
Chromium	0.56	µg/L	1	0.30	0.07		GES	05/08/2025 14:11	EPA 200.8-1994, Rev. 5.4
Cobalt	1.21	µg/L	1	0.020	0.005		GES	05/08/2025 14:11	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2025 14:11	EPA 200.8-1994, Rev. 5.4
Lithium	0.0107	mg/L	5	0.0015	0.0003		GES	05/08/2025 14:38	EPA 200.8-1994, Rev. 5.4
Magnesium	1.60	mg/L	1	0.100	0.009		GES	05/08/2025 14:11	EPA 200.8-1994, Rev. 5.4
Mercury	100	ng/L	10	50	20		RLP	05/06/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2025 14:11	EPA 200.8-1994, Rev. 5.4
Potassium	0.22	mg/L	1	0.10	0.01		GES	05/08/2025 14:11	EPA 200.8-1994, Rev. 5.4
Selenium	0.36	µg/L	1	0.50	0.04	J1	GES	05/08/2025 14:11	EPA 200.8-1994, Rev. 5.4
Sodium	80.2	mg/L	1	0.20	0.02		GES	05/08/2025 14:11	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	GES	05/08/2025 14:11	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.28	pCi/L	0.38	0.82		WCG	05/09/2025 16:44	SW-846 9315-1986, Rev. 0
Carrier Recovery	78.2	%						
Radium-228	0.49	pCi/L	0.12	0.41		TTP	05/22/2025 19:08	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	90.0	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251169 **Customer: Welsh Power Station** **Date Reported: 05/30/2025**

Customer Sample ID: AD-16R
Customer Description: TG-32
Lab Number: 251169-003
Preparation:
Date Collected: 04/29/2025 11:19 EDT
Date Received: 05/05/2025 11:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.013	µg/L	1	0.100	0.008	J1	GES	05/08/2025 14:16	EPA 200.8-1994, Rev. 5.4
Arsenic	0.61	µg/L	1	0.10	0.03		GES	05/08/2025 14:16	EPA 200.8-1994, Rev. 5.4
Barium	34.5	µg/L	1	0.20	0.05		GES	05/08/2025 14:16	EPA 200.8-1994, Rev. 5.4
Beryllium	1.72	µg/L	5	0.25	0.04		GES	05/08/2025 14:43	EPA 200.8-1994, Rev. 5.4
Boron	0.025	mg/L	1	0.050	0.007	J1	GES	05/08/2025 14:16	EPA 200.8-1994, Rev. 5.4
Cadmium	0.791	µg/L	1	0.020	0.004		GES	05/08/2025 14:16	EPA 200.8-1994, Rev. 5.4
Calcium	0.44	mg/L	1	0.05	0.02		GES	05/08/2025 14:16	EPA 200.8-1994, Rev. 5.4
Chromium	0.84	µg/L	1	0.30	0.07		GES	05/08/2025 14:16	EPA 200.8-1994, Rev. 5.4
Cobalt	35.8	µg/L	1	0.020	0.005		GES	05/08/2025 14:16	EPA 200.8-1994, Rev. 5.4
Lead	0.20	µg/L	1	0.20	0.05		GES	05/08/2025 14:16	EPA 200.8-1994, Rev. 5.4
Lithium	0.0317	mg/L	5	0.0015	0.0003		GES	05/08/2025 14:43	EPA 200.8-1994, Rev. 5.4
Mercury	5	ng/L	1	5	2		RLP	05/06/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2025 14:16	EPA 200.8-1994, Rev. 5.4
Selenium	1.16	µg/L	1	0.50	0.04		GES	05/08/2025 14:16	EPA 200.8-1994, Rev. 5.4
Thallium	0.53	µg/L	1	0.20	0.02		GES	05/08/2025 14:16	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	12.60	pCi/L	1.02	0.53		WCG	05/09/2025 16:44	SW-846 9315-1986, Rev. 0
Carrier Recovery	91.7	%						
Radium-228	3.05	pCi/L	0.17	0.50		TTP	05/22/2025 19:08	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	93.2	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251169 **Customer: Welsh Power Station** **Date Reported: 05/30/2025**

Customer Sample ID: DUPLICATE - BASP
Customer Description: TG-32
Lab Number: 251169-004
Preparation:
Date Collected: 04/29/2025 12:55 EDT
Date Received: 05/05/2025 11:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.013	µg/L	1	0.100	0.008	J1	GES	05/08/2025 14:22	EPA 200.8-1994, Rev. 5.4
Arsenic	0.23	µg/L	1	0.10	0.03		GES	05/08/2025 14:22	EPA 200.8-1994, Rev. 5.4
Barium	39.7	µg/L	1	0.20	0.05		GES	05/08/2025 14:22	EPA 200.8-1994, Rev. 5.4
Beryllium	0.224	µg/L	1	0.050	0.007		GES	05/08/2025 14:22	EPA 200.8-1994, Rev. 5.4
Boron	0.008	mg/L	1	0.050	0.007	J1	GES	05/08/2025 14:22	EPA 200.8-1994, Rev. 5.4
Cadmium	0.048	µg/L	1	0.020	0.004		GES	05/08/2025 14:22	EPA 200.8-1994, Rev. 5.4
Calcium	0.61	mg/L	1	0.05	0.02		GES	05/08/2025 14:22	EPA 200.8-1994, Rev. 5.4
Chromium	0.39	µg/L	1	0.30	0.07		GES	05/08/2025 14:22	EPA 200.8-1994, Rev. 5.4
Cobalt	1.41	µg/L	1	0.020	0.005		GES	05/08/2025 14:22	EPA 200.8-1994, Rev. 5.4
Lead	0.12	µg/L	1	0.20	0.05	J1	GES	05/08/2025 14:22	EPA 200.8-1994, Rev. 5.4
Lithium	0.0143	mg/L	1	0.00030	0.00006		GES	05/08/2025 14:22	EPA 200.8-1994, Rev. 5.4
Mercury	132	ng/L	4	20	8		RLP	05/06/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2025 14:22	EPA 200.8-1994, Rev. 5.4
Selenium	0.12	µg/L	1	0.50	0.04	J1	GES	05/08/2025 14:22	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	05/08/2025 14:22	EPA 200.8-1994, Rev. 5.4

AMERICAN ELECTRIC POWER

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Job ID: 251169 **Customer: Welsh Power Station** **Date Reported: 05/30/2025**

Customer Sample ID: EQUIPMENT BLANK - BASP
Customer Description: TG-32
Lab Number: 251169-005
Preparation:
Date Collected: 04/29/2025 11:01 EDT
Date Received: 05/05/2025 11:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2025 14:27	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	05/08/2025 14:27	EPA 200.8-1994, Rev. 5.4
Barium	0.05	µg/L	1	0.20	0.05	J1	GES	05/08/2025 14:27	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	GES	05/08/2025 14:27	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	GES	05/08/2025 14:27	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	05/08/2025 14:27	EPA 200.8-1994, Rev. 5.4
Calcium	<0.02	mg/L	1	0.05	0.02	U1	GES	05/08/2025 14:27	EPA 200.8-1994, Rev. 5.4
Chromium	0.24	µg/L	1	0.30	0.07	J1	GES	05/08/2025 14:27	EPA 200.8-1994, Rev. 5.4
Cobalt	0.005	µg/L	1	0.020	0.005	J1	GES	05/08/2025 14:27	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2025 14:27	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00006	mg/L	1	0.00030	0.00006	U1	GES	05/08/2025 14:27	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/06/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2025 14:27	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/08/2025 14:27	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/08/2025 14:27	EPA 200.8-1994, Rev. 5.4

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251169 **Customer: Welsh Power Station** **Date Reported: 05/30/2025**

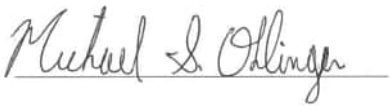
Customer Sample ID: FIELD BLANK - BASP
Customer Description: TG-32
Lab Number: 251169-006
Preparation:
Date Collected: 04/29/2025 11:05 EDT
Date Received: 05/05/2025 11:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2025 14:32	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	05/08/2025 14:32	EPA 200.8-1994, Rev. 5.4
Barium	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2025 14:32	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	GES	05/08/2025 14:32	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	GES	05/08/2025 14:32	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	05/08/2025 14:32	EPA 200.8-1994, Rev. 5.4
Calcium	<0.02	mg/L	1	0.05	0.02	U1	GES	05/08/2025 14:32	EPA 200.8-1994, Rev. 5.4
Chromium	0.26	µg/L	1	0.30	0.07	J1	GES	05/08/2025 14:32	EPA 200.8-1994, Rev. 5.4
Cobalt	0.006	µg/L	1	0.020	0.005	J1	GES	05/08/2025 14:32	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2025 14:32	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00006	mg/L	1	0.00030	0.00006	U1	GES	05/08/2025 14:32	EPA 200.8-1994, Rev. 5.4
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2025 14:32	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/08/2025 14:32	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/08/2025 14:32	EPA 200.8-1994, Rev. 5.4

Report Verification

This report and the above data have been confirmed by the following analyst.



Michael Ohlinger, Chemist
Email: msohlinger@aep.com
Phone: 614-836-4184
Audinet: 8-210-4184

THIS TEST REPORT RELATES ONLY TO THE ITEMS TESTED AND SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THE LABORATORY. ALL TEST RESULTS MEET ALL OF THE REQUIREMENTS OF THE ACCREDITING AUTHORITY, UNLESS OTHERWISE NOTED. ALL TIMES LISTED ARE IN THE EASTERN TIME ZONE.

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251169 **Customer: Welsh Power Station** **Date Reported: 05/30/2025**

Data Qualifer Legend

J1 - Concentration estimated. Analyte was detected between the method detection limit and the reporting limit.
U1 - Not detected at or below method detection limit (MDL).
P1 - The precision between duplicate results was above acceptance limits.

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Dolan Chemical Laboratory (DCL)
4001 Bixby Road
Groveport, Ohio 43125

Contacts: Michael Ohlinger (614-836-4184)

Project Name: Welsh BASP
Contact Name: Pryce Warren
Contact Phone: (325) 310-6668
Sampler(s): Matt Hamilton Kenny McDonald

Analysis Turnaround Time (in Calendar Days) Routine (28 days)

Site Contact: 17 14 2

Date: 1

For Lab Use Only:
COC/Order #: 251169

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	250 mL bottle, pH<2, HNO_3 B, Ca, Li, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, TL, Mg, Na, K	250 mL bottle, pH<2, HNO_3 B, Ca, Li, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, TL	1 L bottle, Cool, 0-6°C TDS, F, Cl, SO_4	Three (six every 10th*) 1 L bottles, pH<2, HNO_3 Ra-226, Ra-228	250 mL Glass bottle, HCL**, pH<2 Hg	filter 500 mL bottle, then pH<2, HNO_3 dissolved Fe and Mn		Sample Specific Notes:
AD-3	4/29/2025	904	G	GW	8			X		X	X			TG-32 needed
AD-4c	4/29/2025	906	G	GW	5		X			X	X			
AD-16R	4/29/2025	1019	G	GW	5			X		X	X			
DUPLICATE - BASP	4/29/2025	1155	G	GW	2			X			X			
EQUIPMENT BLANK - BASP	4/29/2025	1001	G	GW	2			X			X			
FIELD BLANK - BASP	4/29/2025	1005	G	GW	1			X						
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____; F= filter in field							**4**	**4**	**1**	**4**	**2**			

** Six 1L Bottles must be collected for Radium for every 10th sample.*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Matt Hamilton	Eagle	4-30-25 1600		
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Date/Time:
			Michael Ohl	5/5/25 11:00

WATER & WASTE SAMPLE RECEIPT FORM

Form SOP-7102 Sample Receipt Form Rev.10, 01/03/25

Package Type	Delivery Type
(Cooler) Box Bag Envelope	UPS (FedEX) USPS
	Other _____

Plant/Customer Welsh **Total # of Containers RECEIVED in Job:** 23

Opened By MSO

Date/Time 5/5/25 11:00

Were all required temperatures, per BN-water-900, T≤6°C *w/o sample freezing*? Y / N or (N/A)

Initial/Date: _____ on ice / no ice

If No, specify each deviation(s) on back of form. (IR Gun Ser# 240093386, *Expir.* 01/31/26)

Was container in good condition? (Y) / N Comments _____

Was Chain of Custody received? (Y) / N Comments _____

Requested turnaround: 28 days If **RUSH**, who was notified? _____

pH (15 min) Cr^{+6} (pres) (24 hr) NO_2 or NO_3 (48 hr) *ortho*-PO_4 (48 hr) Hg-diss (pres) (48 hr)

Were pH requirements met for required samples, per BN-water-900? (Y) / N or N/A

Initial/Date: MBK 05/05/25

pH paper: mfr Lab Rat Supplies, PN LRS-4801 LOT# X000RWDG21, EXPIR DATE 09/30/2026

***** Note changes to pH paper in comments below***

Was Add'l Preservative needed? Y / (N) If Yes: By whom & when: _____ (See Prep Book)

(Dissolved) Is sample filtration requested? Y / (N) Comments _____ (See Prep Book)

Was COC filled out properly? (Y) / N Comments _____

Were samples labeled properly? (Y) / N Comments _____

Were correct containers used? (Y) / N Comments _____

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 251169 Initial & Date & Time : _____

Logged by MSD Comments: _____

(Record Test Count on back of form)

Total # of Containers LISTED on COC: 23

WATER & WASTE SAMPLE RECEIPT FORM (CONT)

Form SOP-7102 Sample Receipt Form Rev.10, 01/03/25

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the Sample or Job "Comments" field in the LIMS. **Comments below**:
i.e. Mark "LF" if needs Lab filtered, Temperature or Preservative deviation, Preserved upon arrival , etc.

JOB # : 251169 **Initial/ Date:** MBO 5/5/25 **Peer Review Initial/ Date:** WCL 5/6/25

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
17	251169-001		17
20	" -002		20
17	" -003		17
15	" -004		15
15	" -005		15
14	" -006		14

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NA] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Sunita Timsina		Chemist Associate	05/21/2025
Name (printed)	Signature	Official Title	Date

Radium Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sunita Timsina

LRC Date: 05/21/2025

Laboratory Job Number: 251169

Prep Batch Number(s): PB25050706

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	NA	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	NA	
	I	Were MS/MSD RPDs within laboratory QC limits?	NA	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	NO	ER1
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sunita Timsina

LRC Date: 05/21/2025

Laboratory Job Number: 251169

Prep Batch Number(s): PB25050706

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	NA	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	NA	
	I	Were percent differences for each analyte within the method-required QC limits?	NA	
	I	Was the ICAL curve verified for each analyte?	NA	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	NA	
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sunita Timsina

LRC Date: 05/21/2025

Laboratory Job Number: 251169

Prep Batch Number(s): PB25050706

Exception Report No.	Description
ER1	The precision between duplicate results was above acceptance limits.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
[3] NA - Not applicable; NR - Not reviewed.
[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NA] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Sunita Timsina		Chemist Associate	05/28/2025
Name (printed)	Signature	Official Title	Date

Radium Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power - Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sunita Timsina

LRC Date: 05/28/2025

Laboratory Job Number: 251169

Prep Batch Number(s): PB25050707

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	NA	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	NO	ER1
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	NA	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Table 2. Supporting Data.

Laboratory Name: American Electric Power - Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sunita Timsina

LRC Date: 05/28/2025

Laboratory Job Number: 251169

Prep Batch Number(s): PB25050707

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	NA	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	NA	
	I	Were percent differences for each analyte within the method-required QC limits?	NA	
	I	Was the ICAL curve verified for each analyte?	NA	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	NA	
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power - Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sunita Timsina

LRC Date: 05/28/2025

Laboratory Job Number: 251169

Prep Batch Number(s): PB25050707

Exception Report No.	Description
ER1	The precision on the matrix spike duplicate was above acceptance limit.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
[3] NA - Not applicable; NR - Not reviewed.
[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NA] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Kelsey Huff		Chemist	05/29/2025
Name (printed)	Signature	Official Title	Date

Mercury Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh

Reviewer Name: Kelsey Huff

LRC Date: 05/29/2025

Laboratory Job Number: 251169

Prep Batch Number(s): PB25050603, PB25050604

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	Yes	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Mercury Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	NA	
	I	Were analytical duplicates analyzed at the appropriate frequency?	NA	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	NA	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Mercury Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh

Reviewer Name: Kelsey Huff

LRC Date: 05/29/2025

Laboratory Job Number: 251169

Prep Batch Number(s): PB25050603, PB25050604

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Mercury Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Mercury Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh

Reviewer Name: Kelsey Huff

LRC Date: 05/29/2025

Laboratory Job Number: 251169

Prep Batch Number(s): PB25050603, PB25050604

Exception Report No.	Description
ER1	CCB acceptance criteria is CCB<MQL.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).

[3] NA - Not applicable; NR - Not reviewed.

[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NA] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Elizabeth Hoitink	Elizabeth L Hoitink Digitally signed by Elizabeth L Hoitink Date: 2025.05.12 08:17:34 -04'00'	Chemist	5-12-2025
Name (printed)	Signature	Official Title	Date

ICP-MS Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 5-12-25

Laboratory Job Number: 251169

Prep Batch Number(s): PB25050702, QC2505072

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	No	ER1
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

ICP-MS Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 5-12-25

Laboratory Job Number: 251169

Prep Batch Number(s): PB25050702, QC2505072

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER2
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	Yes	
	I	Were ion abundance data within the method-required QC limits?	Yes	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	Yes	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

ICP-MS Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 5-12-25

Laboratory Job Number: 251169

Prep Batch Number(s): PB25050702, QC2505072

Exception Report No.	Description
ER1	Linear Dynamic Range (LDR) study used to determine upper limit of analyte calibration.
ER2	CCB acceptance criteria is CCB<2.2*MDL.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
[3] NA - Not applicable; NR - Not reviewed.
[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Water Analysis Report

Reissued

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251531 **Customer: Welsh Power Station** **Date Reported: 08/04/2025**

Customer Sample ID: AD-3
Customer Description:
Lab Number: 251531-001
Preparation:
Date Collected: 06/11/2025 10:12 EDT
Date Received: 06/13/2025 10:10 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	10.8	mg/L	10	0.3	0.1		CRJ	06/17/2025 12:14	EPA 300.1 -1997, Rev. 1.0

Customer Sample ID: AD-4c
Customer Description:
Lab Number: 251531-002
Preparation:
Date Collected: 06/11/2025 09:27 EDT
Date Received: 06/13/2025 10:10 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.406	mg/L	1	0.050	0.007		GES	06/16/2025 18:04	EPA 200.8-1994, Rev. 5.4
Calcium	3.28	mg/L	1	0.05	0.02		GES	06/16/2025 18:04	EPA 200.8-1994, Rev. 5.4

251531
Job Comments:

Original report issued 6/30/25. Report reissued 8/4/25. Labels found to be switched for unpreserved bottle. Reanalyisis of SO4 and TDS not possible due to hold time. Original Cl value available from original run and corrected value reported on reissued report.

251531-001
Comments:

Labels swapped on unpreserved bottles Reissued Cl value taken from original run.

251531-002
Comments:

Labels swapped on unpreserved bottles, TDS and SO4 unavailable due to hold time.

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

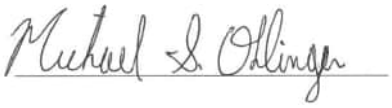
Water Analysis Report

Reissued

Job ID: 251531 **Customer: Welsh Power Station** **Date Reported: 08/04/2025**

Report Verification

This report and the above data have been confirmed by the following analyst.



Michael Ohlinger, Chemist
Email: msohlinger@aep.com
Phone: 614-836-4184
Audinet: 8-210-4184

THIS TEST REPORT RELATES ONLY TO THE ITEMS TESTED AND SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THE LABORATORY. ALL TEST RESULTS MEET ALL OF THE REQUIREMENTS OF THE ACCREDITING AUTHORITY, UNLESS OTHERWISE NOTED. ALL TIMES LISTED ARE IN THE EASTERN TIME ZONE.

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Dolan Chemical Laboratory (DCL)
4001 Bixby Road
Groveport, Ohio 43125

Contacts: Michael Ohlinger (614-836-4184)

Project Name: Welsh BASP
Contact Name: Pryce Warren
Contact Phone: (325) 310-6668
Sampler(s): Kenny McDonald

Analysis Turnaround Time (in Calendar Days)
Routine (28 days)

Site Contact:

Date:

For Lab Use Only:
COC/Order #: 751531

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	Boron, Calcium 250 mL bottle, pH<2, HNO_3	TDS, Sulfate 1 L bottle, Cool, 0-6°C	Chloride 250 mL bottle, Cool, 0-6°C	Ra-226, Ra-228 Three (six every 10th*) 1 L bottles, pH<2, HNO_3	Hg 250 mL Glass bottle, HCL**, pH<2	dissolved Fe and Mn filter 500 mL bottle, then pH<2, HNO_3		Sample Specific Notes:
AD-3	6/11/2025	912	G	GW	1				X					
AD-4c	6/11/2025	827	G	GW	2		X	X						
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____; F= filter in field							4	4	1	4	2			

* *Six 1L Bottles must be collected for Radium for every 10th sample.*

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
KAM	EAGLE	06/12/25 1400		
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Date/Time:
			MM	06/13/25 1010

WATER & WASTE SAMPLE RECEIPT FORM

Form SOP-7102 Sample Receipt Form Rev 10 01/03/25

Package Type	Delivery Type
(Cooler) Box Bag Envelope	UPS (FedEx) USPS
	Other _____

Plant/Customer Welsh **Total # of Containers RECEIVED in Job:** 3

Opened By EGM | KJH

Date/Time 6/13/25 1010

Were all required temperatures, per BN-water-900, T≤6°C *w/o sample freezing*? (Y)/ N or N/A

Initial/Date: EGM 6/13/25 (on ice)/ no ice

If No, specify each deviation(s) on back of form. (IR Gun Ser# 240093386, *Expir.* 01/31/26)

Was container in good condition? Y /(N) Comments cooler replaced

Was Chain of Custody received? (Y)/ N Comments _____

Requested turnaround: Routine If **RUSH**, who was notified? _____

pH (15 min) Cr^{+6} (pres) (24 hr) NO_2 or NO_3 (48 hr) *ortho*-PO_4 (48 hr) Hg-diss (pres) (48 hr)

Were pH requirements met for required samples, per BN-water-900? (Y)/ N or N/A

Initial/Date: EGM 6/13/25

pH paper: mfr Lab Rat Supplies, PN LRS-4801 LOT# X000RWDG21 EXPIR DATE 09/30/2026

***** Note changes to pH paper in comments below***

Was Add'l Preservative needed? Y /(N) If Yes: By whom & when: _____ (See Prep Book)

(Dissolved) Is sample filtration requested? Y /(N) Comments _____ (See Prep Book)

Was COC filled out properly? (Y)/ N Comments _____

Were samples labeled properly? (Y)/ N Comments _____

Were correct containers used? (Y)/ N Comments _____

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 25153 Initial & Date & Time: _____

Logged by KJH Comments: _____

(Record Test Count on back of form)

Total # of Containers LISTED on COC: 3

WATER & WASTE SAMPLE RECEIPT FORM (CONT)

Form SOP-7102 Sample Receipt Form Rev 10, 01/03/25

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the Sample or Job "Comments" field in the LIMS. **Comments below**:
i.e. Mark "LF" if needs Lab filtered, Temperature or Preservative deviation, Preserved upon arrival , etc.

JOB # : 751531 **Initial/ Date:** [illegible] 06/13/25 **Peer Review Initial/ Date:** MSD 6/16/25

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
1	751531-001		1
4	-002		4

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [x] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Tim Arnold		Principal Chemist	6/18/2025
Name (printed)	Signature	Official Title	Date

Ion Chromatography Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh BASP

Reviewer Name: Tim Arnold

LRC Date: 6/18/2025

Laboratory Job Number: 251531

Prep Batch Number(s): QC2506121

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	Yes	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	Yes	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	Yes	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Ion Chromatography Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Ion Chromatography Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh BASP

Reviewer Name: Tim Arnold

LRC Date: 6/18/2025

Laboratory Job Number: 251531

Prep Batch Number(s): QC2506121

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Ion Chromatography Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh BASP

Reviewer Name: Tim Arnold

LRC Date: 6/18/2025

Laboratory Job Number: 251531

Prep Batch Number(s): QC2506121

Exception Report No.	Description
ER1	CCB acceptance criteria is CCB<MQL.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).

[3] NA - Not applicable; NR - Not reviewed.

[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NA] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Elizabeth Hoitink	Elizabeth L Hoitink Digitally signed by Elizabeth L Hoitink Date 2025.06.23 15:28:29 -04'00'	Chemist	6-23-2025
Name (printed)	Signature	Official Title	Date

ICP-MS Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 6-23-2025

Laboratory Job Number: 251531

Prep Batch Number(s): PB25061606, QC2506111

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	No	ER1
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

ICP-MS Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 6-23-2025

Laboratory Job Number: 251531

Prep Batch Number(s): PB25061606, QC2506111

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER2
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	Yes	
	I	Were ion abundance data within the method-required QC limits?	Yes	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	Yes	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

ICP-MS Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 6-23-2025

Laboratory Job Number: 251531

Prep Batch Number(s): PB25061606, QC2506111

Exception Report No.	Description
ER1	Linear Dynamic Range (LDR) study used to determine upper limit of analyte calibration.
ER2	CCB acceptance criteria is CCB<2.2*MDL.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
[3] NA - Not applicable; NR - Not reviewed.
[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252320 **Customer: Welsh Power Station** **Date Reported: 10/03/2025**

Customer Sample ID: AD-1
Lab Number: 252320-001
Date Collected: 09/04/2025 11:09 EDT
Customer Description:
Preparation:
Date Received: 09/05/2025 10:25 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	4.63	mg/L	2	0.06	0.02		JCF	09/10/2025 16:55	EPA 300.1-1997, Rev. 1.0
Fluoride	0.65	mg/L	2	0.06	0.02		JCF	09/10/2025 16:55	EPA 300.1-1997, Rev. 1.0
Sulfate	141	mg/L	10	3.0	0.2		JCF	09/10/2025 15:02	EPA 300.1-1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
TDS, Filterable Residue	280	mg/L	1	50	20		BLB	09/05/2025 12:29	SM 2540C-2020

Customer Sample ID: AD-5
Lab Number: 252320-002
Date Collected: 09/03/2025 09:47 EDT
Customer Description:
Preparation:
Date Received: 09/05/2025 10:25 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	17.1	mg/L	2	0.06	0.02		JCF	09/10/2025 17:18	EPA 300.1-1997, Rev. 1.0
Fluoride	0.21	mg/L	2	0.06	0.02		JCF	09/10/2025 17:18	EPA 300.1-1997, Rev. 1.0
Sulfate	103	mg/L	10	3.0	0.2		JCF	09/10/2025 15:24	EPA 300.1-1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
TDS, Filterable Residue	290	mg/L	1	50	20		BLB	09/05/2025 12:29	SM 2540C-2020

Customer Sample ID: AD-17
Lab Number: 252320-003
Date Collected: 09/02/2025 13:16 EDT
Customer Description:
Preparation:
Date Received: 09/05/2025 10:25 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	38.5	mg/L	5	0.15	0.05		JCF	09/10/2025 17:41	EPA 300.1-1997, Rev. 1.0
Fluoride	0.13	mg/L	5	0.15	0.05	J1	JCF	09/10/2025 17:41	EPA 300.1-1997, Rev. 1.0
Sulfate	1030	mg/L	50	15	1		JCF	09/10/2025 15:47	EPA 300.1-1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
TDS, Filterable Residue	1660	mg/L	2	100	40		BLB	09/05/2025 12:29	SM 2540C-2020

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252320 **Customer: Welsh Power Station** **Date Reported: 10/03/2025**

Customer Sample ID: DUP- BACKGROUND
Lab Number: 252320-004
Date Collected: 09/04/2025 12:33 EDT

Customer Description:
Preparation:
Date Received: 09/05/2025 10:25 EDT

Ion Chromatography

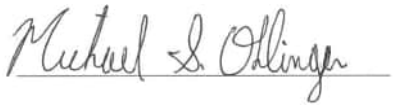
Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	4.58	mg/L	2	0.06	0.02		JCF	09/10/2025 18:03	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.65	mg/L	2	0.06	0.02		JCF	09/10/2025 18:03	EPA 300.1 -1997, Rev. 1.0
Sulfate	129	mg/L	10	3.0	0.2		JCF	09/11/2025 12:29	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
TDS, Filterable Residue	270	mg/L	1	50	20		BLB	09/05/2025 12:29	SM 2540C-2020

Report Verification

This report and the above data have been confirmed by the following analyst.



Michael Ohlinger, Chemist
Email: msohlinger@aep.com
Phone: 614-836-4184
Audinet: 8-210-4184

THIS TEST REPORT RELATES ONLY TO THE ITEMS TESTED AND SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THE LABORATORY. ALL TEST RESULTS MEET ALL OF THE REQUIREMENTS OF THE ACCREDITING AUTHORITY, UNLESS OTHERWISE NOTED. ALL TIMES LISTED ARE IN THE EASTERN TIME ZONE.

Data Qualifer Legend

J1 - Concentration estimated. Analyte was detected between the method detection limit and the reporting limit.

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Dolan Chemical Laboratory (DCL)
4001 Bixby Road
Groveport, Ohio 43125

Contacts: Michael Ohlinger (614-836-4184)

Project Name: Welsh Background
Contact Name: Pryce Warren
Contact Phone: (325) 310-6668
Sampler(s): Matt Hamilton Brad Bates

Analysis Turnaround Time (in Calendar Days)
Routine (28 days)

Site Contact:

Date:

For Lab Use Only:
COC/Order #: 253320

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	250 mL bottle, pH<2, HNO_3 B, Ca, Li, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, TL	Field-filter 500 mL bottle, then pH<2, HNO_3 dissolved Fe and Mn	1 L bottle, Cool, 0-6°C TDS, F, Cl, SO_4	Three (six every 10th*) 1 L bottles, pH<2, HNO_3 Ra-226, Ra-228	40 mL Glass vial or 125 mL PTFE lined bottle, HCL**, pH<2 Hg			Sample Specific Notes
AD-1	9/4/2025	1009	G	GW	1				X					TG-32 needed
AD-5	9/3/2025	847	G	GW	1				X					
AD-17	9/2/2025	1216	G	GW	1				X					
DUPLICATE - BACKGROUND	9/4/2025	1133	G	GW	1				X					
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____; F= filter in field							4	F4	1	4				

* *Six 1L Bottles must be collected for Radium for every 10th sample.*

Special Instructions/QC Requirements & Comments:

Relinquished by	Company	Date/Time	Received by	Date/Time
[signature]	Eagle	9-4-25 16a		
Relinquished by:	Company:	Date/Time:	Received by	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Date/Time: 09/05/25 1025

WATER & WASTE SAMPLE RECEIPT FORM

Form SOP-7102 Sample Receipt Form Rev.10, 01/03/25

Package Type

(Cooler) Box Bag Envelope

Delivery Type

UPS FedEX USPS

Other _____

Plant/Customer Welsh **Total # of Containers RECEIVED in Job:** 4

Opened By KM/EGM

Date/Time 09/05/25 1025

Were all required temperatures, per BN-water-900, T≤6°C *w/o sample freezing*? (Y) N or N/A

Initial/Date: EGM 9/5/25 (on ice) / no ice

If No, specify each deviation(s) on back of form. (IR Gun Ser# 240093386, *Expir.* 01/31/2026)

Was container in good condition? (Y) / N Comments _____

Was Chain of Custody received? (Y) / N Comments _____

Requested turnaround: routine If **RUSH**, who was notified? _____

pH (15 min) Cr^{+6} (pres) (24 hr) NO_2 or NO_3 (48 hr) *ortho*-PO_4 (48 hr) Hg-diss (pres) (48 hr)

Were pH requirements met for required samples, per BN-water-900? (Y) N or N/A

Initial/Date: EGM 9/5/25

***pH paper:* mfr LabRat ,PN LRS-4801 ,LOT# X000RWDG21 ,EXPIR DATE 09/30/2026

*** Note changes to pH paper in comments below***

Was Add'l Preservative needed? Y / (N) If Yes: By whom & when: N/A (See Prep Book)

(Dissolved) Is sample filtration requested? Y / (N) Comments N/A (See Prep Book)

Was COC filled out properly? (Y) / N Comments _____

Were samples labeled properly? (Y) / N Comments _____

Were correct containers used? (Y) / N Comments _____

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 752320 Initial & Date & Time : _____

Logged by KM Comments: _____

(Record Test Count on back of form)

Total # of Containers LISTED on COC: 4

WATER & WASTE SAMPLE RECEIPT FORM (CONT)

Form SOP-7102 Sample Receipt Form Rev 10, 01/03/25

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the Sample or Job "Comments" field in the LIMS. **Comments below**:
i.e. Mark "LF" if needs Lab filtered, Temperature or Preservative deviation, Preserved upon arrival , etc.

JOB # : 752320 **Initial/ Date:** [illegible] 09/05/25 **Peer Review Initial/ Date:** EGM 9/5/25

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
4	752320-001		4
↓	-002	NA	↓
	-003		
	-004		

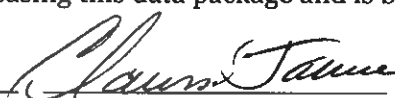
Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [x] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Clarissa Jameson		Chemical Lab Tech. Principle	9/25/26
Name (printed)	Signature	Official Title	Date

Ion Chromatography Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Background

Reviewer Name: Clarissa Jameson

LRC Date: 9/26/2025

Laboratory Job Number: 252320

Prep Batch Number(s): QC2509067

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	Yes	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	Yes	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	Yes	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Ion Chromatography Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Ion Chromatography Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Background

Reviewer Name: Clarissa Jameson

LRC Date: 9/26/2025

Laboratory Job Number: 252320

Prep Batch Number(s): QC2509067

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Ion Chromatography Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Background

Reviewer Name: Clarissa Jameson

LRC Date: 9/26/2025

Laboratory Job Number: 252320

Prep Batch Number(s): QC2509067

Exception Report No.	Description
ER1	CCB acceptance criteria is CCB<MQL.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
[3] NA - Not applicable; NR - Not reviewed.
[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NA] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Sandra Williams	Sandra D. Williams	Chemist	9/22/2025
Name (printed)	Signature	Official Title	Date

TDS Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sandra Williams

LRC Date: 9/22/2025

Laboratory Job Number: 252320

Prep Batch Number(s): QC2509060

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	NA	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	NA	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

TDS Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	NA	
	I	Were MS/MSD analyzed at the appropriate frequency?	NA	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	NA	
	I	Were MS/MSD RPDs within laboratory QC limits?	NA	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	No	P1
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

TDS Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sandra Williams

LRC Date: 9/22/2025

Laboratory Job Number: 252320

Prep Batch Number(s): QC2509060

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	NA	
	I	Was the number of standards recommended in the method used for all analytes?	NA	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	NA	
	I	Are ICAL data available for all instruments used?	NA	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	NA	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	NA	
	I	Were percent differences for each analyte within the method-required QC limits?	NA	
	I	Was the ICAL curve verified for each analyte?	NA	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	NA	
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

TDS Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sandra Williams

LRC Date: 9/22/2025

Laboratory Job Number: 252320

Prep Batch Number(s): QC2509060

Exception Report No.	Description
P1	The precision between duplicate results was above acceptance limits.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).

[3] NA - Not applicable; NR - Not reviewed.

[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252368 **Customer: Welsh Power Station** **Date Reported: 10/10/2025**

Customer Sample ID: AD-1
Lab Number: 252368-001
Date Collected: 09/04/2025 11:09 EDT

Customer Description:
Preparation:
Date Received: 09/10/2025 11:30 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.04	µg/L	1	0.10	0.02	J1	GES	09/11/2025 10:33	EPA 200.8-1994, Rev. 5.4
Arsenic	0.19	µg/L	1	0.10	0.03		GES	09/11/2025 10:33	EPA 200.8-1994, Rev. 5.4
Barium	72.5	µg/L	1	0.20	0.05		GES	09/11/2025 10:33	EPA 200.8-1994, Rev. 5.4
Beryllium	2.03	µg/L	1	0.05	0.02		GES	09/11/2025 18:33	EPA 200.8-1994, Rev. 5.4
Boron	1.00	mg/L	1	0.050	0.006		GES	09/11/2025 10:33	EPA 200.8-1994, Rev. 5.4
Cadmium	0.045	µg/L	1	0.020	0.004		GES	09/11/2025 10:33	EPA 200.8-1994, Rev. 5.4
Calcium	10.6	mg/L	1	0.10	0.02		GES	09/11/2025 10:33	EPA 200.8-1994, Rev. 5.4
Chromium	0.80	µg/L	1	0.30	0.07		GES	09/11/2025 10:33	EPA 200.8-1994, Rev. 5.4
Cobalt	5.66	µg/L	1	0.03	0.01		GES	09/11/2025 10:33	EPA 200.8-1994, Rev. 5.4
Lead	0.31	µg/L	1	0.20	0.05		GES	09/11/2025 10:33	EPA 200.8-1994, Rev. 5.4
Lithium	0.00885	mg/L	1	0.00030	0.00007		GES	09/11/2025 10:33	EPA 200.8-1994, Rev. 5.4
Mercury	6	ng/L	10	5	2		JLD	10/03/2025 00:00	EPA 1631E-2002
Molybdenum	0.87	µg/L	1	0.50	0.05		GES	09/11/2025 10:33	EPA 200.8-1994, Rev. 5.4
Selenium	10.3	µg/L	1	0.50	0.04		GES	09/11/2025 10:33	EPA 200.8-1994, Rev. 5.4
Thallium	0.10	µg/L	1	0.20	0.02	J1	GES	09/11/2025 10:33	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	2.34	pCi/L	0.56	1.11		ST	09/15/2025 14:05	SW-846 9315-1986, Rev. 0
Carrier Recovery	54.0	%						
Radium-228	1.30	pCi/L	0.16	0.49	L1, P2	ST	09/19/2025 11:31	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	86.4	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252368 **Customer: Welsh Power Station** **Date Reported: 10/10/2025**

Customer Sample ID: AD-5
Lab Number: 252368-002
Date Collected: 09/03/2025 09:47 EDT

Customer Description:
Preparation:
Date Received: 09/10/2025 11:30 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.02	µg/L	1	0.10	0.02	U1	GES	09/11/2025 10:38	EPA 200.8-1994, Rev. 5.4
Arsenic	2.32	µg/L	1	0.10	0.03		GES	09/11/2025 10:38	EPA 200.8-1994, Rev. 5.4
Barium	65.3	µg/L	1	0.20	0.05		GES	09/11/2025 10:38	EPA 200.8-1994, Rev. 5.4
Beryllium	0.05	µg/L	1	0.05	0.02		GES	09/11/2025 18:39	EPA 200.8-1994, Rev. 5.4
Boron	0.076	mg/L	1	0.050	0.006		GES	09/11/2025 10:38	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	09/11/2025 10:38	EPA 200.8-1994, Rev. 5.4
Calcium	42.2	mg/L	1	0.10	0.02		GES	09/11/2025 10:38	EPA 200.8-1994, Rev. 5.4
Chromium	0.38	µg/L	1	0.30	0.07		GES	09/11/2025 10:38	EPA 200.8-1994, Rev. 5.4
Cobalt	12.3	µg/L	1	0.03	0.01		GES	09/11/2025 10:38	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	GES	09/11/2025 10:38	EPA 200.8-1994, Rev. 5.4
Lithium	0.155	mg/L	1	0.00030	0.00007		GES	09/11/2025 10:38	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	10	5	2	U1	JLD	10/07/2025 00:00	EPA 1631E-2002
Molybdenum	0.23	µg/L	1	0.50	0.05	J1	GES	09/11/2025 10:38	EPA 200.8-1994, Rev. 5.4
Selenium	0.05	µg/L	1	0.50	0.04	J1	GES	09/11/2025 10:38	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	09/11/2025 10:38	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.43	pCi/L	0.17	0.35		ST	09/15/2025 14:05	SW-846 9315-1986, Rev. 0
Carrier Recovery	97.4	%						
Radium-228	0.90	pCi/L	0.13	0.40	L1, P2	ST	09/19/2025 11:31	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	89.5	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252368 **Customer: Welsh Power Station** **Date Reported: 10/10/2025**

Customer Sample ID: AD-17
Lab Number: 252368-003
Date Collected: 09/02/2025 13:16 EDT

Customer Description:
Preparation:
Date Received: 09/10/2025 11:30 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.03	µg/L	1	0.10	0.02	J1	GES	09/11/2025 10:44	EPA 200.8-1994, Rev. 5.4
Arsenic	0.46	µg/L	1	0.10	0.03		GES	09/11/2025 10:44	EPA 200.8-1994, Rev. 5.4
Barium	10.6	µg/L	1	0.20	0.05		GES	09/11/2025 10:44	EPA 200.8-1994, Rev. 5.4
Beryllium	0.05	µg/L	1	0.05	0.02		GES	09/11/2025 18:44	EPA 200.8-1994, Rev. 5.4
Boron	0.122	mg/L	1	0.050	0.006		GES	09/11/2025 10:44	EPA 200.8-1994, Rev. 5.4
Cadmium	0.005	µg/L	1	0.020	0.004	J1	GES	09/11/2025 10:44	EPA 200.8-1994, Rev. 5.4
Calcium	169	mg/L	1	0.10	0.02		GES	09/11/2025 10:44	EPA 200.8-1994, Rev. 5.4
Chromium	0.47	µg/L	1	0.30	0.07		GES	09/11/2025 10:44	EPA 200.8-1994, Rev. 5.4
Cobalt	43.9	µg/L	1	0.03	0.01		GES	09/11/2025 10:44	EPA 200.8-1994, Rev. 5.4
Lead	0.07	µg/L	1	0.20	0.05	J1	GES	09/11/2025 10:44	EPA 200.8-1994, Rev. 5.4
Lithium	0.277	mg/L	1	0.00030	0.00007		GES	09/11/2025 10:44	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	10	5	2	U1	JLD	10/07/2025 00:00	EPA 1631E-2002
Molybdenum	0.16	µg/L	1	0.50	0.05	J1	GES	09/11/2025 10:44	EPA 200.8-1994, Rev. 5.4
Selenium	0.11	µg/L	1	0.50	0.04	J1	GES	09/11/2025 10:44	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	09/11/2025 10:44	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.63	pCi/L	0.30	0.41		TTP	09/19/2025 09:46	SW-846 9315-1986, Rev. 0
Carrier Recovery	90.3	%						
Radium-228	1.98	pCi/L	0.16	0.45	L1, P2	ST	09/19/2025 11:31	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	87.8	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252368 **Customer: Welsh Power Station** **Date Reported: 10/10/2025**

Customer Sample ID: DUP-BACKGROUND
Customer Description:
Lab Number: 252368-004
Preparation:
Date Collected: 09/04/2025 12:33 EDT
Date Received: 09/10/2025 11:30 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.04	µg/L	1	0.10	0.02	J1	GES	09/11/2025 10:49	EPA 200.8-1994, Rev. 5.4
Arsenic	0.20	µg/L	1	0.10	0.03		GES	09/11/2025 10:49	EPA 200.8-1994, Rev. 5.4
Barium	72.1	µg/L	1	0.20	0.05		GES	09/11/2025 10:49	EPA 200.8-1994, Rev. 5.4
Beryllium	1.99	µg/L	1	0.05	0.02		GES	09/11/2025 18:50	EPA 200.8-1994, Rev. 5.4
Boron	0.951	mg/L	1	0.050	0.006		GES	09/11/2025 10:49	EPA 200.8-1994, Rev. 5.4
Cadmium	0.049	µg/L	1	0.020	0.004		GES	09/11/2025 10:49	EPA 200.8-1994, Rev. 5.4
Calcium	10.4	mg/L	1	0.10	0.02		GES	09/11/2025 10:49	EPA 200.8-1994, Rev. 5.4
Chromium	0.73	µg/L	1	0.30	0.07		GES	09/11/2025 10:49	EPA 200.8-1994, Rev. 5.4
Cobalt	5.68	µg/L	1	0.03	0.01		GES	09/11/2025 10:49	EPA 200.8-1994, Rev. 5.4
Lead	0.23	µg/L	1	0.20	0.05		GES	09/11/2025 10:49	EPA 200.8-1994, Rev. 5.4
Lithium	0.00867	mg/L	1	0.00030	0.00007		GES	09/11/2025 10:49	EPA 200.8-1994, Rev. 5.4
Mercury	4	ng/L	10	5	2	J1	JLD	10/07/2025 00:00	EPA 1631E-2002
Molybdenum	0.18	µg/L	1	0.50	0.05	J1	GES	09/11/2025 10:49	EPA 200.8-1994, Rev. 5.4
Selenium	9.90	µg/L	1	0.50	0.04		GES	09/11/2025 10:49	EPA 200.8-1994, Rev. 5.4
Thallium	0.07	µg/L	1	0.20	0.02	J1	GES	09/11/2025 10:49	EPA 200.8-1994, Rev. 5.4

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252368 **Customer: Welsh Power Station** **Date Reported: 10/10/2025**

Customer Sample ID: EQUIP. BLANK- BACKGROUND
Customer Description:
Lab Number: 252368-005
Preparation:
Date Collected: 09/02/2025 10:38 EDT
Date Received: 09/10/2025 11:30 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.02	µg/L	1	0.10	0.02	U1	GES	09/11/2025 10:55	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	09/11/2025 10:55	EPA 200.8-1994, Rev. 5.4
Barium	<0.05	µg/L	1	0.20	0.05	U1	GES	09/11/2025 10:55	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.02	µg/L	1	0.05	0.02	U1	GES	09/11/2025 18:55	EPA 200.8-1994, Rev. 5.4
Boron	0.024	mg/L	1	0.050	0.006	J1	GES	09/11/2025 10:55	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	09/11/2025 10:55	EPA 200.8-1994, Rev. 5.4
Calcium	0.02	mg/L	1	0.10	0.02	J1	GES	09/11/2025 10:55	EPA 200.8-1994, Rev. 5.4
Chromium	0.33	µg/L	1	0.30	0.07		GES	09/11/2025 10:55	EPA 200.8-1994, Rev. 5.4
Cobalt	0.01	µg/L	1	0.03	0.01	J1	GES	09/11/2025 10:55	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	09/11/2025 10:55	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00007	mg/L	1	0.00030	0.00007	U1	GES	09/11/2025 10:55	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	10	5	2	U1	JLD	10/07/2025 00:00	EPA 1631E-2002
Molybdenum	0.06	µg/L	1	0.50	0.05	J1	GES	09/11/2025 10:55	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	09/11/2025 10:55	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	09/11/2025 10:55	EPA 200.8-1994, Rev. 5.4

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252368 **Customer: Welsh Power Station** **Date Reported: 10/10/2025**

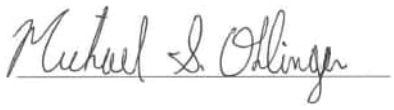
Customer Sample ID: FIELD BLANK-BACKGROUND
Customer Description:
Lab Number: 252368-006
Preparation:
Date Collected: 09/02/2025 10:37 EDT
Date Received: 09/10/2025 11:30 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.02	µg/L	1	0.10	0.02	U1	GES	09/11/2025 12:06	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	09/11/2025 12:06	EPA 200.8-1994, Rev. 5.4
Barium	<0.05	µg/L	1	0.20	0.05	U1	GES	09/11/2025 12:06	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.02	µg/L	1	0.05	0.02	U1	GES	09/11/2025 19:01	EPA 200.8-1994, Rev. 5.4
Boron	0.006	mg/L	1	0.050	0.006	J1	GES	09/11/2025 12:06	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	09/11/2025 12:06	EPA 200.8-1994, Rev. 5.4
Calcium	<0.02	mg/L	1	0.10	0.02	U1	GES	09/11/2025 12:06	EPA 200.8-1994, Rev. 5.4
Chromium	0.33	µg/L	1	0.30	0.07		GES	09/11/2025 12:06	EPA 200.8-1994, Rev. 5.4
Cobalt	<0.01	µg/L	1	0.03	0.01	U1	GES	09/11/2025 12:06	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	09/11/2025 12:06	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00007	mg/L	1	0.00030	0.00007	U1	GES	09/11/2025 12:06	EPA 200.8-1994, Rev. 5.4
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/11/2025 12:06	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	09/11/2025 12:06	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	09/11/2025 12:06	EPA 200.8-1994, Rev. 5.4

Report Verification

This report and the above data have been confirmed by the following analyst.



Michael Ohlinger, Chemist
Email: msohlinger@aep.com
Phone: 614-836-4184
Audinet: 8-210-4184

THIS TEST REPORT RELATES ONLY TO THE ITEMS TESTED AND SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THE LABORATORY. ALL TEST RESULTS MEET ALL OF THE REQUIREMENTS OF THE ACCREDITING AUTHORITY, UNLESS OTHERWISE NOTED. ALL TIMES LISTED ARE IN THE EASTERN TIME ZONE.

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252368 **Customer: Welsh Power Station** **Date Reported: 10/10/2025**

Data Qualifer Legend

J1 - Concentration estimated. Analyte was detected between the method detection limit and the reporting limit.
L1 - The associated laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) recovery was outside acceptance limits.
P2 - The precision on the laboratory control sample duplicate (LCSD) was above acceptance limits.
U1 - Not detected at or below method detection limit (MDL).

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Dolan Chemical Laboratory (DCL)
4001 Bixby Road
Groveport, Ohio 43125

Contacts: Michael Ohlinger (614-836-4184)

Project Name: Welsh Background
Contact Name: Pryce Warren
Contact Phone: (325) 310-6668
Sampler(s): Matt Hamilton Brad Bates

Analysis Turnaround Time (in Calendar Days)
Routine (28 days)

Site Contact:

Date:

For Lab Use Only:
COC/Order #: 757366

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	250 mL bottle, pH<2, HNO_3 B, Ca, Li, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, TL	Field-filter 500 mL bottle, then pH<2, HNO_3 dissolved Fe and Mn	1 L bottle, Cool, 0-6°C TDS, F, Cl, SO_4	Three (six every 10th*) 1 L bottles, pH<2, HNO_3 Ra-226, Ra-228	250 mL Glass bottle, HCL**, pH<2 Hg			Sample Specific Notes:
AD-1	9/4/2025	1009	G	GW	8		X			X	X			Routine (28 days)
AD-5	9/3/2025	847	G	GW	5		X			X	X			TG-32 needed
AD-17	9/2/2025	1216	G	GW	5		X			X	X			
DUPLICATE - BACKGROUND	9/4/2025	1133	G	GW	2		X				X			
EQUIPMENT BLANK - BACKGROUND	9/2/2025	938	G	GW	2		X				X			
FIELD BLANK - BACKGROUND	9/2/2025	937	G	GW	1		X							
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____; F= filter in field							4	F4	1	4	3			

** Six 1L Bottles must be collected for Radium for every 10th sample.*

Special Instructions/QC Requirements & Comments:

Relinquished by: Matt Hamilton	Company: Eagle	Date/Time: 9-5-25 1230	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Date/Time: 09/09/25 1205 + 09/10/25 1130

WATER & WASTE SAMPLE RECEIPT FORM

Form SOP-7102 Sample Receipt Form Rev.10, 01/03/25

Package Type	Delivery Type
(Cooler) Box Bag Envelope	UPS (FedEX) USPS
	Other _____

Plant/Customer Welsh **Total # of Containers RECEIVED in Job:** 5

Opened By AMR

Date/Time 9.10.25 1130

Were all required temperatures, per BN-water-900, T≤6°C *w/o sample freezing*? Y / N or (N/A)

Initial/Date: NA on ice / (no ice)

If No, specify each deviation(s) on back of form. (IR Gun Ser# 240093386, *Expir.* 01/31/2026)

Was container in good condition? (Y) / N Comments NA

Was Chain of Custody received? (Y) / N Comments NA

Requested turnaround: Routine If **RUSH**, who was notified? NA

pH (15 min) Cr^{+6} (pres) (24 hr) NO_2 or NO_3 (48 hr) *ortho*-PO_4 (48 hr) Hg-diss (pres) (48 hr)

Were pH requirements met for required samples, per BN-water-900? (Y) / N or N/A

Initial/Date: AMR 9.10.25

pH paper: mfr LabRat ,PN LRS-4801 ,LOT# X000RWDG21 ,EXPIR DATE 09/30/2026

***** Note changes to pH paper in comments below***

Was Add'l Preservative needed? Y / (N) If Yes: By whom & when: NA (See Prep Book)

(Dissolved) Is sample filtration requested? Y / (N) Comments NA (See Prep Book)

Was COC filled out properly? (Y) / N Comments _____

Were samples labeled properly? (Y) / N Comments _____

Were correct containers used? (Y) / N Comments _____

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 7572368 Initial & Date & Time : _____

Logged by _____ Comments: AD-1 5 radium bottles received 9.10.25, all other samples received on 9.9.25

(Record Test Count on back of form)

Total # of Containers LISTED on COC: 23

WATER & WASTE SAMPLE RECEIPT FORM (CONT)

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the Sample or Job "Comments" field in the LIMS. **Comments below**:
i.e. Mark "LF" if needs Lab filtered, Temperature or Preservative deviation, Preserved upon arrival , etc.

JOB # : _____ **Initial/ Date:** _____ **Peer Review Initial/ Date:** _____

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC

WATER & WASTE SAMPLE RECEIPT FORM

Form SOP-7102 Sample Receipt Form Rev.10, 01/03/25

Package Type	Delivery Type
Cooler Box Bag Envelope	UPS FedEX USPS
	Other _____

Plant/Customer Welsh **Total # of Containers RECEIVED in Job:** 18

Opened By KMA/EGM/AML

Date/Time 09/09/25 1705

Were all required temperatures, per BN-water-900, T≤6°C *w/o sample freezing*? Y / N or N/A

Initial/Date: NA on ice / no ice

If No, specify each deviation(s) on back of form. (IR Gun Ser# 240093386, *Expir.* 01/31/2026)

Was container in good condition? Y / N Comments _____

Was Chain of Custody received? Y / N Comments _____

Requested turnaround: Routine If **RUSH**, who was notified? _____

pH (15 min) Cr^{+6} (pres) (24 hr) NO_2 or NO_3 (48 hr) *ortho*-PO_4 (48 hr) Hg-diss (pres) (48 hr)

Were pH requirements met for required samples, per BN-water-900? Y / N or N/A

Initial/Date: EGM 9/9/25

pH paper: mfr LabRat ,PN LRS-4801 LOT# X000RWDG21 ,EXPIR DATE 09/30/2026

***** Note changes to pH paper in comments below***

Was Add'l Preservative needed? Y / N If Yes: By whom & when: NA (See Prep Book)

(Dissolved) Is sample filtration requested? Y / N Comments NA (See Prep Book)

Was COC filled out properly? Y / N Comments _____

Were samples labeled properly? Y / N Comments _____

Were correct containers used? Y / N Comments _____

Was the customer contacted? If Yes: Person Contacted: Matt Hamilton

Lab ID# 7573163 Initial & Date & Time : KMA 09/09/25 1300

Logged by KMA Comments: AO-1 missing 5 Rad. samples, AO-17 missing

(Record Test Count on back of form)

Total # of Containers LISTED on COC: 23

WATER & WASTE SAMPLE RECEIPT FORM (CONT)

Form SOP-7102 Sample Receipt Form Rev.10, 01/03/25

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the Sample or Job "Comments" field in the LIMS. **Comments below**:
i.e. Mark "LF" if needs Lab filtered, Temperature or Preservative deviation, Preserved upon arrival , etc.

JOB # : 752368 **Initial/ Date:** KSA 09/10/25 **Peer Review Initial/ Date:** AMR 9.10.25

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
17	752368 -001	NA	17
17	-002		17
17	-003		17
15	-004		15
15	-005		15
14	-006		14

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [x] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Tamisha T. Palmer	Tami T. Palmer	Chemical Technician	10/02/2025
Name (printed)	Signature	Official Title	Date

Radium Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Plant

Reviewer Name: Tamisha T. Palmer

LRC Date: 10/02/2025

Laboratory Job Number: 252347, 252366, 252368

Prep Batch Number(s): PB25091202

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	NA	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Radium Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	No	ER1
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	NA	
	I	Were MS/MSD analyzed at the appropriate frequency?	NA	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	NA	
	I	Were MS/MSD RPDs within laboratory QC limits?	NA	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Plant

Reviewer Name: Tamisha T. Palmer

LRC Date: 10/02/2025

Laboratory Job Number: 252347, 252366, 252368

Prep Batch Number(s): PB25091202

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	NA	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	NA	
	I	Were percent differences for each analyte within the method-required QC limits?	NA	
	I	Was the ICAL curve verified for each analyte?	NA	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	NA	
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Radium Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Plant

Reviewer Name: Tamisha T. Palmer

LRC Date: 10/02/2025

Laboratory Job Number: 252347, 252366, 252368

Prep Batch Number(s): PB25091202

Exception Report No.	Description
ER1	%Recovery exceeded 110% criteria for both LCS and LCSD

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).

[3] NA - Not applicable; NR - Not reviewed.

[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NA] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Tamisha T. Palmer	Tamisha T. Palmer	Chemical Technician Principal	10/02/2025
Name (printed)	Signature	Official Title	Date

Radium Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Plant

Reviewer Name: Tamisha Palmer

LRC Date: 10/02/2025

Laboratory Job Number: 252347, 252366, 252368, 252369

Prep Batch Number(s): PB25091101

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	NA	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Radium Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	~~No~~ Yes TD 10/29/25	~~ERT~~ TD 10/29/25 error
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	NO ~~Yes~~ 10/29/25	ERI
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	NA	
	I	Were analytical duplicates analyzed at the appropriate frequency?	NA	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	NA	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Plant

Reviewer Name: Tamisha Palmer

LRC Date: 10/02/2025

Laboratory Job Number: 252347, 252366, 252368, 252369

Prep Batch Number(s): PB25091101

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	NA	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	NA	
	I	Were percent differences for each analyte within the method-required QC limits?	NA	
	I	Was the ICAL curve verified for each analyte?	NA	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	NA	
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Radium Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Plant

Reviewer Name: Tamisha Palmer

LRC Date: 10/02/2025

Laboratory Job Number: 252347, 252366, 252368, 252369

Prep Batch Number(s): PB25091101

Exception Report No.	Description
ER1	The LCSD was outside the 25% criteria

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).

[3] NA - Not applicable; NR - Not reviewed.

[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NA] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Kelsey Huff		Chemist	10/09/2025
Name (printed)	Signature	Official Title	Date

Mercury Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh

Reviewer Name: Kelsey Huff

LRC Date: 10/09/2025

Laboratory Job Number: 252368

Prep Batch Number(s): PB25100203, PB25100606

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	Yes	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Mercury Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	NA	
	I	Were analytical duplicates analyzed at the appropriate frequency?	NA	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	NA	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Mercury Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh

Reviewer Name: Kelsey Huff

LRC Date: 10/09/2025

Laboratory Job Number: 252368

Prep Batch Number(s): PB25100203, PB25100606

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Mercury Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Mercury Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh

Reviewer Name: Kelsey Huff

LRC Date: 10/09/2025

Laboratory Job Number: 252368

Prep Batch Number(s): PB25100203, PB25100606

Exception Report No.	Description
ER1	CCB acceptance criteria is CCB<MQL.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).

[3] NA - Not applicable; NR - Not reviewed.

[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NA] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Elizabeth Hoitink	Elizabeth L Hoitink Digitally signed by Elizabeth L Hoitink Date: 2025.09.16 08:05:01 -04'00'	Chemist	9-16-2025
Name (printed)	Signature	Official Title	Date

ICP-MS Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 9-16-2025

Laboratory Job Number: 252368

Prep Batch Number(s): PB25091001, QC2509079, QC2509080

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	No	ER1
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

ICP-MS Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	yes	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 9-16-2025

Laboratory Job Number: 252368

Prep Batch Number(s): PB25091001, QC2509079, QC2509080

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER2
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	Yes	
	I	Were ion abundance data within the method-required QC limits?	Yes	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	Yes	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

ICP-MS Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 9-16-2025

Laboratory Job Number: 252368

Prep Batch Number(s): PB25091001, QC2509079, QC2509080

Exception Report No.	Description
ER1	Linear Dynamic Range (LDR) study used to determine upper limit of analyte calibration.
ER2	CCB acceptance criteria is CCB<2.2*MDL.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
[3] NA - Not applicable; NR - Not reviewed.
[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252319 **Customer: Welsh Power Station** **Date Reported: 10/03/2025**

Customer Sample ID: AD-3
Customer Description:
Lab Number: 252319-001
Preparation:
Date Collected: 09/04/2025 10:15 EDT
Date Received: 09/05/2025 10:25 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	11.6	mg/L	2	0.06	0.02		CRJ	09/09/2025 18:28	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.13	mg/L	2	0.06	0.02		CRJ	09/09/2025 18:28	EPA 300.1 -1997, Rev. 1.0
Sulfate	2.72	mg/L	2	0.60	0.04		CRJ	09/09/2025 18:28	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	<5	mg/L	1	20	5	U1	MGK	09/08/2025 12:16	SM 2320B-2021
Bicarbonate Alkalinity	<5	mg/L	1	20	5	Q14, U1	MGK	09/08/2025 12:16	SM 4500 CO2D-2011
TDS, Filterable Residue	100	mg/L	1	50	20	P1	BLB	09/05/2025 12:08	SM 2540C-2020

Customer Sample ID: AD-4c
Customer Description:
Lab Number: 252319-002
Preparation:
Date Collected: 09/02/2025 12:35 EDT
Date Received: 09/05/2025 10:25 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	14.8	mg/L	10	0.3	0.1		CRJ	09/09/2025 16:56	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.16	mg/L	2	0.06	0.02		CRJ	09/09/2025 19:14	EPA 300.1 -1997, Rev. 1.0
Sulfate	174	mg/L	10	3.0	0.2		CRJ	09/09/2025 16:56	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	<5	mg/L	1	20	5	U1	MGK	09/08/2025 12:16	SM 2320B-2021
Bicarbonate Alkalinity	<5	mg/L	1	20	5	Q14, U1	MGK	09/08/2025 12:16	SM 4500 CO2D-2011
TDS, Filterable Residue	410	mg/L	1	50	20		BLB	09/05/2025 12:14	SM 2540C-2020

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252319 **Customer: Welsh Power Station** **Date Reported: 10/03/2025**

Customer Sample ID: AD-16R
Lab Number: 252319-003
Date Collected: 09/02/2025 12:23 EDT
Customer Description:
Preparation:
Date Received: 09/05/2025 10:25 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	7.53	mg/L	2	0.06	0.02		CRJ	09/09/2025 18:51	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.08	mg/L	2	0.06	0.02		CRJ	09/09/2025 18:51	EPA 300.1 -1997, Rev. 1.0
Sulfate	41.7	mg/L	2	0.60	0.04		CRJ	09/09/2025 18:51	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	<5	mg/L	1	20	5	U1	MGK	09/08/2025 12:16	SM 2320B-2021
Bicarbonate Alkalinity	<5	mg/L	1	20	5	Q14, U1	MGK	09/08/2025 12:16	SM 4500 CO2D-2011
TDS, Filterable Residue	150	mg/L	1	50	20		BLB	09/05/2025 12:24	SM 2540C-2020

Customer Sample ID: DUPLICATE-BASP
Lab Number: 252319-004
Date Collected: 09/02/2025 13:41 EDT
Customer Description:
Preparation:
Date Received: 09/05/2025 10:25 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	15.1	mg/L	10	0.3	0.1		CRJ	09/09/2025 17:19	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.16	mg/L	2	0.06	0.02		CRJ	09/09/2025 17:42	EPA 300.1 -1997, Rev. 1.0
Sulfate	172	mg/L	10	3.0	0.2		CRJ	09/09/2025 17:19	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	<5	mg/L	1	20	5	U1	MGK	09/08/2025 12:16	SM 2320B-2021
Bicarbonate Alkalinity	<5	mg/L	1	20	5	Q14, U1	MGK	09/08/2025 12:16	SM 4500 CO2D-2011
TDS, Filterable Residue	420	mg/L	1	50	20	S7	BLB	09/05/2025 12:24	SM 2540C-2020

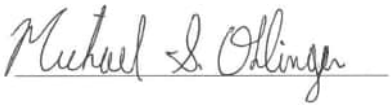
Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252319 **Customer: Welsh Power Station** **Date Reported: 10/03/2025**

Report Verification

This report and the above data have been confirmed by the following analyst.



Michael Ohlinger, Chemist
Email: msohlinger@aep.com
Phone: 614-836-4184
Audinet: 8-210-4184

THIS TEST REPORT RELATES ONLY TO THE ITEMS TESTED AND SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THE LABORATORY. ALL TEST RESULTS MEET ALL OF THE REQUIREMENTS OF THE ACCREDITING AUTHORITY, UNLESS OTHERWISE NOTED. ALL TIMES LISTED ARE IN THE EASTERN TIME ZONE.

Data Qualifer Legend

U1 - Not detected at or below method detection limit (MDL).
Q14 - This analyte and method are not included on the primary Laboratory Scope of TNI Accreditation.
P1 - The precision between duplicate results was above acceptance limits.
S7 - Sample did not achieve constant weight.

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Dolan Chemical Laboratory (DCL)
4001 Bixby Road
Groveport, Ohio 43125

Contacts: Michael Ohlinger (614-836-4184)

Project Name: Welsh BASP
Contact Name: Pryce Warren
Contact Phone: (325) 310-6668
Sampler(s): Matt Hamilton Brad Bates

Site Contact:

Date:

For Lab Use Only:
COC/Order #: 252319

Analysis Turnaround Time (in Calendar Days)
Routine (28 days)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	250 mL bottle, pH<2, HNO_3	500 mL bottle, pH<2, HNO_3	1 L bottle, Cool, 0-6°C	1 L bottle, Cool, 0-6°C	Three (six every 10th*) 1 L bottles, pH<2, HNO_3	40 mL Glass vial or 250 mL PTFE lined bottle, HCL**, pH<2	filter 500 mL bottle, then pH<2, HNO_3	Sample Specific Notes:
							B, Ca	B, Ca, Ll, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, TL	Total Alkalinity, Bicarbonate Alkalinity, TDS, F, Cl, SO_4	TDS, F, Cl, SO_4	Ra-226, Ra-228	Hg	dissolved Fe and Mn	
AD-3	9/4/2025	915	G	GW	1				X					TG-32 needed
AD-4c	9/2/2025	1135	G	GW	1				X					
AD-16R	9/2/2025	1123	G	GW	1				X					
DUPLICATE - BASP	9/2/2025	1241	G	GW	1				X					
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____; F= filter in field							4	F4		1	4			

* *Six 1L Bottles must be collected for Radium for every 10th sample.*

Special Instructions/QC Requirements & Comments:

Relinquished by: Matt Hamilton	Company: Eagle	Date/Time: 9.4.25 16ac	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Date/Time: 09/05/25 1025

WATER & WASTE SAMPLE RECEIPT FORM

Form SOP-7102 Sample Receipt Form Rev.10, 01/03/25

Package Type	Delivery Type
(Cooler) Box Bag Envelope	(UPS) FedEX USPS
	Other _____

Plant/Customer Welsh **Total # of Containers RECEIVED in Job:** 4

Opened By EGM

Date/Time 9/5/25 1025

Were all required temperatures, per BN-water-900, T≤6°C *w/o sample freezing*? (Y) / N or N/A

Initial/Date: EGM 9/5/25 (on ice) / no ice

If No, specify each deviation(s) on back of form. (IR Gun Ser# 240093386, *Expir.* 01/31/2026)

Was container in good condition? (Y) / N Comments NA

Was Chain of Custody received? (Y) / N Comments NA

Requested turnaround: Routine If **RUSH**, who was notified? NA

pH (15 min) Cr^{+6} (pres) (24 hr) NO_2 or NO_3 (48 hr) *ortho*-PO_4 (48 hr) Hg-diss (pres) (48 hr)

Were pH requirements met for required samples, per BN-water-900? (Y) / N or N/A

Initial/Date: EGM 9/5/25

***pH paper*:** mfr LabRat ,PN LRS-4801 ,LOT# X000RWDG21 ,EXPIR DATE 09/30/2026

**** Note changes to pH paper in comments below***

Was Add'l Preservative needed? Y / (N) If Yes: By whom & when: NA (See Prep Book)

(Dissolved) Is sample filtration requested? Y / (N) Comments NA (See Prep Book)

Was COC filled out properly? (Y) / N Comments _____

Were samples labeled properly? (Y) / N Comments _____

Were correct containers used? (Y) / N Comments NA

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 252319 Initial & Date & Time : _____

Logged by EGM Comments: _____

(Record Test Count on back of form)

Total # of Containers LISTED on COC: 4

WATER & WASTE SAMPLE RECEIPT FORM (CONT)

Form SOP-7102 Sample Receipt Form Rev.10, 01/03/25

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the Sample or Job "Comments" field in the LIMS. **Comments below**:
i.e. Mark "LF" if needs Lab filtered, Temperature or Preservative deviation, Preserved upon arrival , etc.

JOB # : 252319 **Initial/ Date:** EGM 9/5/25 **Peer Review Initial/ Date:** AMR 9.5.25

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
6	252319 -001		6
↓	-002	N/A	↓
	-003		
	-004		

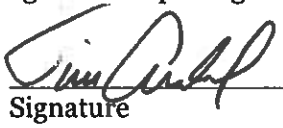
Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [x] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Tim Arnold		Chemist Principal	9/22/25
Name (printed)	Signature	Official Title	Date

Ion Chromatography Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh BASP

Reviewer Name: Tim Arnold

LRC Date: 9/22/25

Laboratory Job Number: 252319

Prep Batch Number(s): QC2509059

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	Yes	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	Yes	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	Yes	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Ion Chromatography Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Ion Chromatography Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh BASP

Reviewer Name: Tim Arnold

LRC Date: 9/22/25

Laboratory Job Number: 252319

Prep Batch Number(s): QC2509059

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Ion Chromatography Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh BASP

Reviewer Name: Tim Arnold

LRC Date: 9/22/25

Laboratory Job Number: 252319

Prep Batch Number(s): QC2509059

Exception Report No.	Description
ER1	CCB acceptance criteria is CCB<MQL.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
[3] NA - Not applicable; NR - Not reviewed.
[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Municipal Solid Waste Laboratory Review Checklist

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  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [x] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

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Sandra Williams	Sandra D. Williams	Chemist	9/22/2025
Name (printed)	Signature	Official Title	Date

TDS Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sandra Williams

LRC Date: 9/22/2025

Laboratory Job Number: 252319

Prep Batch Number(s): QC2509060

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	NA	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	NA	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

TDS Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	NA	
	I	Were MS/MSD analyzed at the appropriate frequency?	NA	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	NA	
	I	Were MS/MSD RPDs within laboratory QC limits?	NA	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	No	P1
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sandra Williams

LRC Date: 9/22/2025

Laboratory Job Number: 252319

Prep Batch Number(s): QC2509060

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	NA	
	I	Was the number of standards recommended in the method used for all analytes?	NA	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	NA	
	I	Are ICAL data available for all instruments used?	NA	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	NA	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	NA	
	I	Were percent differences for each analyte within the method-required QC limits?	NA	
	I	Was the ICAL curve verified for each analyte?	NA	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	NA	
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sandra Williams

LRC Date: 9/22/2025

Laboratory Job Number: 252319

Prep Batch Number(s): QC2509060

Exception Report No.	Description
P1	The precision between duplicate results was above acceptance limits.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).

[3] NA - Not applicable; NR - Not reviewed.

[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

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  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NA] R4 Surrogate recovery data including:
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  - (b) The laboratory's surrogate QC limits
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  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
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  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
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Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Michael Ohlinger	Michael Ohlinger	Senior Chemist	10/03/2025
Name (printed)	Signature	Official Title	Date

Alkalinity Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Plant

Reviewer Name: Michael Ohlinger

LRC Date: 10/1/2025

Laboratory Job Number: 252319

Prep Batch Number(s): QC2509042

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	NA	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Alkalinity Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	NA	
	I	Were MS/MSD analyzed at the appropriate frequency?	NA	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	NA	
	I	Were MS/MSD RPDs within laboratory QC limits?	NA	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	ER2
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Alkalinity Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Plant

Reviewer Name: Michael Ohlinger

LRC Date: 10/1/2025

Laboratory Job Number: 252319

Prep Batch Number(s): QC2509042

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	NA	
	I	Was the number of standards recommended in the method used for all analytes?	NA	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	NA	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	NA	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Alkalinity Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Plant

Reviewer Name: Michael Ohlinger

LRC Date: 10/1/2025

Laboratory Job Number: 252319

Prep Batch Number(s): QC2509042

Exception Report No.	Description
ER1	CCB acceptance criteria is CCB<0.5*MQL.
ER2	This analyte (bicarbonate alkalinity) and method are not included on the primary Laboratory Scope of TNI Accreditation.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
[3] NA - Not applicable; NR - Not reviewed.
[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252369 **Customer: Welsh Power Station** **Date Reported: 10/10/2025**

Customer Sample ID: AD-3
Lab Number: 252369-001
Date Collected: 09/04/2025 10:15 EDT

Customer Description:
Preparation:
Date Received: 09/10/2025 11:30 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.02	µg/L	1	0.10	0.02	U1	GES	09/11/2025 12:11	EPA 200.8-1994, Rev. 5.4
Arsenic	0.16	µg/L	1	0.10	0.03		GES	09/11/2025 12:11	EPA 200.8-1994, Rev. 5.4
Barium	41.2	µg/L	1	0.20	0.05		GES	09/11/2025 12:11	EPA 200.8-1994, Rev. 5.4
Beryllium	0.22	µg/L	1	0.05	0.02		GES	09/11/2025 19:06	EPA 200.8-1994, Rev. 5.4
Boron	0.014	mg/L	1	0.050	0.006	J1	GES	09/11/2025 12:11	EPA 200.8-1994, Rev. 5.4
Cadmium	0.046	µg/L	1	0.020	0.004		GES	09/11/2025 12:11	EPA 200.8-1994, Rev. 5.4
Calcium	0.79	mg/L	1	0.10	0.02		GES	09/11/2025 12:11	EPA 200.8-1994, Rev. 5.4
Chromium	0.38	µg/L	1	0.30	0.07		GES	09/11/2025 12:11	EPA 200.8-1994, Rev. 5.4
Cobalt	1.44	µg/L	1	0.03	0.01		GES	09/11/2025 12:11	EPA 200.8-1994, Rev. 5.4
Lead	0.12	µg/L	1	0.20	0.05	J1	GES	09/11/2025 12:11	EPA 200.8-1994, Rev. 5.4
Lithium	0.0124	mg/L	1	0.00030	0.00007		GES	09/11/2025 12:11	EPA 200.8-1994, Rev. 5.4
Mercury	73	ng/L	20	10	4		JLD	10/07/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/11/2025 12:11	EPA 200.8-1994, Rev. 5.4
Selenium	0.13	µg/L	1	0.50	0.04	J1	GES	09/11/2025 12:11	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	09/11/2025 12:11	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.22	pCi/L	0.27	0.49		TTP	09/19/2025 09:46	SW-846 9315-1986, Rev. 0
Carrier Recovery	96.4	%						
Radium-228	1.25	pCi/L	0.16	0.49	L1, P2	ST	09/19/2025 11:31	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	89.5	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252369 **Customer: Welsh Power Station** **Date Reported: 10/10/2025**

Customer Sample ID: AD-4c
Lab Number: 252369-002
Date Collected: 09/02/2025 12:35 EDT

Customer Description:
Preparation:
Date Received: 09/10/2025 11:30 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.02	µg/L	1	0.10	0.02	U1	GES	09/11/2025 12:17	EPA 200.8-1994, Rev. 5.4
Arsenic	0.94	µg/L	1	0.10	0.03		GES	09/11/2025 12:17	EPA 200.8-1994, Rev. 5.4
Barium	79.7	µg/L	1	0.20	0.05		GES	09/11/2025 12:17	EPA 200.8-1994, Rev. 5.4
Beryllium	0.4	µg/L	10	0.5	0.2	J1	GES	09/11/2025 19:12	EPA 200.8-1994, Rev. 5.4
Boron	0.352	mg/L	1	0.050	0.006		GES	09/11/2025 12:17	EPA 200.8-1994, Rev. 5.4
Cadmium	0.179	µg/L	1	0.020	0.004		GES	09/11/2025 12:17	EPA 200.8-1994, Rev. 5.4
Calcium	2.63	mg/L	1	0.10	0.02		GES	09/11/2025 12:17	EPA 200.8-1994, Rev. 5.4
Chromium	0.83	µg/L	1	0.30	0.07		GES	09/11/2025 12:17	EPA 200.8-1994, Rev. 5.4
Cobalt	1.29	µg/L	1	0.03	0.01		GES	09/11/2025 12:17	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	GES	09/11/2025 12:17	EPA 200.8-1994, Rev. 5.4
Lithium	0.0120	mg/L	10	0.0030	0.0007		GES	09/11/2025 19:12	EPA 200.8-1994, Rev. 5.4
Mercury	92	ng/L	20	10	4		JLD	10/07/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/11/2025 12:17	EPA 200.8-1994, Rev. 5.4
Selenium	0.73	µg/L	1	0.50	0.04		GES	09/11/2025 12:17	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	09/11/2025 12:17	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	2.13	pCi/L	0.36	0.41		TTP	09/19/2025 09:46	SW-846 9315-1986, Rev. 0
Carrier Recovery	86.9	%						
Radium-228	1.96	pCi/L	0.18	0.53	L1, P2	ST	09/19/2025 11:31	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	81.1	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252369 **Customer: Welsh Power Station** **Date Reported: 10/10/2025**

Customer Sample ID: AD-16R
Lab Number: 252369-003
Date Collected: 09/02/2025 12:23 EDT

Customer Description:
Preparation:
Date Received: 09/10/2025 11:30 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.02	µg/L	1	0.10	0.02	U1	GES	09/11/2025 12:22	EPA 200.8-1994, Rev. 5.4
Arsenic	0.59	µg/L	1	0.10	0.03		GES	09/11/2025 12:22	EPA 200.8-1994, Rev. 5.4
Barium	49.0	µg/L	1	0.20	0.05		GES	09/11/2025 12:22	EPA 200.8-1994, Rev. 5.4
Beryllium	1.1	µg/L	10	0.5	0.2		GES	09/11/2025 19:17	EPA 200.8-1994, Rev. 5.4
Boron	0.024	mg/L	1	0.050	0.006	J1	GES	09/11/2025 12:22	EPA 200.8-1994, Rev. 5.4
Cadmium	0.649	µg/L	1	0.020	0.004		GES	09/11/2025 12:22	EPA 200.8-1994, Rev. 5.4
Calcium	0.31	mg/L	1	0.10	0.02		GES	09/11/2025 12:22	EPA 200.8-1994, Rev. 5.4
Chromium	0.73	µg/L	1	0.30	0.07		GES	09/11/2025 12:22	EPA 200.8-1994, Rev. 5.4
Cobalt	27.0	µg/L	1	0.03	0.01		GES	09/11/2025 12:22	EPA 200.8-1994, Rev. 5.4
Lead	0.35	µg/L	1	0.20	0.05		GES	09/11/2025 12:22	EPA 200.8-1994, Rev. 5.4
Lithium	0.0209	mg/L	10	0.0030	0.0007		GES	09/11/2025 19:17	EPA 200.8-1994, Rev. 5.4
Mercury	3	ng/L	10	5	2	J1	JLD	10/07/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/11/2025 12:22	EPA 200.8-1994, Rev. 5.4
Selenium	0.85	µg/L	1	0.50	0.04		GES	09/11/2025 12:22	EPA 200.8-1994, Rev. 5.4
Thallium	0.51	µg/L	1	0.20	0.02		GES	09/11/2025 12:22	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	4.10	pCi/L	0.52	0.45		TTP	09/19/2025 09:46	SW-846 9315-1986, Rev. 0
Carrier Recovery	81.9	%						
Radium-228	4.05	pCi/L	0.20	0.53	L1, P2	ST	09/19/2025 11:31	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	89.7	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252369 **Customer: Welsh Power Station** **Date Reported: 10/10/2025**

Customer Sample ID: DUP-BASP
Lab Number: 252369-004
Date Collected: 09/02/2025 13:41 EDT

Customer Description:
Preparation:
Date Received: 09/10/2025 11:30 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.02	µg/L	1	0.10	0.02	J1	GES	09/11/2025 12:28	EPA 200.8-1994, Rev. 5.4
Arsenic	0.98	µg/L	1	0.10	0.03		GES	09/11/2025 12:28	EPA 200.8-1994, Rev. 5.4
Barium	83.5	µg/L	1	0.20	0.05		GES	09/11/2025 12:28	EPA 200.8-1994, Rev. 5.4
Beryllium	0.4	µg/L	10	0.5	0.2	J1	GES	09/11/2025 19:23	EPA 200.8-1994, Rev. 5.4
Boron	0.363	mg/L	1	0.050	0.006		GES	09/11/2025 12:28	EPA 200.8-1994, Rev. 5.4
Cadmium	0.188	µg/L	1	0.020	0.004		GES	09/11/2025 12:28	EPA 200.8-1994, Rev. 5.4
Calcium	2.68	mg/L	1	0.10	0.02		GES	09/11/2025 12:28	EPA 200.8-1994, Rev. 5.4
Chromium	0.81	µg/L	1	0.30	0.07		GES	09/11/2025 12:28	EPA 200.8-1994, Rev. 5.4
Cobalt	1.38	µg/L	1	0.03	0.01		GES	09/11/2025 12:28	EPA 200.8-1994, Rev. 5.4
Lead	0.12	µg/L	1	0.20	0.05	J1	GES	09/11/2025 12:28	EPA 200.8-1994, Rev. 5.4
Lithium	0.0115	mg/L	10	0.0030	0.0007		GES	09/11/2025 19:23	EPA 200.8-1994, Rev. 5.4
Mercury	86	ng/L	10	5	2		JLD	10/07/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/11/2025 12:28	EPA 200.8-1994, Rev. 5.4
Selenium	0.78	µg/L	1	0.50	0.04		GES	09/11/2025 12:28	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	09/11/2025 12:28	EPA 200.8-1994, Rev. 5.4

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252369 **Customer: Welsh Power Station** **Date Reported: 10/10/2025**

Customer Sample ID: EQUIP BLANK-BASP
Customer Description:
Lab Number: 252369-005
Preparation:
Date Collected: 09/04/2025 09:55 EDT
Date Received: 09/10/2025 11:30 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.02	µg/L	1	0.10	0.02	U1	GES	09/11/2025 12:33	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	09/11/2025 12:33	EPA 200.8-1994, Rev. 5.4
Barium	<0.05	µg/L	1	0.20	0.05	U1	GES	09/11/2025 12:33	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.02	µg/L	1	0.05	0.02	U1	GES	09/11/2025 20:23	EPA 200.8-1994, Rev. 5.4
Boron	0.006	mg/L	1	0.050	0.006	J1	GES	09/11/2025 12:33	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	09/11/2025 12:33	EPA 200.8-1994, Rev. 5.4
Calcium	<0.02	mg/L	1	0.10	0.02	U1	GES	09/11/2025 12:33	EPA 200.8-1994, Rev. 5.4
Chromium	0.32	µg/L	1	0.30	0.07		GES	09/11/2025 12:33	EPA 200.8-1994, Rev. 5.4
Cobalt	<0.01	µg/L	1	0.03	0.01	U1	GES	09/11/2025 12:33	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	09/11/2025 12:33	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00007	mg/L	1	0.00030	0.00007	U1	GES	09/11/2025 12:33	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	10	5	2	U1	JLD	10/07/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/11/2025 12:33	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	09/11/2025 12:33	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	09/11/2025 12:33	EPA 200.8-1994, Rev. 5.4

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252369 **Customer: Welsh Power Station** **Date Reported: 10/10/2025**

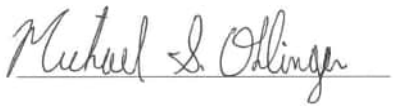
Customer Sample ID: FIELD BLANK-BASP
Customer Description:
Lab Number: 252369-006
Preparation:
Date Collected: 09/04/2025 10:54 EDT
Date Received: 09/10/2025 11:30 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.02	µg/L	1	0.10	0.02	U1	GES	09/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	09/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Barium	<0.05	µg/L	1	0.20	0.05	U1	GES	09/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.02	µg/L	1	0.05	0.02	U1	GES	09/11/2025 20:28	EPA 200.8-1994, Rev. 5.4
Boron	<0.006	mg/L	1	0.050	0.006	U1	GES	09/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	09/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Calcium	<0.02	mg/L	1	0.10	0.02	U1	GES	09/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Chromium	0.28	µg/L	1	0.30	0.07	J1	GES	09/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Cobalt	<0.01	µg/L	1	0.03	0.01	U1	GES	09/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	09/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00007	mg/L	1	0.00030	0.00007	U1	GES	09/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	09/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	09/11/2025 12:39	EPA 200.8-1994, Rev. 5.4

Report Verification

This report and the above data have been confirmed by the following analyst.



Michael Ohlinger, Chemist
Email: msohlinger@aep.com
Phone: 614-836-4184
Audinet: 8-210-4184

THIS TEST REPORT RELATES ONLY TO THE ITEMS TESTED AND SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THE LABORATORY. ALL TEST RESULTS MEET ALL OF THE REQUIREMENTS OF THE ACCREDITING AUTHORITY, UNLESS OTHERWISE NOTED. ALL TIMES LISTED ARE IN THE EASTERN TIME ZONE.

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Job ID: 252369 **Customer: Welsh Power Station** **Date Reported: 10/10/2025**

Data Qualifer Legend

U1 - Not detected at or below method detection limit (MDL).
J1 - Concentration estimated. Analyte was detected between the method detection limit and the reporting limit.
L1 - The associated laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) recovery was outside acceptance limits.
P2 - The precision on the laboratory control sample duplicate (LCSD) was above acceptance limits.

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Dolan Chemical Laboratory (DCL)
4001 Bixby Road
Groveport, Ohio 43125

Contacts: Michael Ohlinger (614-836-4184)

Project Name: Welsh BASP
Contact Name: Pryce Warren
Contact Phone: (325) 310-6668
Sampler(s) Matt Hamilton Brad Bates

Site Contact:

Date:

For Lab Use Only:
COC/Order #: 252369

Analysis Turnaround Time (in Calendar Days)
Routine (28 days)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	250 mL bottle, pH<2, HNO_3 B, Ca, Li, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, TL, Mg, Na, K	250 mL bottle, pH<2, HNO_3 B, Ca, Li, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, TL	1 L bottle, Cool, 0-6°C TDS, F, Cl, SO_4	Three (six every 10th*) 1 L bottles, pH<2, HNO_3 Ra-226, Ra-228	250 mL Glass bottle, HCL**, pH<2 Hg	filter 500 mL bottle, then pH<2, HNO_3 dissolved Fe and Mn		Sample Specific Notes.
AD-3	9/4/2025	915	G	GW	5			X		X	X			TG-32 needed
AD-4c	9/2/2025	1135	G	GW	8			X		X	X			
AD-16R	9/2/2025	1123	G	GW	5			X		X	X			
DUPLICATE - BASP	9/2/2025	1241	G	GW	2			X			X			
EQUIPMENT BLANK - BASP	9/4/2025	855	G	GW	2			X			X			
FIELD BLANK - BASP	9/4/2025	854	G	GW	1			X						
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____; F= filter in field							4	4	1	4	3			

** Six 1L Bottles must be collected for Radium for every 10th sample.*

Special Instructions/QC Requirements & Comments:

Relinquished by: Matt Hamilton	Company: Eagle	Date/Time: 9-5-25 1230	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Date/Time: 09/09/25 1705 + 09/10/25 1130

WATER & WASTE SAMPLE RECEIPT FORM

Form SOP-7102 Sample Receipt Form Rev.10, 01/03/25

Package Type	Delivery Type
(Cooler) Box Bag Envelope	UPS (FedEX) USPS
	Other _____

Plant/Customer Welsh **Total # of Containers RECEIVED in Job:** 3

Opened By AMR

Date/Time 9.10.25 1130

Were all required temperatures, per BN-water-900, T≤6°C *w/o sample freezing*? Y / N or (N/A)

Initial/Date: NA on ice / (no ice)

If No, specify each deviation(s) on back of form. (IR Gun Ser# 240093386, *Expir.* 01/31/2026)

Was container in good condition? (Y) / N Comments NA

Was Chain of Custody received? (Y) / N Comments NA

Requested turnaround: Routine If **RUSH**, who was notified? NA

pH (15 min) Cr^{+6} (pres) (24 hr) NO_2 or NO_3 (48 hr) *ortho*-PO_4 (48 hr) Hg-diss (pres) (48 hr)

Were pH requirements met for required samples, per BN-water-900? (Y) / N or N/A

Initial/Date: AMR 9.10.25

pH paper: mfr LabRat ,PN LRS-4801 LOT# X000RWDG21 ,EXPIR DATE 09/30/2026

***** Note changes to pH paper in comments below***

Was Add'l Preservative needed? Y / (N) If Yes: By whom & when: N/A (See Prep Book)

(Dissolved) Is sample filtration requested? Y / (N) Comments N/A (See Prep Book)

Was COC filled out properly? (Y) / N Comments _____

Were samples labeled properly? (Y) / N Comments _____

Were correct containers used? (Y) / N Comments _____

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 757369 Initial & Date & Time : _____

Logged by AMR Comments: AD-3 3 radium bottles received 9.10.25, all other samples received 9.9.25

(Record Test Count on back of form)

Total # of Containers LISTED on COC: 23

~~AD-3 has 4 total radium bottles~~ AMR 9.10.25

WATER & WASTE SAMPLE RECEIPT FORM (CONT)

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the Sample or Job "Comments" field in the LIMS. **Comments below**:
i.e. Mark "LF" if needs Lab filtered, Temperature or Preservative deviation, Preserved upon arrival , etc.

JOB # : _____ **Initial/ Date:** _____ **Peer Review Initial/ Date:** _____

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	**Comments /Nonconformities**	**Peer Review Test Count from COC**

N/A

WATER & WASTE SAMPLE RECEIPT FORM

Form SOP-7102 Sample Receipt Form Rev.10, 01/03/25

Package Type	Delivery Type
(Cooler) Box Bag Envelope	UPS (FedEX) USPS
	Other _____

Plant/Customer Welsh **Total # of Containers RECEIVED in Job:** 20

Opened By VAH / EGM / AML

Date/Time 09/09/25 1705

Were all required temperatures, per BN-water-900, T≤6°C *w/o sample freezing*? Y / N or (N/A)

Initial/Date: N/A on ice / (no ice)

If No, specify each deviation(s) on back of form. (IR Gun Ser# 240093386, *Expir.* 01/31/2026)

Was container in good condition? (Y) / N Comments _____

Was Chain of Custody received? (Y) / N Comments N/A

Requested turnaround: Routine If **RUSH**, who was notified? _____

pH (15 min) Cr^{+6} (pres) (24 hr) NO_2 or NO_3 (48 hr) *ortho*-PO_4 (48 hr) Hg-diss (pres) (48 hr)

Were pH requirements met for required samples, per BN-water-900? (Y) / N or N/A

Initial/Date: EGM 9/9/25

pH paper: mfr LabRat ,PN LRS-4801 ,LOT# X000RWDG21 ,EXPIR DATE 09/30/2026

** ***Note changes to pH paper in comments below***

Was Add'l Preservative needed? Y / (N) If Yes: By whom & when: N/A (See Prep Book)

(Dissolved) Is sample filtration requested? Y / (N) Comments N/A (See Prep Book)

Was COC filled out properly? (Y) / N Comments _____

Were samples labeled properly? (Y) / N Comments N/A

Were correct containers used? (Y) / N Comments _____

Was the customer contacted? If Yes: Person Contacted: Matt Hamilton

Lab ID# 752369 Initial & Date & Time : VAH 09/09/25 1705

Logged by VAH Comments: AD-3 missing all Lab Samples, ~~AD-10R missing 1 Lab Sample~~ VAH 0909 25

(Record Test Count on back of form)

Total # of Containers LISTED on COC: 23

WATER & WASTE SAMPLE RECEIPT FORM (CONT)

Form SOP-7102 Sample Receipt Form Rev.10, 01/03/25

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the Sample or Job "Comments" field in the LIMS. **Comments below**:
i.e. Mark "LF" if needs Lab filtered, Temperature or Preservative deviation, Preserved upon arrival , etc.

JOB # : 252369 **Initial/ Date:** [illegible] 09/10/25 **Peer Review Initial/ Date:** AMR 9 10 25

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
17	252369 -001		17
17	-002		17
17	-003	NA	17
15	-004		15
15	-005		15
14	-006		14

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NA] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Sunita Timsina		Chemist Associate	09/30/2025
Name (printed)	Signature	Official Title	Date

Radium Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sunita Timsina

LRC Date: 09/30/2025

Laboratory Job Number: 252369

Prep Batch Number(s): PB25091605

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	NA	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	NA	
	I	Were MS/MSD RPDs within laboratory QC limits?	NA	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sunita Timsina

LRC Date: 09/30/2025

Laboratory Job Number: 252369

Prep Batch Number(s): PB25091605

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	NA	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	NA	
	I	Were percent differences for each analyte within the method-required QC limits?	NA	
	I	Was the ICAL curve verified for each analyte?	NA	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	NA	
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Station

Reviewer Name: Sunita Timsina

LRC Date: 09/30/2025

Laboratory Job Number: 252369

Prep Batch Number(s): PB25091605

Exception Report No.	Description

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
[3] NA - Not applicable; NR - Not reviewed.
[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Municipal Solid Waste Laboratory Review Checklist

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- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NA] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Tamisha T. Palmer	Tamisha T. Palmer	Chemical Technician Principal	10/02/2025
Name (printed)	Signature	Official Title	Date

Radium Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Plant

Reviewer Name: Tamisha Palmer

LRC Date: 10/02/2025

Laboratory Job Number: 252347, 252366, 252368, 252369

Prep Batch Number(s): PB25091101

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	NA	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Radium Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	~~No~~ Yes TD 10/29/25	~~ERT~~ TD 10/29/25 error
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	NO ~~Yes~~ 10/29/25	ERI
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	NA	
	I	Were analytical duplicates analyzed at the appropriate frequency?	NA	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	NA	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Plant

Reviewer Name: Tamisha Palmer

LRC Date: 10/02/2025

Laboratory Job Number: 252347, 252366, 252368, 252369

Prep Batch Number(s): PB25091101

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	NA	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	NA	
	I	Were percent differences for each analyte within the method-required QC limits?	NA	
	I	Was the ICAL curve verified for each analyte?	NA	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	NA	
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Radium Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh Power Plant

Reviewer Name: Tamisha Palmer

LRC Date: 10/02/2025

Laboratory Job Number: 252347, 252366, 252368, 252369

Prep Batch Number(s): PB25091101

Exception Report No.	Description
ER1	The LCSD was outside the 25% criteria

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).

[3] NA - Not applicable; NR - Not reviewed.

[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [x] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Kelsey Huff		Chemist	10/09/2025
Name (printed)	Signature	Official Title	Date

Mercury Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh

Reviewer Name: Kelsey Huff

LRC Date: 10/09/2025

Laboratory Job Number: 252369

Prep Batch Number(s): PB25100606

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	Yes	
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

Mercury Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	NA	
	I	Were analytical duplicates analyzed at the appropriate frequency?	NA	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	NA	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Mercury Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh

Reviewer Name: Kelsey Huff

LRC Date: 10/09/2025

Laboratory Job Number: 252369

Prep Batch Number(s): PB25100606

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Mercury Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh

Reviewer Name: Kelsey Huff

LRC Date: 10/09/2025

Laboratory Job Number: 252369

Prep Batch Number(s): PB25100606

Exception Report No.	Description
ER1	CCB acceptance criteria is CCB<MQL.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).

[3] NA - Not applicable; NR - Not reviewed.

[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- [x] This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- [x] R1 Field chain-of-custody documentation
- [x] R2 Sample identification cross-reference
- [x] R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - (a) Items specified in NELAC Chapter 5 for reporting results, e.g., Section 5.5.10 in 2003 NELAC Standard
  - (b) Dilution factors
  - (c) Preparation methods
  - (d) Cleanup methods
  - (e) If required for the project, tentatively identified compounds (TICs)
- [NA] R4 Surrogate recovery data including:
  - (a) Calculated recovery (%R)
  - (b) The laboratory's surrogate QC limits
- [x] R5 Test reports/summary forms for blank samples
- [x] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - (a) LCS spiking amounts
  - (b) Calculated %R for each analyte
  - (c) The laboratory's LCS QC limits
- [x] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - (a) Samples associated with the MS/MSD clearly identified
  - (b) MS/MSD spiking amounts
  - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
  - (d) Calculated %Rs and relative percent differences (RPDs)
  - (e) The laboratory's MS/MSD QC limits
- [x] R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - (a) The amount of analyte measured in the duplicate
  - (b) The calculated RPD
  - (c) The laboratory's QC limits for analytical duplicates
- [x] R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- [x] R10 Other problems or anomalies
- [x] The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

Release Statement: I am responsible for the release of this laboratory data package. This data package as been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my 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 in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: (●) This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Elizabeth Hoitink	Elizabeth L Hoitink Digitally signed by Elizabeth L Hoitink Date: 2025.09.16 08:26:19 -04'00'	Chemist	9-16-2025
Name (printed)	Signature	Official Title	Date

ICP-MS Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 9-16-2025

Laboratory Job Number: 252369

Prep Batch Number(s): PB25091001, QC2509079, QC2509080

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
R1	O, I	**Chain-of-custody (COC)**		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	**Sample and quality control (QC) identification**		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	**Test reports**		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	No	ER1
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	**Surrogate recovery data**		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	**Test reports/summary forms for blank samples**		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

ICP-MS Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	**Laboratory control samples (LCS):**		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	**Matrix spike (MS) and matrix spike duplicate (MSD) data**		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	**Analytical duplicate data**		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	**Method quantitation limits (MQLs):**		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	**Other problems/anomalies**		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 9-16-2025

Laboratory Job Number: 252369

Prep Batch Number(s): PB25091001, QC2509079, QC2509080

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S1	O, I	**Initial calibration (ICAL)**		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):**		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER2
S3	O	**Mass spectral tuning:**		
	I	Was the appropriate compound for the method used for tuning?	Yes	
	I	Were ion abundance data within the method-required QC limits?	Yes	
S4	O	**Internal standards (IS):**		
	I	Were IS area counts and retention times within the method-required QC limits?	Yes	
S5	O, I	**Raw data (NELAC section 1 appendix A glossary, and section 5.)**		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

ICP-MS Laboratory Review Checklist

Item[1]	Analytes[2]	Description	Result (Yes, No, NA, NR)[3]	Exception Report No.[4]
S6	O	**Dual column confirmation**		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	**Tentatively identified compounds (TICs):**		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	**Interference Check Sample (ICS) results:**		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	**Method detection limit (MDL) studies**		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	**Proficiency test reports:**		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	**Standards documentation**		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	**Compound/analyte identification procedures**		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	**Demonstration of analyst competency (DOC)**		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	**Verification/validation documentation for methods (NELAC Chap 5n 5)**		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	**Laboratory standard operating procedures (SOPs):**		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Welsh CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 9-16-2025

Laboratory Job Number: 252369

Prep Batch Number(s): PB25091001, QC2509079, QC2509080

Exception Report No.	Description
ER1	Linear Dynamic Range (LDR) study used to determine upper limit of analyte calibration.
ER2	CCB acceptance criteria is CCB<2.2*MDL.

[1] Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

[2] O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).

[3] NA - Not applicable; NR - Not reviewed.

[4] Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."