Annual Groundwater Monitoring Report

Southwestern Electric Power Company

H. W. Pirkey Power Plant

East Bottom Ash Pond CCR Unit

CN600126767; RN100214287

Registration No: CCR104

Hallsville, Texas

January 31, 2026

Prepared by:
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SOUTHWESTERN ELECTRIC POWER COMPANY

An AEP Company

BOUNDLESS ENERGY

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

I. Overview

This *Annual Groundwater Monitoring Report* (Report) has been prepared to report the status of activities for the preceding year at the East Bottom Ash Pond (EBAP) CCR unit at Pirkey Power Plant. Southwestern Electric Power Company is wholly-owned subsidiary of American Electric Power Company (AEP). The Texas Commission on Environmental Quality's (TCEQ's) CCR rules require 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 EBAP was operating under the Assessment monitoring program.
- At the end of the current annual reporting period, the EBAP was operating under the Assessment monitoring program.
- The EBAP initiated an assessment monitoring program on April 3, 2018.
- Groundwater samples were collected for AD-2, AD-4, AD-12, AD-18, AD-31, and AD-32 in February, April, and September 2025 and analyzed for Appendix III and Appendix IV constituents, as specified in 30 TAC §352.941 or §352.951*et seq* and AEP's *Groundwater Sampling and Analysis Plan (2021)*.
- Groundwater data underwent various validation tests, including tests for completeness, valid values, transcription errors, and consistent units.
- A successful ASD for the 2nd semi-annual 2024 Appendix IV parameters that exceeded the GWPS (lithium and cobalt) was certified March 20, 2025, and submitted to TCEQ March 24, 2025, for approval.
- During the 1st semi-annual sampling event held in April 2025:

  The following Appendix IV parameters exceeded established GWPS on September 26, 2025:

  - Lithium at AD-2, AD-31 and AD-32
  - Cobalt at AD-2 and AD-32

  The following Appendix III parameters exceeded background:

  - Boron at AD-2 and AD-32
  - Calcium at AD-2 and AD-32
  - Chloride at AD-2, AD-31, and AD-32
  - Fluoride at AD-2 and AD-32
  - pH at AD-32

- Sulfate at AD-2, AD-31, and AD-32
- TDS concentrations at AD-2, AD-31, and AD-32

- A successful ASD for the 1st semi-annual 2025 Appendix IV parameters that exceeded the GWPS (lithium and cobalt) was certified December 23, 2025, and submitted to TCEQ December 24, 2025, for approval.
- During the 2nd semi-annual sampling event held in September 2025:

  The following Appendix IV parameters exceeded established GWPS on December 29, 2025:

  - Lithium at AD-2, AD-31 and AD-32
  - Cobalt at AD-2 and AD-32

  The following Appendix III parameters exceeded background:

  - Boron at AD-2 and AD-32
  - Calcium at AD-2 and AD-32
  - Chloride at AD-2, AD-31, and AD-32
  - Fluoride at AD-2 and AD-32
  - pH at AD-32
  - Sulfate at AD-2, AD-31, and AD-32
  - TDS concentrations at AD-2, AD-31, and AD-32
- Pirkey Power Plant submitted a Notice of SSLs above the GWPS to TCEQ January 5, 2026, which indicated an alternative source demonstration would be conducted. An alternative source demonstration report will be prepared and certified and submitted to TCEQ's Executive Director for review within 90 days of the SSL determination.
- Because an alternate source for the SSL(s) was identified, but no alternate source for the SSI(s) was identified, EBAP remained in Assessment Monitoring.
- A statistical process in accordance with 30 TAC §352.931 to evaluate groundwater data was updated, certified, and posted to AEP's CCR website in 2021 titled: AEP's *Statistical Analysis Plan (*Geosyntec 2021). The statistical process was guided by USEPA's *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* ("Unified Guidance," USEPA, 2009).
- On April 25, 2023, EBAP ceased receipt of CCR and non-CCR wastestreams and commenced closure by removal for this CCR Unit in accordance with the certified closure plan.
- The CCR material was removed from April to June of 2023 from the EBAP. An additional

12 inches of soil was then removed, finishing in July of 2023. The last inspection for the removal was completed on July 20, 2023. The groundwater monitoring samples for final closure were collected in August 2023.

- On October 17, 2023, the EBAP was closed by removal in accordance with 30 TAC §352.1221 (40 CFR 257.102) and the most recent Written Closure Plan. A Closure Completion Notification that was certified by a Professional engineer was submitted to TCEQ. Groundwater monitoring will continue until TCEQ's Executive Director issues a closure certification.

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

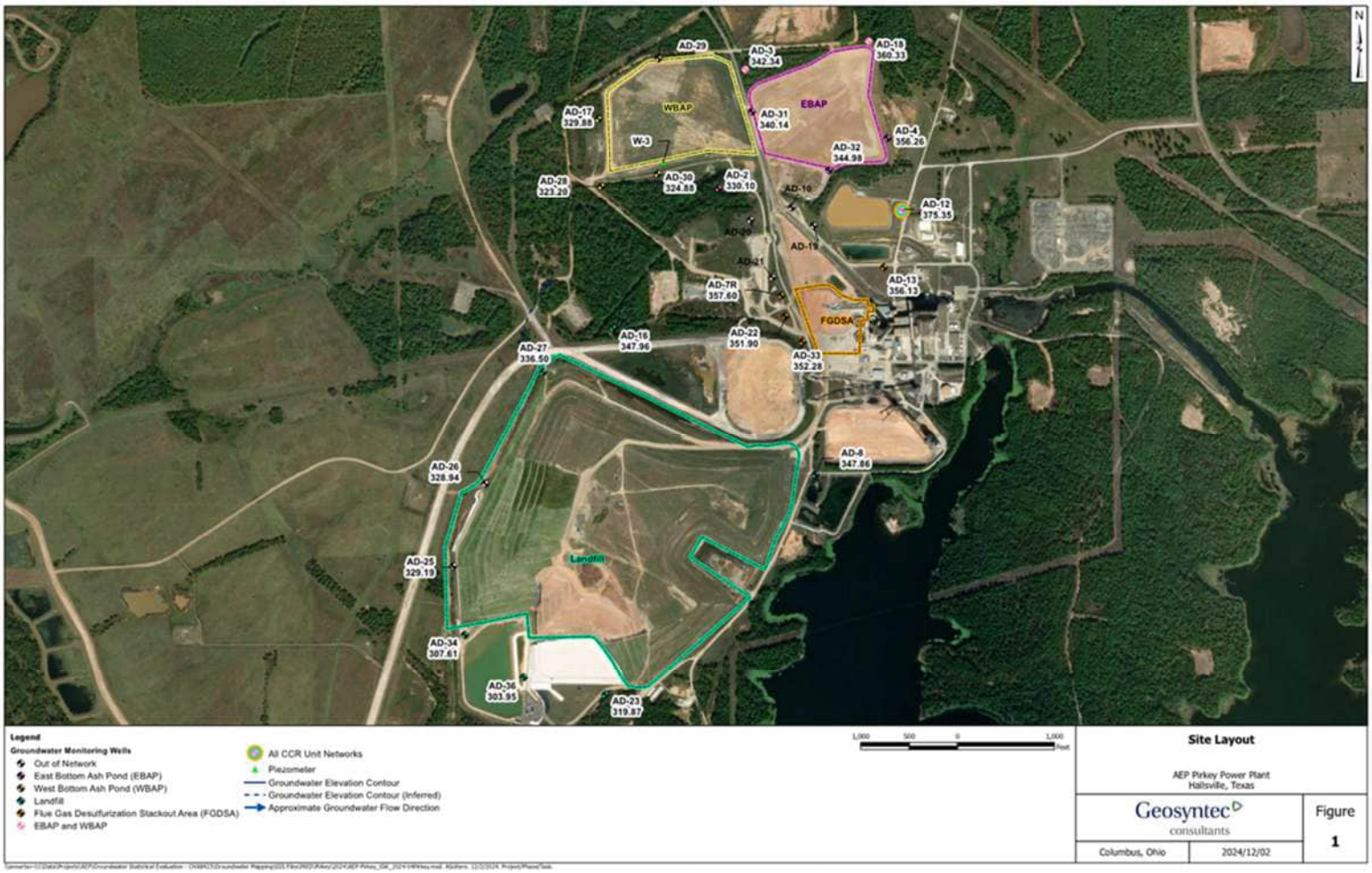
- A map, aerial photograph or a drawing showing the EBAP all groundwater monitoring wells and monitoring well identification numbers (Attached as Appendix 1);
- All of the monitoring data collected, including the rate and direction of groundwater flow, plus a summary showing the number of samples collected per monitoring well, the dates the samples were collected and whether the sample was collected as part of detection monitoring or assessment monitoring programs (Attached as **Appendix 1**);
- Statistical comparison of monitoring data to determine if there have been SSI(s) or SSL(s) (Attached as **Appendix 2**);
- A discussion of whether any alternate source demonstrations were performed, and the conclusions (Attached as **Appendix 3**);
- 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 (Attached as **Appendix 4**);
- 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)**;
- Other information required to be included in the annual report such as field sheets, analytical reports, etc. (**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, the monitoring well locations and their corresponding identification numbers.

EBAP Monitoring Wells	
Up Gradient	Down Gradient
AD-4	AD-2
AD-12	AD-31
AD-18	AD-32



III. Monitoring Wells Installed or Decommissioned

There were no new groundwater monitoring wells installed during 2025. The network design, as summarized in the *Groundwater Monitoring Network Design Report* (May 25, 2016) and as posted at the CCR website for Pirkey Power Plant's EBAP, did not change. That network design report, viewable on the AEP CCR web site, discusses the facility location, the hydrogeological setting, the hydrostratigraphic units, the uppermost aquifer, downgradient monitoring well locations and the upgradient monitoring well locations.

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

Appendix 1 contains tables showing the groundwater quality data collected during the establishment of background quality, and during detection and assessment monitoring. Static water elevation data from each monitoring event also are shown in **Appendix 1**, along with the groundwater velocity calculations, groundwater flow direction and potentiometric maps developed after each sampling event.

The sampling event conducted February 2025 satisfies the requirement of 40 CFR 257.95(b)/30 TAC 352.951.

V. Groundwater Quality Data Statistical Analysis

Appendix 2 contains the statistical analysis report(s).

During the 1st semi-annual sampling event held in April 2025:

The following Appendix IV parameters exceeded established GWPS on September 26, 2025:

- Lithium at AD-2, AD-31, and AD-32
- Cobalt at AD-2 and AD-32

The following Appendix III parameters exceeded background:

- Boron at AD-2 and AD-32
- Calcium at AD-2 and AD-32
- Chloride at AD-2, AD-31, and AD-32
- Fluoride at AD-2 and AD-32
- pH at AD-32
- Sulfate at AD-2, AD-31, and AD-32
- TDS concentrations at AD-2, AD-31, and AD-32

During the 2nd semi-annual sampling event held in September 2025:

The following Appendix IV parameters exceeded established GWPS on December 29, 2025:

- Lithium at AD-2, AD-31 and AD-32
- Cobalt at AD-2 and AD-32

The following Appendix III parameters exceeded background:

- Boron at AD-2 and AD-32
- Calcium at AD-2 and AD-32
- Chloride at AD-2, AD-31, and AD-32
- Fluoride at AD-2 and AD-32
- pH at AD-32
- Sulfate at AD-2, AD-31, and AD-32
- TDS concentrations at AD-2, AD-31, and AD-32

VI. Alternate Source Demonstration

A successful ASD for the 2nd semi-annual 2024 Appendix IV parameters that exceeded the GWPS (lithium and cobalt), was certified March 20, 2025, and submitted to TCEQ March 24, 2025, for approval.

A successful ASD for the 1st semi-annual 2025 Appendix IV parameters that exceeded the GWPS (lithium and cobalt) was certified December 23, 2025, and submitted to TCEQ December 24, 2025, for approval.

For the 2nd semi-annual event of 2025, Pirkey Power Plant submitted a Notice of SSLs above the GWPS to TCEQ January 5, 2026, which indicated an alternative source demonstration would be conducted. An alternative source demonstration report will be prepared and certified and submitted to TCEQ's Executive Director for review within 90 days of the SSL determination. The successful ASDs are found in **Appendix 3**.

Because an alternate source for the SSL(s) was identified, but no alternate source for the SSI(s) was identified, EBAP remained in Assessment Monitoring.

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

The EBAP will remain in assessment monitoring unless all Appendix III and IV parameters are below background values for two consecutive monitoring events (return to detection monitoring) as prescribed by 30 TAC §352.951(c). If an Appendix IV parameter exceeds its respective GWPS and an ASD is determined not to be satisfactory to the executive director, an assessment of corrective measures will be undertaken as required by 30 TAC §352.961.

Regarding defining an alternate monitoring frequency, the groundwater velocity and monitoring well production are high enough at this facility that no modification to the semiannual assessment monitoring frequency is needed.

VIII. Other Information Required

As required by the CCR assessment monitoring rules in 30 TAC §352.951, sampling all CCR wells for the required Appendix III and IV parameters was completed in 2025.

On April 25, 2023, EBAP ceased receipt of CCR and non-CCR wastestreams and commenced closure by removal for this CCR Unit in accordance with the certified closure plan.

The CCR material was removed from April to June of 2023 from the EBAP. An additional 12 inches of soil was then removed, finishing in July of 2023. The last inspection for the removal was completed on July 20, 2023. The groundwater monitoring samples for final closure were collected in August 2023.

On October 17, 2023, the EBAP was closed by removal in accordance with 30 TAC §352.1221 (40 CFR 257.102) and the most recent Written Closure Plan. A Closure Completion Notification certified by a Professional engineer was submitted to TCEQ. Groundwater monitoring will continue until TCEQ's Executive Director issues a closure certification.

IX. Description of Any Problems Encountered in 2025 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.

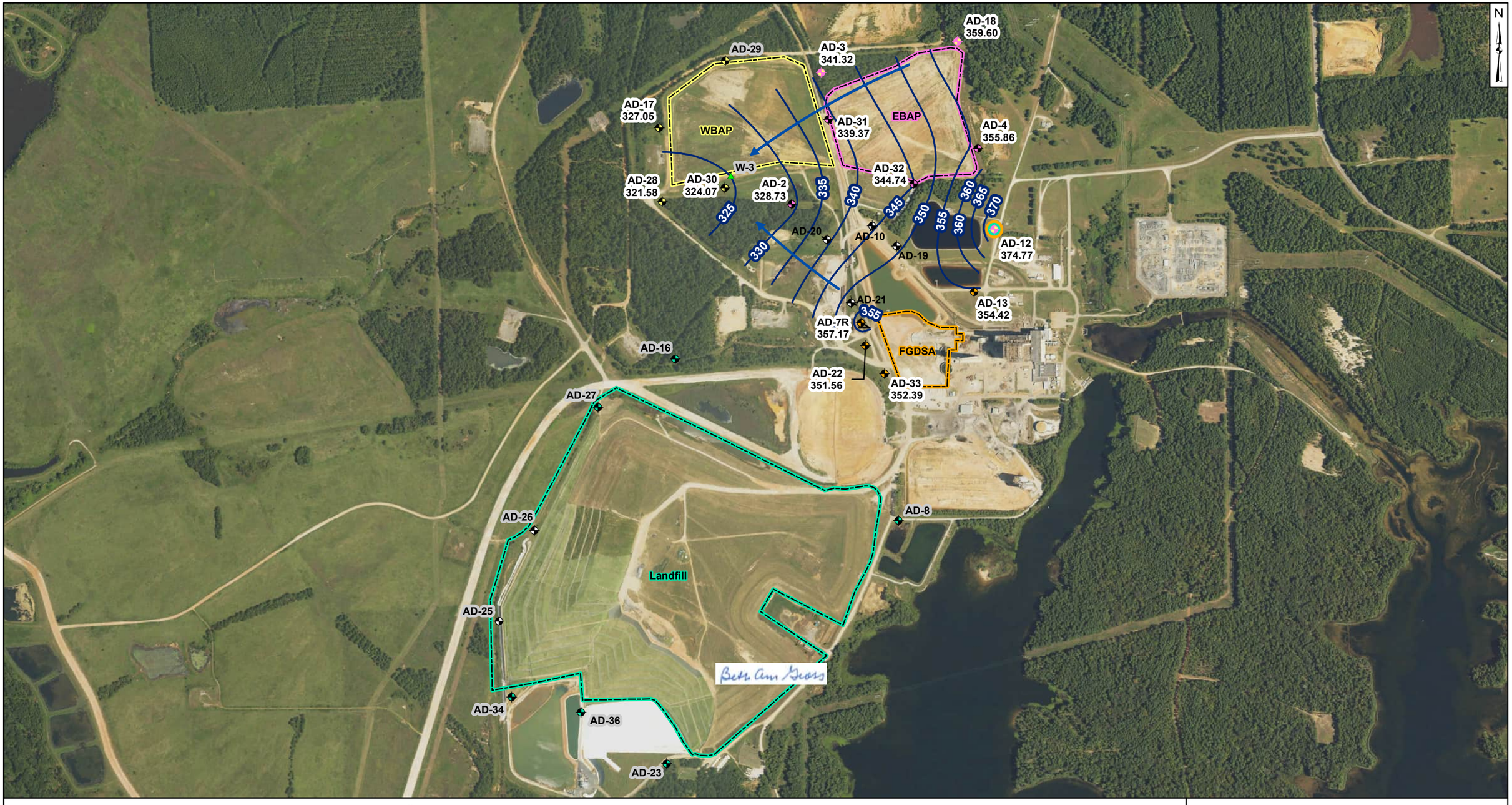
X. A Projection of Key Activities for the Upcoming Year

Key activities for next year include:

- Assessment monitoring sampling will be conducted;
- Conduct the annual groundwater sampling event for all constituents listed in Appendix III and IV as required by 30 TAC 352.951;
- Perform statistical analysis on the sampling results for the Appendix III and Appendix IV parameters as required by 30 TAC 352.951;
- Conduct ASD(s) if GWPSs are exceeded;
- Responding to any new data received in light of CCR rule requirements;
- Preparation of the next annual groundwater report until TCEQ's Executive Director issues a closure certification.

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 Wells

- Out of Network
- East Bottom Ash Pond (EBAP)
- West Bottom Ash Pond (WBAP)
- Landfill
- Flue Gas Desulfurization Stackout Area (FGDSA)
- EBAP and WBAP
- All CCR Unit Networks
- Piezometer
- Groundwater Elevation Contour
- Approximate Groundwater Flow Direction

Notes

1. Monitoring well coordinates and water levels (collected on February 3 and 4, 2025) provided by AEP.
2. Site features based on information available in coal combustion residuals (CCR) Groundwater Monitoring Well Network Evaluation Update (Arcadis 2022) provided by AEP.
3. Groundwater elevation units are feet above mean sea level (ft msl).
4. Wells AD-8, AD-10, AD-16, AD-19, AD-20, AD-21, AD-23, AD-27, AD-29, AD-34, AD-35, AD-36 and W-3 were not gauged during the February 2025 event.
5. AD-7R replaced AD-7, which was abandoned on September 12, 2023.
6. AD-25 and AD-26 were gauged during the February 2025 event but were not used for contouring.
7. Wells shaded in gray were not used for contouring.
8. Landfill wells were not gauged during the February 2025 event. Contours are representative of the EBAP, WBAP and FGDSA.
9. AD-35 was abandoned on November 13, 2018 and is not shown on the map.
10. Removal of CCR plus one foot of material for the WBAP was completed for on July 26, 2022.
11. Removal of CCR plus one foot of material for the EBAP was completed on July 20, 2023.
12. Removal of CCR plus one foot of material for the FGDSA was completed on September 18, 2023.
13. Map is updated to incorporate Landfill survey data collected on May 1, 2024.
14. Aerial imagery provided by the TxGIO DataHub (dated 2024).

1,000 500 0 1,000 Feet

Beth Ann Gross

January 26, 2026
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Potentiometric Contours: Uppermost Aquifer February 2025

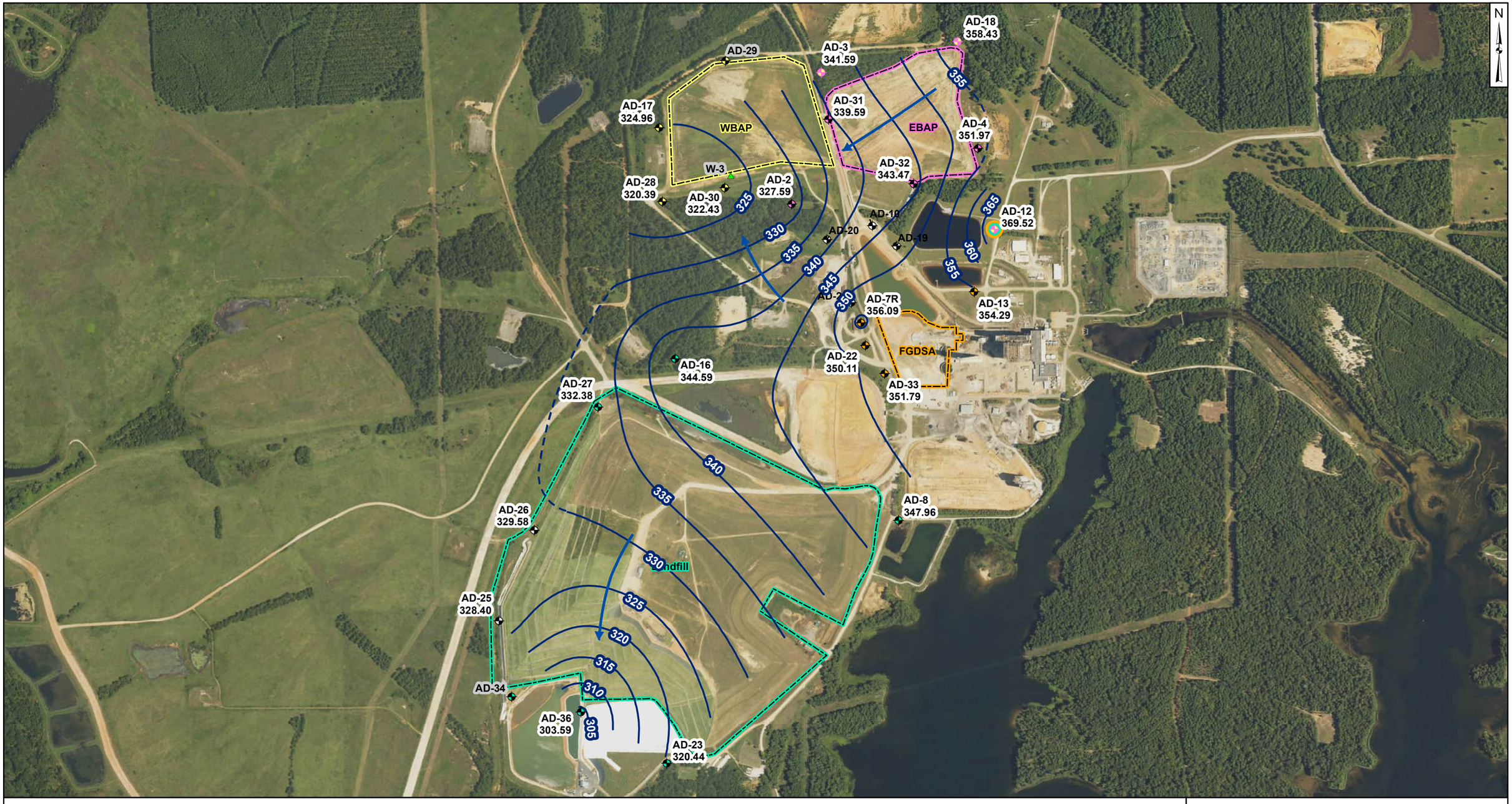
AEP Pirkey Power Plant
Hallsville, Texas

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Figure 1

A:\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Pirkey\2025\AEP-Pirkey_GW_2025-02Pirkey.mxd. okiemute.commander. 10/30/2025. CHA8500B/12/01_04.



Legend

Groundwater Monitoring Wells

- Out of Network
- East Bottom Ash Pond (EBAP)
- West Bottom Ash Pond (WBAP)
- Landfill
- Flue Gas Desulfurization Stackout Area (FGDSA)
- EBAP and WBAP
- All CCR Unit Networks
- Piezometer
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction

Notes

1. Monitoring well coordinates and water levels (collected on April 21, 22, and 23, 2025) provided by AEP.
2. Site features based on information available in coal combustion residuals (CCR) Groundwater Monitoring Well Network Evaluation Update (Arcadis 2022) provided by AEP.
3. Groundwater elevation units are feet above mean sea level (ft msl).
4. Wells AD-10, AD-19, AD-20, AD-21, AD-29, and W-3 were not gauged during the April 2025 event.
5. AD-7R replaced AD-7, which was abandoned on September 12, 2023.
6. Wells shaded in gray are within the network but not used for contouring.
7. Well AD-34 had artesian characteristics during this event and was not used for contouring.
8. AD-35 was abandoned on November 13, 2018 and is not shown on the map.
9. Removal of CCR plus one foot of material for the WBAP was completed for on July 26, 2022.
10. Removal of CCR plus one foot of material for the EBAP was completed on July 20, 2023.
11. Removal of CCR plus one foot of material for the FGDSA was completed on September 18, 2023.
12. Map is updated to incorporate Landfill survey data collected on May 1, 2024.
13. Aerial imagery provided by the TxGIO DataHub (dated 2024).

1,000 500 0 1,000 Feet

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December 23, 2025
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Potentiometric Contours: Uppermost Aquifer April 2025

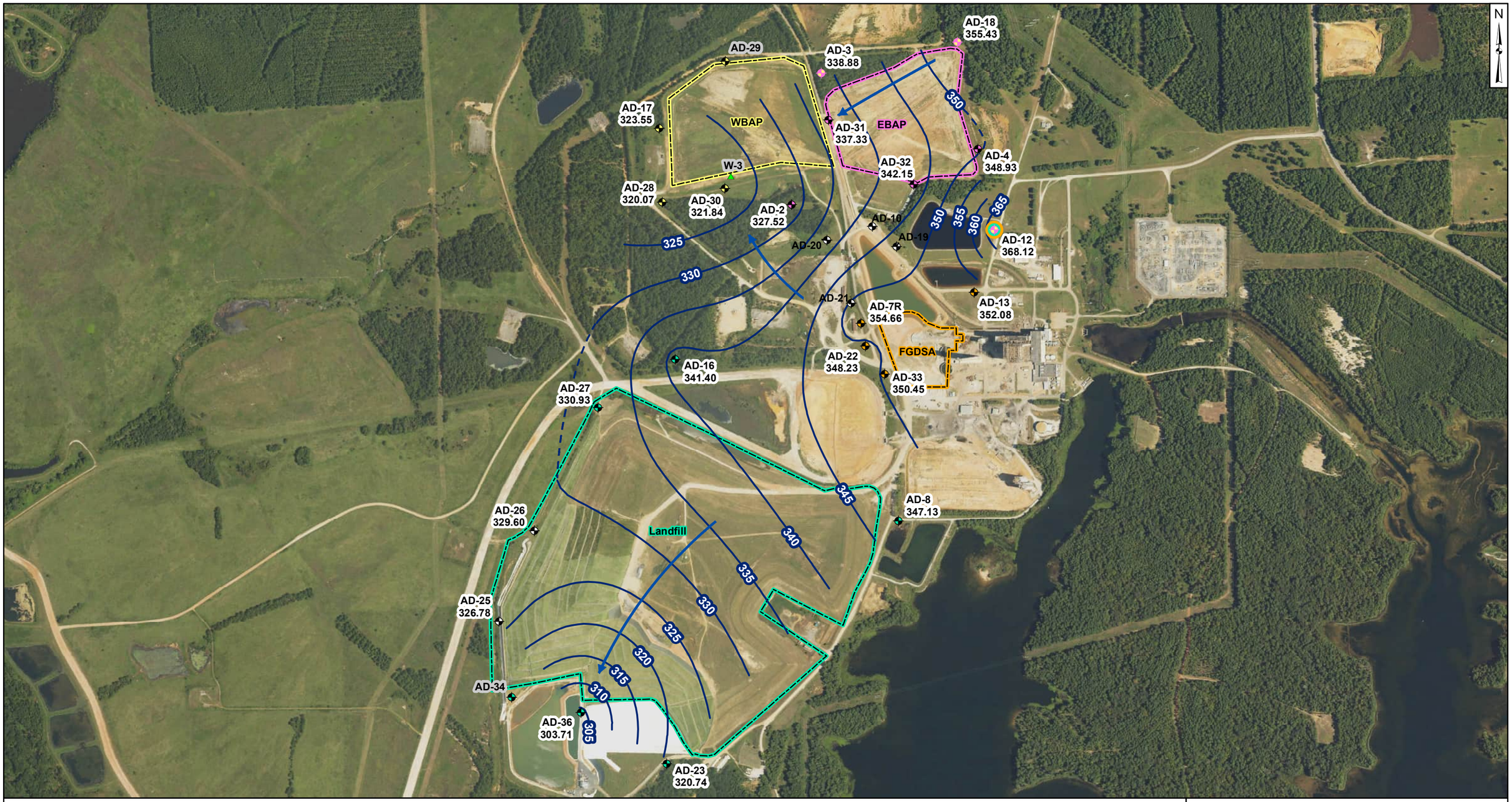
AEP Pirkey Power Plant
Hallsville, Texas

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Figure 2

A:\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Pirkey\2025\AEP-Pirkey_GW_2025-04Pirkey.mxd. okiemute.commander. 10/28/2025. CHA8500B/12/01_04.



Legend

Groundwater Monitoring Wells

- Out of Network
- East Bottom Ash Pond (EBAP)
- West Bottom Ash Pond (WBAP)
- Landfill
- Flue Gas Desulfurization Stackout Area (FGDSA)
- EBAP and WBAP
- All CCR Unit Networks
- Piezometer
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction

Notes

1. Monitoring well coordinates and water levels (collected from September 8-10, 2025) provided by AEP.
2. Site features based on information available in coal combustion residuals (CCR) Groundwater Monitoring Well Network Evaluation Update (Arcadis 2022) provided by AEP.
3. Groundwater elevation units are feet above mean sea level (ft msl).
4. Wells AD-29 and W-3 were not gauged during the September 2025 event.
5. AD-7R replaced AD-7, which was abandoned on September 12, 2023.
6. Wells shaded in gray are within the network but not used for contouring.
7. Well AD-34 had artesian characteristics during this event and was not used for contouring.
8. AD-35 was abandoned on November 13, 2018 and is not shown on the map.
9. Removal of CCR plus one foot of material for the WBAP was completed for on July 26, 2022.
10. Removal of CCR plus one foot of material for the EBAP was completed on July 20, 2023.
11. Removal of CCR plus one foot of material for the FGDSA was completed on September 18, 2023.
12. Map is updated to incorporate Landfill survey data collected on May 1, 2024.
13. Aerial imagery provided by the TxGIO DataHub (dated 2024).

1,000 500 0 1,000 Feet

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January 19, 2026
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Potentiometric Contours: Uppermost Aquifer
September 2025

AEP Pirkey Power Plant
Hallsville, Texas

Geosyntec consultants

Columbus, Ohio | 2026/01/15

Figure 3

A:\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Pirkey\2025\AEP-Pirkey_GW_2025-09Pirkey.mxd. okiemute.commander. 1/15/2026. CHA8500B/12/01_04.

Table 1. Groundwater Elevation Data Summary
Pirkey Power Plant

Geosyntec Consultants

Unit	All Units	East Bottom Ash Pond					West Bottom Ash Pond				
Gradient	Upgradient	Upgradient		Downgradient			Upgradient		Downgradient		
Well	AD-12	AD-4	AD-18	AD-2	AD-31	AD-32	AD-3	AD-18	AD-17	AD-28	AD-30
Jan-2016	371.05	359.16	360.52	328.55	346.60	352.32	347.03	360.52	--	321.39	323.70
May-2016	372.17	360.07	359.26	328.35	348.21	352.74	348.04	359.26	329.38	321.82	324.26
Jul-2016	365.68	352.34	356.99	327.46	345.46	348.53	346.00	356.99	325.93	320.44	322.49
Jan-2017	365.11	353.27	357.06	327.65	343.78	347.44	344.19	357.06	324.70	320.27	322.23
Feb-2017	368.79	355.32	359.21	327.96	344.53	348.44	345.53	359.21	326.27	320.59	322.88
Apr-2017	372.97	356.62	358.63	329.09	344.58	349.09	345.53	358.63	326.27	320.69	322.88
Aug-2017	367.68	353.58	358.23	327.63	343.57	349.73	343.49	358.23	324.18	320.07	322.04
Mar-2018	370.57	359.04	360.00	328.36	344.10	351.42	344.56	360.00	327.13	321.79	323.29
Aug-2018	357.99	350.39	355.99	326.99	342.73	347.58	343.28	355.99	324.12	319.93	321.70
Feb-2019	372.43	360.40	354.61	329.21	348.31	352.86	348.36	354.61	331.11	321.86	324.54
May-2019	373.12	361.18	360.74	328.91	349.68	354.14	349.37	360.74	331.66	322.61	325.21
Aug-2019	361.90	354.10	357.09	327.60	346.63	353.12	346.08	357.09	326.45	320.40	322.63
Mar-2020	373.10	360.56	360.58	329.23	346.95	352.55	347.22	360.58	336.07	321.98	323.94
Jun-2020	381.55	360.25	359.98	328.06	347.95	352.87	347.76	359.98	328.04	321.28	323.40
Nov-2020	361.86	349.70	354.98	327.57	342.84	346.13	342.89	354.98	324.36	319.99	321.90
Mar-2021	373.52	359.14	359.99	329.00	346.24	350.30	346.58	359.99	329.37	322.06	324.19
May-2021	375.56	360.45	360.46	329.57	347.27	351.28	347.46	360.46	329.03	323.10	324.94
Jul-2021	--	--	--	--	--	--	--	--	--	--	--
Nov-2021	358.32	351.40	355.55	327.36	342.79	348.72	342.60	355.55	323.77	319.98	321.80
Jan-2022	--	--	--	--	--	--	--	--	--	--	--
Mar-2022	373.28	359.58	359.17	328.17	344.58	351.73	344.19	359.17	325.80	321.05	323.14
Jun-2022	360.55	351.31	356.01	327.07	342.36	349.94	342.22	356.01	323.48	320.11	321.54
Aug-2022	--	--	--	--	--	--	341.84	--	--	--	--
Nov-2022	363.46	351.15	355.11	327.52	341.97	348.00	340.85	355.11	322.61	319.73	321.81
Feb-2023	368.74	356.04	359.57	328.12	344.34	349.48	--	359.57	--	--	--
Mar-2023	--	--	--	--	--	--	--	--	--	--	--
Jun-2023	369.17	352.66	357.96	327.55	340.46	343.36	341.82	357.96	325.13	320.45	322.07
Aug-2023	362.47	347.25	354.17	326.59	337.74	341.46	--	354.17	--	--	--
Oct-2023	360.29	--	352.80	--	--	--	338.07	352.80	322.93	319.77	321.28
Feb-2024	373.17	355.11	358.88	328.15	339.09	343.76	340.74	358.88	325.69	321.50	323.96
Apr-2024	375.35	356.26	360.33	330.10	340.14	344.98	342.34	360.33	329.88	323.20	324.88
Jun-2024	--	--	--	--	--	--	--	--	--	--	--
Sep-2024	365.57	347.56	354.66	327.11	337.52	342.02	339.08	354.66	323.59	320.21	321.42
Nov-2024	--	--	--	--	--	--	--	--	--	--	--
Feb-2025	374.77	355.86	359.60	328.73	339.37	344.74	341.32	359.60	327.05	321.58	324.07
Apr-2025	369.52	351.97	358.43	327.59	339.59	343.47	341.59	358.43	324.96	320.39	322.43
Jun-2025	370.19	--	359.21	327.90	340.09	344.67	342.35	359.21	325.30	320.84	322.81
Sep-2025	368.12	348.93	355.43	327.52	337.33	342.15	338.88	355.43	323.55	320.07	321.84
Nov-2025	362.12	349.09	353.39	327.21	336.54	341.97	338.69	353.39	323.12	319.83	321.21

Table 1. Groundwater Elevation Data Summary
Pirkey Power Plant

Unit	FGD Stackout Area					Landfill					
Gradient	Upgradient	Downgradient				Upgradient			Downgradient		
Well	AD-13	AD-7	AD-7R	AD-22	AD-33	AD-8	AD-16	AD-27	AD-23	AD-34	AD-36
Jan-2016	354.15	349.31		350.29	351.13	347.21	347.68	--	321.23	307.61	--
May-2016	355.11	349.98		350.83	351.62	348.03	350.97	335.29	321.98	307.61	--
Jul-2016	352.31	347.54		347.55	349.88	347.10	343.32	331.47	321.97	307.61	--
Jan-2017	352.01	347.04		347.20	348.56	345.74	343.09	330.04	320.99	307.61	--
Feb-2017	352.81	347.96		348.52	349.32	346.00	344.54	331.59	321.00	307.61	--
Apr-2017	352.68	347.87		348.45	349.25	345.81	344.69	331.24	320.85	307.61	--
Aug-2017	352.62	347.40		347.37	349.31	346.31	342.71	330.05	320.77	307.61	--
Mar-2018	353.25	348.46		349.62	350.10	346.11	344.63	332.49	320.17	307.61	--
Aug-2018	349.14	344.57		344.05	347.23	345.24	340.03	328.61	320.31	306.66	--
Feb-2019	355.63	350.21		350.90	351.99	348.05	351.21	335.03	320.88	307.61	--
May-2019	355.87	350.82		351.99	352.95	348.60	351.92	336.53	320.99	307.61	--
Aug-2019	350.87	346.85		346.70	349.96	347.33	343.92	330.71	321.29	305.87	303.16
Mar-2020	355.71	350.64		351.80	352.68	--	--	--	--	307.61	303.21
Jun-2020	355.17	350.25		350.95	352.54	348.61	349.39	--	320.79	307.61	303.78
Nov-2020	350.93	346.45		346.12	348.71	346.63	343.07	329.77	320.83	307.00	302.88
Mar-2021	355.22	350.13		351.33	351.84	--	--	--	--	--	--
May-2021	356.42	350.97		352.31	352.95	348.58	350.52	337.25	320.32	307.61	302.22
Jul-2021	--	--		--	--	--	--	--	--	307.61	302.42
Nov-2021	349.43	345.08		345.25	348.40	346.48	341.99	329.69	320.49	307.20	301.66
Jan-2022	--	--		--	--	--	--	--	320.00	307.61	--
Mar-2022	353.99	348.66		349.66	350.15	--	--	--	--	307.61	--
Jun-2022	349.75	345.35		345.49	348.35	346.27	342.41	330.10	319.87	307.00	301.49
Aug-2022	--	--		--	--	--	--	--	319.81	306.84	301.35
Nov-2022	349.93	345.56		345.20	347.43	344.23	341.65	328.48	319.72	307.61	301.35
Feb-2023	353.36	348.68		349.47	350.18	--	--	--	319.56	307.61	301.51
Mar-2023	354.24	--		350.03	350.48	--	--	--	--	--	--
Jun-2023	352.47	347.83		348.29	349.81	346.88	342.44	332.67	320.13	307.61	299.99
Aug-2023	--	--		--	--	--	--	--	320.39	307.61	302.91
Oct-2023	348.85	--		344.70	346.93	345.07	339.45	328.43	320.35	307.61	300.48
Feb-2024	354.43	--	355.99	350.17	350.60	347.86	--	--	--	--	302.62
Apr-2024	356.13	--	357.60	351.90	352.28	347.98	347.96	336.50	319.87	--	303.95
Jun-2024	--	--	--	--	--	--	--	--	320.44	--	303.81
Sep-2024	351.47	--	354.12	347.55	349.73	347.02	342.00	329.87	320.82	--	303.37
Nov-2024	--	--	353.57	346.93	--	--	--	--	320.61	--	303.31
Feb-2025	354.42	--	357.17	351.56	352.29	--	--	--	--	--	--
Apr-2025	354.29	--	356.09	350.11	351.79	347.96	344.59	332.38	320.44	307.61	303.59
Jun-2025	--	--	357.37	351.59	352.99	348.68	--	--	320.72	307.61	303.90
Sep-2025	352.08	--	354.66	348.23	350.45	347.13	341.40	330.93	320.74	307.61	303.71
Nov-2025	350.47	--	354.38	346.70	348.61	346.04	340.99	330.07	320.53	307.61	303.59

Notes:
1. Groundwater elevation measured in feet below ground surface.
2. AD-7R added to the FGD Stackout Area in certified monitoring network in December 2023.

Table 1: Residence Time Calculation Summary
Pirkey East Bottom Ash 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)
East Bottom Ash Pond	AD-2 [2]	4.0	25.8	4.7	28.1	4.3	25.9	4.7	27.3	4.5
	AD-4 [1]	4.0	10.3	11.9	8.6	14.2	NC	NC	9.2	13.2
	AD-12 [1]	4.0	45.3	2.7	38.7	3.1	29.7	4.1	31.3	3.9
	AD-18 [1]	2.0	17.0	3.6	16.7	3.6	15.8	3.9	17.9	3.4
	AD-31 [2]	2.0	18.3	3.3	11.3	5.4	18.9	3.2	16.1	3.8
	AD-32 [2]	2.0	31.1	2.0	23.6	2.6	32.6	1.9	26.6	2.3

Notes:
[1] - Background Well
[2] - Downgradient Well
[3] - Verification event
NC - Not Calculated

Table 1. Groundwater Data Summary: AD-2
Pirkey - EBAP
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
5/11/2016	Background	1.27	1.43	28	< 0.083 U1	4.4	68	238
7/14/2016	Background	1.34	1.38	28	< 0.083 U1	4.2	71	216
9/07/2016	Background	1.3	2.65	20	< 0.083 U1	4.2	49	216
10/13/2016	Background	1.48	1.29	31	< 0.083 U1	3.6	67	230
11/14/2016	Background	1.36	1.44	28	< 0.083 U1	3.9	72	240
1/12/2017	Background	1.48	1.6	30	< 0.083 U1	3.9	94	244
3/01/2017	Background	1.62	1.28	28	< 0.083 U1	4.1	80	262
4/11/2017	Background	1.65	1.71	50	< 0.083 U1	4.0	88	254
8/24/2017	Detection	1.46	2.06	24	< 0.083 U1	4.3	64	200
12/21/2017	Detection	1.38	2.92	24	< 0.083 U1	--	64	206
3/22/2018	Assessment	1.99	1.97	30	< 0.083 U1	4.2	105	220
8/21/2018	Assessment	2.14	1.65	46	< 0.083 U1	4.7	130	312
2/28/2019	Assessment	2.25	1.96	31.8	0.1 J1	3.5	129	384
5/22/2019	Assessment	2.17	2.19	29.6	0.1 J1	4.0	137	316
8/12/2019	Assessment	2.16	3.30	28.4	0.1 J1	4.6	128	306
3/11/2020	Assessment	2.78	2.50	29.7	0.14	4.0	178	374
6/03/2020	Assessment	2.44	2.44	29.3	0.15	4.6	174	387
11/02/2020	Assessment	2.62	1.99	29.2	0.11	3.9	158	347
3/09/2021	Assessment	2.76	2.48	30.2	0.23	4.0	209	450
5/25/2021	Assessment	2.78	2.7	29.8	0.22	3.6	215	430
11/16/2021	Assessment	2.62	2.63	29.2	0.15	3.4	200	410
3/29/2022	Assessment	3.02	3.13	31.4	0.20	3.9	241	460 L1
6/21/2022	Assessment	3.26	3.4	29.7	0.21	4.0	259	490
11/15/2022	Assessment	2.83	2.80	30.5	0.21	4.0	259	480
2/27/2023	Assessment	3.22	3.53	31.4	0.22	3.8	268	510
6/26/2023	Assessment	3.06	3.53	30.8	0.19	3.9	271	530
8/23/2023	Assessment	3.05	3.37	30.9	0.20	3.8	271	490
2/20/2024	Assessment	3.45	4.37	31.4	0.29	4.5	292	540
4/23/2024	Assessment	3.18	4.51	31.2	0.27	4.1	309	570
9/17/2024	Assessment	3.09	3.9	29.4	0.18	4.0	281	510
2/04/2025	Assessment	3.98	5.1	27.3	0.36	4.3	290	590 S7
4/22/2025	Assessment	3.02	4.6	26.8	0.37	4.0	298	570
9/09/2025	Assessment	2.82	4.1	25.4	0.26	4.1	271	520

Table 1. Groundwater Data Summary: AD-2
Pirkey - EBAP
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
5/11/2016	Background	< 0.93 U1	< 1.05 U1	38	0.514594 J1	< 0.07 U1	< 0.23 U1	10	1.446	< 0.083 U1	< 0.68 U1	< 0.00013 U1	0.098	< 0.29 U1	2.08256 J1	< 0.86 U1
7/14/2016	Background	< 0.93 U1	< 1.05 U1	38	0.46511 J1	< 0.07 U1	0.401928 J1	11	0.723	< 0.083 U1	< 0.68 U1	0.051	0.068	0.862706 J1	< 0.99 U1	< 0.86 U1
9/07/2016	Background	< 0.93 U1	< 1.05 U1	39	0.439699 J1	< 0.07 U1	0.493592 J1	10	1.489	< 0.083 U1	< 0.68 U1	0.048	0.675	< 0.29 U1	< 0.99 U1	1.26444 J1
10/13/2016	Background	< 0.93 U1	< 1.05 U1	39	0.40165 J1	< 0.07 U1	0.885421 J1	11	2.65	< 0.083 U1	< 0.68 U1	0.052	0.048	< 0.29 U1	1.3807 J1	< 0.86 U1
11/14/2016	Background	< 0.93 U1	< 1.05 U1	34	0.367353 J1	< 0.07 U1	< 0.23 U1	10	2.121	< 0.083 U1	< 0.68 U1	0.048	0.154	< 0.29 U1	1.23147 J1	< 0.86 U1
1/12/2017	Background	< 0.93 U1	< 1.05 U1	37	0.376129 J1	< 0.07 U1	< 0.23 U1	10	1.656	< 0.083 U1	< 0.68 U1	0.052	0.093	< 0.29 U1	< 0.99 U1	< 0.86 U1
3/01/2017	Background	< 0.93 U1	< 1.05 U1	37	0.413652 J1	< 0.07 U1	< 0.23 U1	10	1.267	< 0.083 U1	< 0.68 U1	0.051	0.037	< 0.29 U1	< 0.99 U1	< 0.86 U1
4/11/2017	Background	< 0.93 U1	< 1.05 U1	37	0.435396 J1	< 0.07 U1	0.243798 J1	11	0.807	< 0.083 U1	< 0.68 U1	0.052	0.028	< 0.29 U1	< 0.99 U1	< 0.86 U1
3/22/2018	Assessment	< 0.93 U1	< 1.05 U1	33.28	0.45 J1	< 0.07 U1	< 0.23 U1	12.43	1.053	< 0.083 U1	< 0.68 U1	0.05379	0.042	< 0.29 U1	1.61 J1	< 0.86 U1
8/21/2018	Assessment	< 0.01 U1	0.52	29.0	0.428	0.06	0.406	13.6	1.059	< 0.083 U1	0.338	0.0479	0.02 J1	0.06 J1	1.1	0.096
2/28/2019	Assessment	0.02 J1	0.53	26.1	0.5 J1	0.06	0.1 J1	13.9	1.261	0.1 J1	0.355	0.0591	0.027	< 0.4 U1	1.5	< 0.1 U1
5/22/2019	Assessment	< 0.4 U1	< 0.6 U1	25.6	< 0.4 U1	< 0.2 U1	< 0.8 U1	15.5	0.832	0.1 J1	< 0.4 U1	0.0542	0.063	< 8 U1	0.9 J1	< 0.1 U1
8/12/2019	Assessment	< 0.02 U1	0.35	22.8	0.402	0.06	0.292	13.0	1.812	0.1 J1	0.288	0.0560	0.044	< 0.4 U1	0.8	0.1 J1
3/11/2020	Assessment	< 0.02 U1	0.52	21.9	0.499	0.08	0.247	17.7	0.1882	0.14	0.600	0.0476	0.056	4.37	1.5	0.1 J1
6/03/2020	Assessment	< 0.02 U1	0.45	19.7	0.474	0.07	0.243	16.5	1.412	0.15	0.389	0.0464	0.085	< 0.4 U1	1.5	0.1 J1
11/02/2020	Assessment	< 0.02 U1	0.41	21.5	0.463	0.07	0.254	16.9	0.961	0.11	0.435	0.0490	0.037	< 0.4 U1	1.3	0.1 J1
3/09/2021	Assessment	< 0.02 U1	0.68	19.6	0.564	0.09	0.280	20.2	0.681	0.23	0.517	0.0473	0.074	< 0.1 U1	2.3	0.1 J1
5/25/2021	Assessment	< 0.02 U1	0.55	18.9	0.541	0.094	0.38	21.7	1.16	0.22	0.46	0.0483	0.057	< 0.1 U1	1.68	0.09 J1
11/16/2021	Assessment	< 0.02 U1	0.62	19.2	0.575	0.078	0.37	21.2	1.69	0.15	0.51	0.0539	0.049	< 0.1 U1	1.75	0.11 J1
3/29/2022	Assessment	< 0.04 U1	0.82	18.2	0.75	0.102	0.90	22.7	1.76	0.20	0.5	0.0653	0.092	< 0.2 U1	2.7	0.10 J1
6/21/2022	Assessment	< 0.1 U1	2.0	17.5	0.85	0.11	0.5 J1	25.7	1.87	0.21	0.6 J1	0.0688	0.244	< 0.5 U1	2.7	0.3 J1
11/15/2022	Assessment	< 0.02 U1	0.40	16.8	0.561	0.086	0.43	19.6	1.41	0.21	0.60	0.0556	0.058	< 0.1 U1	1.28	0.11 J1
2/27/2023	Assessment	< 0.02 U1	0.90	15.9	0.787	0.128	0.52	28.9	1.03	0.22	0.68	0.0636	0.051	< 0.1 U1	2.65	0.12 J1
6/26/2023	Assessment	0.009 J1	1.14	13.5	0.744	0.119	0.49	27.3	1.36	0.19	0.60	0.0595	0.157	< 0.1 U1	4.32	0.11 J1
8/23/2023	Assessment	0.008 J1	0.78	13.8	0.715	0.116	0.48	25.8	2.49	0.20	0.64	0.0601	0.270	< 0.1 U1	2.72	0.11 J1
2/20/2024	Assessment	< 0.008 U1	1.19	17.3	1.06	0.133	0.47	31.9	1.88	0.29	0.73	0.0825	0.048	< 0.1 U1	4.61	0.13 J1
4/23/2024	Assessment	< 0.008 U1	2.05	14.8	1.03	0.135	0.54	33.0	2.18	0.27	0.65	0.0739	0.056	< 0.1 U1	6.51	0.13 J1
9/17/2024	Assessment	< 0.04 U1	0.9	14.8	1.03	0.12	0.9 J1	29.6	2.85	0.18	0.8 J1	0.0851	0.041	2.0 J1	3.5	0.1 J1
2/04/2025	Assessment	< 0.04 U1	2.0	15.0	1.15	0.18	0.5 J1	37.1	1.22	0.36	0.8 J1	0.0872	0.073	< 0.5 U1	7.9	0.2 J1
4/22/2025	Assessment	< 0.04 U1	1.5	13.5	0.90	0.12	0.5 J1	34.9	3.53	0.37	0.7 J1	0.0791 M1	0.062	< 0.5 U1	6.4	0.1 J1
9/09/2025	Assessment	< 0.1 U1	1.7	14.2	0.9	0.13	0.5 J1	31.3	3.15	0.26	0.8 J1	0.0828	0.055	< 0.3 U1	6.7	0.1 J1

Table 1. Groundwater Data Summary: AD-4
Pirkey - EBAP
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
5/11/2016	Background	0.02	1.63	4	< 0.083 U1	5.4	23	148
7/14/2016	Background	0.02	2.32	4	< 0.083 U1	4.9	20	157
9/08/2016	Background	0.02	2.37	5	< 0.083 U1	4.9	20	136
10/13/2016	Background	0.03	2.87	6	< 0.083 U1	4.1	19	164
11/15/2016	Background	0.04	2.71	5	< 0.083 U1	4.3	19	152
1/12/2017	Background	0.03	2.94	5	< 0.083 U1	4.8	18	148
3/01/2017	Background	0.03	2.86	4	< 0.083 U1	4.7	18	148
4/10/2017	Background	0.04	1.91	5	< 0.083 U1	4.4	21	140
8/24/2017	Detection	0.06229	2.04	5	< 0.083 U1	4.6	20	94
3/22/2018	Assessment	0.0331	1.41	3	< 0.083 U1	4.8	23	132
8/21/2018	Assessment	0.018	2.38	7	< 0.083 U1	4.8	21	158
2/28/2019	Assessment	0.021	1.57	3.56	0.11	4.9	22.9	192
5/23/2019	Assessment	0.021	1.71	3.31	0.15	5.0	24.6	150
8/14/2019	Assessment	< 0.02 U1	1.97	6.22	0.12	5.5	21.7	146
3/11/2020	Assessment	< 0.02 U1	1.46	3.42	0.13	5.4	24.2	166
6/03/2020	Assessment	0.02 J1	1.72	3.65	0.14	5.4	24.7	168
11/04/2020	Assessment	0.02 J1	2.33	3.66	0.05 J1	4.9	18.7	162
3/09/2021	Assessment	0.02 J1	1.72	3.63	0.12	5.2	21.5	146
5/25/2021	Assessment	0.032 J1	1.7	3.60	0.14	4.6	22.6	150
11/16/2021	Assessment	0.012 J1	2.13	3.94	< 0.02 U1	4.3	17.2	130
3/29/2022	Assessment	0.019 J1	1.84	3.80	0.08	4.9	22.2	140 L1
6/21/2022	Assessment	0.020 J1	2.51	3.92	0.05 J1	4.4	20.5	160
11/16/2022	Assessment	0.019 J1	2.25	4.14	< 0.02 U1	4.7	16.6	130
2/28/2023	Assessment	0.028 J1	2.22	4.08	0.05 J1	4.9	19.9	140
6/27/2023	Assessment	0.018 J1	2.90	3.97	0.02 J1	4.5	18.9	150
8/23/2023	Assessment	0.027 J1	2.18	3.88	0.04 J1	4.6	18.5	130
2/20/2024	Assessment	0.018 J1	3.23	4.35	< 0.02 U1	4.9	19.9	180
4/24/2024	Assessment	0.017 J1	2.26	3.97	0.07	4.6	20.3	140
9/17/2024	Assessment	0.016 J1	2.58	3.95	0.02 J1	4.9	18.4	130
2/03/2025	Assessment	0.038 J1	2.70	4.21	< 0.02 U1	4.9	17.8	140
4/23/2025	Assessment	0.018 J1	2.37	4.12	0.05 J1	4.0	20.5	110
9/10/2025	Assessment	0.013 J1	2.21	3.91	< 0.02 U1	4.9	19.0	150

Table 1. Groundwater Data Summary: AD-4
Pirkey - EBAP
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
5/11/2016	Background	< 0.93 U1	3.95918 J1	75	1	0.133362 J1	0.396808 J1	8	0.729	< 0.083 U1	< 0.68 U1	0.013	0.00891 J1	< 0.29 U1	1.79183 J1	< 0.86 U1
7/14/2016	Background	< 0.93 U1	8	127	1	< 0.07 U1	3	9	4.271	< 0.083 U1	< 0.68 U1	0.041	0.037	< 0.29 U1	1.73546 J1	1.87362 J1
9/08/2016	Background	< 0.93 U1	5	123	1	0.111076 J1	2	8	0.193	< 0.083 U1	< 0.68 U1	0.04	0.01151 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
10/13/2016	Background	< 0.93 U1	11	183	0.830588 J1	< 0.07 U1	7	7	2.381	< 0.083 U1	< 0.68 U1	0.034	0.01005 J1	< 0.29 U1	1.60451 J1	0.868603 J1
11/15/2016	Background	< 0.93 U1	< 1.05 U1	114	0.53145 J1	< 0.07 U1	0.446412 J1	6	1.072	< 0.083 U1	< 0.68 U1	0.035	0.01268 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
1/12/2017	Background	< 0.93 U1	< 1.05 U1	149	0.406228 J1	< 0.07 U1	0.305795 J1	4.5062 J1	2.599	< 0.083 U1	< 0.68 U1	0.03	0.01146 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
3/01/2017	Background	< 0.93 U1	< 1.05 U1	131	0.354085 J1	< 0.07 U1	< 0.23 U1	4.45689 J1	1.089	< 0.083 U1	< 0.68 U1	0.033	0.01224 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
4/10/2017	Background	< 0.93 U1	< 1.05 U1	94	0.915299 J1	0.0796 J1	0.240917 J1	8	0.684	< 0.083 U1	< 0.68 U1	0.047	0.00554 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
3/22/2018	Assessment	< 0.93 U1	< 1.05 U1	66.74	1.15	0.26 J1	< 0.23 U1	9.39	1.283	< 0.083 U1	< 0.68 U1	0.05374	< 0.005 U1	< 0.29 U1	1.99 J1	< 0.86 U1
8/21/2018	Assessment	< 0.01 U1	1.30	121	0.400	0.02 J1	0.198	4.43	1.331	< 0.083 U1	0.098	0.0294	0.005 J1	< 0.02 U1	0.04 J1	0.096
2/28/2019	Assessment	< 0.02 U1	0.26	70.5	0.9 J1	0.01 J1	0.1 J1	6.92	0.818	0.11	0.106	0.0513	< 0.005 U1	< 0.4 U1	0.03 J1	< 0.1 U1
5/23/2019	Assessment	< 0.4 U1	< 0.6 U1	61.7	0.5 J1	< 0.2 U1	1 J1	7.86	0.5173	0.15	< 0.4 U1	0.0516	< 0.005 U1	< 8 U1	< 0.6 U1	< 0.1 U1
8/14/2019	Assessment	< 0.02 U1	0.17	73.5	1.04	< 0.01 U1	0.08 J1	6.52	0.833	0.12	0.06 J1	0.0484	< 0.005 U1	< 0.4 U1	0.04 J1	< 0.1 U1
3/11/2020	Assessment	< 0.02 U1	1.16	69.0	0.965	< 0.01 U1	0.1 J1	7.89	0.2327	0.13	0.06 J1	0.0415	< 0.002 U1	< 0.4 U1	< 0.03 U1	< 0.1 U1
6/03/2020	Assessment	< 0.02 U1	0.52	67.9	0.527	< 0.01 U1	0.2 J1	7.15	0.87	0.14	0.06 J1	0.0380	< 0.002 U1	< 0.4 U1	< 0.03 U1	< 0.1 U1
11/04/2020	Assessment	0.03 J1	5.30	124	0.922	0.03 J1	0.433	4.40	1.45	0.05 J1	0.402	0.0274	0.008	< 0.4 U1	0.1 J1	0.1 J1
3/09/2021	Assessment	< 0.02 U1	0.30	87.9	0.679	0.01 J1	0.2 J1	6.50	0.576	0.12	< 0.05 U1	0.0331	0.002 J1	< 0.1 U1	< 0.09 U1	0.06 J1
5/25/2021	Assessment	< 0.02 U1	0.13	80.7	0.489 M1	0.012 J1	0.24	6.86	0.83	0.14	< 0.05 U1	0.0335 M1	< 0.002 U1	< 0.1 U1	< 0.09 U1	0.06 J1
11/16/2021	Assessment	< 0.02 U1	0.25	122 M1, P3	0.280	0.022	0.28	3.08	1.60	< 0.02 U1	< 0.05 U1	0.0211	0.015	< 0.1 U1	< 0.09 U1	0.08 J1
3/29/2022	Assessment	< 0.02 U1	1.10	93.2	0.641	0.010 J1	0.31	6.16	1.15	0.08	0.07 J1	0.0383	0.017	< 0.1 U1	< 0.09 U1	0.07 J1
6/21/2022	Assessment	< 0.02 U1	0.30	124	0.407	0.021	0.46	4.10	1.31	0.05 J1	< 0.05 U1	0.0220	0.004 J1	< 0.1 U1	< 0.09 U1	0.09 J1
11/16/2022	Assessment	< 0.02 U1	0.21	128	0.195	0.019 J1	0.44	3.00	0.40	< 0.02 U1	< 0.05 U1	0.0212	0.005	< 0.1 U1	< 0.09 U1	0.10 J1
2/28/2023	Assessment	< 0.02 U1	0.26	115	0.594	0.015 J1	0.41	5.60	1.90	0.05 J1	< 0.05 U1	0.0311	0.004 J1	< 0.1 U1	< 0.09 U1	0.09 J1
6/27/2023	Assessment	0.018 J1	1.23	132	0.376	0.021	0.56	3.89	1.72	0.02 J1	0.15 J1	0.0240	0.003 J1	< 0.1 U1	0.14 J1	0.09 J1
8/23/2023	Assessment	0.011 J1	0.36	117	0.246	0.021	0.40	3.63	2.24	0.04 J1	0.07 J1	0.0243	0.003 J1	< 0.1 U1	0.04 J1	0.08 J1
2/20/2024	Assessment	< 0.008 U1	0.13	148	0.33	0.027	0.34	3.44	1.78	< 0.02 U1	< 0.05 U1	0.0252	0.006	< 0.1 U1	0.06 J1	0.10 J1
4/24/2024	Assessment	0.014 J1	0.44	97.2	0.64	0.020	0.31	5.95	1.79	0.07	0.06 J1	0.0395	< 0.002 U1	< 0.1 U1	< 0.04 U1	0.07 J1
9/17/2024	Assessment	< 0.008 U1	0.46	120	0.4 J1	0.022	0.57	3.52	3.46	0.02 J1	0.07 J1	0.030	0.004 J1	< 0.1 U1	< 0.04 U1	0.10 J1
2/03/2025	Assessment	0.013 J1	0.11	133	0.36	0.020	0.37	3.52	1.65	< 0.02 U1	< 0.05 U1	0.0254	0.005	< 0.1 U1	0.07 J1	0.10 J1
4/23/2025	Assessment	< 0.008 U1	0.35	103	0.50	0.016 J1	0.32	4.86	2.39	0.05 J1	< 0.05 U1	0.0373	0.004 J1	< 0.1 U1	< 0.04 U1	0.09 J1
9/10/2025	Assessment	< 0.02 U1	1.95	114	0.25	0.020	0.55	3.26	1.75	< 0.02 U1	0.30	0.0236	0.009	< 0.05 U1	0.09 J1	0.09 J1

Table 1. Groundwater Data Summary: AD-12
Pirkey - EBAP
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
5/11/2016	Background	0.03	0.362	5	< 0.083 U1	4.4	4	94
7/13/2016	Background	0.03	0.26	6	< 0.083 U1	3.1	4	75
9/07/2016	Background	0.04	0.343	6	< 0.083 U1	3.9	7	63
10/12/2016	Background	0.03	0.271	7	1	3.4	8	92
11/14/2016	Background	0.04	0.331	8	< 0.083 U1	2.6	6	80
1/11/2017	Background	0.03	0.315	7	< 0.083 U1	4.8	6	76
2/28/2017	Background	0.04	0.434	5	< 0.083 U1	3.6	4	50
4/11/2017	Background	0.05	0.299	6	0.2565 J1	4.7	7	72
8/23/2017	Detection	0.0495	0.245	6	0.213 J1	4.8	6	52
3/21/2018	Assessment	0.01397	0.269	5	< 0.083 U1	4.2	3	< 2 U1
8/20/2018	Assessment	0.017	0.338	10	< 0.083 U1	4.4	4	94
2/27/2019	Assessment	0.03 J1	0.4 J1	6.08	0.09	5.2	3.6	36
5/21/2019	Assessment	0.020	0.3 J1	6.30	0.09	4.1	4.0	80
8/12/2019	Assessment	< 0.02 U1	0.278	7.24	0.06 J1	4.9	2.6	90
3/10/2020	Assessment	0.02 J1	0.3 J1	6.08	0.10	4.9	3.7	62
6/02/2020	Assessment	< 0.02 U1	0.2 J1	5.63	0.10	4.0	3.9	91
11/02/2020	Assessment	0.03 J1	0.3 J1	4.65	0.08	4.3	3.3	74
3/08/2021	Assessment	0.01 J1	0.2 J1	6.46	0.11	4.1	3.8	68
5/24/2021	Assessment	0.032 J1	0.2 J1	5.54	0.12	4.2	5.46	70
11/15/2021	Assessment	0.012 J1	0.28	8.03	0.07	3.5	2.90	90
3/28/2022	Assessment	0.021 J1	0.20	6.10	0.07	3.9	3.80	60 L1
6/20/2022	Assessment	0.042 J1	0.32	7.59	0.09	4.3	4.81	80
11/15/2022	Assessment	0.013 J1	0.36	8.03	0.08	4.7	3.39	70
2/27/2023	Assessment	0.021 J1	0.34	6.51	0.07	3.8	3.90	70
6/26/2023	Assessment	0.019 J1	0.21	4.68	0.06	4.6	2.9	80
8/23/2023	Assessment	0.017 J1	0.22	4.74	0.07	3.8	3.5	75
10/17/2023	Assessment	0.015 J1	0.27	6.74	0.07	3.8	2.7	58
2/19/2024	Assessment	0.016 J1	0.27	5.87	0.11	3.2	3.1	60
4/22/2024	Assessment	0.015 J1	0.18	4.86	0.08	3.4	4.2	60
9/16/2024	Assessment	0.018 J1	0.23	4.45	0.07	3.0	3.1	60
2/03/2025	Assessment	0.029 J1	0.23	4.94	0.08	3.2	3.1	80
4/21/2025	Assessment	0.020 J1	0.17	4.58	0.08	3.2	2.7	70
9/08/2025	Assessment	0.081	0.18	4.61	0.07	3.5	3.11	70

Table 1. Groundwater Data Summary: AD-12
Pirkey - EBAP
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
5/11/2016	Background	< 0.93 U1	< 1.05 U1	26	0.219521 J1	< 0.07 U1	0.710981 J1	1.58207 J1	0.2073	< 0.083 U1	< 0.68 U1	< 0.00013 U1	< 0.005 U1	< 0.29 U1	1.73953 J1	< 0.86 U1
7/13/2016	Background	< 0.93 U1	< 1.05 U1	23	0.190337 J1	< 0.07 U1	0.68835 J1	1.29444 J1	2.909	< 0.083 U1	< 0.68 U1	0.008	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
9/07/2016	Background	< 0.93 U1	< 1.05 U1	30	0.232192 J1	< 0.07 U1	0.353544 J1	1.66591 J1	0.881	< 0.083 U1	< 0.68 U1	0.01	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
10/12/2016	Background	< 0.93 U1	< 1.05 U1	27	0.149553 J1	< 0.07 U1	0.529033 J1	1.56632 J1	0.257	1	< 0.68 U1	0.012	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
11/14/2016	Background	< 0.93 U1	< 1.05 U1	28	0.152375 J1	< 0.07 U1	0.32826 J1	1.47282 J1	0.767	< 0.083 U1	< 0.68 U1	0.013	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
1/11/2017	Background	< 0.93 U1	< 1.05 U1	23	0.126621 J1	< 0.07 U1	0.650158 J1	1.09495 J1	1.536	< 0.083 U1	< 0.68 U1	0.01	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
2/28/2017	Background	< 0.93 U1	< 1.05 U1	26	0.149219 J1	< 0.07 U1	0.325811 J1	1.29984 J1	0.416	< 0.083 U1	< 0.68 U1	0.009	< 0.005 U1	< 0.29 U1	< 0.99 U1	0.994913 J1
4/11/2017	Background	< 0.93 U1	< 1.05 U1	24	0.159412 J1	< 0.07 U1	0.416007 J1	1.33344 J1	0.3895	0.2565 J1	< 0.68 U1	0.008	0.01364 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
3/21/2018	Assessment	< 0.93 U1	< 1.05 U1	25.82	0.16 J1	< 0.07 U1	1.05	1.49 J1	0.784	< 0.083 U1	< 0.68 U1	0.00722	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
8/20/2018	Assessment	< 0.01 U1	0.11	27.8	0.159	0.01 J1	0.330	1.72	1.128	< 0.083 U1	0.089	0.0143	< 0.005 U1	0.04 J1	0.1	0.04 J1
2/27/2019	Assessment	< 0.4 U1	< 0.6 U1	22.5	< 0.4 U1	< 0.2 U1	< 0.8 U1	1.37	0.225	0.09	< 0.4 U1	0.00688	< 0.005 U1	< 8 U1	< 0.6 U1	< 2 U1
5/21/2019	Assessment	< 0.4 U1	< 0.6 U1	21.7	< 0.4 U1	< 0.2 U1	< 0.8 U1	1.15	0.201	0.09	< 0.4 U1	0.00576	< 0.005 U1	< 8 U1	< 0.6 U1	< 0.1 U1
8/12/2019	Assessment	< 0.02 U1	0.07 J1	23.8	0.154	< 0.01 U1	0.204	1.30	0.237	0.06 J1	0.08 J1	0.00829	< 0.005 U1	< 0.4 U1	0.2 J1	< 0.1 U1
3/10/2020	Assessment	< 0.02 U1	0.09 J1	21.7	0.139	0.01 J1	0.2 J1	1.21	3.0706	0.10	0.09 J1	0.00547	< 0.002 U1	< 0.4 U1	0.2	< 0.1 U1
6/02/2020	Assessment	< 0.02 U1	0.09 J1	19.0	0.132	< 0.01 U1	0.208	1.02	0.799	0.10	0.09 J1	0.00505	< 0.002 U1	< 0.4 U1	0.3	< 0.1 U1
11/02/2020	Assessment	0.05 J1	0.09 J1	18.9	0.122	< 0.01 U1	0.204	1.04	0.929	0.08	0.09 J1	0.00510	< 0.002 U1	< 0.4 U1	0.3	< 0.1 U1
3/08/2021	Assessment	< 0.02 U1	0.07 J1	22.9	0.150	0.007 J1	0.2 J1	1.19	0.214	0.11	0.07 J1	0.00570	< 0.002 U1	< 0.1 U1	0.2 J1	< 0.04 U1
5/24/2021	Assessment	< 0.02 U1	0.08 J1	23.1	0.136	0.005 J1	0.24	1.19	0.60	0.12	0.07 J1	0.00500	< 0.002 U1	< 0.1 U1	0.31 J1	< 0.04 U1
11/15/2021	Assessment	< 0.02 U1	0.05 J1	26.5	0.148	0.01 J1	0.30	1.38	1.76	0.07	0.07 J1	0.0110	< 0.002 U1	< 0.1 U1	0.10 J1	< 0.04 U1
3/28/2022	Assessment	< 0.02 U1	0.09 J1	20.2	0.127	0.009 J1	0.35	1.01	0.76	0.07	0.09 J1	0.00604	< 0.002 U1	< 0.1 U1	0.33 J1	< 0.04 U1
6/20/2022	Assessment	< 0.02 U1	0.08 J1	24.2	0.135	0.008 J1	0.63	1.35	0.63	0.09	0.08 J1	0.00949	< 0.002 U1	< 0.1 U1	0.16 J1	< 0.04 U1
11/15/2022	Assessment	< 0.02 U1	0.06 J1	30.6	0.153	0.007 J1	0.45	1.59	1.46	0.08	0.08 J1	0.0119	< 0.002 U1	< 0.1 U1	0.23 J1	< 0.04 U1
2/27/2023	Assessment	< 0.02 U1	0.07 J1	27.5	0.155	0.013 J1	0.36	1.50	1.17	0.07	0.1 J1	0.00885	< 0.002 U1	< 0.1 U1	0.35 J1	< 0.04 U1
6/26/2023	Assessment	0.015 J1	0.11	16.3	0.110	0.007 J1	0.45	0.932	0.45	0.06	0.11 J1	0.00487	< 0.002 U1	0.7	0.23 J1	< 0.02 U1
8/23/2023	Assessment	0.013 J1	0.10	15.6	0.129	0.007 J1	0.45	0.855	1.34	0.07	0.11 J1	0.00494	< 0.002 U1	0.5	0.23 J1	< 0.02 U1
10/17/2023	Assessment	0.01 J1	0.06 J1	23.6	0.142	0.006 J1	0.31	1.19	1.08	0.07	0.07 J1	0.00891	< 0.002 U1	< 0.1 U1	0.21 J1	< 0.02 U1
2/19/2024	Assessment	0.010 J1	0.07 J1	21.7	0.127	0.009 J1	0.50	1.13	1.00	0.11	0.06 J1	0.00547	0.002 J1	< 0.1 U1	0.19 J1	< 0.02 U1
4/22/2024	Assessment	0.009 J1	0.09 J1	19.3	0.121	0.007 J1	0.34	1.08	2.62	0.08	0.08 J1	0.00462	< 0.002 U1	< 0.1 U1	0.31 J1	< 0.02 U1
9/16/2024	Assessment	0.011 J1	0.09 J1	16.6	< 0.4 U1	0.007 J1	0.43	1.06	2.84	0.07	0.08 J1	0.006 J1	0.002 J1	< 0.1 U1	0.19 J1	0.02 J1
2/03/2025	Assessment	0.016 J1	0.09 J1	19.1	0.129	0.012 J1	0.29 J1	1.14	0.90	0.08	0.10 J1	0.00579	0.004 J1	< 0.1 U1	0.31 J1	< 0.02 U1
4/21/2025	Assessment	0.010 J1	0.09 J1	15.0	0.108	0.005 J1	0.52	0.900	1.32	0.08	0.10 J1	0.00514	0.002 J1	< 0.1 U1	0.20 J1	< 0.02 U1
9/08/2025	Assessment	< 0.02 U1	0.09 J1	17.2	0.12	0.006 J1	0.81	0.95	1.90	0.07	0.10 J1	0.00589	0.005	< 0.05 U1	0.20 J1	0.02 J1

Table 1. Groundwater Data Summary: AD-18
Pirkey - EBAP
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
5/10/2016	Background	0.01	0.548	8	< 0.083 U1	4.5	7	108
7/14/2016	Background	0.01	0.409	8	< 0.083 U1	4.7	7	116
9/08/2016	Background	0.01	0.343	8	< 0.083 U1	4.7	8	110
10/13/2016	Background	0.02	0.56	7	< 0.083 U1	4.1	10	124
11/15/2016	Background	0.02	0.59	7	< 0.083 U1	4.4	7	134
1/12/2017	Background	0.01	0.415	7	< 0.083 U1	4.7	10	128
3/01/2017	Background	0.01	0.224	6	< 0.083 U1	4.1	7	108
4/10/2017	Background	0.01	0.304	7	< 0.083 U1	4.1	8	102
8/24/2017	Detection	0.0278	0.435	8	< 0.083 U1	4.9	8	68
3/22/2018	Assessment	0.01642	0.292	6	< 0.083 U1	5.4	6	100
8/21/2018	Assessment	0.012	0.321	10	< 0.083 U1	5.1	8	118
2/28/2019	Assessment	< 0.02 U1	0.490	8.19	0.02 J1	5.0	6.1	84
5/23/2019	Assessment	0.013	0.684	8.82	0.02 J1	5.2	10.6	104
8/13/2019	Assessment	< 0.02 U1	0.647	8.49	0.01 J1	5.2	6.6	90
3/11/2020	Assessment	< 0.02 U1	0.3 J1	7.34	0.02 J1	4.4	6.1	90 J1
6/03/2020	Assessment	< 0.02 U1	0.2 J1	8.30	0.03 J1	4.5	6.3	119
11/03/2020	Assessment	--	--	--	--	4.4	--	--
11/04/2020	Assessment	< 0.02 U1	0.2 J1	6.30	0.02 J1	--	6.3	100
3/09/2021	Assessment	0.009 J1	0.2 J1	6.61	0.02 J1	4.5	6.6	113
5/25/2021	Assessment	0.021 J1	0.3	7.16	0.02 J1	4.4	7.46	100 P1
11/16/2021	Assessment	--	--	--	--	3.9	--	--
11/17/2021	Assessment	0.01 J1	0.20	5.99	< 0.02 U1	--	6.23	100
3/29/2022	Assessment	0.009 J1	0.24	5.26	< 0.02 U1	4.4	7.31	140 L1
6/21/2022	Assessment	--	--	--	--	4.6	--	--
6/22/2022	Assessment	< 0.009 U1	1.49	5.20	< 0.02 U1	--	6.47	110
11/15/2022	Assessment	--	--	--	--	4.5	--	--
11/16/2022	Assessment	0.011 J1	0.19	4.94	< 0.02 U1	--	6.55	90
2/28/2023	Assessment	< 0.009 U1	0.18	5.49	< 0.02 U1	4.4	7.52	100
6/27/2023	Assessment	0.009 J1	0.23	5.28	< 0.02 U1	4.4	8.2	110
8/23/2023	Assessment	0.012 J1	3.17	5.02	0.02 J1	4.4	6.9	88
10/18/2023	Assessment	0.011 J1	0.35	5.05	< 0.02 U1	3.9	10	98
2/19/2024	Assessment	--	--	--	--	4.5	--	--
2/20/2024	Assessment	0.013 J1	0.27	4.67	< 0.02 U1	--	8.1	110
4/23/2024	Assessment	0.008 J1	0.19	5.39	0.02 J1	4.7	7.2	90
9/17/2024	Assessment	--	--	--	--	4.2	--	--
9/18/2024	Assessment	0.010 J1	0.32	5.92	0.02 J1	--	10.2	130
2/03/2025	Assessment	--	--	--	--	4.6	--	--
2/04/2025	Assessment	0.013 J1	0.20	4.80	< 0.02 U1	--	6.8	90
4/22/2025	Assessment	--	--	--	--	4.2	--	--
4/23/2025	Assessment	0.011 J1	0.23	4.98	< 0.02 U1	--	7.5	100
9/10/2025	Assessment	0.015 J1	0.23	5.92	< 0.02 U1	4.2	7.57	150

Table 1. Groundwater Data Summary: AD-18
Pirkey - EBAP
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
5/10/2016	Background	< 0.93 U1	< 1.05 U1	157	0.262755 J1	0.109247 J1	1	1.82932 J1	0.847	< 0.083 U1	< 0.68 U1	0.004	0.01536 J1	< 0.29 U1	1.71074 J1	< 0.86 U1
7/14/2016	Background	< 0.93 U1	3.77261 J1	139	0.243326 J1	< 0.07 U1	3	2.16037 J1	3.264	< 0.083 U1	< 0.68 U1	0.02	0.064	0.41347 J1	2.45009 J1	< 0.86 U1
9/08/2016	Background	< 0.93 U1	< 1.05 U1	115	0.226343 J1	< 0.07 U1	0.779959 J1	1.09947 J1	1.105	< 0.083 U1	< 0.68 U1	0.019	0.03	< 0.29 U1	< 0.99 U1	< 0.86 U1
10/13/2016	Background	< 0.93 U1	< 1.05 U1	112	0.192611 J1	< 0.07 U1	0.631027 J1	2.24885 J1	1.161	< 0.083 U1	< 0.68 U1	0.026	0.01416 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
11/15/2016	Background	< 0.93 U1	< 1.05 U1	94	0.107171 J1	< 0.07 U1	0.724569 J1	1.66054 J1	1.486	< 0.083 U1	< 0.68 U1	0.017	0.029	< 0.29 U1	< 0.99 U1	< 0.86 U1
1/12/2017	Background	< 0.93 U1	< 1.05 U1	99	0.169196 J1	< 0.07 U1	0.411433 J1	1.62881 J1	0.976	< 0.083 U1	< 0.68 U1	0.026	0.01887 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
3/01/2017	Background	< 0.93 U1	< 1.05 U1	99	0.105337 J1	< 0.07 U1	0.572874 J1	0.976724 J1	0.468	< 0.083 U1	< 0.68 U1	0.017	0.01086 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
4/10/2017	Background	< 0.93 U1	< 1.05 U1	105	0.130316 J1	< 0.07 U1	0.967681 J1	0.98157 J1	0.648	< 0.083 U1	< 0.68 U1	0.019	0.0096 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
3/22/2018	Assessment	< 0.93 U1	< 1.05 U1	97.75	0.09 J1	< 0.07 U1	< 0.23 U1	0.97 J1	0.942	< 0.083 U1	< 0.68 U1	0.01647	0.006 J1	< 0.29 U1	1.53 J1	< 0.86 U1
8/21/2018	Assessment	0.02 J1	1.01	99.8	0.129	0.02 J1	0.809	1.18	1.108	< 0.083 U1	0.280	0.0175	0.014 J1	0.08 J1	0.2	0.060
2/28/2019	Assessment	< 0.4 U1	< 0.6 U1	106	< 0.4 U1	< 0.2 U1	< 0.8 U1	1.11	0.615	0.02 J1	0.7 J1	0.0177	0.009 J1	< 8 U1	< 0.6 U1	< 2 U1
5/23/2019	Assessment	< 0.4 U1	< 0.6 U1	131	< 0.4 U1	< 0.2 U1	< 0.8 U1	1.47	0.492	0.02 J1	< 0.4 U1	0.0209	0.009 J1	< 8 U1	< 0.6 U1	< 0.1 U1
8/13/2019	Assessment	< 0.02 U1	0.45	100	0.118	0.02 J1	0.212	1.25	0.473	0.01 J1	0.2 J1	0.0183	0.023 J1	< 0.4 U1	0.09 J1	< 0.1 U1
3/11/2020	Assessment	< 0.02 U1	0.09 J1	97.1	0.09 J1	0.01 J1	0.1 J1	0.948	4.813	0.02 J1	< 0.05 U1	0.0134	0.003 J1	< 0.4 U1	0.05 J1	< 0.1 U1
6/03/2020	Assessment	< 0.02 U1	0.22	100	0.1 J1	0.01 J1	0.2 J1	0.950	0.728	0.03 J1	0.06 J1	0.0132	0.007	< 0.4 U1	0.09 J1	< 0.1 U1
11/04/2020	Assessment	< 0.02 U1	0.29	89.3	0.08 J1	0.01 J1	0.1 J1	0.917	1.169	0.02 J1	0.06 J1	0.0128	0.028	< 0.4 U1	0.2 J1	< 0.1 U1
3/09/2021	Assessment	< 0.02 U1	0.28	88.7	0.09 J1	0.01 J1	0.271	0.827	0.331	0.02 J1	0.08 J1	0.0131	0.006	< 0.1 U1	0.1 J1	< 0.04 U1
5/25/2021	Assessment	< 0.02 U1	0.42	103	0.088	0.014 J1	0.55	0.964	0.77	0.02 J1	0.15 J1	0.0127	0.014	< 0.1 U1	0.13 J1	0.05 J1
11/17/2021	Assessment	< 0.02 U1	0.19	82.2	0.078	0.011 J1	0.31	0.801	1.91	< 0.02 U1	< 0.05 U1	0.0124	0.030	< 0.1 U1	0.11 J1	< 0.04 U1
3/29/2022	Assessment	0.02 J1	1.55	90.1	0.106	0.01 J1	1.40	0.842	2.01	< 0.02 U1	0.53	0.0137	0.021	< 0.1 U1	0.38 J1	0.05 J1
6/22/2022	Assessment	< 0.02 U1	0.30	79.3	0.073	0.012 J1	0.47	0.790	0.73	< 0.02 U1	0.11 J1	0.0108	< 0.007 U1	< 0.1 U1	0.14 J1	< 0.04 U1
11/16/2022	Assessment	< 0.02 U1	0.25	77.4	0.071	0.009 J1	0.54	0.723	1.61	< 0.02 U1	0.08 J1	0.0125	0.018	< 0.1 U1	0.12 J1	< 0.04 U1
2/28/2023	Assessment	< 0.02 U1	0.26	77.9	0.085	0.01 J1	0.38	0.750	1.10	< 0.02 U1	0.18 J1	0.0123	0.006	< 0.1 U1	< 0.09 U1	< 0.04 U1
6/27/2023	Assessment	0.009 J1	0.55	89.0	0.132	0.013 J1	0.57	0.933	2.53	< 0.02 U1	0.13 J1	0.0138	0.010	< 0.1 U1	0.15 J1	0.04 J1
8/23/2023	Assessment	0.056 J1	0.54	70.6	0.115	0.015 J1	1.15	0.731	1.27	0.02 J1	0.43	0.0119	0.005	0.1 J1	0.18 J1	0.03 J1
10/18/2023	Assessment	0.023 J1	0.43	84.0	0.127	0.018 J1	0.52	1.26	1.27	< 0.02 U1	0.12 J1	0.0186	0.084	< 0.1 U1	0.17 J1	0.05 J1
2/20/2024	Assessment	0.019 J1	1.17	83.1	0.100	0.013 J1	0.95	1.05	1.42	< 0.02 U1	0.30	0.0151	0.014	< 0.1 U1	0.23 J1	0.05 J1
4/23/2024	Assessment	< 0.008 U1	0.19	76.6	0.083	0.010 J1	0.32	0.851	0.99	0.02 J1	0.06 J1	0.0130	0.008	< 0.1 U1	0.11 J1	0.03 J1
9/18/2024	Assessment	0.016 J1	1.58	78.2	< 0.4 U1	0.013 J1	1.02	1.28	2.00	0.02 J1	0.37	0.021	0.013	< 0.1 U1	0.19 J1	0.05 J1
2/04/2025	Assessment	0.009 J1	0.20	71.7	0.090	0.010 J1	0.59	0.844	0.98	< 0.02 U1	0.13 J1	0.0135	0.024	< 0.1 U1	0.14 J1	0.04 J1
4/23/2025	Assessment	< 0.008 U1	0.18	76.8	0.082	0.011 J1	0.49	0.991	1.12	< 0.02 U1	0.09 J1	0.0152	0.014	< 0.1 U1	0.10 J1	0.04 J1
9/10/2025	Assessment	0.04 J1	2.87	87.7	0.11	0.012 J1	3.43	1.04	2.30	< 0.02 U1	1.47	0.0151	0.032	0.12 J1	0.87	0.06 J1

Table 1. Groundwater Data Summary: AD-31
Pirkey - EBAP
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
5/11/2016	Background	0.08	10.4	18	< 0.083 U1	4.5	63	286
7/13/2016	Background	0.03	4.27	18	< 0.083 U1	3.5	66	245
9/07/2016	Background	0.03	3.47	18	< 0.083 U1	3.7	60	260
10/12/2016	Background	0.04	4.41	18	< 0.083 U1	4.0	62	276
11/14/2016	Background	0.04	4.7	18	< 0.083 U1	3.2	66	266
1/11/2017	Background	0.03	4.43	19	< 0.083 U1	4.4	79	252
2/28/2017	Background	0.04	3.89	14	< 0.083 U1	3.6	68	212
4/11/2017	Background	0.04	3.64	16	< 0.083 U1	3.6	69	252
8/23/2017	Detection	0.01752	2.24	18	< 0.083 U1	4.5	52	228
12/21/2017	Detection	--	--	20	< 0.083 U1	--	58	224
3/22/2018	Assessment	0.04078	3.11	16	< 0.083 U1	4.5	76	260
8/21/2018	Assessment	0.022	2.86	25	< 0.083 U1	4.9	72	274
2/28/2019	Assessment	0.03 J1	2.77	18.8	0.1 J1	5.0	74.8	74
5/23/2019	Assessment	0.021	3.29	18.7	0.13	5.1	79.9	240
8/12/2019	Assessment	< 0.02 U1	2.86	21.6	0.16	4.1	70.0	250
3/10/2020	Assessment	0.03 J1	2.80	21.7	0.14	3.5	74.6	246
6/02/2020	Assessment	0.02 J1	2.92	22.1	0.16	4.2	81.4	288
11/02/2020	Assessment	0.03 J1	2.76	21.2	0.13	3.7	77.8	268
3/08/2021	Assessment	0.02 J1	2.69	18.5	0.17	3.8	81.1	279
5/24/2021	Assessment	0.026 J1	3.0	18.1	0.17	3.6	86.4	130
11/16/2021	Assessment	0.024 J1	2.68	20.1	0.13	2.8	76.6	250
3/28/2022	Assessment	0.026 J1	2.75	21.8	0.13	3.4	80.8	260 L1
6/20/2022	Assessment	0.028 J1	2.65	23.2	0.14 J1	3.5	89.0	270
11/15/2022	Assessment	0.035 J1	2.63	24.3	0.14	4.3	79.1	250
2/27/2023	Assessment	0.017 J1	2.70	23.4	0.13	3.5	82.2	260
6/26/2023	Assessment	0.025 J1	2.69	21.2	0.10	4.2	82.1	280
8/23/2023	Assessment	0.021 J1	2.10	21.9	0.10	4.0	69.4	240
2/19/2024	Assessment	0.022 J1	2.54	17.7	0.09	3.4	70.9	250
4/22/2024	Assessment	0.022 J1	2.45	16.8	0.10	3.4	79.8	250
9/16/2024	Assessment	0.026 J1	2.38	17.7	0.09	3.0	73.2	260
2/03/2025	Assessment	0.030 J1	2.20	13.9	0.13	3.1	70.6	240
4/21/2025	Assessment	0.024 J1	2.20	13.1	0.12	3.1	75.3	230
9/08/2025	Assessment	0.023 J1	2.09	14.0	0.10	3.5	69.5	260

Table 1. Groundwater Data Summary: AD-31
Pirkey - EBAP
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
5/11/2016	Background	< 0.93 U1	93	712	10	0.858875 J1	212	50	7.32	< 0.083 U1	57	0.077	1.797	0.893978 J1	1.84045 J1	< 0.86 U1
7/13/2016	Background	< 0.93 U1	3.41559 J1	69	1	< 0.07 U1	10	11	3.38	< 0.083 U1	< 0.68 U1	0.096	0.32	0.316083 J1	1.11301 J1	< 0.86 U1
9/07/2016	Background	< 0.93 U1	4.34007 J1	88	2	< 0.07 U1	15	11	2.345	< 0.083 U1	< 0.68 U1	0.094	0.284	< 0.29 U1	< 0.99 U1	< 0.86 U1
10/12/2016	Background	< 0.93 U1	6	76	1	< 0.07 U1	14	11	3.88	< 0.083 U1	1.54023 J1	0.097	0.347	< 0.29 U1	< 0.99 U1	< 0.86 U1
11/14/2016	Background	< 0.93 U1	11	125	2	0.174662 J1	30	14	3.202	< 0.083 U1	3.93298 J1	0.096	0.523	0.401556 J1	1.03392 J1	< 0.86 U1
1/11/2017	Background	< 0.93 U1	3.92088 J1	77	1	< 0.07 U1	12	10	2.725	< 0.083 U1	< 0.68 U1	0.093	0.384	< 0.29 U1	< 0.99 U1	1.01921 J1
2/28/2017	Background	< 0.93 U1	< 1.05 U1	44	0.998308 J1	< 0.07 U1	3	9	2.684	< 0.083 U1	< 0.68 U1	0.09	0.138	< 0.29 U1	< 0.99 U1	< 0.86 U1
4/11/2017	Background	< 0.93 U1	3.31744 J1	73	1	0.0944 J1	12	11	3.521	< 0.083 U1	< 0.68 U1	0.097	0.333	< 0.29 U1	< 0.99 U1	< 0.86 U1
3/22/2018	Assessment	< 0.93 U1	3.32 J1	70.83	1.24	0.12 J1	9.62	11.12	2.955	< 0.083 U1	< 0.68 U1	0.09732	1.389	< 0.29 U1	1.98 J1	< 0.86 U1
8/21/2018	Assessment	0.02 J1	1.92	57.7	0.729	0.06	2.39	9.29	4.13	< 0.083 U1	1.41	0.0556	1.112	0.24	2.5	0.113
2/28/2019	Assessment	< 0.4 U1	< 0.6 U1	33.1	1 J1	< 0.2 U1	< 0.8 U1	9.38	3.156	0.1 J1	< 0.4 U1	0.0864	0.01 J1	< 8 U1	< 0.6 U1	< 2 U1
5/23/2019	Assessment	< 0.4 U1	< 0.6 U1	37.9	0.9 J1	< 0.2 U1	< 0.8 U1	10.3	3.40	0.13	< 0.4 U1	0.0928	0.057	< 8 U1	< 0.6 U1	< 0.1 U1
8/12/2019	Assessment	< 0.02 U1	0.53	35.0	0.850	0.06	0.365	8.69	2.196	0.16	0.325	0.0875	1.027	< 0.4 U1	0.4	< 0.1 U1
3/10/2020	Assessment	< 0.02 U1	0.27	34.8	0.835	0.07	0.357	9.56	3.814	0.14	0.260	0.0669	0.183	< 0.4 U1	0.4	< 0.1 U1
6/02/2020	Assessment	< 0.02 U1	0.21	32.7	0.868	0.06	0.292	9.62	2.656	0.16	0.2 J1	0.0682	0.046	< 0.4 U1	0.4	< 0.1 U1
11/02/2020	Assessment	< 0.02 U1	0.26	34.0	1.10	0.07	0.2 J1	11.2	3.02	0.13	0.211	0.0895	0.144	< 0.4 U1	0.3	0.1 J1
3/08/2021	Assessment	< 0.02 U1	0.22	33.6	0.857	0.07	0.282	9.78	1.697	0.17	0.218	0.0664	0.095	< 0.1 U1	0.4	0.08 J1
5/24/2021	Assessment	< 0.02 U1	0.23	33.2	0.723	0.066	0.41	10.4	1.60	0.17	0.20	0.0638	0.059	0.1 J1	0.28 J1	0.09 J1
11/16/2021	Assessment	< 0.02 U1	0.26	32.1	0.801	0.063	0.39	9.18	3.39	0.13	0.34	0.0648	1.790	< 0.1 U1	0.33 J1	0.08 J1
3/28/2022	Assessment	< 0.02 U1	0.26	32.8	0.854	0.068	0.51	9.14	2.41	0.13	0.29	0.0687	0.103	< 0.1 U1	0.38 J1	0.09 J1
6/20/2022	Assessment	< 0.02 U1	0.42	34.1	1.03	0.071	0.59	9.61	4.60	0.14 J1	0.35	0.0844	0.089	< 0.1 U1	0.33 J1	0.08 J1
11/15/2022	Assessment	< 0.02 U1	0.30	35.8	0.863	0.066	0.74	9.41	3.81	0.14	0.34	0.0681	0.610	< 0.1 U1	0.38 J1	0.10 J1
2/27/2023	Assessment	< 0.02 U1	0.30	35.6	0.935	0.079	0.62	10.5	4.05	0.13	0.31	0.0737	0.13 J1	< 0.1 U1	0.27 J1	0.09 J1
6/26/2023	Assessment	0.009 J1	0.36	32.9	1.08	0.064	0.63	10.1	4.29	0.10	0.33	0.0889	0.077	< 0.1 U1	0.78	0.09 J1
8/23/2023	Assessment	< 0.008 U1	0.32	31.7	0.818	0.052	0.56	8.14	5.50	0.10	0.32	0.0644	0.890	< 0.1 U1	0.33 J1	0.08 J1
2/19/2024	Assessment	< 0.008 U1	0.40	33.3	1.26	0.069	0.56	9.47	5.73	0.09	0.30	0.0979	0.120	< 0.1 U1	0.39 J1	0.09 J1
4/22/2024	Assessment	< 0.008 U1	0.44	33.3	1.04	0.064	0.55	9.38	2.54	0.10	0.31	0.0792	0.430	< 0.1 U1	0.51	0.09 J1
9/16/2024	Assessment	0.010 J1	0.61	36.2	1.00	0.065	1.18	9.20	3.95	0.09	0.54	0.0857	0.740	< 0.1 U1	0.37 J1	0.10 J1
2/03/2025	Assessment	0.009 J1	0.30	30.1	0.96	0.058	0.41	8.68	4.36	0.13	0.27	0.0782	0.440	< 0.1 U1	0.50	0.08 J1
4/21/2025	Assessment	< 0.008 U1	0.26	31.0	0.94	0.061	0.39	8.87	2.67	0.12	0.27	0.0934	0.500	< 0.1 U1	0.38 J1	0.09 J1
9/08/2025	Assessment	0.10	1.26	36.5	0.75 M1	0.054	2.24	8.06	4.62	0.10	1.07	0.0894	0.610	0.06 J1	0.85	0.10 J1

Table 1. Groundwater Data Summary: AD-32
Pirkey - EBAP
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
5/11/2016	Background	0.708	7.41	12	< 0.083 U1	4.3	124	206
7/13/2016	Background	5.23	33.9	32	0.67 J1	3.3	461	835
9/07/2016	Background	5.78	37.4	35	< 0.083 U1	3.1	479	884
10/12/2016	Background	4.26	27.1	29	0.8585 J1	3.3	430	720
11/14/2016	Background	5.52	35.9	34	0.7468 J1	3.0	621	922
1/11/2017	Background	5.05	40	35	< 0.083 U1	3.9	683	894
2/28/2017	Background	2.73	18.4	19	< 0.083 U1	3.1	285	490
4/11/2017	Background	1.46	11	15	0.4468 J1	3.2	200	372
8/23/2017	Detection	0.716	7.15	14	1.962	4.3	115	288
12/21/2017	Detection	2.56	17.1	22	0.5932 J1	--	324	504
3/21/2018	Assessment	0.628	6.32	15	< 0.083 U1	4.1	113	288
8/21/2018	Assessment	2.45	17.8	28	< 0.083 U1	3.9	321	548
2/28/2019	Assessment	0.679	6.62	17.5	0.40	3.2	121	222
5/21/2019	Assessment	0.555	5.35	18.6	0.31	3.2	105	292
8/12/2019	Assessment	1.77	13.3	24.9	0.67	4.0	228	448
8/16/2019	Assessment	1.92	14.6	26.1	0.83	--	273	522
3/10/2020	Assessment	0.656	6.84	20.5	0.39	3.7	117	286
6/02/2020	Assessment	0.557	5.75	24.1	0.41	3.9	93.6	327
11/02/2020	Assessment	4.04	34.3	36.2	1.40	3.4	690	1070
3/08/2021	Assessment	2.87	34.2	33.5	1.08	3.5	714	1020
5/24/2021	Assessment	2.11	21.7	25.4	1.25	3.3	452	340
11/15/2021	Assessment	1.70	16.8	24.3	0.78	2.8	334	580
3/28/2022	Assessment	0.773	8.05	25.2	0.44	3.1	157	330 L1
6/20/2022	Assessment	0.909	7.25	30.6	0.42	3.0	147	320
11/15/2022	Assessment	1.26	12.0	22.7	0.49	4.0	244	450
2/27/2023	Assessment	0.767	7.69	25.1	0.44	3.3	151	340
6/26/2023	Assessment	0.595	5.26	14.5	0.13	3.8	119	260
8/23/2023	Assessment	0.418	3.71	12.7	0.07	3.6	73.0	190
2/19/2024	Assessment	0.161	4.08	9.68	0.25	4.8	48.4	150
4/22/2024	Assessment	0.231	5.63	10.6	0.32	4.9	67.0	190
9/16/2024	Assessment	0.175	6.10	11.6	0.30	4.8	59.7	190
2/03/2025	Assessment	0.097	6.08 M1	9.98	0.37	4.8	52.7	160
4/21/2025	Assessment	0.097	6.15	10.3	0.39	4.9	55.2	180
9/08/2025	Assessment	0.081	6.03	10.1	0.34	5.3	53.0	170

Table 1. Groundwater Data Summary: AD-32
Pirkey - EBAP
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
5/11/2016	Background	< 0.93 U1	3.77019 J1	35	3	0.293016 J1	5	27	2.501	< 0.083 U1	< 0.68 U1	0.016	0.925	< 0.29 U1	< 0.99 U1	< 0.86 U1
7/13/2016	Background	< 0.93 U1	13	58	8	0.729634 J1	18	74	6.41	0.67 J1	< 0.68 U1	0.119	13.916	0.76212 J1	3.88793 J1	< 0.86 U1
9/07/2016	Background	< 0.93 U1	3.25886 J1	35	8	0.601583 J1	6	70	4.846	< 0.083 U1	< 0.68 U1	0.111	1.68	< 0.29 U1	< 0.99 U1	1.09263 J1
10/12/2016	Background	< 0.93 U1	10	50	7	0.589066 J1	15	65	17.32	0.8585 J1	< 0.68 U1	0.972	7.285	< 0.29 U1	1.93488 J1	< 0.86 U1
11/14/2016	Background	< 0.93 U1	6	37	9	0.78793 J1	8	75	3.731	0.7468 J1	< 0.68 U1	0.114	3.624	< 0.29 U1	< 0.99 U1	1.078 J1
1/11/2017	Background	< 0.93 U1	6	37	7	0.602157 J1	9	69	4.342	< 0.083 U1	< 0.68 U1	0.115	7.202	< 0.29 U1	< 0.99 U1	0.991051 J1
2/28/2017	Background	< 0.93 U1	4.56273 J1	30	5	0.389491 J1	5	45	4.001	< 0.083 U1	< 0.68 U1	0.095	7.927	< 0.29 U1	2.53854 J1	< 0.86 U1
4/11/2017	Background	< 0.93 U1	< 1.05 U1	26	4	0.440252 J1	3	35	4.32	0.4468 J1	< 0.68 U1	0.095	2.755	< 0.29 U1	< 0.99 U1	< 0.86 U1
3/21/2018	Assessment	< 0.93 U1	3.05 J1	41.25	3.17	0.55 J1	5.38	25.8	4.922	< 0.083 U1	< 0.68 U1	0.103	6.4	< 0.29 U1	2.18 J1	< 0.86 U1
8/21/2018	Assessment	0.01 J1	4.81	17.2	3.70	0.47	0.646	43.5	6.01	< 0.083 U1	0.714	0.0689	2.649	0.04 J1	15.0	0.238
2/28/2019	Assessment	< 0.4 U1	2 J1	28.9	3.34	0.2 J1	2 J1	25.0	4.67	0.40	< 0.4 U1	0.0919	1.135	< 8 U1	3 J1	< 2 U1
5/21/2019	Assessment	< 0.4 U1	0.8 J1	35.6	2.77	0.3 J1	1 J1	23.5	5.37	0.31	0.4 J1	0.0897	1.371	< 8 U1	1 J1	0.2 J1
8/12/2019	Assessment	< 0.02 U1	3.43	38.5	3.65	0.40	1.70	33.7	5.70	0.67	0.996	0.0964	4.127	< 0.4 U1	7.3	0.2 J1
8/16/2019	Assessment	< 0.1 U1	2.77	27.9	4.88	0.46	0.5 J1	40.4	--	0.83	0.6 J1	0.103	--	< 2 U1	7.8	< 0.5 U1
3/10/2020	Assessment	< 0.02 U1	0.88	28.7	2.51	0.30	0.379	23.9	5.741	0.39	0.343	0.0711	1.70	< 0.4 U1	2.6	0.2 J1
6/02/2020	Assessment	< 0.02 U1	0.98	31.9	2.35	0.25	0.675	20.8	4.445	0.41	0.405	0.0696	3.97	< 0.4 U1	2.3	0.2 J1
11/02/2020	Assessment	0.02 J1	6.29	22.0	8.90	0.79	1.17	74.0	8.88	1.40	1.23	0.0987	1.40	< 0.4 U1	25.3	0.4 J1
3/08/2021	Assessment	< 0.02 U1	5.54	18.5	5.78	0.66	0.754	61.9	3.701	1.08	0.970	0.0618	1.07	< 0.1 U1	22.2	0.3 J1
5/24/2021	Assessment	< 0.02 U1	2.39	16.9	3.96 M1	0.529	0.71	50.5	5.38	1.25	0.52	0.0629 M1	0.800	< 0.1 U1	9.21	0.21
11/15/2021	Assessment	< 0.02 U1	2.39	22.5	3.90	0.452	0.75	39.9	4.60	0.78	0.52	0.0698	1.400	< 0.1 U1	7.70	0.25
3/28/2022	Assessment	< 0.02 U1	1.05	30.0	2.89	0.323	0.60	25.1	5.90	0.44	0.38	0.0731	1.900	< 0.1 U1	3.42	0.17 J1
6/20/2022	Assessment	< 0.02 U1	1.81	32.3	3.28	0.318	0.68	27.2	13.87	0.42	0.43	0.0923	2.700	< 0.1 U1	2.67	0.17 J1
11/15/2022	Assessment	< 0.02 U1	1.73	24.4	3.77	0.404	0.82	34.8	5.28	0.49	0.66	0.0812	1.500	< 0.1 U1	5.95	0.24
2/27/2023	Assessment	< 0.02 U1	0.89	26.3	3.19	0.360	0.44	29.4	5.83	0.44	0.40	0.0837	2.200	< 0.1 U1	2.68	0.18 J1
6/26/2023	Assessment	0.012 J1	1.53	23.4	0.905	0.042	0.61	15.9	3.93	0.13	0.17 J1	0.0500	0.760	< 0.1 U1	1.59	0.11 J1
8/23/2023	Assessment	0.013 J1	2.19	22.7	0.921	0.071	0.83	11.3	5.16	0.07	0.26	0.0482	0.950	< 0.1 U1	1.04	0.10 J1
2/19/2024	Assessment	0.010 J1	3.94	26.2	0.182	0.014 J1	0.45	8.24	3.03	0.25	0.08 J1	0.0542	0.470	< 0.1 U1	0.13 J1	0.07 J1
4/22/2024	Assessment	< 0.008 U1	3.46	40.3	0.449	0.035	0.34	13.2	1.64	0.32	< 0.05 U1	0.0567	0.180	< 0.1 U1	0.48 J1	0.07 J1
9/16/2024	Assessment	0.015 J1	6.08	35.5	0.191	0.013 J1	0.40	14.3	1.18	0.30	0.08 J1	0.0693	0.380	< 0.1 U1	0.28 J1	0.06 J1
2/03/2025	Assessment	0.014 J1	6.81	37.6	0.114	0.007 J1	0.39	13.7	3.38	0.37	0.07 J1	0.0722 M1	0.450	< 0.1 U1	0.14 J1	0.05 J1
4/21/2025	Assessment	0.009 J1	5.81	40.8	0.08 J1	< 0.004 U1	0.27 J1	14.8	0.94	0.39	< 0.05 U1	0.0684	0.240	< 0.1 U1	0.07 J1	0.06 J1
9/08/2025	Assessment	0.11	9.77	46.0	0.07	< 0.004 U1	0.39	14.4	1.44	0.34	0.08 J1	0.0629	2.480	0.09 J1	0.17 J1	0.08 J1

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.
--: 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.
L1: The associated laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) recovery was outside acceptance limits.
M1: The associated matrix spike (MS) or matrix spike duplicate (MSD) recovery was outside acceptance limits
P1: The precision between duplicate results was above acceptance limits.
P3: The precision on the matrix spike duplicate (MSD) was above acceptance limits.
S7: Sample did not achieve constant weight.
mg/L: milligrams per liter
pCi/L: picocuries per liter
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.

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STATISTICAL ANALYSIS SUMMARY, 2025 1ST SEMIANNUAL EVENT EAST BOTTOM ASH POND

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Attachment B: Data Quality Review Memoranda

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ACRONYMS AND ABBREVIATIONS

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

1. INTRODUCTION

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

Based on detection monitoring conducted in 2017 and 2018, statistically significant increases (SSIs) over background were concluded for boron, calcium, chloride, total dissolved solids (TDS), and sulfate at the EBAP (Geosyntec 2018). An alternative source was not identified at the time, so assessment monitoring was initiated and GWPSs were set in accordance with § 352.951(b). Two assessment monitoring events were conducted at the EBAP in February and April 2025 in accordance with § 352.951(a). The results of these annual and semiannual assessment events are documented in this report.

Prior to conducting the statistical analyses, 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 were identified which would impact data usability.

The monitoring data were submitted to Groundwater Stats Consulting, LLC for statistical analysis. Confidence intervals were calculated for Appendix IV parameters at the compliance wells to assess whether statistically significant levels (SSLs) of Appendix IV parameters were present above previously established GWPS. SSLs were identified for cobalt and lithium. 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. EAST BOTTOM ASH POND EVALUATION

2.1 Data Validation and QA/QC

Samples were collected for analysis from each background and compliance well to meet the requirements of § 352.951(a) in February and April 2025. Samples from both sampling events were analyzed for all Appendix III and Appendix IV parameters. A summary of data collected during these assessment monitoring events are presented 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 if the data met the objectives outlined in TCEQ Draft Technical Guidance No. 32 related to groundwater sampling and analysis (TCEQ 2020). The data were determined usable for supporting project objectives, as documented in the review memoranda provided in Attachment B. 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.10.0.27 statistics software. The export file was checked against the analytical data for transcription errors and completeness.

2.2 Statistical Analysis

Statistical analyses for the EBAP were conducted in accordance with the November 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 February and April 2025 were screened for potential outliers. No outliers were identified for these events.

2.2.1 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 ($\alpha = 0.01$). However, 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 GWPSs provided in Table 2. The GWPSs were established during a previous statistical analysis as either the greater value of the background concentration or the maximum contaminant level (Geosyntec 2024).

The following SSLs were identified at the Pirkey EBAP:

- The LCL for cobalt was above the GWPS of 0.00939 milligrams per liter (mg/L) at AD-2 (0.0244 mg/L) and AD-32 (0.00947 mg/L).

- The LCL for lithium exceeded the GWPS of 0.0489 mg/L at AD-2 (0.0617 mg/L), AD-31 (0.0773 mg/L), and AD-32 (0.0496 mg/L).

As a result, the Pirkey EBAP 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.

2.2.2 Evaluation of Potential Appendix III SSIs

While SSLs were identified, a review of the Appendix III results was also completed to assess whether concentrations of Appendix III parameters at the compliance wells were above background concentrations. Data collected during the April 2025 assessment monitoring event from each compliance well were compared to previously established prediction limits to assess whether the results are above background values (Table 3). The following concentrations were above the upper prediction limits (UPLs):

- Boron concentrations were above the interwell UPL of 0.0409 mg/L at AD-2 (3.02 mg/L) and AD-32 (0.097 mg/L).
- Calcium concentrations were above the interwell UPL of 3.23 mg/L at AD-2 (4.6 mg/L) and AD-32 (6.15 mg/L).
- Chloride concentrations were above the interwell UPL of 8.45 mg/L at AD-2 (26.8 mg/L), AD-31 (13.1 mg/L), and AD-32 (10.3 mg/L).
- Fluoride concentrations were above the interwell UPL of 0.257 mg/L at AD-2 (0.37 mg/L) and AD-32 (0.39 mg/L).
- The pH value was above the intrawell UPL of 4.6 standard units (SU) at AD-32 (4.9 SU).
- Sulfate concentrations were above the interwell UPL of 24.7 mg/L at AD-2 (298 mg/L), AD-31 (75.3 mg/L), and AD-32 (55.2 mg/L).
- TDS concentrations were above the interwell UPL of 168 mg/L at AD-2 (570 mg/L), AD-31 (230 mg/L), and AD-32 (180 mg/L).

While the prediction limits were calculated for a one-of-two retesting procedure, SSIs were conservatively assumed if the April 2025 sample was above the UPL or, in the case of pH, below the lower prediction limit.

2.3 Conclusions

Annual and semiannual assessment monitoring events were conducted in accordance with the CCR Rule. The laboratory and field data were reviewed prior to statistical analysis, and no QA/QC issues that impacted data usability were identified. A review of outliers identified no potential outliers in the February and April 2025 data. 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. SSLs were identified for cobalt and lithium. Appendix III parameters were compared to calculated prediction limits, with exceedances identified for boron, calcium, chloride, fluoride, pH, sulfate, and TDS.

Based on this evaluation, the Pirkey EBAP CCR unit 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.

3. REFERENCES

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TABLES

Table 1. Groundwater Data Summary
Statistical Analysis Summary
Pirkey Plant – East Bottom Ash Pond

Parameter	Unit	AD-2		AD-4		AD-12		AD-18		AD-31		AD-32	
		Compliance		Background		Background		Background		Compliance		Compliance	
		2/4/2025	4/22/2025	2/3/2025	4/23/2025	2/3/2025	4/21/2025	*2/4/2025	*4/23/2025	2/3/2025	4/21/2025	2/3/2025	4/21/2025
Antimony	µg/L	0.5 U1	0.5 U1	0.013 J1	0.1 U1	0.016 J1	0.010 J1	0.009 J1	0.1 U1	0.009 J1	0.1 U1	0.014 J1	0.009 J1
Arsenic	µg/L	2.0	1.5	0.11	0.35	0.09 J1	0.09 J1	0.20	0.18	0.30	0.26	6.81	5.81
Barium	µg/L	15.0	13.5	133	103	19.1	15.0	71.7	76.8	30.1	31.0	37.6	40.8
Beryllium	µg/L	1.15	0.90	0.36	0.50	0.129	0.108	0.090	0.082	0.96	0.94	0.114	0.08 J1
Boron	mg/L	3.98	3.02	0.038 J1	0.018 J1	0.029 J1	0.020 J1	0.013 J1	0.011 J1	0.030 J1	0.024 J1	0.097	0.097
Cadmium	µg/L	0.18	0.12	0.020	0.016 J1	0.012 J1	0.005 J1	0.010 J1	0.011 J1	0.058	0.061	0.007 J1	0.02 U1
Calcium	mg/L	5.1	4.6	2.70	2.37	0.23	0.17	0.20	0.23	2.20	2.20	6.08 M1	6.15
Chloride	mg/L	27.3	26.8	4.21	4.12	4.94	4.58	4.80	4.98	13.9	13.1	9.98	10.3
Chromium	µg/L	0.5 J1	0.5 J1	0.37	0.32	0.29 J1	0.52	0.59	0.49	0.41	0.39	0.39	0.27 J1
Cobalt	µg/L	37.1	34.9	3.52	4.86	1.14	0.900	0.844	0.991	8.68	8.87	13.7	14.8
Combined Radium	pCi/L	1.22	3.53	1.65	2.39	0.9	1.32	0.98	1.12	4.36	2.67	3.38	0.94
Fluoride	mg/L	0.36	0.37	0.06 U1	0.05 J1	0.08	0.08	0.06 U1	0.06 U1	0.13	0.12	0.37	0.39
Lead	µg/L	0.8 J1	0.7 J1	0.2 U1	0.2 U1	0.10 J1	0.10 J1	0.13 J1	0.09 J1	0.27	0.27	0.07 J1	0.2 U1
Lithium	mg/L	0.0872	0.0791 M1	0.0254	0.0373	0.00579	0.00514	0.0135	0.0152	0.0782	0.0934	0.0722 M1	0.0684
Mercury	µg/L	0.073	0.062	0.005	0.004 J1	0.004 J1	0.002 J1	0.024	0.014	0.440	0.500	0.450	0.240
Molybdenum	µg/L	2.5 U1	2.5 U1	0.5 U1	0.5 U1	0.5 U1	0.5 U1	0.5 U1	0.5 U1	0.5 U1	0.5 U1	0.5 U1	0.5 U1
Selenium	µg/L	7.9	6.4	0.07 J1	0.5 U1	0.31 J1	0.20 J1	0.14 J1	0.10 J1	0.50	0.38 J1	0.14 J1	0.07 J1
Sulfate	mg/L	290	298	17.8	20.5	3.1	2.7	6.8	7.5	70.6	75.3	52.7	55.2
Thallium	µg/L	0.2 J1	0.1 J1	0.10 J1	0.09 J1	0.2 U1	0.2 U1	0.04 J1	0.04 J1	0.08 J1	0.09 J1	0.05 J1	0.06 J1
Total Dissolved Solids	mg/L	590 S7	570	140	110	80	70	90	100	240	230	160	180
pH	SU	4.3	4.0	4.9	4.0	3.2	3.2	4.6	4.2	3.1	3.1	4.8	4.9

Notes:
*: pH value collected on 2/3/2025 and 4/22/25. Well purged dry and sampled on 2/4/25 and 4/23/25 respectively.
J1: Estimated value. Parameter was detected in concentrations below the reporting limit.
M1: The associated matrix spike (MS) or matrix spike duplicate (MSD) recovery was outside acceptance limits.
mg/L: milligrams per liter
pCi/L: picocuries per liter
S7: Sample did not achieve constant weight.
SU: standard unit
U1: Non-detect value. For statistical analysis, parameters which were not detected were replaced with the reporting limit.
µg/L: micrograms per liter

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

Constituent Name	MCL	Calculated UTL	GWPS
Antimony, Total (mg/L)	0.00600	0.000100	0.00600
Arsenic, Total (mg/L)	0.0100	0.0110	0.0110
Barium, Total (mg/L)	2.00	0.183	2.00
Beryllium, Total (mg/L)	0.00400	0.00125	0.00400
Cadmium, Total (mg/L)	0.00500	0.000260	0.00500
Chromium, Total (mg/L)	0.100	0.00262	0.100
Cobalt, Total (mg/L)	n/a	0.00939	0.00939
Combined Radium, Total (pCi/L)	5.00	3.26	5.00
Fluoride, Total (mg/L)	4.00	0.257	4.00
Lead, Total (mg/L)	n/a	0.000700	0.000700
Lithium, Total (mg/L)	n/a	0.0489	0.0489
Mercury, Total (mg/L)	0.00200	0.0000640	0.00200
Molybdenum, Total (mg/L)	n/a	0.000700	0.000700
Selenium, Total (mg/L)	0.0500	0.00245	0.0500
Thallium, Total (mg/L)	0.00200	0.00187	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
Pirkey Plant – East Bottom Ash Pond

Geosyntec Consultants, Inc.

Analyte	Unit	Description	AD-2	AD-31	AD-32
			4/22/2025	4/21/2025	4/21/2025
Boron	mg/L	Interwell Background Value (UPL)	0.0409		
		Analytical Result	**3.02**	0.024	**0.097**
Calcium	mg/L	Interwell Background Value (UPL)	3.23		
		Analytical Result	**4.6**	2.20	**6.15**
Chloride	mg/L	Interwell Background Value (UPL)	8.45		
		Analytical Result	**26.8**	**13.1**	**10.3**
Fluoride	mg/L	Interwell Background Value (UPL)	0.257		
		Analytical Result	**0.37**	0.12	**0.39**
pH	SU	Intrawell Background Value (UPL)	4.6	5.0	4.6
		Intrawell Background Value (LPL)	3.4	2.9	2.6
		Analytical Result	4.0	3.1	**4.9**
Sulfate	mg/L	Interwell Background Value (UPL)	24.7		
		Analytical Result	**298**	**75.3**	**55.2**
Total Dissolved Solids	mg/L	Interwell Background Value (UPL)	168		
		Analytical Result	**570**	**230**	**180**

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 Pirkey East Bottom Ash Pond CCR management area and that the requirements of § 352.931(a) have been met.



David Anthony Miller

Printed Name of Licensed Professional Engineer

David Anthony Miller

Signature

112498	Texas	09.26.2025
License Number	Licensing State	Date

ATTACHMENT B
Data Quality Review Memoranda

Geosyntec consultants

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

Memorandum

Date:	August 29, 2025
To:	David Miller (AEP)
Copies to:	Pryce Warren (AEP)
From:	Allison Kreinberg (Geosyntec)
Subject:	Data Quality Review – Pirkey Power Plant February 2025 Sampling Event

This memorandum summarizes the findings of a data quality review for groundwater samples collected at the Pirkey Power Plant, located in Hallsville, Texas in February 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 during the February 2025 sampling event and are reviewed in this memorandum:

- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 250367
- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 250394

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 250394, chromium and lithium were detected in the field blank sample "Field Blank" collected on 2/4/25. The estimated detected chromium concentration in the field blank (0.19 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 in the chromium results for all groundwater samples.

- As reported in SDG 250394, antimony, barium, calcium, chromium, cobalt, and lithium were detected in the equipment blank sample "Equipment Blank" collected on 2/3/25. The estimated detected antimony concentration (0.008 µg/L) and detected chromium concentration (0.50 µg/L) in the equipment blank were more than 10% of the detected values for antimony and chromium in all groundwater samples, which could result in high bias in the antimony and chromium results for all groundwater samples. The detected calcium concentration (0.05 mg/L) in the equipment blank was more than 10% of the detected values for calcium in samples AD-12, AD-17, AD-18, and AD-30, which could result in high bias in the calcium results for these samples.

- As reported in SDG 250394, the relative percent difference (RPD) for cadmium concentrations from parent sample "AD-13" and duplicate sample "DUPLICATE" was 25%. The RPD for chromium was 51%, and the RPD for thallium was 40%. The antimony result for AD-13 was nondetect (<0.008 µg/L), and the antimony result for the duplicate sample was a detection (0.018 µg/L). The lead result for AD-13 was a detection (0.11 µg/L), and the lead result for the duplicate sample was nondetect (<0.05 µg/L). Therefore, RPDs could not be calculated for antimony or lead. The AD-13 results for antimony, cadmium, chromium, lead, and thallium should be considered estimated.

- As reported in SDG 250367, sample "AD-2" collected on 2/4/2025 for total dissolved solids (TDS) was flagged S7: sample did not achieve constant weight.

- As reported in SDG 250394, matrix spike duplicate (MSD) recovery for calcium (71.7%) was below the acceptable limit of 75%. The associated sample (AD-13) was flagged M1: the associated matrix spike (MS) or MSD recovery was outside acceptance limits. The AD-13 calcium result should be considered estimated.

- As reported in SDG 250394, MSD recovery for calcium (72.1%) was below the acceptable limit of 75%, and MSD recovery for lithium (151%) was above the acceptable limit of 125%. The associated sample (AD-32) was flagged M1: the associated MS or MSD recovery was outside acceptance limits. The AD-32 calcium and lithium results should be considered estimated.

- The RPD for beryllium (23.6%) and lithium (24.7%) in the ICPMS MSD sample "PB25021012" was above the acceptable limit of 20%. The recovery for lithium (143%) in the MSD sample was above the acceptable limit of 125%. Samples associated with that

QC batch on SDG 250394 were flagged M1: the associated MS or MSD recovery was outside acceptance limits.

- The RPD for radium-226 in the laboratory control spike duplicate (LCSD) sample "PB25021403" (35.6%) was above the acceptable limit of 25%. Samples associated with that QC batch on SDG 250394 were flagged P2: the precision on the LCSD 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.

Geosyntec consultants

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www.geosyntec.com

Memorandum

Date:	September 2, 2025
To:	David Miller (AEP)
Copies to:	Pryce Warren (AEP)
From:	Allison Kreinberg (Geosyntec)
Subject:	Data Quality Review – Pirkey Power Plant April 2025 Sampling Event

This memorandum summarizes the findings of a data quality review for groundwater samples collected at the Pirkey Power Plant in Hallsville, 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"). 40 CFR 257 Appendix III and IV constituents were analyzed.

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

- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 251095
- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 251109

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 251109, antimony, calcium, and chromium were detected in the field blank sample "Field Blank" collected on 4/23/25. The estimated detected antimony concentration (0.0.067 µg/L) and estimated detected chromium concentration (0.23 µg/L)

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

in the field blank were more than 10% of the detected values for antimony and chromium in all groundwater samples that had detectable levels of those constituents, which could result in high bias in the antimony and chromium results for those groundwater samples. The estimated detected calcium concentration in the field blank (0.02 mg/L) was more than 10% of the detected value for calcium in sample AD-12, which could result in high bias in the calcium result for sample AD-12.

- As reported in SDG 251109, barium, calcium, chromium, and lithium were detected in the equipment blank sample "Equipment Blank" collected on 4/22/25. The estimated detected calcium concentration in the equipment blank (0.02 mg/L) was more than 10% of the detected value for calcium in sample AD-12, which could result in high bias in the calcium result for sample AD-12. The detected chromium concentration in the equipment blank (0.36 µg/L) was more than 10% of the detected values for chromium in all groundwater samples, which could result in high bias in the chromium results for all groundwater samples.

- As reported in SDG 251109, the relative percent difference (RPD) for lead concentrations from parent sample "AD-33" and duplicate sample "Duplicate 1" was 29%. The AD-33 result for lead should be considered estimated.

- As reported in SDG 251095, samples "AD-30" and "AD-34" collected on 4/22/2025 and 4/23/2025, respectively, for total dissolved solids (TDS) were flagged S7: sample did not achieve constant weight. Sample "AD-36" collected on 4/23/2025 for TDS was flagged S12: residue weight is below the method criteria but was already analyzed with 100 mL.

- As reported in SDG 251109, laboratory QC sample ICPMS MS had a MS recovery for lithium above the acceptable limit of 125%. Samples associated with this laboratory QC sample were flagged M1: the associated MS or MSD recovery was outside acceptance limits.

- Radium-226 in the laboratory control sample (LCS) sample "PB25043002" was outside acceptance limits. Samples associated with that QC batch on SDG 251109 were flagged L1: the associated LCS or laboratory control sample (LCSD) recovery was outside acceptance limits. Duplicates were not available for analysis with this batch. Samples associated with this QC batch on SDG 251109 were flagged O3: insufficient sample was received to perform duplicate analysis with this sample batch. The associated results should be considered estimated.

- The percent recovery for radium-228 in the LCSD sample "PB25050106" (74.5%) was below the acceptable limit of 75%. Samples associated with that QC batch on SDG 251109 were flagged L1: the associated LCS or LCSD recovery was outside 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.

ATTACHMENT C
Statistical Analysis Output

GROUNDWATER STATS CONSULTING

August 18, 2025

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

Re: Pirkey East Bottom Ash Pond
Assessment Monitoring Event – February & April 2025

Dear Ms. Kreinberg,

Groundwater Stats Consulting (GSC), formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the evaluation of groundwater data from the February and April 2025 sample events for American Electric Power Company's Pirkey East Bottom Ash Pond (EBAP). 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 at each of the wells below began at Pirkey EBAP 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-4, AD-12, and AD-18
- **Downgradient wells:** AD-2, AD-31, and AD-32

Data were sent electronically, and the statistical analysis was conducted according to the Statistical Analysis Plan and screening evaluation prepared by GSC and approved by Dr. Kirk Cameron, PhD Statistician with MacStat Consulting, primary author of the USEPA Unified Guidance, and Senior Advisor to GSC. 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 CCR program consists of the following Assessment monitoring 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 graphs for Appendix IV parameters are provided for all wells 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 in background, which have previously been flagged as outliers, may be seen in a lighter font and disconnected symbol on the graphs. A summary of flagged values follows this letter (Figure C).

For all constituents, a substitution of the most recent reporting limit is used for non-detect data. 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 occur depending on laboratory capabilities. In the case of fluoride and lead, elevated historic reporting limits were replaced by the most recent laboratory reporting limits of 0.06 mg/L and 0.0002 mg/L, respectively, which were substituted across all non-detects for all wells. Due to a dilution factor, elevated reporting limits were present for molybdenum at downgradient well AD-2 during the February & April 2025 events; therefore, the most recent reporting limit for molybdenum of 0.0005 mg/L from the remaining wells replaced all non-detects at all wells for this constituent. The computed statistical limits, both background and compliance limits, were not adversely affected by these substitutions.

Summary of Statistical Methods

Assessment monitoring for Appendix IV parameters involves the comparison of a confidence interval for each parameter at downgradient wells against the corresponding Groundwater Protection Standard (GWPS). The GWPS is determined for each parameter as the highest limit of the Maximum Contaminant Levels (MCLs) or background limits determined from tolerance limits constructed from pooled upgradient well data.

Prior to computing tolerance limits on upgradient well data or confidence intervals on downgradient well data, 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 (US EPA, 2009), data are analyzed using either parametric or non-

parametric tolerance limits and confidence intervals as appropriate, based on the following criteria.

- 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 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 and confidence intervals are used on data containing greater than 50% non-detects or data sets which do not follow a normal or transformed-normal distribution.

Summary of Background Update – Conducted in Fall 2024

Outlier Analysis

Prior to evaluating Appendix IV parameters, background data are screened through visual screening and Tukey's outlier test on pooled upgradient wells for potential outliers and extreme trending patterns that would lead to artificially elevated statistical limits.

Tukey's outlier test on pooled upgradient well data through September 2024 identified values for fluoride and thallium as shown in the Tukey's Outlier Test Results table. However, none of those currently identified values were flagged as all identified observations were low-level concentrations and were below the respective MCL. Visual screening confirmed previously flagged non-detects observations from 2019 with elevated reporting limits for molybdenum and thallium in both upgradient and downgradient wells. These elevated reporting limits are more than an order of magnitude higher than the current reporting limits.

Additionally, downgradient well data through September 2024 were 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. Several observations among the 2016 events for multiple Appendix IV constituents among downgradient wells AD-2, AD-31, and AD-32 remain flagged as outliers since the

measurements were inconsistent with remaining concentrations. An elevated fluoride observation in 2018 at downgradient well AD-32 also remains flagged. The flagged non-detect observations with elevated reporting limits from 2019 for molybdenum and thallium are discussed above. No changes were made to previously flagged data.

Interwell Upper Tolerance Limits

Interwell upper tolerance limits were used to calculate background limits from all available pooled upgradient well data through September 2024 for Appendix IV parameters to determine the background limit for each constituent (Figure D). For parametric limits a target of 95% confidence and 95% coverage is used. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples.

Groundwater Protection Standards

Background limits were compared to the MCLs in the GWPS table following this letter to determine the highest limit for use as the GWPS in the Confidence Interval comparisons (Figure E).

Evaluation of Appendix IV Parameters – February & April 2025

Time series plots were used to visually identify potential outliers in downgradient wells through the February and April 2025 sample events. When suspected outliers are identified, Tukey's outlier test may be used to formally test whether measurements are statistically significant. As mentioned above, high outliers are cautiously flagged in the downgradient wells when measurements are clearly much different from remaining data within a given well. Although flagging high values will also reduce the mean and thus lower the entire interval, the intent is to reduce the variance and thus reduce the width of parametric confidence intervals to better represent the actual downgradient mean. No additional suspected outliers were identified.

An increase in reported concentrations of more recent data was previously noted for lithium and cobalt relative to historical concentrations in well AD-2. During this analysis, decreasing trends were identified for cobalt at AD-31 and AD-32 and lithium at AD-32. In order to construct confidence intervals that represent current groundwater quality conditions and eliminate the influence of the trend, earlier concentrations were truncated and deselected from these records (USEPA Unified Guidance, 2009, Chapter 7). The records for lithium and cobalt at AD-2 will use concentrations from March 2022 onward and the records for cobalt at AD-31 and AD-32 and lithium at AD-32 will use the 8 most

recent observations to construct confidence intervals. Deselected observations are shown as disconnected points on the time series plot. A list of well/constituent pairs using truncated records follows this report.

Confidence Intervals

Confidence intervals were then constructed on downgradient wells with data through February & April 2025 for each of the Appendix IV parameters using either parametric or nonparametric intervals depending on the data distribution and percentage of non-detects (Figure F). When data followed a normal or transformed-normal distribution, parametric confidence intervals were constructed for Appendix IV parameters. Nonparametric confidence intervals, which use the appropriate large and small 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 samples available. Only when the entire confidence interval is above the GWPS is the well/constituent pair considered to exceed its respective standard.

Both a tabular summary and graphical presentation of the confidence interval results follow this letter. Exceedances were noted for the following well/constituent pairs:

- Cobalt: AD-2 and AD-32
- Lithium: AD-2, AD-31, and AD-32

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 G). The 95% confidence level rapidly identifies statistically significant trends and is recommended in cases with limited sample sizes as well as new downgradient wells. 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. Statistically significant trends were identified for the following well/constituent pairs:

Increasing

- Cobalt: AD-2
- Lithium: AD-2

Decreasing

- Cobalt: AD-12, AD-18, AD-4 (all upgradient), and AD-32
- Lithium: AD-12, AD-18 (both upgradient), and AD-32

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

For Groundwater Stats Consulting,





Abdul Diane
Groundwater Analyst

Andrew T. Collins
Project Manager

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Date Ranges

Date: 7/31/2025 3:08 PM

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Cobalt, total (mg/L)
- AD-2 overall:3/29/2022-4/22/2025
- AD-31 overall:2/27/2023-4/21/2025
- AD-32 overall:2/27/2023-4/21/2025

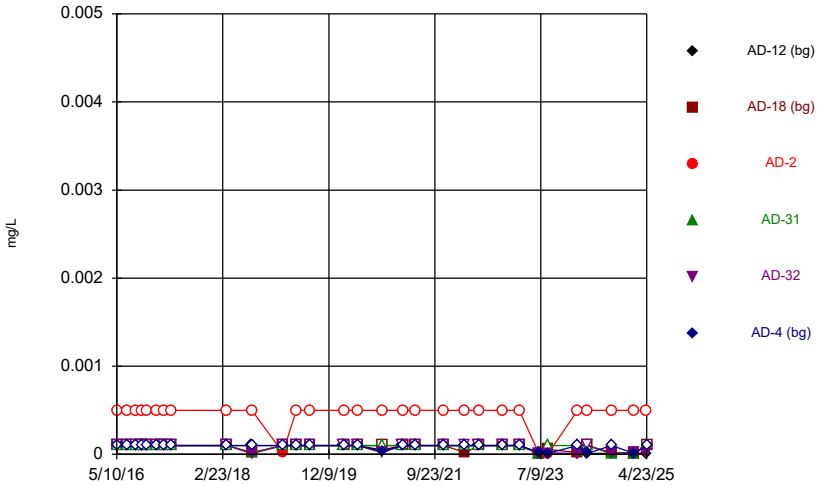
Lithium, total (mg/L)
- AD-2 overall:3/29/2022-4/22/2025
- AD-32 overall:2/27/2023-4/21/2025

FIGURE A

Time Series

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

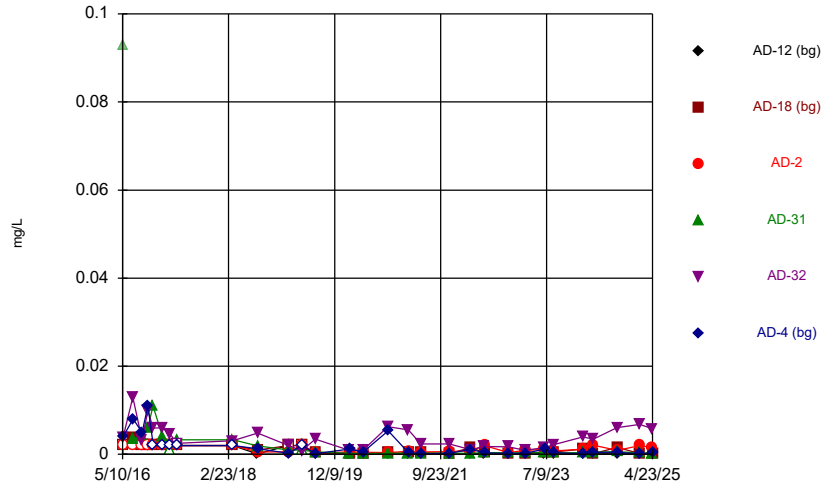
Time Series



Constituent: Antimony, total Analysis Run 8/18/2025 11:33 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

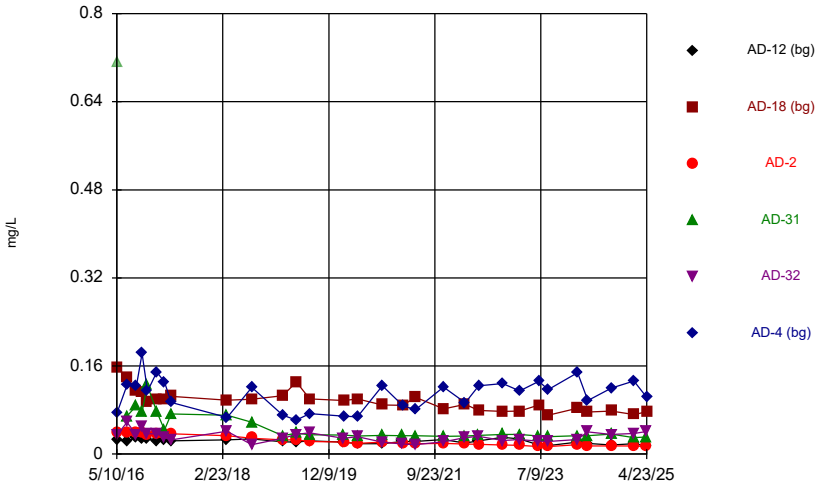
Time Series



Constituent: Arsenic, total Analysis Run 8/18/2025 11:33 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG

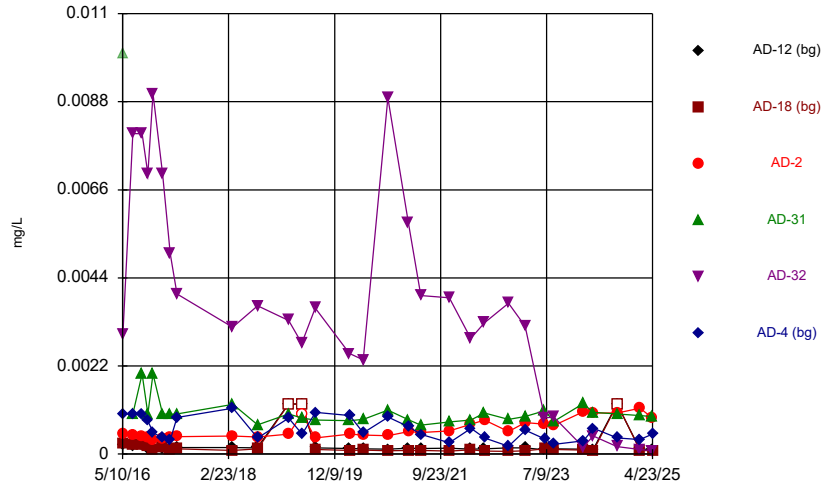
Time Series



Constituent: Barium, total Analysis Run 8/18/2025 11:33 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

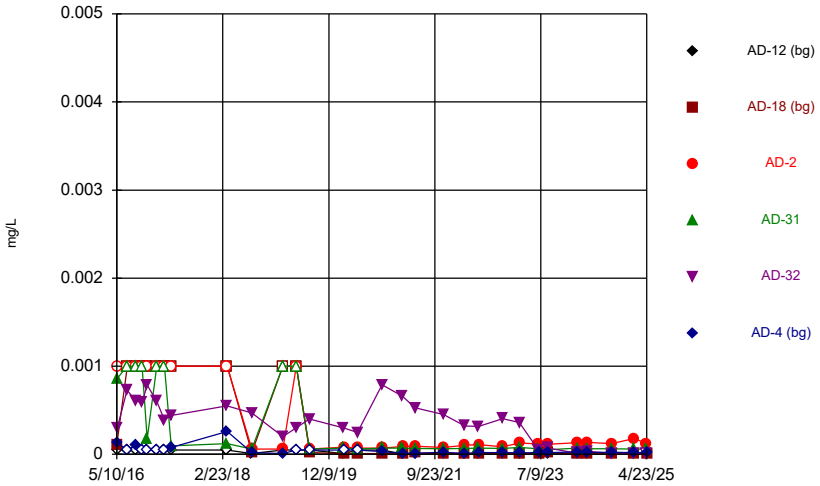
Time Series



Constituent: Beryllium, total Analysis Run 8/18/2025 11:33 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

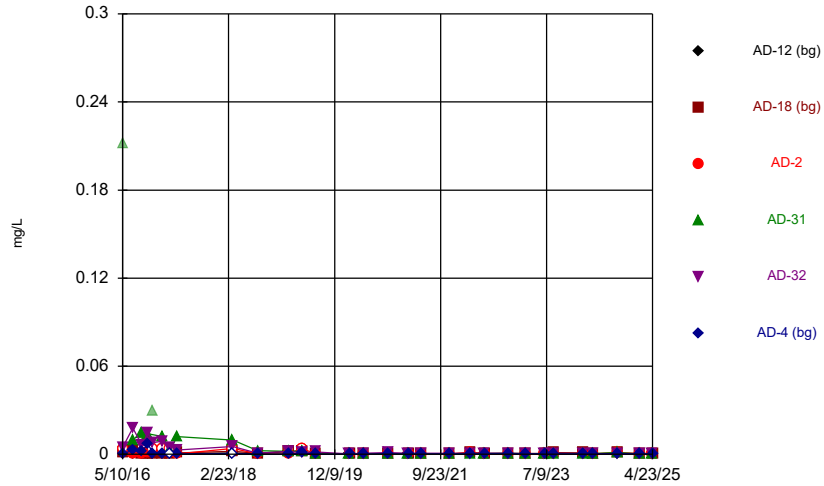
Time Series



Constituent: Cadmium, total Analysis Run 8/18/2025 11:33 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

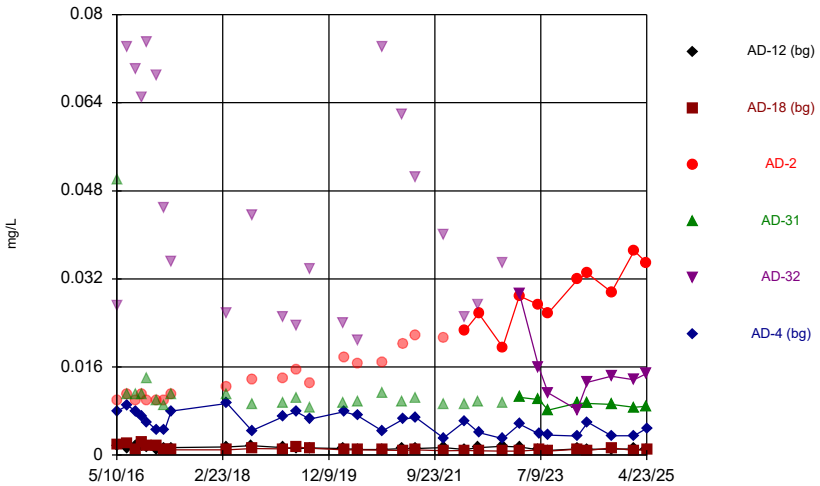
Time Series



Constituent: Chromium, total Analysis Run 8/18/2025 11:33 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG

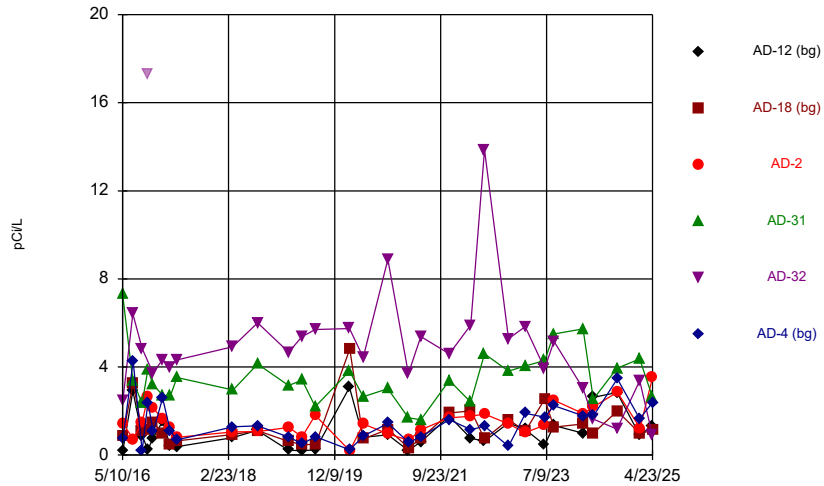
Time Series



Constituent: Cobalt, total Analysis Run 8/18/2025 11:33 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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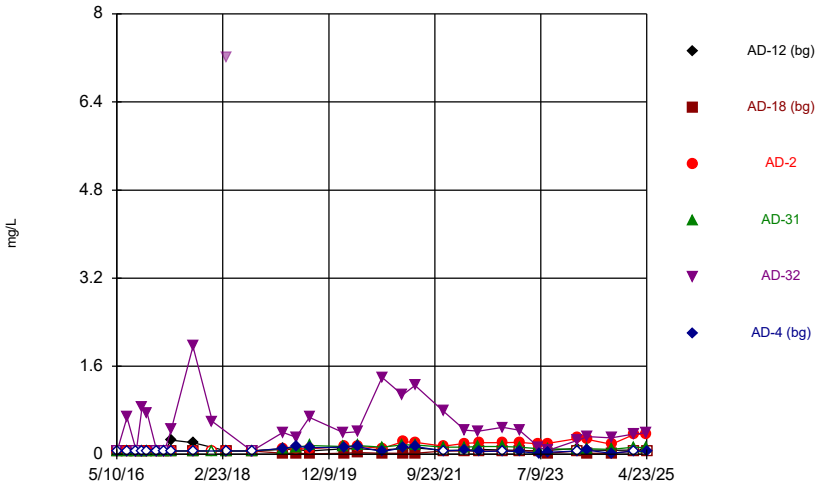
Time Series



Constituent: Combined Radium 226 + 228 Analysis Run 8/18/2025 11:33 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

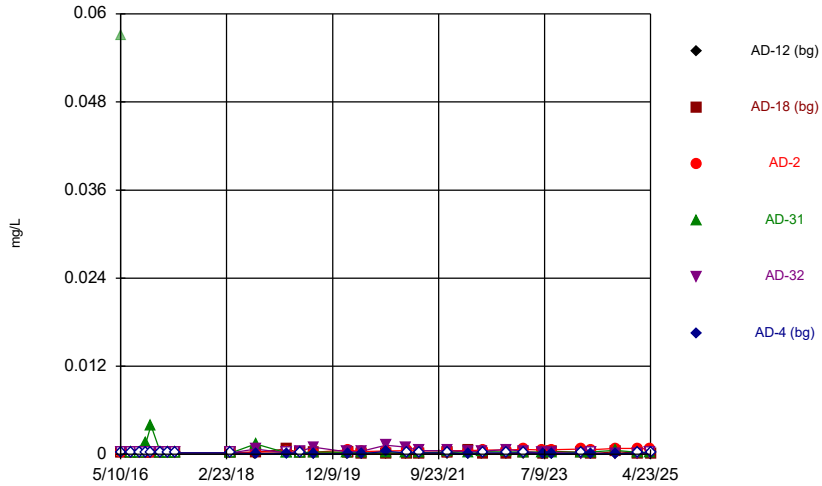
Time Series



Constituent: Fluoride, total Analysis Run 8/18/2025 11:33 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

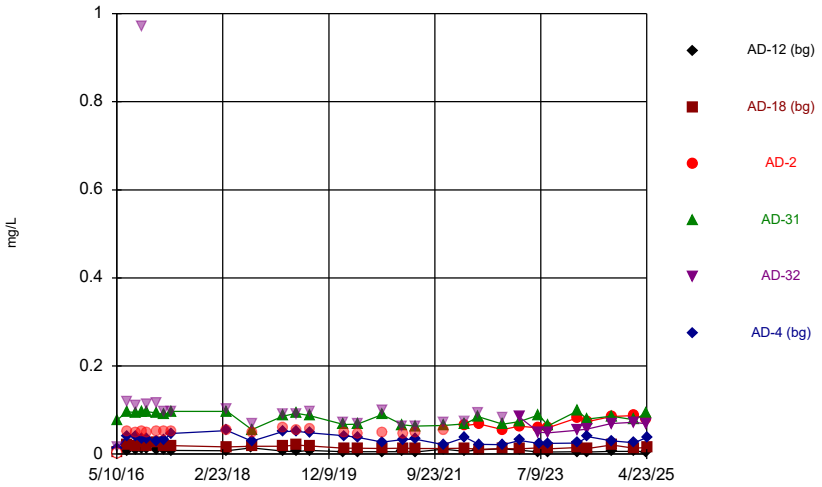
Time Series



Constituent: Lead, total Analysis Run 8/18/2025 11:33 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

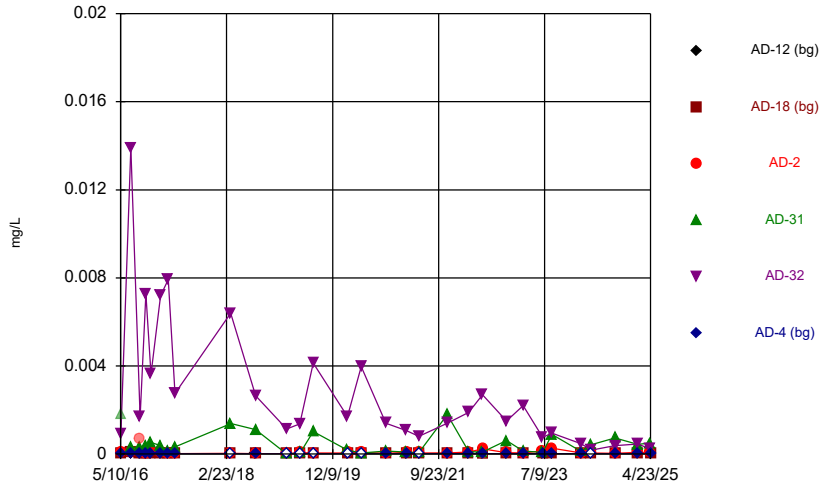
Time Series



Constituent: Lithium, total Analysis Run 8/18/2025 11:33 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

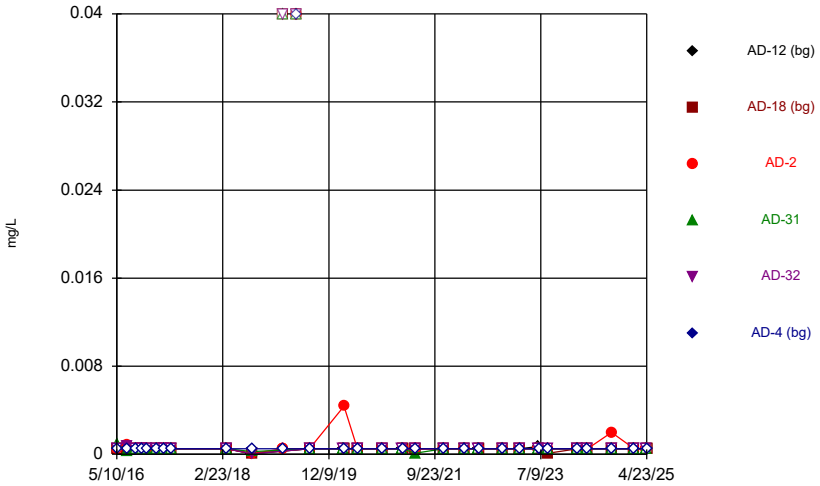
Time Series



Constituent: Mercury, total Analysis Run 8/18/2025 11:33 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

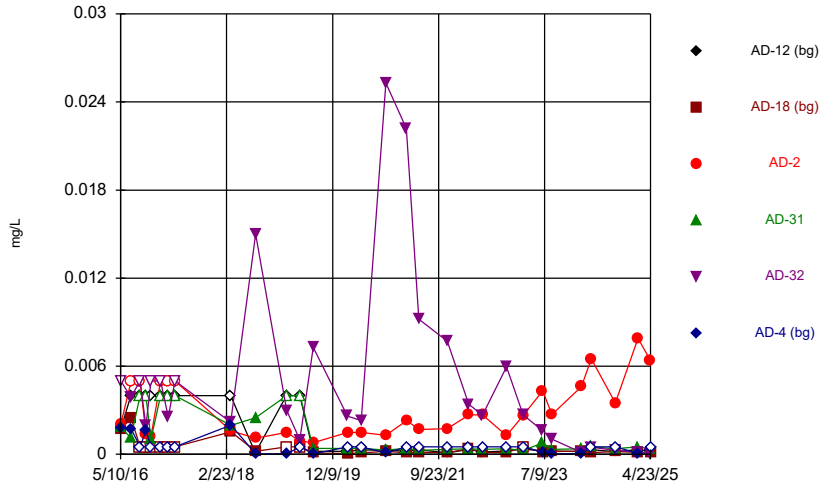
Time Series



Constituent: Molybdenum, total Analysis Run 8/18/2025 11:33 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

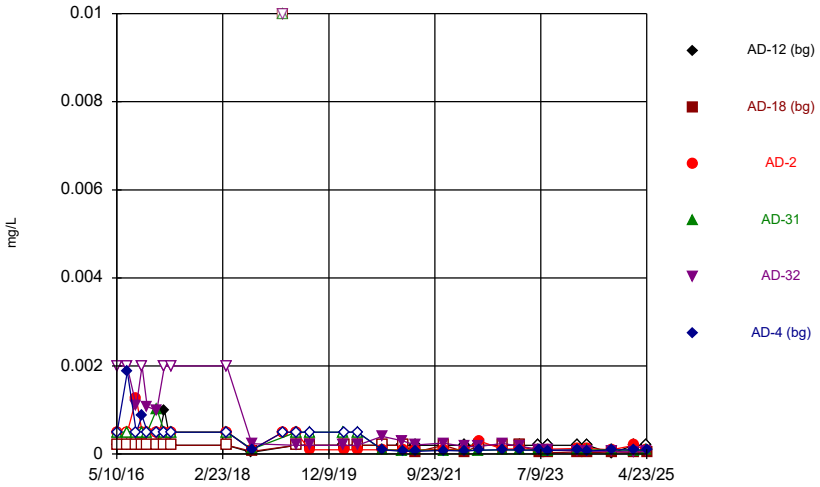
Time Series



Constituent: Selenium, total Analysis Run 8/18/2025 11:33 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series



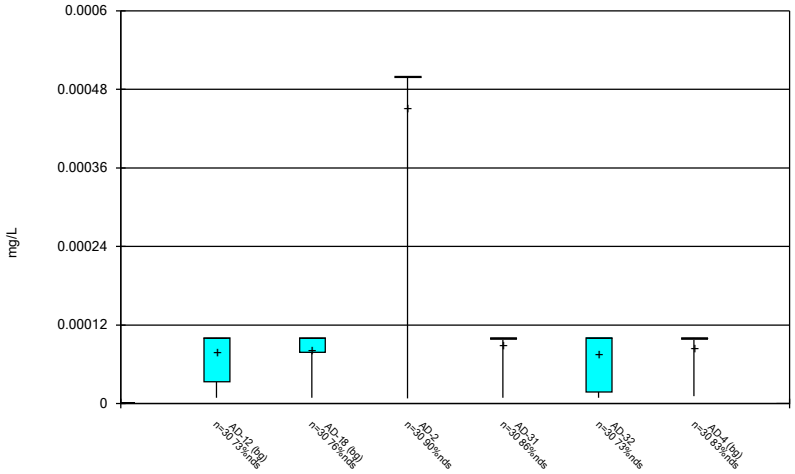
Constituent: Thallium, total Analysis Run 8/18/2025 11:33 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

FIGURE B

Box Plots

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG

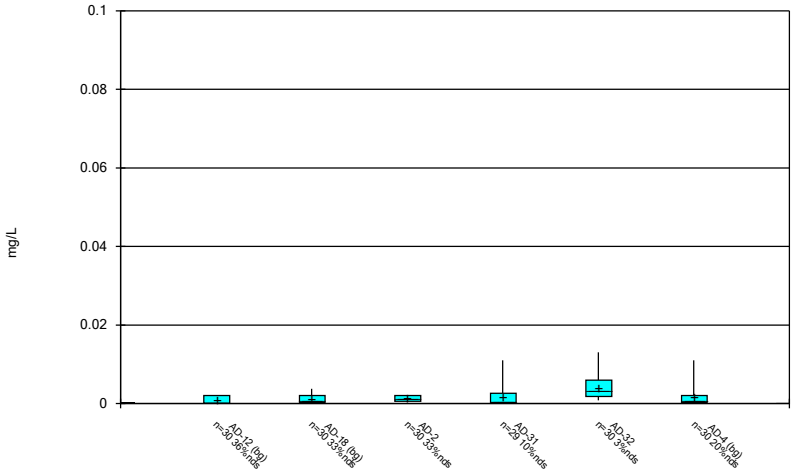
Box & Whiskers Plot



Constituent: Antimony, total Analysis Run 8/18/2025 11:34 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG

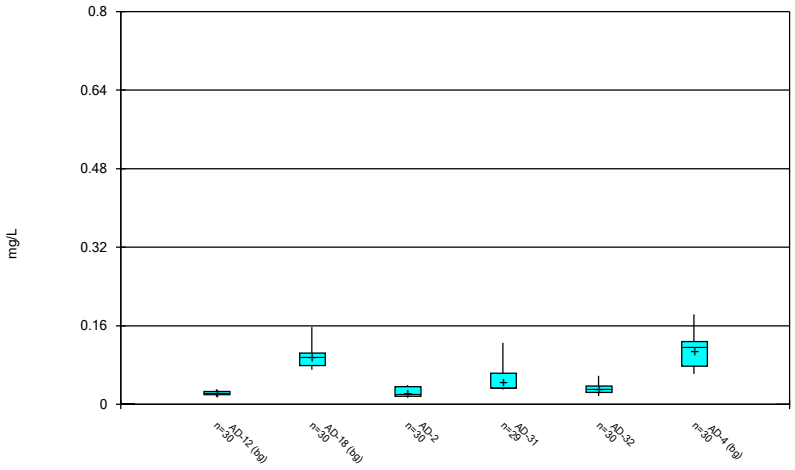
Box & Whiskers Plot



Constituent: Arsenic, total Analysis Run 8/18/2025 11:34 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG

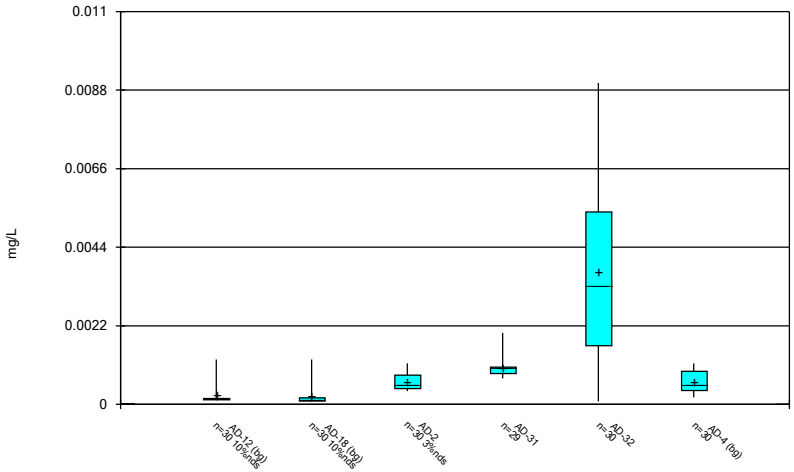
Box & Whiskers Plot



Constituent: Barium, total Analysis Run 8/18/2025 11:34 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG

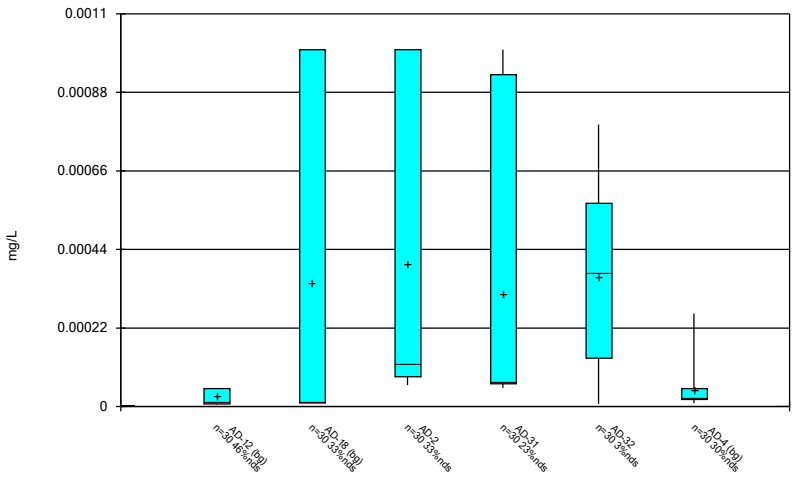
Box & Whiskers Plot



Constituent: Beryllium, total Analysis Run 8/18/2025 11:34 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG

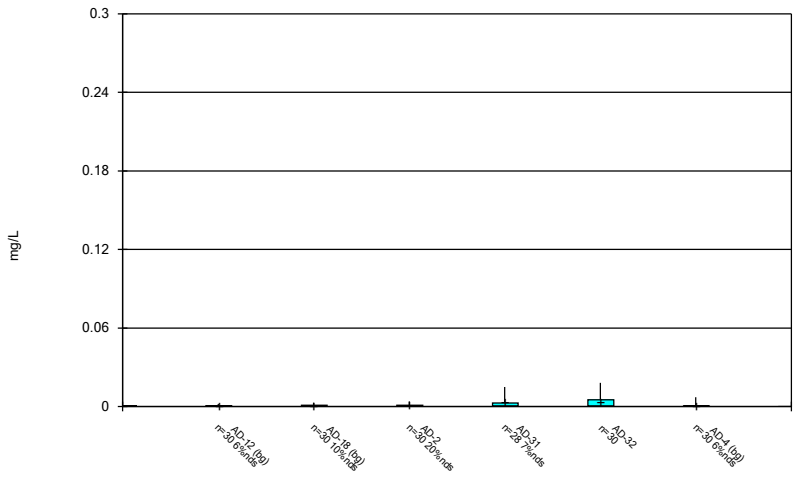
Box & Whiskers Plot



Constituent: Cadmium, total Analysis Run 8/18/2025 11:34 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG

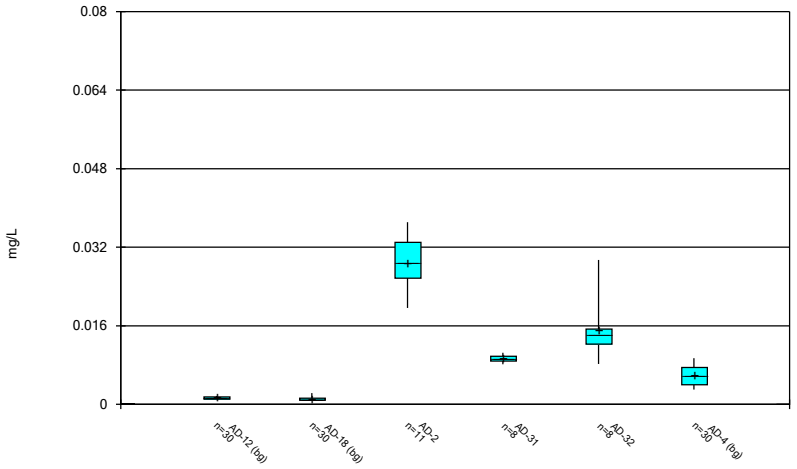
Box & Whiskers Plot



Constituent: Chromium, total Analysis Run 8/18/2025 11:34 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG

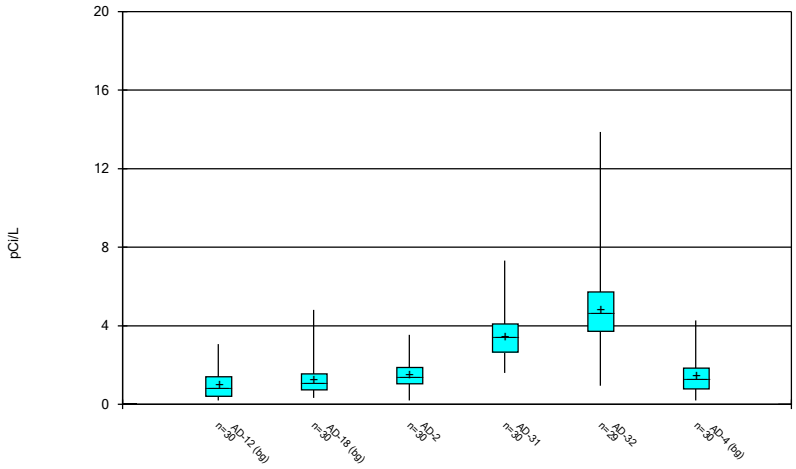
Box & Whiskers Plot



Constituent: Cobalt, total Analysis Run 8/18/2025 11:34 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG

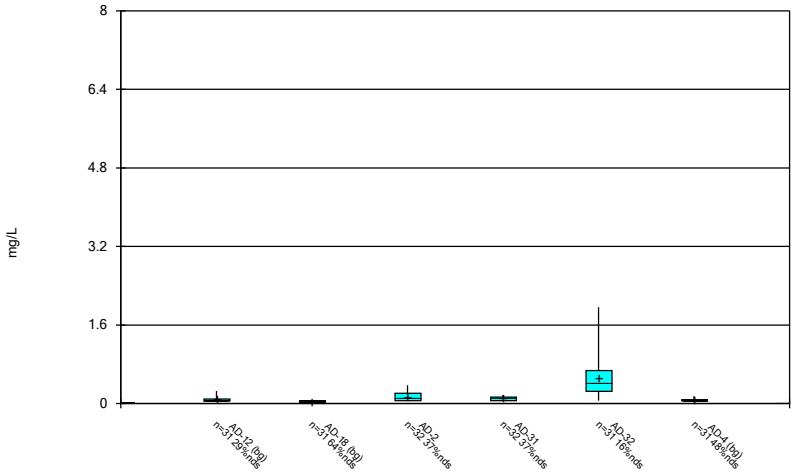
Box & Whiskers Plot



Constituent: Combined Radium 226 + 228 Analysis Run 8/18/2025 11:34 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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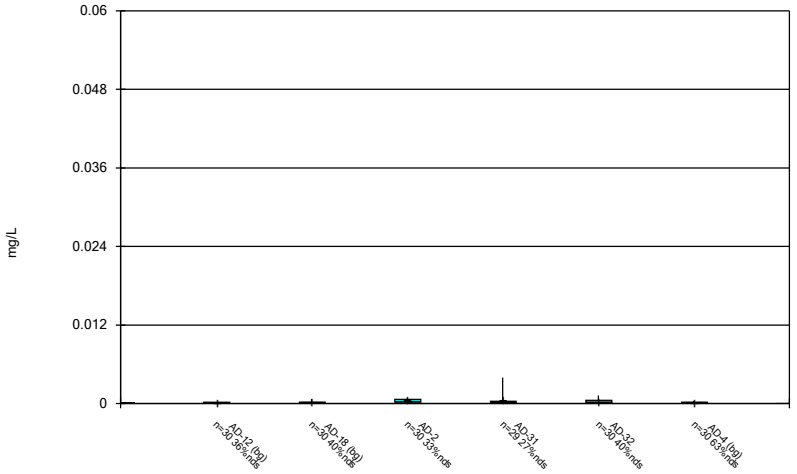
Box & Whiskers Plot



Constituent: Fluoride, total Analysis Run 8/18/2025 11:34 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG

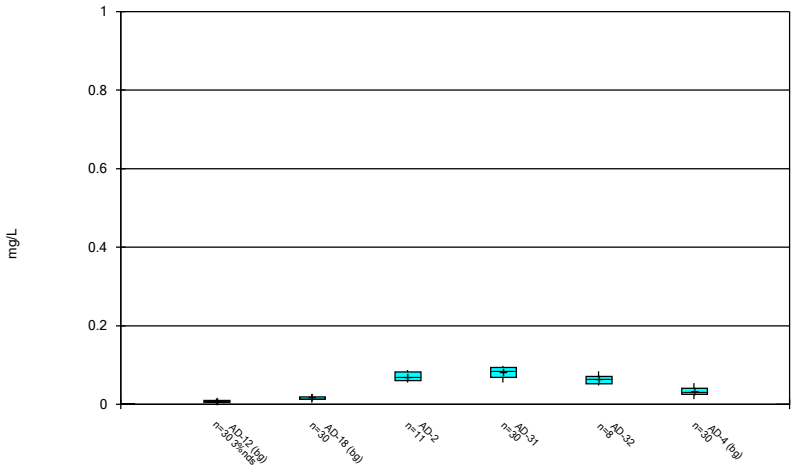
Box & Whiskers Plot



Constituent: Lead, total Analysis Run 8/18/2025 11:34 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG

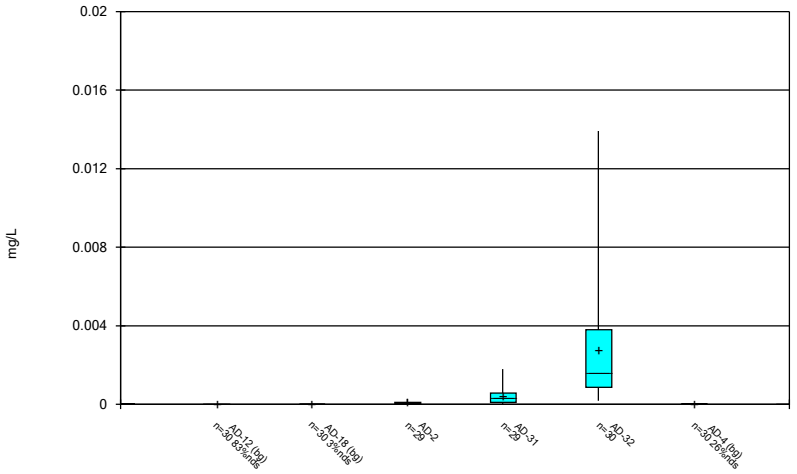
Box & Whiskers Plot



Constituent: Lithium, total Analysis Run 8/18/2025 11:34 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG

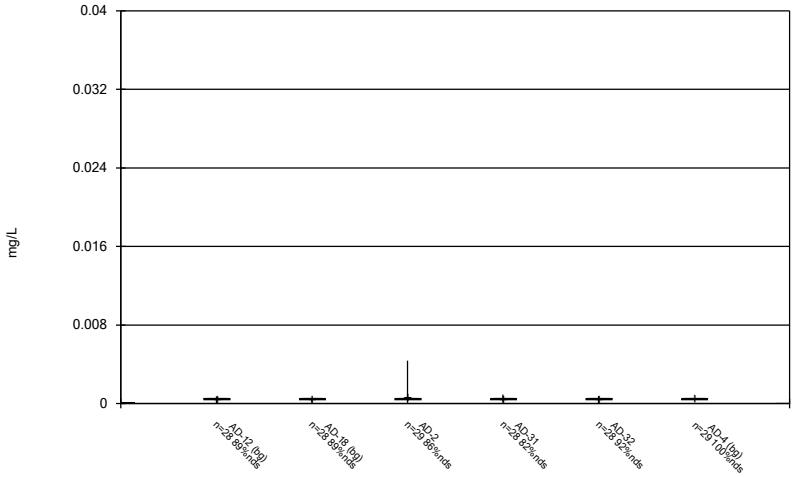
Box & Whiskers Plot



Constituent: Mercury, total Analysis Run 8/18/2025 11:34 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG

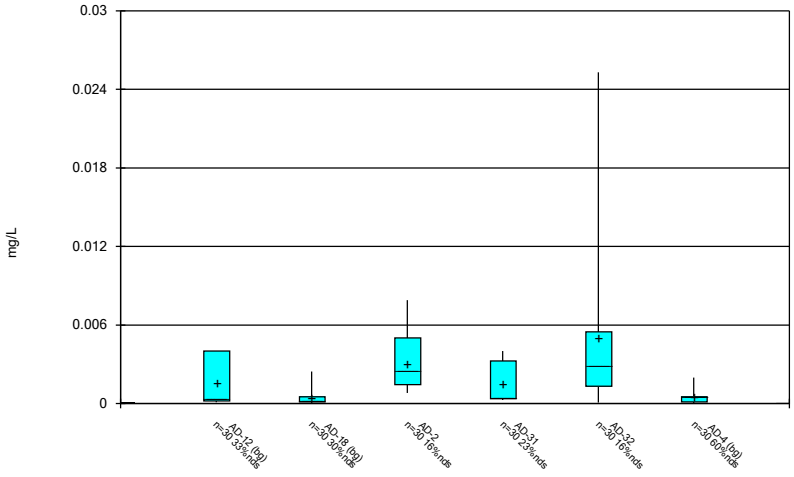
Box & Whiskers Plot



Constituent: Molybdenum, total Analysis Run 8/18/2025 11:34 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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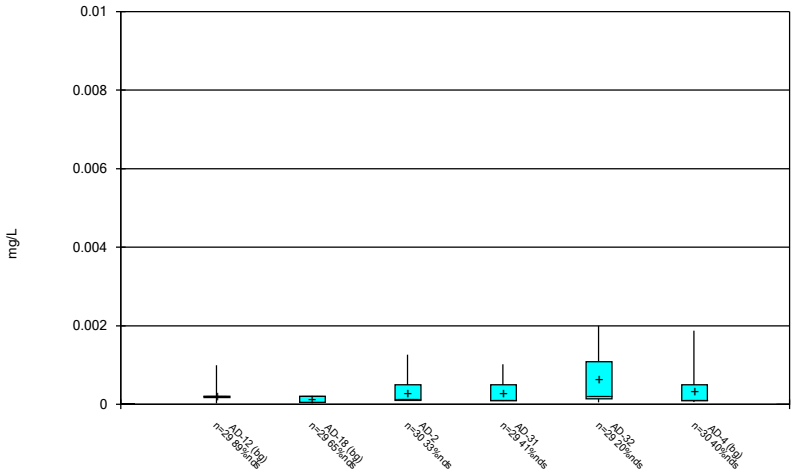
Box & Whiskers Plot



Constituent: Selenium, total Analysis Run 8/18/2025 11:34 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Thallium, total Analysis Run 8/18/2025 11:34 AM
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

FIGURE C
Outlier Summary

Outlier Summary

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 7/28/2025, 6:23 PM

	AD-31 Arsenic, total (mg/L)	AD-31 Barium, total (mg/L)	AD-31 Beryllium, total (mg/L)	AD-31 Chromium, total (mg/L)	AD-31 Cobalt, total (mg/L)	AD-32 Combined Radium 226 + 228 (pCi/L)	AD-32 Fluoride, total (mg/L)	AD-31 Lead, total (mg/L)	AD-32 Lithium, total (mg/L)	AD-2 Mercury, total (mg/L)
5/11/2016	0.093 (o)	0.712 (o)	0.01 (o)	0.212 (o)	0.05 (o)			0.057 (o)	0.016 (o)	
9/7/2016										0.000675 (o)
10/12/2016						17.32 (o)			0.972 (o)	
11/14/2016				0.03 (o)						
3/21/2018							7.2 (o)			
2/27/2019										
2/28/2019										
5/21/2019										
5/22/2019										
5/23/2019										

	AD-31 Mercury, total (mg/L)	AD-12 Molybdenum, total (mg/L)	AD-18 Molybdenum, total (mg/L)	AD-2 Molybdenum, total (mg/L)	AD-31 Molybdenum, total (mg/L)	AD-32 Molybdenum, total (mg/L)	AD-4 Molybdenum, total (mg/L)	AD-12 Thallium, total (mg/L)	AD-18 Thallium, total (mg/L)	AD-31 Thallium, total (mg/L)
5/11/2016	0.001797 (o)									
9/7/2016										
10/12/2016										
11/14/2016										
3/21/2018										
2/27/2019		<0.04 (o)						<0.01 (o)		
2/28/2019			<0.04 (o)		<0.04 (o)	<0.04 (o)			<0.01 (o)	<0.01 (o)
5/21/2019		<0.04 (o)				<0.04 (o)				
5/22/2019				<0.04 (o)						
5/23/2019			<0.04 (o)		<0.04 (o)		<0.04 (o)			

	AD-32 Thallium, total (mg/L)
5/11/2016	
9/7/2016	
10/12/2016	
11/14/2016	
3/21/2018	
2/27/2019	
2/28/2019	<0.01 (o)
5/21/2019	
5/22/2019	
5/23/2019	

FIGURE D

UTLs

Upper Tolerance Limits Summary Table

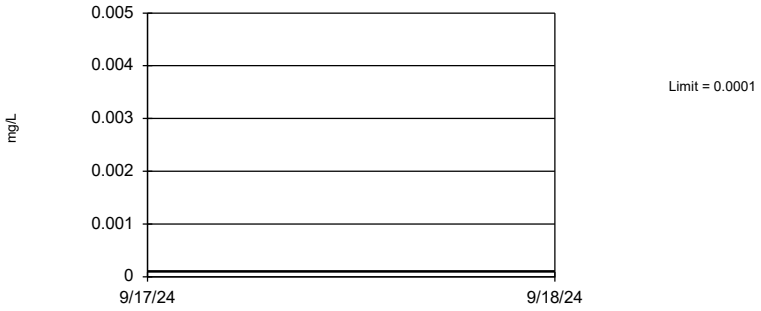
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 12/4/2024, 10:08 AM

Constituent	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Antimony, total (mg/L)	0.0001	n/a	n/a	n/a	n/a	84	80.95	n/a	0.01345	NP Inter(NDs)
Arsenic, total (mg/L)	0.011	n/a	n/a	n/a	n/a	84	32.14	n/a	0.01345	NP Inter(normality)
Barium, total (mg/L)	0.183	n/a	n/a	n/a	n/a	84	0	n/a	0.01345	NP Inter(normality)
Beryllium, total (mg/L)	0.00125	n/a	n/a	n/a	n/a	84	7.143	n/a	0.01345	NP Inter(normality)
Cadmium, total (mg/L)	0.00026	n/a	n/a	n/a	n/a	84	39.29	n/a	0.01345	NP Inter(normality)
Chromium, total (mg/L)	0.002623	n/a	n/a	n/a	n/a	84	8.333	ln(x)	0.05	Inter
Cobalt, total (mg/L)	0.00939	n/a	n/a	n/a	n/a	84	0	n/a	0.01345	NP Inter(normality)
Combined Radium 226 + 228 (pCi/L)	3.256	n/a	n/a	n/a	n/a	84	0	sqrt(x)	0.05	Inter
Fluoride, total (mg/L)	0.2565	n/a	n/a	n/a	n/a	87	47.13	n/a	0.01153	NP Inter(normality)
Lead, total (mg/L)	0.0007	n/a	n/a	n/a	n/a	84	47.62	n/a	0.01345	NP Inter(normality)
Lithium, total (mg/L)	0.04891	n/a	n/a	n/a	n/a	84	1.19	sqrt(x)	0.05	Inter
Mercury, total (mg/L)	0.000064	n/a	n/a	n/a	n/a	84	40.48	n/a	0.01345	NP Inter(normality)
Molybdenum, total (mg/L)	0.0007	n/a	n/a	n/a	n/a	79	92.41	n/a	0.01738	NP Inter(NDs)
Selenium, total (mg/L)	0.00245	n/a	n/a	n/a	n/a	84	42.86	n/a	0.01345	NP Inter(normality)
Thallium, total (mg/L)	0.001874	n/a	n/a	n/a	n/a	82	67.07	n/a	0.01491	NP Inter(NDs)

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Tolerance Limit

Interwell Non-parametric



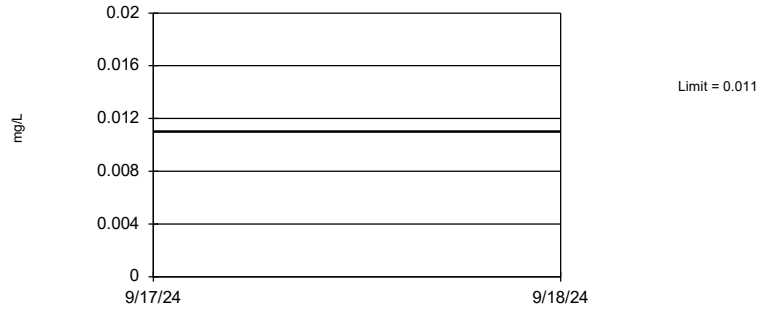
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 84 background values. 80.95% NDs. 94.73% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01345.

Constituent: Antimony, total Analysis Run 12/4/2024 10:07 AM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Tolerance Limit

Interwell Non-parametric



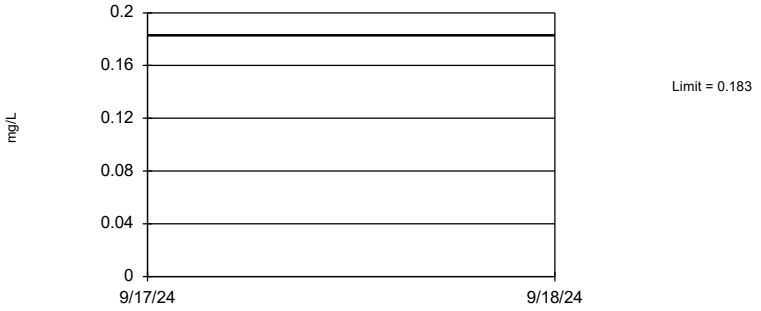
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 84 background values. 32.14% NDs. 94.73% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01345.

Constituent: Arsenic, total Analysis Run 12/4/2024 10:07 AM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Tolerance Limit

Interwell Non-parametric



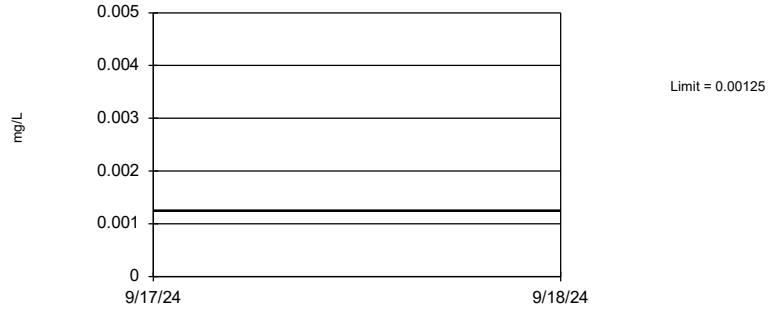
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 84 background values. 94.73% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report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

Constituent: Barium, total Analysis Run 12/4/2024 10:07 AM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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

Tolerance Limit

Interwell Non-parametric



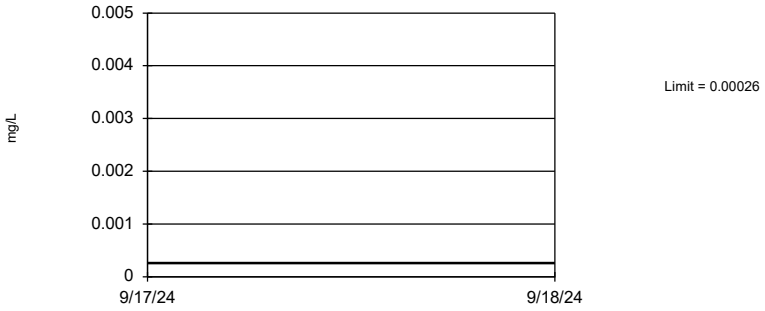
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 84 background values. 7.143% NDs. 94.73% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01345.

Constituent: Beryllium, total Analysis Run 12/4/2024 10:07 AM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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

Tolerance Limit

Interwell Non-parametric



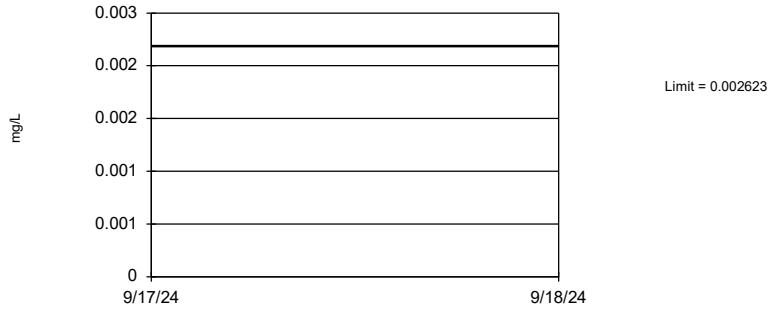
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 84 background values. 39.29% NDs. 94.73% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01345.

Constituent: Cadmium, total Analysis Run 12/4/2024 10:07 AM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Tolerance Limit

Interwell Parametric



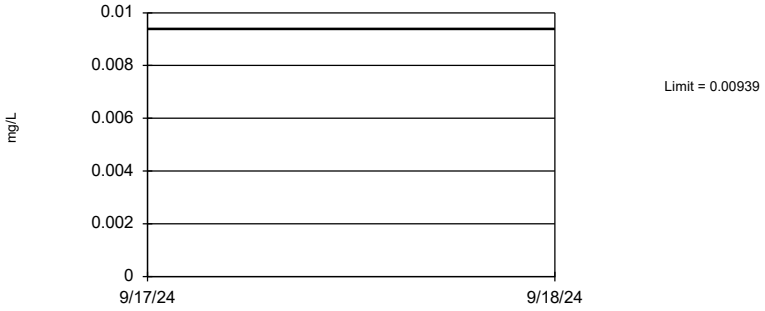
95% coverage. Background Data Summary (based on natural log transformation): Mean=-7.627, Std. Dev.=0.8613, n=84, 8.333% NDs. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9615, critical = 0.96. Report alpha = 0.05.

Constituent: Chromium, total Analysis Run 12/4/2024 10:07 AM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Tolerance Limit

Interwell Non-parametric



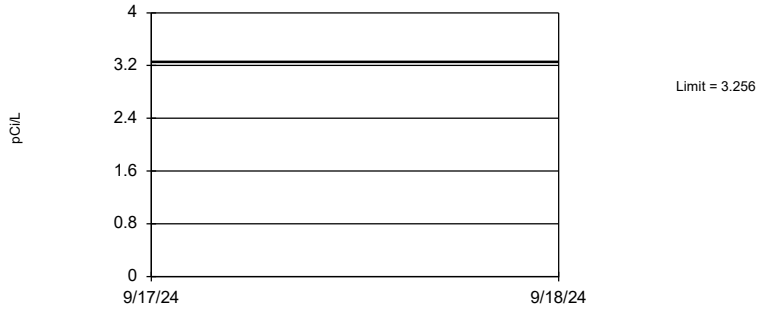
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 84 background values. 94.73% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report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

Constituent: Cobalt, total Analysis Run 12/4/2024 10:07 AM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Tolerance Limit

Interwell Parametric



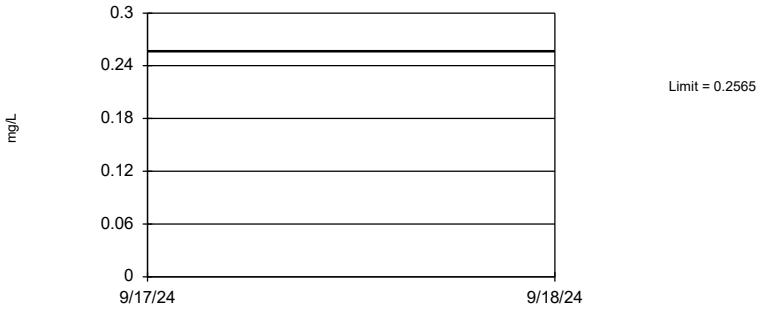
95% coverage. Background Data Summary (based on square root transformation): Mean=1.055, Std. Dev.=0.3836, n=84. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9676, critical = 0.96. Report alpha = 0.05.

Constituent: Combined Radium 226 + 228 Analysis Run 12/4/2024 10:07 AM View: Upper Tolerance Limit
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Tolerance Limit

Interwell Non-parametric



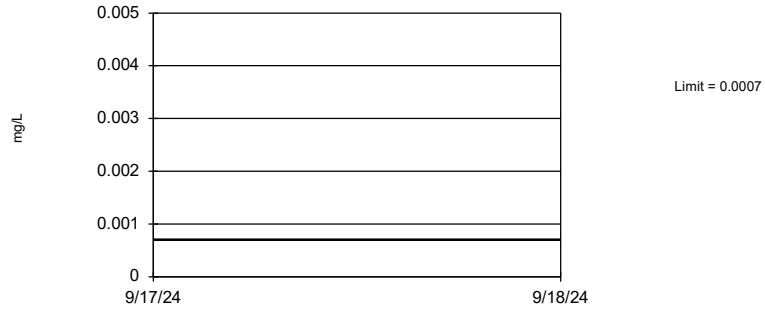
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 87 background values. 47.13% NDs. 94.73% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01153.

Constituent: Fluoride, total Analysis Run 12/4/2024 10:07 AM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Tolerance Limit

Interwell Non-parametric



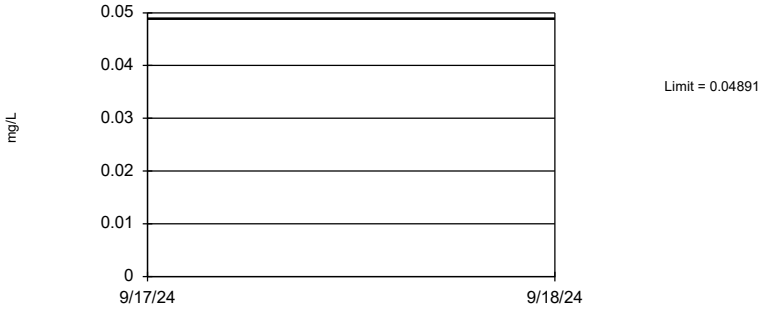
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 84 background values. 47.62% NDs. 94.73% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01345.

Constituent: Lead, total Analysis Run 12/4/2024 10:07 AM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Tolerance Limit

Interwell Parametric



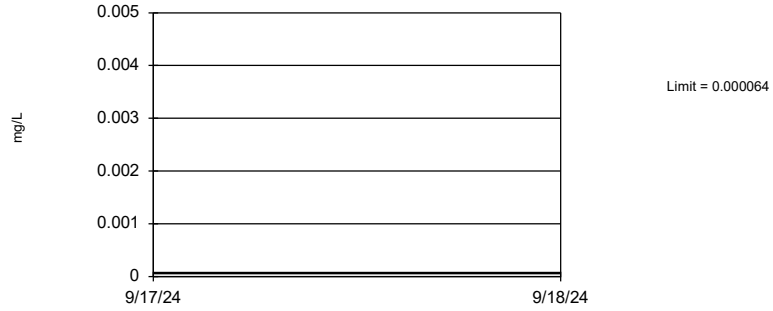
95% coverage. Background Data Summary (based on square root transformation): Mean=0.1306, Std. Dev.=0.04633, n=84, 1.19% NDs. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9731, critical = 0.96. Report alpha = 0.05.

Constituent: Lithium, total Analysis Run 12/4/2024 10:07 AM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Tolerance Limit

Interwell Non-parametric



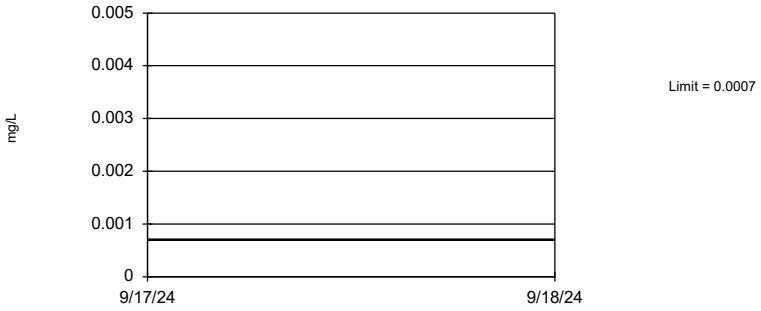
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 84 background values. 40.48% NDs. 94.73% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01345.

Constituent: Mercury, total Analysis Run 12/4/2024 10:07 AM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Tolerance Limit

Interwell Non-parametric



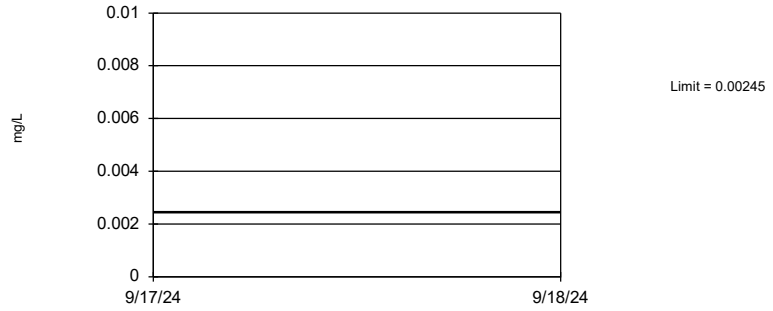
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 79 background values. 92.41% NDs. 94.34% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01738.

Constituent: Molybdenum, total Analysis Run 12/4/2024 10:07 AM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Tolerance Limit

Interwell Non-parametric



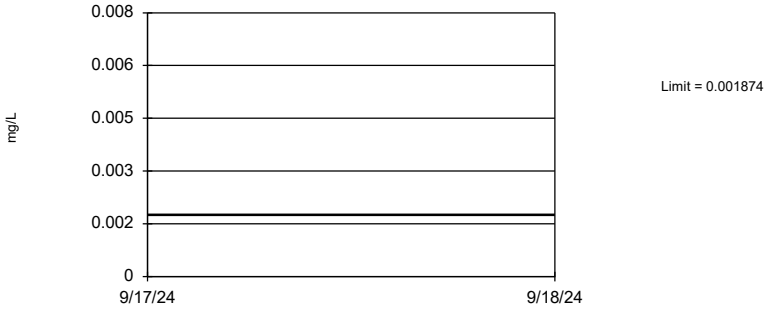
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 84 background values. 42.86% NDs. 94.73% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01345.

Constituent: Selenium, total Analysis Run 12/4/2024 10:07 AM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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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 82 background values. 67.07% NDs. 94.73% coverage at alpha=0.01; 96.29% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01491.

Constituent: Thallium, total Analysis Run 12/4/2024 10:07 AM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

FIGURE E

GWPS

PIRKEY EBAP GWPS			
Constituent Name	**MCL**	**Background Limit**	**GWPS**
Antimony, Total (mg/L)	0.006	0.0001	0.006
Arsenic, Total (mg/L)	0.01	0.011	0.011
Barium, Total (mg/L)	2	0.18	2
Beryllium, Total (mg/L)	0.004	0.0013	0.004
Cadmium, Total (mg/L)	0.005	0.00026	0.005
Chromium, Total (mg/L)	0.1	0.0026	0.1
Cobalt, Total (mg/L)	n/a	0.0094	0.0094
Combined Radium, Total (pCi/L)	5	3.26	5
Fluoride, Total (mg/L)	4	0.26	4
Lead, Total (mg/L)	n/a	0.0007	0.0007
Lithium, Total (mg/L)	n/a	0.049	0.049
Mercury, Total (mg/L)	0.002	0.000064	0.002
Molybdenum, Total (mg/L)	n/a	0.0007	0.0007
Selenium, Total (mg/L)	0.05	0.0025	0.05
Thallium, Total (mg/L)	0.002	0.0019	0.002

**Grey cell indicates Background Limit is higher than MCL*

**MCL = Maximum Contaminant Level*

**GWPS = Groundwater Protection Standard*

FIGURE F
Confidence Intervals

Confidence Interval Summary Table - Significant Results

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 8/14/2025, 11:07 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Cobalt, total (mg/L)	**AD-2**	**0.03316**	**0.02439**	**0.0094**	**Yes**	**11**	**0.00526**	**0**	**None**	**No**	**0.01**	**Param.**
Cobalt, total (mg/L)	**AD-32**	**0.02103**	**0.009471**	**0.0094**	**Yes**	**8**	**0.006244**	**0**	**None**	**x^(1/3)**	**0.01**	**Param.**
Lithium, total (mg/L)	**AD-2**	**0.08028**	**0.06166**	**0.049**	**Yes**	**11**	**0.01117**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium, total (mg/L)	**AD-31**	**0.08845**	**0.07726**	**0.049**	**Yes**	**30**	**0.01295**	**0**	**None**	**x^2**	**0.01**	**Param.**
Lithium, total (mg/L)	**AD-32**	**0.07605**	**0.04963**	**0.049**	**Yes**	**8**	**0.01246**	**0**	**None**	**No**	**0.01**	**Param.**

Confidence Interval Summary Table - All Results

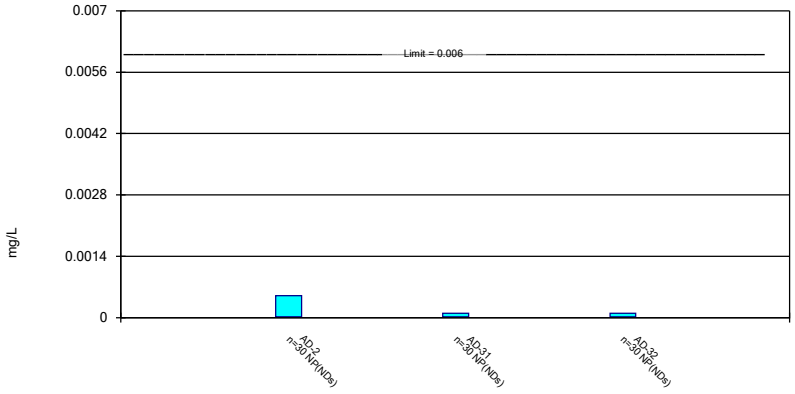
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 8/14/2025, 11:07 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony, total (mg/L)	AD-2	0.0005	0.00002	0.006	No	30	0.0001488	90	None	No	0.01	NP (NDs)
Antimony, total (mg/L)	AD-31	0.0001	0.00002	0.006	No	30	0.00003047	86.67	None	No	0.01	NP (NDs)
Antimony, total (mg/L)	AD-32	0.0001	0.00002	0.006	No	30	0.00003923	73.33	None	No	0.01	NP (NDs)
Arsenic, total (mg/L)	AD-2	0.002	0.00062	0.011	No	30	0.0006891	33.33	None	No	0.01	NP (normality)
Arsenic, total (mg/L)	AD-31	0.00192	0.00027	0.011	No	29	0.002392	10.34	None	No	0.01	NP (normality)
Arsenic, total (mg/L)	AD-32	0.004678	0.002422	0.011	No	30	0.002811	3.333	None	sqrt(x)	0.01	Param.
Barium, total (mg/L)	AD-2	0.0333	0.0173	2	No	30	0.009243	0	None	No	0.01	NP (normality)
Barium, total (mg/L)	AD-31	0.0577	0.0331	2	No	29	0.02313	0	None	No	0.01	NP (normality)
Barium, total (mg/L)	AD-32	0.03588	0.02742	2	No	30	0.009404	0	None	No	0.01	Param.
Beryllium, total (mg/L)	AD-2	0.00075	0.00045	0.004	No	30	0.0002401	3.333	None	No	0.01	NP (normality)
Beryllium, total (mg/L)	AD-31	0.00103	0.000857	0.004	No	29	0.0002987	0	None	No	0.01	NP (normality)
Beryllium, total (mg/L)	AD-32	0.004889	0.002511	0.004	No	30	0.002646	0	None	No	0.01	Param.
Cadmium, total (mg/L)	AD-2	0.00018	0.00009	0.005	No	30	0.000432	33.33	None	No	0.01	NP (normality)
Cadmium, total (mg/L)	AD-31	0.0001747	0.000064	0.005	No	30	0.00041	23.33	None	No	0.01	NP (normality)
Cadmium, total (mg/L)	AD-32	0.0004729	0.0002559	0.005	No	30	0.0002414	3.333	None	No	0.01	Param.
Chromium, total (mg/L)	AD-2	0.0008854	0.00038	0.1	No	30	0.001455	20	None	No	0.01	NP (normality)
Chromium, total (mg/L)	AD-31	0.00239	0.00041	0.1	No	28	0.004844	7.143	None	No	0.01	NP (normality)
Chromium, total (mg/L)	AD-32	0.003	0.00061	0.1	No	30	0.004407	0	None	No	0.01	NP (normality)
Cobalt, total (mg/L)	**AD-2**	**0.03316**	**0.02439**	**0.0094**	**Yes**	**11**	**0.00526**	**0**	**None**	**No**	**0.01**	**Param.**
Cobalt, total (mg/L)	AD-31	0.0101	0.008487	0.0094	No	8	0.0007597	0	None	No	0.01	Param.
Cobalt, total (mg/L)	**AD-32**	**0.02103**	**0.009471**	**0.0094**	**Yes**	**8**	**0.006244**	**0**	**None**	**x^(1/3)**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	AD-2	1.849	1.208	5	No	30	0.7132	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	AD-31	4.046	2.953	5	No	30	1.215	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	AD-32	5.638	3.577	5	No	29	2.396	0	None	sqrt(x)	0.01	Param.
Fluoride, total (mg/L)	AD-2	0.21	0.06	4	No	32	0.09221	37.5	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	AD-31	0.13	0.06	4	No	32	0.03885	37.5	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	AD-32	0.58	0.2485	4	No	31	0.4364	16.13	Kaplan-Meier	sqrt(x)	0.01	Param.
Lead, total (mg/L)	AD-2	0.0006	0.000288	0.0007	No	30	0.0002108	33.33	None	No	0.01	NP (normality)
Lead, total (mg/L)	AD-31	0.00033	0.0002	0.0007	No	29	0.0007376	27.59	None	No	0.01	NP (normality)
Lead, total (mg/L)	AD-32	0.0003405	0.0001351	0.0007	No	30	0.0002879	40	Kaplan-Meier	x^(1/3)	0.01	Param.
Lithium, total (mg/L)	**AD-2**	**0.08028**	**0.06166**	**0.049**	**Yes**	**11**	**0.01117**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium, total (mg/L)	**AD-31**	**0.08845**	**0.07726**	**0.049**	**Yes**	**30**	**0.01295**	**0**	**None**	**x^2**	**0.01**	**Param.**
Lithium, total (mg/L)	**AD-32**	**0.07605**	**0.04963**	**0.049**	**Yes**	**8**	**0.01246**	**0**	**None**	**No**	**0.01**	**Param.**
Mercury, total (mg/L)	AD-2	0.00008314	0.00004775	0.002	No	29	0.00005938	0	None	ln(x)	0.01	Param.
Mercury, total (mg/L)	AD-31	0.0005176	0.0001862	0.002	No	29	0.000442	0	None	sqrt(x)	0.01	Param.
Mercury, total (mg/L)	AD-32	0.003338	0.001258	0.002	No	30	0.003043	0	None	sqrt(x)	0.01	Param.
Molybdenum, total (mg/L)	AD-2	0.0008627	0.0005	0.0007	No	29	0.0007696	86.21	None	No	0.01	NP (NDs)
Molybdenum, total (mg/L)	AD-31	0.0005	0.0004016	0.0007	No	28	0.0001241	82.14	None	No	0.01	NP (NDs)
Molybdenum, total (mg/L)	AD-32	0.0005	0.0005	0.0007	No	28	0.0001016	92.86	None	No	0.01	NP (NDs)
Selenium, total (mg/L)	AD-2	0.002931	0.001582	0.05	No	30	0.001953	16.67	Kaplan-Meier	sqrt(x)	0.01	Param.
Selenium, total (mg/L)	AD-31	0.00198	0.00038	0.05	No	30	0.001526	23.33	None	No	0.01	NP (normality)
Selenium, total (mg/L)	AD-32	0.005199	0.001499	0.05	No	30	0.006022	16.67	Kaplan-Meier	sqrt(x)	0.01	Param.
Thallium, total (mg/L)	AD-2	0.0005	0.0001	0.002	No	30	0.0002609	33.33	None	No	0.01	NP (normality)
Thallium, total (mg/L)	AD-31	0.0005	0.00009	0.002	No	29	0.0002465	41.38	None	No	0.01	NP (normality)
Thallium, total (mg/L)	AD-32	0.001078	0.00017	0.002	No	29	0.0007588	20.69	None	No	0.01	NP (normality)

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Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

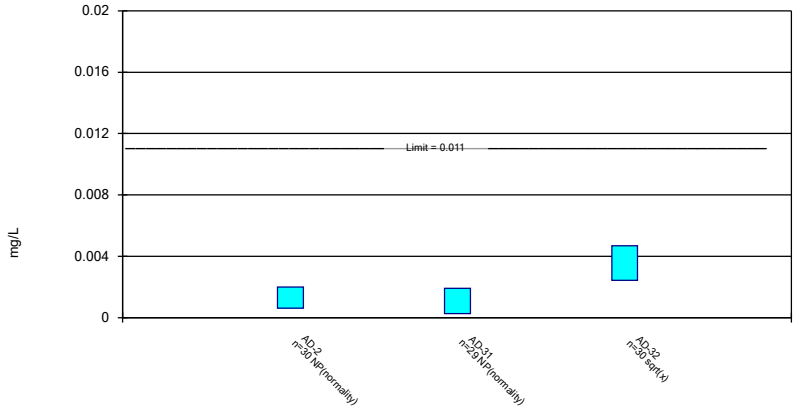


Constituent: Antimony, total Analysis Run 8/14/2025 10:59 AM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Parametric and Non-Parametric (NP) Confidence Interval

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

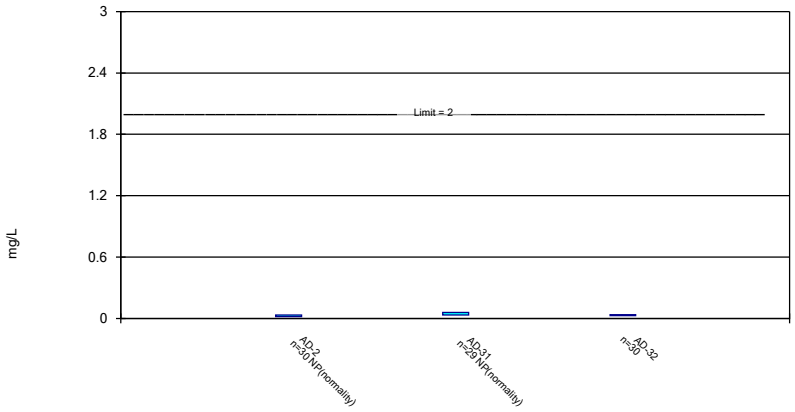


Constituent: Arsenic, total Analysis Run 8/14/2025 10:59 AM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Parametric and Non-Parametric (NP) Confidence Interval

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

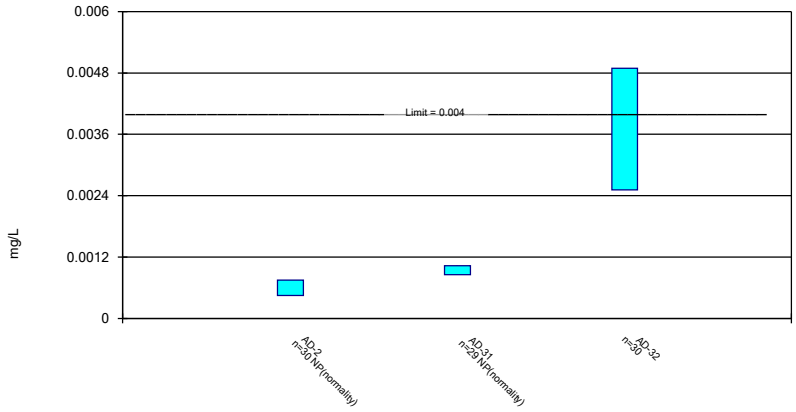


Constituent: Barium, total Analysis Run 8/14/2025 10:59 AM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Parametric and Non-Parametric (NP) Confidence Interval

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

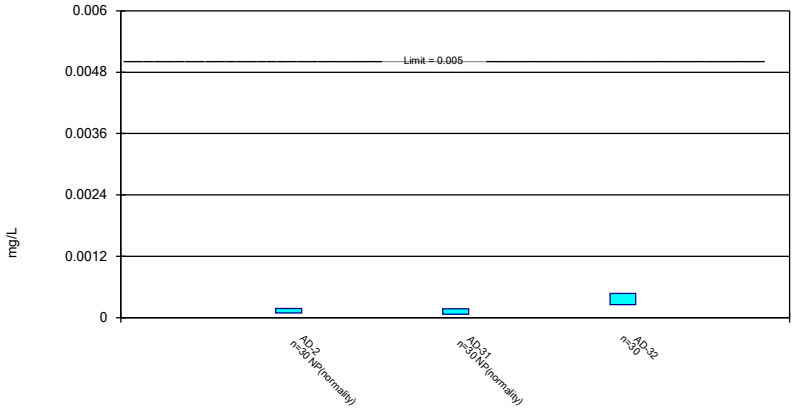


Constituent: Beryllium, total Analysis Run 8/14/2025 10:59 AM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Parametric and Non-Parametric (NP) Confidence Interval

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

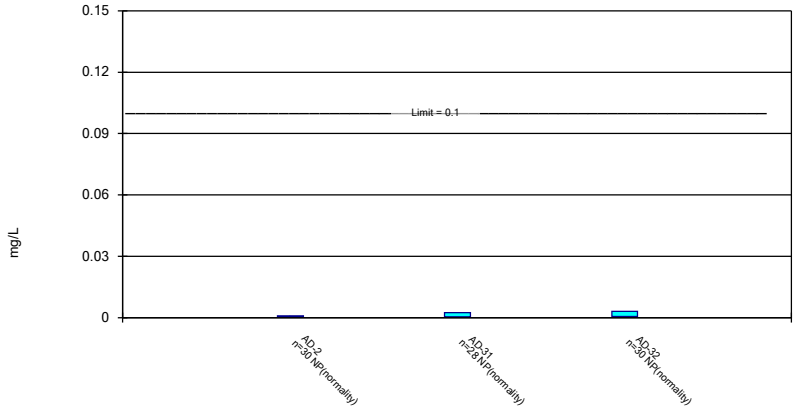


Constituent: Cadmium, total Analysis Run 8/14/2025 10:59 AM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

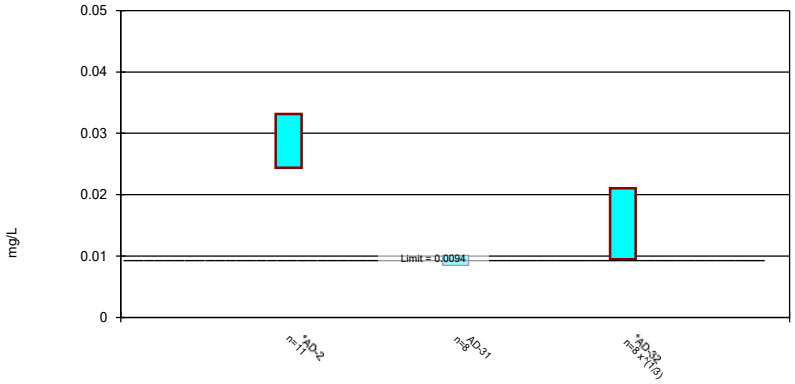


Constituent: Chromium, total Analysis Run 8/14/2025 10:59 AM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Parametric Confidence Interval

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

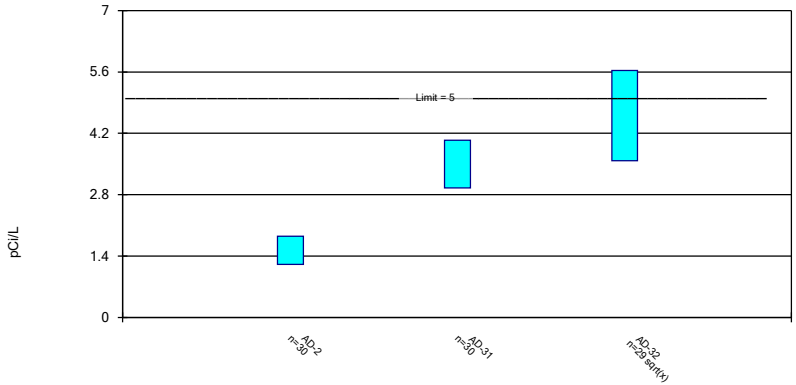


Constituent: Cobalt, total Analysis Run 8/14/2025 10:59 AM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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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.

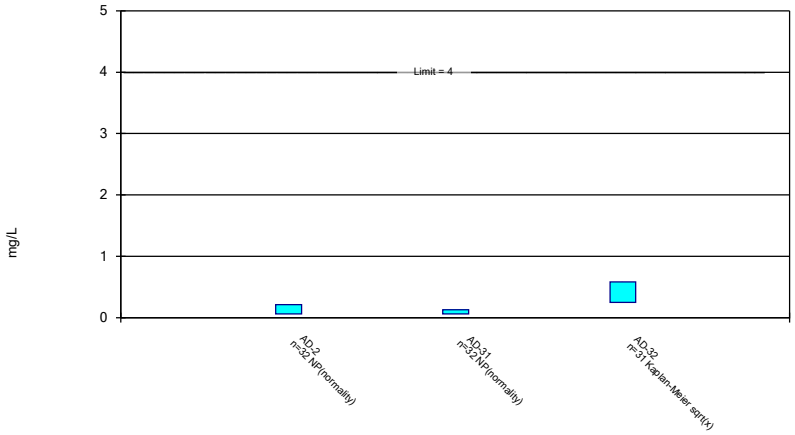


Constituent: Combined Radium 226 + 228 Analysis Run 8/14/2025 10:59 AM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Parametric and Non-Parametric (NP) Confidence Interval

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

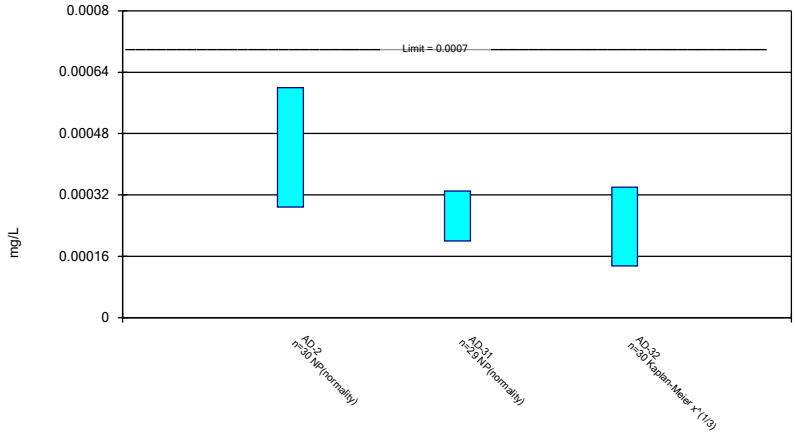


Constituent: Fluoride, total Analysis Run 8/14/2025 10:59 AM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Parametric and Non-Parametric (NP) Confidence Interval

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

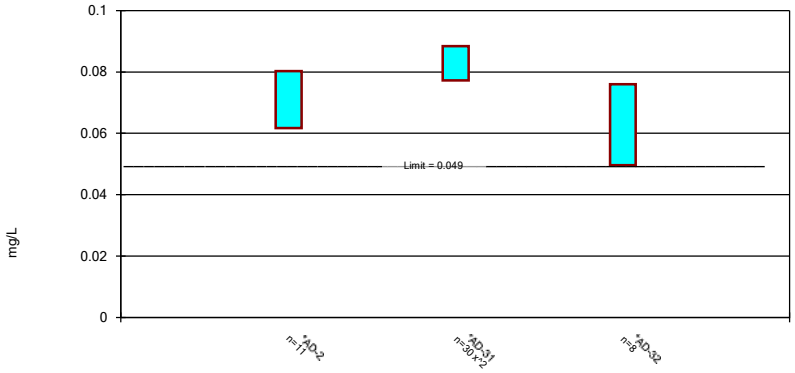


Constituent: Lead, total Analysis Run 8/14/2025 10:59 AM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Parametric Confidence Interval

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

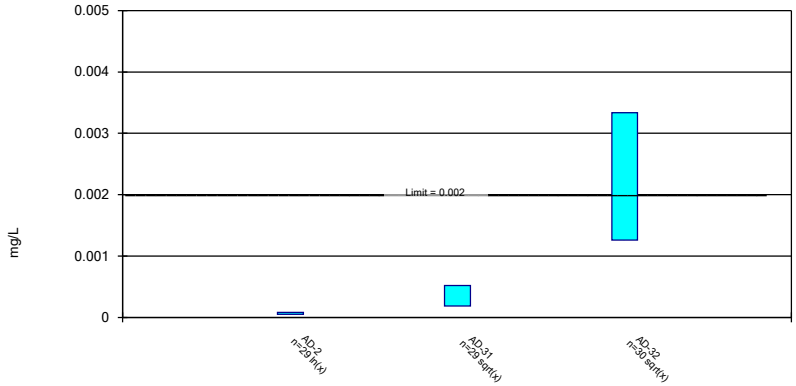


Constituent: Lithium, total Analysis Run 8/14/2025 10:59 AM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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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.

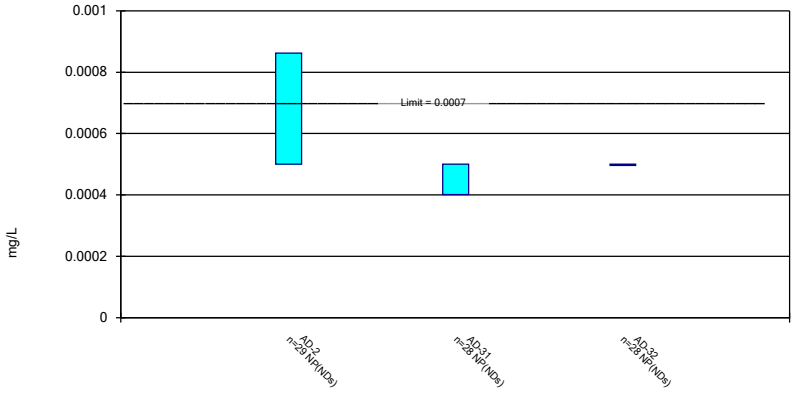


Constituent: Mercury, total Analysis Run 8/14/2025 10:59 AM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

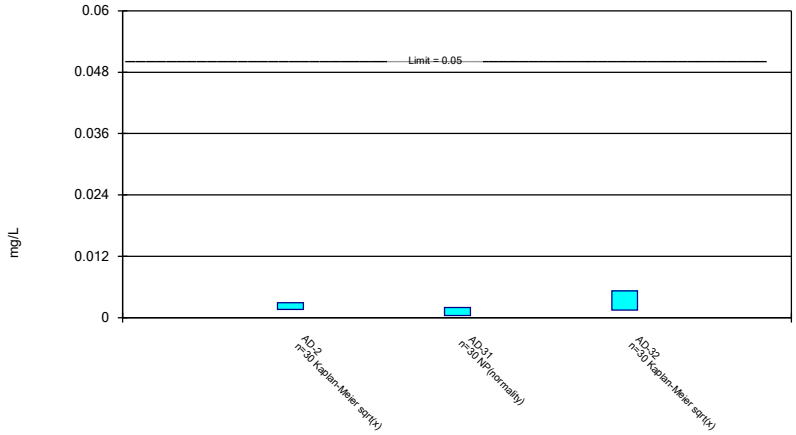


Constituent: Molybdenum, total Analysis Run 8/14/2025 10:59 AM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Parametric and Non-Parametric (NP) Confidence Interval

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

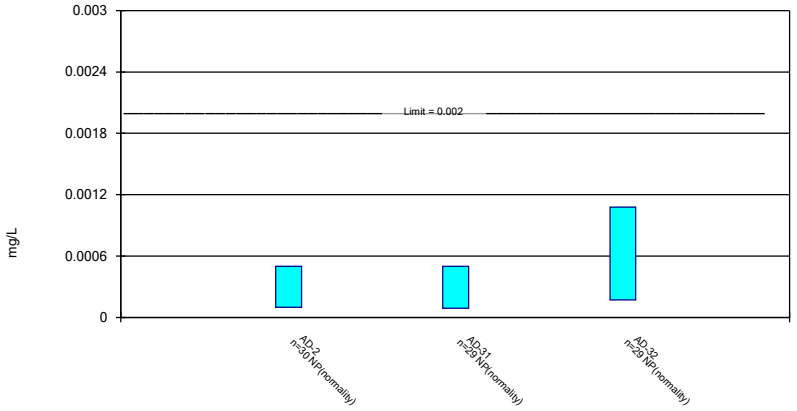


Constituent: Selenium, total Analysis Run 8/14/2025 10:59 AM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Thallium, total Analysis Run 8/14/2025 10:59 AM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

FIGURE G

Trend Tests

Appendix IV Trend Tests - Significant Results

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 8/14/2025, 11:15 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Cobalt, total (mg/L)	**AD-12 (bg)**	**-0.00004982**	**-176**	**-112**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-18 (bg)**	**-0.00006643**	**-215**	**-112**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-2**	**0.002615**	**374**	**112**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-32**	**-0.004805**	**-232**	**-112**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-4 (bg)**	**-0.0003975**	**-225**	**-112**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-12 (bg)**	**-0.0003996**	**-136**	**-112**	**Yes**	**30**	**3.333**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-18 (bg)**	**-0.0006504**	**-140**	**-112**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-2**	**0.003085**	**217**	**106**	**Yes**	**29**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-32**	**-0.005664**	**-205**	**-101**	**Yes**	**28**	**0**	**n/a**	**n/a**	**0.05**	**NP**

Appendix IV Trend Tests - All Results

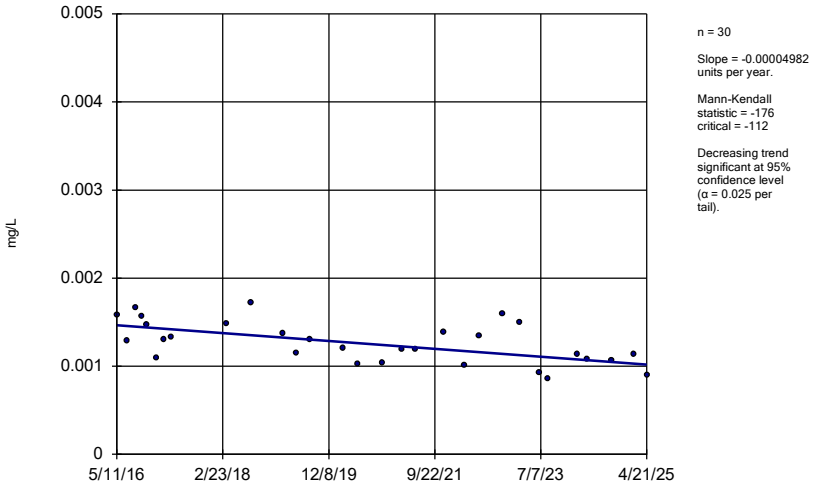
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 8/14/2025, 11:15 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Cobalt, total (mg/L)	**AD-12 (bg)**	**-0.00004982**	**-176**	**-112**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-18 (bg)**	**-0.00006643**	**-215**	**-112**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-2**	**0.002615**	**374**	**112**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-32**	**-0.004805**	**-232**	**-112**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-4 (bg)**	**-0.0003975**	**-225**	**-112**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-12 (bg)**	**-0.0003996**	**-136**	**-112**	**Yes**	**30**	**3.333**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-18 (bg)**	**-0.0006504**	**-140**	**-112**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-2**	**0.003085**	**217**	**106**	**Yes**	**29**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	AD-31	-0.001381	-95	-112	No	30	0	n/a	n/a	0.05	NP
Lithium, total (mg/L)	**AD-32**	**-0.005664**	**-205**	**-101**	**Yes**	**28**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	AD-4 (bg)	-0.001286	-98	-112	No	30	0	n/a	n/a	0.05	NP

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Sen's Slope Estimator

AD-12 (bg)



n = 30

Slope = -0.00004982 units per year.

Mann-Kendall statistic = -176
critical = -112

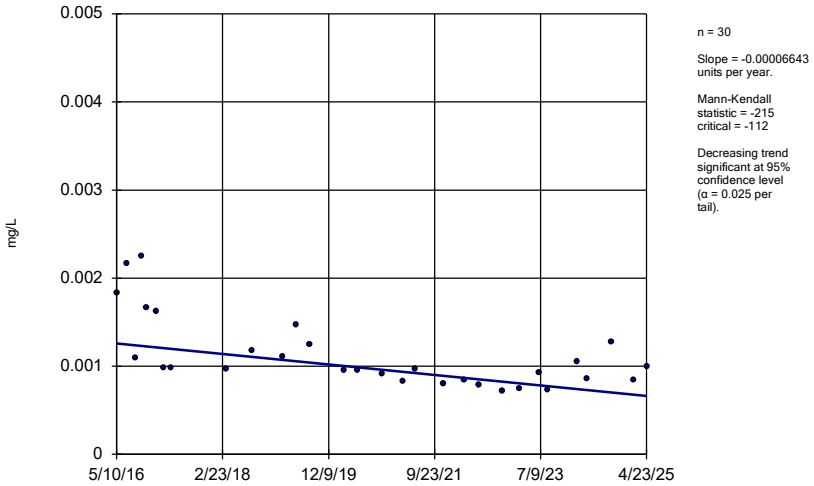
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt, total Analysis Run 8/14/2025 11:12 AM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Sen's Slope Estimator

AD-18 (bg)



n = 30

Slope = -0.00006643 units per year.

Mann-Kendall statistic = -215
critical = -112

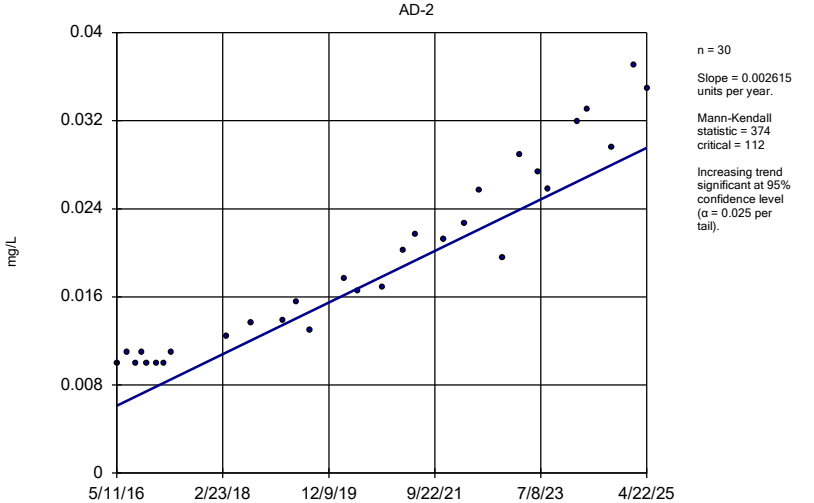
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt, total Analysis Run 8/14/2025 11:12 AM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Sen's Slope Estimator

AD-2



n = 30

Slope = 0.002615 units per year.

Mann-Kendall statistic = 374
critical = 112

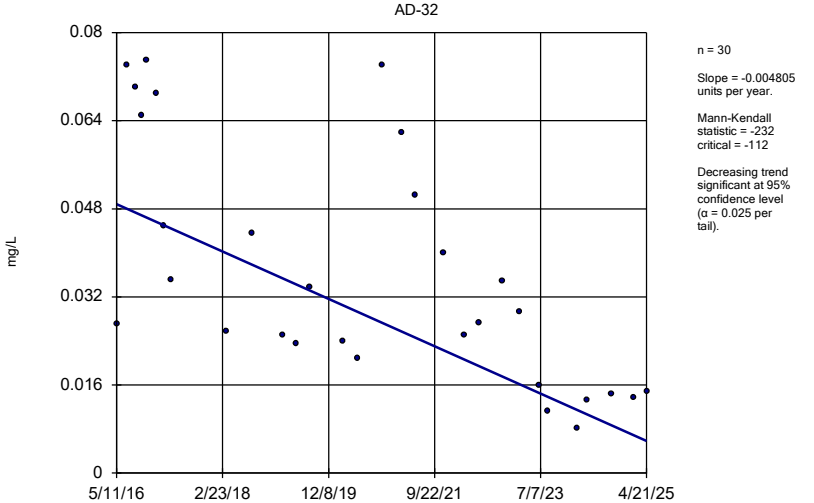
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt, total Analysis Run 8/14/2025 11:12 AM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Sen's Slope Estimator

AD-32



n = 30

Slope = -0.004805 units per year.

Mann-Kendall statistic = -232
critical = -112

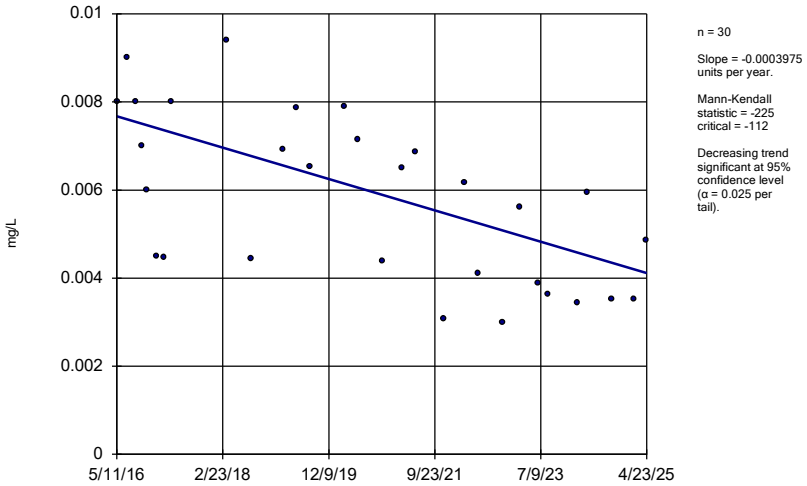
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt, total Analysis Run 8/14/2025 11:12 AM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-4 (bg)



n = 30

Slope = -0.0003975 units per year.

Mann-Kendall statistic = -225
critical = -112

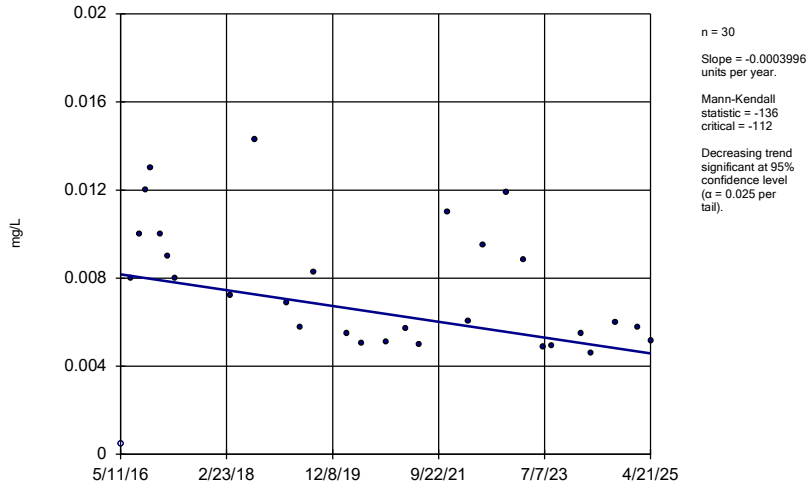
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt, total Analysis Run 8/14/2025 11:12 AM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-12 (bg)



n = 30

Slope = -0.0003996 units per year.

Mann-Kendall statistic = -136
critical = -112

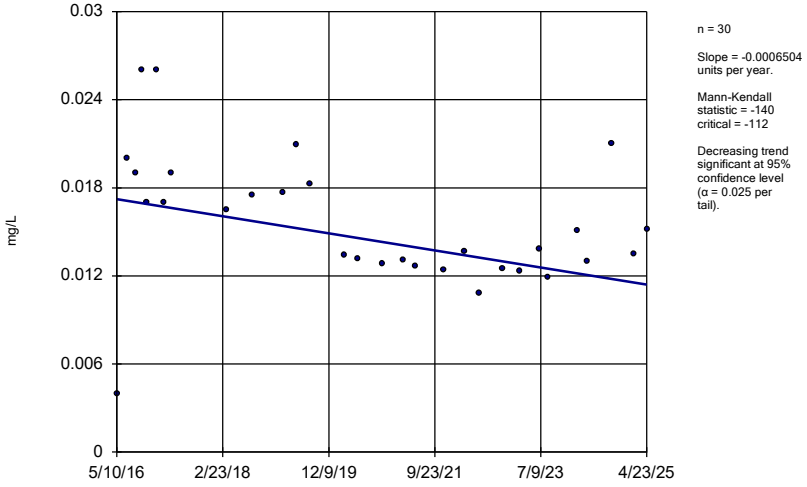
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium, total Analysis Run 8/14/2025 11:12 AM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Sen's Slope Estimator

AD-18 (bg)



n = 30

Slope = -0.0006504 units per year.

Mann-Kendall statistic = -140
critical = -112

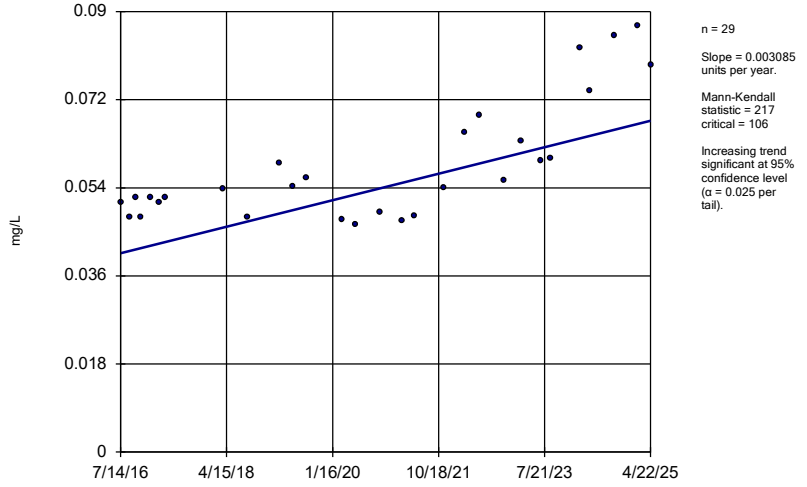
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium, total Analysis Run 8/14/2025 11:12 AM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Sen's Slope Estimator

AD-2



n = 29

Slope = 0.003085 units per year.

Mann-Kendall statistic = 217
critical = 106

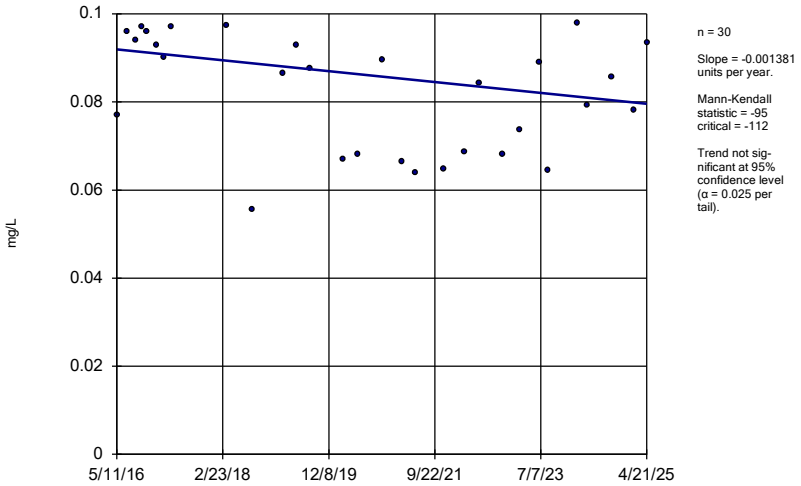
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium, total Analysis Run 8/14/2025 11:12 AM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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Sen's Slope Estimator

AD-31



n = 30

Slope = -0.001381 units per year.

Mann-Kendall statistic = -95
critical = -112

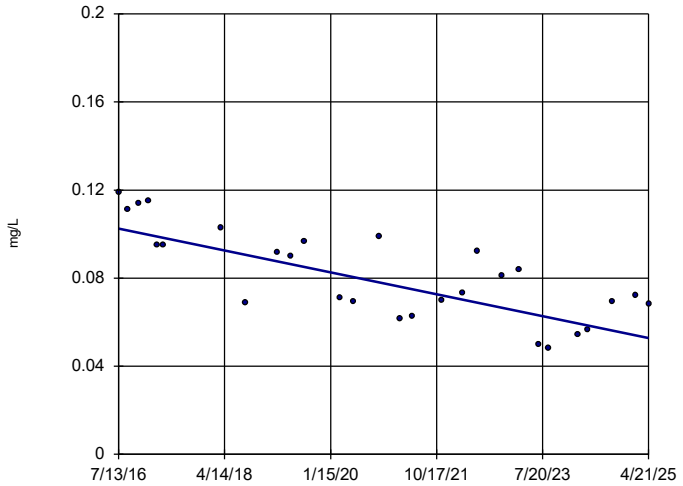
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium, total Analysis Run 8/14/2025 11:12 AM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-32



n = 28

Slope = -0.005664 units per year.

Mann-Kendall statistic = -205
critical = -101

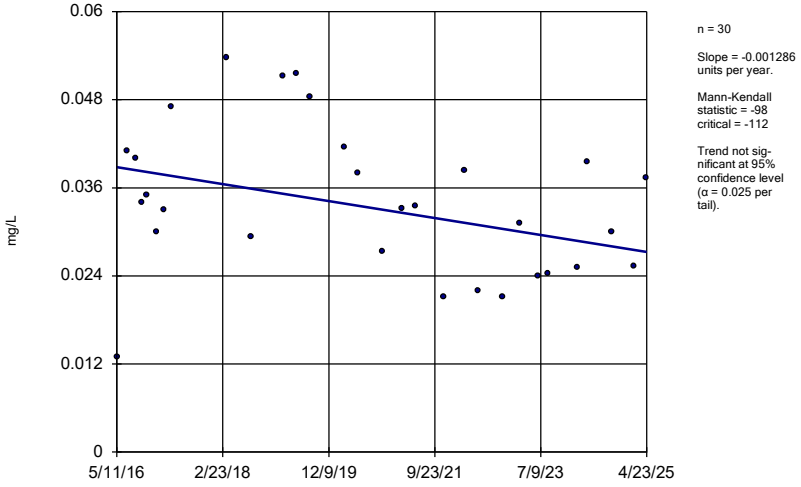
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium, total Analysis Run 8/14/2025 11:12 AM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.0.27 Software licensed to Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-4 (bg)



n = 30

Slope = -0.001286 units per year.

Mann-Kendall statistic = -98
critical = -112

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

Constituent: Lithium, total Analysis Run 8/14/2025 11:12 AM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Geosyntec consultants

engineers | scientists | innovators

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

H.W. Pirkey Power Plant

Hallsville, 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 Number: CHA1147I

December 2025

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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 Memorandum

Attachment C: Statistical Analysis Output

ACRONYMS AND ABBREVIATIONS

ASD	alternative source demonstration
CCR	coal combustion residuals
EBAP	East Bottom Ash Pond
GWPS	groundwater protection standard
LCL	lower confidence limit
LPL	lower prediction limit
mg/L	milligrams per liter
PQL	practical quantitation limit
QA/QC	quality assurance and quality control
SSI	statistically significant increase
SSL	statistically significant level
SU	standard units
TCEQ	Texas Commission on Environmental Quality
TDS	total dissolved solids
UPL	upper prediction limit

1. INTRODUCTION

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

Based on detection monitoring conducted in 2017 and 2018, statistically significant increases (SSIs) over background were concluded for boron, calcium, chloride, total dissolved solids (TDS), and sulfate at the EBAP (Geosyntec 2018). An alternative source was not identified at the time, so assessment monitoring was initiated and GWPSs were set in accordance with § 352.951(b). One assessment monitoring event was conducted at the EBAP in September 2025 in accordance with § 352.951(a). The results of the September 2025 assessment event are documented in this report.

Prior to conducting the statistical analyses, 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 were identified which would impact data usability.

The monitoring data were submitted to Groundwater Stats Consulting, LLC for statistical analysis. GWPSs were reestablished for the Appendix IV parameters. Confidence intervals were calculated for Appendix IV parameters at the compliance wells to assess whether statistically significant levels (SSLs) of Appendix IV parameters were present above the GWPS. SSLs were identified for cobalt and lithium. 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. EAST BOTTOM ASH POND EVALUATION

2.1 Data Validation and QA/QC

One set of samples was collected for analysis from each background and compliance well to meet the requirements of § 352.951(a) in September 2025. Samples from the September 2025 sampling event were analyzed for all Appendix III and Appendix IV parameters. A summary of data collected during this assessment monitoring event are presented 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 if the data met the objectives outlined in TCEQ Draft Technical Guidance No. 32 related to groundwater sampling and analysis (TCEQ 2020). The data were determined usable for supporting project objectives, as documented in the review memorandum provided in Attachment B. 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 EBAP were conducted in accordance with the November 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. No outliers were identified for this event.

2.2.1 Establishment of GWPSs

A GWPS was established for each Appendix IV parameter in accordance with 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. Tolerance limits were calculated parametrically with 95% coverage and 95% confidence for combined radium and lithium. Nonparametric tolerance limits were calculated for arsenic, barium, beryllium, cadmium, chromium, cobalt, fluoride, lead, mercury, and selenium due to apparent nonnormal distributions, and for antimony, 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 ($\alpha = 0.01$). However, 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) exceeded the GWPS (i.e., if the entire confidence interval was above the GWPS). Calculated confidence limits are shown in Attachment C.

The following SSLs were identified at the Pirkey EBAP:

- The LCL for cobalt was above the GWPS of 0.00939 milligrams per liter (mg/L) at AD-2 (0.0250 mg/L) and AD-32 (0.0107 mg/L).

- The LCL for lithium exceeded the GWPS of 0.0477 mg/L at AD-2 (0.0632 mg/L), AD-31 (0.0786 mg/L) and AD-32 (0.0504 mg/L).

As a result, the Pirkey EBAP 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 Establishment of Appendix III Prediction Limits

Upper prediction limits (UPLs) were previously established for all Appendix III parameters following the background monitoring period (Geosyntec 2018). Intrawell tests were used to evaluate potential SSIs for pH. Interwell tests were used to evaluate potential SSIs for boron, calcium, chloride, fluoride, sulfate, and TDS. Interwell and intrawell prediction limits are updated periodically during the assessment monitoring period as sufficient data become available.

For intrawell tests, insufficient data was available to compare against the existing background dataset, and so the prediction limits were not updated for the intrawell tests at this time. The intrawell prediction limits were previously calculated using historical data through April 2024 (Geosyntec 2024). The established intrawell prediction limits were used to evaluate the potential SSIs for pH.

Prediction limits for the interwell tests were calculated using data collected through the September 2025 assessment monitoring event. New background well data were tested for outliers before being added to the background data set. Background well data were also evaluated for statistically significant trends using the Sen's Slope/Mann-Kendall trend test, and the results are included in Attachment C. The boron, calcium, chloride, fluoride, sulfate, and TDS prediction limits were calculated using a one-of-two retesting procedure, as during detection monitoring.

After the revised background set was established, a parametric or nonparametric analysis was selected based on the distribution of the data and the frequency of nondetect data. Estimated results under the reporting limit (i.e., practical quantitation limit [PQL]) but above the method detection limit – i.e., "J-flagged" data – were considered detections and the estimated results were used in the statistical analyses. Nonparametric analyses were selected for datasets with at least 50% nondetect data or datasets that could not be normalized by transformation. Parametric analyses were selected for datasets (either transformed or untransformed) that passed the Shapiro-Wilk /

Shapiro-Francía test for normality. The Kaplan-Meier nondetect adjustment was applied to datasets with between 15% and 50% nondetect data. For datasets with fewer than 15% nondetect data, nondetect data were replaced with one half of the PQL. The selected analysis (i.e., parametric or nonparametric) and transformation (where applicable) for each background data set are shown in Attachment C.

The updated interwell prediction limits for boron, calcium, chloride, fluoride, sulfate, and TDS and previously established intrawell prediction limits for pH are summarized in Table 3. The UPLs were calculated for a one-of-two retesting procedure; i.e., if at least one sample in a series of two is not above the UPL, or in the case of pH, is neither less than the lower prediction limit (LPL) nor greater than the UPL, then it can be concluded that an SSI has not occurred. In practice, where the initial result is not above the UPL, or in the case of pH, is neither less than the LPL nor greater than the UPL, a second sample will not be collected. The retesting procedures allowed for an acceptably high statistical power that could detect changes at compliance wells for constituents evaluated using intrawell prediction limits.

2.2.4 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 updated prediction limits to assess whether the results are above background values (Table 3). The following concentrations were above the UPLs:

- Boron concentrations were above the interwell UPL of 0.0449 mg/L at AD-2 (2.82 mg/L) and AD-32 (0.081 mg/L).
- Calcium concentrations were above the interwell UPL of 3.23 mg/L at AD-2 (4.1 mg/L) and AD-32 (6.03 mg/L).
- Chloride concentrations were above the interwell UPL of 8.40 mg/L at AD-2 (25.4 mg/L), AD-31 (14.0 mg/L), and AD-32 (10.1 mg/L).
- Fluoride concentrations were above the interwell UPL of 0.257 mg/L at AD-2 (0.37 mg/L) and AD-32 (0.39 mg/L).
- The pH value was above the intrawell UPL of 4.6 standard units (SU) at AD-32 (5.3 SU).
- Sulfate concentrations were above the interwell UPL of 24.7 mg/L at AD-2 (271 mg/L), AD-31 (69.5 mg/L), and AD-32 (53.0 mg/L).
- TDS concentrations were above the interwell UPL of 167 mg/L at AD-2 (520 mg/L), AD-31 (260 mg/L), and AD-32 (170 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.

2.3 Conclusions

A semiannual assessment monitoring event was conducted in accordance with the CCR Rule. The laboratory and field data were reviewed prior to statistical analysis, and no QA/QC issues that impacted data usability were identified. A review of outliers identified no potential outliers in the September 2025 data. 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. SSLs were identified for cobalt and lithium. Appendix III parameters were compared to calculated prediction limits, with exceedances identified for boron, calcium, chloride, fluoride, pH, sulfate, and TDS.

Based on this evaluation, the Pirkey EBAP CCR unit 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.

3. REFERENCES

Geosyntec. 2018. Statistical Analysis Summary – East Bottom Ash Pond, Pirkey, Hallsville, Texas. Geosyntec Consultants, Inc. January.

Geosyntec. 2021. Statistical Analysis Plan – H.W. Pirkey Power Plant. Geosyntec Consultants, Inc. November.

Geosyntec. 2024. Statistical Analysis Summary, 2024 2nd Semiannual Event – East Bottom Ash Pond, H.W. Pirkey Power Plant, Hallsville, Texas. Geosyntec Consultants, Inc. December.

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

Table 1. Groundwater Data Summary
Statistical Analysis Summary
Pirkey Plant – East Bottom Ash Pond

Parameter	Unit	AD-2	AD-4	AD-12	AD-18	AD-31	AD-32
		Compliance	Background	Background	Background	Compliance	Compliance
		9/9/2025	9/10/2025	9/8/2025	9/10/2025	9/8/2025	9/8/2025
Antimony	µg/L	0.5 U1	0.1 U1	0.1 U1	0.04 J1	0.1	0.11
Arsenic	µg/L	1.7	1.95	0.09 J1	2.87	1.26	9.77
Barium	µg/L	14.2	114	17.2	87.7	36.5	46
Beryllium	µg/L	0.9	0.25	0.12	0.11	0.75 M1	0.07
Boron	mg/L	2.82	0.013 J1	0.081	0.015 J1	0.023 J1	0.081
Cadmium	µg/L	0.13	0.02	0.006 J1	0.012 J1	0.054	0.02 U1
Calcium	mg/L	4.1	2.21	0.18	0.23	2.09	6.03
Chloride	mg/L	25.4	3.91	4.61	5.92	14	10.1
Chromium	µg/L	0.5 J1	0.55	0.81	3.43	2.24	0.39
Cobalt	µg/L	31.3	3.26	0.95	1.04	8.06	14.4
Combined Radium	pCi/L	3.15 B1	1.75 B1, J1	1.90 B1, J1	2.30 B1, R2	4.62 L1, P2	1.44 L1, P2, J1
Fluoride	mg/L	0.26	0.06 U1	0.07	0.06 U1	0.1	0.34
Lead	µg/L	0.8 J1	0.3	0.1 J1	1.47	1.07	0.08 J1
Lithium	mg/L	0.0828	0.0236	0.00589	0.0151	0.0894	0.0629
Mercury	µg/L	0.055	0.009	0.005	0.032	0.61	2.48
Molybdenum	µg/L	2.5 U1	0.5 U1	0.5 U1	0.12 J1	0.06 J1	0.09 J1
Selenium	µg/L	6.7	0.09 J1	0.2 J1	0.87	0.85	0.17 J1
Sulfate	mg/L	271	19	3.11	7.57	69.5	53
Thallium	µg/L	0.1 J1	0.09 J1	0.02 J1	0.06 J1	0.1 J1	0.08 J1
Total Dissolved Solids	mg/L	520	150	70	150	260	170
pH	SU	4.1	4.9	3.5	4.2	3.5	5.3

Notes:
B1: Analyte detected in method blank (MB) at or above the method criteria.
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.
M1: The associated matrix spike (MS) or matrix spike duplicate (MSD) recovery was outside acceptance limits.
mg/L: milligrams per liter
P2: The precision on the laboratory control sample duplicate (LCSD) was above acceptance limits.
pCi/L: picocuries per liter
R2: Carrier recovery was outside acceptance limits.
SU: standard unit
U1: Non-detect value. For statistical analysis, parameters which were not detected were replaced with the reporting limit.
µg/L: micrograms per liter

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

Constituent Name	MCL	Calculated UTL	GWPS
Antimony, Total (mg/L)	0.00600	0.000100	0.00600
Arsenic, Total (mg/L)	0.0100	0.0110	0.0110
Barium, Total (mg/L)	2.00	0.183	2.00
Beryllium, Total (mg/L)	0.00400	0.00125	0.00400
Cadmium, Total (mg/L)	0.00500	0.000260	0.00500
Chromium, Total (mg/L)	0.100	0.00700	0.100
Cobalt, Total (mg/L)	n/a	0.00939	0.00939
Combined Radium, Total (pCi/L)	5.00	3.23	5.00
Fluoride, Total (mg/L)	4.00	0.257	4.00
Lead, Total (mg/L)	n/a	0.001470	0.00147
Lithium, Total (mg/L)	n/a	0.0477	0.0477
Mercury, Total (mg/L)	0.00200	0.0000640	0.00200
Molybdenum, Total (mg/L)	n/a	0.000700	0.000700
Selenium, Total (mg/L)	0.0500	0.00245	0.0500
Thallium, Total (mg/L)	0.00200	0.00187	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
Pirkey Plant – East Bottom Ash Pond

Analyte	Unit	Description	AD-2	AD-31	AD-32
			9/9/2025	9/8/2025	9/8/2025
Boron	mg/L	Interwell Background Value (UPL)	0.0449		
		Analytical Result	**2.82**	0.023	**0.081**
Calcium	mg/L	Interwell Background Value (UPL)	3.23		
		Analytical Result	**4.1**	2.09	**6.03**
Chloride	mg/L	Interwell Background Value (UPL)	8.40		
		Analytical Result	**25.4**	**14.0**	**10.1**
Fluoride	mg/L	Interwell Background Value (UPL)	0.257		
		Analytical Result	**0.37**	0.12	**0.39**
pH	SU	Intrawell Background Value (UPL)	4.6	5.0	4.6
		Intrawell Background Value (LPL)	3.4	2.9	2.6
		Analytical Result	4.1	3.5	**5.3**
Sulfate	mg/L	Interwell Background Value (UPL)	24.7		
		Analytical Result	**271**	**69.5**	**53.0**
Total Dissolved Solids	mg/L	Interwell Background Value (UPL)	167		
		Analytical Result	**520**	**260**	**170**

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 Pirkey East Bottom Ash Pond CCR management area and that the requirements of § 352.931(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 Memorandum

Geosyntec consultants

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

Memorandum

Date:	December 22, 2025
To:	David Miller (AEP)
Copies to:	Pryce Warren (AEP)
From:	Allison Kreinberg (Geosyntec)
Subject:	Data Quality Review – Pirkey Power Plant September 2025 Sampling Event

This memorandum summarizes the findings of a data quality review for groundwater samples collected at the Pirkey Power Plant in Hallsville, 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 during the September 2025 sampling event and are reviewed in this memorandum:

- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 252381
- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 252382
- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 252402

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 252402, antimony, calcium, and chromium were detected in the field blank sample "Field Blank" collected on 9/9/25. The estimated detected antimony

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

concentration (0.05 µg/L) in the field blank were more than 10% of the detected values for antimony in all groundwater samples that had detectable levels of antimony, which could result in high bias in the antimony results for those groundwater samples. The estimated detected calcium concentration in the field blank (0.03 mg/L) was more than 10% of the detected values for calcium in samples AD-12, AD-18, and AD-23, which could result in high bias in the calcium results for samples AD-12, AD-18, and AD-23. The estimated detected chromium concentration (0.25 µg/L) in the field blank were more than 10% of the detected values for chromium in samples AD-2, AD-3, AD-4, AD-7R, AD-12, AD-13, AD-17, AD-22, AD-28, AD-30, AD-31, AD-32, AD-33, and Duplicate, which could result in high bias in the chromium results for those groundwater samples.

- As reported in SDG 252402, antimony, chromium, and cobalt were detected in the equipment blank sample "Equipment Blank" collected on 9/9/25. The estimated detected antimony (0.03 µg/L) and the detected chromium (0.39 µg/L) concentrations in the equipment blank were more than 10% of the detected value for antimony and chromium in all groundwater samples that had detectable levels of those constituents, which could result in high bias in the antimony and chromium results for those groundwater samples.

- As reported in SDG 252402, the relative percent difference (RPD) for lithium concentrations from parent sample "AD-13" and duplicate sample "Duplicate" was 32%. The AD-13 result for lithium should be considered estimated.

- As reported in SDG 252402, sample "AD-18" collected on 9/10/2025 for radium-226 was flagged R2: carrier recovery was outside acceptance limits.

- As reported in SDG 252402, a laboratory quality control (QC) method blank (MB) was detected for radium-228 above the acceptable limit of 0.95 pCi/L. Samples associated with this laboratory QC sample were flagged B1: analyte detected in MB at or above the method criteria.

- As reported in SDG 252402, the laboratory QC sample ICPMS matrix spike (MS) and ICPMS matrix spike duplicate (MSD) had recoveries for beryllium below the acceptable limit of 75%. Sample "AD-31" associated with these laboratory QC samples was flagged M1: the associated MS or MSD recovery was outside acceptance limits.

- As reported in SDG 252402, the laboratory control sample duplicate (LCSD) recovery for radium-228 (67.6%) in QC sample "PB25092302" was below the acceptance limit of 75%. Samples associated with that QC batch on SDG 252402 were flagged L1: the associated laboratory control sample (LCS) or LCSD recovery was outside acceptance limits. The

LCSD RPD for radium-228 (32.1) was above the acceptable limit of 25. The associated samples were flagged P2: the precision on the LCSD was above acceptance limits. The associated 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 4, 2025

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

Re: Pirkey EBAP
Background Update & Assessment Monitoring Event – September 2025

Dear Ms. Kreinberg,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the evaluation of groundwater data and the background update through September 2025 for American Electric Power Company's Pirkey EBAP. 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 at each of the wells below began at Pirkey EBAP for the Coal Combustion Residuals (CCR) program in 2016. The monitoring well network, as provided by Geosyntec Consultants, consists of the following:

- **Upgradient wells:** AD-4, AD-12, and AD-18
- **Downgradient wells:** AD-2, AD-31, and AD-32

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 and initial screening evaluation prepared in November 2017 by GSC and approved by Dr. Kirk Cameron, PhD Statistician with MacStat Consulting, primary author of the USEPA Unified Guidance, and Senior Advisor to GSC.

The CCR program consists of the following constituents listed below. The terms "constituent" and "parameter" are interchangeable.

- **Appendix III** (Detection Monitoring) **-** boron, calcium, chloride, fluoride, pH, sulfate, and TDS
- **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 and box plots for Appendix III and IV parameters are provided for all wells and constituents, and are used to evaluate concentrations over the entire record (Figures A & B, respectively). A summary of the values identified as outliers in this report and through previous screenings follows this letter. These values are deselected prior to the statistical analysis. All flagged values may also be seen in a lighter font and disconnected symbol on the time series graphs (Figure C).

Due to varying detection limits in background data sets, a substitution of the most recent reporting limit is used for all non-detects. For interwell prediction and tolerance limits, a single reporting limit substitution is used across upgradient wells for a given parameter. In some cases, the most recent reporting limit provided by the laboratory may contain varying limits for a given parameter; therefore, the substitution may differ from well to well. Reporting limit changes may occur depending on laboratory capabilities. In the case of fluoride, lead, and molybdenum, elevated reporting limits were replaced by the most recent reporting limits, as provided by the laboratory, of 0.06 mg/L, 0.0002 mg/L, and 0.0005 mg/L, respectively, which were substituted across all non-detects for all wells. The computed statistical limits, both background and compliance limits, were not adversely affected by these substitutions.

In earlier analyses, data at all wells were evaluated for the following: 1) outliers; 2) trends; 3) most appropriate statistical method for Appendix III parameters based on site characteristics of groundwater data upgradient of the facility; and 4) eligibility of downgradient wells when intrawell statistical methods are recommended. Power curves were provided during the initial background screening and demonstrated that the selected statistical methods for Appendix III parameters comply with the USEPA Unified Guidance recommendations as discussed below.

Summary of Statistical Methods:

- Intrawell prediction limits, combined with a 1-of-2 resample plan for pH
- Interwell prediction limits, combined with a 1-of-2 resample plan for boron, calcium, chloride, fluoride, sulfate, and TDS
- Confidence intervals compared to Ground Water Protection Standards (GWPS) for all Appendix IV constituents

Parametric prediction limits, tolerance limits, confidence intervals 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. While the false positive rate associated with the parametric limits is based on an annual 10% (5% per semi-annual event) as recommended by the EPA Unified Guidance (2009), the false positive rate associated with the nonparametric limits is dependent upon the available background sample size, number of future comparisons, and verification resample plan. 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 (US EPA, 2009), data are analyzed using either parametric or non-parametric prediction limits.

- 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. This technique adjusts the mean and standard deviation of the historical concentrations to account for concentrations below the reporting limit.
- Nonparametric prediction limits, tolerance limits, and confidence intervals are used on data containing greater than 50% non-detects.

Natural systems continuously evolve due to physical changes made to the environment. Examples include capping a landfill, paving areas near a well, or lining a drainage channel to prevent erosion. Periodic updating of background statistical limits is necessary to accommodate these types of changes. In the intrawell case, data for all wells and constituents may be re-evaluated when a minimum of 4 new data points are available to determine whether earlier concentrations are representative of current groundwater quality. In the interwell case, prediction limits are updated with upgradient well data

following each sampling event after careful screening for any new outliers. In some cases, deselecting the earlier portion of data may be necessary prior to construction of limits so that resulting statistical limits are capable of rapidly detecting changes in groundwater quality. Even though data are excluded from the calculation, the values will continue to be reported and shown in tables and graphs.

For Appendix III detection monitoring parameters, compliance is determined by comparing the most recent observation to a background prediction limit. The corresponding trend tests for screening and evaluating prediction limit exceedances of Appendix III parameters are performed at the 99% confidence level to provide a high level of confidence against false positives. For Appendix IV assessment monitoring parameters, however, 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.

Appendix III Parameters Background Update and Evaluation

Fall 2025

Outlier Analysis

Prior to updating interwell prediction limits for the Fall 2025 analysis, data were evaluated using Tukey's outlier test and visual screening on pooled upgradient well data through September 2025 for boron, calcium, chloride, fluoride, sulfate, and TDS. Results of the outlier tests follow this report (Figure C), showing that Tukey's outlier test on pooled upgradient well data identified significant values for fluoride. However, no values among upgradient wells for fluoride were flagged as outliers since all identified observations were low-level concentrations. Visual screening confirmed a previously flagged value for TDS at upgradient well AD-12 since this observation was at least an order of magnitude lower than existing concentrations. Although calcium and fluoride are tested using interwell methods, previously identified elevated observations for calcium at downgradient well AD-31 and fluoride at downgradient well AD-32 remain flagged as outliers and have no bearing on resulting statistical limits. No changes were made to previously flagged data.

For pH, which uses intrawell prediction limits, values were not re-evaluated for new outliers as these records had insufficient samples for updating background during this evaluation period.

As mentioned above, any flagged data are displayed in a lighter font and as a disconnected symbol on the time series reports, as well as in a lighter font on the accompanying data pages. Results for all Appendix III parameters are shown in Figure C.

Intrawell – Prediction Limits

Intrawell prediction limits using all historical data through September 2024 combined with a 1-of-2 resample plan, were constructed for pH, and a summary of the limits follows this letter (Figure D). No comparison of the September 2025 compliance data was made in this analysis.

Interwell – Trend Test Evaluation

The Sen's Slope/Mann Kendall trend test was used to evaluate data at upgradient wells for boron, calcium, chloride, fluoride, sulfate, and TDS, which are tested using interwell prediction limits, to identify statistically significant increasing or decreasing trends at the 99% confidence level (Figure E). Statistically significant trends were identified for the following upgradient well/constituent pairs:

Increasing
- None

Decreasing
- Boron: AD-4
- Calcium: AD-12
- Chloride: AD-18
- Fluoride: AD-12
- Sulfate: AD-12

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 in the future at one or more downgradient wells depending on transport times.

Although a statistically significant decreasing trend was identified for fluoride in well AD-12, the trend was 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. Additionally, no adjustments to data sets were required for the statistically significant

decreasing trends identified for the remaining well/constituent pairs listed above, as all observations within these individual wells fall within the range of the other pooled upgradient well concentrations. Truncating the earlier measurements from these records to reduce the influence of the trend would not impact resulting interwell prediction limits. Therefore, no adjustments were required for these well/constituent pairs at this time, and all data from upgradient wells were used to construct interwell prediction limits for boron, calcium, chloride, fluoride, sulfate, and TDS.

Interwell – Prediction Limits

Interwell prediction limits, combined with a 1-of-2 resample plan, were updated using all available data through September 2025 from upgradient wells for the constituents listed above (Figure F). Time series plots were included with the interwell prediction limit graphs to display concentrations at upgradient wells that were used to construct the statistical limits. A summary table of the updated limits may be found following this letter in the Prediction Limit Summary Table. No comparison of the September 2025 compliance data was made in this analysis.

Evaluation of Appendix IV Parameters – Fall 2025

The overall approach for assessing compliance is to compute a GWPS for each Appendix IV parameter, using the higher of a background tolerance limit or a regulatory limit. For each downgradient well and parameter, a confidence interval for the mean or median is compared to the GWPS.

Outlier Analysis

Prior to evaluating Appendix IV parameters, background data are screened through visual screening and Tukey's outlier test on pooled upgradient wells for potential outliers and extreme trending patterns that would lead to artificially elevated statistical limits.

For the current analysis, Tukey's outlier test on pooled upgradient well data through September 2025 identified values for fluoride as shown in the Tukey's Outlier Test Results table. However, none of those currently identified values were flagged as all identified observations were low-level concentrations and were below the respective MCL. Visual screening confirmed previously flagged non-detects observations from 2019 with elevated reporting limits for molybdenum and thallium in both upgradient and downgradient wells. These elevated reporting limits are more than an order of magnitude higher than the current reporting limits.

Additionally, downgradient well data through September 2025 were 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. Several observations among the 2016 events for multiple Appendix IV constituents among downgradient wells AD-2, AD-31, and AD-32 remain flagged as outliers since the measurements were inconsistent with remaining concentrations. Previously flagged values for cobalt at AD-31 and lithium at AD-32 remain flagged in the database, but fall within the range of truncated data from the record. No changes were made to previously flagged data.

Trend Analysis – Upgradient Wells

Appendix IV data were also screened at upgradient wells using the Sen's Slope/Mann-Kendall trend test to formally evaluate whether statistically significant trends are present at the 95% confidence level (Figure G). When extreme trending patterns are present among upgradient wells, truncation of the records may be required for construction of interwell tolerance limits to represent current groundwater quality conditions. The following statistically significant trends were identified among upgradient wells:

Increasing:

- Combined Radium 226 + 228: AD-4 and AD-12

Decreasing:

- Antimony: AD-12 and AD-18
- Arsenic: AD-4, AD-12, and AD-18
- Barium: AD-12 and AD-18
- Beryllium: AD-4, AD-12, and AD-18
- Cadmium: AD-4, AD-12, and AD-18
- Cobalt: AD-4, AD-12, and AD-18
- Fluoride: AD-12
- Lead: AD-12
- Lithium: AD-4, AD-12, and AD-18
- Mercury: AD-4
- Selenium: AD-4, AD-12, and AD-18
- Thallium: AD-4 and AD-18

Several statistically significant trends were identified. In some cases, the significant trends did not adversely affect GWPS 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-4, while decreasing trends were identified, more recent concentrations are not drastically different from those found earlier in the record. Additionally, the variability among all of the observations for this well/constituent pair is high, and using the entire record for constructing tolerance limits is best able to represent this variability in the upgradient background. Therefore, no adjustments were required for these well/constituent pairs at this time, and all available data from upgradient wells were used to construct interwell tolerance limits.

Note that decreasing trends for antimony at upgradient wells AD-12 and AD-18 and for selenium at AD-4 were identified; however, the slope, which represents the median slope of all the possible pairwise slopes, is displayed on the graph and summary table as zero. All data will be re-evaluated during the next background update to determine whether more recent measurements are increasing, decreasing, or remaining stable.

Interwell Upper Tolerance Limits

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

Background limits were compared to the MCLs in the GWPS table following this letter to determine the highest limit for use as the GWPS in the Confidence Interval comparisons (Figure I).

Confidence Intervals

Confidence intervals were then constructed on downgradient wells with data through September 2025 for each of the Appendix IV parameters using either parametric or nonparametric intervals depending on the data distribution and percentage of non-

detects. When data followed a normal or transformed-normal distribution, parametric confidence intervals were constructed for Appendix IV parameters. 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 samples available.

While Appendix IV downgradient data are not routinely tested for trend, it is appropriate to evaluate compliance using data that are relatively stable over time and that correctly represent current average concentrations in each downgradient well, especially with regard to respective GWPS. Visual inspection and the Sen's Slope/Mann Kendall trend test at the 95% confidence level identified statistically significant increasing trends for cobalt and lithium in well AD-2 and significant decreasing trends for cobalt in wells AD-31 and AD-32 and for lithium in well AD-32. In order to construct confidence intervals that better represent current groundwater quality conditions or reduce the influence of the trend, earlier concentrations were truncated from the (USEPA Unified Guidance, 2009, Chapter 7). Trend tests using both the truncated portion of their record and the full record follow this letter (Figure J). A list of well/constituent pairs using truncated records follows this report.

Only when the entire confidence interval is above the GWPS is the well/constituent pair considered to exceed its respective standard (Figure K). Both a tabular summary and graphical presentation of the confidence interval results follow this letter. Exceedances were noted for the following well/constituent pairs:

- Cobalt: AD-2 and AD-32
- Lithium: AD-2, AD-31, and AD-32

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 L). Upgradient wells are included in the trend analyses for all parameters found to exceed their prediction limit 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. Statistically significant trends were identified for the following well/constituent pairs:

Increasing
- Cobalt: AD-2
- Lithium: AD-2

Decreasing
- Cobalt: AD-12, AD-18, AD-4 (all upgradient), and AD-32
- Lithium: AD-12, AD-18, AD-4 (all upgradient), and AD-32

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

For Groundwater Stats Consulting,





Tristan Clark
Groundwater Analyst

Andrew T. Collins
Project Manager

Date Ranges

Date: 11/21/2025 5:47 PM

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Cobalt, total (mg/L)
- AD-2 overall:3/29/2022-9/10/2025
- AD-31 overall:6/26/2023-9/10/2025
- AD-32 overall:6/26/2023-9/10/2025

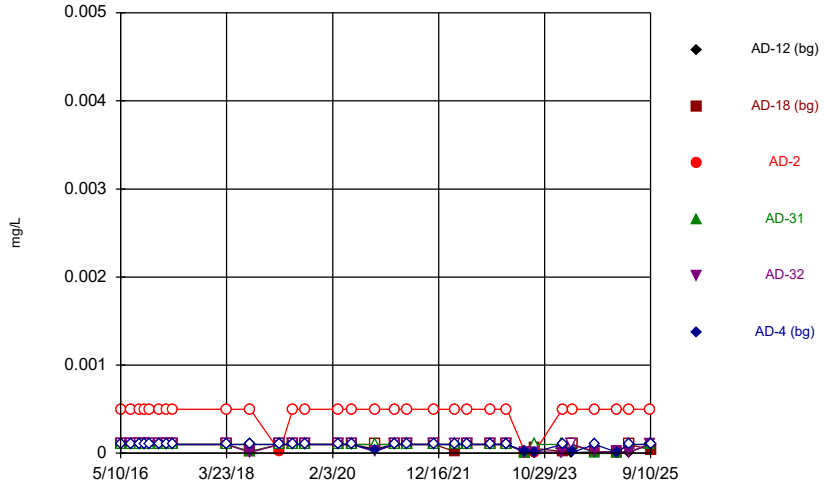
Lithium, total (mg/L)
- AD-2 overall:3/29/2022-9/10/2025
- AD-32 overall:6/26/2023-9/10/2025

FIGURE A

Time Series

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

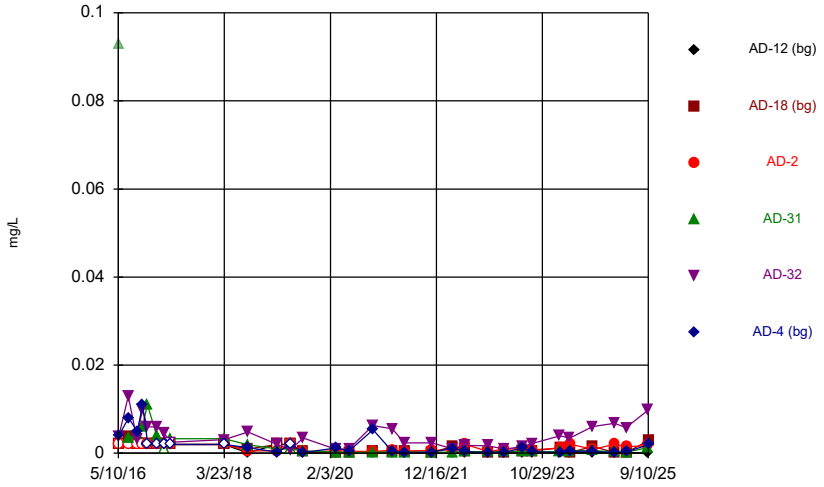
Time Series



Constituent: Antimony, total Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
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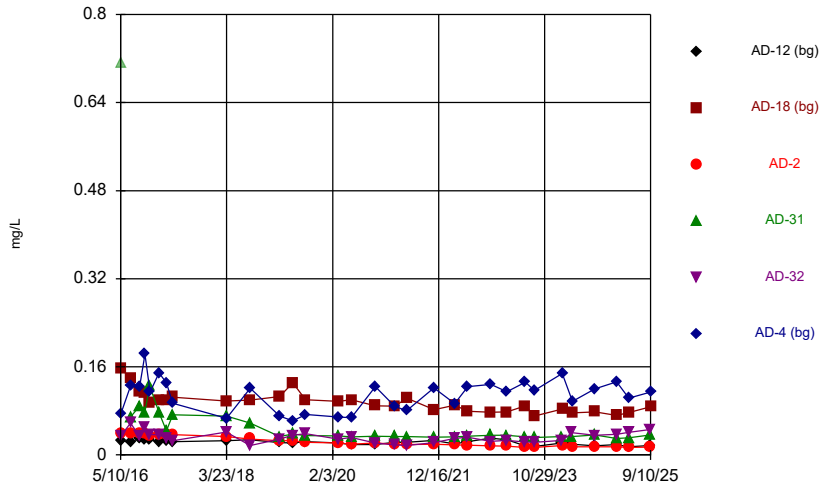
Time Series



Constituent: Arsenic, total Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
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Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

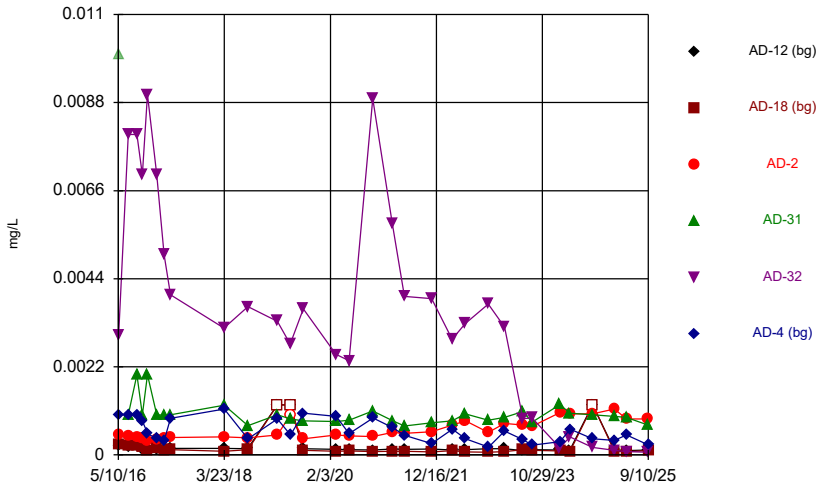
Time Series



Constituent: Barium, total Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
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Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
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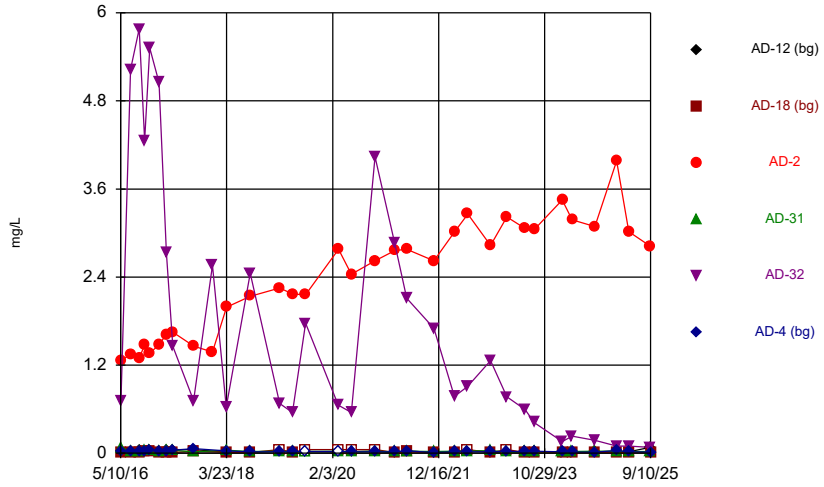
Time Series



Constituent: Beryllium, total Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
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Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
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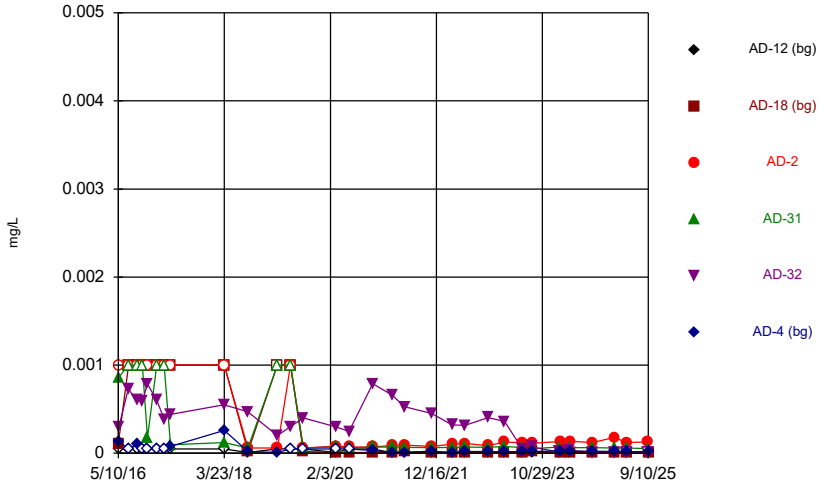
Time Series



Constituent: Boron, total Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
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Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
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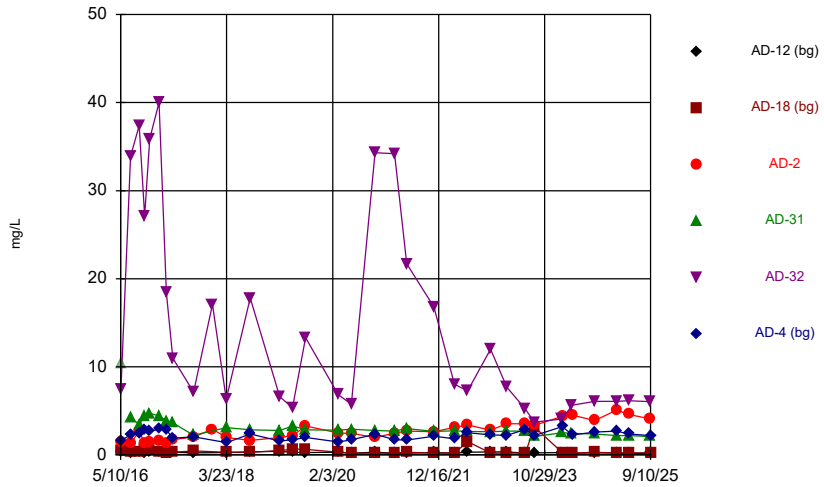
Time Series



Constituent: Cadmium, total Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

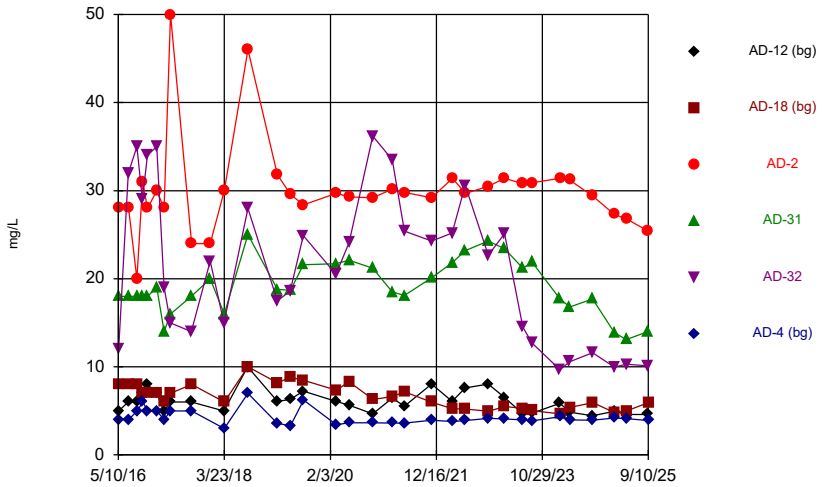
Time Series



Constituent: Calcium, total Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
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Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

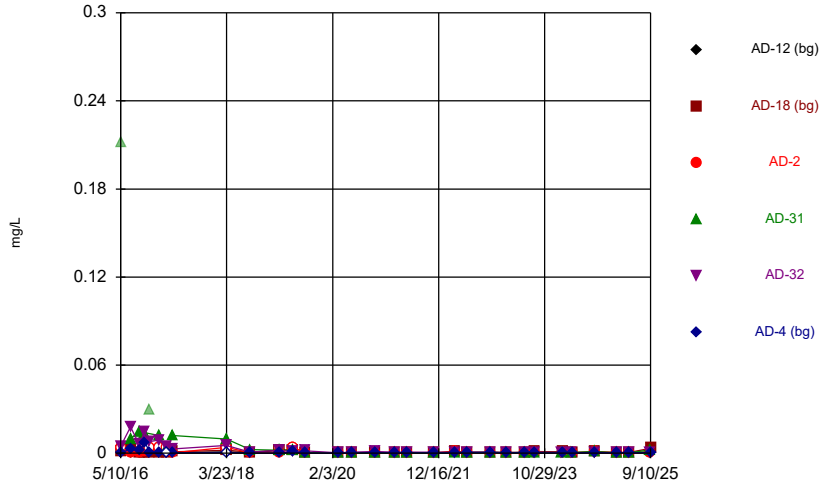
Time Series



Constituent: Chloride, total Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
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Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
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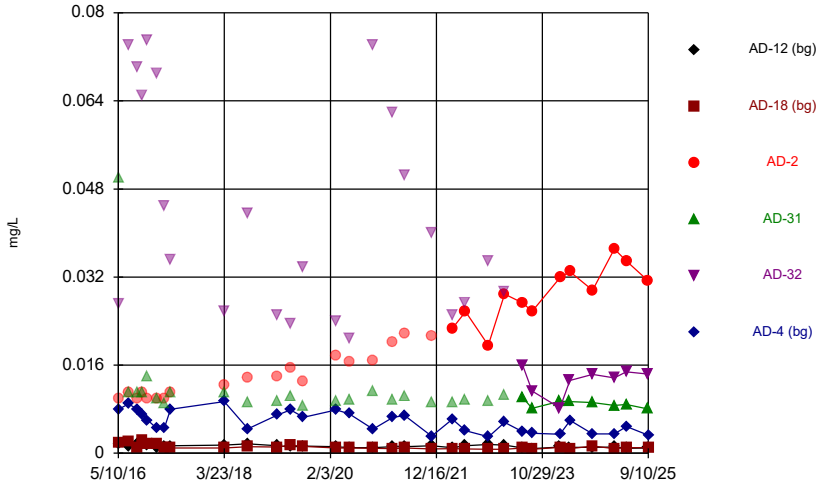
Time Series



Constituent: Chromium, total Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
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Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

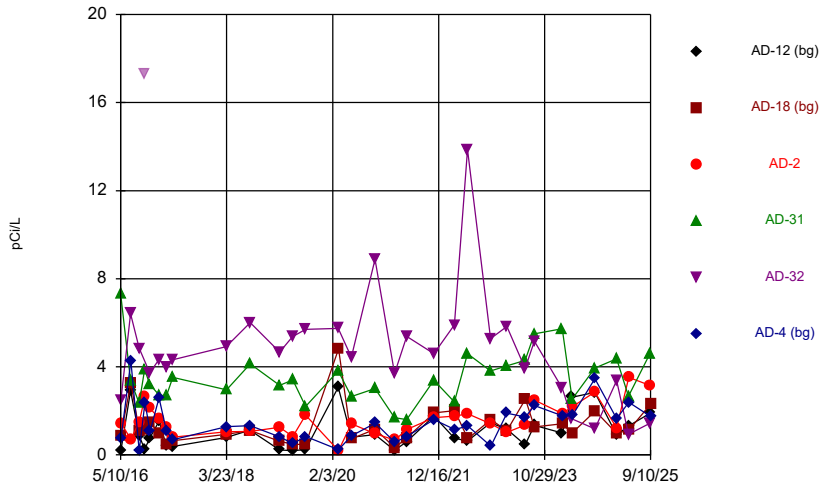
Time Series



Constituent: Cobalt, total Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
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Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

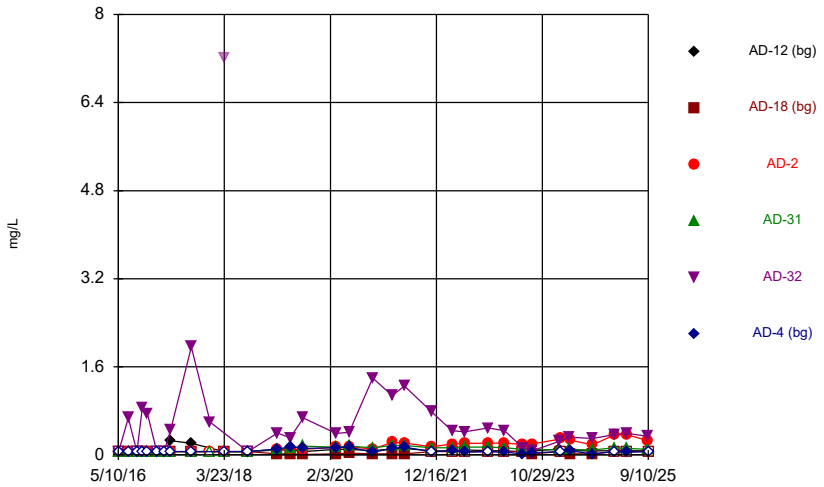
Time Series



Constituent: Combined Radium 226 + 228 Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plo
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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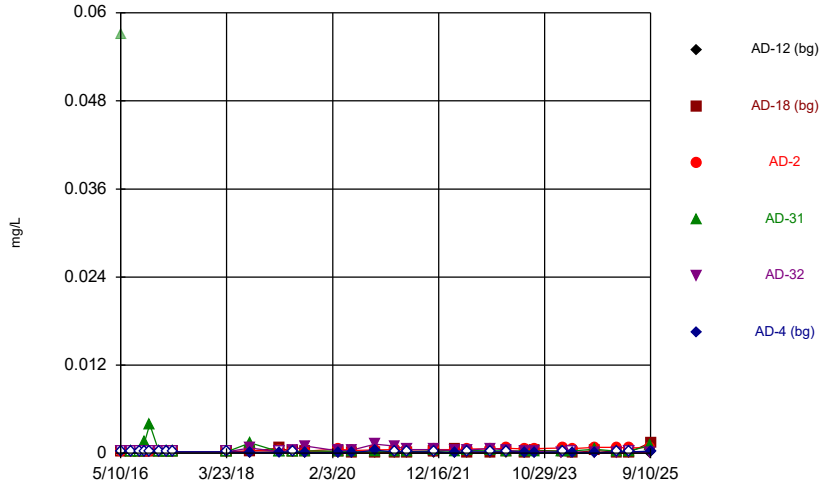
Time Series



Constituent: Fluoride, total Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
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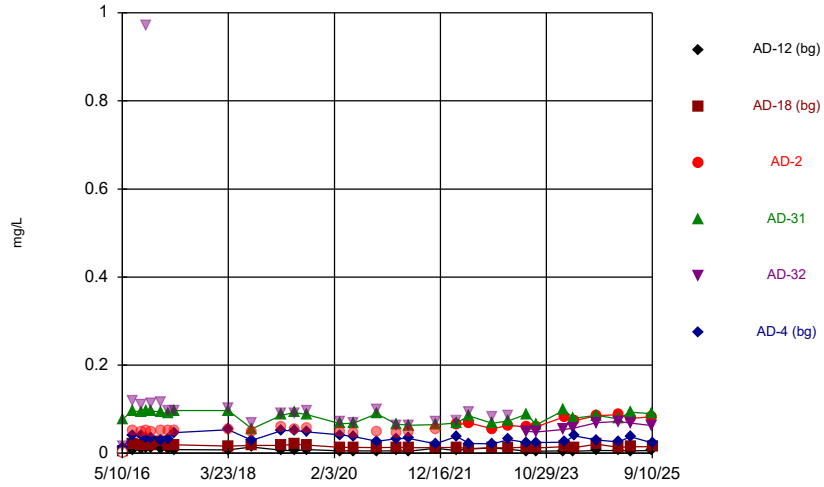
Time Series



Constituent: Lead, total Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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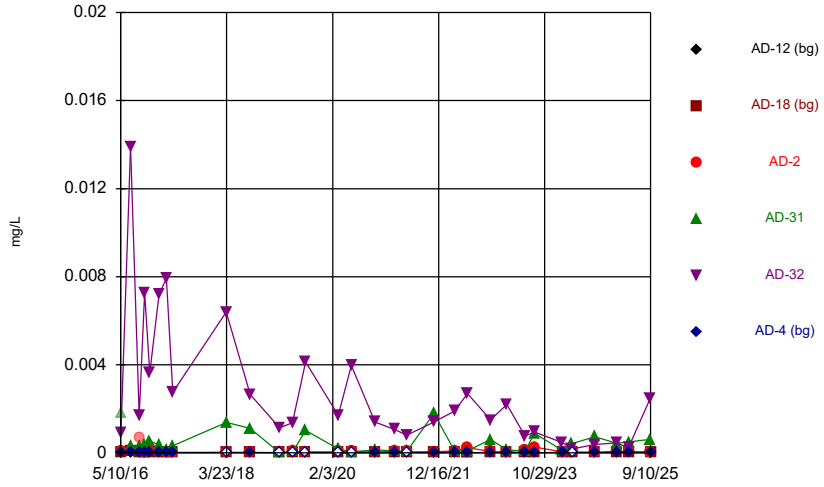
Time Series



Constituent: Lithium, total Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
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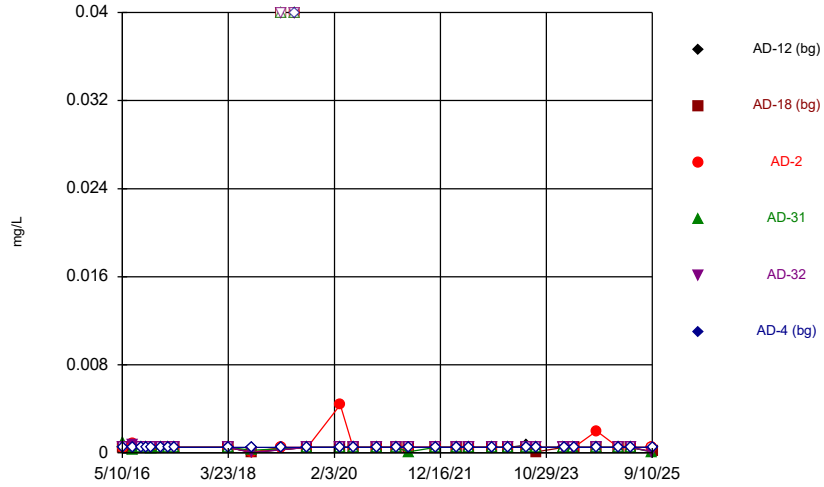
Time Series



Constituent: Mercury, total Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
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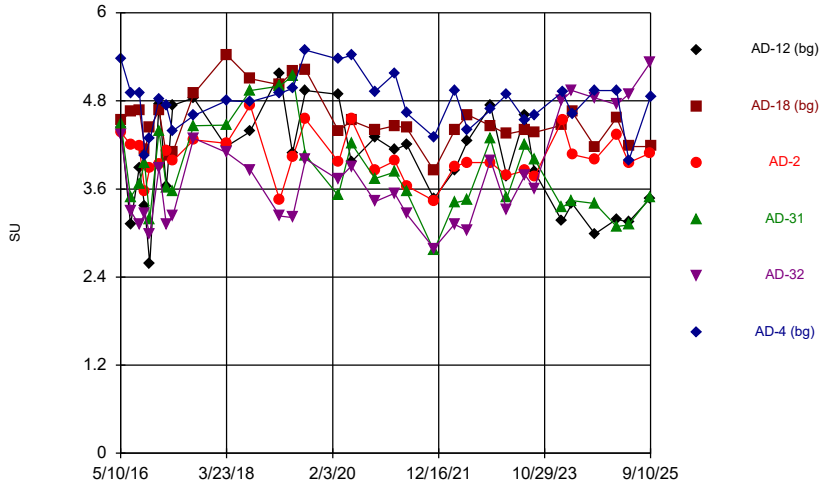
Time Series



Constituent: Molybdenum, total Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

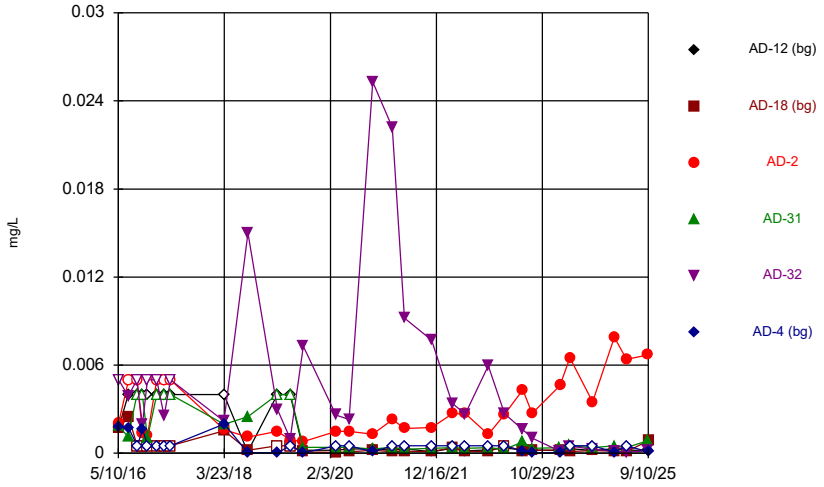
Time Series



Constituent: pH, field Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
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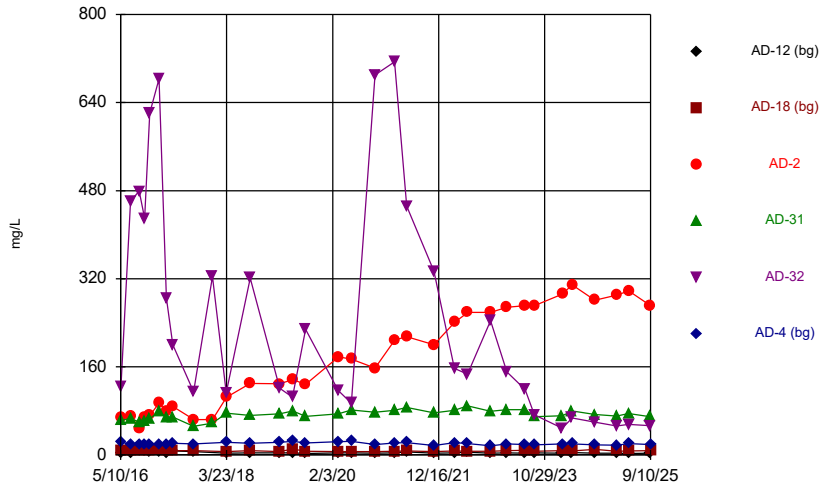
Time Series



Constituent: Selenium, total Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

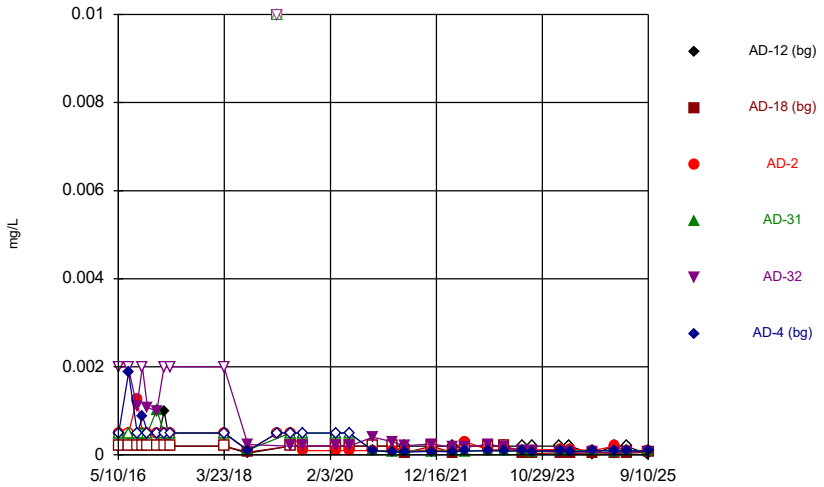
Time Series



Constituent: Sulfate, total Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

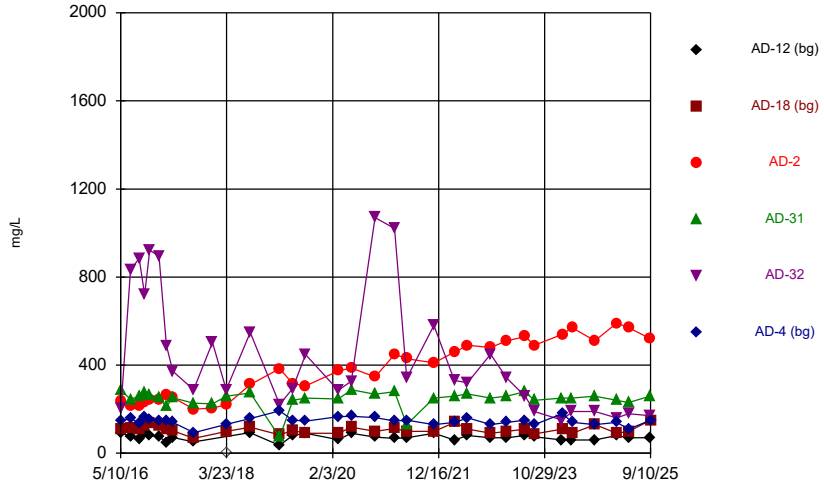
Time Series



Constituent: Thallium, total Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series

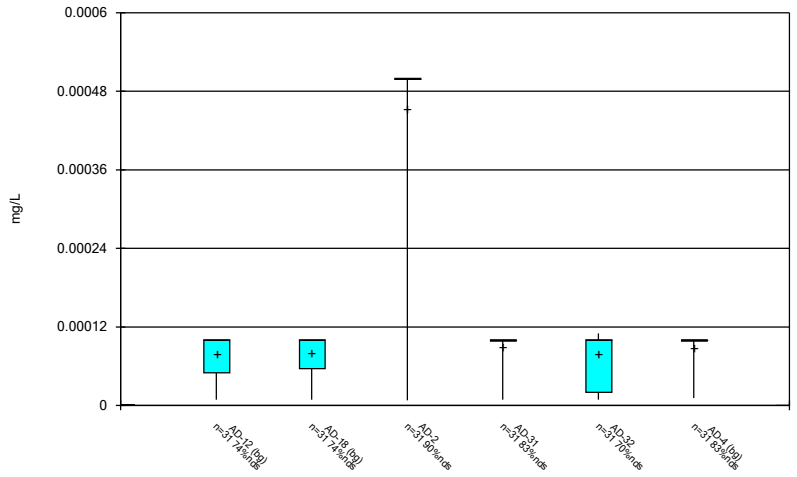


Constituent: Total Dissolved Solids Analysis Run 11/21/2025 5:48 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

FIGURE B

Box Plots

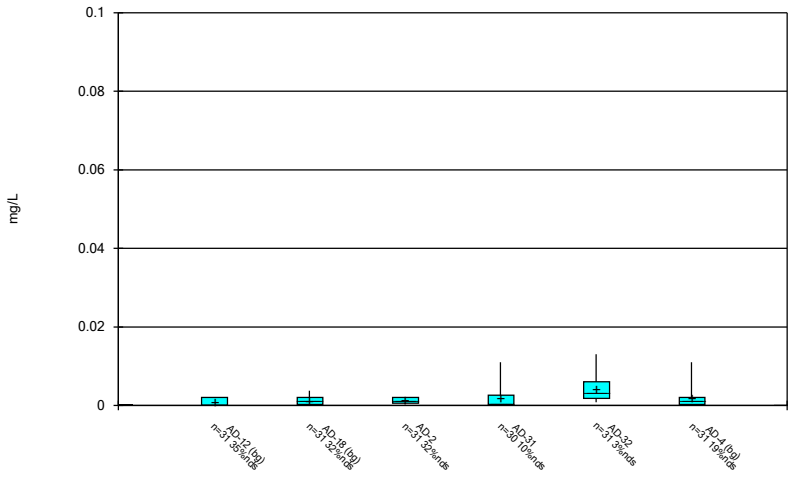
Box & Whiskers Plot



Constituent: Antimony, total Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

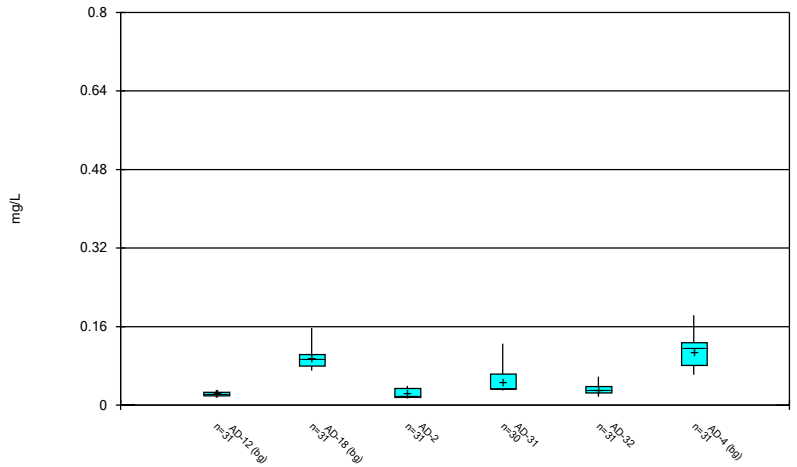
Box & Whiskers Plot



Constituent: Arsenic, total Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

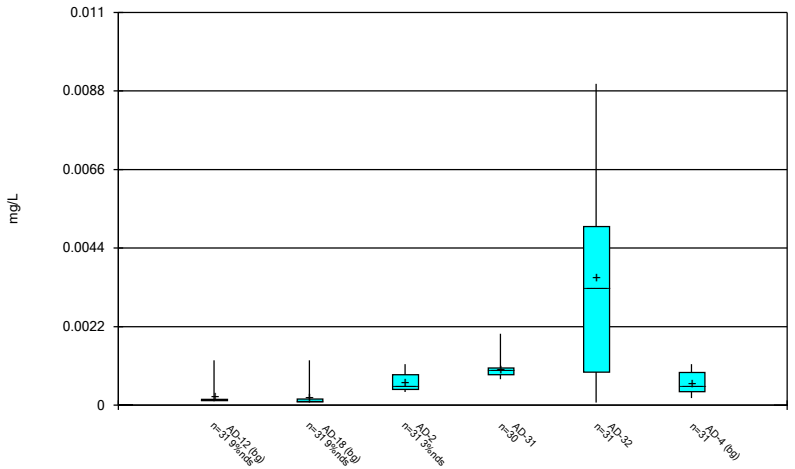
Box & Whiskers Plot



Constituent: Barium, total Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

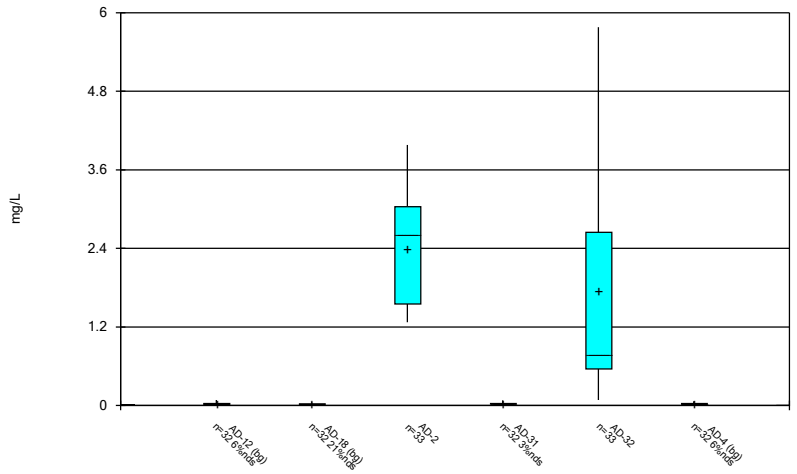
Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Beryllium, total Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

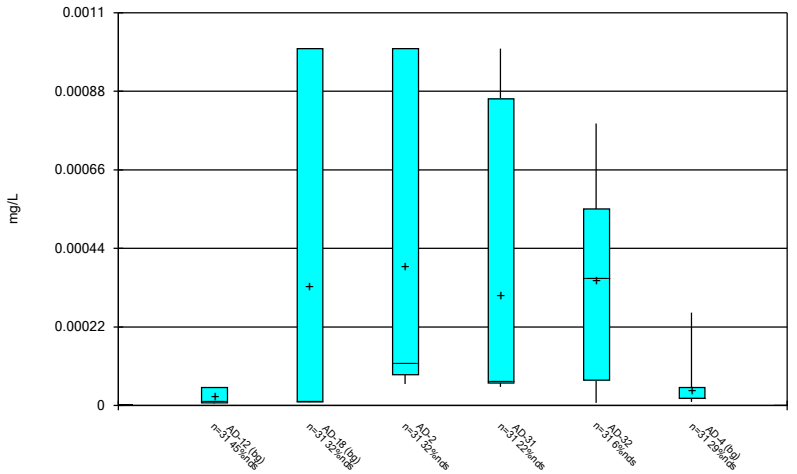
Box & Whiskers Plot



Constituent: Boron, total Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

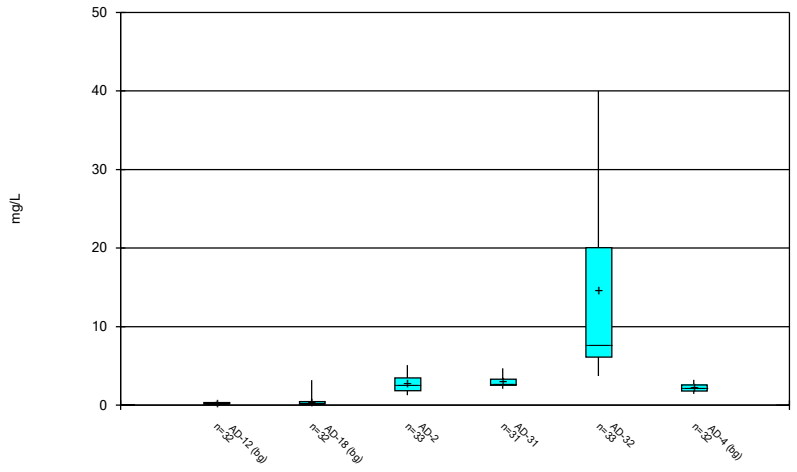
Box & Whiskers Plot



Constituent: Cadmium, total Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

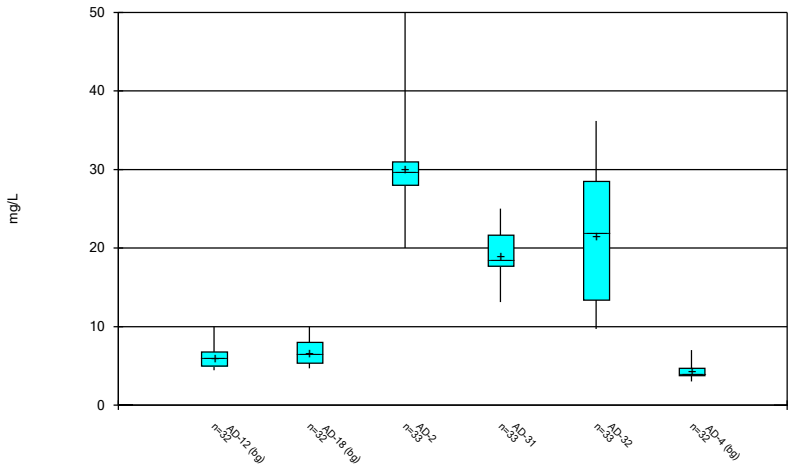
Box & Whiskers Plot



Constituent: Calcium, total Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

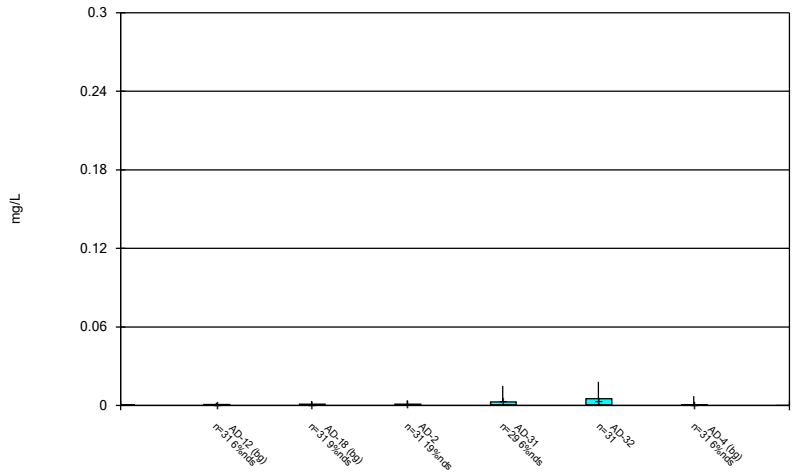
Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Chloride, total Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

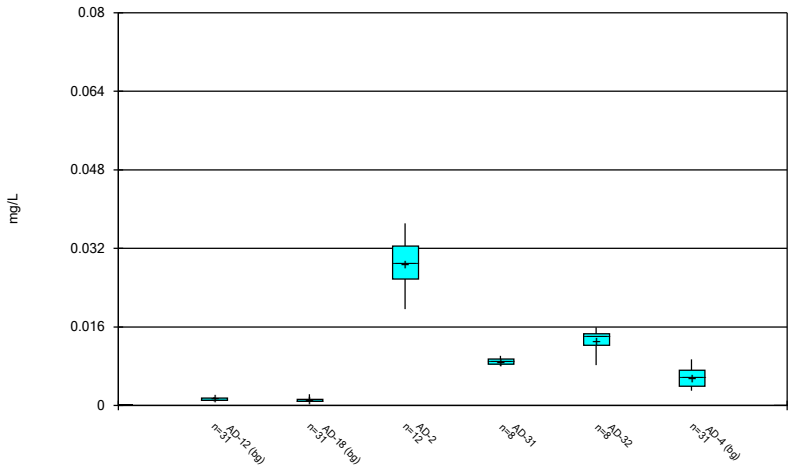
Box & Whiskers Plot



Constituent: Chromium, total Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

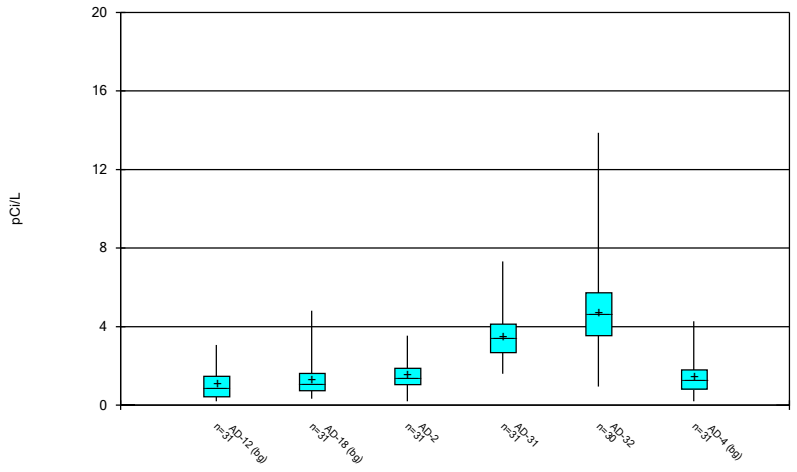
Box & Whiskers Plot



Constituent: Cobalt, total Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

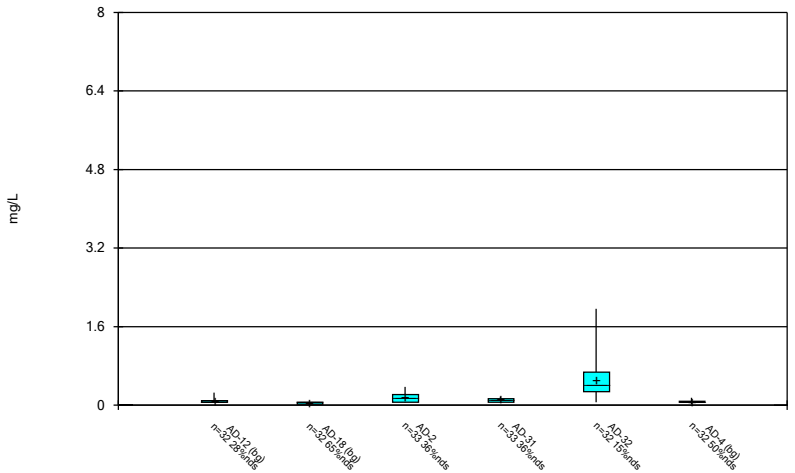
Box & Whiskers Plot



Constituent: Combined Radium 226 + 228 Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plo
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

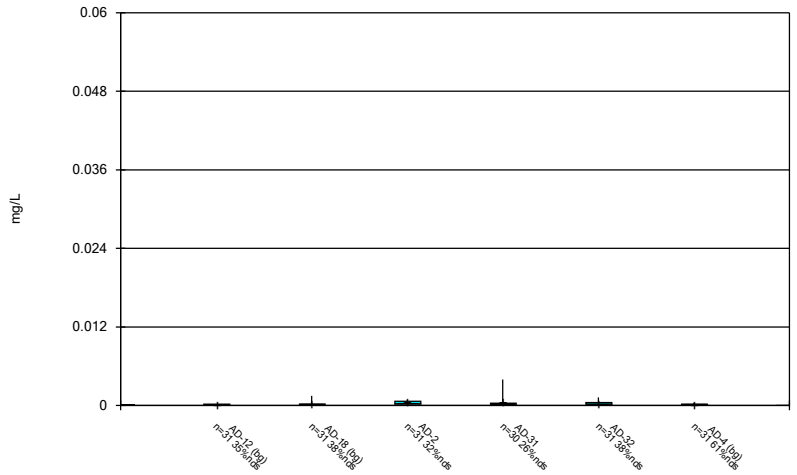
Box & Whiskers Plot



Constituent: Fluoride, total Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

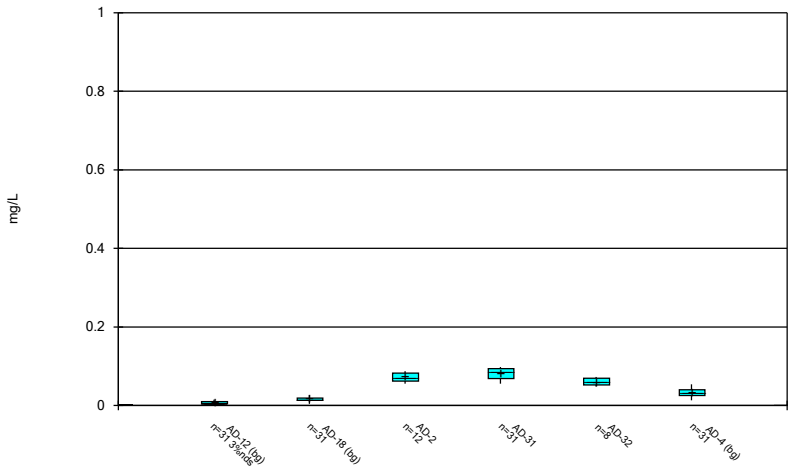
Box & Whiskers Plot



Constituent: Lead, total Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

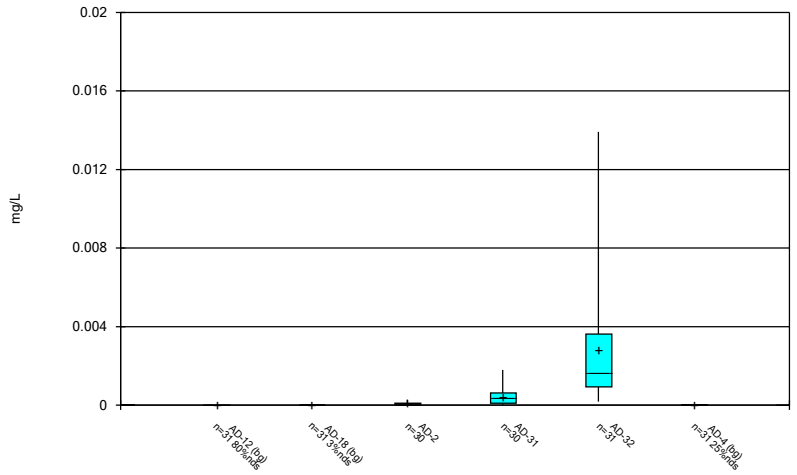
Box & Whiskers Plot



Constituent: Lithium, total Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

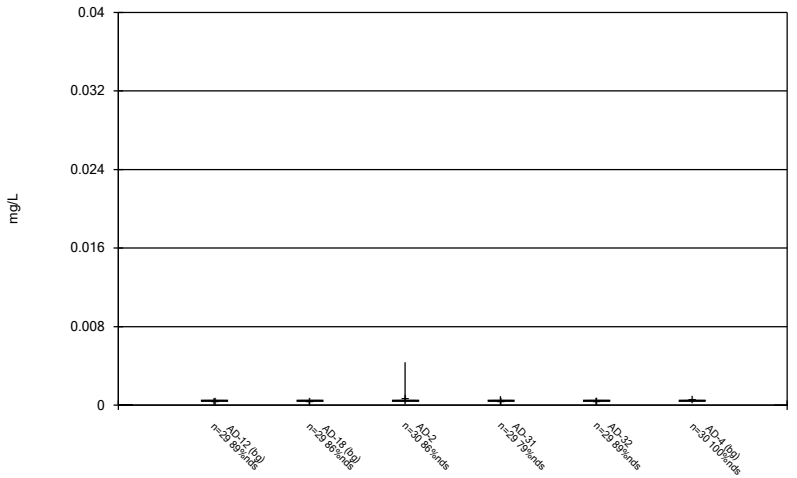
Box & Whiskers Plot



Constituent: Mercury, total Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

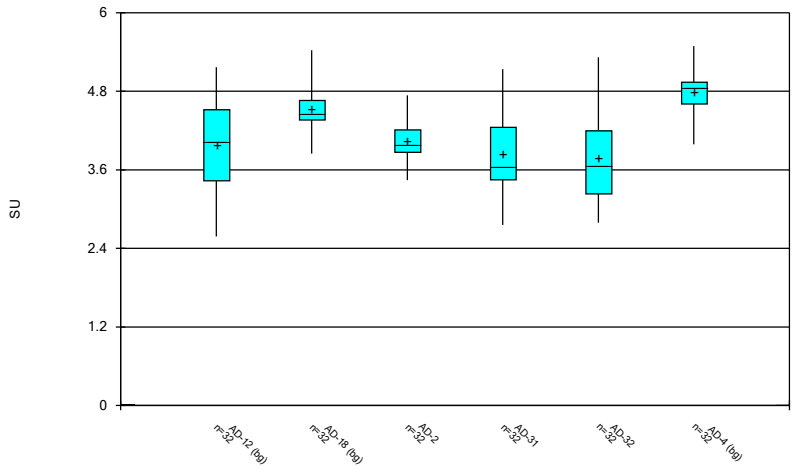
Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Molybdenum, total Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

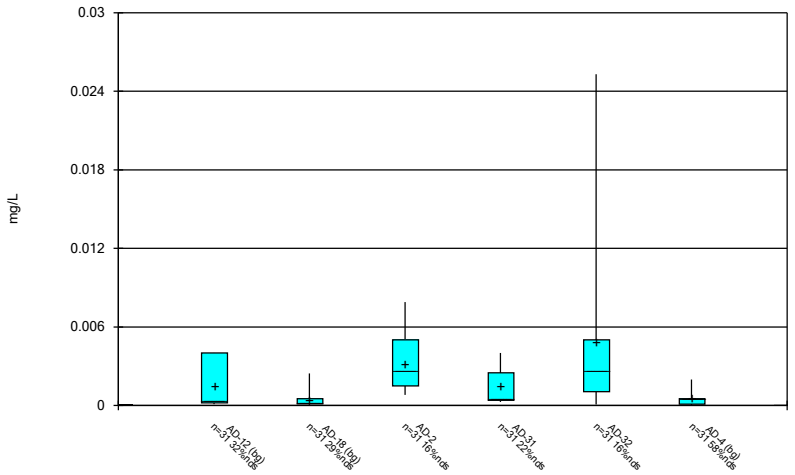
Box & Whiskers Plot



Constituent: pH, field Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

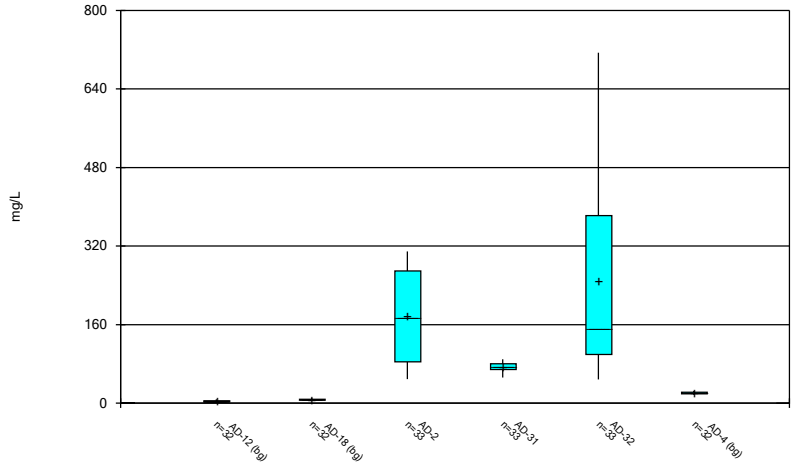
Box & Whiskers Plot



Constituent: Selenium, total Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

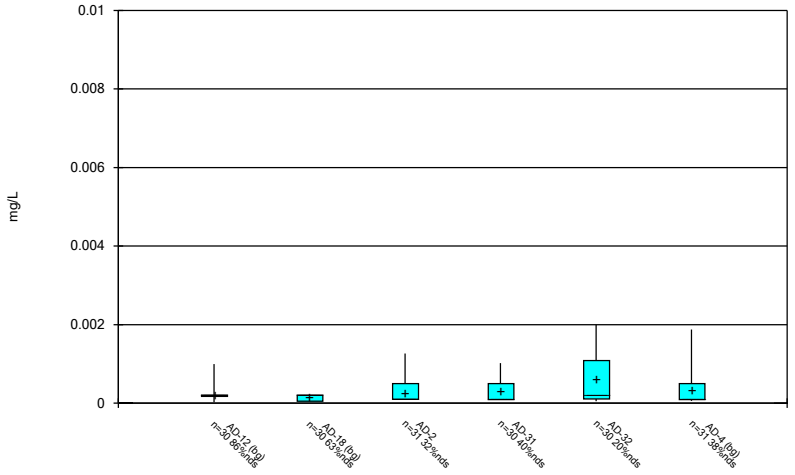
Box & Whiskers Plot



Constituent: Sulfate, total Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

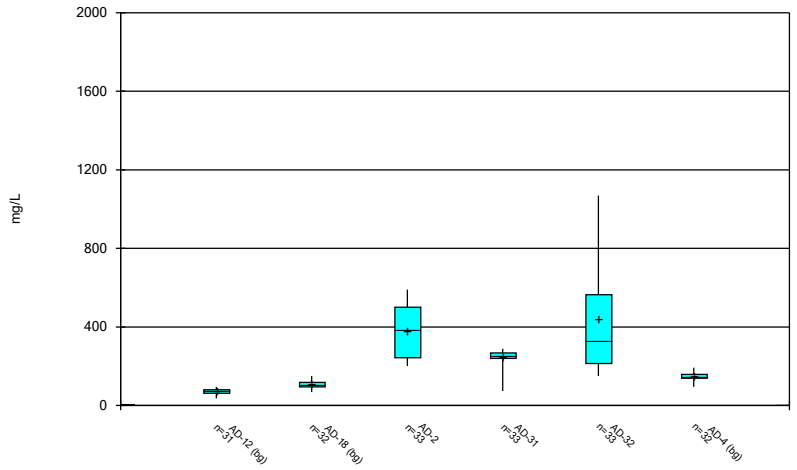
Box & Whiskers Plot



Constituent: Thallium, total Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 11/21/2025 5:49 PM View: Time Series & Box Plots
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

FIGURE C

Outlier Summary and Tukey's Outlier Test

Outlier Summary

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 12/2/2025, 11:56 AM

	AD-31 Arsenic, total (mg/L)	AD-31 Barium, total (mg/L)	AD-31 Beryllium, total (mg/L)	AD-31 Calcium, total (mg/L)	AD-31 Chromium, total (mg/L)	AD-32 Combined Radium 226 + 228 (pCi/L)	AD-32 Fluoride, total (mg/L)	AD-31 Lead, total (mg/L)	AD-2 Mercury, total (mg/L)	AD-31 Mercury, total (mg/L)
5/11/2016	0.093 (o)	0.712 (o)	0.01 (o)	10.4 (o)	0.212 (o)			0.057 (o)		0.001797 (o)
9/7/2016									0.000675 (o)	
10/12/2016						17.32 (o)				
11/14/2016					0.03 (o)					
3/21/2018							7.2 (o)			
2/27/2019										
2/28/2019										
5/21/2019										
5/22/2019										
5/23/2019										

	AD-12 Molybdenum, total (mg/L)	AD-18 Molybdenum, total (mg/L)	AD-2 Molybdenum, total (mg/L)	AD-31 Molybdenum, total (mg/L)	AD-32 Molybdenum, total (mg/L)	AD-4 Molybdenum, total (mg/L)	AD-12 Thallium, total (mg/L)	AD-18 Thallium, total (mg/L)	AD-31 Thallium, total (mg/L)	AD-32 Thallium, total (mg/L)
5/11/2016										
9/7/2016										
10/12/2016										
11/14/2016										
3/21/2018										
2/27/2019	<0.04 (o)						<0.01 (o)			
2/28/2019		<0.04 (o)		<0.04 (o)	<0.04 (o)			<0.01 (o)	<0.01 (o)	<0.01 (o)
5/21/2019	<0.04 (o)				<0.04 (o)					
5/22/2019			<0.04 (o)							
5/23/2019		<0.04 (o)		<0.04 (o)		<0.04 (o)				

	AD-12 Total Dissolved Solids (mg/L)
5/11/2016	
9/7/2016	
10/12/2016	
11/14/2016	
3/21/2018	<5 (o)
2/27/2019	
2/28/2019	
5/21/2019	
5/22/2019	
5/23/2019	

Tukey's Outlier Test - Upgradient Wells - Significant Results

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 11/20/2025, 11:25 AM

Constituent	Well	Outlier	Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Fluoride, total (mg/L)	**AD-12,AD-18,AD-4**	**Yes**	**0.2565,0.213,0.11,0.11,0.11,0.12,0.12,0.12,0.02,0**	**NP**	**NaN**	**96**	**0.06812**	**0.03708**	**x^(1/3)**	**ShapiroFrancia**

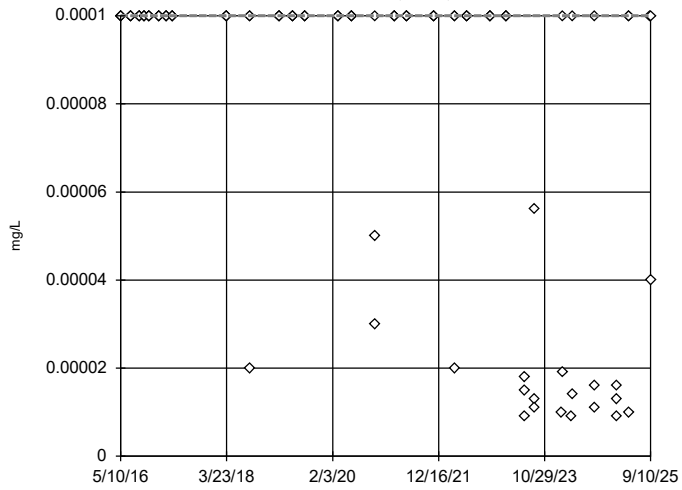
Tukey's Outlier Test - Upgradient Wells - All Results

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 11/20/2025, 11:25 AM

Constituent	Well	Outlier	Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Antimony, total (mg/L)	AD-12,AD-18,AD-4	n/a	n/a	NP	NaN	93	0.00008182	0.00003443	unknown	ShapiroFrancia
Arsenic, total (mg/L)	AD-12,AD-18,AD-4	No	n/a	NP	NaN	93	0.00125	0.001677	ln(x)	ShapiroFrancia
Barium, total (mg/L)	AD-12,AD-18,AD-4	No	n/a	NP	NaN	93	0.07573	0.04305	normal	ShapiroFrancia
Beryllium, total (mg/L)	AD-12,AD-18,AD-4	No	n/a	NP	NaN	93	0.0003631	0.000362	ln(x)	ShapiroFrancia
Boron, total (mg/L)	AD-12,AD-18,AD-4	No	n/a	NP	NaN	96	0.02263	0.01195	ln(x)	ShapiroFrancia
Cadmium, total (mg/L)	AD-12,AD-18,AD-4	No	n/a	NP	NaN	93	0.00003292	0.0000344	ln(x)	ShapiroFrancia
Calcium, total (mg/L)	AD-12,AD-18,AD-4	No	n/a	NP	NaN	96	0.9837	0.9756	ln(x)	ShapiroFrancia
Chloride, total (mg/L)	AD-12,AD-18,AD-4	No	n/a	NP	NaN	96	5.649	1.568	ln(x)	ShapiroFrancia
Chromium, total (mg/L)	AD-12,AD-18,AD-4	No	n/a	NP	NaN	93	0.0007498	0.0009404	ln(x)	ShapiroFrancia
Cobalt, total (mg/L)	AD-12,AD-18,AD-4	No	n/a	NP	NaN	93	0.002694	0.00242	ln(x)	ShapiroFrancia
Combined Radium 226 + 228 (pCi/L)	AD-12,AD-18,AD-4	No	n/a	NP	NaN	93	1.29	0.8975	x^(1/3)	ShapiroFrancia
Fluoride, total (mg/L)	**AD-12,AD-18,AD-4**	**Yes**	**0.2565,0.213,0.11,0.11,0.11,0.12,0.12,0.12,0.02,0**	**NP**	**NaN**	**96**	**0.06812**	**0.03708**	**x^(1/3)**	**ShapiroFrancia**
Lead, total (mg/L)	AD-12,AD-18,AD-4	No	n/a	NP	NaN	93	0.0001834	0.0001689	ln(x)	ShapiroFrancia
Lithium, total (mg/L)	AD-12,AD-18,AD-4	No	n/a	NP	NaN	93	0.0189	0.01282	x^(1/3)	ShapiroFrancia
Mercury, total (mg/L)	AD-12,AD-18,AD-4	No	n/a	NP	NaN	93	0.000009762	0.000009397	ln(x)	ShapiroFrancia
Molybdenum, total (mg/L)	AD-12,AD-18,AD-4	n/a	n/a	NP	NaN	88	0.0004824	0.00009051	unknown	ShapiroFrancia
Selenium, total (mg/L)	AD-12,AD-18,AD-4	No	n/a	NP	NaN	93	0.0004503	0.0004654	ln(x)	ShapiroFrancia
Sulfate, total (mg/L)	AD-12,AD-18,AD-4	No	n/a	NP	NaN	96	10.68	7.221	ln(x)	ShapiroFrancia
Thallium, total (mg/L)	AD-12,AD-18,AD-4	No	n/a	NP	NaN	91	0.0001888	0.0002223	ln(x)	ShapiroFrancia
Total Dissolved Solids (mg/L)	AD-12,AD-18,AD-4	No	n/a	NP	NaN	95	109	34.62	sqrt(x)	ShapiroFrancia

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 93

No outliers found. Tukey's method select-ed by user.

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

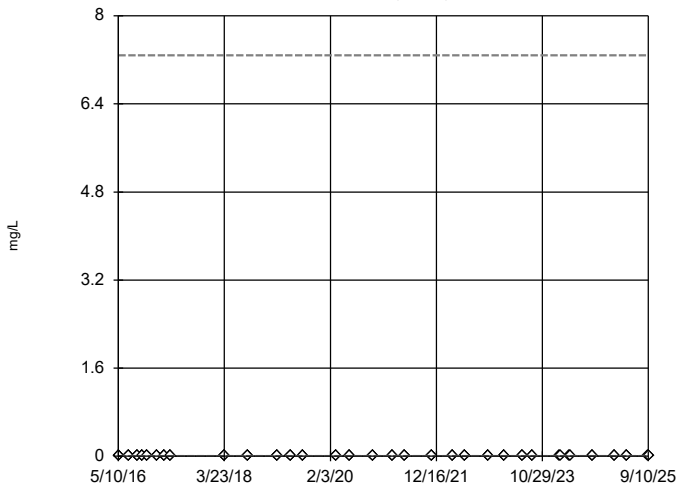
The results were invalid-ated, because the lower and upper quartiles are equal.

Constituent: Antimony, total Analysis Run 11/20/2025 11:23 AM View: Outliers - Upgradient Wells
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 93

No outliers found. Tukey's method select-ed by user.

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

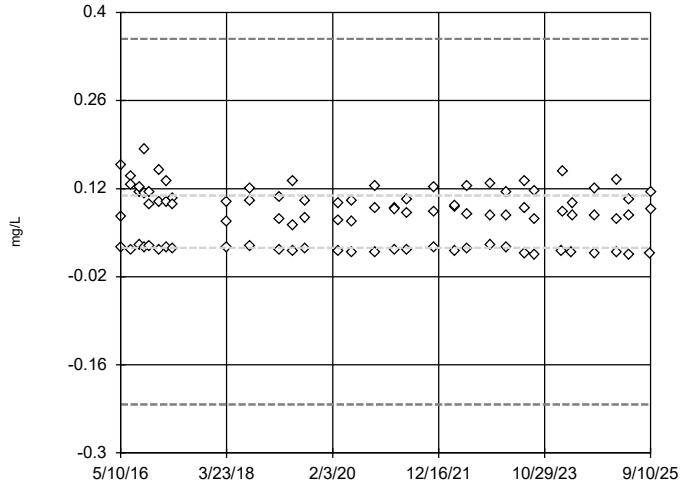
High cutoff = 7.283, low cutoff = 3.6e-8, based on IQR multiplier of 3.

Constituent: Arsenic, total Analysis Run 11/20/2025 11:23 AM View: Outliers - Upgradient Wells
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 93

No outliers found. Tukey's method select-ed by user.

Ladder of Powers trans-formations did not im-prove normality; analy-sis run on raw data.

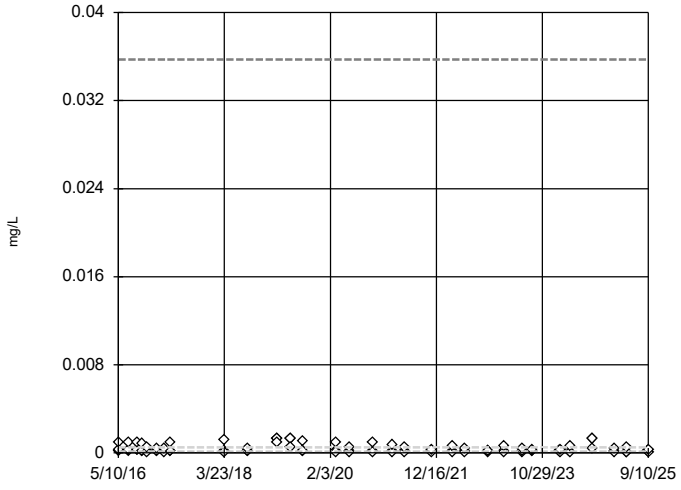
High cutoff = 0.358, low cutoff = -0.223, based on IQR multiplier of 3.

Constituent: Barium, total Analysis Run 11/20/2025 11:23 AM View: Outliers - Upgradient Wells
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 93

No outliers found. Tukey's method select-ed by user.

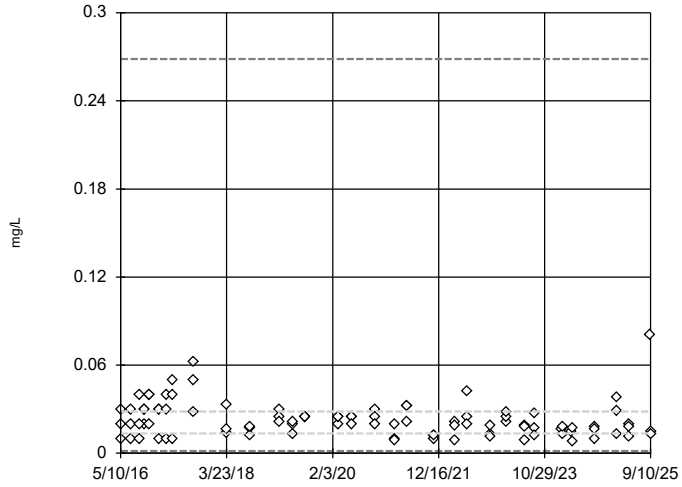
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.03572, low cutoff = 0.000001687, based on IQR multiplier of 3.

Constituent: Beryllium, total Analysis Run 11/20/2025 11:23 AM View: Outliers - Upgradient Wells
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 96

No outliers found. Tukey's method select-ed by user.

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

High cutoff = 0.2685, low cutoff = 0.001432, based on IQR multiplier of 3.

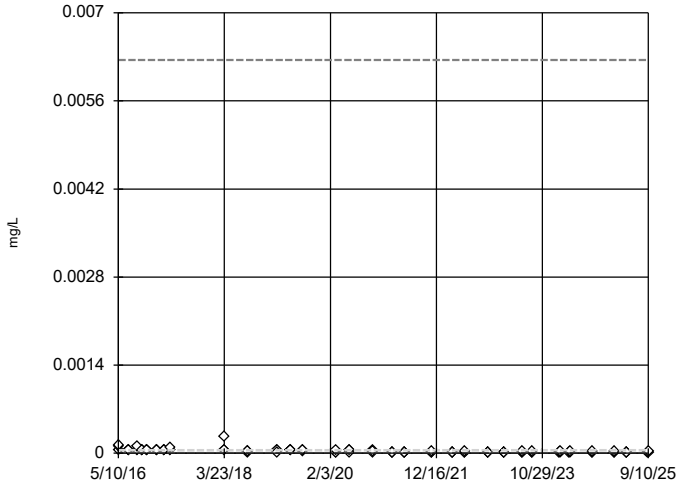
Constituent: Boron, total Analysis Run 11/20/2025 11:23 AM View: Outliers - Upgradient Wells

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 93

No outliers found. Tukey's method select-ed by user.

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

High cutoff = 0.00625, low cutoff = 8.0e-8, based on IQR multiplier of 3.

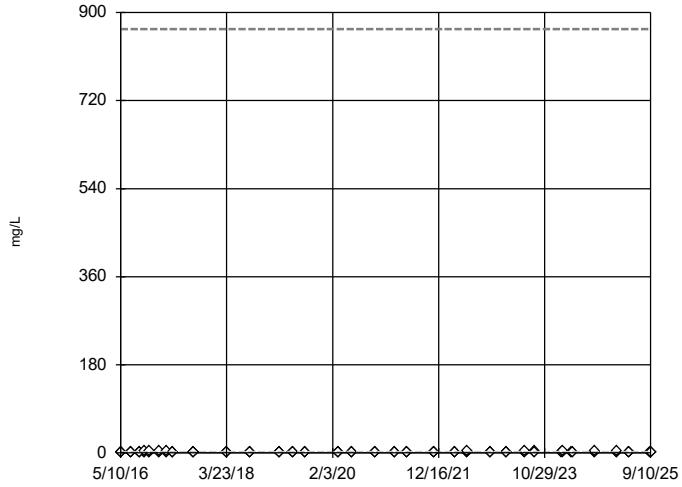
Constituent: Cadmium, total Analysis Run 11/20/2025 11:23 AM View: Outliers - Upgradient Wells

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 96

No outliers found. Tukey's method select-ed by user.

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

High cutoff = 866.2, low cutoff = 0.0005248, based on IQR multiplier of 3.

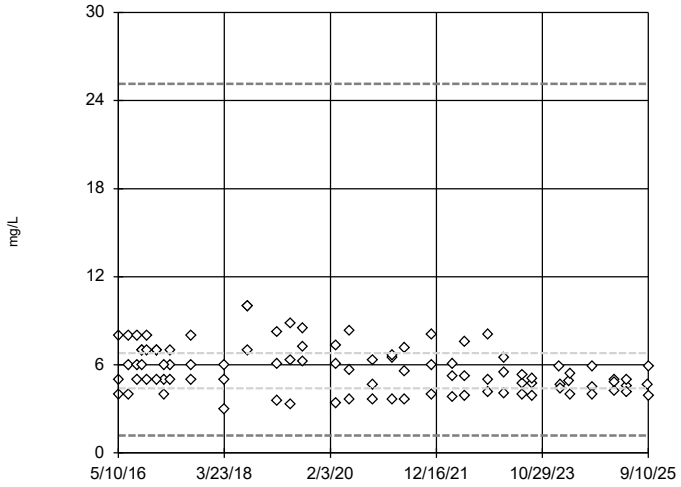
Constituent: Calcium, total Analysis Run 11/20/2025 11:23 AM View: Outliers - Upgradient Wells

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 96

No outliers found. Tukey's method select-ed by user.

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

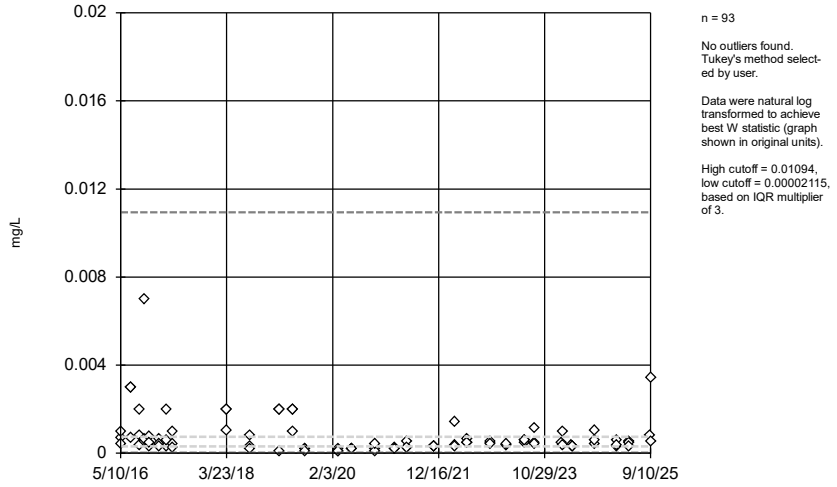
High cutoff = 25.14, low cutoff = 1.191, based on IQR multiplier of 3.

Constituent: Chloride, total Analysis Run 11/20/2025 11:24 AM View: Outliers - Upgradient Wells

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 93

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

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

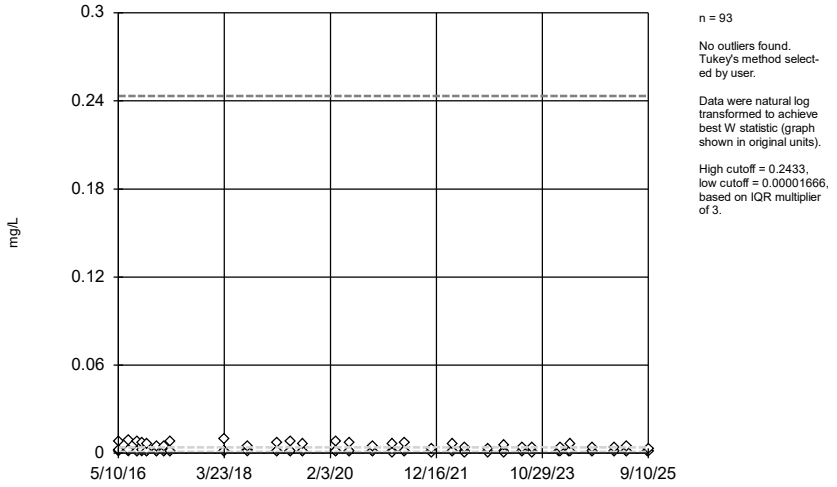
High cutoff = 0.01094, low cutoff = 0.00002115, based on IQR multiplier of 3.

Constituent: Chromium, total Analysis Run 11/20/2025 11:24 AM View: Outliers - Upgradient Wells
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 93

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

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

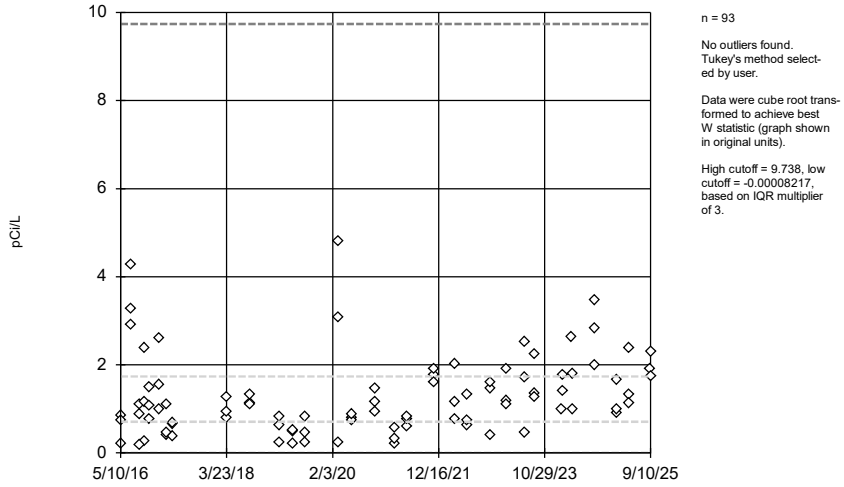
High cutoff = 0.2433, low cutoff = 0.00001666, based on IQR multiplier of 3.

Constituent: Cobalt, total Analysis Run 11/20/2025 11:24 AM View: Outliers - Upgradient Wells
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 93

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

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

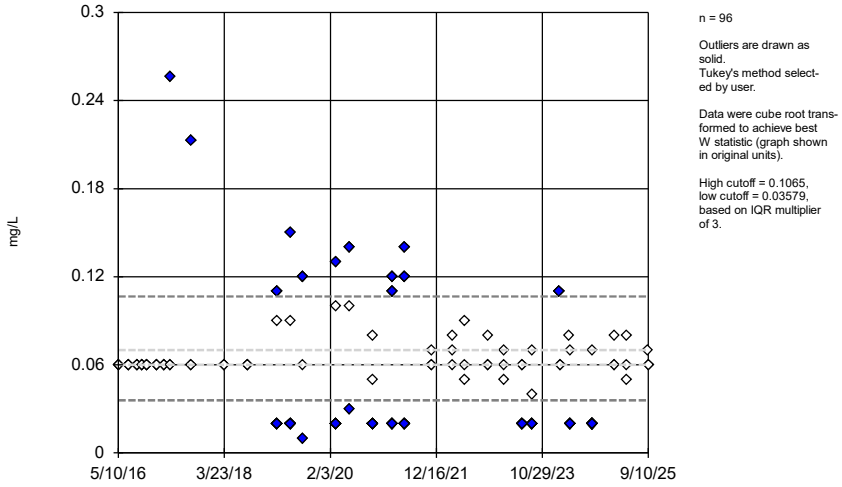
High cutoff = 9.738, low cutoff = -0.00008217, based on IQR multiplier of 3.

Constituent: Combined Radium 226 + 228 Analysis Run 11/20/2025 11:24 AM View: Outliers - Upgradient
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 96

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

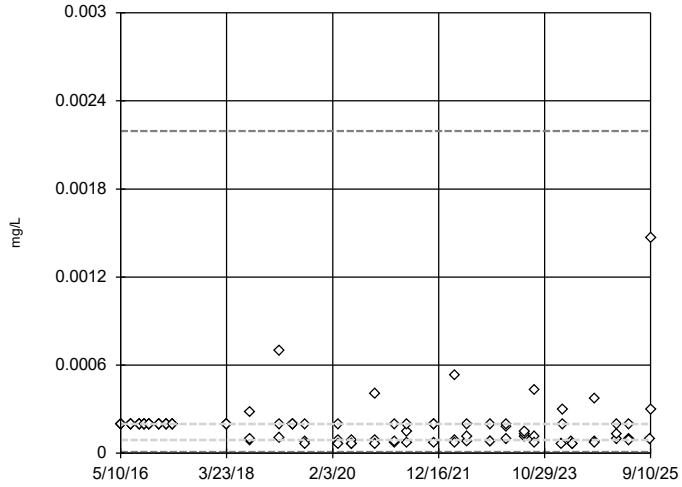
Data were cube root transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.1065, low cutoff = 0.03579, based on IQR multiplier of 3.

Constituent: Fluoride, total Analysis Run 11/20/2025 11:24 AM View: Outliers - Upgradient Wells
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 93

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 = 0.002195, low cutoff = 0.000008201, based on IQR multiplier of 3.

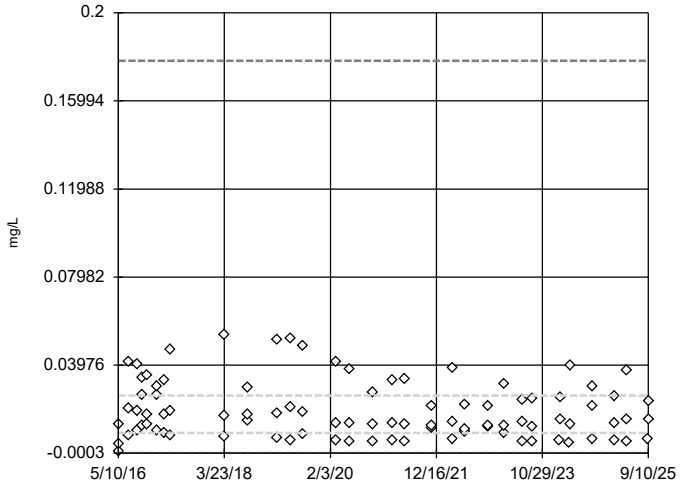
Constituent: Lead, total Analysis Run 11/20/2025 11:24 AM View: Outliers - Upgradient Wells

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 93

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 = 0.1782, low cutoff = -0.0002058, based on IQR multiplier of 3.

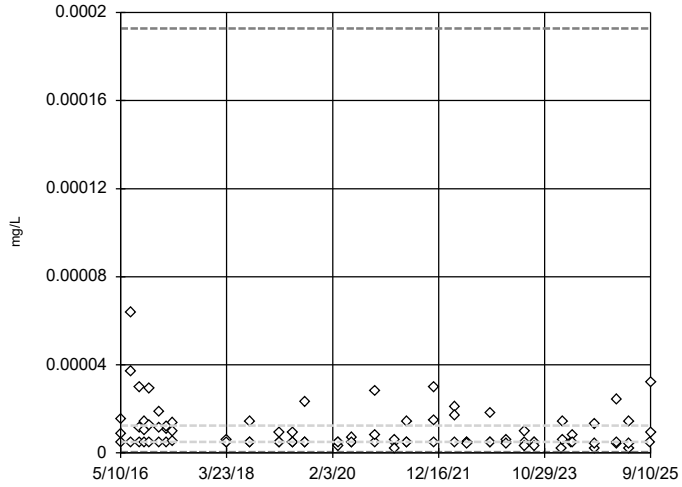
Constituent: Lithium, total Analysis Run 11/20/2025 11:24 AM View: Outliers - Upgradient Wells

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 93

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 = 0.0001927, low cutoff = 3.2e-7, based on IQR multiplier of 3.

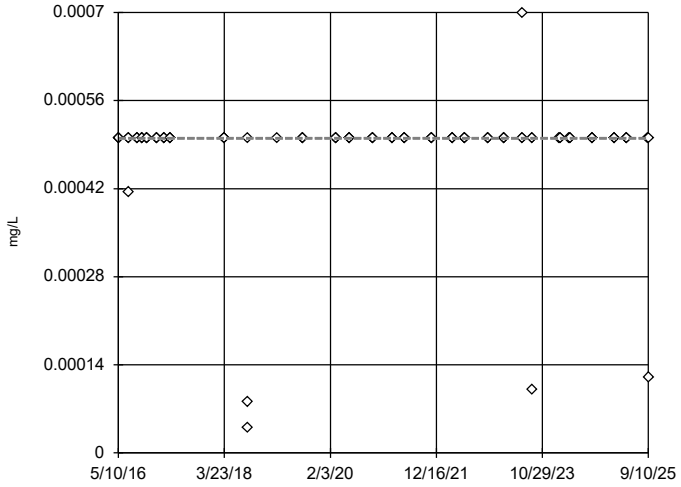
Constituent: Mercury, total Analysis Run 11/20/2025 11:24 AM View: Outliers - Upgradient Wells

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 88

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

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

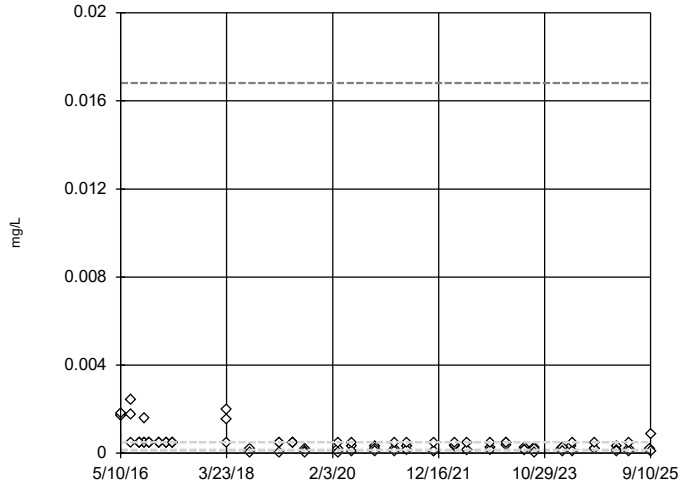
The results were invalidated, because the lower and upper quartiles are equal.

Constituent: Molybdenum, total Analysis Run 11/20/2025 11:24 AM View: Outliers - Upgradient Wells

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 93

No outliers found. Tukey's method select-ed by user.

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

High cutoff = 0.01681, low cutoff = 0.000004608, based on IQR multiplier of 3.

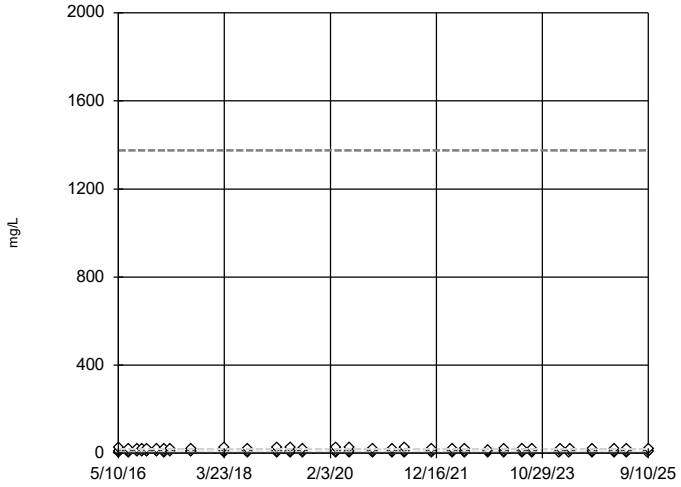
Constituent: Selenium, total Analysis Run 11/20/2025 11:24 AM View: Outliers - Upgradient Wells

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 96

No outliers found. Tukey's method select-ed by user.

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

High cutoff = 1376, low cutoff = 0.06142, based on IQR multiplier of 3.

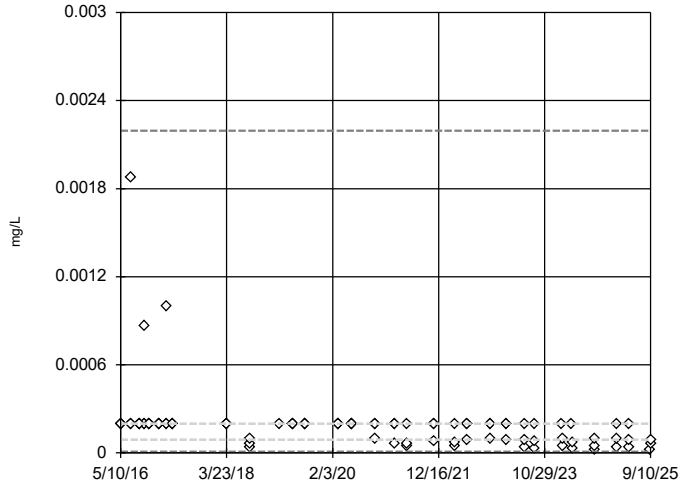
Constituent: Sulfate, total Analysis Run 11/20/2025 11:24 AM View: Outliers - Upgradient Wells

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 91

No outliers found. Tukey's method select-ed by user.

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

High cutoff = 0.002195, low cutoff = 0.000008201, based on IQR multiplier of 3.

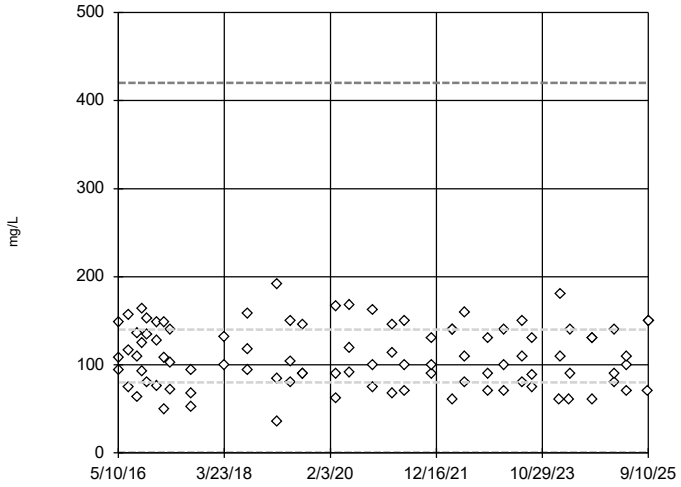
Constituent: Thallium, total Analysis Run 11/20/2025 11:24 AM View: Outliers - Upgradient Wells

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Tukey's Outlier Screening, Pooled Background

AD-12,AD-18,AD-4



n = 95

No outliers found. Tukey's method select-ed by user.

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

High cutoff = 420.1, low cutoff = 0.07874, based on IQR multiplier of 3.

Constituent: Total Dissolved Solids Analysis Run 11/20/2025 11:24 AM View: Outliers - Upgradient Wells

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

FIGURE D

Intrawell PLs

Intrawell Prediction Limits - All Results

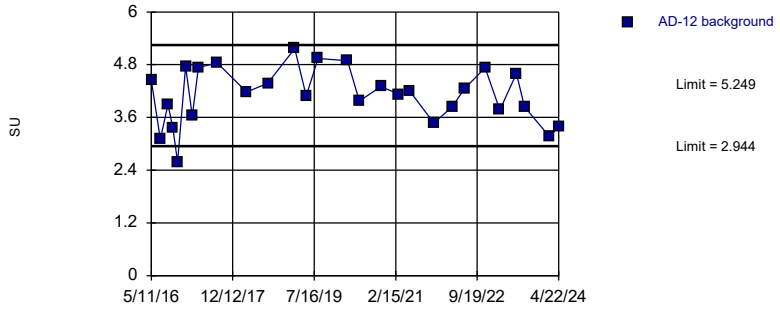
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 12/24/2025, 9:39 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
pH, field (SU)	AD-12	5.249	2.944	n/a	1 future	n/a	28	0	No	0.001253	Param Intra 1 of 2
pH, field (SU)	AD-18	5.235	3.9	n/a	1 future	n/a	28	0	No	0.001253	Param Intra 1 of 2
pH, field (SU)	AD-2	4.619	3.435	n/a	1 future	n/a	28	0	No	0.001253	Param Intra 1 of 2
pH, field (SU)	AD-31	4.968	2.865	n/a	1 future	n/a	28	0	No	0.001253	Param Intra 1 of 2
pH, field (SU)	AD-32	4.606	2.623	n/a	1 future	n/a	28	0	No	0.001253	Param Intra 1 of 2
pH, field (SU)	AD-4	5.445	4.158	n/a	1 future	n/a	28	0	No	0.001253	Param Intra 1 of 2

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

Prediction Limit

Intrawell Parametric, AD-12 (bg)



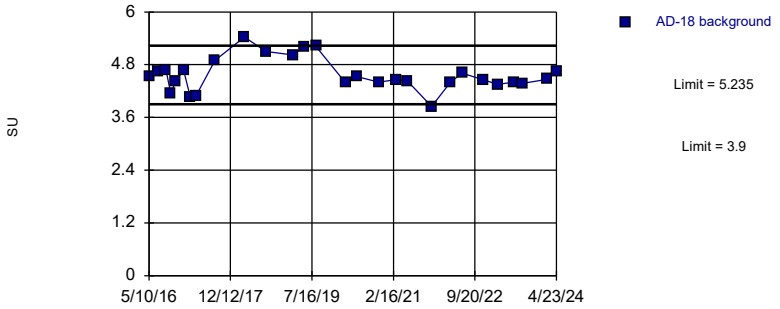
Background Data Summary: Mean=4.096, Std. Dev.=0.6355, n=28. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9753, critical = 0.896. Kappa = 1.814 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505. Assumes 1 future value.

Constituent: pH, field Analysis Run 12/24/2025 9:38 AM View: Intrawell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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

Prediction Limit

Intrawell Parametric, AD-18 (bg)



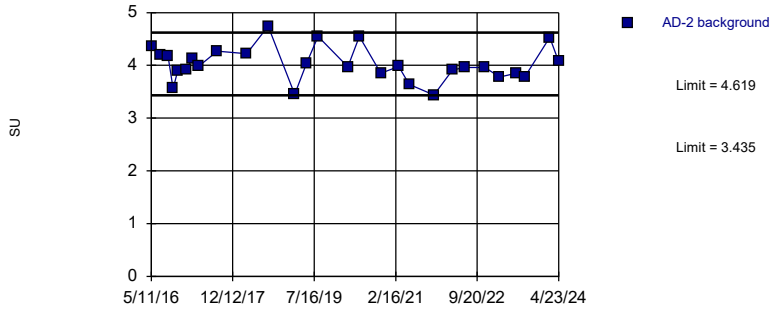
Background Data Summary: Mean=4.568, Std. Dev.=0.3679, n=28. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9397, critical = 0.896. Kappa = 1.814 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505. Assumes 1 future value.

Constituent: pH, field Analysis Run 12/24/2025 9:38 AM View: Intrawell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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

Prediction Limit

Intrawell Parametric, AD-2



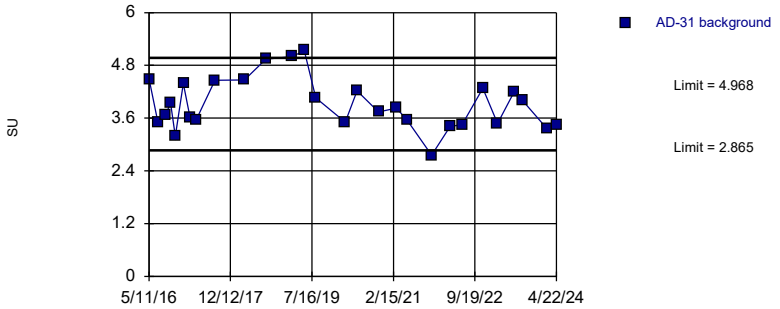
Background Data Summary: Mean=4.027, Std. Dev.=0.3266, n=28. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.968, critical = 0.896. Kappa = 1.814 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505. Assumes 1 future value.

Constituent: pH, field Analysis Run 12/24/2025 9:38 AM View: Intrawell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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

Prediction Limit

Intrawell Parametric, AD-31

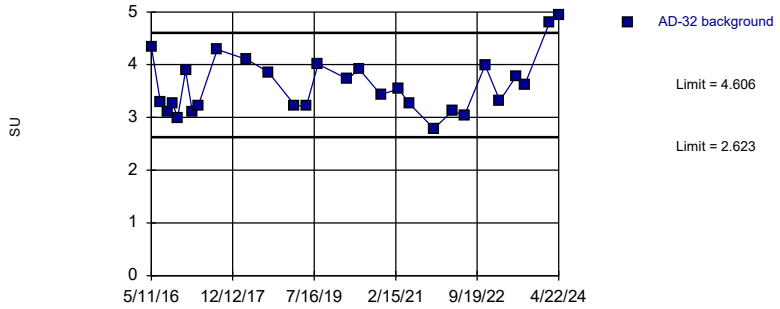


Background Data Summary: Mean=3.917, Std. Dev.=0.5798, n=28. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9558, critical = 0.896. Kappa = 1.814 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505. Assumes 1 future value.

Constituent: pH, field Analysis Run 12/24/2025 9:38 AM View: Intrawell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Prediction Limit

Intrawell Parametric, AD-32



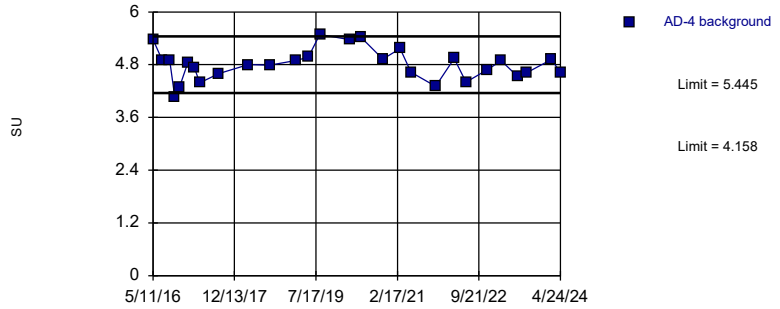
Background Data Summary: Mean=3.614, Std. Dev.=0.5467, n=28. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9293, critical = 0.896. Kappa = 1.814 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505. Assumes 1 future value.

Constituent: pH, field Analysis Run 12/24/2025 9:38 AM View: Intrawell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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

Prediction Limit

Intrawell Parametric, AD-4 (bg)



Background Data Summary: Mean=4.801, Std. Dev.=0.3548, n=28. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9664, critical = 0.896. Kappa = 1.814 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.002505. Assumes 1 future value.

Constituent: pH, field Analysis Run 12/24/2025 9:38 AM View: Intrawell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

FIGURE E
Upgradient Trend Tests – Appendix III

Appendix III Trend Tests - Upgradient Wells - Significant Results

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 11/17/2025, 4:50 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron, total (mg/L)	**AD-4 (bg)**	**-0.0007918**	**-178**	**-161**	**Yes**	**32**	**6.25**	**n/a**	**n/a**	**0.01**	**NP**
Calcium, total (mg/L)	**AD-12 (bg)**	**-0.01238**	**-189**	**-161**	**Yes**	**32**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride, total (mg/L)	**AD-18 (bg)**	**-0.3122**	**-254**	**-161**	**Yes**	**32**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Fluoride, total (mg/L)	**AD-12 (bg)**	**-0.02661**	**-283**	**-161**	**Yes**	**32**	**28.13**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate, total (mg/L)	**AD-12 (bg)**	**-0.1766**	**-220**	**-161**	**Yes**	**32**	**0**	**n/a**	**n/a**	**0.01**	**NP**

Appendix III Trend Tests - Upgradient Wells - All Results

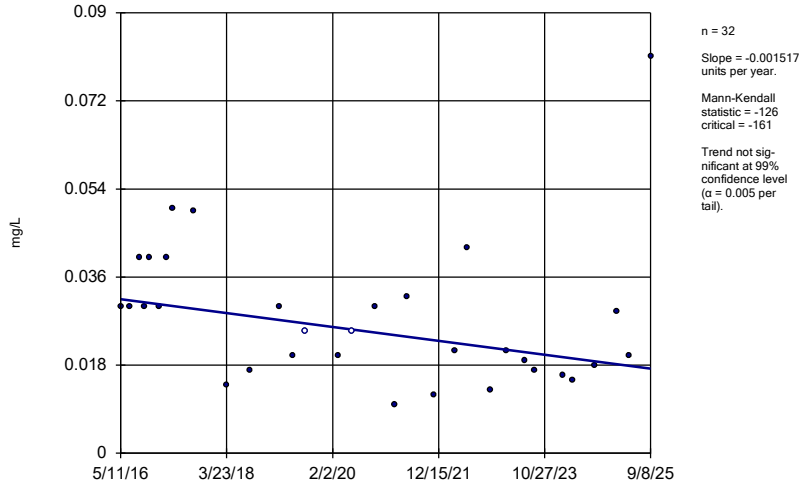
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 11/17/2025, 4:50 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron, total (mg/L)	AD-12 (bg)	-0.001517	-126	-161	No	32	6.25	n/a	n/a	0.01	NP
Boron, total (mg/L)	AD-18 (bg)	0	4	161	No	32	21.88	n/a	n/a	0.01	NP
Boron, total (mg/L)	**AD-4 (bg)**	**-0.0007918**	**-178**	**-161**	**Yes**	**32**	**6.25**	**n/a**	**n/a**	**0.01**	**NP**
Calcium, total (mg/L)	**AD-12 (bg)**	**-0.01238**	**-189**	**-161**	**Yes**	**32**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium, total (mg/L)	AD-18 (bg)	-0.0198	-157	-161	No	32	0	n/a	n/a	0.01	NP
Calcium, total (mg/L)	AD-4 (bg)	0.03344	64	161	No	32	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	AD-12 (bg)	-0.128	-118	-161	No	32	0	n/a	n/a	0.01	NP
Chloride, total (mg/L)	**AD-18 (bg)**	**-0.3122**	**-254**	**-161**	**Yes**	**32**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride, total (mg/L)	AD-4 (bg)	-0.008924	-38	-161	No	32	0	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	**AD-12 (bg)**	**-0.02661**	**-283**	**-161**	**Yes**	**32**	**28.13**	**n/a**	**n/a**	**0.01**	**NP**
Fluoride, total (mg/L)	AD-18 (bg)	0	-48	-161	No	32	65.63	n/a	n/a	0.01	NP
Fluoride, total (mg/L)	AD-4 (bg)	0	-71	-161	No	32	50	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	**AD-12 (bg)**	**-0.1766**	**-220**	**-161**	**Yes**	**32**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate, total (mg/L)	AD-18 (bg)	0.01182	18	161	No	32	0	n/a	n/a	0.01	NP
Sulfate, total (mg/L)	AD-4 (bg)	-0.1451	-85	-161	No	32	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	AD-12 (bg)	-0.7249	-78	-152	No	31	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	AD-18 (bg)	-0.732	-52	-161	No	32	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	AD-4 (bg)	-1.166	-86	-161	No	32	0	n/a	n/a	0.01	NP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-12 (bg)



n = 32

Slope = -0.001517 units per year.

Mann-Kendall statistic = -126
critical = -161

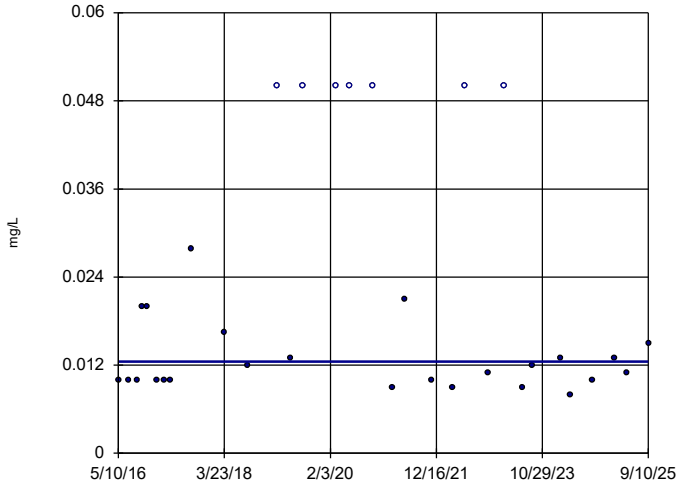
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron, total Analysis Run 11/17/2025 4:47 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-18 (bg)



n = 32

Slope = 0 units per year.

Mann-Kendall statistic = 4
critical = 161

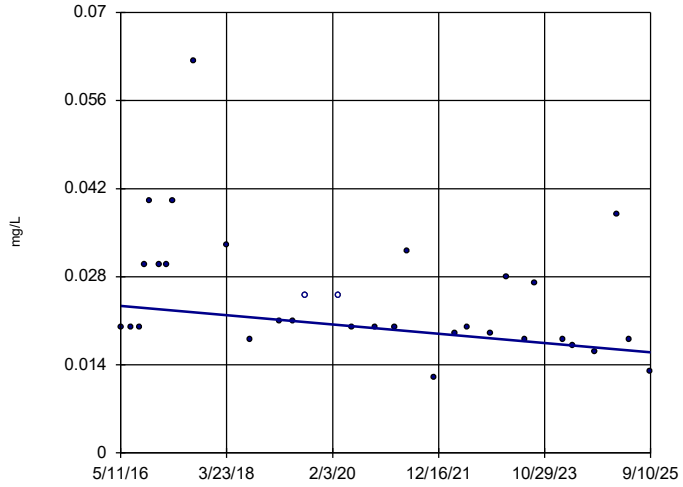
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron, total Analysis Run 11/17/2025 4:47 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-4 (bg)



n = 32

Slope = -0.0007918 units per year.

Mann-Kendall statistic = -178
critical = -161

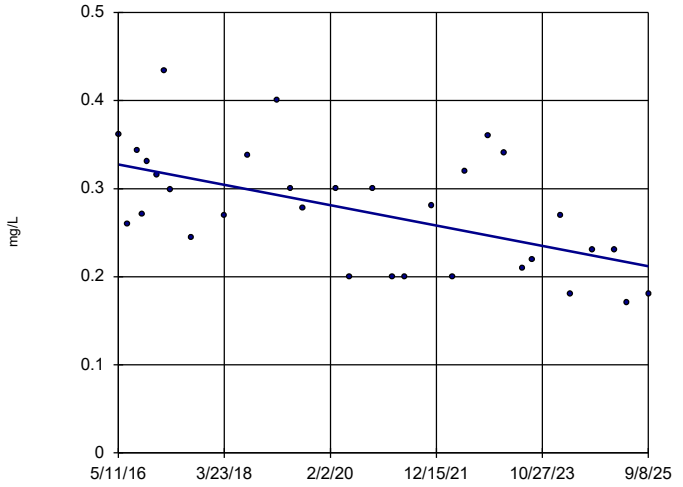
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron, total Analysis Run 11/17/2025 4:47 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-12 (bg)



n = 32

Slope = -0.01238 units per year.

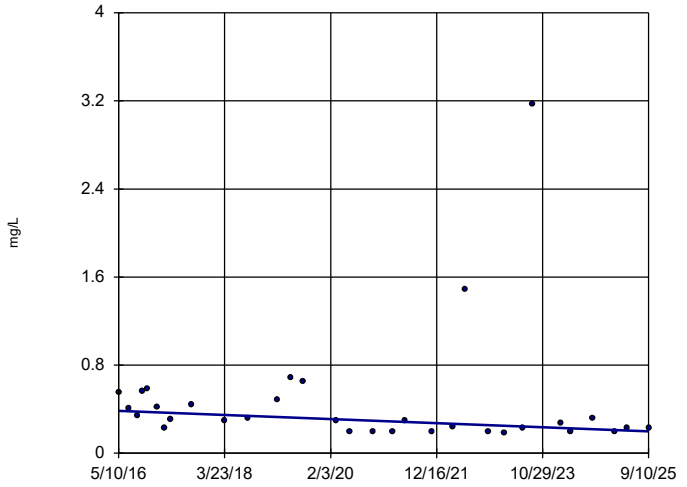
Mann-Kendall statistic = -189
critical = -161

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium, total Analysis Run 11/17/2025 4:47 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sen's Slope Estimator

AD-18 (bg)



n = 32

Slope = -0.0198 units per year.

Mann-Kendall statistic = -157
critical = -161

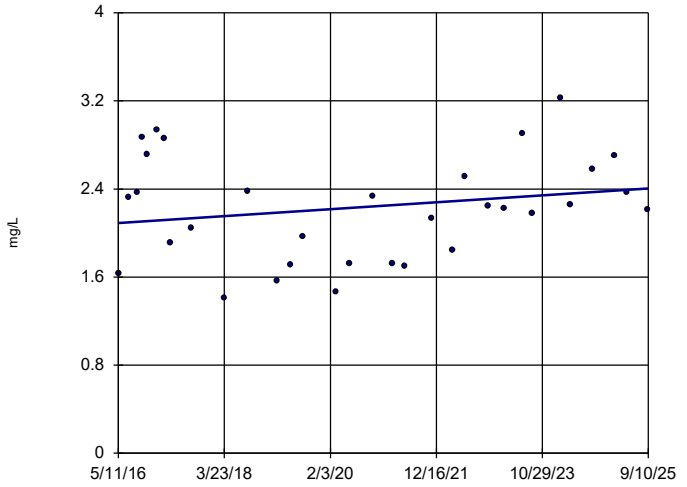
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium, total Analysis Run 11/17/2025 4:47 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-4 (bg)



n = 32

Slope = 0.03344 units per year.

Mann-Kendall statistic = 64
critical = 161

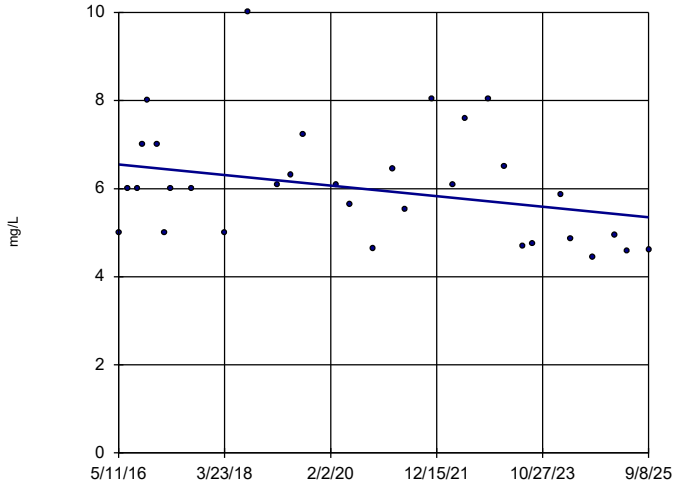
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium, total Analysis Run 11/17/2025 4:47 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-12 (bg)



n = 32

Slope = -0.128 units per year.

Mann-Kendall statistic = -118
critical = -161

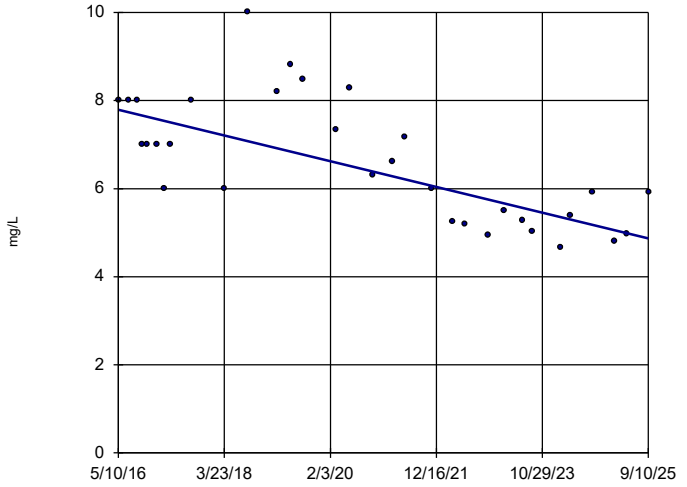
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride, total Analysis Run 11/17/2025 4:47 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-18 (bg)



n = 32

Slope = -0.3122 units per year.

Mann-Kendall statistic = -254
critical = -161

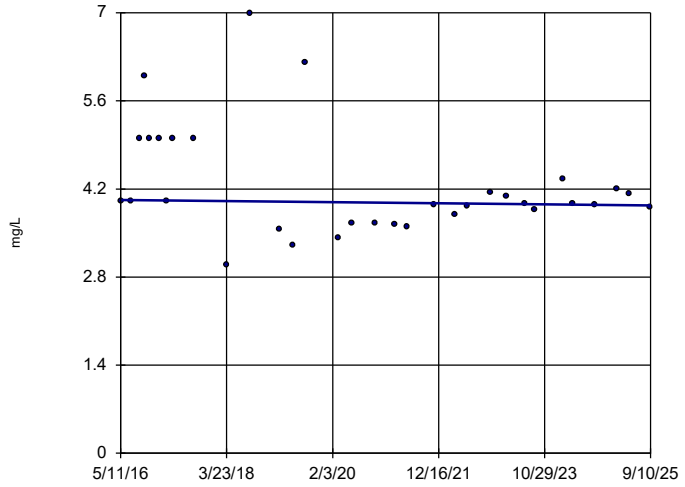
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride, total Analysis Run 11/17/2025 4:47 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-4 (bg)



n = 32

Slope = -0.008924 units per year.

Mann-Kendall statistic = -38
critical = -161

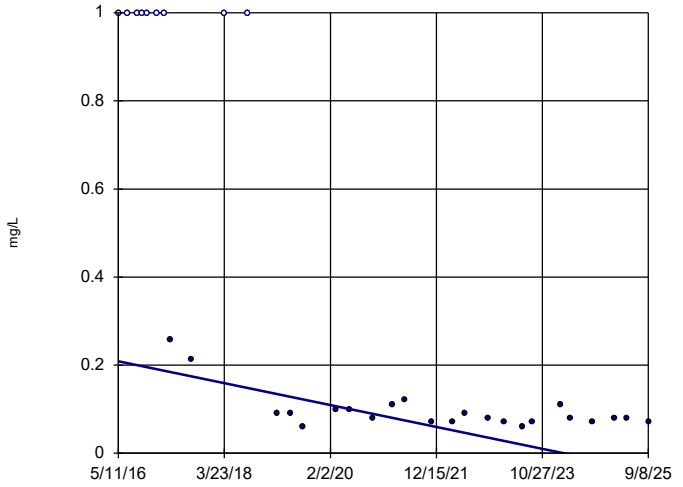
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride, total Analysis Run 11/17/2025 4:47 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-12 (bg)



n = 32

Slope = -0.02661 units per year.

Mann-Kendall statistic = -283
critical = -161

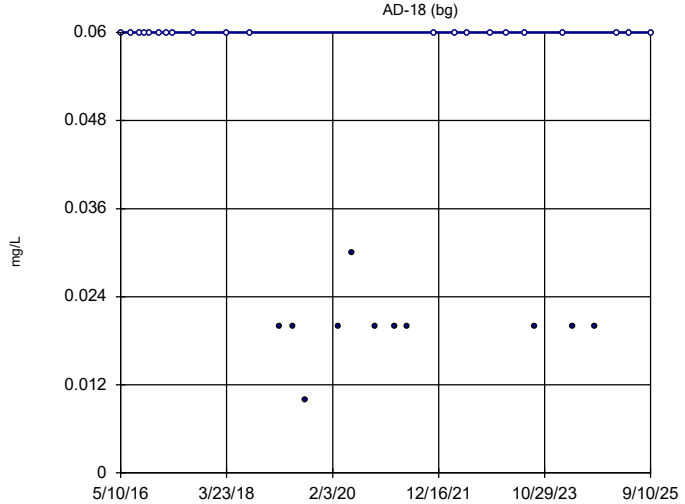
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Fluoride, total Analysis Run 11/17/2025 4:47 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-18 (bg)



n = 32

Slope = 0 units per year.

Mann-Kendall statistic = -48
critical = -161

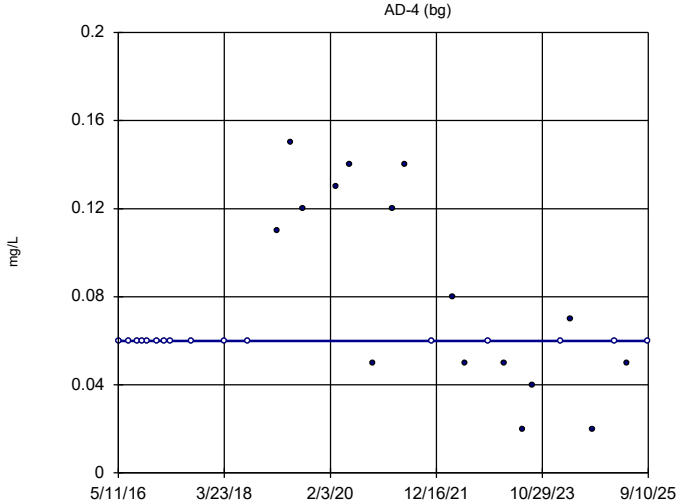
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Fluoride, total Analysis Run 11/17/2025 4:47 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-4 (bg)



n = 32

Slope = 0 units per year.

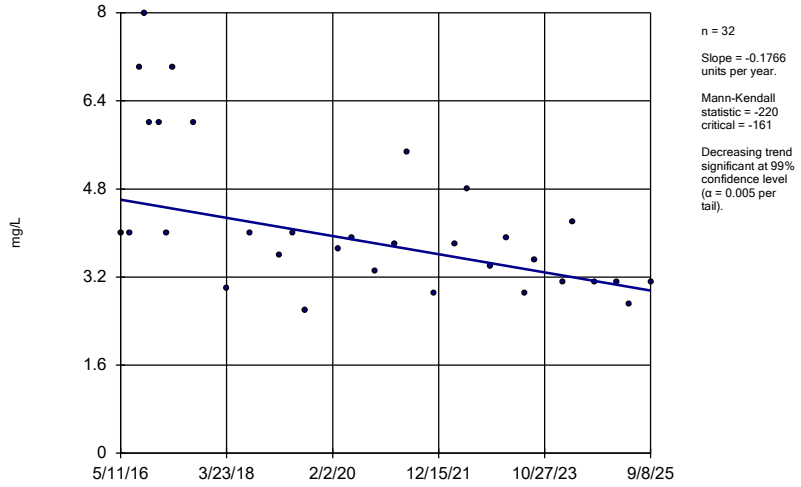
Mann-Kendall statistic = -71
critical = -161

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Fluoride, total Analysis Run 11/17/2025 4:47 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sen's Slope Estimator

AD-12 (bg)



n = 32

Slope = -0.1766 units per year.

Mann-Kendall statistic = -220 critical = -161

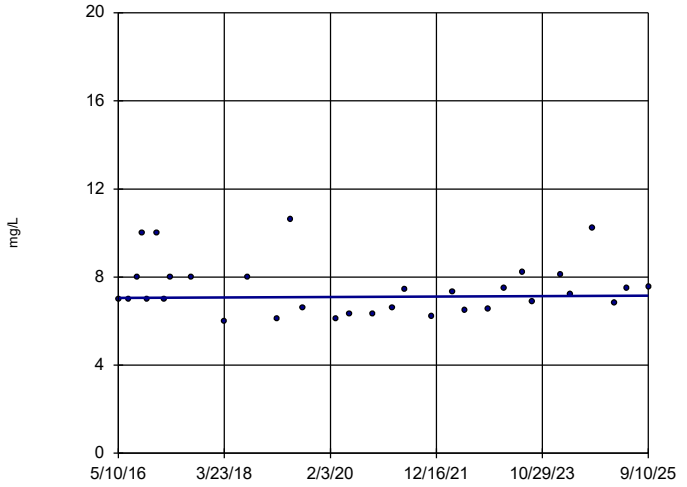
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate, total Analysis Run 11/17/2025 4:47 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-18 (bg)



n = 32

Slope = 0.01182 units per year.

Mann-Kendall statistic = 18 critical = 161

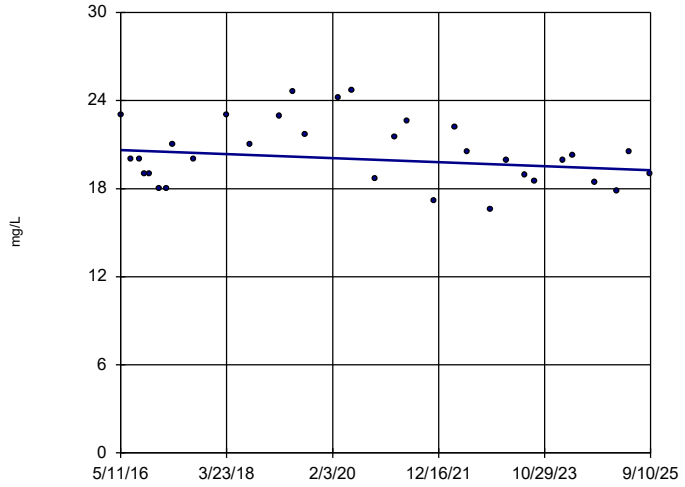
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate, total Analysis Run 11/17/2025 4:47 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-4 (bg)



n = 32

Slope = -0.1451 units per year.

Mann-Kendall statistic = -85 critical = -161

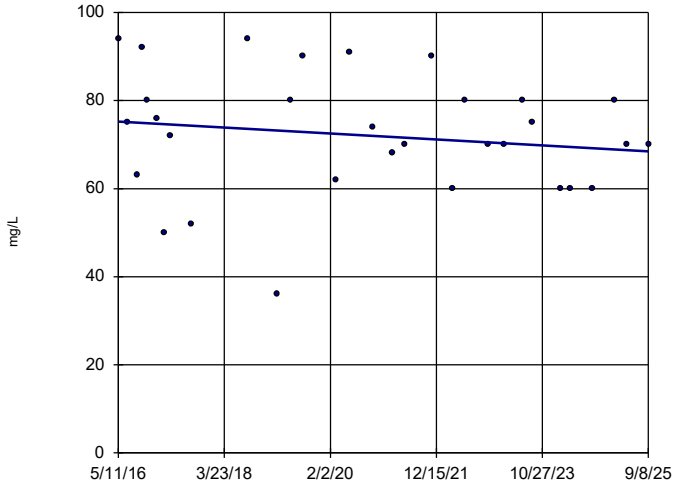
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate, total Analysis Run 11/17/2025 4:48 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-12 (bg)



n = 31

Slope = -0.7249 units per year.

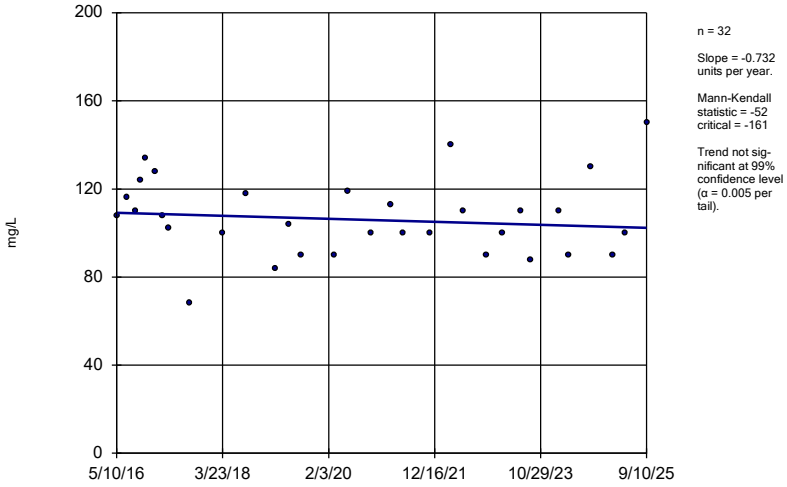
Mann-Kendall statistic = -78 critical = -152

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total Dissolved Solids Analysis Run 11/17/2025 4:48 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sen's Slope Estimator

AD-18 (bg)



n = 32

Slope = -0.732 units per year.

Mann-Kendall statistic = -52
critical = -161

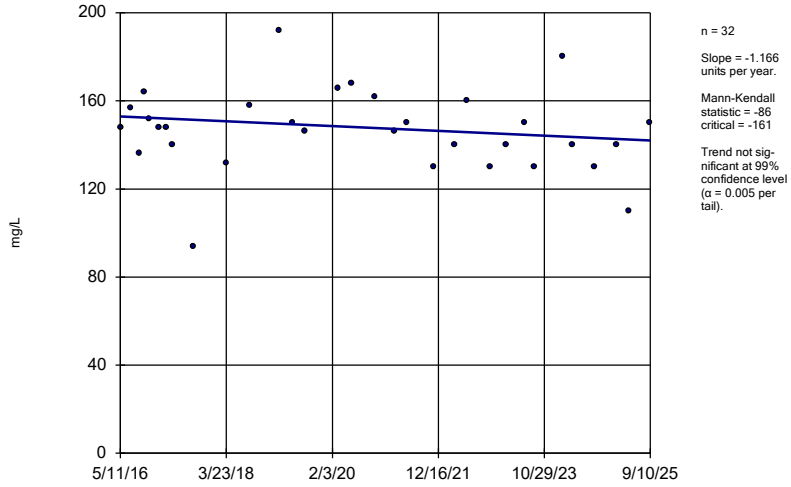
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total Dissolved Solids Analysis Run 11/17/2025 4:48 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-4 (bg)



n = 32

Slope = -1.166 units per year.

Mann-Kendall statistic = -86
critical = -161

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total Dissolved Solids Analysis Run 11/17/2025 4:48 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

FIGURE F

Interwell PLs

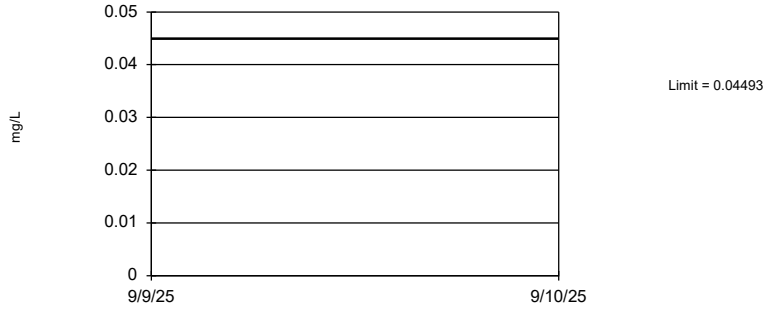
Appendix III - Interwell Prediction Limits

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 11/17/2025, 4:53 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron, total (mg/L)	n/a	0.04493	n/a	n/a	3 future	n/a	96	-3.905	0.4789	11.46	None	ln(x)	0.002505	Param Inter 1 of 2
Calcium, total (mg/L)	n/a	3.23	n/a	n/a	3 future	n/a	96	n/a	n/a	0	n/a	n/a	0.0002114	NP Inter (normality) 1 of 2
Chloride, total (mg/L)	n/a	8.401	n/a	n/a	3 future	n/a	96	2.355	0.3244	0	None	sqrt(x)	0.002505	Param Inter 1 of 2
Fluoride, total (mg/L)	n/a	0.2565	n/a	n/a	3 future	n/a	96	n/a	n/a	47.92	n/a	n/a	0.0002114	NP Inter (normality) 1 of 2
Sulfate, total (mg/L)	n/a	24.7	n/a	n/a	3 future	n/a	96	n/a	n/a	0	n/a	n/a	0.0002114	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	n/a	167.1	n/a	n/a	3 future	n/a	95	109	34.62	0	None	No	0.002505	Param Inter 1 of 2

Prediction Limit

Interwell Parametric



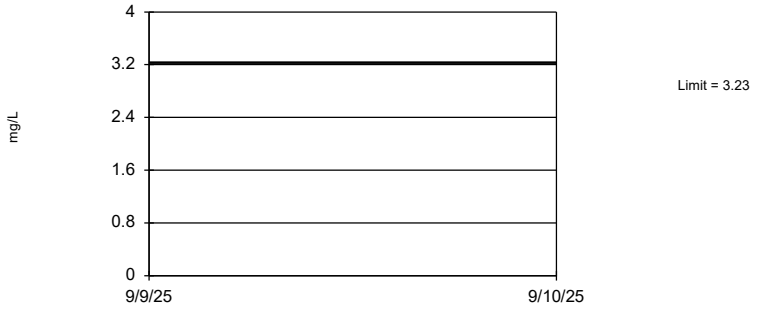
Background Data Summary (based on natural log transformation): Mean=-3.905, Std. Dev.=0.4789, n=96, 11.46% NDs. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9779, critical = 0.965. Kappa = 1.676 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Assumes 3 future values.

Constituent: Boron, total Analysis Run 11/17/2025 4:51 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Prediction Limit

Interwell Non-parametric



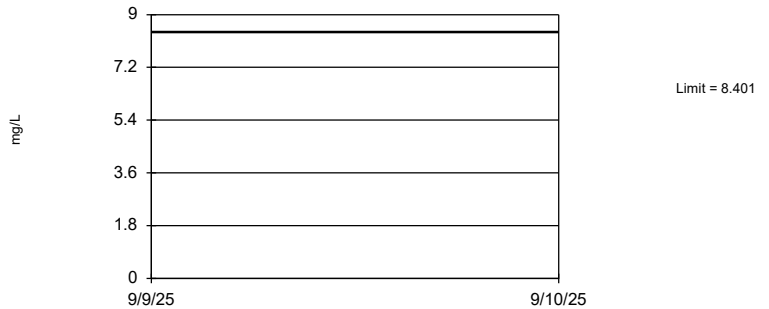
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 96 background values. Annual per-constituent alpha = 0.001268. Individual comparison alpha = 0.0002114 (1 of 2). Assumes 3 future values.

Constituent: Calcium, total Analysis Run 11/17/2025 4:51 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Prediction Limit

Interwell Parametric



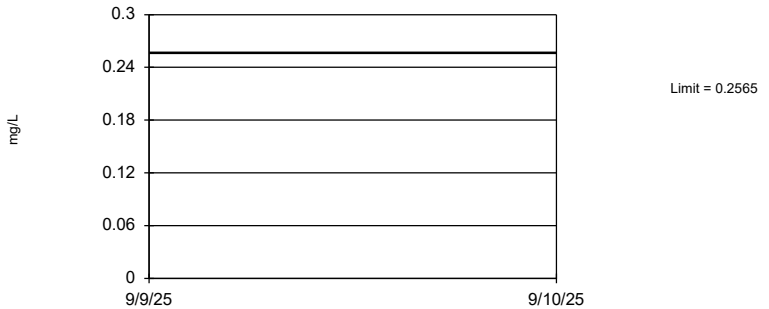
Background Data Summary (based on square root transformation): Mean=2.355, Std. Dev.=0.3244, n=96. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9769, critical = 0.965. Kappa = 1.676 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Assumes 3 future values.

Constituent: Chloride, total Analysis Run 11/17/2025 4:51 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 96 background values. 47.92% NDs. Annual per-constituent alpha = 0.001268. Individual comparison alpha = 0.0002114 (1 of 2). Assumes 3 future values.

Constituent: Fluoride, total Analysis Run 11/17/2025 4:51 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Prediction Limit

Interwell Non-parametric



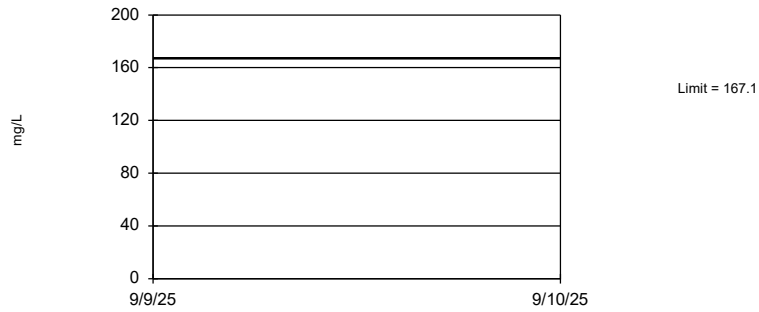
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 96 background values. Annual per-constituent alpha = 0.001268. Individual comparison alpha = 0.0002114 (1 of 2). Assumes 3 future values.

Constituent: Sulfate, total Analysis Run 11/17/2025 4:51 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=109, Std. Dev.=34.62, n=95. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9773, critical = 0.965. Kappa = 1.677 (c=7, w=3, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.002505. Assumes 3 future values.

Constituent: Total Dissolved Solids Analysis Run 11/17/2025 4:51 PM View: Interwell
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

FIGURE G
Upgradient Trend Tests – Appendix IV

Appendix IV Trend Tests - Upgradient Wells - Significant Results

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 11/17/2025, 5:02 PM

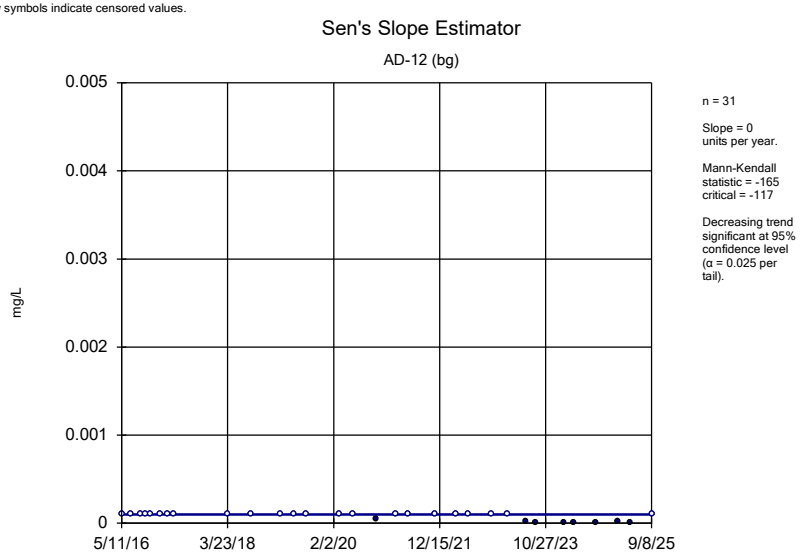
Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Antimony, total (mg/L)	AD-12 (bg)	0	-165	-117	Yes	31	74.19	n/a	n/a	0.05	NP
Antimony, total (mg/L)	AD-18 (bg)	0	-134	-117	Yes	31	74.19	n/a	n/a	0.05	NP
Arsenic, total (mg/L)	AD-12 (bg)	-0.00002374	-204	-117	Yes	31	35.48	n/a	n/a	0.05	NP
Arsenic, total (mg/L)	AD-18 (bg)	-0.0001167	-187	-117	Yes	31	32.26	n/a	n/a	0.05	NP
Arsenic, total (mg/L)	AD-4 (bg)	-0.0002574	-221	-117	Yes	31	19.35	n/a	n/a	0.05	NP
Barium, total (mg/L)	AD-12 (bg)	-0.0009514	-210	-117	Yes	31	0	n/a	n/a	0.05	NP
Barium, total (mg/L)	AD-18 (bg)	-0.004279	-303	-117	Yes	31	0	n/a	n/a	0.05	NP
Beryllium, total (mg/L)	AD-12 (bg)	-0.000004821	-200	-117	Yes	31	9.677	n/a	n/a	0.05	NP
Beryllium, total (mg/L)	AD-18 (bg)	-0.000007019	-175	-117	Yes	31	9.677	n/a	n/a	0.05	NP
Beryllium, total (mg/L)	AD-4 (bg)	-0.00005795	-200	-117	Yes	31	0	n/a	n/a	0.05	NP
Cadmium, total (mg/L)	AD-12 (bg)	-0.00000471	-260	-117	Yes	31	45.16	n/a	n/a	0.05	NP
Cadmium, total (mg/L)	AD-18 (bg)	-0.000003972	-210	-117	Yes	31	32.26	n/a	n/a	0.05	NP
Cadmium, total (mg/L)	AD-4 (bg)	-0.000004757	-210	-117	Yes	31	29.03	n/a	n/a	0.05	NP
Cobalt, total (mg/L)	AD-12 (bg)	-0.0000506	-200	-117	Yes	31	0	n/a	n/a	0.05	NP
Cobalt, total (mg/L)	AD-18 (bg)	-0.00005796	-209	-117	Yes	31	0	n/a	n/a	0.05	NP
Cobalt, total (mg/L)	AD-4 (bg)	-0.0004028	-251	-117	Yes	31	0	n/a	n/a	0.05	NP
Combined Radium 226 + 228 (pCi/L)	AD-12 (bg)	0.08896	127	117	Yes	31	0	n/a	n/a	0.05	NP
Combined Radium 226 + 228 (pCi/L)	AD-4 (bg)	0.09975	131	117	Yes	31	0	n/a	n/a	0.05	NP
Fluoride, total (mg/L)	AD-12 (bg)	-0.02661	-283	-123	Yes	32	28.13	n/a	n/a	0.05	NP
Lead, total (mg/L)	AD-12 (bg)	-0.00001738	-176	-117	Yes	31	35.48	n/a	n/a	0.05	NP
Lithium, total (mg/L)	AD-12 (bg)	-0.0003686	-140	-117	Yes	31	3.226	n/a	n/a	0.05	NP
Lithium, total (mg/L)	AD-18 (bg)	-0.0005594	-139	-117	Yes	31	0	n/a	n/a	0.05	NP
Lithium, total (mg/L)	AD-4 (bg)	-0.001344	-120	-117	Yes	31	0	n/a	n/a	0.05	NP
Mercury, total (mg/L)	AD-4 (bg)	-4.1e-7	-171	-117	Yes	31	25.81	n/a	n/a	0.05	NP
Selenium, total (mg/L)	AD-12 (bg)	-0.0001308	-187	-117	Yes	31	32.26	n/a	n/a	0.05	NP
Selenium, total (mg/L)	AD-18 (bg)	-0.00004462	-152	-117	Yes	31	29.03	n/a	n/a	0.05	NP
Selenium, total (mg/L)	AD-4 (bg)	0	-127	-117	Yes	31	58.06	n/a	n/a	0.05	NP
Thallium, total (mg/L)	AD-18 (bg)	-0.000001644	-183	-112	Yes	30	63.33	n/a	n/a	0.05	NP
Thallium, total (mg/L)	AD-4 (bg)	-0.00005403	-222	-117	Yes	31	38.71	n/a	n/a	0.05	NP

Appendix IV Trend Tests - Upgradient Wells - All Results

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 11/17/2025, 5:02 PM

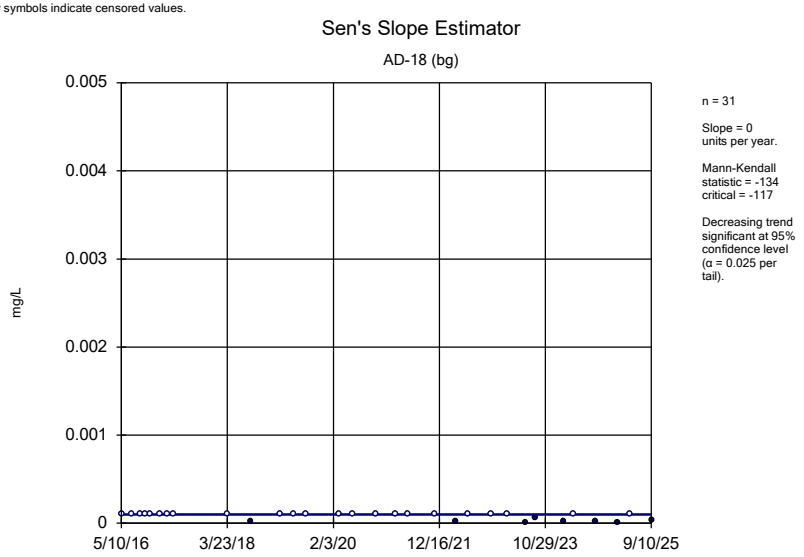
Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Antimony, total (mg/L)	**AD-12 (bg)**	**0**	**-165**	**-117**	**Yes**	**31**	**74.19**	**n/a**	**n/a**	**0.05**	**NP**
Antimony, total (mg/L)	**AD-18 (bg)**	**0**	**-134**	**-117**	**Yes**	**31**	**74.19**	**n/a**	**n/a**	**0.05**	**NP**
Antimony, total (mg/L)	AD-4 (bg)	0	-88	-117	No	31	83.87	n/a	n/a	0.05	NP
Arsenic, total (mg/L)	**AD-12 (bg)**	**-0.00002374**	**-204**	**-117**	**Yes**	**31**	**35.48**	**n/a**	**n/a**	**0.05**	**NP**
Arsenic, total (mg/L)	**AD-18 (bg)**	**-0.0001167**	**-187**	**-117**	**Yes**	**31**	**32.26**	**n/a**	**n/a**	**0.05**	**NP**
Arsenic, total (mg/L)	**AD-4 (bg)**	**-0.0002574**	**-221**	**-117**	**Yes**	**31**	**19.35**	**n/a**	**n/a**	**0.05**	**NP**
Barium, total (mg/L)	**AD-12 (bg)**	**-0.0009514**	**-210**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Barium, total (mg/L)	**AD-18 (bg)**	**-0.004279**	**-303**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Barium, total (mg/L)	AD-4 (bg)	0.001166	39	117	No	31	0	n/a	n/a	0.05	NP
Beryllium, total (mg/L)	**AD-12 (bg)**	**-0.000004821**	**-200**	**-117**	**Yes**	**31**	**9.677**	**n/a**	**n/a**	**0.05**	**NP**
Beryllium, total (mg/L)	**AD-18 (bg)**	**-0.000007019**	**-175**	**-117**	**Yes**	**31**	**9.677**	**n/a**	**n/a**	**0.05**	**NP**
Beryllium, total (mg/L)	**AD-4 (bg)**	**-0.00005795**	**-200**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cadmium, total (mg/L)	**AD-12 (bg)**	**-0.00000471**	**-260**	**-117**	**Yes**	**31**	**45.16**	**n/a**	**n/a**	**0.05**	**NP**
Cadmium, total (mg/L)	**AD-18 (bg)**	**-0.000003972**	**-210**	**-117**	**Yes**	**31**	**32.26**	**n/a**	**n/a**	**0.05**	**NP**
Cadmium, total (mg/L)	**AD-4 (bg)**	**-0.000004757**	**-210**	**-117**	**Yes**	**31**	**29.03**	**n/a**	**n/a**	**0.05**	**NP**
Chromium, total (mg/L)	AD-12 (bg)	-0.000001776	-11	-117	No	31	6.452	n/a	n/a	0.05	NP
Chromium, total (mg/L)	AD-18 (bg)	-0.00001493	-29	-117	No	31	9.677	n/a	n/a	0.05	NP
Chromium, total (mg/L)	AD-4 (bg)	-0.000003376	-11	-117	No	31	6.452	n/a	n/a	0.05	NP
Cobalt, total (mg/L)	**AD-12 (bg)**	**-0.0000506**	**-200**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-18 (bg)**	**-0.00005796**	**-209**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-4 (bg)**	**-0.0004028**	**-251**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Combined Radium 226 + 228 (pCi/L)	**AD-12 (bg)**	**0.08896**	**127**	**117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Combined Radium 226 + 228 (pCi/L)	AD-18 (bg)	0.05388	83	117	No	31	0	n/a	n/a	0.05	NP
Combined Radium 226 + 228 (pCi/L)	**AD-4 (bg)**	**0.09975**	**131**	**117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Fluoride, total (mg/L)	**AD-12 (bg)**	**-0.02661**	**-283**	**-123**	**Yes**	**32**	**28.13**	**n/a**	**n/a**	**0.05**	**NP**
Fluoride, total (mg/L)	AD-18 (bg)	0	-48	-123	No	32	65.63	n/a	n/a	0.05	NP
Fluoride, total (mg/L)	AD-4 (bg)	0	-71	-123	No	32	50	n/a	n/a	0.05	NP
Lead, total (mg/L)	**AD-12 (bg)**	**-0.00001738**	**-176**	**-117**	**Yes**	**31**	**35.48**	**n/a**	**n/a**	**0.05**	**NP**
Lead, total (mg/L)	AD-18 (bg)	0	-40	-117	No	31	38.71	n/a	n/a	0.05	NP
Lead, total (mg/L)	AD-4 (bg)	0	-37	-117	No	31	61.29	n/a	n/a	0.05	NP
Lithium, total (mg/L)	**AD-12 (bg)**	**-0.0003686**	**-140**	**-117**	**Yes**	**31**	**3.226**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-18 (bg)**	**-0.0005594**	**-139**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-4 (bg)**	**-0.001344**	**-120**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Mercury, total (mg/L)	AD-12 (bg)	0	-109	-117	No	31	80.65	n/a	n/a	0.05	NP
Mercury, total (mg/L)	AD-18 (bg)	-3.6e-7	-55	-117	No	31	3.226	n/a	n/a	0.05	NP
Mercury, total (mg/L)	**AD-4 (bg)**	**-4.1e-7**	**-171**	**-117**	**Yes**	**31**	**25.81**	**n/a**	**n/a**	**0.05**	**NP**
Molybdenum, total (mg/L)	AD-12 (bg)	0	23	106	No	29	89.66	n/a	n/a	0.05	NP
Molybdenum, total (mg/L)	AD-18 (bg)	0	-8	-106	No	29	86.21	n/a	n/a	0.05	NP
Molybdenum, total (mg/L)	AD-4 (bg)	0	0	112	No	30	100	n/a	n/a	0.05	NP
Selenium, total (mg/L)	**AD-12 (bg)**	**-0.0001308**	**-187**	**-117**	**Yes**	**31**	**32.26**	**n/a**	**n/a**	**0.05**	**NP**
Selenium, total (mg/L)	**AD-18 (bg)**	**-0.00004462**	**-152**	**-117**	**Yes**	**31**	**29.03**	**n/a**	**n/a**	**0.05**	**NP**
Selenium, total (mg/L)	**AD-4 (bg)**	**0**	**-127**	**-117**	**Yes**	**31**	**58.06**	**n/a**	**n/a**	**0.05**	**NP**
Thallium, total (mg/L)	AD-12 (bg)	0	-57	-112	No	30	86.67	n/a	n/a	0.05	NP
Thallium, total (mg/L)	**AD-18 (bg)**	**-0.000001644**	**-183**	**-112**	**Yes**	**30**	**63.33**	**n/a**	**n/a**	**0.05**	**NP**
Thallium, total (mg/L)	**AD-4 (bg)**	**-0.00005403**	**-222**	**-117**	**Yes**	**31**	**38.71**	**n/a**	**n/a**	**0.05**	**NP**

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.



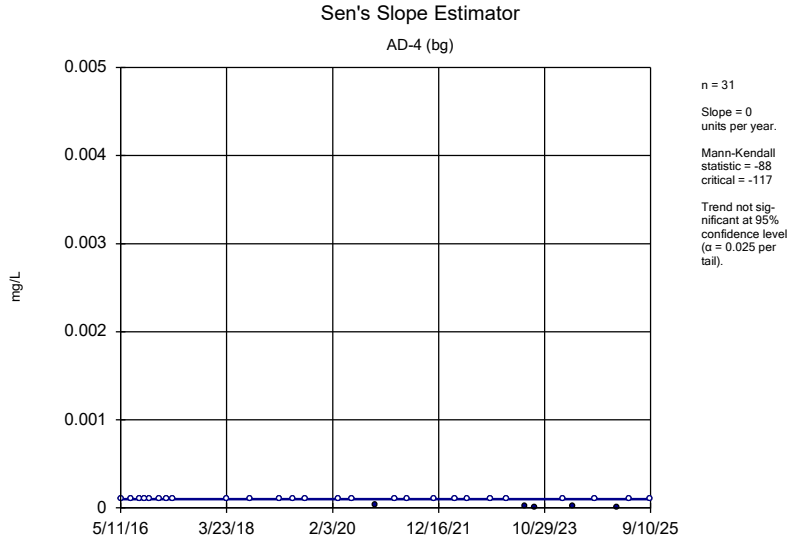
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Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.



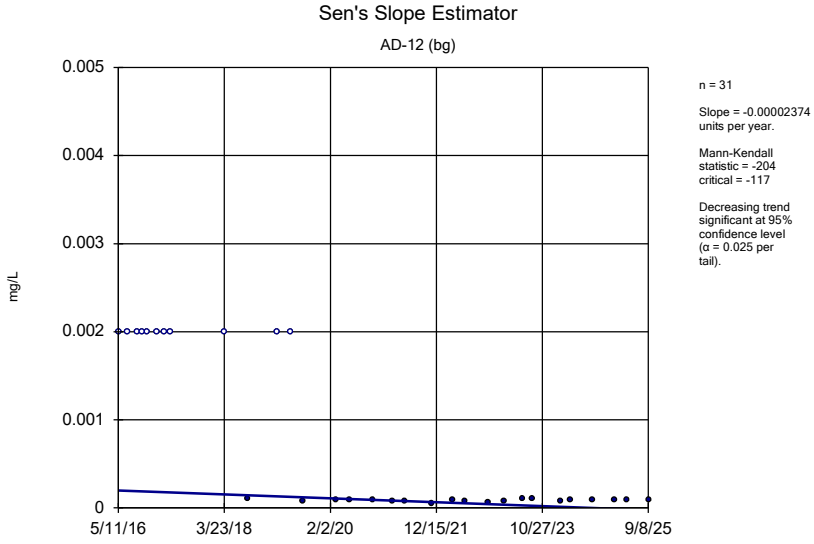
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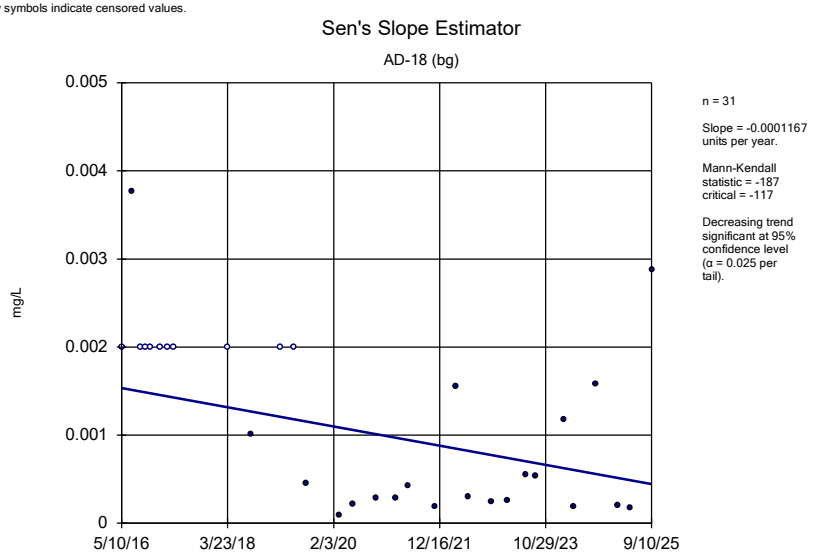
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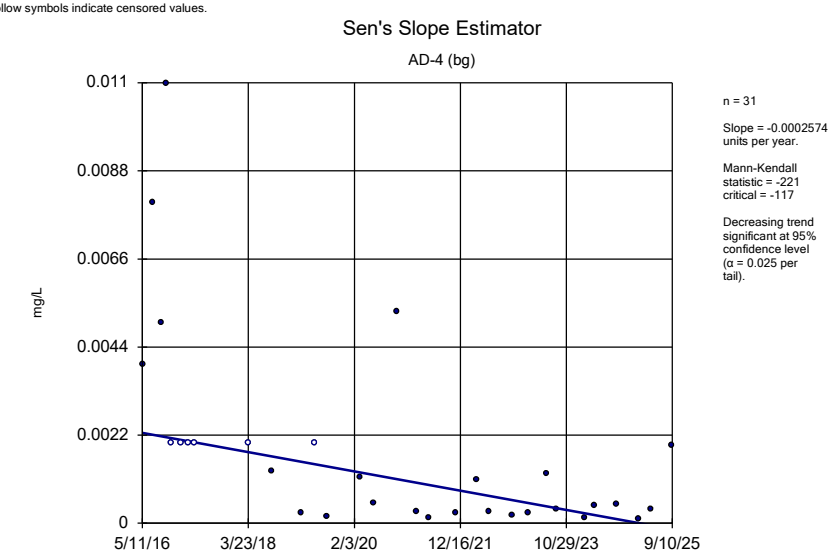
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Hollow symbols indicate censored values.



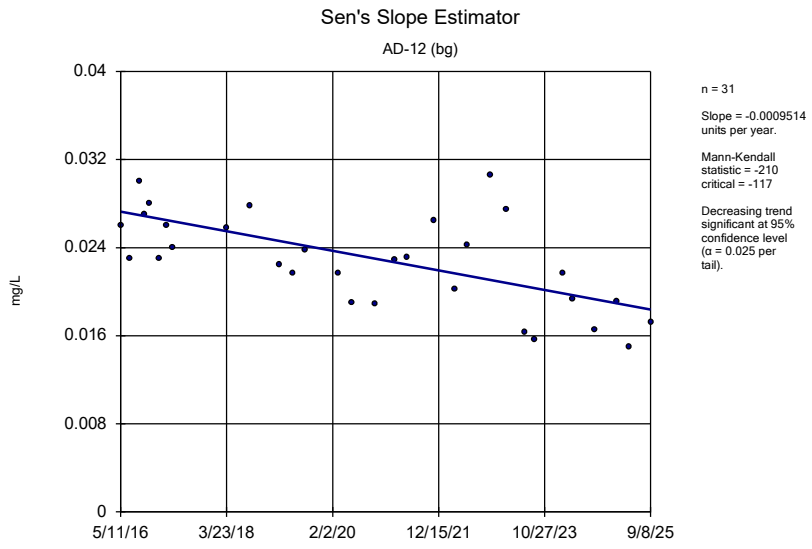
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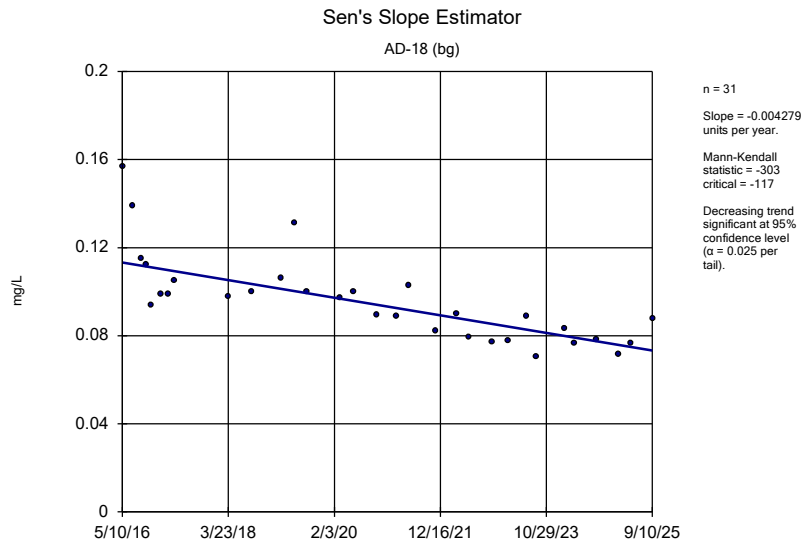
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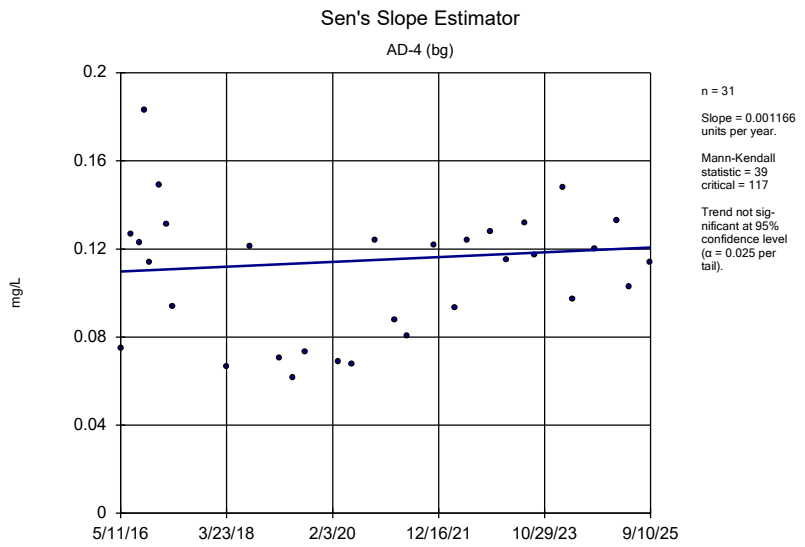
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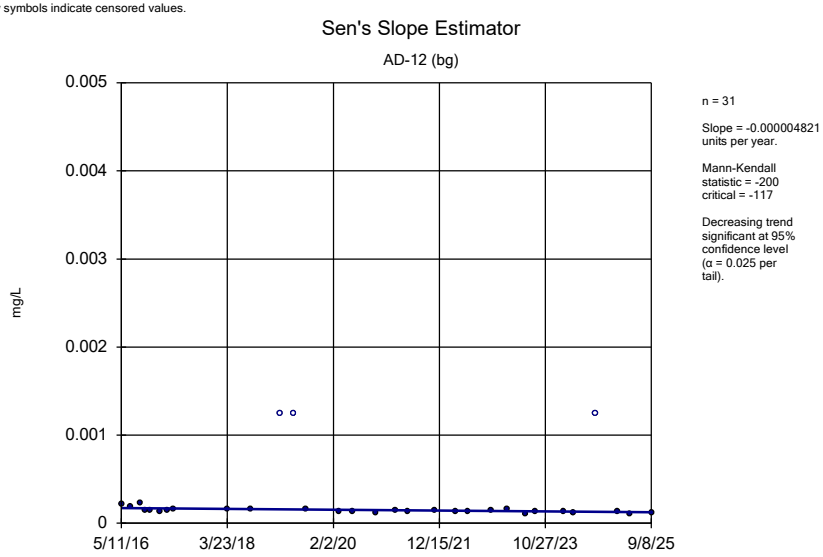
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Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG



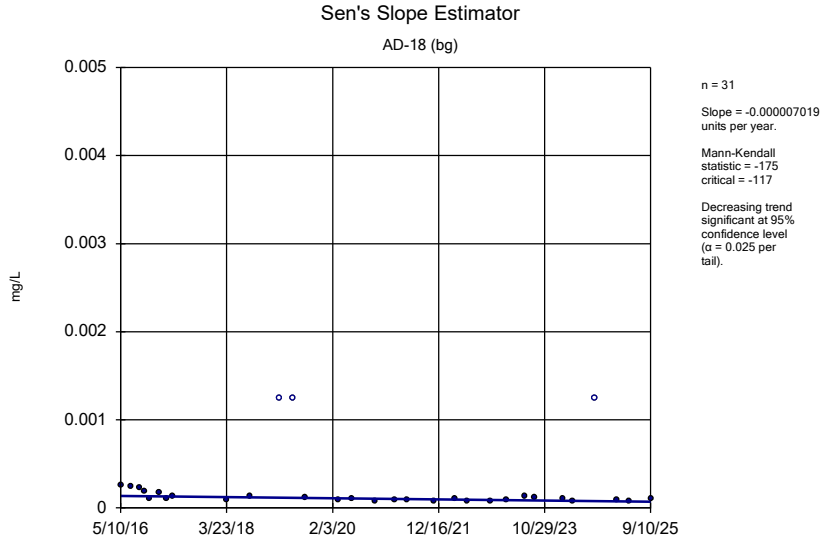
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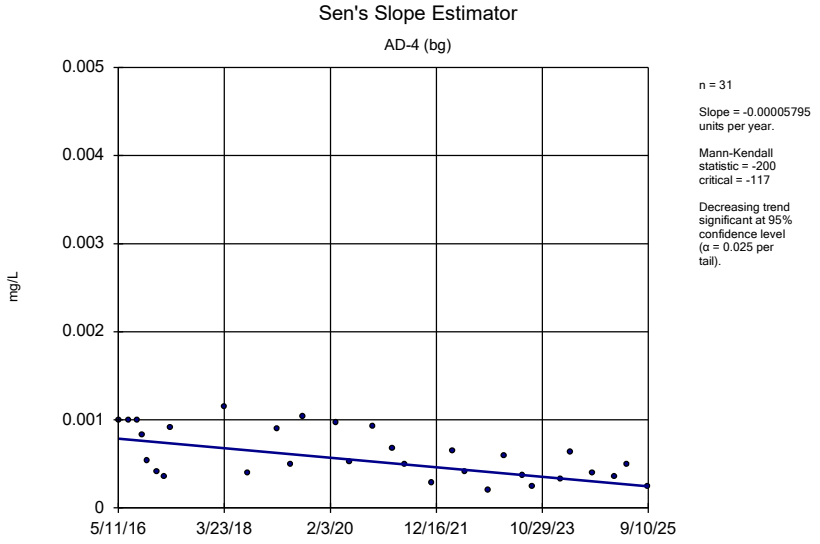
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Hollow symbols indicate censored values.



Constituent: Beryllium, total Analysis Run 11/17/2025 5:00 PM View: Appendix IV Upgradient Trend Tests
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Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

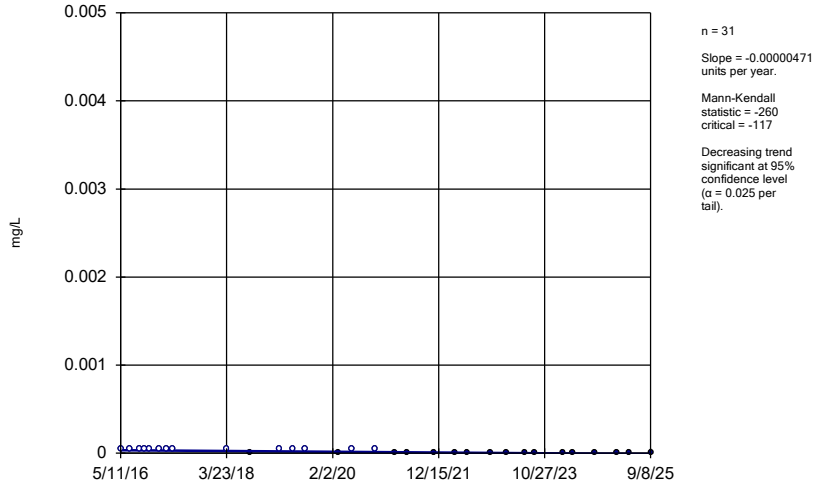


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Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-12 (bg)



n = 31

Slope = -0.00000471 units per year.

Mann-Kendall statistic = -260
critical = -117

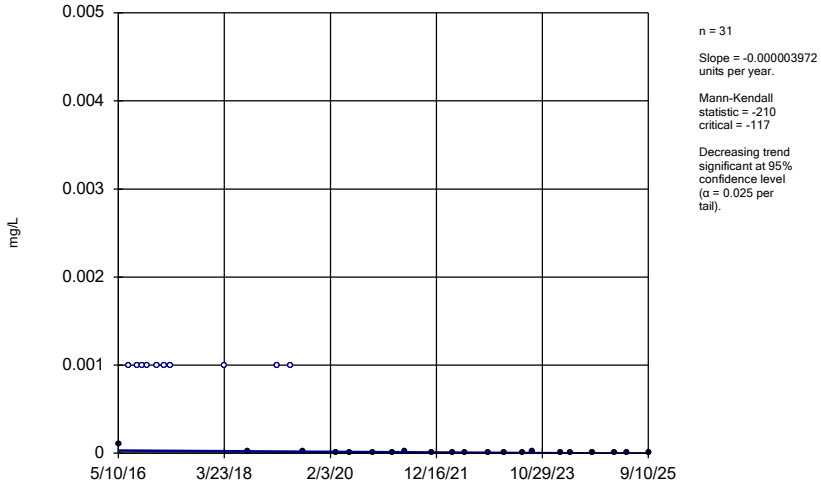
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cadmium, total Analysis Run 11/17/2025 5:00 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-18 (bg)



n = 31

Slope = -0.000003972 units per year.

Mann-Kendall statistic = -210
critical = -117

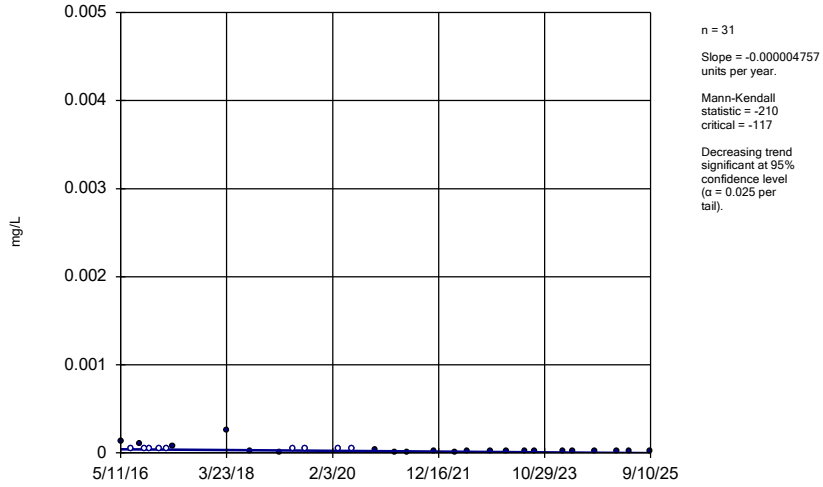
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cadmium, total Analysis Run 11/17/2025 5:00 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-4 (bg)



n = 31

Slope = -0.000004757 units per year.

Mann-Kendall statistic = -210
critical = -117

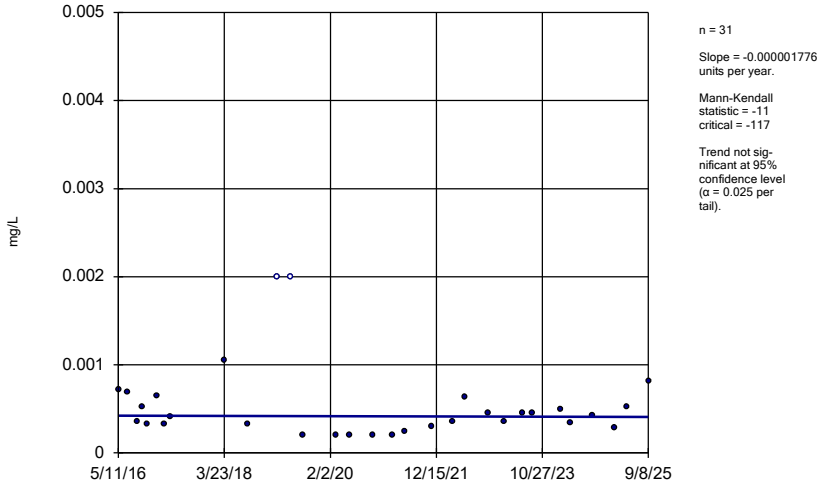
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cadmium, total Analysis Run 11/17/2025 5:00 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-12 (bg)



n = 31

Slope = -0.000001776 units per year.

Mann-Kendall statistic = -11
critical = -117

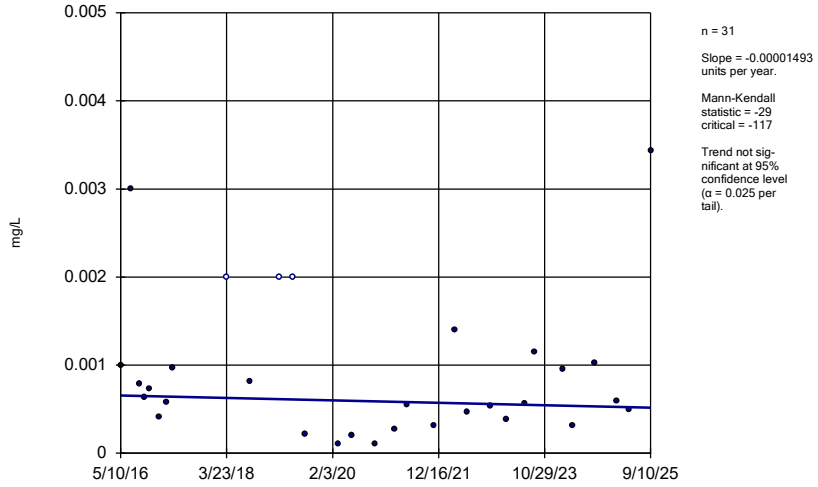
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Chromium, total Analysis Run 11/17/2025 5:00 PM View: Appendix IV Upgradient Trend Test
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-18 (bg)



n = 31

Slope = -0.00001493 units per year.

Mann-Kendall statistic = -29
critical = -117

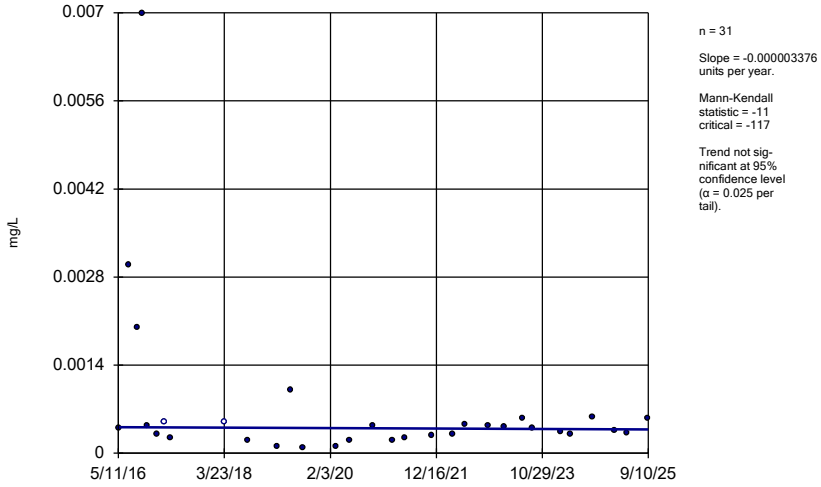
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Chromium, total Analysis Run 11/17/2025 5:00 PM View: Appendix IV Upgradient Trend Test
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-4 (bg)



n = 31

Slope = -0.000003376 units per year.

Mann-Kendall statistic = -11
critical = -117

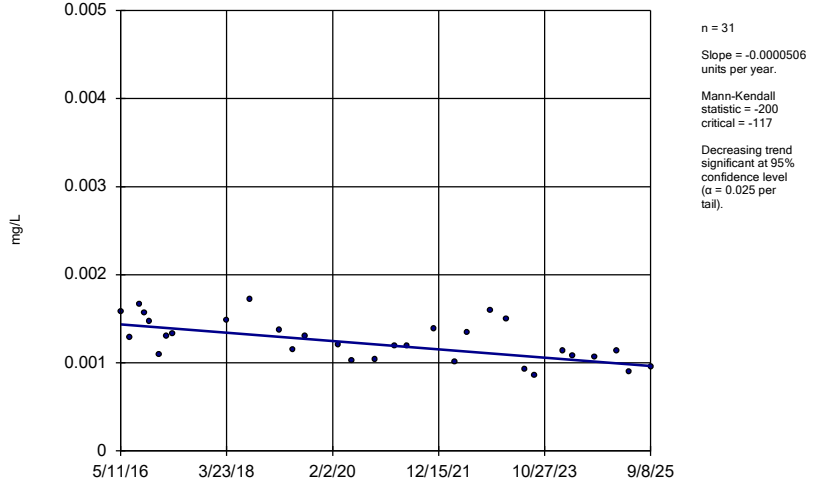
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Chromium, total Analysis Run 11/17/2025 5:00 PM View: Appendix IV Upgradient Trend Test
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-12 (bg)



n = 31

Slope = -0.0000506 units per year.

Mann-Kendall statistic = -200
critical = -117

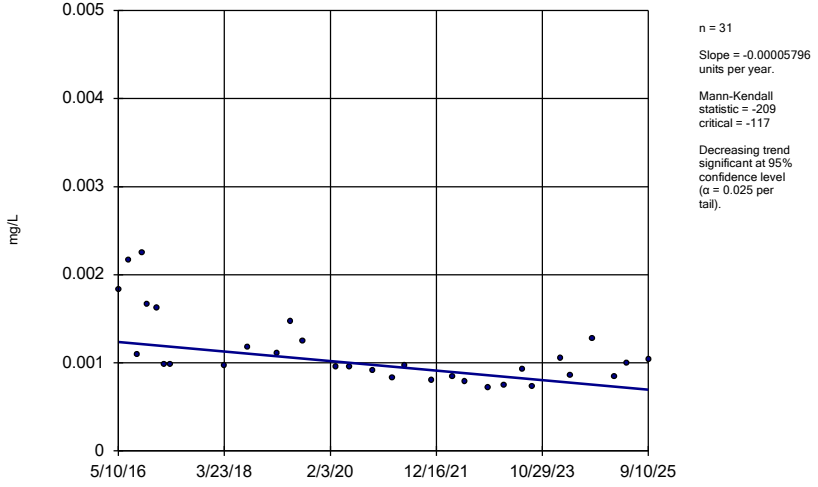
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt, total Analysis Run 11/17/2025 5:00 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-18 (bg)



n = 31

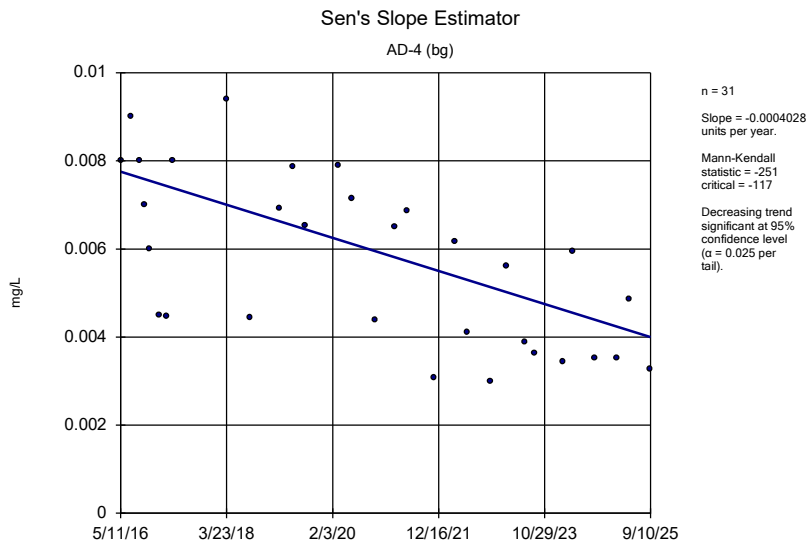
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Mann-Kendall statistic = -209
critical = -117

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

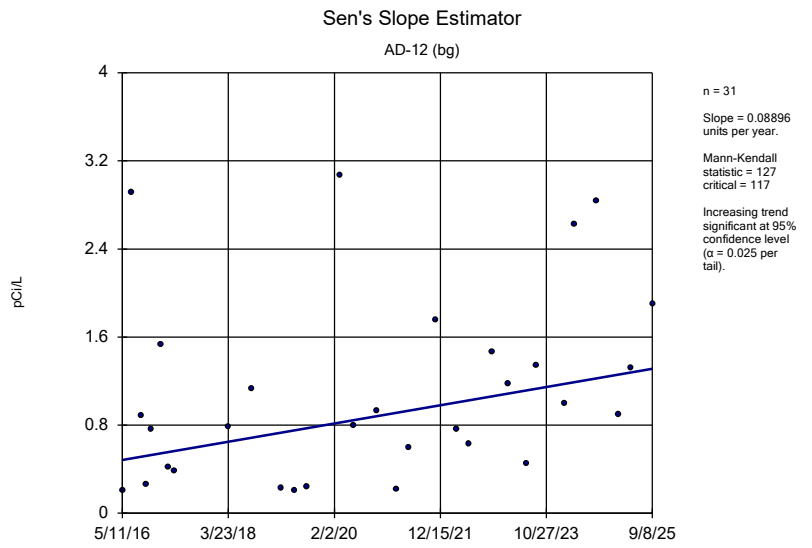
Constituent: Cobalt, total Analysis Run 11/17/2025 5:00 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG



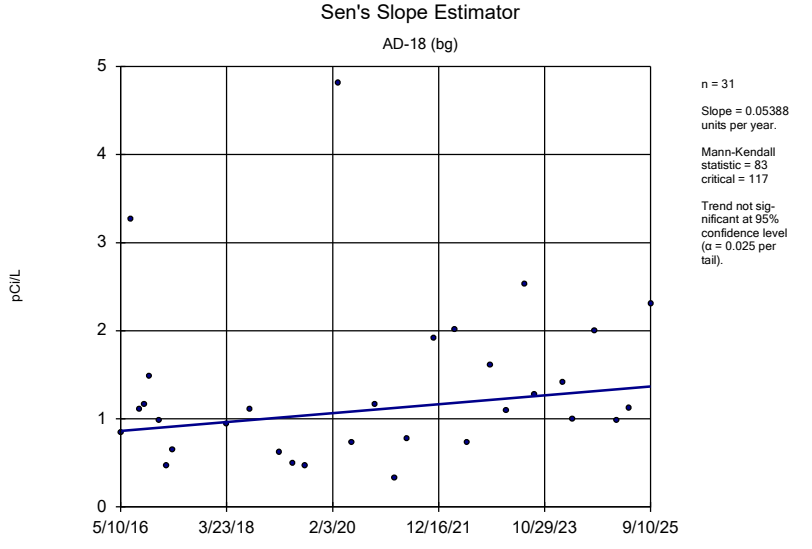
Constituent: Cobalt, total Analysis Run 11/17/2025 5:00 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG



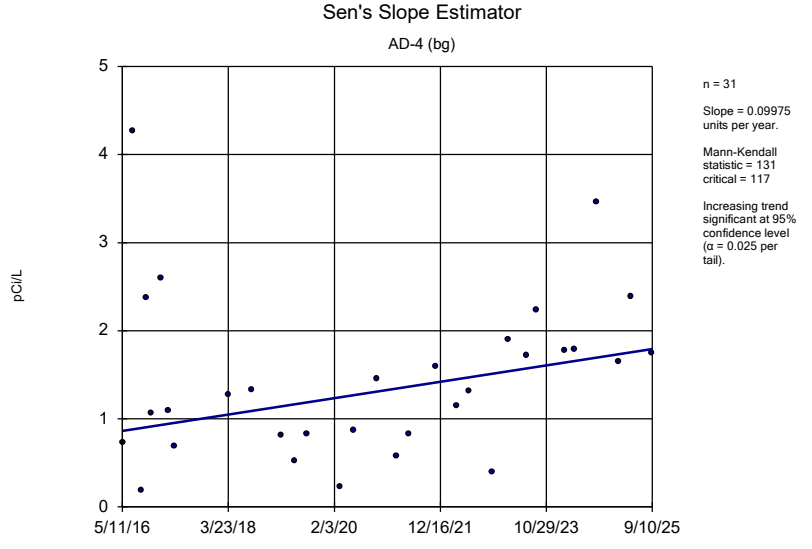
Constituent: Combined Radium 226 + 228 Analysis Run 11/17/2025 5:00 PM View: Appendix IV Upgradie
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG



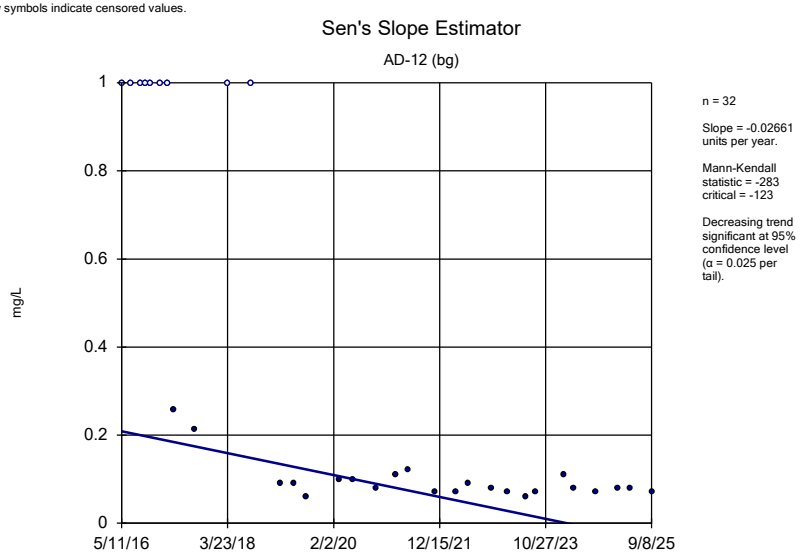
Constituent: Combined Radium 226 + 228 Analysis Run 11/17/2025 5:00 PM View: Appendix IV Upgradie
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG



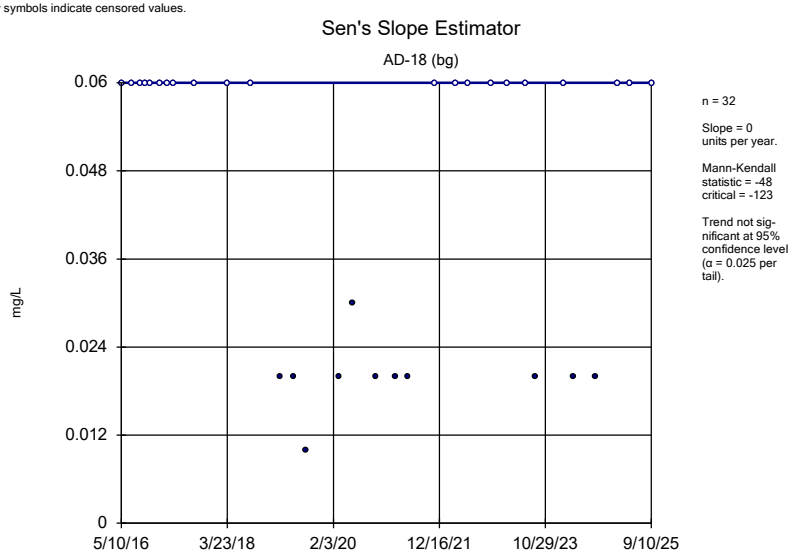
Constituent: Combined Radium 226 + 228 Analysis Run 11/17/2025 5:00 PM View: Appendix IV Upgradie
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.



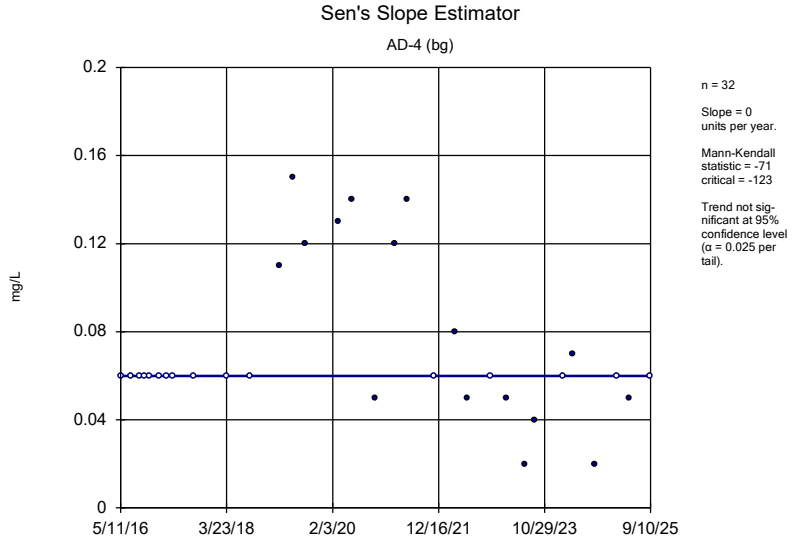
Constituent: Fluoride, total Analysis Run 11/17/2025 5:00 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.



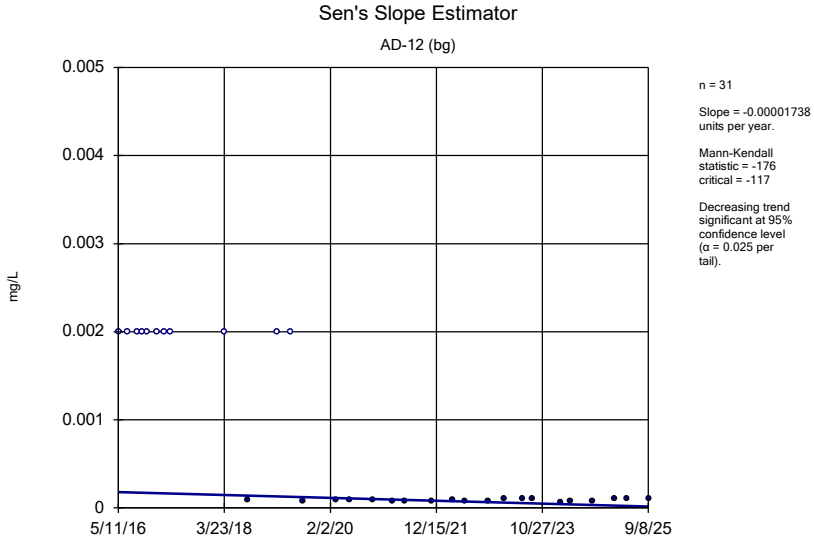
Constituent: Fluoride, total Analysis Run 11/17/2025 5:00 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.



Constituent: Fluoride, total Analysis Run 11/17/2025 5:00 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

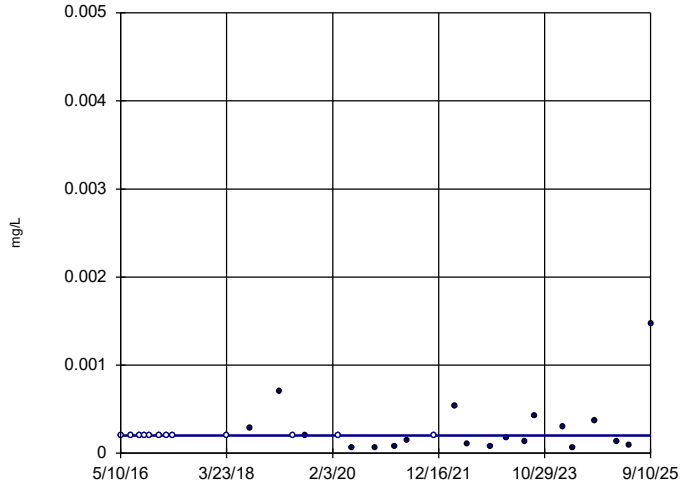


Constituent: Lead, total Analysis Run 11/17/2025 5:01 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-18 (bg)



n = 31

Slope = 0
units per year.

Mann-Kendall
statistic = -40
critical = -117

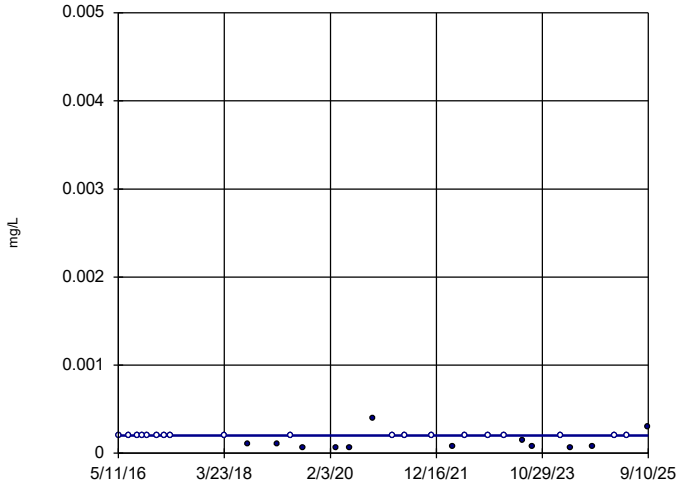
Trend not sig-
nificant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: Lead, total Analysis Run 11/17/2025 5:01 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-4 (bg)



n = 31

Slope = 0
units per year.

Mann-Kendall
statistic = -37
critical = -117

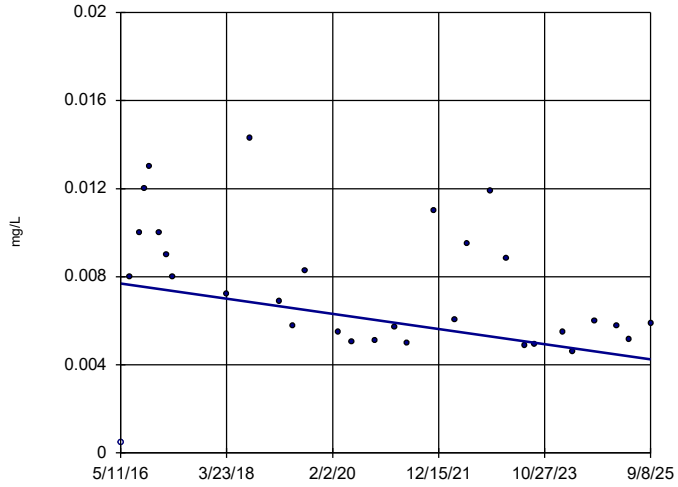
Trend not sig-
nificant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: Lead, total Analysis Run 11/17/2025 5:01 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-12 (bg)



n = 31

Slope = -0.0003686
units per year.

Mann-Kendall
statistic = -140
critical = -117

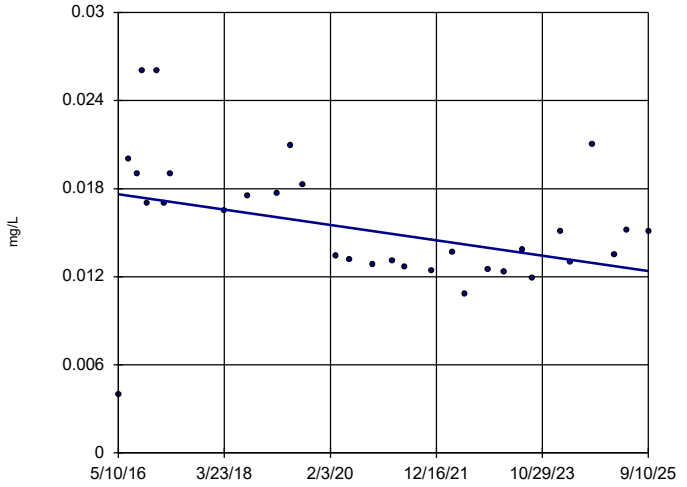
Decreasing trend
significant at 95%
confidence level
(α = 0.025 per
tail).

Constituent: Lithium, total Analysis Run 11/17/2025 5:01 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-18 (bg)



n = 31

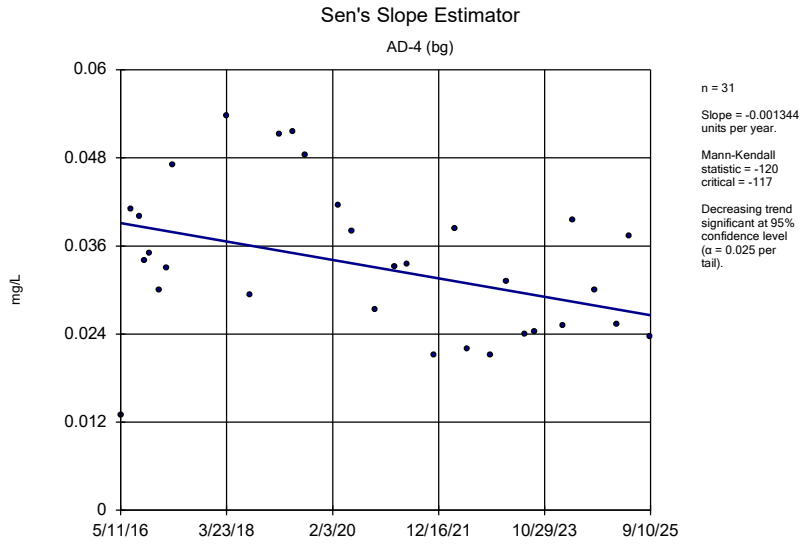
Slope = -0.0005594
units per year.

Mann-Kendall
statistic = -139
critical = -117

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

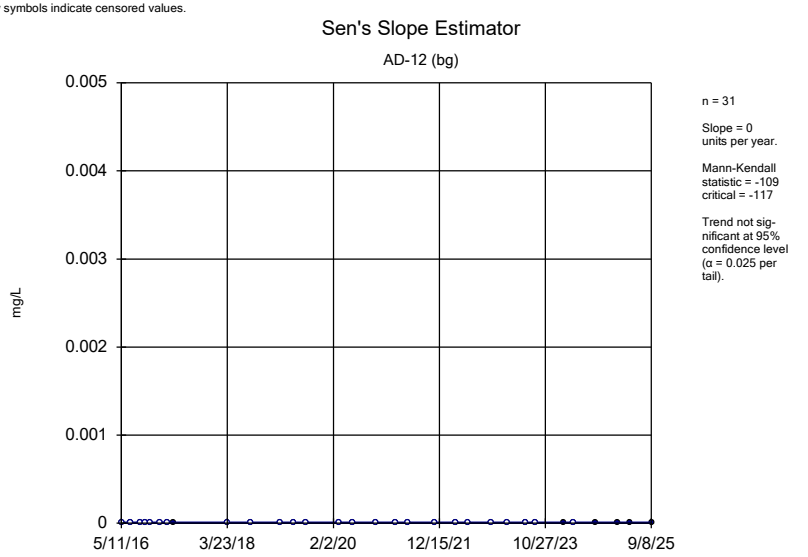
Constituent: Lithium, total Analysis Run 11/17/2025 5:01 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG



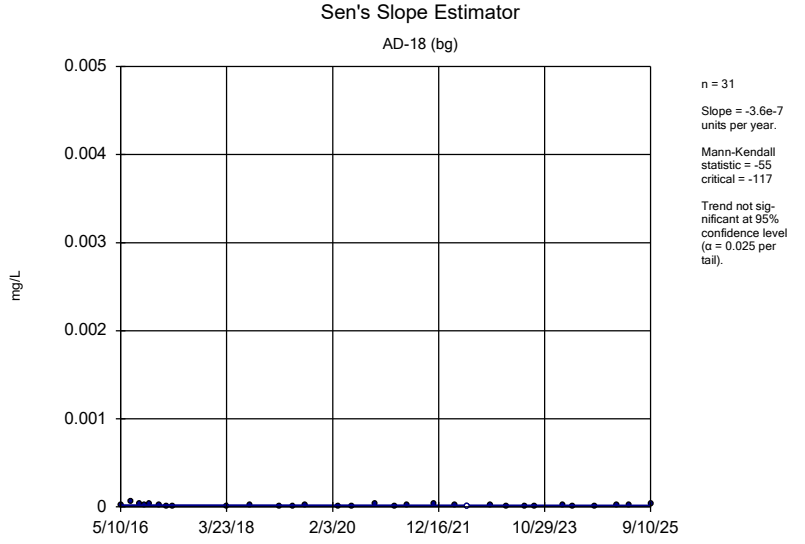
Constituent: Lithium, total Analysis Run 11/17/2025 5:01 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.



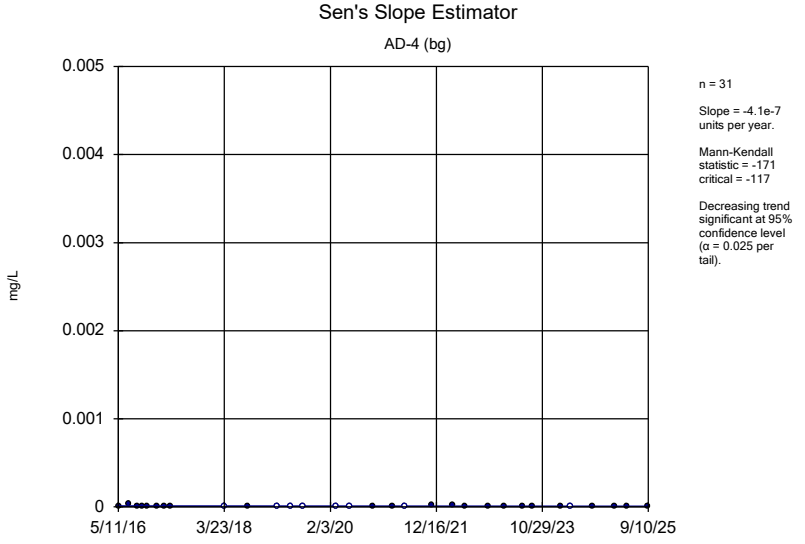
Constituent: Mercury, total Analysis Run 11/17/2025 5:01 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.



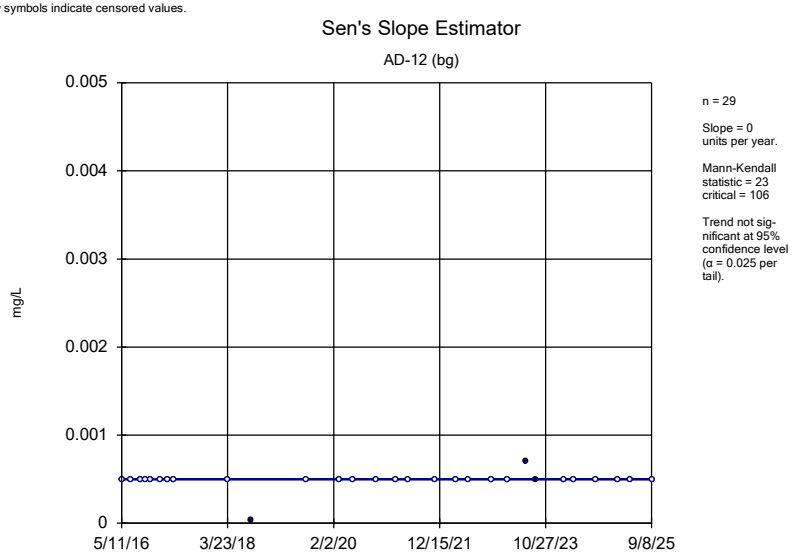
Constituent: Mercury, total Analysis Run 11/17/2025 5:01 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.



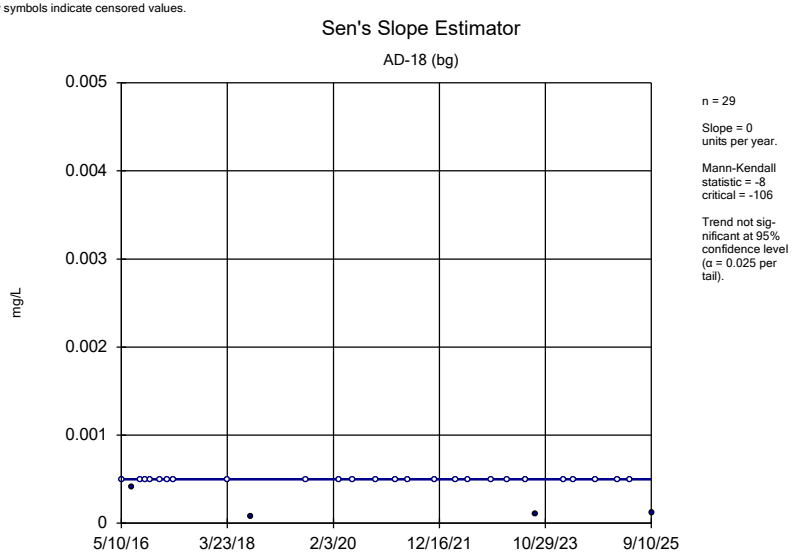
Constituent: Mercury, total Analysis Run 11/17/2025 5:01 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.



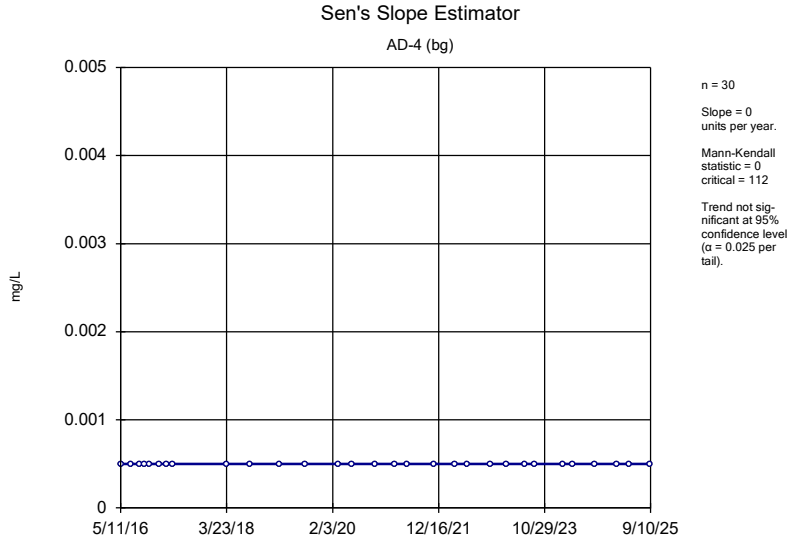
Constituent: Molybdenum, total Analysis Run 11/17/2025 5:01 PM View: Appendix IV Upgradient Trend T
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.



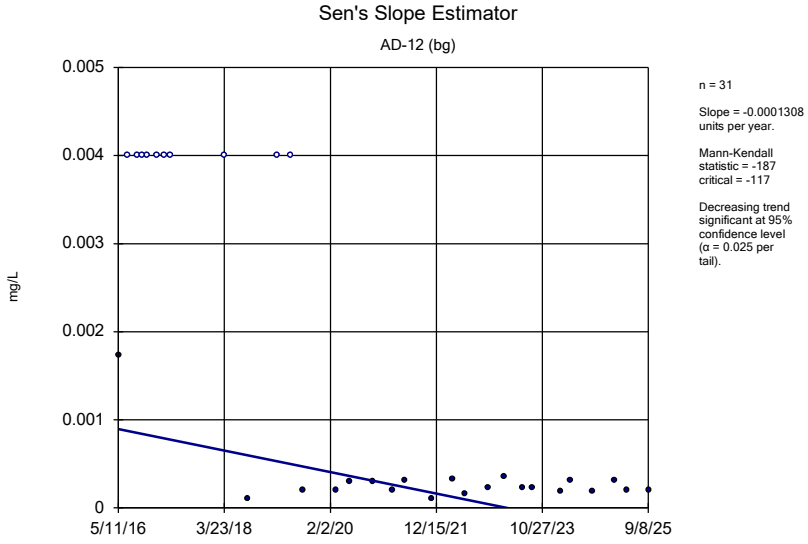
Constituent: Molybdenum, total Analysis Run 11/17/2025 5:01 PM View: Appendix IV Upgradient Trend T
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.



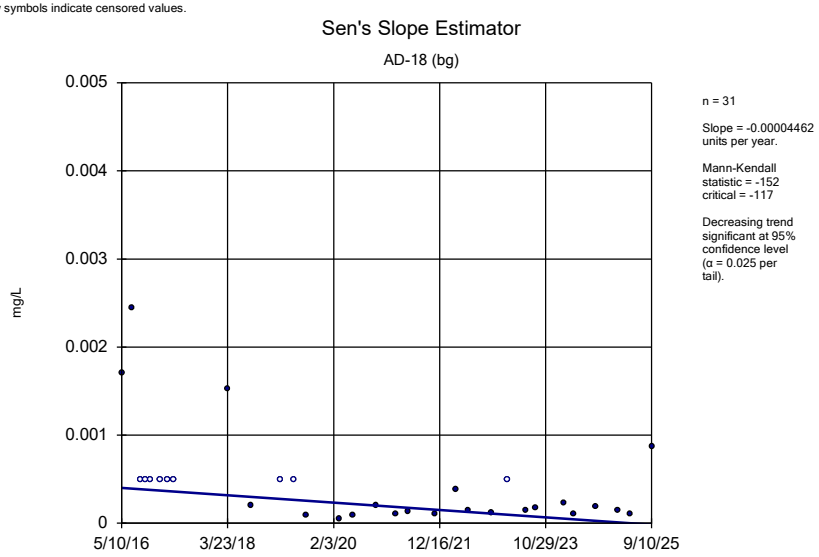
Constituent: Molybdenum, total Analysis Run 11/17/2025 5:01 PM View: Appendix IV Upgradient Trend T
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.



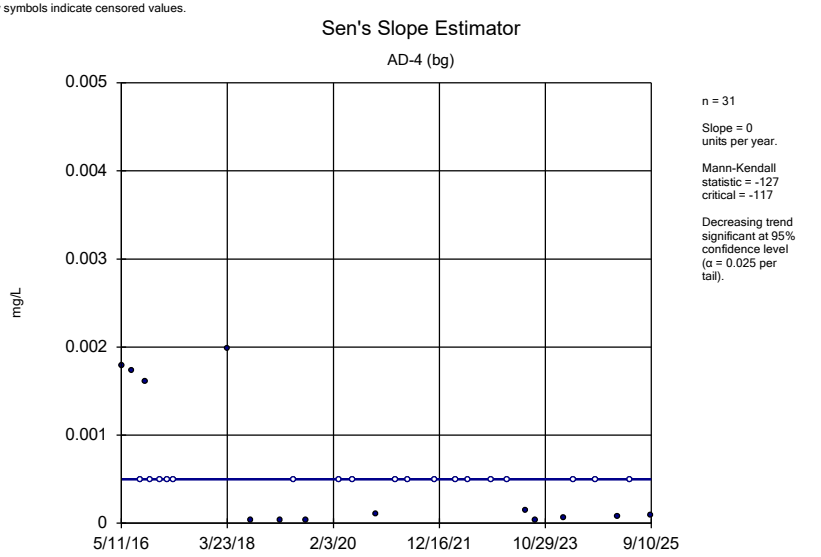
Constituent: Selenium, total Analysis Run 11/17/2025 5:01 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.



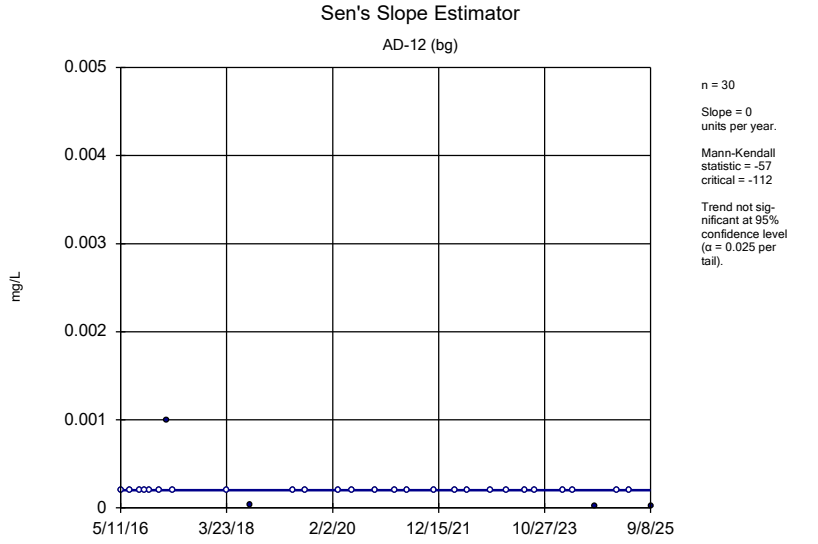
Constituent: Selenium, total Analysis Run 11/17/2025 5:01 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.



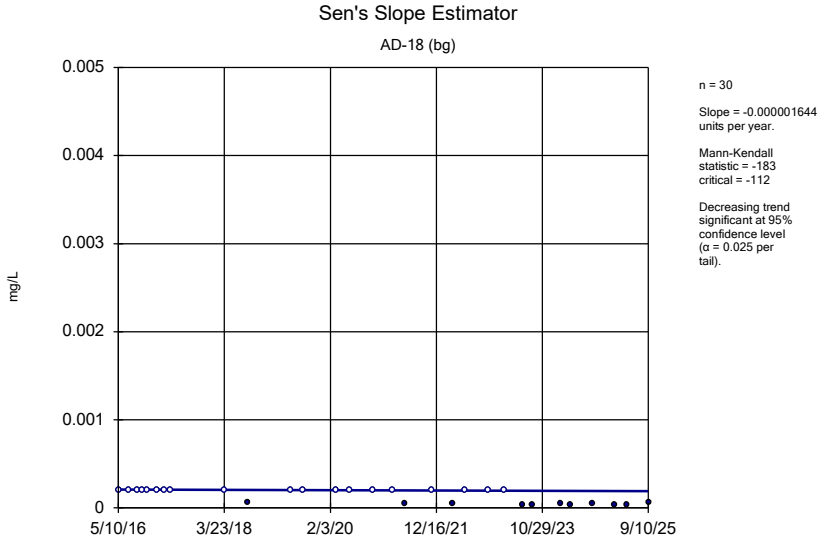
Constituent: Selenium, total Analysis Run 11/17/2025 5:01 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.



Constituent: Thallium, total Analysis Run 11/17/2025 5:01 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

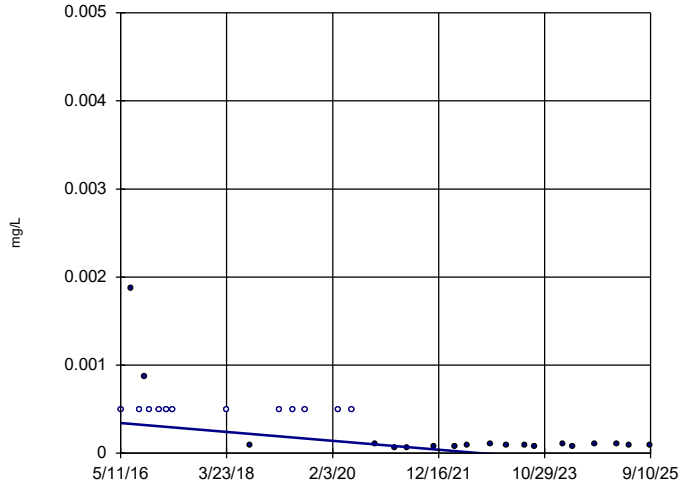


Constituent: Thallium, total Analysis Run 11/17/2025 5:01 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-4 (bg)



n = 31

Slope = -0.00005403 units per year.

Mann-Kendall statistic = -222
critical = -117

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

Constituent: Thallium, total Analysis Run 11/17/2025 5:01 PM View: Appendix IV Upgradient Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

FIGURE H

UTLs

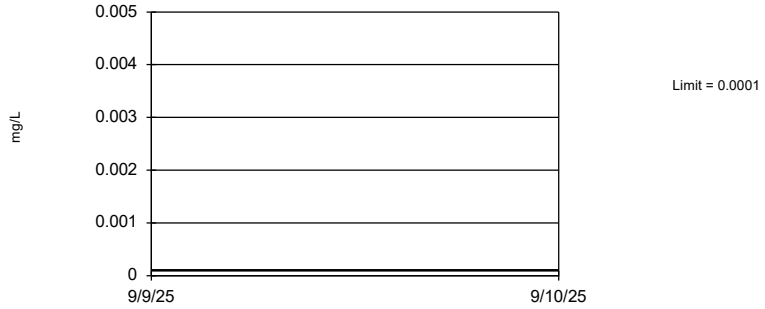
Upper Tolerance Limits

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 11/17/2025, 5:12 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	ND Adj.	Transform	Alpha	Method
Antimony, total (mg/L)	n/a	0.0001	n/a	n/a	n/a	n/a	93	77.42	n/a	n/a	0.008478	NP Inter(NDs)
Arsenic, total (mg/L)	n/a	0.011	n/a	n/a	n/a	n/a	93	29.03	n/a	n/a	0.008478	NP Inter(normality)
Barium, total (mg/L)	n/a	0.183	n/a	n/a	n/a	n/a	93	0	n/a	n/a	0.008478	NP Inter(normality)
Beryllium, total (mg/L)	n/a	0.00125	n/a	n/a	n/a	n/a	93	6.452	n/a	n/a	0.008478	NP Inter(normality)
Cadmium, total (mg/L)	n/a	0.00026	n/a	n/a	n/a	n/a	93	35.48	n/a	n/a	0.008478	NP Inter(normality)
Chromium, total (mg/L)	n/a	0.007	n/a	n/a	n/a	n/a	93	7.527	n/a	n/a	0.008478	NP Inter(normality)
Cobalt, total (mg/L)	n/a	0.00939	n/a	n/a	n/a	n/a	93	0	n/a	n/a	0.008478	NP Inter(normality)
Combined Radium 226 + 228 (pCi/L)	n/a	3.234	n/a	n/a	n/a	n/a	93	0	None	sqrt(x)	0.05	Inter
Fluoride, total (mg/L)	n/a	0.2565	n/a	n/a	n/a	n/a	96	47.92	n/a	n/a	0.007269	NP Inter(normality)
Lead, total (mg/L)	n/a	0.00147	n/a	n/a	n/a	n/a	93	45.16	n/a	n/a	0.008478	NP Inter(normality)
Lithium, total (mg/L)	n/a	0.04772	n/a	n/a	n/a	n/a	93	1.075	None	sqrt(x)	0.05	Inter
Mercury, total (mg/L)	n/a	0.000064	n/a	n/a	n/a	n/a	93	36.56	n/a	n/a	0.008478	NP Inter(normality)
Molybdenum, total (mg/L)	n/a	0.0007	n/a	n/a	n/a	n/a	88	92.05	n/a	n/a	0.01096	NP Inter(NDs)
Selenium, total (mg/L)	n/a	0.00245	n/a	n/a	n/a	n/a	93	39.78	n/a	n/a	0.008478	NP Inter(normality)
Thallium, total (mg/L)	n/a	0.001874	n/a	n/a	n/a	n/a	91	62.64	n/a	n/a	0.009394	NP Inter(NDs)

Tolerance Limit

Interwell Non-parametric



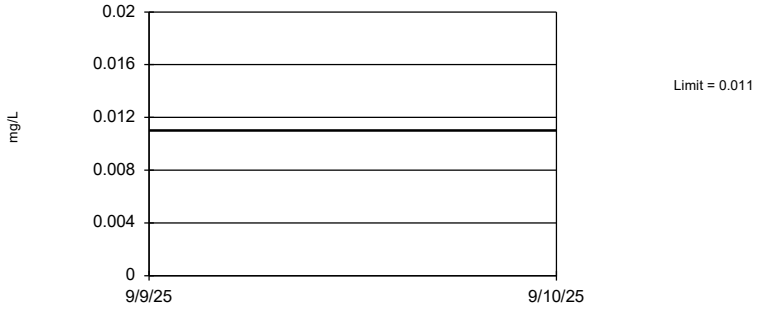
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 93 background values. 77.42% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008478.

Constituent: Antimony, total Analysis Run 11/17/2025 5:11 PM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



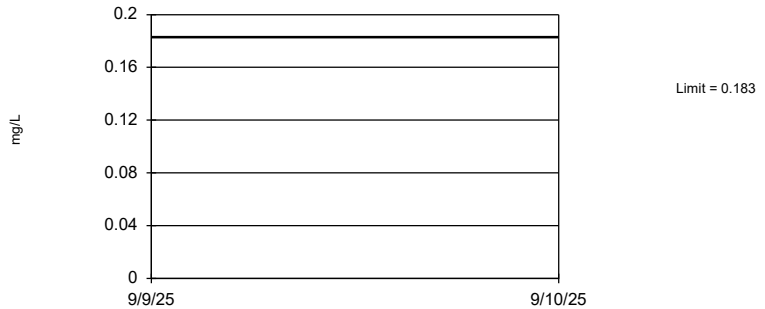
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 93 background values. 29.03% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008478.

Constituent: Arsenic, total Analysis Run 11/17/2025 5:11 PM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



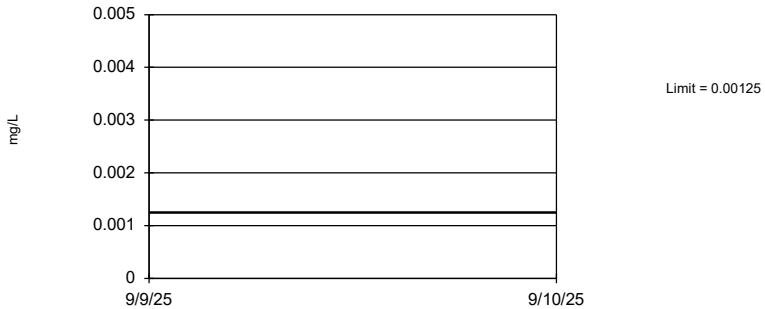
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 93 background values. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008478.

Constituent: Barium, total Analysis Run 11/17/2025 5:11 PM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric

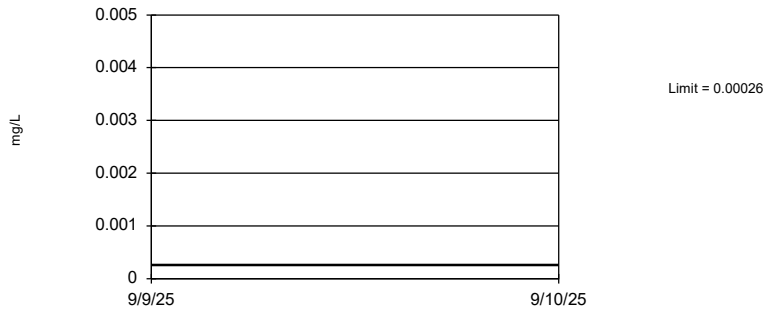


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 93 background values. 6.452% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008478.

Constituent: Beryllium, total Analysis Run 11/17/2025 5:11 PM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Tolerance Limit

Interwell Non-parametric

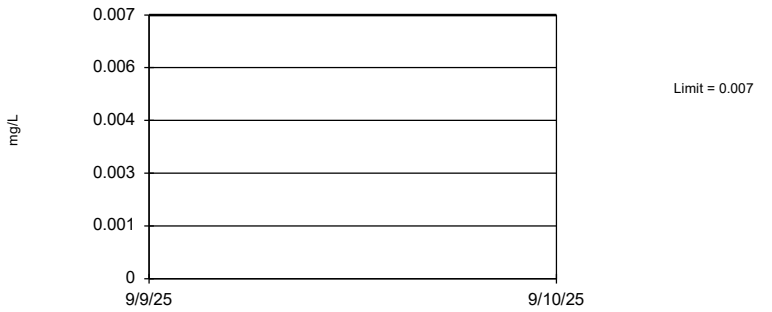


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 93 background values. 35.48% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008478.

Constituent: Cadmium, total Analysis Run 11/17/2025 5:11 PM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Tolerance Limit

Interwell Non-parametric

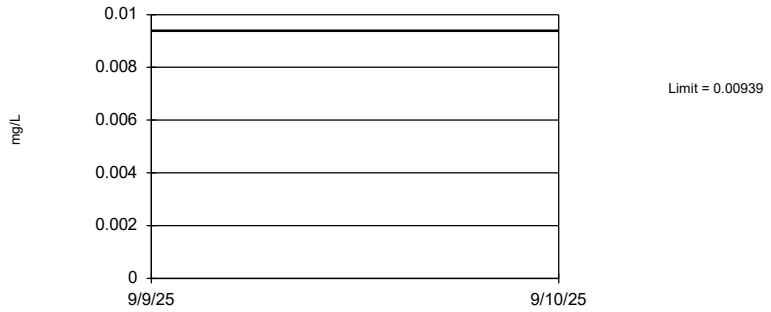


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 93 background values. 7.527% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008478.

Constituent: Chromium, total Analysis Run 11/17/2025 5:11 PM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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 93 background values. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008478.

Constituent: Cobalt, total Analysis Run 11/17/2025 5:11 PM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Tolerance Limit

Interwell Parametric

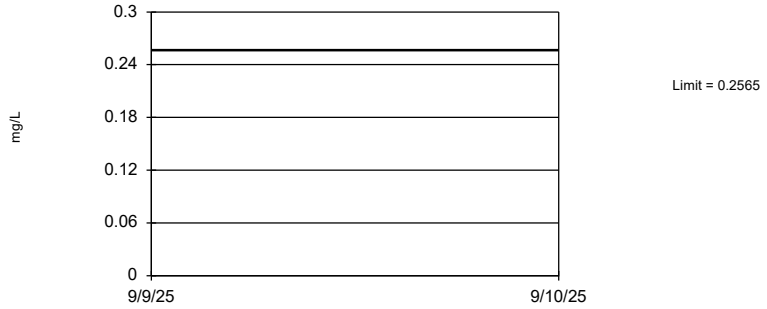


95% coverage. Background Data Summary (based on square root transformation): Mean=1.073, Std. Dev.=0.3743, n=93. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9765, critical = 0.963. Report alpha = 0.05.

Constituent: Combined Radium 226 + 228 Analysis Run 11/17/2025 5:11 PM View: Upper Tolerance Limit
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Tolerance Limit

Interwell Non-parametric

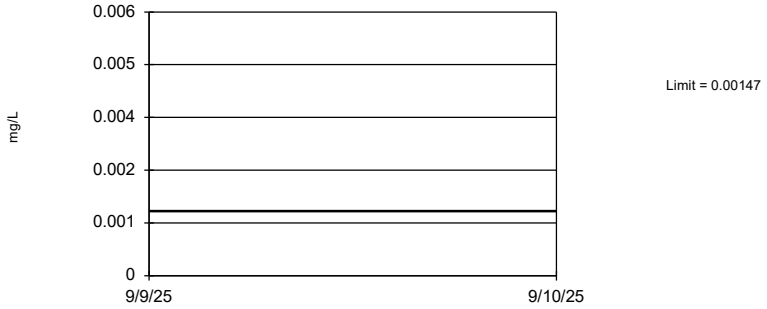


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 96 background values. 47.92% NDs. 95.51% coverage at alpha=0.01; 97.07% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.007269.

Constituent: Fluoride, total Analysis Run 11/17/2025 5:11 PM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Tolerance Limit

Interwell Non-parametric

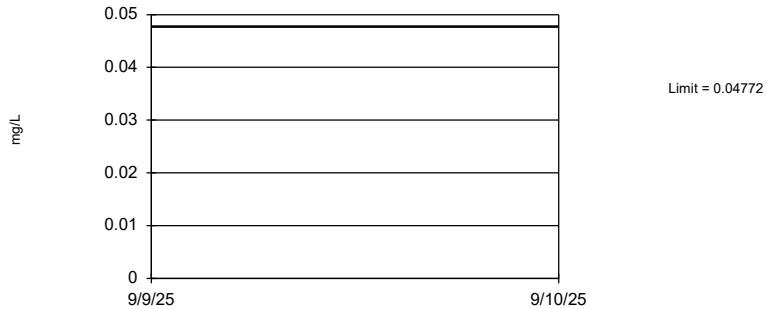


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 93 background values. 45.16% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008478.

Constituent: Lead, total Analysis Run 11/17/2025 5:11 PM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Tolerance Limit

Interwell Parametric

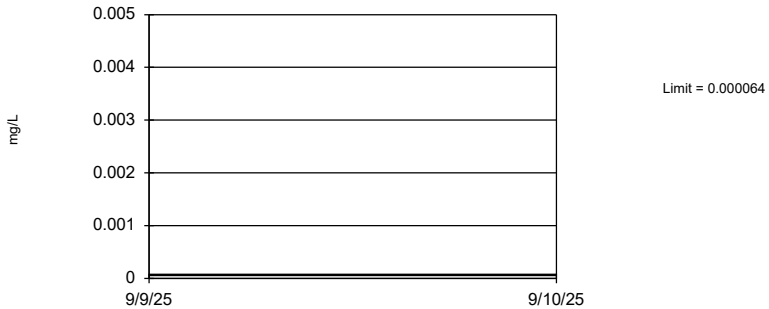


95% coverage. Background Data Summary (based on square root transformation): Mean=0.1297, Std. Dev.=0.04581, n=93, 1.075% NDs. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9722, critical = 0.963. Report alpha = 0.05.

Constituent: Lithium, total Analysis Run 11/17/2025 5:11 PM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Tolerance Limit

Interwell Non-parametric

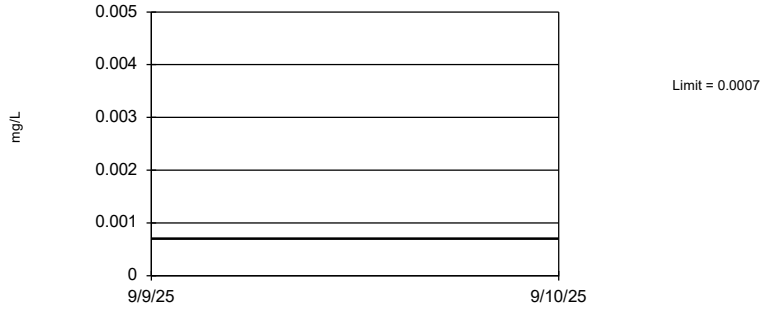


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 93 background values. 36.56% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008478.

Constituent: Mercury, total Analysis Run 11/17/2025 5:11 PM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Tolerance Limit

Interwell Non-parametric



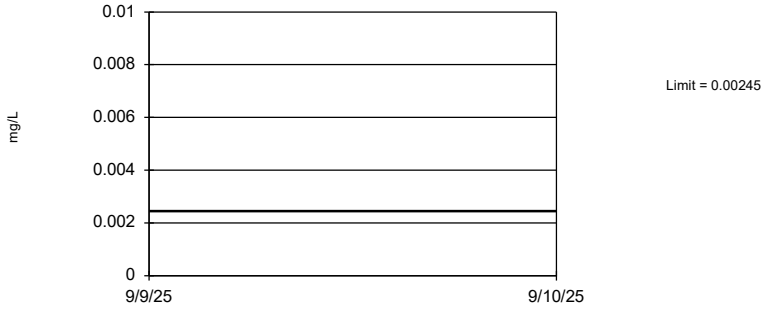
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 88 background values. 92.05% NDs. 94.73% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.01096.

Constituent: Molybdenum, total Analysis Run 11/17/2025 5:11 PM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



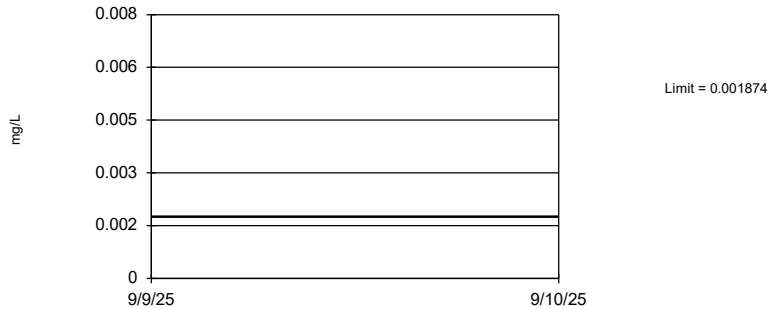
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 93 background values. 39.78% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.008478.

Constituent: Selenium, total Analysis Run 11/17/2025 5:11 PM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by 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 91 background values. 62.64% NDs. 95.12% coverage at alpha=0.01; 96.68% coverage at alpha=0.05; 99.41% coverage at alpha=0.5. Report alpha = 0.009394.

Constituent: Thallium, total Analysis Run 11/17/2025 5:11 PM View: Upper Tolerance Limits
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

FIGURE I

GWPS

PIRKEY EBAP GWPS			
Constituent Name	**MCL**	**Background Limit**	**GWPS**
Antimony, Total (mg/L)	0.006	0.0001	0.006
Arsenic, Total (mg/L)	0.01	0.011	0.011
Barium, Total (mg/L)	2	0.18	2
Beryllium, Total (mg/L)	0.004	0.0013	0.004
Cadmium, Total (mg/L)	0.005	0.00026	0.005
Chromium, Total (mg/L)	0.1	0.007	0.1
Cobalt, Total (mg/L)	n/a	0.0094	0.0094
Combined Radium, Total (pCi/L)	5	3.23	5
Fluoride, Total (mg/L)	4	0.26	4
Lead, Total (mg/L)	n/a	0.0015	0.0015
Lithium, Total (mg/L)	n/a	0.048	0.048
Mercury, Total (mg/L)	0.002	0.000064	0.002
Molybdenum, Total (mg/L)	n/a	0.0007	0.0007
Selenium, Total (mg/L)	0.05	0.0025	0.05
Thallium, Total (mg/L)	0.002	0.0019	0.002

**Gray cell indicates Background Limit is higher than MCL*

**MCL = Maximum Contaminant Level*

**GWPS = Groundwater Protection Standard*

FIGURE J

Trend Tests – Cobalt and Lithium

Cobalt & Lithium Trend Tests - Significant Results (All Significant)

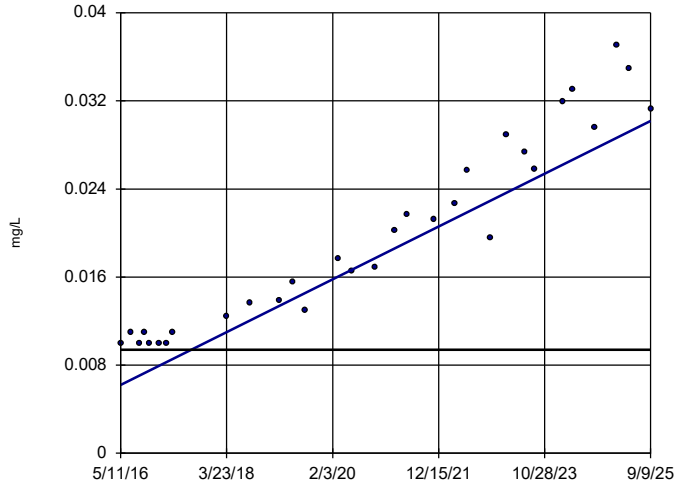
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 11/20/2025, 11:10 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Cobalt, total (mg/L)	**AD-2**	**0.002567**	**396**	**117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-31**	**-0.0002207**	**-186**	**-112**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-32**	**-0.004595**	**-252**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-2**	**0.003299**	**242**	**112**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-32**	**-0.005471**	**-222**	**-106**	**Yes**	**29**	**0**	**n/a**	**n/a**	**0.05**	**NP**

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-2



n = 31

Slope = 0.002567 units per year.

Mann-Kendall statistic = 396
critical = 117

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

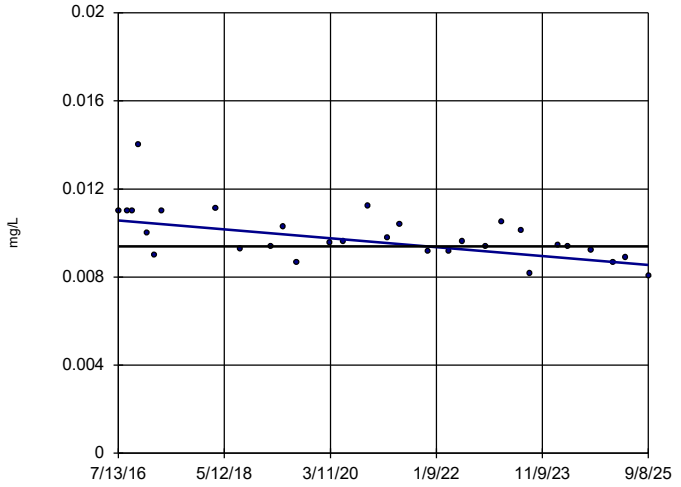
GWPS = 0.0094.

Constituent: Cobalt, total Analysis Run 11/20/2025 11:09 AM View: Check
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-31



n = 30

Slope = -0.0002207 units per year.

Mann-Kendall statistic = -186
critical = -112

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

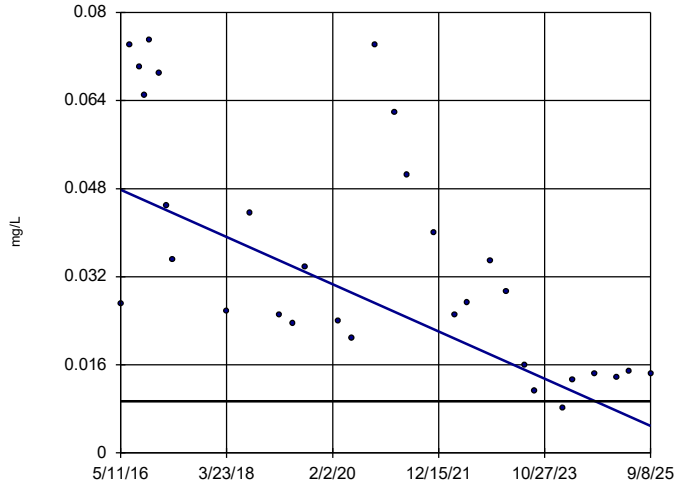
GWPS = 0.0094.

Constituent: Cobalt, total Analysis Run 11/20/2025 11:09 AM View: Check
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-32



n = 31

Slope = -0.004595 units per year.

Mann-Kendall statistic = -252
critical = -117

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

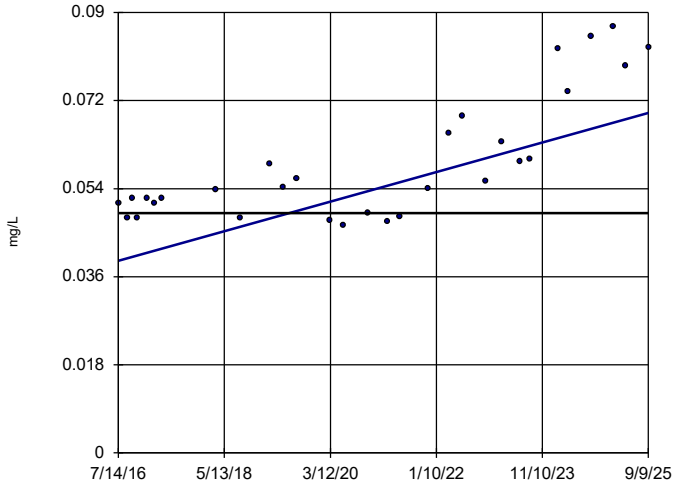
GWPS = 0.0094.

Constituent: Cobalt, total Analysis Run 11/20/2025 11:09 AM View: Check
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-2



n = 30

Slope = 0.003299 units per year.

Mann-Kendall statistic = 242
critical = 112

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

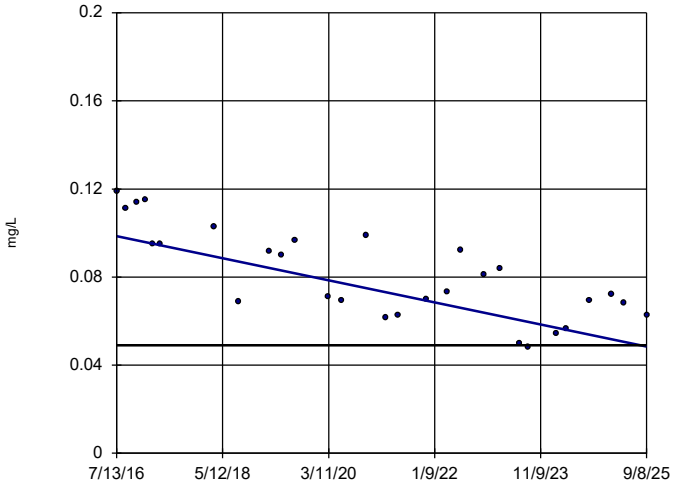
GWPS = 0.049.

Constituent: Lithium, total Analysis Run 11/20/2025 11:09 AM View: Check
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-32



n = 29

Slope = -0.005471 units per year.

Mann-Kendall statistic = -222
critical = -106

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

GWPS = 0.049.

Constituent: Lithium, total Analysis Run 11/20/2025 11:09 AM View: Check
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Cobalt & Lithium Trend Tests - Truncated Records - Significant Results

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 12/2/2025, 11:53 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Cobalt, total (mg/L)	**AD-2**	**0.003707**	**42**	**30**	**Yes**	**12**	**0**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-2**	**0.007236**	**34**	**30**	**Yes**	**12**	**0**	**n/a**	**0.05**	**NP**

Cobalt & Lithium Trend Tests - Truncated Records - All Results

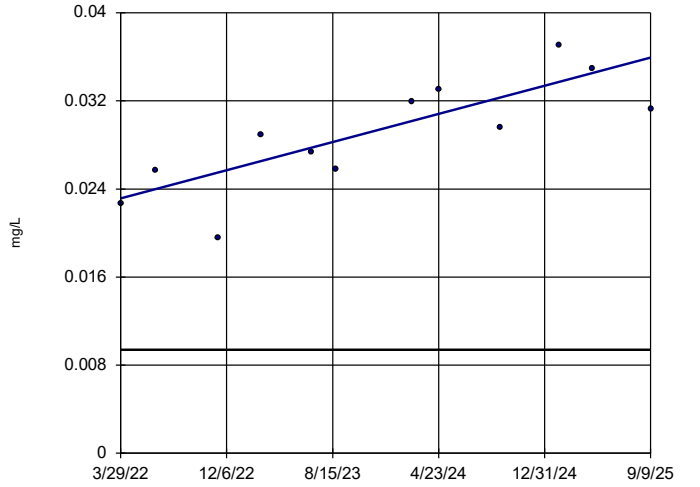
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 12/2/2025, 11:53 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Cobalt, total (mg/L)	**AD-2**	**0.003707**	**42**	**30**	**Yes**	**12**	**0**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	AD-31	-0.0007042	-16	-17	No	8	0	n/a	0.05	NP
Cobalt, total (mg/L)	AD-32	0.001023	8	17	No	8	0	n/a	0.05	NP
Lithium, total (mg/L)	**AD-2**	**0.007236**	**34**	**30**	**Yes**	**12**	**0**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	AD-32	0.01092	16	17	No	8	0	n/a	0.05	NP

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

Sen's Slope Estimator

AD-2



n = 12

Slope = 0.003707 units per year.

Mann-Kendall statistic = 42 critical = 30

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

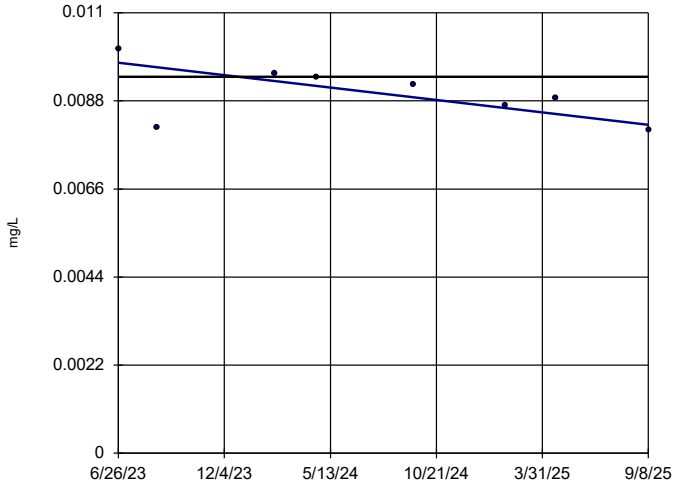
GWPS = 0.0094.

Constituent: Cobalt, total Analysis Run 12/2/2025 11:52 AM View: Cobalt & Lithium Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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

Sen's Slope Estimator

AD-31



n = 8

Slope = -0.0007042 units per year.

Mann-Kendall statistic = -16 critical = -17

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

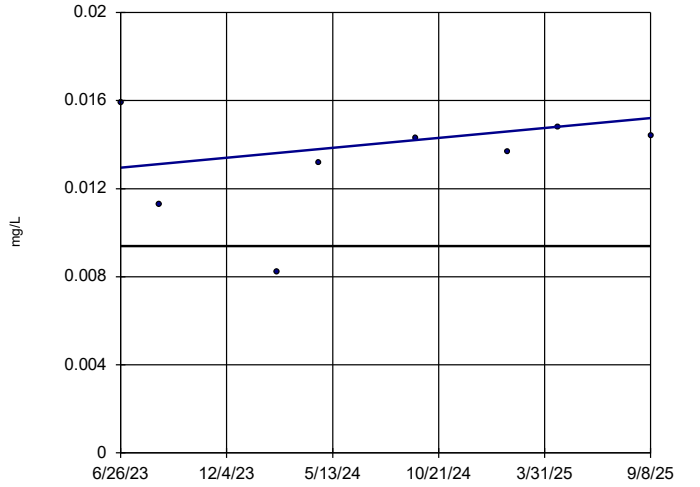
GWPS = 0.0094.

Constituent: Cobalt, total Analysis Run 12/2/2025 11:52 AM View: Cobalt & Lithium Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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

Sen's Slope Estimator

AD-32



n = 8

Slope = 0.001023 units per year.

Mann-Kendall statistic = 8 critical = 17

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

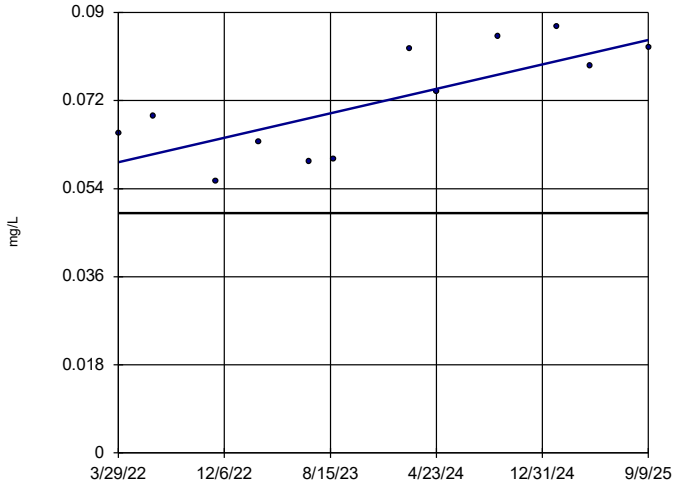
GWPS = 0.0094.

Constituent: Cobalt, total Analysis Run 12/2/2025 11:52 AM View: Cobalt & Lithium Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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

Sen's Slope Estimator

AD-2



n = 12

Slope = 0.007236 units per year.

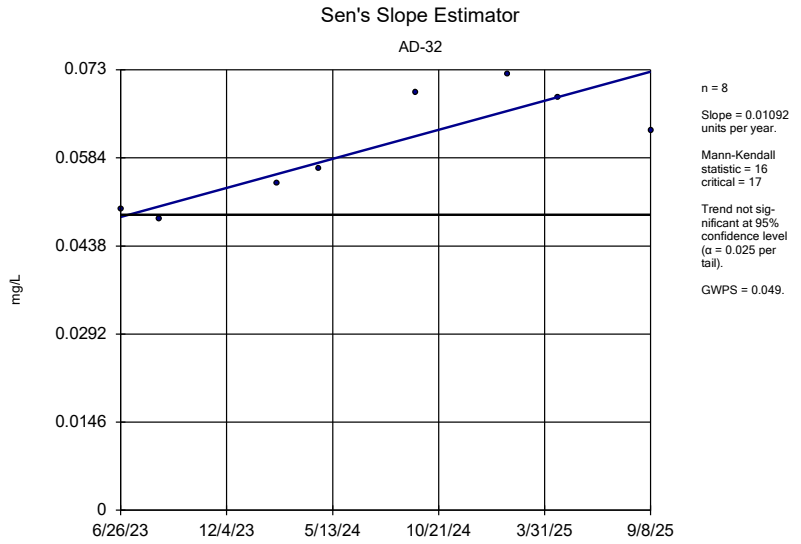
Mann-Kendall statistic = 34 critical = 30

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

GWPS = 0.049.

Constituent: Lithium, total Analysis Run 12/2/2025 11:52 AM View: Cobalt & Lithium Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

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



Constituent: Lithium, total Analysis Run 12/2/2025 11:52 AM View: Cobalt & Lithium Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

FIGURE K
Confidence Intervals

Appendix IV - Confidence Interval - Significant Results

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 11/21/2025, 5:52 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Cobalt, total (mg/L)	**AD-2**	**0.03296**	**0.02501**	**0.0094**	**Yes**	**12**	**0.02898**	**0.005068**	**0**	**None**	**No**	**0.01**	**Param.**
Cobalt, total (mg/L)	**AD-32**	**0.01579**	**0.01067**	**0.0094**	**Yes**	**8**	**0.01323**	**0.002419**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium, total (mg/L)	**AD-2**	**0.08073**	**0.06318**	**0.048**	**Yes**	**12**	**0.07196**	**0.01118**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium, total (mg/L)	**AD-31**	**0.089**	**0.07864**	**0.048**	**Yes**	**31**	**0.0823**	**0.0128**	**0**	**None**	**x^3**	**0.01**	**Param.**
Lithium, total (mg/L)	**AD-32**	**0.07003**	**0.05044**	**0.048**	**Yes**	**8**	**0.06024**	**0.00924**	**0**	**None**	**No**	**0.01**	**Param.**

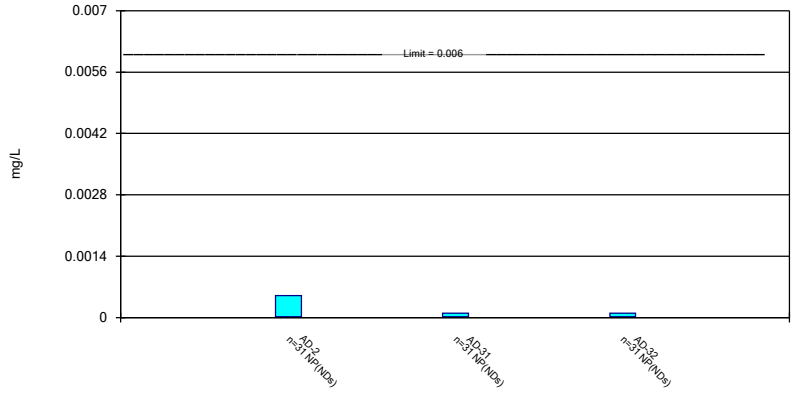
Appendix IV - Confidence Interval Exceedances - All Results

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 11/21/2025, 5:52 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony, total (mg/L)	AD-2	0.0005	0.00002	0.006	No	31	0.0004528	0.0001466	90.32	None	No	0.01	NP (NDs)
Antimony, total (mg/L)	AD-31	0.0001	0.00002	0.006	No	31	0.00008865	0.00003004	83.87	None	No	0.01	NP (NDs)
Antimony, total (mg/L)	AD-32	0.0001	0.00002	0.006	No	31	0.00007784	0.00003903	70.97	None	No	0.01	NP (NDs)
Arsenic, total (mg/L)	AD-2	0.002	0.00062	0.011	No	31	0.001291	0.0006818	32.26	None	No	0.01	NP (normality)
Arsenic, total (mg/L)	AD-31	0.00126	0.00027	0.011	No	30	0.001581	0.002351	10	None	No	0.01	NP (normality)
Arsenic, total (mg/L)	AD-32	0.004884	0.002531	0.011	No	31	0.004088	0.002958	3.226	None	sqrt(x)	0.01	Param.
Barium, total (mg/L)	AD-2	0.0333	0.0168	2	No	31	0.02393	0.009265	0	None	No	0.01	NP (normality)
Barium, total (mg/L)	AD-31	0.044	0.0332	2	No	30	0.04634	0.0228	0	None	No	0.01	NP (normality)
Barium, total (mg/L)	AD-32	0.03635	0.02788	2	No	31	0.03211	0.009598	0	None	No	0.01	Param.
Beryllium, total (mg/L)	AD-2	0.000787	0.00045	0.004	No	31	0.0006383	0.000241	3.226	None	No	0.01	NP (normality)
Beryllium, total (mg/L)	AD-31	0.00103	0.000857	0.004	No	30	0.001014	0.0002977	0	None	No	0.01	NP (normality)
Beryllium, total (mg/L)	AD-32	0.004766	0.0024	0.004	No	31	0.003583	0.002682	0	None	No	0.01	Param.
Cadmium, total (mg/L)	AD-2	0.00018	0.00009	0.005	No	31	0.0003916	0.0004275	32.26	None	No	0.01	NP (normality)
Cadmium, total (mg/L)	AD-31	0.0001747	0.000064	0.005	No	31	0.0003077	0.0004058	22.58	None	No	0.01	NP (normality)
Cadmium, total (mg/L)	AD-32	0.0004614	0.0002445	0.005	No	31	0.0003529	0.0002457	6.452	None	No	0.01	Param.
Chromium, total (mg/L)	AD-2	0.0008854	0.00038	0.1	No	31	0.00114	0.001436	19.35	None	No	0.01	NP (normality)
Chromium, total (mg/L)	AD-31	0.00239	0.00041	0.1	No	29	0.003217	0.004761	6.897	None	No	0.01	NP (normality)
Chromium, total (mg/L)	AD-32	0.003	0.0006	0.1	No	31	0.002916	0.004359	0	None	No	0.01	NP (normality)
Cobalt, total (mg/L)	**AD-2**	**0.03296**	**0.02501**	**0.0094**	**Yes**	**12**	**0.02898**	**0.005068**	**0**	**None**	**No**	**0.01**	**Param.**
Cobalt, total (mg/L)	AD-31	0.009721	0.008254	0.0094	No	8	0.008988	0.0006925	0	None	No	0.01	Param.
Cobalt, total (mg/L)	**AD-32**	**0.01579**	**0.01067**	**0.0094**	**Yes**	**8**	**0.01323**	**0.002419**	**0**	**None**	**No**	**0.01**	**Param.**
Combined Radium 226 + 228 (pCi/L)	AD-2	1.916	1.245	5	No	31	1.58	0.7593	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	AD-31	4.07	3.001	5	No	31	3.536	1.211	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	AD-32	5.508	3.447	5	No	30	4.705	2.434	0	None	sqrt(x)	0.01	Param.
Fluoride, total (mg/L)	AD-2	0.21	0.06	4	No	33	0.1509	0.09285	36.36	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	AD-31	0.13	0.06	4	No	33	0.1024	0.03825	36.36	None	No	0.01	NP (normality)
Fluoride, total (mg/L)	AD-32	0.5722	0.2525	4	No	32	0.5071	0.4303	15.63	Kaplan-Meier	sqrt(x)	0.01	Param.
Lead, total (mg/L)	AD-2	0.00064	0.000288	0.0015	No	31	0.0004514	0.0002172	32.26	None	No	0.01	NP (normality)
Lead, total (mg/L)	AD-31	0.00033	0.0002	0.0015	No	30	0.0004979	0.0007327	26.67	None	No	0.01	NP (normality)
Lead, total (mg/L)	AD-32	0.0003248	0.0001281	0.0015	No	31	0.0003583	0.0002877	38.71	Kaplan-Meier	x^(1/3)	0.01	Param.
Lithium, total (mg/L)	**AD-2**	**0.08073**	**0.06318**	**0.048**	**Yes**	**12**	**0.07196**	**0.01118**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium, total (mg/L)	**AD-31**	**0.089**	**0.07864**	**0.048**	**Yes**	**31**	**0.0823**	**0.0128**	**0**	**None**	**x^3**	**0.01**	**Param.**
Lithium, total (mg/L)	**AD-32**	**0.07003**	**0.05044**	**0.048**	**Yes**	**8**	**0.06024**	**0.00924**	**0**	**None**	**No**	**0.01**	**Param.**
Mercury, total (mg/L)	AD-2	0.00008197	0.000048	0.002	No	30	0.00007623	0.00005848	0	None	ln(x)	0.01	Param.
Mercury, total (mg/L)	AD-31	0.0005215	0.0001958	0.002	No	30	0.0004326	0.0004356	0	None	sqrt(x)	0.01	Param.
Mercury, total (mg/L)	AD-32	0.003306	0.001293	0.002	No	31	0.00276	0.002992	0	None	sqrt(x)	0.01	Param.
Molybdenum, total (mg/L)	AD-2	0.0008627	0.0005	0.0007	No	30	0.0006764	0.000757	86.67	None	No	0.01	NP (NDs)
Molybdenum, total (mg/L)	AD-31	0.0005	0.0004016	0.0007	No	29	0.0004659	0.0001447	79.31	None	No	0.01	NP (NDs)
Molybdenum, total (mg/L)	AD-32	0.0005	0.00009	0.0007	No	29	0.000479	0.0001247	89.66	None	No	0.01	NP (NDs)
Selenium, total (mg/L)	AD-2	0.003084	0.001651	0.05	No	31	0.003149	0.00203	16.13	Kaplan-Meier	sqrt(x)	0.01	Param.
Selenium, total (mg/L)	AD-31	0.00198	0.00038	0.05	No	31	0.001434	0.001505	22.58	None	No	0.01	NP (normality)
Selenium, total (mg/L)	AD-32	0.004948	0.001393	0.05	No	31	0.004831	0.005984	16.13	Kaplan-Meier	sqrt(x)	0.01	Param.
Thallium, total (mg/L)	AD-2	0.0005	0.0001	0.002	No	31	0.0002797	0.0002587	32.26	None	No	0.01	NP (normality)
Thallium, total (mg/L)	AD-31	0.0005	0.00009	0.002	No	30	0.0002854	0.0002447	40	None	No	0.01	NP (normality)
Thallium, total (mg/L)	AD-32	0.0009911	0.00011	0.002	No	30	0.000624	0.0007526	20	None	No	0.01	NP (normality)

Non-Parametric Confidence Interval

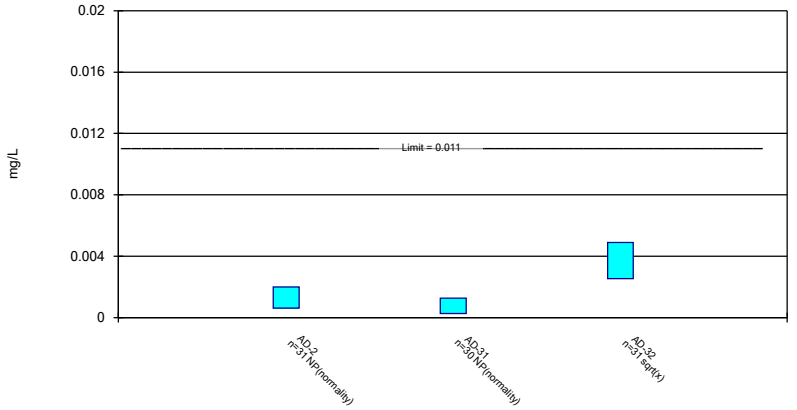
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Antimony, total Analysis Run 11/21/2025 5:51 PM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Parametric and Non-Parametric (NP) Confidence Interval

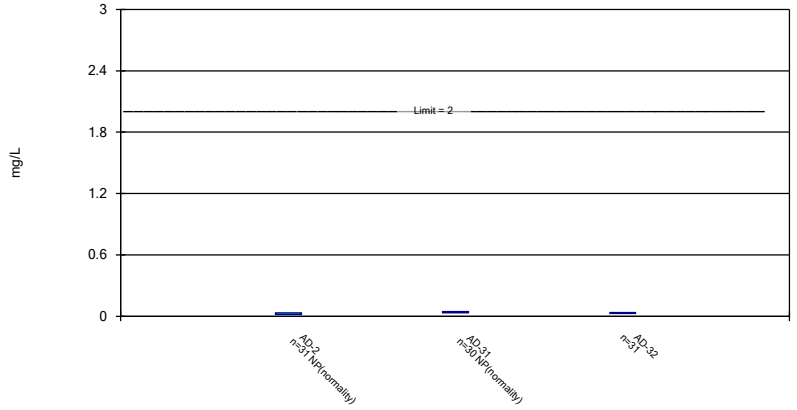
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic, total Analysis Run 11/21/2025 5:51 PM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Parametric and Non-Parametric (NP) Confidence Interval

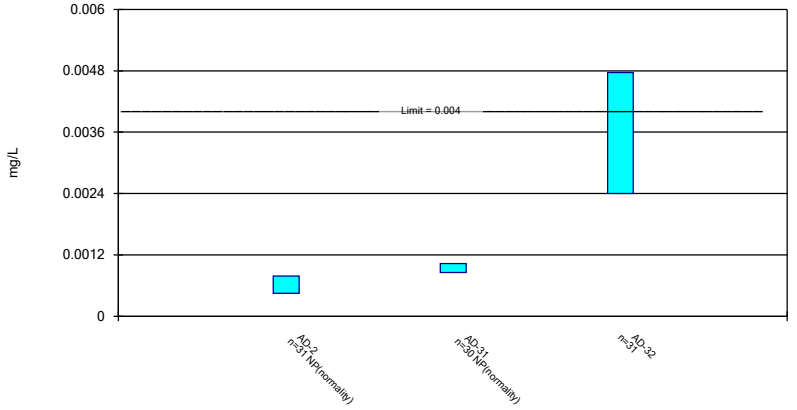
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium, total Analysis Run 11/21/2025 5:51 PM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Parametric and Non-Parametric (NP) Confidence Interval

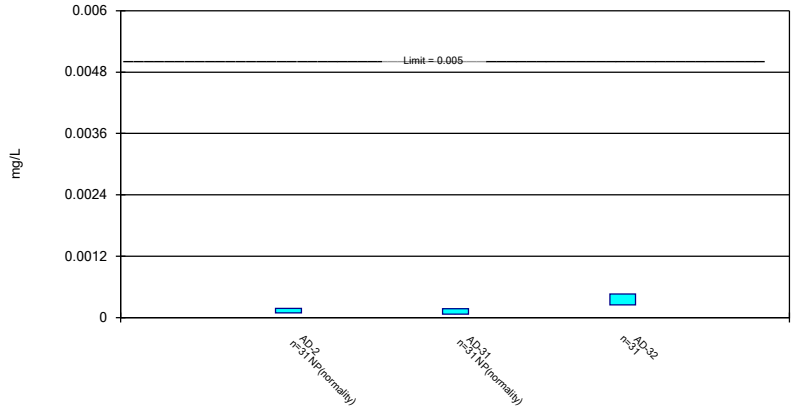
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Beryllium, total Analysis Run 11/21/2025 5:51 PM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Parametric and Non-Parametric (NP) Confidence Interval

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

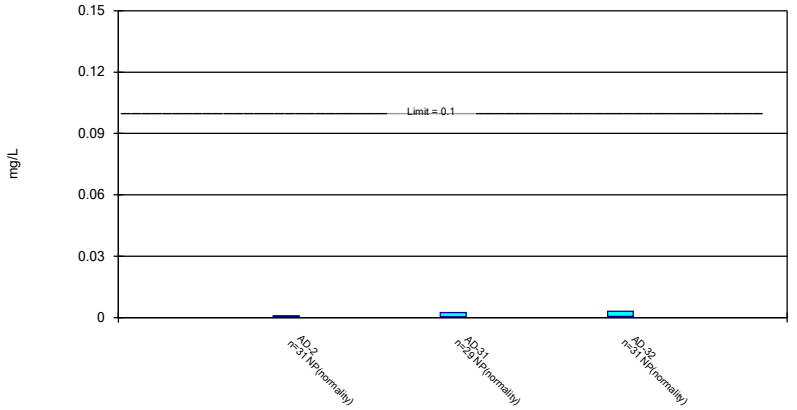


Constituent: Cadmium, total Analysis Run 11/21/2025 5:51 PM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

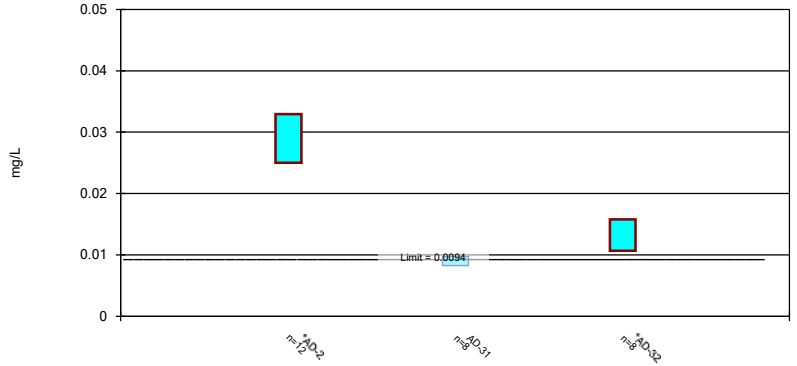


Constituent: Chromium, total Analysis Run 11/21/2025 5:51 PM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric Confidence Interval

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

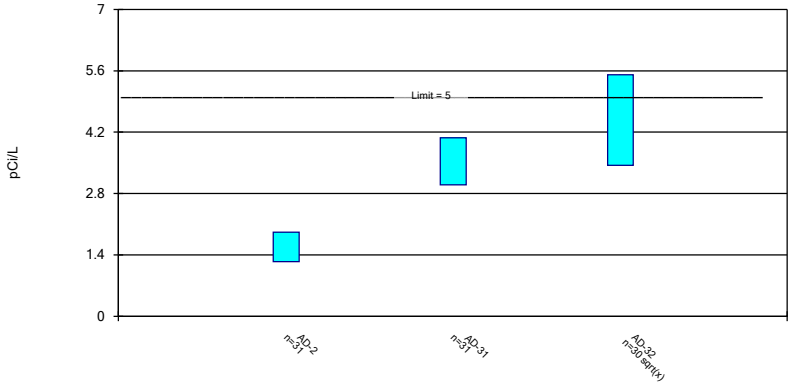


Constituent: Cobalt, total Analysis Run 11/21/2025 5:51 PM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric Confidence Interval

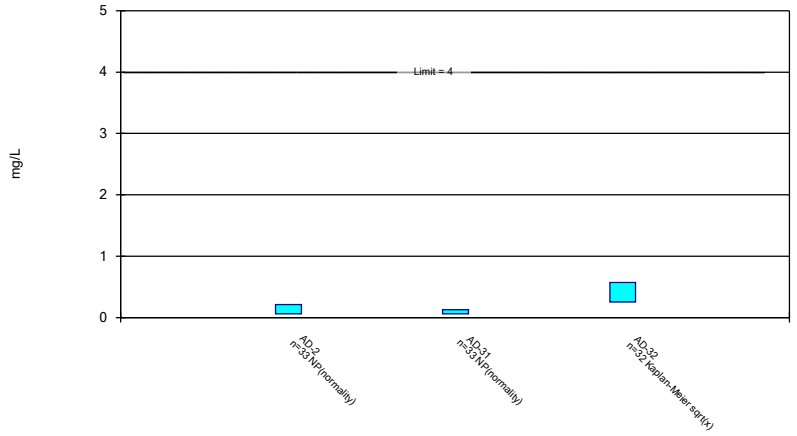
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 11/21/2025 5:51 PM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Parametric and Non-Parametric (NP) Confidence Interval

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

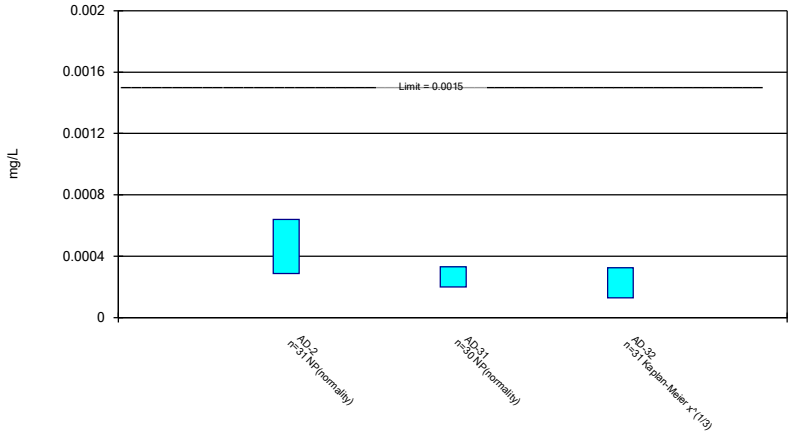


Constituent: Fluoride, total Analysis Run 11/21/2025 5:51 PM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

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

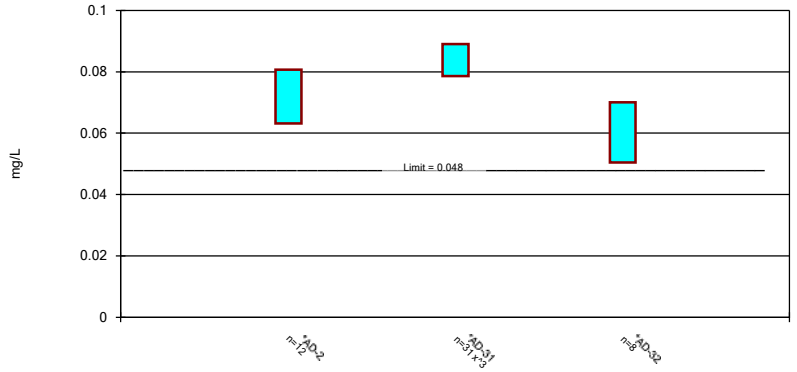


Constituent: Lead, total Analysis Run 11/21/2025 5:51 PM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric Confidence Interval

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

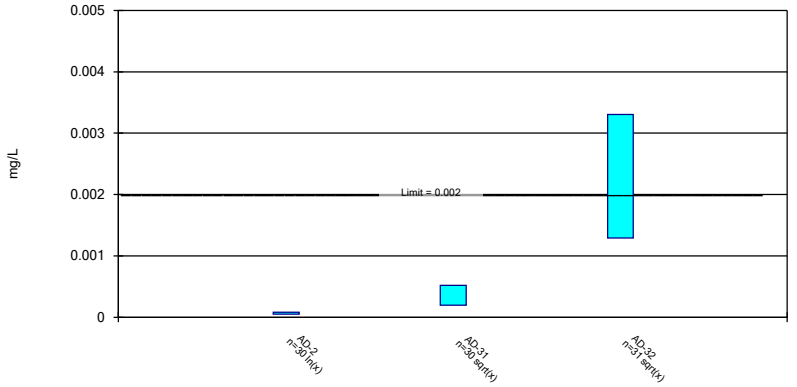


Constituent: Lithium, total Analysis Run 11/21/2025 5:51 PM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric Confidence Interval

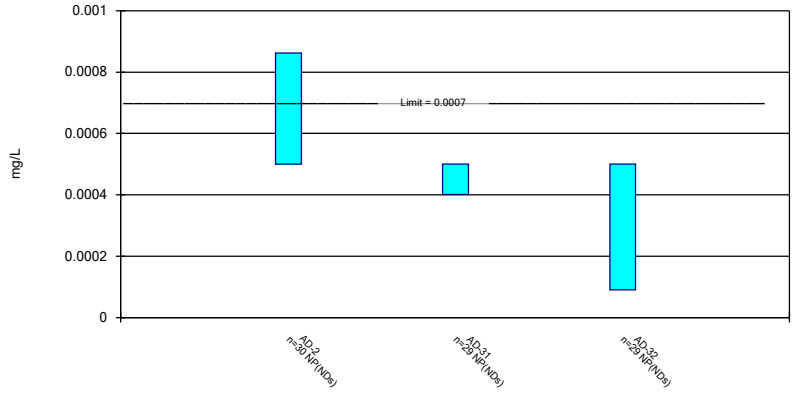
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Mercury, total Analysis Run 11/21/2025 5:51 PM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

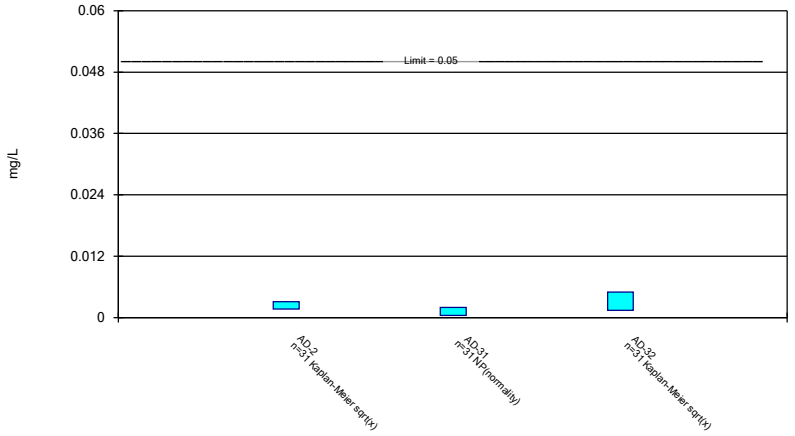


Constituent: Molybdenum, total Analysis Run 11/21/2025 5:51 PM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

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

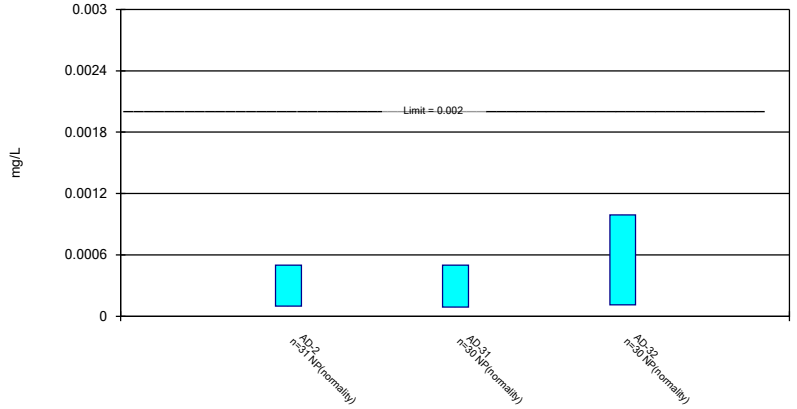


Constituent: Selenium, total Analysis Run 11/21/2025 5:51 PM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Thallium, total Analysis Run 11/21/2025 5:51 PM View: Confidence Intervals
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

FIGURE L
Trend Tests – Appendix IV

Appendix IV Trend Tests - Confidence Interval Exceedances - Significant Results

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 11/21/2025, 5:57 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Cobalt, total (mg/L)	**AD-12 (bg)**	**-0.0000506**	**-200**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-18 (bg)**	**-0.00005796**	**-209**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-2**	**0.002567**	**396**	**117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-32**	**-0.004595**	**-252**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-4 (bg)**	**-0.0004028**	**-251**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-12 (bg)**	**-0.0003686**	**-140**	**-117**	**Yes**	**31**	**3.226**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-18 (bg)**	**-0.0005594**	**-139**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-2**	**0.003299**	**242**	**112**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-32**	**-0.005471**	**-222**	**-106**	**Yes**	**29**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-4 (bg)**	**-0.001344**	**-120**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**

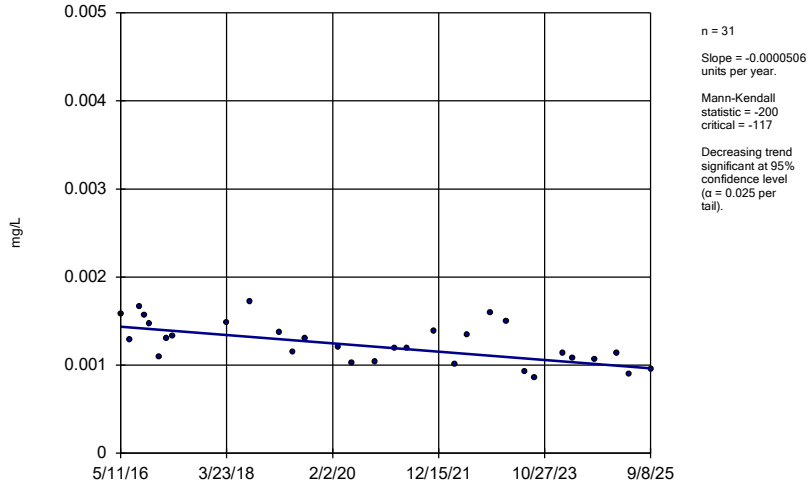
Appendix IV Trend Tests - Confidence Interval Exceedances - All Results

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 11/21/2025, 5:57 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Cobalt, total (mg/L)	**AD-12 (bg)**	**-0.0000506**	**-200**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-18 (bg)**	**-0.00005796**	**-209**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-2**	**0.002567**	**396**	**117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-32**	**-0.004595**	**-252**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Cobalt, total (mg/L)	**AD-4 (bg)**	**-0.0004028**	**-251**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-12 (bg)**	**-0.0003686**	**-140**	**-117**	**Yes**	**31**	**3.226**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-18 (bg)**	**-0.0005594**	**-139**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-2**	**0.003299**	**242**	**112**	**Yes**	**30**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	AD-31	-0.001083	-89	-117	No	31	0	n/a	n/a	0.05	NP
Lithium, total (mg/L)	**AD-32**	**-0.005471**	**-222**	**-106**	**Yes**	**29**	**0**	**n/a**	**n/a**	**0.05**	**NP**
Lithium, total (mg/L)	**AD-4 (bg)**	**-0.001344**	**-120**	**-117**	**Yes**	**31**	**0**	**n/a**	**n/a**	**0.05**	**NP**

Sen's Slope Estimator

AD-12 (bg)



n = 31

Slope = -0.0000506 units per year.

Mann-Kendall statistic = -200
critical = -117

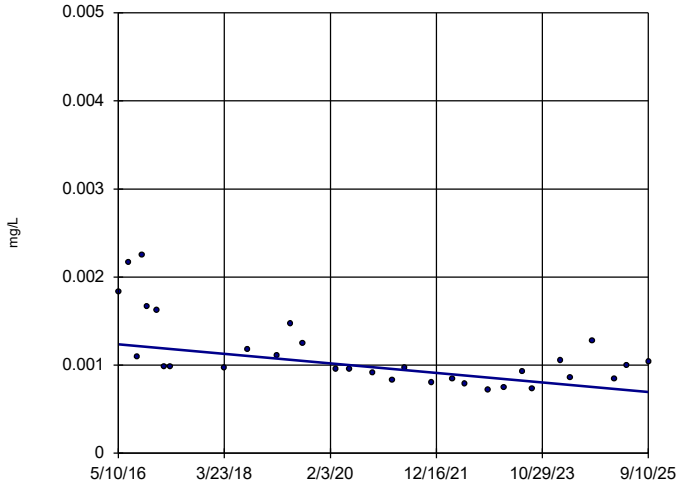
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt, total Analysis Run 11/21/2025 5:54 PM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-18 (bg)



n = 31

Slope = -0.00005796 units per year.

Mann-Kendall statistic = -209
critical = -117

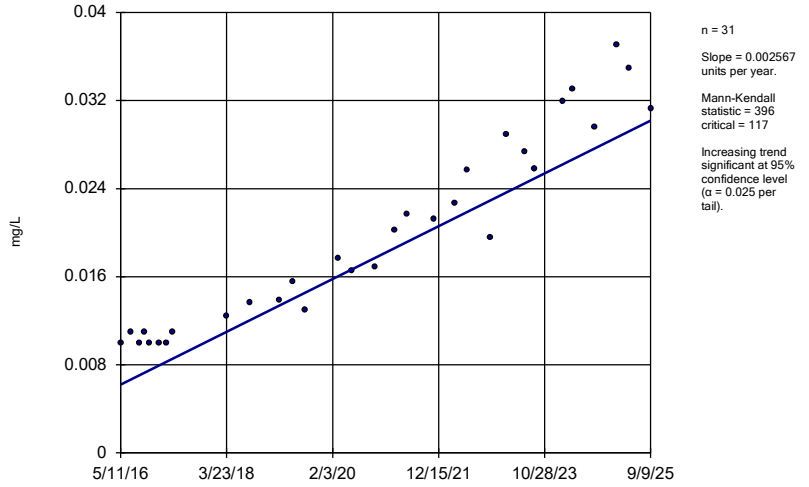
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt, total Analysis Run 11/21/2025 5:54 PM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-2



n = 31

Slope = 0.002567 units per year.

Mann-Kendall statistic = 396
critical = 117

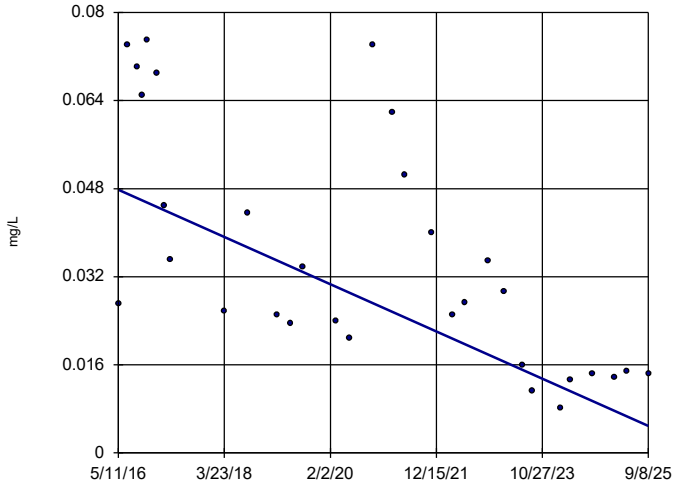
Increasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt, total Analysis Run 11/21/2025 5:54 PM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-32



n = 31

Slope = -0.004595 units per year.

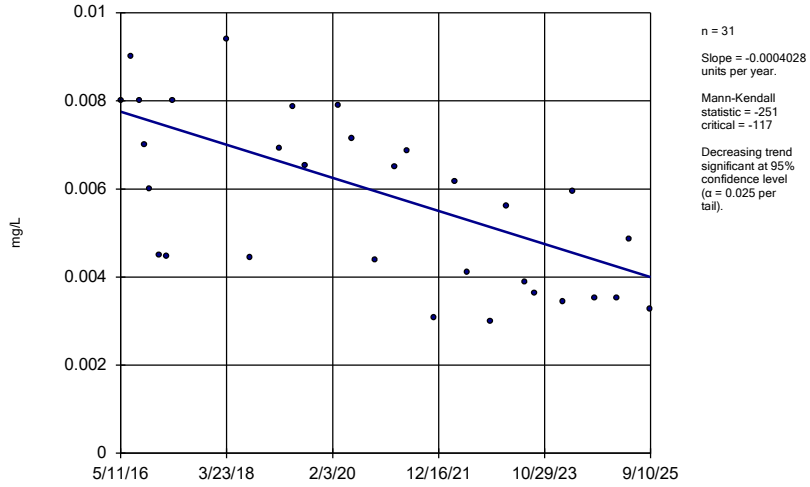
Mann-Kendall statistic = -252
critical = -117

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

Constituent: Cobalt, total Analysis Run 11/21/2025 5:54 PM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sen's Slope Estimator

AD-4 (bg)



n = 31

Slope = -0.0004028 units per year.

Mann-Kendall statistic = -251
critical = -117

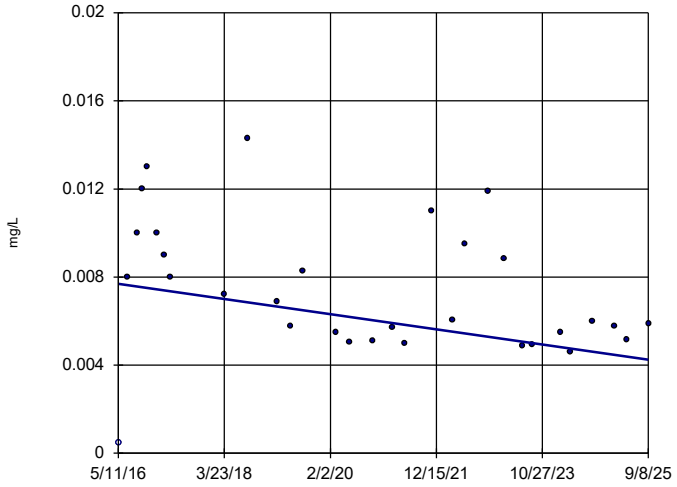
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt, total Analysis Run 11/21/2025 5:54 PM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Hollow symbols indicate censored values.

Sen's Slope Estimator

AD-12 (bg)



n = 31

Slope = -0.0003686 units per year.

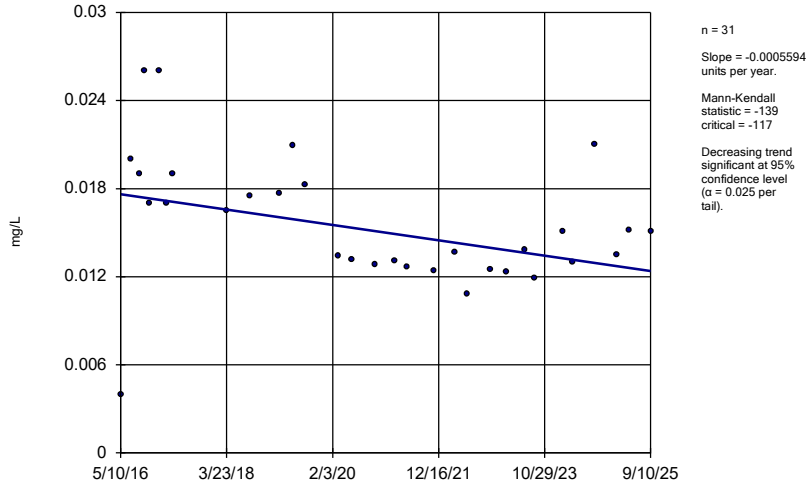
Mann-Kendall statistic = -140
critical = -117

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

Constituent: Lithium, total Analysis Run 11/21/2025 5:54 PM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sen's Slope Estimator

AD-18 (bg)



n = 31

Slope = -0.0005594 units per year.

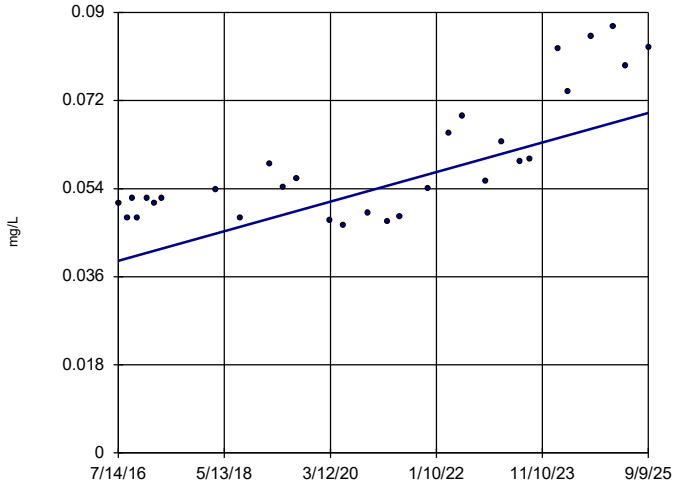
Mann-Kendall statistic = -139
critical = -117

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

Constituent: Lithium, total Analysis Run 11/21/2025 5:54 PM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sen's Slope Estimator

AD-2



n = 30

Slope = 0.003299 units per year.

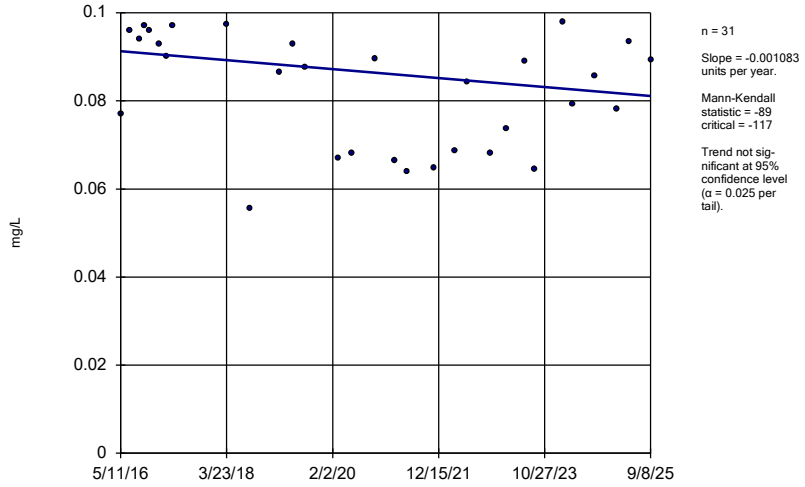
Mann-Kendall statistic = 242
critical = 112

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

Constituent: Lithium, total Analysis Run 11/21/2025 5:54 PM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sen's Slope Estimator

AD-31



n = 31

Slope = -0.001083 units per year.

Mann-Kendall statistic = -89
critical = -117

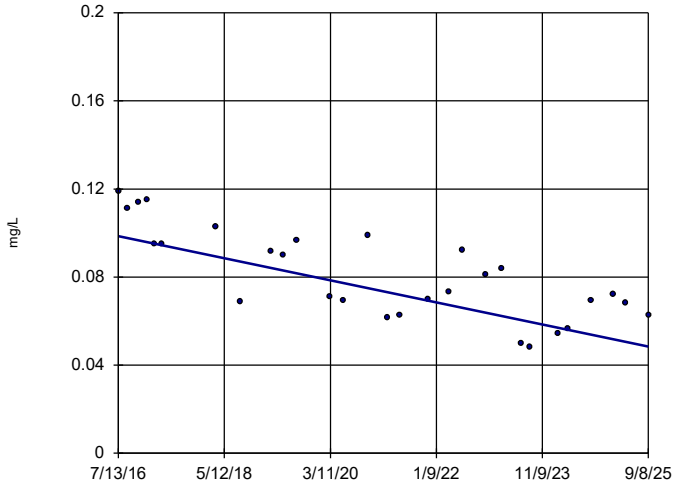
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium, total Analysis Run 11/21/2025 5:54 PM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-32



n = 29

Slope = -0.005471 units per year.

Mann-Kendall statistic = -222
critical = -106

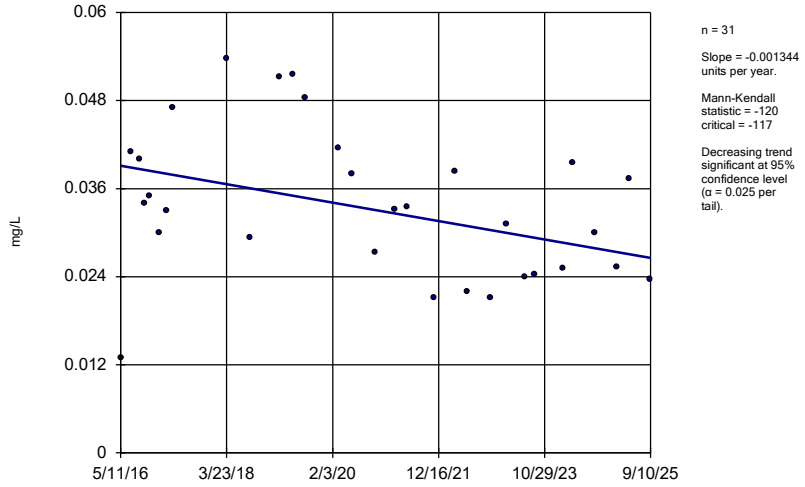
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium, total Analysis Run 11/21/2025 5:54 PM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Sanitas™ v.10.1.02 Sanitas software utilized by Groundwater Stats Consulting. UG

Sen's Slope Estimator

AD-4 (bg)



n = 31

Slope = -0.001344 units per year.

Mann-Kendall statistic = -120
critical = -117

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

Constituent: Lithium, total Analysis Run 11/21/2025 5:54 PM View: Trend Tests
Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

APPENDIX 3

Alternative Source Demonstrations

Geosyntec consultants

engineers | scientists | innovators

ALTERNATIVE SOURCE DEMONSTRATION REPORT

2024 2nd SEMIANNUAL EVENT
TEXAS STATE CCR RULE

H.W. Pirkey Power Plant
East Bottom Ash Pond
Registration No. CCR104
Hallsville, Texas

Prepared for

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

Prepared by

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Project CHA8495B

March 2025

Geosyntec consultants

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Attachment E	Tolerance Limit Calculation Using B-Series Data
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LIST OF ACRONYMS

Å	angstrom
ASD	alternative source demonstration
bgs	below ground surface
CCR	coal combustion residuals
EBAP	East Bottom Ash Pond
EDS	energy-dispersive spectroscopy
EPRI	Electric Power Research Institute
GWPS	groundwater protection standard
LCL	lower confidence limit
mg/kg	milligram per kilogram
mg/L	milligram per liter
SEM	scanning electron microscopy
SPLP	Synthetic Precipitation Leaching Procedure
SSL	statistically significant level
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
VAP	vertical aquifer profiling
WBAP	West Bottom Ash Pond
XRD	X-ray diffraction

1. INTRODUCTION AND SUMMARY

This alternative source demonstration (ASD) report has been prepared to address statistically significant levels (SSLs) of cobalt and lithium in the groundwater monitoring network for the former East Bottom Ash Pond (EBAP), located at the H.W. Pirkey Plant in Hallsville, Texas, following the second semiannual assessment monitoring event of 2024. The H.W. Pirkey Plant has four coal combustion residuals (CCR) storage units regulated by the Texas Commission on Environmental Quality (TCEQ) under Registration No. CCR104 (**Figure 1**). Three of the units, including the former EBAP, have been closed by removal, and one unit is still active.

In September 2024, a semiannual assessment monitoring event was conducted at the former EBAP 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). 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 SSLs were identified at the former EBAP (Geosyntec 2024a):

- The LCLs for cobalt exceeded the GWPS of 0.00939 milligrams per liter (mg/L) at AD-2 (0.0230 mg/L), AD-31 (0.00947 mg/L), and AD-32 (0.0280 mg/L).
- The LCL for lithium exceeded the GWPS of 0.0489 mg/L at AD-2 (0.0583 mg/L), AD-31 (0.0767 mg/L), and AD-32 (0.0721 mg/L).

No other 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 SSLs identified for cobalt and lithium in the groundwater monitoring network for the EBAP are from a source other than the former EBAP.

1.2 Demonstration of Alternative Sources

An evaluation was completed to assess possible alternative sources to which the identified SSLs could be attributed. Alternative sources were categorized into the following five types, based on methodology 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: Alternative Sources (i.e., anthropogenic impacts)

A demonstration was conducted to show that the SSLs identified for cobalt and lithium were based on a Type IV cause and not by a release from the former Pirkey EBAP.

2. SUMMARY OF SITE CONDITIONS

The EBAP design and construction, regional geology and site hydrogeology, and groundwater monitoring system and flow conditions are described below.

2.1 EBAP Design and Construction

The EBAP was a 31.5-acre CCR surface impoundment located at the north end of the Pirkey Plant, immediately east of the West Bottom Ash Pond (WBAP) (**Figure 1**). It was constructed while the Pirkey Plant was being developed in 1983 and 1984 and placed into operation in 1985 to receive bottom ash and economizer ash sluiced from the Plant boiler (Arcadis 2016). Pirkey Power Plant placed CCR and non-CCR waste streams into the pond complex, alternating between the EBAP and WBAP. Bottom ash generated at the plant was sluiced to one of the ponds (the active pond) until it was close to full. Bottom ash in the inactive pond was drained and dewatered, and then removed from the pond. Dry ash was loaded into trucks and transported to the Landfill. It typically took approximately twelve months for the active pond to fill, at which time the second pond (which had been emptied of bottom ash) became the active pond, and the first pond was drained.

A Closure Plan was developed in October 2016 and revised in December 2021 (AEP 2021). This document detailed the closure activities which were to take place throughout the closure of the EBAP. AEP submitted a certified notification that the receipt of CCR materials had ceased as of April 25, 2023 and the closure activities had been initiated (AEP 2023a). At that time, the EBAP commenced closure by removal in accordance with the Closure Plan, with CCR material removal occurring from April to June of 2023. The final inspection for CCR material removal was completed on July 20, 2023. On October 17, 2023, the EBAP was certified closed by removal in accordance with 30 TAC §352.1221 and the most recent Closure Plan, and notification was placed in the Operating Record (AEP 2023b).

The former EBAP was developed by excavating part of its perimeter into native soils to create an embankment height of approximately 4 feet, constructing compacted clay perimeter embankments, and constructing a compacted clay liner over the base of the pond (Arcadis 2016). Multiple lithological borings advanced after the installation of the clay liner confirm that at least 6 feet of clay was present below the base of the EBAP (Arcadis 2016). The bottom elevation of the EBAP was approximately 347 feet above mean sea level, and the elevation of the top of the pond embankment was approximately 357 feet above mean sea level.

2.2 Regional Geology / Site Hydrogeology

The former EBAP was positioned on an outcrop of the Eocene-age Recklaw Formation, which consists predominantly of clay and fine-grained sand (Arcadis 2016). The Recklaw Formation is underlain by the Carrizo Sand, which crops out in the topographically lower southern portion of the plant. Regionally, the Carrizo Sand consists of fine- to medium-grained sand interbedded with silt and clay.

The very-fine- to fine-grained clayey and silty sand found beneath an upper silty to silty sandy clay layer in the vicinity of the former EBAP is considered to be the uppermost aquifer below this CCR unit (Arcadis, 2016). Here it is approximately 15-feet thick and located between an elevation of 325 and 340 feet mean sea level.

2.3 Groundwater Monitoring History and Flow Conditions

The groundwater monitoring well network for the former EBAP monitors groundwater within the uppermost aquifer. Geologic cross section A-A' from the EBAP Groundwater Monitoring Well Network Report (Arcadis 2016), provided herein as **Attachment A**, shows the subsurface geometry of the uppermost aquifer (indicated on the figure as clayey silty sand, tan to gray) underlying the former EBAP and the former WBAP and demonstrates lateral continuity of the uppermost aquifer spanning the entire length of the former EBAP.

Groundwater flow direction in the area of the former EBAP is west-southwesterly (**Figure 1**). Seasonal variability in groundwater flow has not been observed since the monitoring well network was installed. Groundwater flow velocities in the uppermost aquifer in the vicinity of the former EBAP have been reported as approximately 6 to 44 feet per year. The monitoring network for the former EBAP unit consists of upgradient monitoring wells AD-4, AD-12, and AD-18 and compliance wells AD-2, AD-3, AD-31, and AD-32, all of which are screened within the uppermost aquifer.

3. ALTERNATIVE SOURCE DEMONSTRATION

The ASD evaluation method and proposed alternative source of cobalt or lithium in AD-2, AD-31, and AD-32 are described below.

3.1 Proposed Alternative Source

An initial review of site geochemistry, site historical data, and laboratory quality assurance and quality control data did not identify alternative sources for cobalt and lithium due to Type I (sampling), Type II (laboratory), Type III (statistical evaluation), or Type V (anthropogenic impacts) issues. Groundwater sampling, laboratory analysis, and statistical evaluations were generally completed in accordance with 30 TAC §352.931 and the draft TCEQ guidance for groundwater monitoring (TCEQ 2020). As described below, the SSLs have been attributed to natural variation associated with the underlying geology, which is a Type IV (natural variation) issue.

3.1.1 Cobalt

Previous ASDs for cobalt at the former EBAP provided evidence that cobalt is present in the aquifer geologic media at the site and that the observed cobalt concentrations in groundwater were due to natural variation of native geogenic sources (Geosyntec 2019a, Geosyntec 2019b, Geosyntec 2020a, Geosyntec 2020b, Geosyntec 2021a, Geosyntec 2021b, Geosyntec 2022a, Geosyntec 2022b, Geosyntec 2023a, Geosyntec 2023b, Geosyntec 2023c, Geosyntec 2023d, Geosyntec 2024b). The previous ASDs demonstrated how the former EBAP was not a source for the elevated cobalt in downgradient groundwater, based on observed concentrations of cobalt both in the ash material and in leachate from Synthetic Precipitation Leaching Procedure (SPLP) analysis (SW-846 Test Method 1312 [United States Environmental Protection Agency 1994]) of the ash material. Cobalt was not detected in the most recent SPLP ash leachate sample, collected in 2019, above the reporting limit of 0.01 mg/L, which is lower than the average concentrations of 0.0114 to 0.0380 mg/L observed at the wells of interest (**Table 1**).

In a February 2023 surface water sample collected from the EBAP to characterize the total cobalt concentrations, cobalt was detected at a concentration of 0.00350 mg/L (**Table 1**). This concentration is lower than the reported cobalt concentrations for multiple in-network wells from the September 2024 sampling event (**Figure 2**). The cobalt concentration of the EBAP sample was also found to be approximately an order of magnitude lower than the average concentration in groundwater at the wells of interest (**Table 1**). Therefore, the former EBAP is not the likely source of cobalt at AD-2, AD-31, or AD-32.

As noted in the previous ASDs, soil samples collected across the site, including from locations near the former EBAP, identified cobalt in the aquifer solids at concentrations ranging from non-detect to 23.5 milligrams per kilogram (mg/kg), with the highest value reported at AD-41, which is upgradient of the EBAP and WBAP (**Figure 3**). SB-2 was advanced in the vicinity of AD-2 in April 2020 to re-log the geology at AD-2 and collect samples for laboratory analysis of total metals and mineralogy. The SB-2 field boring log, which was generated by Auckland Consulting LLC, is provided as **Attachment B**. Cobalt was detected at AD-2 at concentrations of 9.45 mg/kg at 25–27 feet below ground surface (bgs) and 19.2 mg/kg at 31–33 feet bgs (**Table 2**). These cobalt concentrations are greater than the concentration of cobalt present in the bottom ash (6.1 mg/kg; **Table 1**). Both samples correlate to the depth of the monitoring well screen of AD-2 (20–40 feet

bgs), indicating that naturally occurring cobalt is present in aquifer solids within the AD-2 screened interval.

In addition to the analysis of total cobalt, soil samples were submitted for mineralogical analysis to determine the mineral composition of soils near the former EBAP. X-ray diffraction (XRD) analysis of soils from SB-2 identified pyrite (an iron sulfide) in samples collected at 25–27 feet bgs and 31–33 feet bgs at concentrations up to 7% by weight (**Figure 3**). Cobalt is known to undergo isomorphic substitution for iron in crystalline iron minerals such as pyrite due to their similar ionic radii of approximately 1.56 angstroms (Å) for iron and 1.52 Å for cobalt (Clementi and Raimondi 1963, Krupka and Serne 2002, Hitzman et al. 2017). The presence of iron-bearing minerals in soil near the former EBAP constitutes a potential source of naturally occurring cobalt.

The aquifer solids at SB-2 are distinctly red in color at shallow depths, as illustrated in the photolog of soil cores provided in **Attachment C**. The red color of the soil suggests the presence of iron oxide and hydroxide minerals within the shallow depth interval. While shallow samples were not collected for mineralogical analysis, red color in soils is often associated with the presence of oxidized iron-bearing minerals such as hematite and goethite. The weathering of pyrite to these iron oxide and hydroxide minerals under oxidizing conditions is also a well-understood phenomenon, including in formations in east Texas (Senkayi et al. 1986, Dixon et al. 1982). It is likely that the pyrite weathering process is resulting in the release of isomorphically substituted cobalt from the pyrite crystal structure as it undergoes oxidative transformation to iron oxide/hydroxide minerals.

As described in the previous ASDs for the former EBAP, vertical aquifer profiling (VAP) was completed in May 2019 to collect groundwater samples from upgradient locations B-2 and B-3 during the soil boring and sample collection process (Geosyntec 2019b). A groundwater sample was also collected from AD-32, one of the existing compliance wells within the EBAP groundwater monitoring network where a cobalt SSL was identified. Solid-phase materials within these groundwater samples were separated and submitted for analysis of chemical composition. For the VAP samples, because of the high abundance of suspended solids, separation was completed using a centrifuge. For the groundwater sample at AD-32, the sample was filtered using a 1.5-micron filter. Based on total metals analysis, cobalt was identified both in the centrifuged solid material collected from upgradient VAP location B-3 (VAP-B3-[40-45]) and in the material retained on the filter after processing groundwater from permanent monitoring wells B-2 and B-3 (**Table 2**). The concentrations of cobalt in the solid material retained after filtration were comparable to concentrations in the bulk soil samples collected from the same locations.

The solid sample VAP-B3-(40-45) was submitted for mineralogical analysis via XRD and scanning electron microscopy (SEM) using an energy-dispersive spectroscopy (EDS) analyzer. The XRD results identified pyrite as approximately 3% of the solid phase (**Table 3**). Pyrite was identified during SEM/EDS analysis of lignite, which is mined immediately adjacent to the site. Logging completed while the VAP boring was advanced identified coal at several intervals, including 45 and 48 feet bgs (**Figure 4**). Furthermore, SEM/EDS of both centrifuged solid samples VAP-B3-(40-45) and VAP-B3-(50-55) identified pyrite in backscattered electron micrographs by the distinctive framboidal morphology (Harris et al. 1981, Sawlowicz 2000). Major peaks representing iron and sulfur were identified in the EDS spectrum, which further support the identification of pyrite (**Attachment D**). While cobalt was not identified in the EDS spectrum, it is likely present at concentrations below the detection limit.

The former EBAP was not identified as the source of cobalt at wells in the EBAP monitoring network based on the low concentrations of cobalt in the pond itself and the ubiquity of naturally occurring cobalt, especially in soil and groundwater samples upgradient from the EBAP. Cobalt in the EBAP network groundwater is believed to be a result of natural variability within the aquifer. Naturally occurring cobalt is known to substitute for iron in iron-bearing minerals. The presence of iron sulfide (as pyrite) and iron oxides/hydroxides hematite and goethite has been confirmed at AD-2 and across the site. The weathering of pyritic minerals to iron oxide/hydroxide minerals may be resulting in the release of cobalt into groundwater from the crystal structure of these aquifer minerals.

3.1.2 Lithium

Previous ASDs for lithium at the former EBAP attributed the observed lithium exceedances at AD-2, AD-31, and AD-32 to variations in lithium associated with the suspended native aquifer solids that likely originate from naturally occurring lignite present in these soils. These native lithium-containing aquifer solids are ubiquitous in the aquifer based on the presence of both solid-phase and dissolved lithium at upgradient locations (Geosyntec 2019b, Geosyntec 2020a, Geosyntec 2020b, Geosyntec 2021a, Geosyntec 2021b, Geosyntec 2022a, Geosyntec 2022b, Geosyntec 2023a, Geosyntec 2023b, Geosyntec 2023c, Geosyntec 2023d, Geosyntec 2024b). Data gathered in support of the prior ASDs and recent results provide additional evidence that the observed lithium groundwater concentrations at AD-2, AD-31, and AD-32 are naturally occurring and are due to natural variation in the aquifer (Type IV ASD).

As discussed in Section 3.1.1, a surface water sample was collected directly from the EBAP in February 2023. Lithium was detected in the February 2023 EBAP sample at a concentration of 0.0653 mg/L (**Figure 5, Table 4**). This concentration is below the reported lithium value at AD-2 and comparable to the reported values at AD-31 and AD-32 (**Figure 5**). The labile fraction identified in the bottom ash by SPLP from a February 2019 sample was even lower, with an estimated (J-flagged) lithium concentration of 0.011 mg/L. This labile concentration is below the average lithium concentrations at AD-2 (0.0547 mg/L), AD-31 (0.0818 mg/L) and AD-32 (0.0807 mg/L) (**Table 4**). Therefore, the former EBAP is not the likely source of lithium at AD-2, AD-31 and AD-32.

Groundwater samples collected from upgradient wells B-2 and B-3 in September 2024 had total lithium concentrations of 0.0557 mg/L and 0.0839 mg/L, respectively (**Figure 5**). Because B-2 and B-3 were installed at locations upgradient to and unimpacted by site activities, these lithium concentrations suggest that aqueous lithium is naturally present at concentrations above the GWPS of 0.0489 mg/L across the site at variable concentrations and not limited to AD-2, AD-31, and AD-32.

B-2 and B-3 are not part of the monitoring network for the former EBAP, and as such the lithium concentrations in groundwater from these wells were not considered in calculating the GWPS for the CCR unit. The addition of B-2 and B-3 as background locations to the monitoring network would result in a site-specific GWPS of 0.1231 mg/L (**Attachment E**). This is higher than the lower confidence limits at the wells of concern (Section 1), suggesting that concentrations of lithium within the observed ranges at AD-2, AD-31, and AD-32 are naturally occurring across the site.

As described in Section 3.1.1, groundwater samples were collected from B-2, B-3, and AD-32 in 2019 and filtered to separate solids. Groundwater was also collected from a VAP boring (VAP-B3-[40-45]) and centrifuged to separate solids. Lithium was detected in the solid material separated from these groundwater samples at concentrations comparable to bulk soil at all locations, providing evidence that the particulates captured during groundwater sampling contain lithium (**Table 5**).

3.1.2.1 Calculated Partition Coefficients

A previous ASD for lithium at the former EBAP discussed lithium mobility in groundwater due to desorption from cation exchange complexes associated with clay minerals within naturally occurring lignite material. This mechanism was posited as the source of lithium in both upgradient and downgradient wells at the former EBAP (Geosyntec 2019b). Previously completed XRD analysis of centrifuged solid material samples (VAP-B3-[40-45]) found that clay minerals, including kaolinite, smectite, and illite/mica, made up at least 60% of the aquifer solid (**Table 3**). SEM/EDS analysis also identified the presence of silicon, aluminum, and oxygen, all of which are components of clay minerals (**Attachment D**). The backscattered electron micrographs of these samples also identified clay particles by morphology. The largest clay particles (≥ 5 micrometers) are likely kaolinite, while smectite and illite dominate the smaller fraction. These clay minerals, particularly smectite and illite, are known to retain cations such as lithium via incorporation into the octahedral layer of the mineral structure and through cation exchange processes.

Partition coefficients values (K_d) for lithium, potassium, and sodium were calculated using mass measurements and total metal concentrations in the solid materials separated from the groundwater samples during filtration and the filtered groundwater concentrations. Details about the K_d calculation are provided in the previous ASD (Geosyntec 2019b). K_d values for groundwater and particulates collected from wells B-2, B-3, and AD-32 were comparable to literature K_d values reported for organic-rich media such as bogs and peat beds (Sheppard et al. 2009, Sheppard et al. 2011), providing further evidence that lithium mobility in site groundwater is similar to other sites with organic-rich soils (**Table 6**). Additionally, the calculated K_d values for Pirkey soils were consistent with the literature, with potassium having the highest K_d (greatest affinity for sorption) and sodium the lowest K_d (least affinity for sorption). Furthermore, the values are similar for groundwater from all three wells, suggesting a universal mechanism controlling lithium, sodium, and potassium mobility in groundwater.

These multiple lines of evidence show that elevated lithium concentrations at AD-2, AD-31, and AD-32 are likely not due to a release from the former EBAP and can instead be attributed to natural variation (Type IV ASD). This variation appears related to the distribution of clay fractions associated with lignite materials in the soil aquifer material.

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 SSLs for cobalt and lithium identified during assessment monitoring in September 2024 were not due to a release from the former EBAP. The identified SSLs should instead be attributed to natural variation in the underlying geology. 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. Summary of Key Cobalt Analytical Data
Alternative Source Demonstration Report
East Bottom Ash Pond - H.W. Pirkey Plant

Sample	Sample Date	Unit	Cobalt Concentration
Bottom Ash (Solid Material)	2/11/2019	mg/kg	6.1
Texas-Specific Soil Background Concentration			7.0
SPLP Leachate of Bottom Ash	2/11/2019	mg/L	<0.01
EBAP Pond Water	2/28/2023	mg/L	0.0035
AD-2 - Average	May 2016 - September 2024	mg/L	0.0182
AD-31 - Average	May 2016 - September 2024	mg/L	0.0114
AD-32 - Average	May 2016 - September 2024	mg/L	0.0380
Site-Specific Groundwater Protection Standard		mg/L	0.00939

Notes:

1. Texas-specific soil background concentration from TCEQ Chapter 350 (Texas Risk Reduction Program).
2. Average values were calculated using all cobalt data collected under 40 CFR 257 Subpart D, excluding any identified outliers.
3. Site-specific Groundwater Protection Standard from "Statistical Analysis Summary - 2024 2nd Semiannual Event. East Bottom Ash Pond. H.W. Pirkey Plant." (Geosyntec 2024a).

EBAP: East Bottom Ash Pond
mg/kg: milligrams per kilogram
mg/L: milligrams per liter
SPLP: synthetic precipitation leaching procedure

Table 2. Soil Cobalt Data
Alternative Source Demonstration Report
East Bottom Ash Pond - H.W. Pirkey Plant

Location ID	Location	Sample Depth (ft bgs)	Cobalt (mg/kg)
Bulk Soil Samples			
AD-2	EBAP Network	25-27	9.45
		31-33	19.2
AD-18	EBAP Network	8	3.60
		22	2.90
AD-31	EBAP Network	12	1.90
		26	0.83
AD-32	EBAP Network	11	1.70
		20-25	9.10
AD-41	Upgradient	15	< 1.0
		35	23.5
		95	1.90
B-2	Upgradient	10	2.36
		16	3.62
		71	10.30
		82	7.21
		87	3.11
B-3	Upgradient	10	1.30
		20	0.59
		97	1.11
Solid Material Retained After Filtration			
AD-32	EBAP Network	13-33	5.4
B-2	Upgradient	38-48	4.3
B-3	Upgradient	29-34	12.0
		VAP 40-45	18.0

Notes:

1. For AD-XX locations, samples were collected from additional boreholes advanced in the immediate area of the location identified by the well ID. Samples were not collected from the cuttings of the borings advanced for well installation. Samples for B-2 and B-3 locations were collected from cores removed from the borehole during well lithology logging.

2. Depths for samples collected after filtration represent the screened interval for the permanent well where the sample was collected.

EBAP: East Bottom Ash Pond
ft bgs: feet below ground surface
mg/kg: milligram per kilogram
VAP: vertical aquifer profiling

Table 3. B-3 X-Ray Diffraction Results
Alternative Source Demonstration Report
East Bottom Ash Pond - H. W. Pirkey Plant

Constituent	VAP-B3-(40-45)
Quartz	15
Plagioclase Feldspar	0.5
Orthoclase	ND
Calcite	ND
Dolomite	ND
Siderite	0.5
Goethite	ND
Hematite	2
Pyrite	3
Kaolinite	42
Chlorite	4
Illite/Mica	6
Smectite	12
Amorphous	15

Notes:
1. Results given in units of relative % abundance
2. VAP-B3-(40-45) is the centrifuged solid material from the groundwater sample collected at that interval.
ND: not detected
VAP: vertical aquifer profiling

Table 4. Summary of Key Lithium Analytical Data
East Bottom Ash Pond - H.W. Pirkey Plant

Geosyntec Consultants, Inc.

Sample	Sample Date	Unit	Lithium Concentration
Bottom Ash (Solid Material)	2/11/2019	mg/kg	0.82 J
SPLP Leachate of Bottom Ash	2/11/2019	mg/L	0.011 J
EBAP Pond Water	2/28/2023	mg/L	0.0653
AD-2 - Average	May 2016 - September 2024	mg/L	0.0547
AD-31 - Average	May 2016 - September 2024	mg/L	0.0818
AD-32 - Average	May 2016 - September 2024	mg/L	0.0807

Notes:

1. Average lithium values for monitoring wells AD-2, AD-31, and AD-32 were calculated using all lithium data collected under 40 CFR 257 Subpart D, excluding statistically identified outliers.

EBAP: East Bottom Ash Pond

J: Estimated value. Result is less than the reporting limit but greater than or equal to the method detection limit.

mg/kg: milligram per kilogram

mg/L: milligram per liter

SPLP: synthetic precipitation leaching procedure

Table 5. Soil Lithium Data
Alternative Source Demonstration Report
East Bottom Ash Pond - H.W. Pirkey Plant

Location ID	Sample Depth (ft bgs)	Lithium (mg/kg)
Bulk Soil Sample		
AD-32*	11	0.53
	20-25	1.60
B-2	10	5.30
	16	3.97
	71	7.42
	87	13.10
B-3	10	3.64
	20	2.59
	97	11.10
Lignite	N/A	2.9 J
Solid Material Retained After Filtration		
AD-32*	13-33	9.8 J
B-2	38-48	6.5 J
B-3	29-34	7.8 J
	VAP 40-45	13.0

Notes:

1. Depths for samples collected after filtration represent the screened interval for the permanent well where the sample was collected.
*: AD-32 samples were collected from a separate borehole advanced near monitoring well AD-32

ft bgs: feet below ground surface
J: Estimated value. Result is less than the reporting limit but greater than or equal to the method detection limit.
mg/kg: milligram per kilogram
VAP: vertical aquifer profiling

Table 6. Calculated Site-Specific Partition Coefficients
Alternative Source Demonstration Report
Pirkey Plant - East Bottom Ash Pond

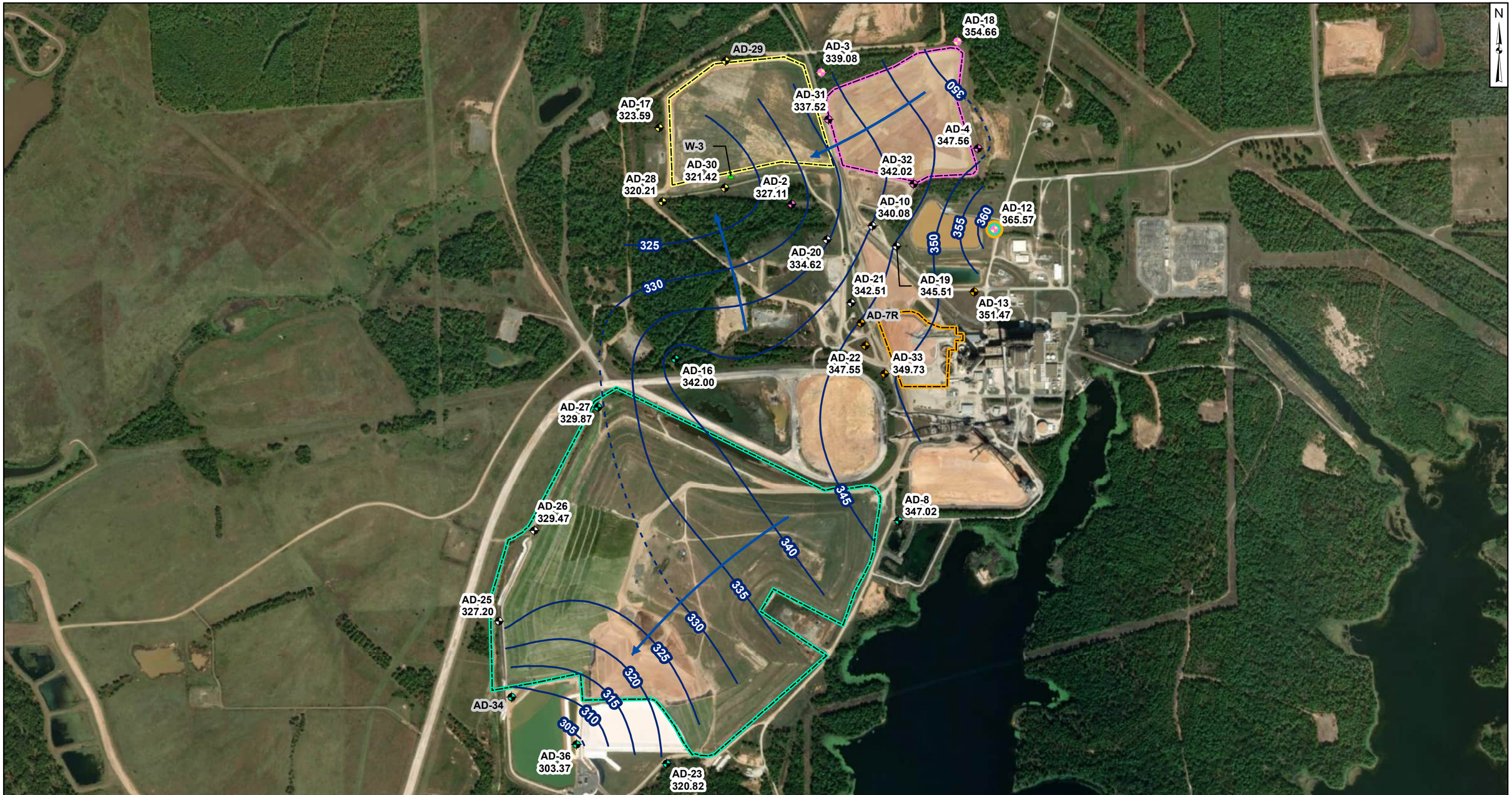
Source	B-2			Literature Value
Unit	mg/L	mg/kg	L/kg	L/kg
Element	**Aqueous Phase**	**Adsorbed**	**Kd**	**Kd**
Lithium	0.081	6.5	80	43-370
Potassium	2.6	1100	423	42-1200
Sodium	14	130	9	5.2-82

Source	B-3			Literature Value
Unit	mg/L	mg/kg	L/kg	L/kg
Element	**Aqueous Phase**	**Adsorbed**	**Kd**	**Kd**
Lithium	0.097	7.8	80	43-370
Potassium	2.9	1100	379	42-1200
Sodium	32	240	8	5.2-82

Source	AD-32*			Literature Value
Unit	mg/L	mg/kg	L/kg	L/kg
Element	**Aqueous Phase**	**Adsorbed**	**Kd**	**Kd**
Lithium	0.11	9.8	89	43-370
Potassium	3.9	1800	462	42-1200
Sodium	57	220	4	5.2-82

Notes:
1. Adsorbed values are total metals concentrations reported by USEPA Method 6010B.
2. Literature values represent maximum and minimum values for the parameter as reported in Sheppard et al, 2009 (Table 4-1, all sites) and Sheppard et al, 2011 (Table 3-3 cultivated peat and wetland peat only).
*: AD-32 samples were collected from a separate borehole advanced near monitoring well AD-32
Kd: partition coefficient
L/kg: liters per kilogram
mg/kg: milligrams per kilogram
mg/L: milligrams per liter

FIGURES



Legend

Groundwater Monitoring Wells

- Out of Network
- East Bottom Ash Pond (EBAP)
- West Bottom Ash Pond (WBAP)
- Landfill
- Flue Gas Desulfurization Stackout Area (FGDSA)
- EBAP and WBAP
- All CCR Unit Networks
- Piezometer
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction

Notes

1. Monitoring well coordinates and water levels (collected on September 16, 17, and 18, 2024) provided by AEP.
2. Site features based on information available in coal combustion residuals (CCR) Groundwater Monitoring Well Network Evaluation Update (Arcadis 2022) provided by AEP.
3. Groundwater elevation units are feet above mean sea level (ft msl).
4. Wells AD-29 and W-3 were not gauged during the September 2024 event.
5. AD-7R replaced AD-7, which was abandoned on September 12, 2023.
6. Wells shaded in gray were not used for contouring.
7. Well AD-34 had artesian characteristics during this event and was not used for contouring.
8. AD-35 was abandoned on November 13, 2018 and is not shown on the map.
9. Removal of CCR plus one foot of material for the WBAP was completed for on July 26, 2022.
10. Removal of CCR plus one foot of material for the EBAP was completed on July 20, 2023, for the East Pond.
11. Removal of CCR plus one foot of material for the FGDSA was completed on September 18, 2023.
12. Map is updated to incorporate Landfill survey data collected on May 1, 2024.
13. Aerial imagery provided by ESRI, dated September 19, 2023.

1,000 500 0 1,000 Feet

Beth Ann Gross

January 10, 2025
Geosyntec Consultants, Inc.
Texas Firm Registration
No. 1182

STATE OF TEXAS
BETH ANN GROSS
79864
LICENSED
PROFESSIONAL ENGINEER

Potentiometric Contours: Uppermost Aquifer
September 2024

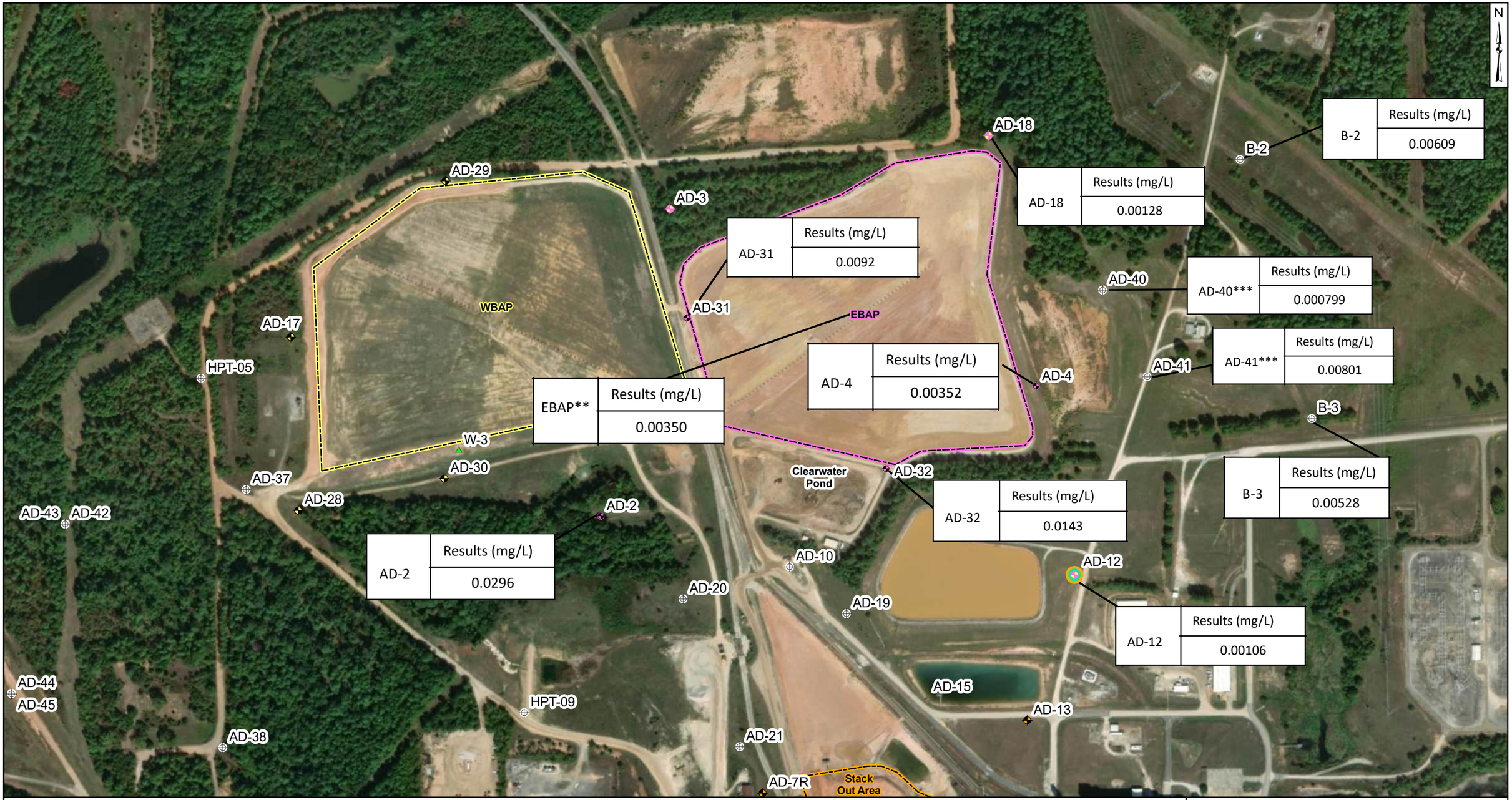
AEP Pirkey Power Plant
Hallsville, Texas

Geosyntec consultants

Columbus, Ohio | 2024/12/24

Figure **1**

A:\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Pirkey\2024\AEP-Pirkey_GW_2024-09Pirkey.mxd. Okiemute.Commander. 12/24/2024. Project/Phase/Task.



Legend

- Out of Network
- EBAP
- WBAP
- Landfill
- Stackout Area
- EBAP and WBAP
- All CCR Unit Networks
- Piezometer
- EBAP
- WBAP

Notes

1. Monitoring well coordinates, site features, and data provided by AEP.
2. AD-15 location is approximated
3. Samples collected in March 2021
4. ** - Porewater sample from East Bottom Ash Pond (EBAP) was collected in February 2023
5. *** - Well most recently sampled August 2019.
6. Results shown in milligrams per liter (mg/L).
7. Aerial imagery provided by ESRI, dated September 19, 2023.

400 200 0 400 Feet

AEP: American Electric Power
CCR: coal combustion residuals
EBAP: East Bottom Ash Pond
mg/L: milligrams per liter
WBAP: West Bottom Ash Pond

Cobalt Distribution in Groundwater

AEP Pirkey Power Plant
Hallsville, Texas

Geosyntec consultants

Columbus, Ohio | March 2025

Figure **2**

\\annarbor-01\data\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Pirkey\AEP_Pirkey_Cobalt_GW_20250308.aprx. OAdeyemo. 03/08/2025.

Location	AD-31	
Depth (ft bgs)	12	26
Cobalt (mg/kg)	1.9	0.83
Pyrite/Marcasite (%)	2	0

Location	AD-18	
Depth (ft bgs)	8	22
Cobalt (mg/kg)	3.6	2.9
Pyrite/Marcasite (%)	1	0

Location	B-2				
Depth (ft bgs)	10	16	71	82	87
Cobalt (mg/kg)	2.36	3.62	10.30	7.21	3.11
Pyrite/Marcasite (%)	-	-	-	-	-

Location	AD-41		
Depth (ft bgs)	15	35	95
Cobalt (mg/kg)	< 1.0	23.5	1.9
Pyrite/Marcasite (%)	-	-	-

Location	AD-2	
Depth (ft bgs)	25-27	31-33
Cobalt (mg/kg)	9.45	19.2
Pyrite/Marcasite (%)	7	2

Location	B-3		
Depth (ft bgs)	10	20	97
Cobalt (mg/kg)	1.30	0.59	1.11
Pyrite/Marcasite (%)	-	-	-

Location	AD-32	
Depth (ft bgs)	11	20-25
Cobalt (mg/kg)	1.7	9.1
Pyrite/Marcasite (%)	--	--

AD-29, AD-3, AD-18, B-2, AD-40, AD-31, AD-17, WBAP, EBAP, HPT-05, AD-4, AD-41, B-3, W-3, AD-30, AD-37, AD-28, AD-2, Clearwater Pond, AD-32, AD-10, AD-12, AD-20, AD-19

N

Legend

- Monitoring Wells
- EBAP
- WBAP

Notes

1. Monitoring well coordinates provided by AEP.
2. AD-2 sample collected on April 20, 2020
3. All other data provided by AEP, 2019.
4. Aerial imagery provided by ESRI, dated September 19, 2023.

--: not analyzed.
AEP: American Electric Power
EBAP: East Bottom Ash Pond
ft bgs: feet below ground surface.
mg/kg: milligrams per kilogram.
WBAP: West Bottom Ash Pond.

300 150 0 300 Feet

Cobalt Distribution in Soil

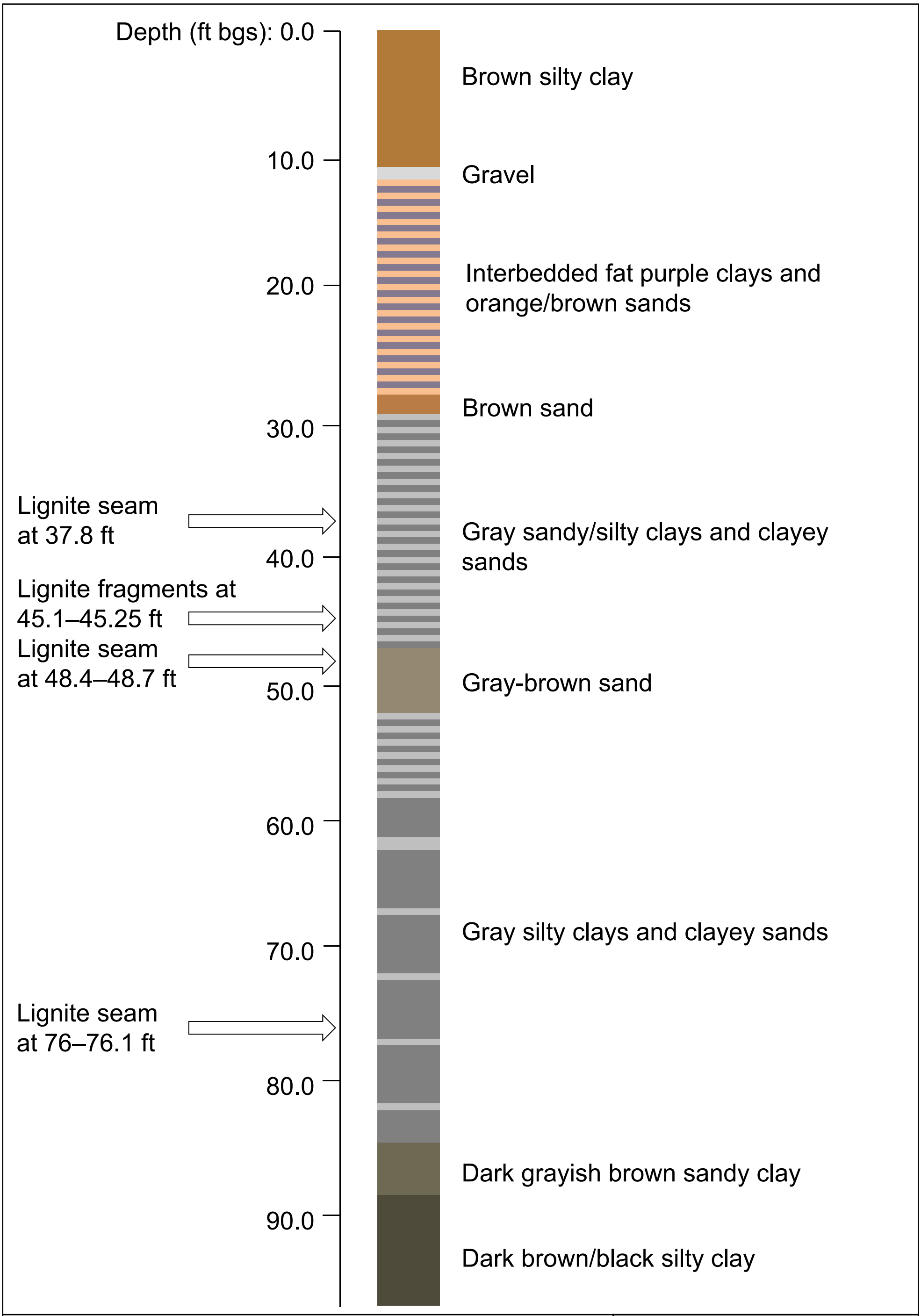
AEP Pirkey Power Plant
Hallsville, Texas

Geosyntec consultants

Columbus, Ohio | March 2025

Figure 3

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Notes:
1. Well installed in offset boring screened at 29-34 ft bgs
2. Boring completed May 2019
3. Total depth of 97.5 ft bgs

AEP: American Electric Power
bgs: below ground surface
ft: feet

B-3 Visual Boring Log

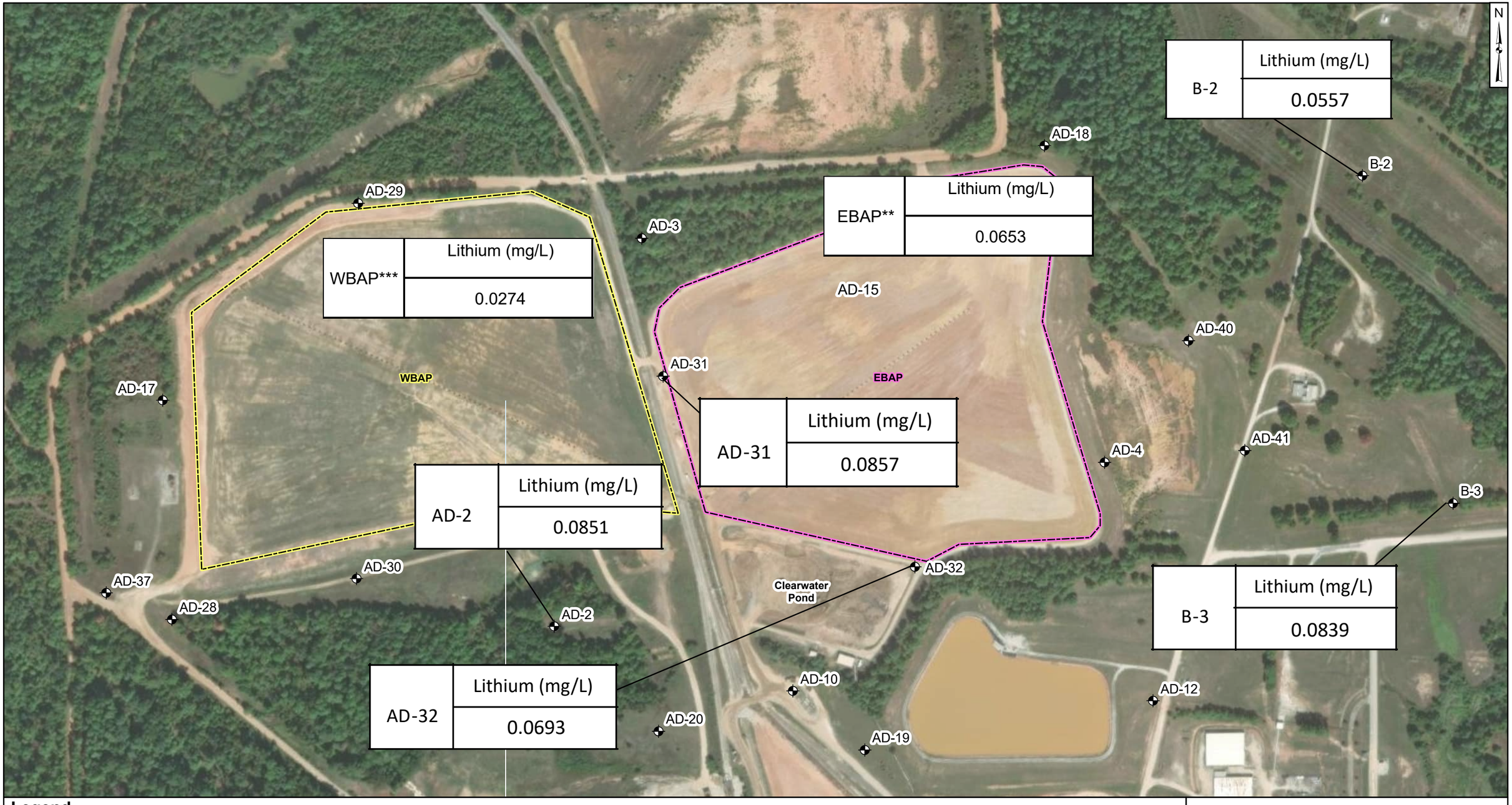
AEP Pirkey Powerplant
Hallsville, Texas

Geosyntec consultants

Columbus, Ohio | March 2025

Figure 4

\\annarbor-01\data\Projects\AEP\Legal Department - ASD Review\Pirkey\2019-05 Field Investigation\Field Forms\Compiled Boring Logs\Visual boring logs



Legend

- Monitoring Well
- EBAP
- WBAP

Notes

1. Lithium concentrations in milligrams per liter mg/L.
2. Monitoring well coordinates, site features, and data provided by AEP.
3. Groundwater samples were collected in September 2024.
4. **: Porewater samples from East Bottom Ash Ponds was collected in February 2023.
5. ***: Porewater sample from West Bottom Ash Pond (WBAP) was collected in 2022.
6. Aerial imagery provided by ESRI, dated September 19, 2023.

AEP: American Electric Power

300 150 0 300 Feet

Aqueous Lithium Distribution

AEP Pirkey Power Plant
Hallsville, Texas

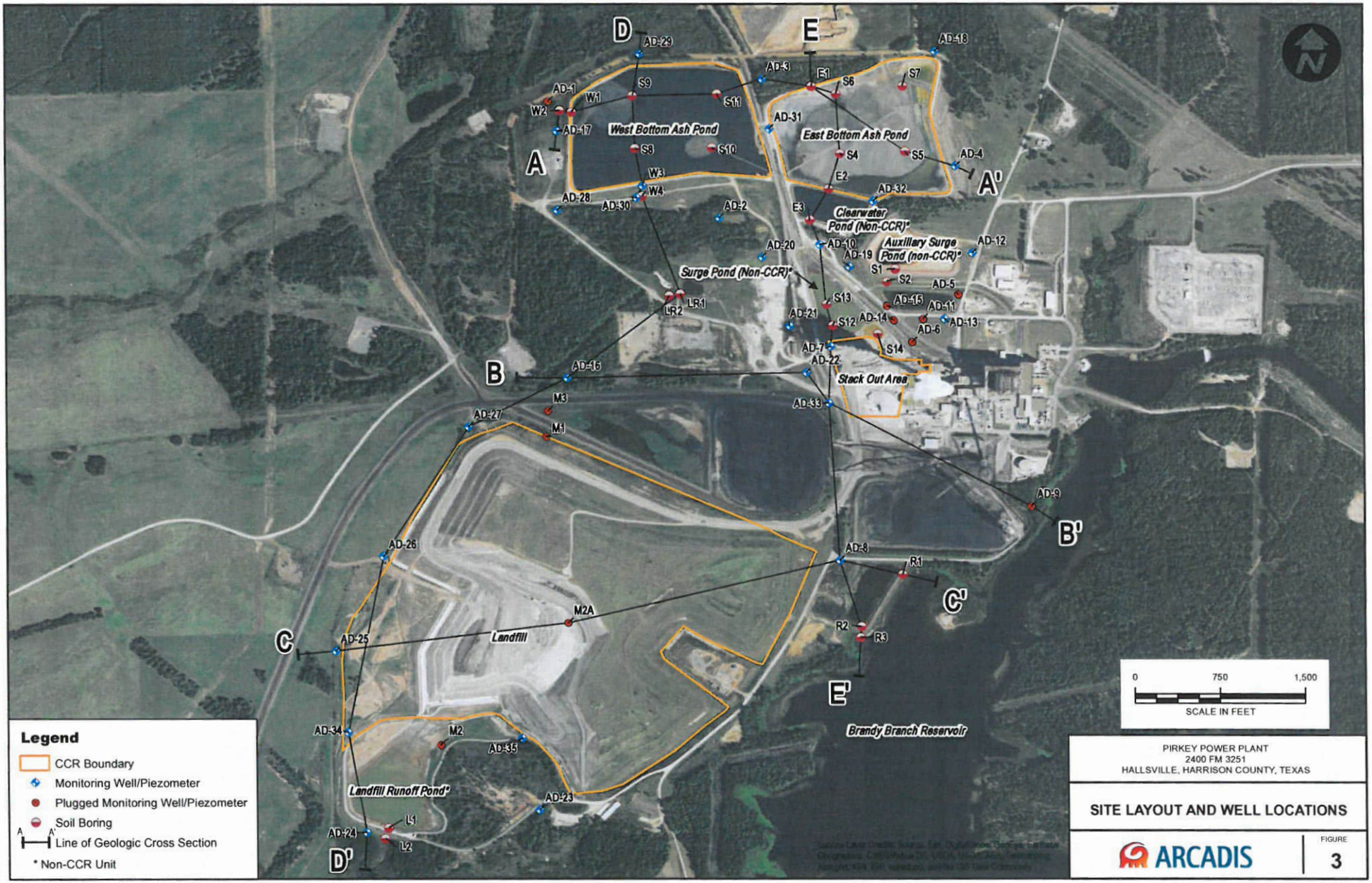
Geosyntec consultants

Columbus, Ohio | March 2025

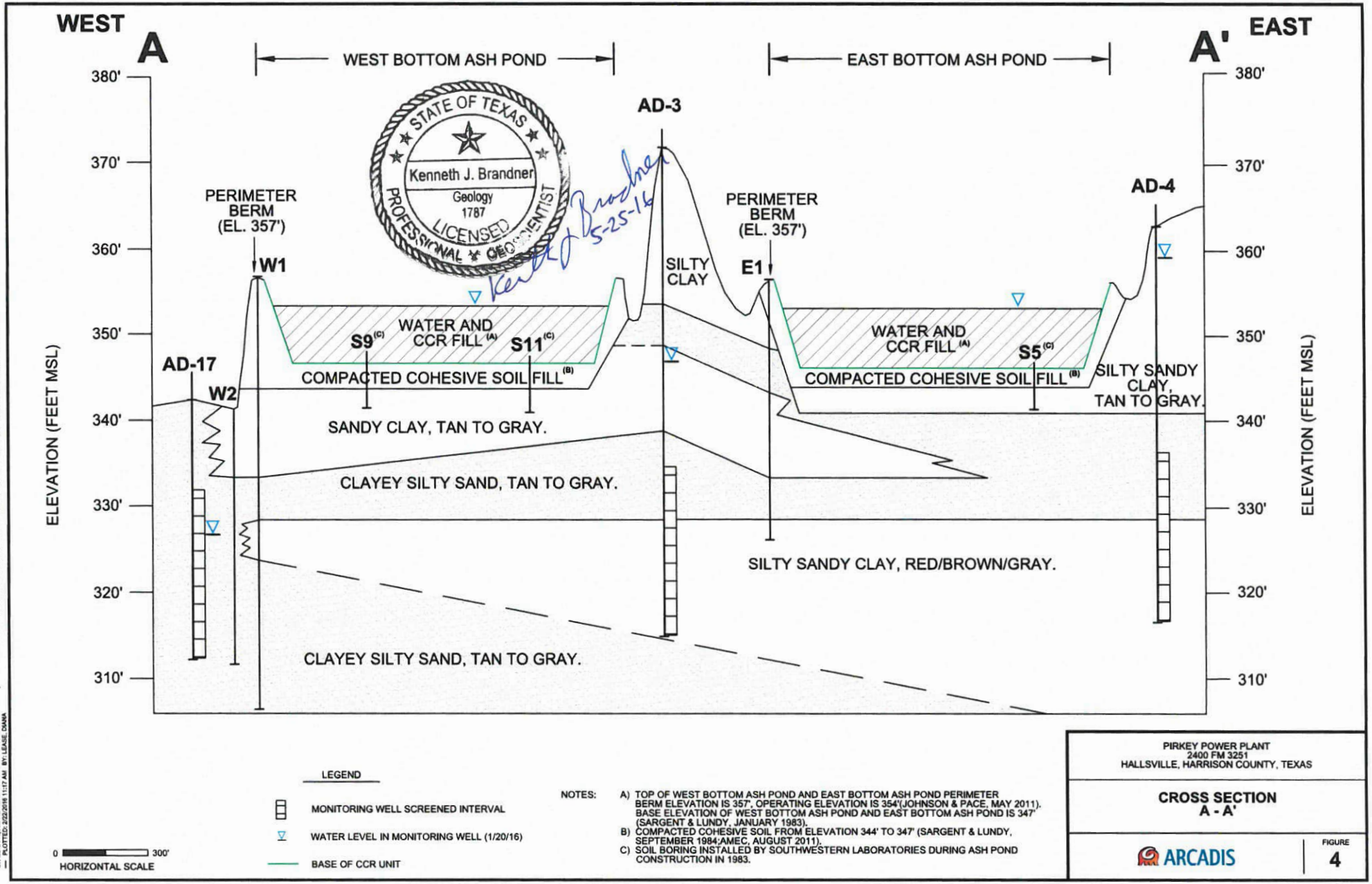
Figure **5**

\\annarbor-01\data\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Pirkey\AEP_Pirkey_ASD_Li.aprx. OAdeyemo. 03/10/2025.

ATTACHMENT A
Geologic Cross Section A-A’



Document Path: Z:\GIS\PROJECTS_ENV\AEP\Pirkey Plant\MXD\Figure 3 - Site Layout and Well Locations.mxd



LEGEND

- MONITORING WELL SCREENED INTERVAL
- WATER LEVEL IN MONITORING WELL (1/20/16)
- BASE OF CCR UNIT

0 300'
HORIZONTAL SCALE

NOTES:

A) TOP OF WEST BOTTOM ASH POND AND EAST BOTTOM ASH POND PERIMETER BERM ELEVATION IS 357', OPERATING ELEVATION IS 354'(JOHNSON & PACE, MAY 2011). BASE ELEVATION OF WEST BOTTOM ASH POND AND EAST BOTTOM ASH POND IS 347' (SARGENT & LUNDY, JANUARY 1983).
B) COMPACTED COHESIVE SOIL FROM ELEVATION 344' TO 347' (SARGENT & LUNDY, SEPTEMBER 1984;AMEC, AUGUST 2011).
C) SOIL BORING INSTALLED BY SOUTHWESTERN LABORATORIES DURING ASH POND CONSTRUCTION IN 1983.

PIRKEY POWER PLANT
2400 FM 3251
HALLSVILLE, HARRISON COUNTY, TEXAS

CROSS SECTION A - A'

ARCADIS

FIGURE 4

CITY: DIV/GROUP: DB: LD: AM: PD: TM: TR: LYR:ON=*;OFF=*REF*
G:\Active Projects\AE\PO\61597\0 - CCR Plant Assessments\Pirkey Power Plant\Final 2016 Reports\West Bottom Ash Pond Location Restriction\Figures\Maps\Figure 4 Cross Section A-A'.dwg LAYOUT: MODEL SAVED: 2/19/2016 2:18 PM ACADVER: 19.15 (LMS TECH) PAGESETUP: — PLOTSTYLETABLE:
— PLOTTED: 2/22/2016 11:17 AM BY: ELISE, DIANA

ATTACHMENT B
SB-2 Boring Log

PROJECT NO. _____ PROJ. _____ BOR. NO. SB-2

LOCATION AD-2/MW-2 - Pirkey Power Plant ELEV. _____ DATE 4/20/20

SILTS & SANDS		COHESIVE SOILS - CLAYS			COLORS	MATERIALS	SAND ADJ.	CHARACTERTICS
CONDITION		CONSISTENCY	PENETROMETER	N - VALUE	Li .... Light .....Br ....Brown	Cl ..... Clay, Clayer	F.....Fine	Calc ..... Calcareous
VLo ..... Very Loose	0- 4	Vso.. Very Soft	0 - 0.25	<2	Dk ... Dark .....Bk ....Black	Si ..... Silt, Silty	M ....Medium	Lig ..... Lignite
Lo ..... Loose	4-10	So..... Soft	0.25 - 0. 5	2 - 4	G ..... Grey .....Bl ....Blue	Sa .... Sand, Sandy	Co....Coarse	Org ..... Organic
MDe ..... Med. Dense	10-30	Mst.. Stiff	0.5 - 1.0	4 - 8	T ..... Tan .....Gr ....Grenn	Ls .... Limestone	Si.....Silty	Lam ..... Laminate
De ..... Dense	30-50	St..... Stiff	1.0 - 2.0	8 - 15	R ..... Red .....Y .....Yellow	Gr .... Gravel		Sls ..... Slickensided
VDe ..... Very Dense	>50	VSt.. Very Stiff	2.0 - 4.0	15 - 30	Rdish.Reddish.Wh ...White	SiS ... Siltstone		SL ..... Slightly
		H..... Hard	> 4.0	>30		SS .... Sandstone		Sm(s) ... Seam (s)
						Sh..... Shale, Shaley		Nod ..... Nodules

Sample Interval TEST ASSIGNMENT	SAMPLE NO. Recovery	DEPTH FT.	SAMPLES	STRATUM DESCRIPTION: CONDITION OR CONSISTENCY	COLOR	MINOR MATERIALS OR ADJECTIVES	PREDOMINATE MATERIAL	CHARACTERISTICS OR MODIFICATIONS	STANDARD PENETROMETER: SEAT - 6"	1st - 6"	2nd - 6"	UNIFIED SOIL CLASSIFICATION	N - VALUE OR HAND PENETROMETER
SM	0-5 2' Rec	0		0-8'	Br, Lt. Rd Br	Si	Sa	Silty Sand - trace clay, trace root hairs, moist.				moist	(0-5')
8'	5-10 2.5' Rec				Lt. Rd Br			- thin lenses (less than 1/4") at 7.5', trace iron staining				moist	(5-10')
CL	10-15 4' Rec	8		8-14.5	Lt. Rd Br, Rd Br, Gray	Sa, Si	CL	Clay - some silty sand and silty clayey sand in interbeds to 14.5', trace iron ore gravel in sand seams @ 10.5', 12', 12.5'				moist	(10-15')
14.5'	15-20 2' Rec	14.5		14.5-39'	Rd Br, Yllw. Br, Gray	Si, CL	Sa	silty sand - some sandy clay, iron cemented sand @ 16.5' and ironstone 1% (@ 11.5')				v. moist to moist	(15-20')
SC	20-25' * No Rec.							- cemented sand seams in silty sand @ 20-25' (?)				v. moist	(20-25')
	25-30' 2.5' Rec				Gray - DK Gray DK. Br			- gravel & cemented sand seam @ 25' (6")				sat. @ 25'-25.5'	
				(25-39')				- cemented sand, partially recovered					
								clayey silty sand @ 25.5'				moist	25.5 27
								- dark gray silty sat sand seam @ 27' (2")				sat. @ 27.0'	(2")
	30-35 3' Rec							- sat. silty sand seam @ 30.5' (1")				sat. @ 30.5'	(1")
								- sat. silty sand seam @ 32' (3")					32.0 (3")
39'								* some v.f. gypsum, dry stalk in clayey sand between sat. sand seams (25-40')				v. moist (to 39')	
ML	35-40 4' Rec	39		39-46	Lt. Gray, Gray (39-46')	CL & Si	Si	Clayey sandy silt, - interbedded silt & clay @ 39' to 40'				moist	(39-40')
								B.O.T. @ 40'					
								* 25-27' collected @ 1015					
								* 31-33' collected @ 1035					

Type Boring HSA Dry Auger ☒ Rotary Wash ☐

SEEPAGE @ 25' FT. WHILE DRILLING, W.L. @ ___ FT. ON COMPL. (OR) BAILED TO ___ FT. UPON COMPLETION. W.L. @ ___ FT AND CAVED TO ___ FT. ON _____.

* GPS: 32.46522, -94.49032 (12' E, 3.5' N of AD-2/MW-2)

ATTACHMENT C
SB-2 Boring Photographic Log

GEOSYNTEC CONSULTANTS
Photographic Record

Geosyntec consultants

Client: AEP **Project Number: CHA8495**

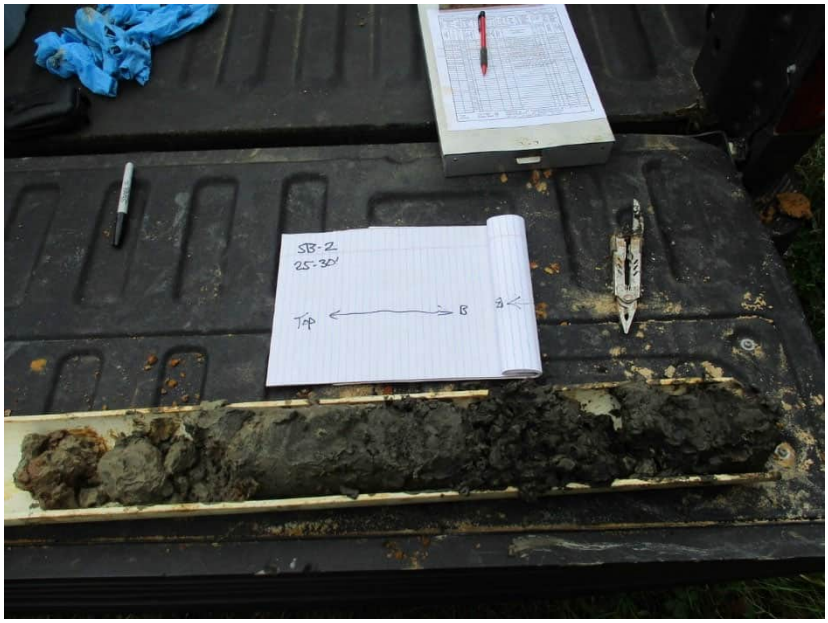
Site Name: Pirkey East Bottom Ash Pond **Site Location: Hallsville, Texas**

Photograph 1 **Date: 4/21/2020** **Direction: N/A** **Comments:** 0-5 foot interval of SB-2.	
Photograph 2 **Date: 4/21/2020** **Direction: N/A** **Comments:** 5-10 foot interval of SB-2.	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: AEP	**Project Number: CHA8495**
Site Name: Pirkey East Bottom Ash Pond	**Site Location: Hallsville, Texas**

Photograph 3 **Date: 4/21/2020** **Direction: N/A** **Comments:** 10-15 foot interval of SB-2.	
Photograph 4 **Date: 4/21/2020** **Direction: N/A** **Comments:** 15-20 foot interval of SB-2. Recovery of this interval was limited.	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: AEP	**Project Number: CHA8495**
Site Name: Pirkey East Bottom Ash Pond	**Site Location: Hallsville, Texas**

Photograph 5 **Date: 4/21/2020** **Direction: N/A** **Comments:** 20-25 foot interval of SB-2. Recovery of this interval was limited.	
Photograph 6 **Date: 4/21/2020** **Direction: N/A** **Comments:** 25-30 foot interval of SB-2. Very little of this interval was recovered. A color change was observed from red to dark brown/black. A sample was collected from this interval.	

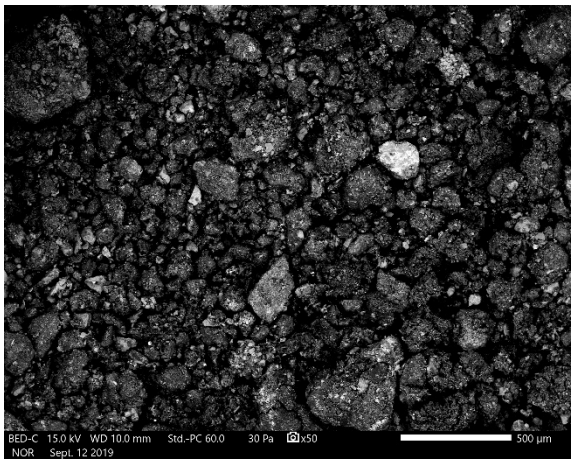
GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: AEP	**Project Number: CHA8495**
Site Name: Pirkey East Bottom Ash Pond	**Site Location: Hallsville, Texas**

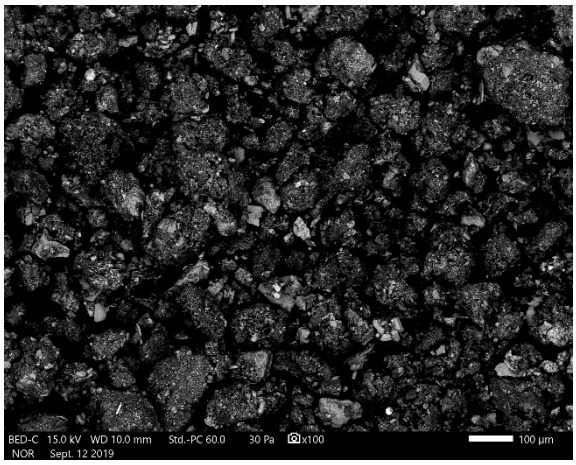
Photograph 9 **Date: 4/21/2020** **Direction: N/A** **Comments:** 30-35 foot interval of SB-2. Very little of this interval was recovered.. A sample was collected from this interval.	
Photograph 10 **Date: 4/21/2020** **Direction: N/A** **Comments:** 35-40 foot interval of SB-2	

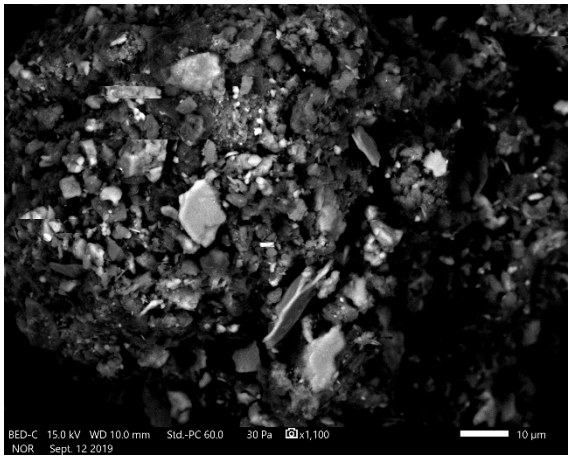
ATTACHMENT D
SEM/EDS Analysis

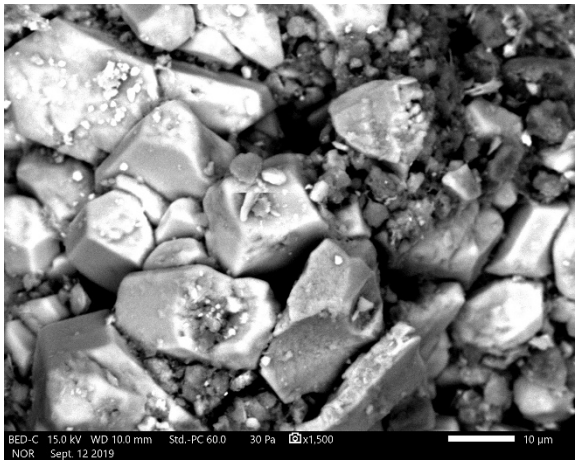
September 16, 2019

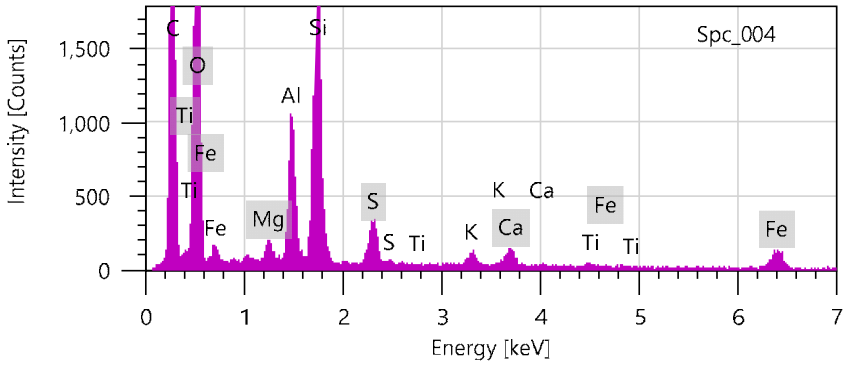
Dr. Bruce Sass
941 Chatham Lane, Suite 103, Columbus, OH 43221
via Email: BSass@geosyntec.com



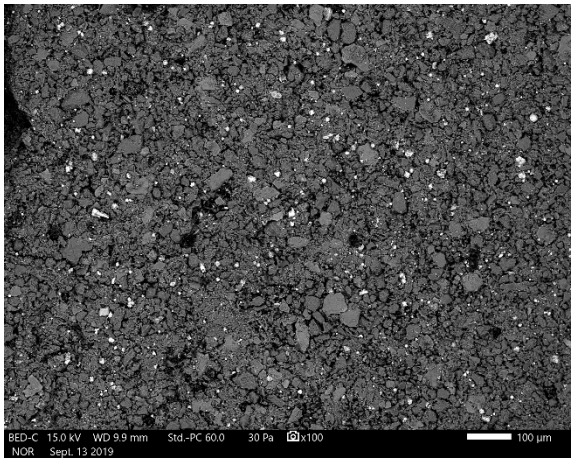


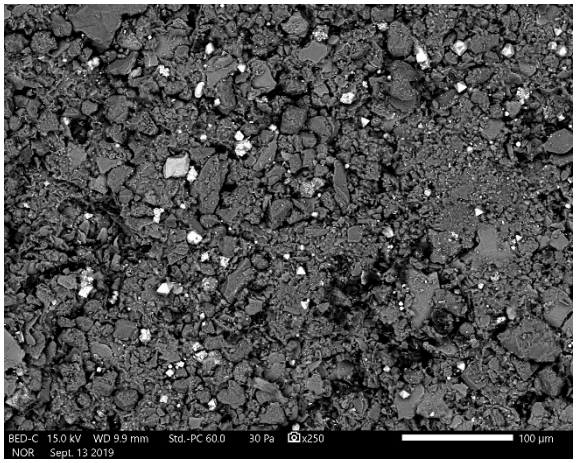


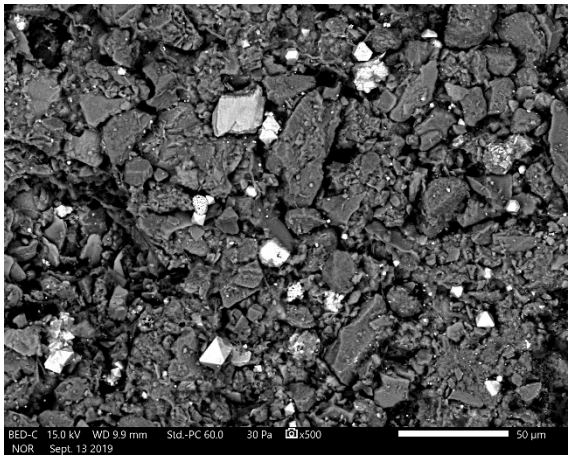


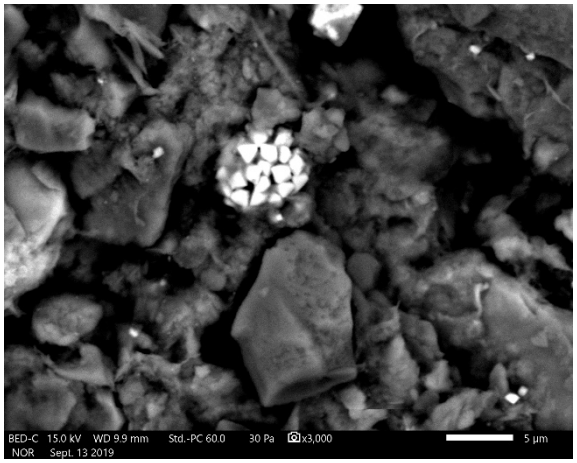


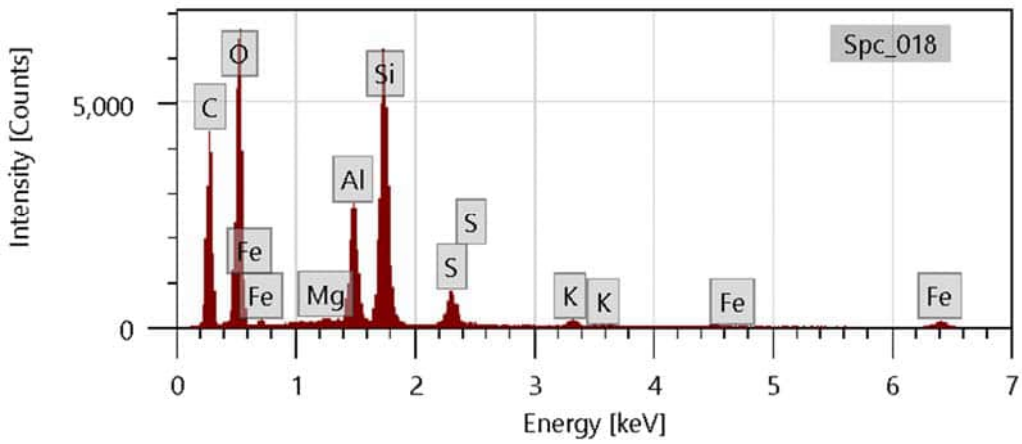
Lignite. Backscattered electron micrographs show the sample at 100X, 1,100X, and 1,500X. EDS spectrum at bottom is an area scan of the region shown in top right micrograph. Bright particles are mostly quartz and feldspar. Major peaks for carbon, oxygen, silicon, and aluminum suggest coal and clay.



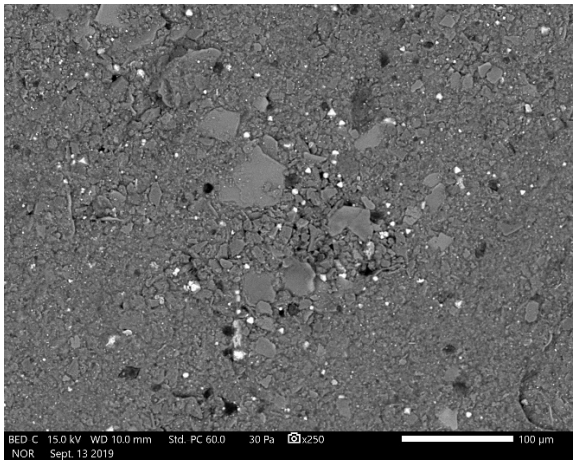


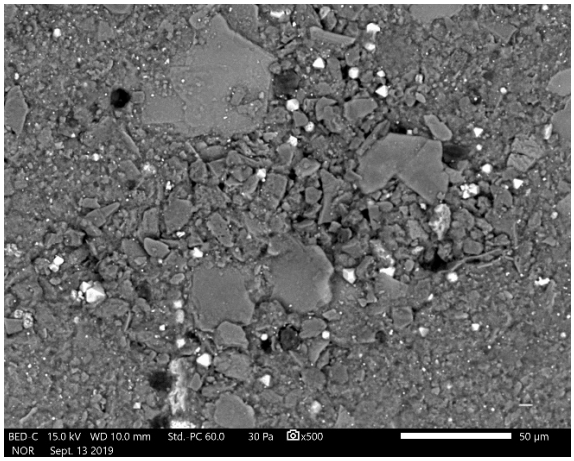


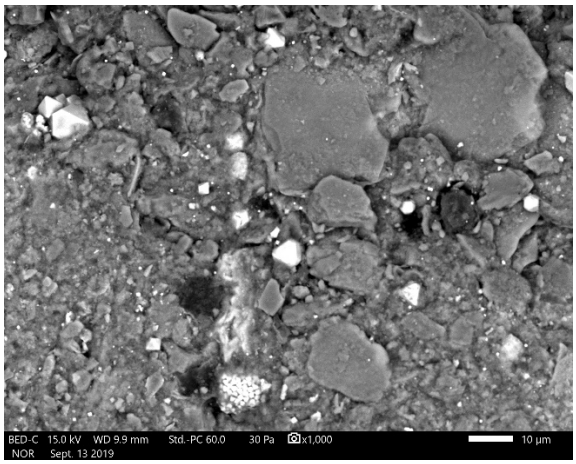


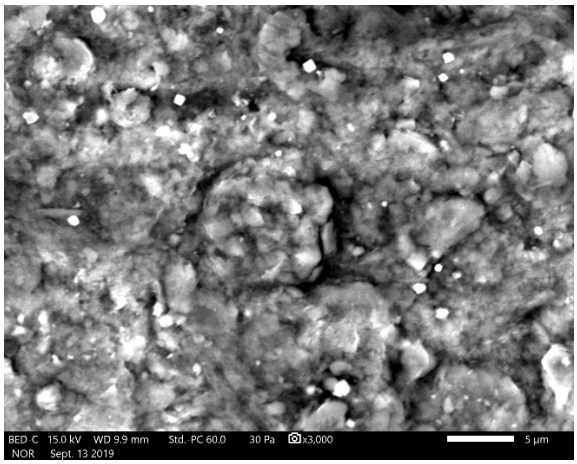


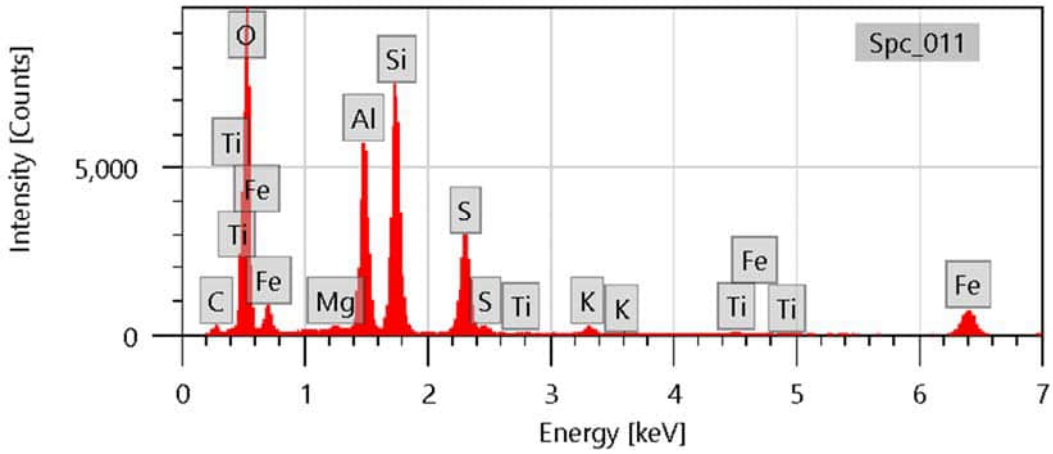
Sample VAP B3 40-45. Backscattered electron micrographs show the sample at 100X, 250X, 500X, and 3000X. EDS spectrum at bottom is an area scan of the region shown at 500X. Bright particles are pyrite (framboid in bottom right micrograph). Major peaks for carbon, oxygen, silicon, and aluminum suggest coal and clay.











Sample VAP B3 50-55. Backscattered electron micrographs show the sample at 250X, 500X, 1000X, and 3000X. EDS spectrum at bottom is an area scan of the region shown at 3000X. Bright particles are mostly pyrite (framboid in bottom left micrograph); occasional particles of Fe-Ti oxide are detected. Major peaks for oxygen, silicon, and aluminum suggest clay. Large blocky particles are mostly quartz, feldspar, and clay.

ATTACHMENT E
Tolerance Limit Calculation Using B-Series Data

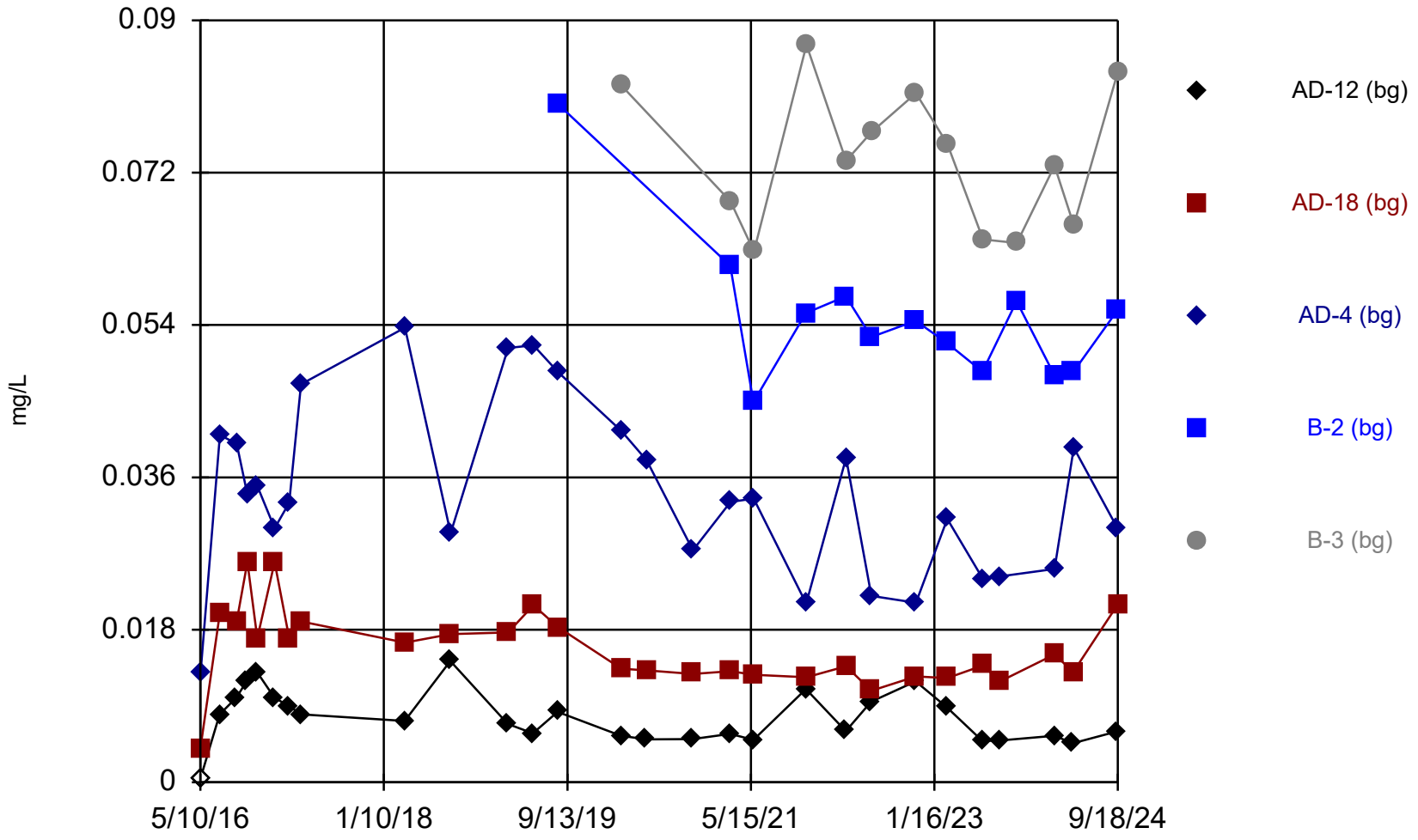
Upper Tolerance Limits

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 3/19/2025, 10:15 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Lithium, total (mg/L)	n/a	0.1231	n/a	n/a	n/a	n/a	110	0.9091	ln(x)	0.05	Inter

Sanitas™ v.10.0.24 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Lithium, total Analysis Run 3/19/2025 9:56 AM View: Lithium UTLs

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Tolerance Limit

Interwell Parametric



95% coverage. Background Data Summary (based on natural log transformation): Mean=-3.867, Std. Dev.=0.9275, n=110, 0.9091% NDs. Normality test: Chi Squared @alpha = 0.01, calculated = 11.09, critical = 14.07. Report alpha = 0.05.

Constituent: Lithium, total Analysis Run 3/19/2025 9:55 AM View: Lithium UTLs

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

ATTACHMENT F
Certification by a Qualified Professional Engineer

CERTIFICATION BY A QUALIFIED PROFESSIONAL ENGINEER

I certify that the above described alternative source demonstration is appropriate for evaluating the groundwater monitoring data for the Pirkey East Bottom Ash 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 20, 2025
License Number	Licensing State	Date

Geosyntec consultants

engineers | scientists | innovators

ALTERNATIVE SOURCE DEMONSTRATION REPORT

2025 1st SEMIANNUAL EVENT
TEXAS STATE CCR RULE

H.W. Pirkey Power Plant
East Bottom Ash Pond
Registration No. CCR104
Hallsville, 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 CHA1147I

December 2025

Geosyntec consultants

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Figure 2 Cobalt Distribution in Groundwater

Figure 3 Cobalt Distribution in Soil

Figure 4 B-3 Visual Boring Log

Figure 5 Lithium Distribution in Groundwater

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Attachment D	SEM/EDS Analysis
Attachment E	Tolerance Limit Calculation Using B-Series Data
Attachment F	Certification by a Qualified Professional Engineer

LIST OF ACRONYMS

Å	angstrom
AEP	American Electric Power
ASD	alternative source demonstration
bgs	below ground surface
CCR	coal combustion residuals
EBAP	East Bottom Ash Pond
EDS	energy-dispersive spectroscopy
EPRI	Electric Power Research Institute
GWPS	groundwater protection standard
LCL	lower confidence limit
mg/kg	milligram per kilogram
mg/L	milligram per liter
SEM	scanning electron microscopy
SPLP	Synthetic Precipitation Leaching Procedure
SSL	statistically significant level
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
VAP	vertical aquifer profiling
WBAP	West Bottom Ash Pond
XRD	X-ray diffraction

1. INTRODUCTION AND SUMMARY

This alternative source demonstration (ASD) report has been prepared to address statistically significant levels (SSLs) of cobalt and lithium in the groundwater monitoring network for the former East Bottom Ash Pond (EBAP), located at the H.W. Pirkey Plant in Hallsville, Texas, following the first semiannual assessment monitoring event of 2025. The H.W. Pirkey Plant (Site) has four coal combustion residuals (CCR) storage units regulated by the Texas Commission on Environmental Quality (TCEQ) under Registration No. CCR104 (**Figure 1**). Three of the units, including the former EBAP, have been closed by removal, and one unit is still active.

In April 2025, a semiannual assessment monitoring event was conducted at the former EBAP 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). 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 SSLs were identified at the former EBAP (Geosyntec 2025a):

- The LCL for cobalt exceeded the GWPS of 0.00939 milligrams per liter (mg/L) at AD-2 (0.0244 mg/L) and AD-32 (0.00947 mg/L).
- The LCL for lithium exceeded the GWPS of 0.0489 mg/L at AD-2 (0.0617 mg/L), AD-31 (0.0773 mg/L), and AD-32 (0.0496 mg/L).

No other 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 SSLs identified for cobalt and lithium at wells AD-2 and AD-32 in the groundwater monitoring network for the EBAP are from a source other than the former EBAP.

1.2 Demonstration of Alternative Sources

An evaluation was completed to assess possible alternative sources to which each identified SSL could be attributed. Alternative sources were categorized into the following five types, based on methodology 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 SSLs identified for cobalt and lithium were based on a Type IV cause and not by a release from the former Pirkey EBAP.

2. SUMMARY OF SITE CONDITIONS

The EBAP design and construction, regional geology and Site hydrogeology, and groundwater monitoring system and flow conditions are described below.

2.1 EBAP Design and Construction

The EBAP was a 31.5-acre CCR surface impoundment located at the north end of the Pirkey Plant, immediately east of the West Bottom Ash Pond (WBAP) (**Figure 1**). It was constructed while the Pirkey Plant was being developed in 1983 and 1984 and placed into operation in 1985 to receive bottom ash and economizer ash sluiced from the Plant boiler (Arcadis 2016). Pirkey Power Plant placed CCR and non-CCR waste streams into the pond complex, alternating between the EBAP and WBAP. Bottom ash generated at the plant was sluiced to one of the ponds (the active pond) until it was close to full. Bottom ash in the inactive pond was drained and dewatered and then removed from the pond. Dry ash was loaded into trucks and transported to the Landfill. It typically took approximately twelve months for the active pond to fill, at which time the second pond (which had been emptied of bottom ash) became the active pond, and the first pond was then drained.

A Closure Plan for the EBAP was developed in October 2016 and revised in December 2021 (AEP 2021) and February 2025 (AEP 2025). This document detailed the closure activities which were to take place throughout the closure of the EBAP. AEP submitted a certified notification that the receipt of CCR materials had ceased as of April 25, 2023, and the closure activities had been initiated (AEP 2023a). At that time, the closure of the EBAP commenced by removal in accordance with the 2021 Closure Plan, with CCR material removal occurring from April to June 2023. The final inspection for CCR material removal was completed on July 20, 2023. On October 17, 2023, the EBAP was certified closed by removal in accordance with 30 TAC §352.1221 and the 2021 Closure Plan, and notification was placed in the Operating Record (AEP 2023b).

The former EBAP was developed by excavating part of its perimeter into native soils to create an embankment height of approximately 4 feet, constructing compacted clay perimeter embankments, and constructing a compacted clay liner over the base of the pond (Arcadis 2016). Multiple lithological borings advanced after the installation of the clay liner confirm that at least 6 feet of clay was present below the base of the EBAP (Arcadis 2016). The bottom elevation of the EBAP was approximately 347 feet above mean sea level, and the elevation of the top of the pond embankment was approximately 357 feet above mean sea level.

2.2 Regional Geology / Site Hydrogeology

The former EBAP was positioned on an outcrop of the Eocene-age Recklaw Formation, which consists predominantly of clay and fine-grained sand (Arcadis 2016). The Recklaw Formation is underlain by the Carrizo Sand, which crops out in the topographically lower southern portion of the Site. Regionally, the Carrizo Sand consists of fine- to medium-grained sand interbedded with silt and clay.

The very-fine- to fine-grained clayey and silty sand found beneath an upper silty to silty sandy clay layer in the vicinity of the former EBAP is considered to be the uppermost aquifer below this CCR unit (Arcadis, 2016). Here it is approximately 15-feet thick and located between an elevation of 325 and 340 above feet mean sea level.

2.3 Groundwater Monitoring History and Flow Conditions

The monitoring well network for the former EBAP monitors groundwater within the uppermost aquifer. Geologic cross section A-A' from Arcadis (2016), provided as **Attachment A**, shows the subsurface geometry of the uppermost aquifer (indicated on the figure as clayey silty sand, tan to gray) underlying the former EBAP and the former WBAP and demonstrates lateral continuity of the uppermost aquifer spanning the entire length of the former EBAP.

Groundwater flow direction in the area of the former EBAP is west-southwesterly (**Figure 1**). Seasonal variability in groundwater flow has not been observed since the monitoring well network was installed. Groundwater flow velocities in the uppermost aquifer in the vicinity of the former EBAP have been reported as approximately 6 to 44 feet per year. The monitoring network for the former EBAP unit consists of upgradient monitoring wells AD-4, AD-12, and AD-18 and compliance wells AD-2, AD-3, AD-31, and AD-32, all of which are screened within the uppermost aquifer.

3. ALTERNATIVE SOURCE DEMONSTRATION

The ASD evaluation method and proposed alternative sources of cobalt in AD-2 and AD-32 groundwater and lithium in AD-2, AD-31, and AD-32 groundwater are described below.

3.1 Proposed Alternative Source

An initial review of Site geochemistry, Site historical data, and laboratory quality assurance and quality control data did not identify alternative sources for cobalt and lithium due to Type I (sampling), Type II (laboratory), Type III (statistical evaluation), or Type V (anthropogenic impacts) issues. Groundwater sampling, laboratory analysis, and statistical evaluations were generally completed in accordance with 30 TAC §352.931 and the draft TCEQ guidance for groundwater monitoring (TCEQ 2020). As described below, the SSLs have been attributed to natural variation associated with the underlying geology, which is a Type IV (natural variation) issue.

3.1.1 Cobalt

Previous ASDs for cobalt at the former EBAP provided evidence that cobalt is present in the aquifer geologic media at the Site and that the observed cobalt concentrations in groundwater were due to natural variation of native geogenic sources (Geosyntec 2025b)[1]. The previous ASDs demonstrated that the former EBAP was not a source for the elevated cobalt in downgradient groundwater, based on observed concentrations of cobalt both in the ash material and in leachate from Synthetic Precipitation Leaching Procedure (SPLP) analysis (SW-846 Test Method 1312 [United States Environmental Protection Agency 1994]) of the ash material. Cobalt was not detected in the most recent SPLP ash leachate sample (collected in 2019) above the reporting limit of 0.01 mg/L, which is lower than the average concentrations of 0.0114 to 0.0380 mg/L observed at the wells of interest (**Table 1**).

Cobalt was detected at a concentration of 0.0035 mg/L in a February 2023 surface water sample collected from the EBAP (**Table 1**). This concentration is lower than the reported cobalt concentrations for multiple in-network wells from the April 2025 sampling event (**Figure 2**). The cobalt concentration of the EBAP sample was also found to be approximately an order of magnitude lower than the average concentration in groundwater at the wells of interest (**Table 1**). Therefore, the former EBAP is not the likely source of cobalt at AD-2 or AD-32.

As noted in the previous ASDs, soil samples collected across the Site, including from locations near the former EBAP, identified cobalt in the aquifer solids at concentrations ranging from non-detect to 23.5 milligrams per kilogram (mg/kg), with the highest value reported at AD-41, which is upgradient of the EBAP and WBAP (**Figure 3**). SB-2 was advanced in the vicinity of AD-2 in April 2020 to re-log the geology at AD-2 and collect samples for laboratory analysis of total metals and mineralogy. The SB-2 field boring log, which was generated by Auckland Consulting LLC, is provided as **Attachment B**. Cobalt was detected at AD-2 at concentrations of 9.45 mg/kg at 25–27 feet below ground surface (bgs) and 19.2 mg/kg at 31–33 feet bgs (**Table 2**). These cobalt

[1] A citation is provided for the most recently completed ASD addressing the source of aqueous cobalt concentrations at the EBAP groundwater monitoring network. Additional previous ASD reports have presented this discussion, and references to those reports are included within the referenced document.

concentrations are greater than the concentration of cobalt present in the bottom ash (6.1 mg/kg; **Table 1**). Both samples correlate to the depth of the monitoring well screen of AD-2 (20–40 feet bgs), indicating that naturally occurring cobalt is present in aquifer solids within the AD-2 screened interval.

In addition to the analysis of total cobalt, soil samples were submitted for mineralogical analysis to determine the mineral composition of soils near the former EBAP. X-ray diffraction (XRD) analysis of soils from SB-2 identified pyrite (an iron sulfide) in samples collected at 25–27 feet bgs and 31–33 feet bgs at concentrations up to 7% by weight (**Figure 3**). Cobalt is known to undergo isomorphic substitution for iron in crystalline iron minerals such as pyrite due to their similar ionic radii of approximately 1.56 angstroms (Å) for iron and 1.52 Å for cobalt (Clementi and Raimondi 1963, Krupka and Serne 2002, Hitzman et al. 2017). The presence of iron-bearing minerals in soil near the former EBAP constitutes a potential source of naturally occurring cobalt.

The aquifer solids at SB-2 are distinctly red in color at shallow depths, as illustrated in the photolog of soil cores provided in **Attachment C**. The red color of the soil indicates the presence of metal (iron) oxide and hydroxide minerals within the shallow depth interval. While shallow samples were not collected for mineralogical analysis, red color in soils is often associated with the presence of oxidized iron-bearing minerals such as hematite and goethite. The weathering of pyrite to these iron oxide and hydroxide minerals under oxidizing conditions is also a well-understood phenomenon, including in formations in east Texas (Senkayi et al. 1986, Dixon et al. 1982). It is likely that the pyrite weathering process is resulting in the release of isomorphically substituted cobalt from the pyrite crystal structure as it undergoes oxidative transformation to iron oxide/hydroxide minerals.

As described in the previous ASDs for the former EBAP, vertical aquifer profiling (VAP) was completed in May 2019 to collect groundwater samples from upgradient locations B-2 and B-3 during the soil boring and sample collection process (Geosyntec 2019). A groundwater sample was also collected from AD-32, one of the existing compliance wells within the EBAP groundwater monitoring network where a cobalt SSL was identified. Solid-phase materials within these groundwater samples were separated and submitted for analysis of chemical composition. For the VAP samples, because of the high abundance of suspended solids, separation was completed using a centrifuge. For the groundwater sample at AD-32, the sample was filtered using a 1.5-micron filter. Based on total metals analysis, cobalt was identified both in the centrifuged solid material collected from upgradient VAP location B-3 (VAP-B3-[40-45]) and in the material retained on the filter after processing groundwater from permanent monitoring wells B-2 and B-3 (**Table 2**). The concentrations of cobalt in the solid material retained after filtration were comparable to concentrations in the bulk soil samples collected from the same locations.

The solid sample VAP-B3-(40-45) was submitted for mineralogical analysis via XRD and scanning electron microscopy (SEM) using an energy-dispersive spectroscopy (EDS) analyzer. The XRD results identified pyrite as approximately 3% of the solid phase (**Table 3**). Pyrite was identified during SEM/EDS analysis of lignite, which is mined immediately adjacent to the Site. Logging completed while the VAP boring was advanced identified coal at several intervals, including 45 and 48 feet bgs (**Figure 4**). Furthermore, SEM/EDS of both centrifuged solid samples VAP-B3-(40-45) and VAP-B3-(50-55) identified pyrite in backscattered electron micrographs by the distinctive framboidal morphology (Harris et al. 1981, Sawlowicz 2000). Major peaks representing iron and sulfur were identified in the EDS spectrum, which further confirm the

identification of pyrite (**Attachment D**). While cobalt was not identified in the EDS spectrum, it is likely present at concentrations below the detection limit.

The former EBAP was not identified as the source of cobalt at wells in the EBAP monitoring network based on the low concentrations of cobalt in the pond itself and the ubiquity of naturally occurring cobalt, especially in soil and groundwater samples upgradient from the EBAP. Cobalt in the EBAP network groundwater is believed to be a function of natural variability within the aquifer. Naturally occurring cobalt is known to substitute for iron in iron-bearing minerals. The presence of iron sulfide (as pyrite) and iron oxides/hydroxides hematite and goethite has been confirmed at AD-2 and across the Site. The weathering of pyrite to iron oxide/hydroxide minerals may be resulting in the release of cobalt into groundwater from the crystalline structure of these aquifer minerals.

3.1.2 Lithium

Previous ASDs for lithium at the former EBAP attributed the observed lithium exceedances at AD-2, AD-31, and AD-32 groundwater to variations in solid-phase lithium associated with the suspended native aquifer solids that likely originate from naturally occurring lignite present in these soils. These native lithium-containing suspended solids are ubiquitous in the aquifer based on the presence of solid-phase lithium at upgradient locations (Geosyntec 2025b)[2]. Data gathered in support of the prior ASDs and recent results provide additional evidence that the observed lithium groundwater concentrations at AD-2, AD-31, and AD-32 are naturally occurring and are due to natural variation in the aquifer (Type IV ASD).

As discussed in Section 3.1.1, a surface water sample was collected directly from the EBAP in February 2023. Lithium was detected in the February 2023 EBAP sample at a concentration of 0.0653 mg/L (**Figure 5, Table 4**). This concentration is below the reported lithium value at AD-2 and comparable to the reported values at AD-31 and AD-32 (**Figure 5**). The labile fraction identified in the bottom ash by SPLP from a February 2019 sample was even lower, with an estimated (J-flagged) lithium concentration of 0.011 mg/L. This labile concentration is below the average lithium concentrations at AD-2 (0.058 mg/L), AD-31 (0.0816 mg/L) and AD-32 (0.1062 mg/L) (**Table 4**). Therefore, the former EBAP is not the likely source of lithium at AD-2, AD-31 and AD-32.

Groundwater samples collected from upgradient wells B-2 and B-3 in April 2025 had total lithium concentrations of 0.0463 mg/L and 0.0598 mg/L, respectively (**Figure 5**). Because B-2 and B-3 were installed at locations upgradient to and unimpacted by Site activities, these lithium concentrations suggest that aqueous lithium is naturally present at variable concentrations comparable to or above the GWPS of 0.0489 mg/L across the Site and not limited to AD-2, AD-31, and AD-32.

B-2 and B-3 are not part of the monitoring network for the former EBAP, and as such the lithium concentrations in groundwater from these wells were not considered in calculating the GWPS for the CCR unit. The addition of B-2 and B-3 as background locations to the monitoring network

[2] A citation is provided for the most recently completed ASD addressing the source of aqueous lithium concentrations at the EBAP groundwater monitoring network. Additional previous ASD reports have presented this discussion, and references to those reports are included within the referenced document.

would result in a Site-specific GWPS of 0.123 mg/L (**Attachment E**). This is higher than the lower confidence limits at the wells of concern (Section 1), suggesting that concentrations of lithium within the observed ranges at AD-2, AD-31, and AD-32 are naturally occurring across the Site.

As described in Section 3.1.1, groundwater samples were collected from B-2, B-3, and AD-32 in 2019 and filtered to separate solids. Groundwater was also collected from a VAP boring (VAP-B3-[40-45]) and centrifuged to separate solids. Lithium was detected in solid material separated from these groundwater samples at concentrations comparable to bulk soil at all locations, providing evidence that the particulates captured during groundwater sampling contain lithium (**Table 5**).

3.1.2.1 Calculated Partition Coefficients

A previous ASD for lithium at the former EBAP discussed lithium mobility in groundwater due to desorption from cation exchange complexes associated with clay minerals within naturally occurring lignite material. This mechanism was posited as the source of lithium in both upgradient and downgradient wells at the former EBAP (Geosyntec 2019). Previously completed XRD analysis of centrifuged solid material samples (VAP-B3-[40-45]) found that clay minerals, including kaolinite, smectite, and illite/mica, made up at least 60% of the aquifer solid (**Table 3**). SEM/EDS analysis also identified the presence of silicon, aluminum, and oxygen, all of which are components of clay minerals (**Attachment D**). The backscattered electron micrographs of these samples also identified clay particles by morphology. The largest clay particles (≥ 5 micrometers) are likely kaolinite, while smectite and illite dominate the smaller fraction. These clay minerals, particularly smectite and illite, are known to retain cations such as lithium via incorporation into the octahedral layer of the mineral structure and through cation exchange processes.

Partition coefficients values (K_d) for lithium, potassium, and sodium were calculated using mass measurements and total metal concentrations in the solid materials separated from the groundwater samples during filtration and the filtered groundwater concentrations. Details about the K_d calculation are provided in the previous ASD (Geosyntec 2019). K_d values for groundwater and particulates collected from wells B-2, B-3, and AD-32 were comparable to literature K_d values reported for organic-rich media such as bogs and peat beds (Sheppard et al. 2009, Sheppard et al. 2011), providing further evidence that lithium mobility in Site groundwater is similar to other sites with organic-rich soils (**Table 6**). Additionally, the calculated K_d values for Pirkey soils were consistent with the literature, with potassium having the highest K_d (greatest affinity for sorption) and sodium the lowest K_d (least affinity for sorption). Furthermore, the values are similar for groundwater from all three wells, suggesting a universal mechanism controlling lithium, sodium, and potassium mobility in groundwater.

These multiple lines of evidence show that elevated lithium concentrations at AD-2, AD-31, and AD-32 are likely not due to a release from the former EBAP and can instead be attributed to natural variation (Type IV ASD). This variation appears related to the distribution of clay fractions associated with lignite materials in the soil aquifer material.

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 SSLs of cobalt (AD-2 and AD-32) and lithium (AD-2, AD-31, and AD-32) identified during the semiannual assessment monitoring in April 2025 were not due to a release from the former EBAP. The identified SSLs should instead be attributed to natural variation in the underlying geology. 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. Summary of Key Cobalt Analytical Data
Alternative Source Demonstration Report
East Bottom Ash Pond - H.W. Pirkey Plant

Sample	Sample Date	Unit	Cobalt Concentration
Bottom Ash (Solid Material)	2/11/2019	mg/kg	6.1
Texas-Specific Soil Background Concentration			7
SPLP Leachate of Bottom Ash	2/11/2019	mg/L	<0.01
EBAP Pond Water	2/28/2023	mg/L	0.0035
AD-2 - Average	May 2016 - April 2025	mg/L	0.0160
AD-32 - Average	May 2016 - April 2025	mg/L	0.0209
Site-Specific Groundwater Protection Standard		mg/L	0.00939

Notes:

1. Texas-specific soil background concentration from Texas Administrative Code (TAC) Title 30 Chapter 350 (Texas Risk Reduction Program) [table in 30 TAC 350.51(m)]
2. Average values were calculated using all cobalt data collected under Code of Federal Regulations (CFR) Title 30 Chapter 257 Subpart D, excluding any identified outliers.
3. Site-specific Groundwater Protection Standard from "Statistical Analysis Summary - 2025 1st Semiannual Event. East Bottom Ash Pond. H.W. Pirkey Plant." Geosyntec 2025b).

EBAP: East Bottom Ash Pond
mg/kg: milligrams per kilogram
mg/L: milligrams per liter
SPLP: synthetic precipitation leaching procedure

Table 2. Soil Cobalt Data
Alternative Source Demonstration Report
East Bottom Ash Pond - H.W. Pirkey Plant

Location ID	Location	Sample Depth (ft bgs)	Cobalt (mg/kg)
Bulk Soil Samples			
AD-2	EBAP Network	25-27	9.45
		31-33	19.2
AD-18	EBAP Network	8	3.60
		22	2.90
AD-31	EBAP Network	12	1.90
		26	0.83
AD-32	EBAP Network	11	1.70
		20-25	9.10
AD-41	Upgradient	15	< 1.0
		35	23.5
		95	1.90
B-2	Upgradient	10	2.36
		16	3.62
		71	10.30
		82	7.21
		87	3.11
B-3	Upgradient	10	1.30
		20	0.59
		97	1.11
Solid Material Retained After Filtration			
AD-32	EBAP Network	13-33	5.4
B-2	Upgradient	38-48	4.3
B-3	Upgradient	29-34	12.0
		VAP 40-45	18.0

Notes:

1. For AD-XX locations, samples were collected from additional boreholes advanced in the immediate area of the location identified by the well ID. Samples were not collected from the cuttings of the borings advanced for well installation. Samples for B-2 and B-3 locations were collected from cores removed from the borehole during well lithology logging.

2. Depths for samples collected after filtration represent the screened interval for the permanent well where the sample was collected.

EBAP: East Bottom Ash Pond
ft bgs: feet below ground surface
mg/kg: milligram per kilogram
VAP: vertical aquifer profiling

Table 3. B-3 X-Ray Diffraction Results
Alternative Source Demonstration Report
East Bottom Ash Pond - H. W. Pirkey Plant

Constituent	VAP-B3-(40-45)
Quartz	15
Plagioclase Feldspar	0.5
Orthoclase	ND
Calcite	ND
Dolomite	ND
Siderite	0.5
Goethite	ND
Hematite	2
Pyrite	3
Kaolinite	42
Chlorite	4
Illite/Mica	6
Smectite	12
Amorphous	15

Notes:
1. Results given in units of relative % abundance
2. VAP-B3-(40-45) is the centrifuged solid material from the groundwater sample collected at that interval.
ND: not detected
VAP: vertical aquifer profiling

Table 4. Summary of Key Lithium Analytical Data
East Bottom Ash Pond - H.W. Pirkey Plant

Geosyntec Consultants, Inc.

Sample	Sample Date	Unit	Lithium Concentration
Bottom Ash (Solid Material)	2/11/2019	mg/kg	0.82 J
SPLP Leachate of Bottom Ash	2/11/2019	mg/L	0.011 J
EBAP Pond Water	2/28/2023	mg/L	0.0653
AD-2 - Average	May 2016 - April 2025	mg/L	0.0558
AD-31 - Average	May 2016 - April 2025	mg/L	0.0816
AD-32 - Average	May 2016 - April 2025	mg/L	0.1062

Notes:

1. Average lithium values for monitoring wells AD-2, AD-31, and AD-32 were calculated using all lithium data collected under 40 CFR 257 Subpart D, excluding statistically identified outliers.

EBAP: East Bottom Ash Pond

J: Estimated value. Result is less than the reporting limit but greater than or equal to the method detection limit.

mg/kg: milligram per kilogram

mg/L: milligram per liter

SPLP: synthetic precipitation leaching procedure

Table 5. Soil Lithium Data
Alternative Source Demonstration Report
East Bottom Ash Pond - H.W. Pirkey Plant

Location ID	Sample Depth (ft bgs)	Lithium (mg/kg)
Bulk Soil Sample		
AD-32*	11	0.53
	20-25	1.60
B-2	10	5.30
	16	3.97
	71	7.42
	87	13.10
B-3	10	3.64
	20	2.59
	97	11.10
Lignite	N/A	2.9 J
Solid Material Retained After Filtration		
AD-32*	13-33	9.8 J
B-2	38-48	6.5 J
B-3	29-34	7.8 J
	VAP 40-45	13.0

Notes:

1. Depths for samples collected after filtration represent the screened interval for the permanent well where the sample was collected.
*: AD-32 samples were collected from a separate borehole advanced near monitoring well AD-32

ft bgs: feet below ground surface
J: Estimated value. Result is less than the reporting limit but greater than or equal to the method detection limit.
mg/kg: milligram per kilogram
VAP: vertical aquifer profiling

Table 6. Calculated Site-Specific Partition Coefficients
Alternative Source Demonstration Report
Pirkey Plant - East Bottom Ash Pond

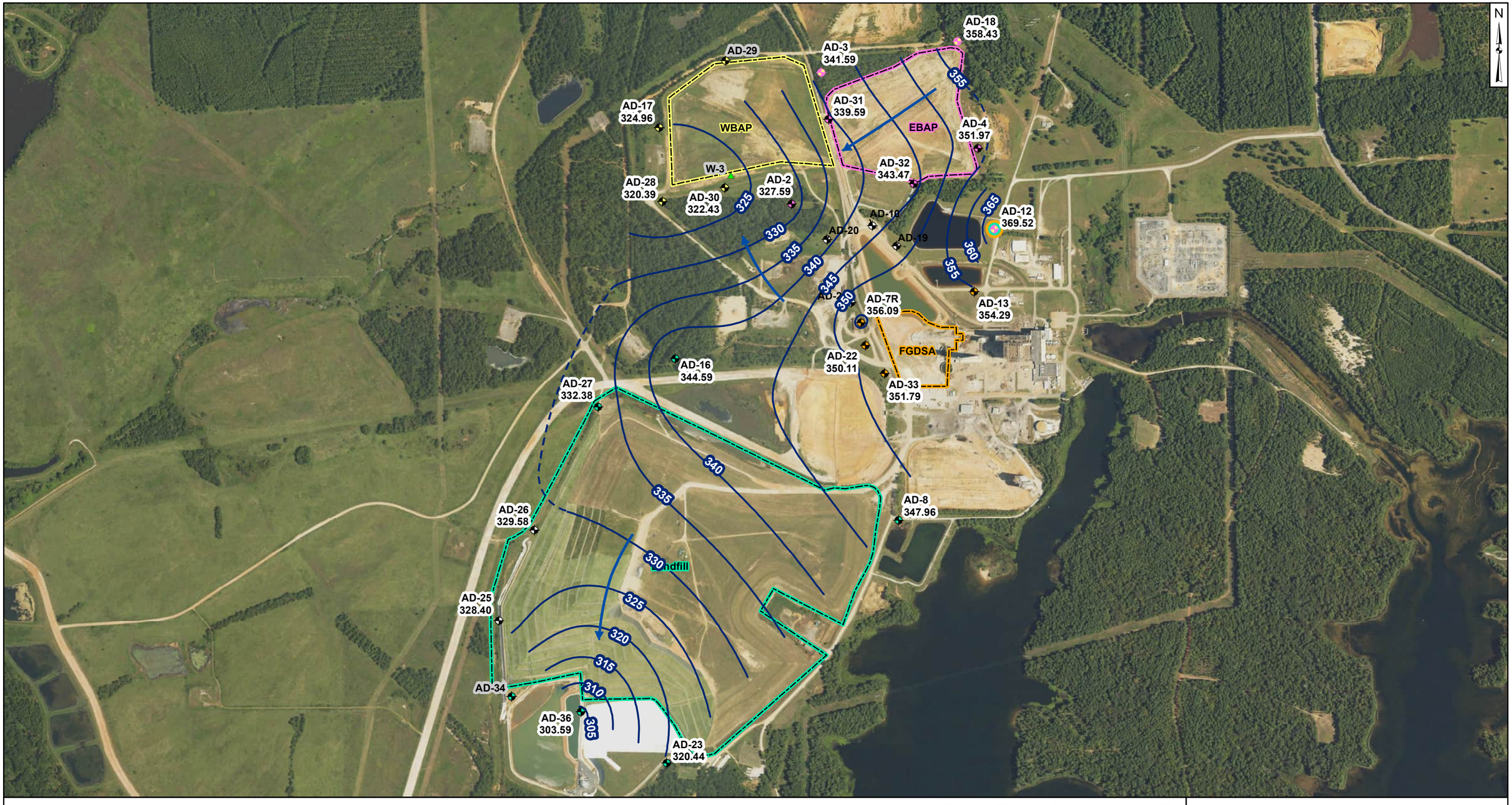
Source	B-2			Literature Value
Unit	mg/L	mg/kg	L/kg	L/kg
Element	**Aqueous Phase**	**Adsorbed**	**Kd**	**Kd**
Lithium	0.081	6.5	80	43-370
Potassium	2.6	1100	423	42-1200
Sodium	14	130	9	5.2-82

Source	B-3			Literature Value
Unit	mg/L	mg/kg	L/kg	L/kg
Element	**Aqueous Phase**	**Adsorbed**	**Kd**	**Kd**
Lithium	0.097	7.8	80	43-370
Potassium	2.9	1100	379	42-1200
Sodium	32	240	8	5.2-82

Source	AD-32*			Literature Value
Unit	mg/L	mg/kg	L/kg	L/kg
Element	**Aqueous Phase**	**Adsorbed**	**Kd**	**Kd**
Lithium	0.11	9.8	89	43-370
Potassium	3.9	1800	462	42-1200
Sodium	57	220	4	5.2-82

Notes:
1. Adsorbed values are total metals concentrations reported by USEPA Method 6010B.
2. Literature values represent maximum and minimum values for the parameter as reported in Sheppard et al, 2009 (Table 4-1, all sites) and Sheppard et al, 2011 (Table 3-3 cultivated peat and wetland peat only).
*: AD-32 samples were collected from a separate borehole advanced near monitoring well AD-32
Kd: partition coefficient
L/kg: liters per kilogram
mg/kg: milligrams per kilogram
mg/L: milligrams per liter

FIGURES



Legend

Groundwater Monitoring Wells

- Out of Network
- East Bottom Ash Pond (EBAP)
- West Bottom Ash Pond (WBAP)
- Landfill
- Flue Gas Desulfurization Stackout Area (FGDSA)
- EBAP and WBAP
- All CCR Unit Networks
- Piezometer
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Approximate Groundwater Flow Direction

Notes

1. Monitoring well coordinates and water levels (collected on April 21, 22, and 23, 2025) provided by AEP.
2. Site features based on information available in coal combustion residuals (CCR) Groundwater Monitoring Well Network Evaluation Update (Arcadis 2022) provided by AEP.
3. Groundwater elevation units are feet above mean sea level (ft msl).
4. Wells AD-10, AD-19, AD-20, AD-21, AD-29, and W-3 were not gauged during the April 2025 event.
5. AD-7R replaced AD-7, which was abandoned on September 12, 2023.
6. Wells shaded in gray are within the network but not used for contouring.
7. Well AD-34 had artesian characteristics during this event and was not used for contouring.
8. AD-35 was abandoned on November 13, 2018 and is not shown on the map.
9. Removal of CCR plus one foot of material for the WBAP was completed for on July 26, 2022.
10. Removal of CCR plus one foot of material for the EBAP was completed on July 20, 2023.
11. Removal of CCR plus one foot of material for the FGDSA was completed on September 18, 2023.
12. Map is updated to incorporate Landfill survey data collected on May 1, 2024.
13. Aerial imagery provided by the TxGIO DataHub (dated 2024).

1,000 500 0 1,000 Feet

Beth Ann Gross

December 23, 2025
Geosyntec Consultants, Inc.
Texas Firm Registration
No. 1182

STATE OF TEXAS
BETH ANN GROSS
79864
LICENSED
PROFESSIONAL ENGINEER

Potentiometric Contours: Uppermost Aquifer April 2025

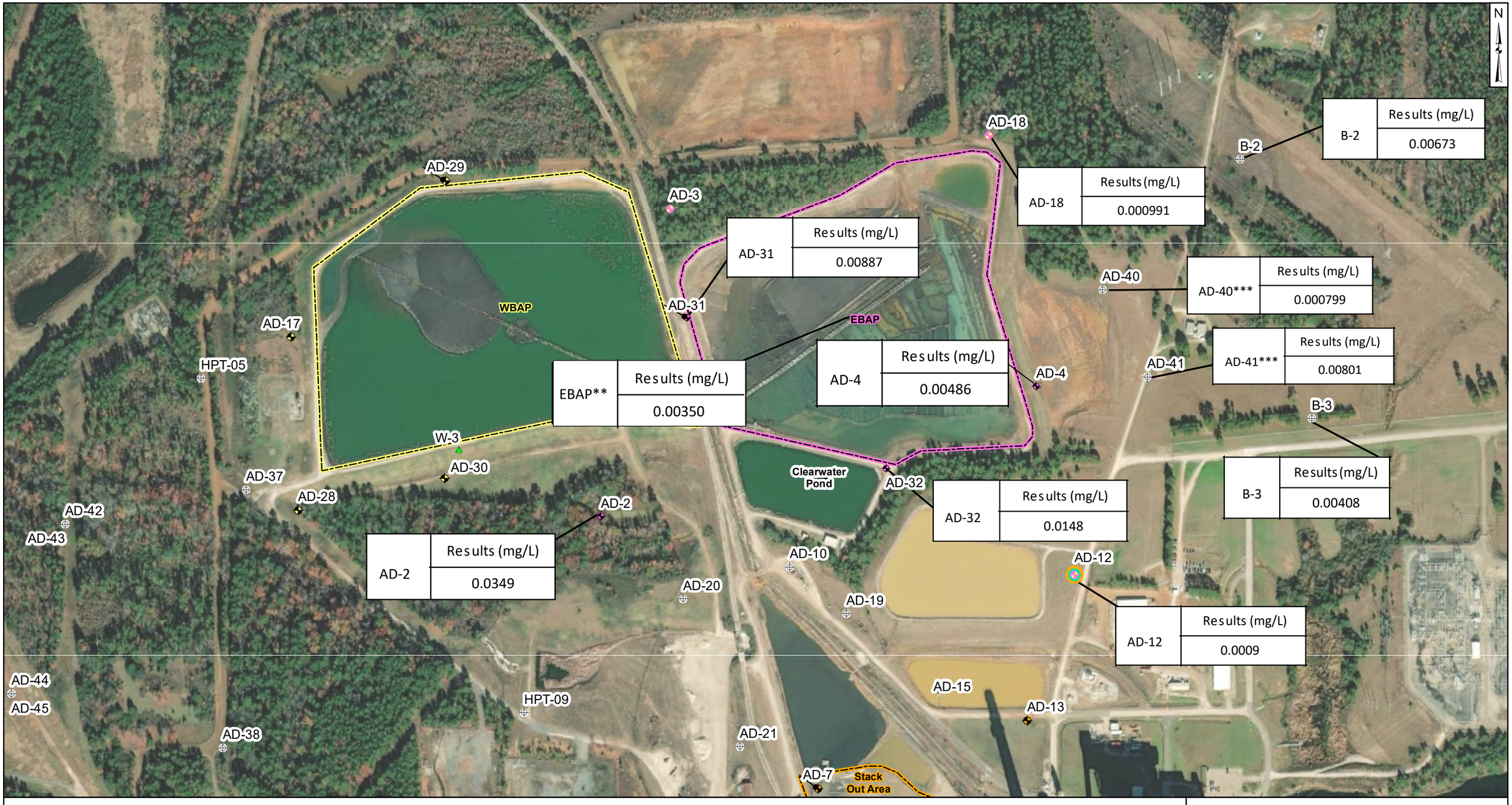
AEP Pirkey Power Plant
Hallsville, Texas

Geosyntec consultants

Columbus, Ohio | 2025/10/28

Figure 1

A:\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Pirkey\2025\AEP-Pirkey_GW_2025-04Pirkey.mxd. okiemute.commander. 10/28/2025. CHA8500B/12/01_04.



Legend

- Out of Network
- EBAP
- WBAP
- Landfill
- Stackout Area
- EBAP and WBAP
- All CCR Unit Networks
- Piezometer
- EBAP
- WBAP

Notes

1. Monitoring well coordinates, site features, and data provided by AEP.
2. AD-15 location is approximated.
3. Samples collected in April 2025.
4. **: Porewater sample from East Bottom Ash Pond (EBAP) was collected in February 2023
5. ***: Well most recently sampled in August 2019.
6. Results shown in milligrams per liter (mg/L).

400 200 0 400 Feet

AEP: American Electric Power
CCR: coal combustion residuals
EBAP: East Bottom Ash Pond
mg/L: milligrams per liter
WBAP: West Bottom Ash Pond

Cobalt Distribution in Groundwater

AEP Pirkey Power Plant
Hallsville, Texas

Geosyntec consultants

Columbus, Ohio | September 2025

Figure **2**

P:\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Pirkey\2021\AEP_Pirkey_Cobalt_GW_20210429.mxd. HDuff. 4/29/2021. Project/Phase/Task.

Location	AD-31	
Depth (ft bgs)	12	26
Cobalt (mg/kg)	1.9	0.83
Pyrite/Marcasite (%)	2	0

Location	AD-18	
Depth (ft bgs)	8	22
Cobalt (mg/kg)	3.6	2.9
Pyrite/Marcasite (%)	1	0

Location	B-2				
Depth (ft bgs)	10	16	71	82	87
Cobalt (mg/kg)	2.36	3.62	10.30	7.21	3.11
Pyrite/Marcasite (%)	-	-	-	-	-

Location	AD-41		
Depth (ft bgs)	15	35	95
Cobalt (mg/kg)	< 1.0	23.5	1.9
Pyrite/Marcasite (%)	-	-	-

Location	AD-2	
Depth (ft bgs)	25–27	31–33
Cobalt (mg/kg)	9.45	19.2
Pyrite/Marcasite (%)	7	2

Location	B-3		
Depth (ft bgs)	10	20	97
Cobalt (mg/kg)	1.30	0.59	1.11
Pyrite/Marcasite (%)	-	-	-

Location	AD-32	
Depth (ft bgs)	11	20–25
Cobalt (mg/kg)	1.7	9.1
Pyrite/Marcasite (%)	--	--

AD-29, AD-3, AD-18, B-2, AD-40, AD-31, AD-17, WBAP, EBAP, HPT-05, AD-4, AD-41, B-3, W-3, AD-30, AD-37, AD-28, AD-2, Clearwater Pond, AD-32, AD-10, AD-12, AD-20, AD-19

N

Legend

- Monitoring Wells
- EBAP
- WBAP

Notes

1. Monitoring well coordinates provided by AEP.
2. AD-2 sample collected on April 20, 2020
3. All other data provided by AEP, 2019.

--: not analyzed.
AEP: American Electric Power
EBAP: East Bottom Ash Pond
ft bgs: feet below ground surface.
mg/kg: milligrams per kilogram.
WBAP: West Bottom Ash Pond

300 150 0 300
Feet

Cobalt Distribution in Soil

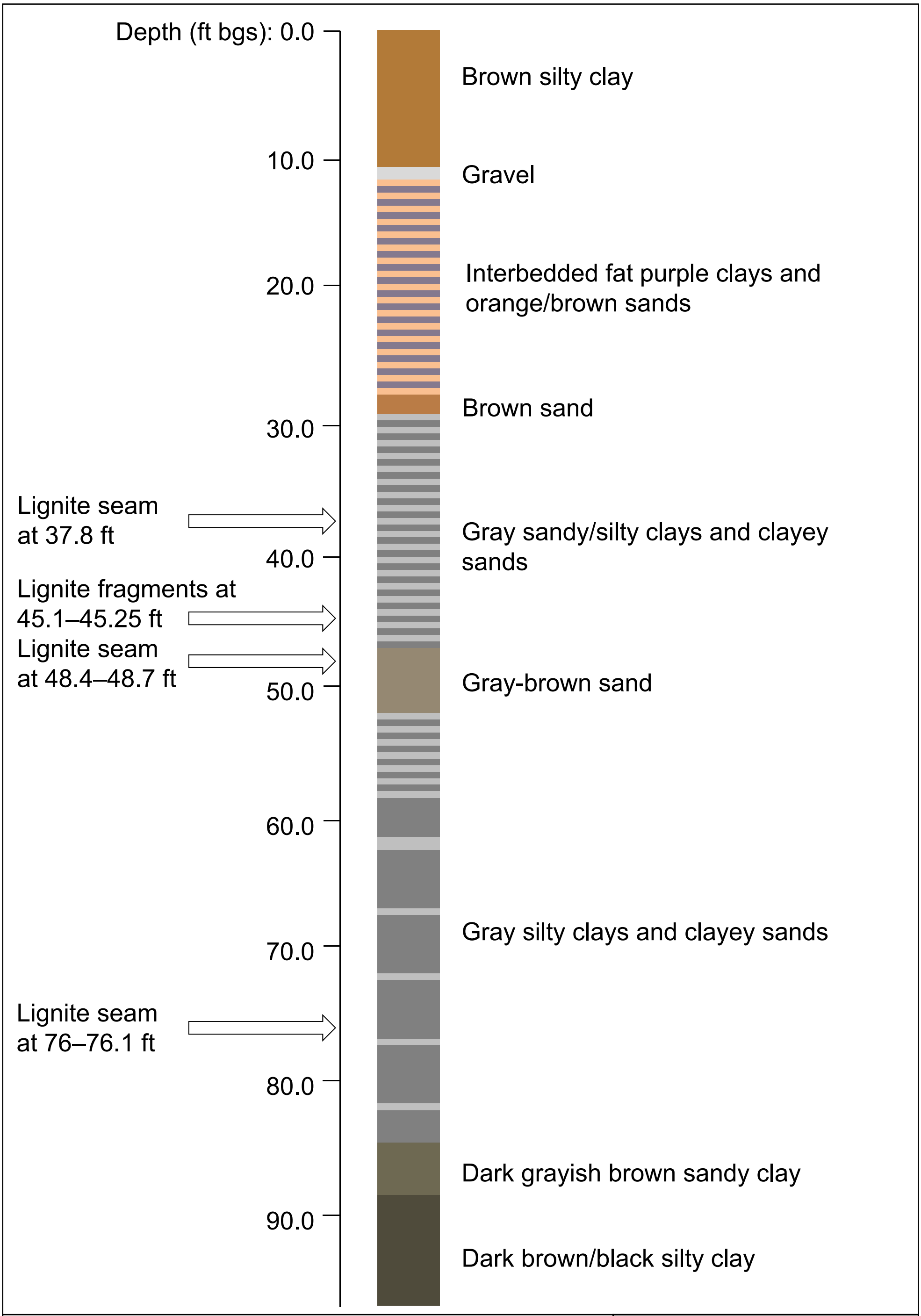
AEP Pirkey Power Plant
Hallsville, Texas

Geosyntec consultants

Columbus, Ohio | 2024/09/18

Figure 3

\\annarbor-01\data\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Pirkey\2019\20201218 Pirkey_SoilChem_minerals_March2019_new.mxd. CChristenson. 12/22/2020. Project/Phase/Task.



Notes:
1. Well installed in offset boring screened at 29-34 ft bgs
2. Boring completed May 2019
3. Total depth of 97.5 ft bgs

AEP: American Electric Power
bgs: below ground surface
ft: feet

B-3 Visual Boring Log

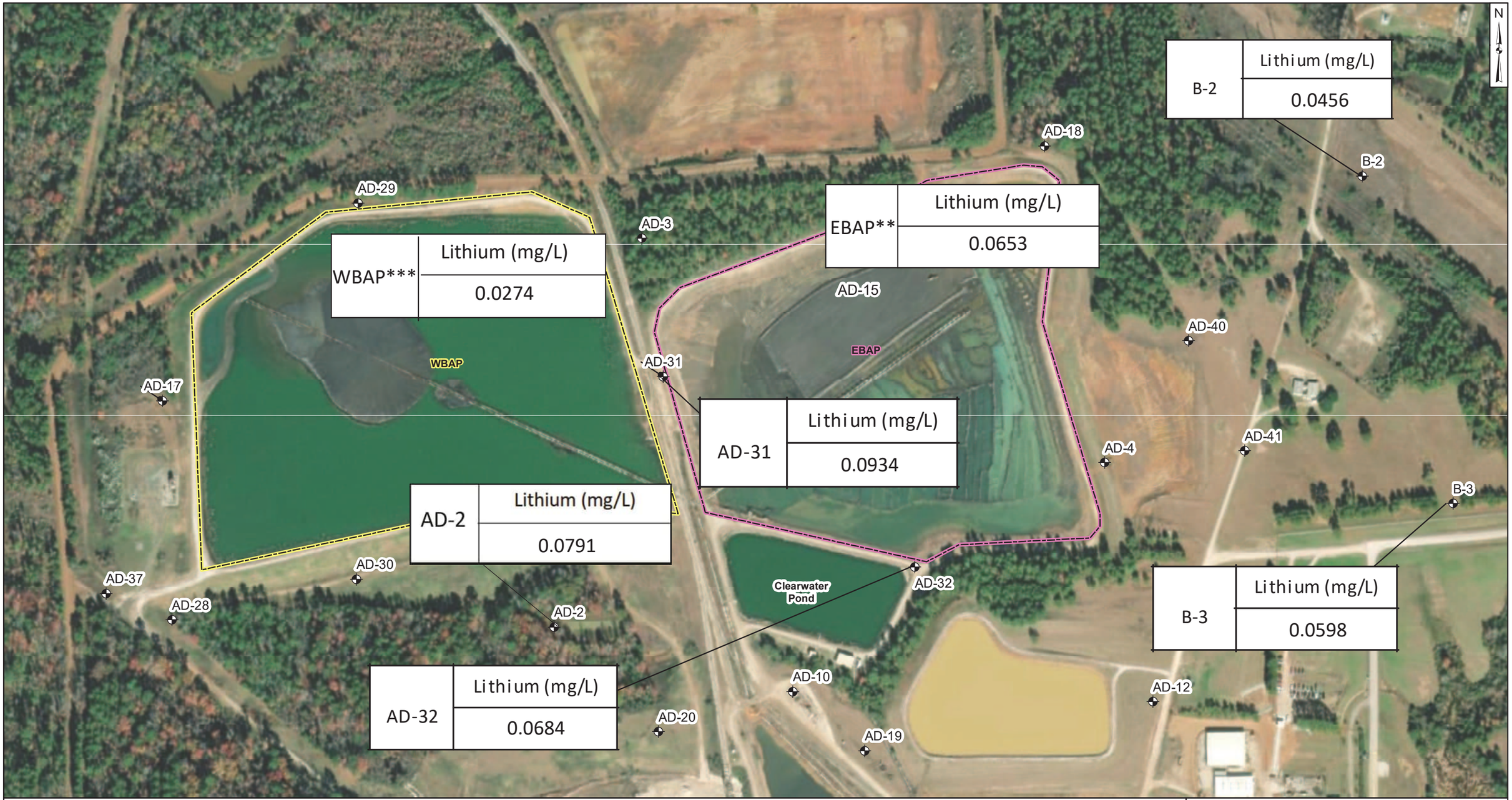
AEP Pirkey Powerplant
Hallsville, Texas

Geosyntec consultants

Columbus, Ohio | March 2025

Figure 4

\\annarbor-01\data\Projects\AEP\Legal Department - ASD Review\Pirkey\2019-05 Field Investigation\Field Forms\Compiled Boring Logs\Visual boring logs



Legend

- Monitoring Well
- EBAP
- WBAP

Notes

1. Lithium concentrations in milligrams per liter (mg/L).
2. Monitoring well coordinates, site features, and data provided by AEP.
3. Groundwater samples were collected in April 2025.
4. **: Porewater sample from East Bottom Ash Pond (EBAP) was collected in February 2023.
5. ***: Porewater sample from West Bottom Ash Pond (WBAP) was collected in 2022.

AEP: American Electric Power

300 150 0 300
Feet

Aqueous Lithium Distribution

AEP Pirkey Power Plant
Hallsville, Texas

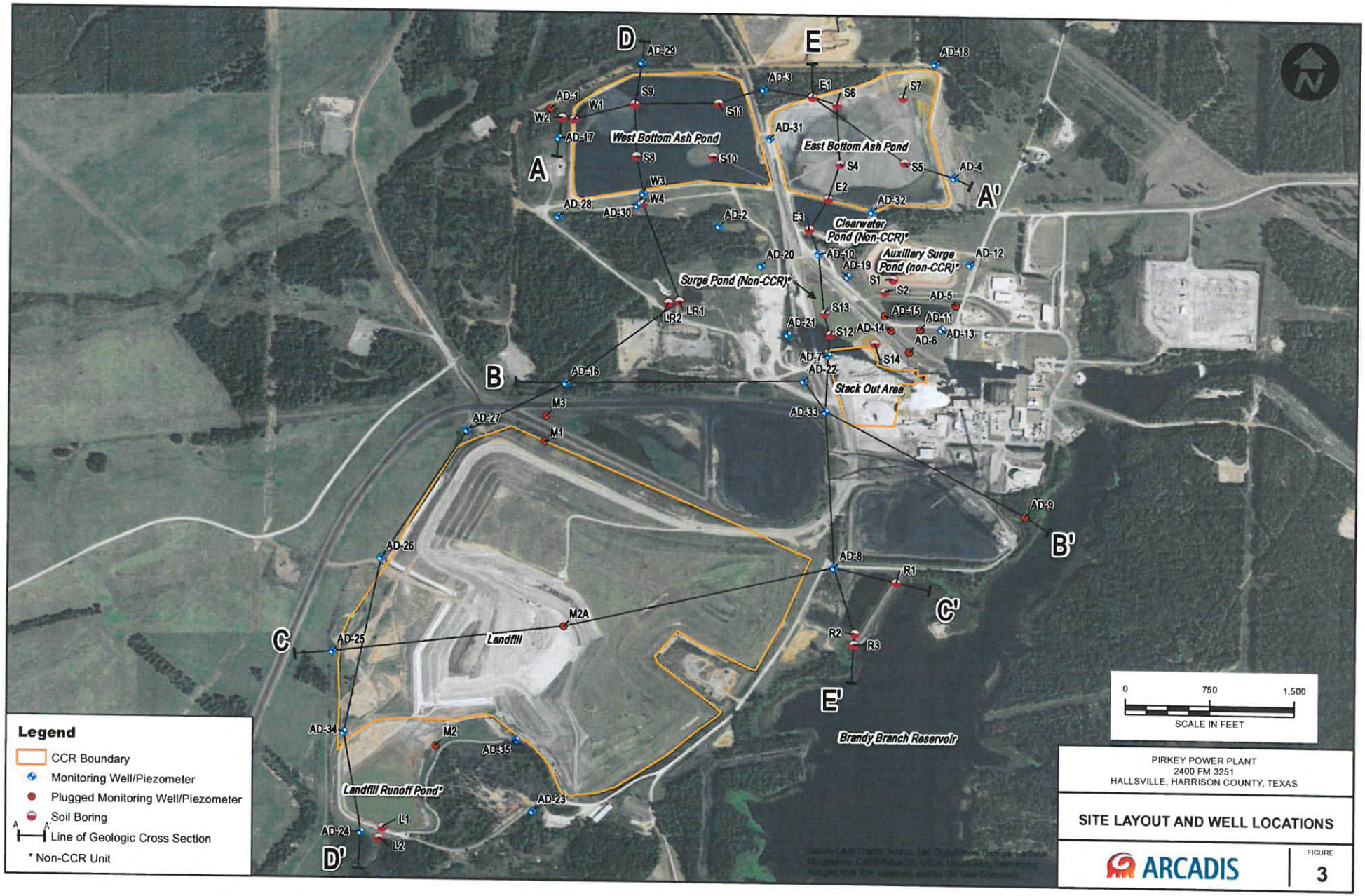
Geosyntec consultants

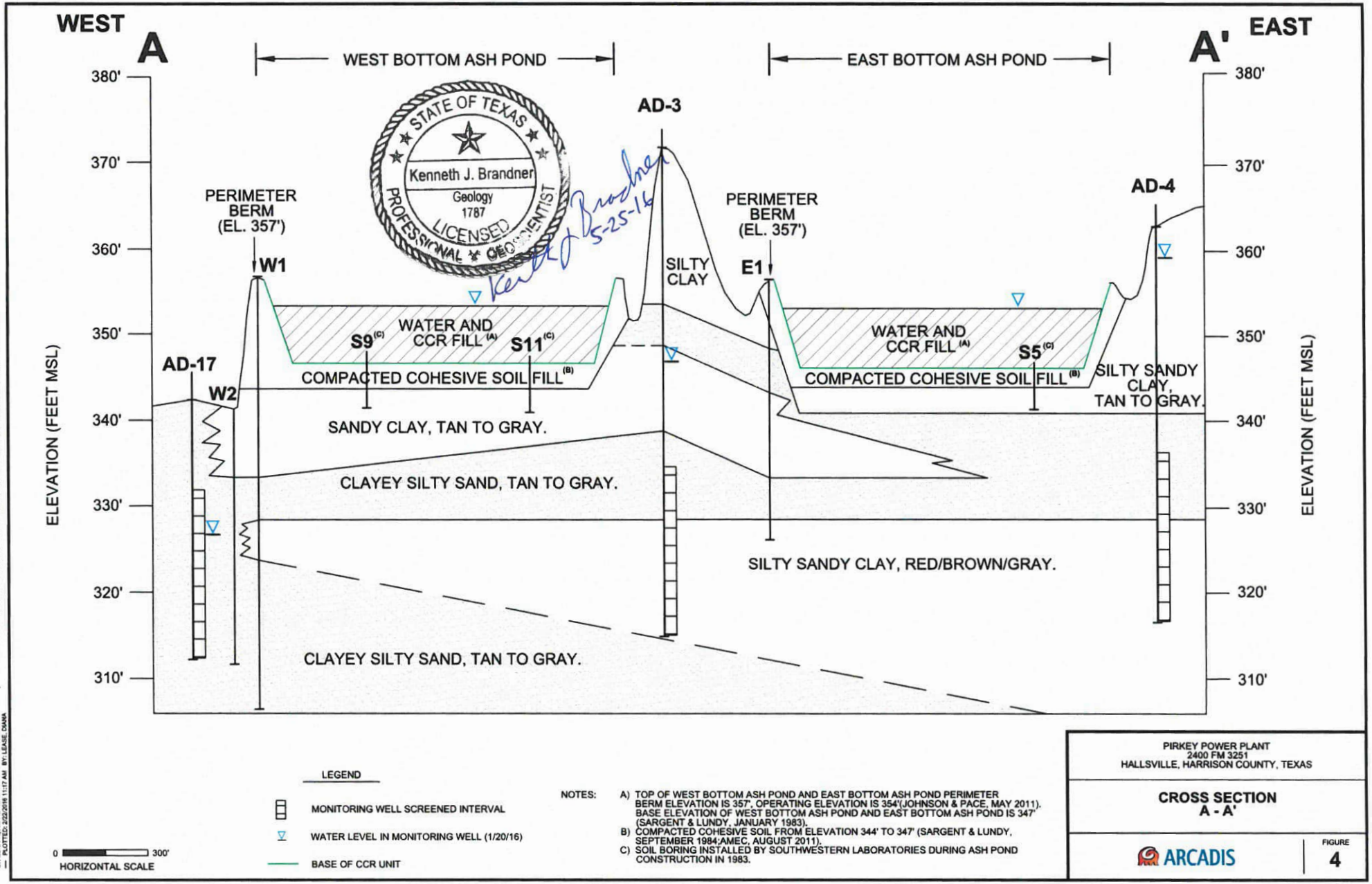
Columbus, Ohio | September 2025

Figure **5**

P:\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Pirkey\2021\AEP-Pirkey_ASD_Li_20220601.mxd. BAres. 6/1/2022. CHA8462/12/02.

ATTACHMENT A
Geologic Cross Section A-A’


D
E
A
A'
B
B'
C
C'
D'
E'
AD-29
AD-18
AD-3
AD-1
W1
W2
S9
S11
E1
S6
S7
AD-17
West Bottom Ash Pond
AD-31
East Bottom Ash Pond
S8
S10
S4
S5
AD-4
W3
W4
E2
AD-28
AD-30
AD-2
AD-32
E3
Clearwater Pond (Non-CCR)*
AD-20
AD-10
AD-19
Auxiliary Surge Pond (non-CCR)*
AD-12
S1
S2
Surge Pond (Non-CCR)*
AD-5
LR2
LR1
S13
AD-15
AD-11
AD-21
S12
AD-14
AD-13
AD-6
AD-7
S14
AD-16
AD-22
Stack Out Area
M3
AD-38
AD-27
M1
AD-9
AD-26
AD-8
R1
M2A
AD-25
Landfill
R2
R3
AD-34
M2
AD-35
Brandy Branch Reservoir
Landfill Runoff Pond*
AD-23
AD-24
L1
L2
0
750
1,500
SCALE IN FEET
Legend
CCR Boundary
Monitoring Well/Piezometer
Plugged Monitoring Well/Piezometer
Soil Boring
Line of Geologic Cross Section
* Non-CCR Unit
PIRKEY POWER PLANT
2400 FM 3251
HALLSVILLE, HARRISON COUNTY, TEXAS
SITE LAYOUT AND WELL LOCATIONS
ARCADIS
FIGURE
3
Document Path: Z:\GIS\PROJECTS_ENVAEP\Pirkey Plant\MXD\Figure 3 - Site Layout and Well Locations.mxd



LEGEND

- MONITORING WELL SCREENED INTERVAL
- WATER LEVEL IN MONITORING WELL (1/20/16)
- BASE OF CCR UNIT

0 300'
HORIZONTAL SCALE

NOTES:

A) TOP OF WEST BOTTOM ASH POND AND EAST BOTTOM ASH POND PERIMETER BERM ELEVATION IS 357', OPERATING ELEVATION IS 354'(JOHNSON & PACE, MAY 2011). BASE ELEVATION OF WEST BOTTOM ASH POND AND EAST BOTTOM ASH POND IS 347' (SARGENT & LUNDY, JANUARY 1983).
B) COMPACTED COHESIVE SOIL FROM ELEVATION 344' TO 347' (SARGENT & LUNDY, SEPTEMBER 1984;AMEC, AUGUST 2011).
C) SOIL BORING INSTALLED BY SOUTHWESTERN LABORATORIES DURING ASH POND CONSTRUCTION IN 1983.

PIRKEY POWER PLANT
2400 FM 3251
HALLSVILLE, HARRISON COUNTY, TEXAS

CROSS SECTION A - A'

ARCADIS

FIGURE 4

CITY: DIV/GROUP: DB: LD: AM: PD: TM: TR: LYR:ON=*;OFF=*REF*
G:\Active Projects\AE\PO\61597\0 - CCR Plant Assessments\Pirkey Power Plant\Final 2016 Reports\West Bottom Ash Pond Location Restriction\Figures\Maps\Figure 4 Cross Section A-A'.dwg LAYOUT: MODEL SAVED: 2/19/2016 2:18 PM ACADVER: 19.15 (LMS TECH) PAGESETUP: — PLOTSTYLETABLE:
— PLOTTED: 2/22/2016 11:17 AM BY: ELISE, DIANA

ATTACHMENT B
SB-2 Boring Log

PROJECT NO. _____ PROJ. _____ BOR. NO. SB-2

LOCATION AD-2/MW-2 - Pirkey Power Plant ELEV. _____ DATE 4/20/20

SILTS & SANDS		COHESIVE SOILS - CLAYS			COLORS	MATERIALS	SAND ADJ.	CHARACTERTICS
CONDITION		CONSISTENCY	PENETROMETER	N - VALUE	Li .... Light .....Br ....Brown	Cl ..... Clay, Clayer	F.....Fine	Calc ..... Calcareous
VLo ..... Very Loose	0- 4	Vso.. Very Soft	0 - 0.25	<2	Dk ... Dark .....Bk ....Black	Si ..... Silt, Silty	M ....Medium	Lig ..... Lignite
Lo ..... Loose	4-10	So..... Soft	0.25 - 0. 5	2 - 4	G ..... Grey .....Bl ....Blue	Sa .... Sand, Sandy	Co....Coarse	Org ..... Organic
MDe ..... Med. Dense	10-30	Mst.. Stiff	0.5 - 1.0	4 - 8	T ..... Tan .....Gr ....Grenn	Ls .... Limestone	Si.....Silty	Lam ..... Laminate
De ..... Dense	30-50	St..... Stiff	1.0 - 2.0	8 - 15	R ..... Red .....Y .....Yellow	Gr .... Gravel		Sls ..... Slickensided
VDe ..... Very Dense	>50	VSt.. Very Stiff	2.0 - 4.0	15 - 30	Rdish.Reddish.Wh ...White	SiS ... Siltstone		SL ..... Slightly
		H..... Hard	> 4.0	>30		SS .... Sandstone		Sm(s) ... Seam (s)
						Sh..... Shale, Shaley		Nod ..... Nodules

Sample Interval TEST ASSIGNMENT	SAMPLE NO. Recovery	DEPTH FT.	SAMPLES	STRATUM DESCRIPTION: CONDITION OR CONSISTENCY	COLOR	MINOR MATERIALS OR ADJECTIVES	PREDOMINATE MATERIAL	CHARACTERISTICS OR MODIFICATIONS	STANDARD PENETROMETER: SEAT - 6"	1st - 6"	2nd - 6"	UNIFIED SOIL CLASSIFICATION	N - VALUE OR HAND PENETROMETER
SM	0-5 2' Rec	0		0-8'	Br, Lt. Rd Br	Si	Sa	Silty Sand - trace clay, trace root hairs, moist.				moist	(0-5')
8'	5-10 2.5' Rec				Lt. Rd Br			- thin lenses (less than 1/4") at 7.5', trace iron staining				moist	(5-10')
CL	10-15 4' Rec	8		8-14.5	Lt. Rd Br, Rd Br, Gray	Sa, Si	CL	Clay - some silty sand and silty clayey sand in interbeds to 14.5', trace iron ore gravel in sand seams @ 10.5', 12', 12.5'				moist	(10-15')
14.5'	15-20 2' Rec	14.5		14.5-39'	Rd Br, Yllw. Br, Gray	Si, CL	Sa	silty sand - some sandy clay, iron cemented sand @ 16.5' and ironstone 1% (@ 11.5')				v. moist to moist	(15-20')
SC	20-25' * No Rec.							- cemented sand seams in silty sand @ 20-25' (?)				v. moist	(20-25')
	25-30' 2.5' Rec				Gray - DK Gray DK. Br			- gravel & cemented sand seam @ 25' (6")				sat. @ 25'-25.5'	
				(25-39')				- cemented sand, partially recovered					
								clayey silty sand @ 25.5'				moist	25.5 27
								- dark gray silty sat sand seam @ 27' (2")				sat. @ 27.0'	(2")
	30-35 3' Rec							- sat. silty sand seam @ 30.5' (1")				sat. @ 30.5'	(1")
								- sat. silty sand seam @ 32' (3")					32.0 (3")
39'								* some v.f. gypsum, dry stalk in clayey sand between sat. sand seams (25-40')				v. moist (to 39')	
ML	35-40 4' Rec	39		39-46	Lt. Gray, Gray (39-46')	CL & Si	Si	Clayey sandy silt, - interbedded silt & clay @ 39' to 40'				moist	(39-40')
								B.O.T. @ 40'					
								* 25-27' collected @ 1015					
								* 31-33' collected @ 1035					

Type Boring HSA Dry Auger ☒ Rotary Wash ☐

SEEPAGE @ 25' FT. WHILE DRILLING, W.L. @ ___ FT. ON COMPL. (OR) BAILED TO ___ FT. UPON COMPLETION. W.L. @ ___ FT AND CAVED TO ___ FT. ON _____.

* GPS: 32.46522, -94.49032 (12' E, 3.5' N of AD-2/MW-2)

ATTACHMENT C
SB-2 Boring Photographic Log

GEOSYNTEC CONSULTANTS
Photographic Record

Geosyntec consultants

Client: AEP **Project Number: CHA8495**

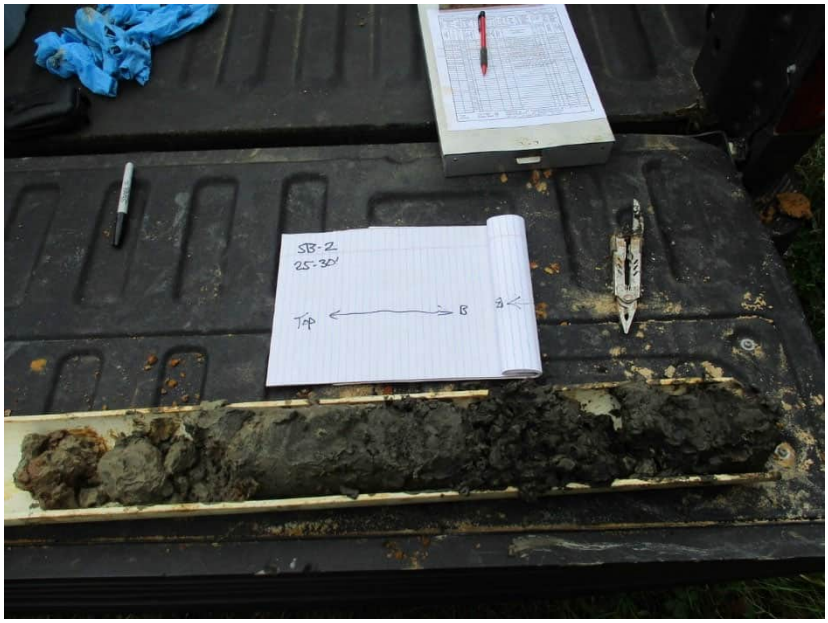
Site Name: Pirkey East Bottom Ash Pond **Site Location: Hallsville, Texas**

Photograph 1 **Date: 4/21/2020** **Direction: N/A** **Comments:** 0-5 foot interval of SB-2.	
Photograph 2 **Date: 4/21/2020** **Direction: N/A** **Comments:** 5-10 foot interval of SB-2.	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: AEP	**Project Number: CHA8495**
Site Name: Pirkey East Bottom Ash Pond	**Site Location: Hallsville, Texas**

Photograph 3 **Date: 4/21/2020** **Direction: N/A** **Comments:** 10-15 foot interval of SB-2.	
Photograph 4 **Date: 4/21/2020** **Direction: N/A** **Comments:** 15-20 foot interval of SB-2. Recovery of this interval was limited.	

GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: AEP	**Project Number: CHA8495**
Site Name: Pirkey East Bottom Ash Pond	**Site Location: Hallsville, Texas**

Photograph 5 **Date: 4/21/2020** **Direction: N/A** **Comments:** 20-25 foot interval of SB-2. Recovery of this interval was limited.	
Photograph 6 **Date: 4/21/2020** **Direction: N/A** **Comments:** 25-30 foot interval of SB-2. Very little of this interval was recovered. A color change was observed from red to dark brown/black. A sample was collected from this interval.	

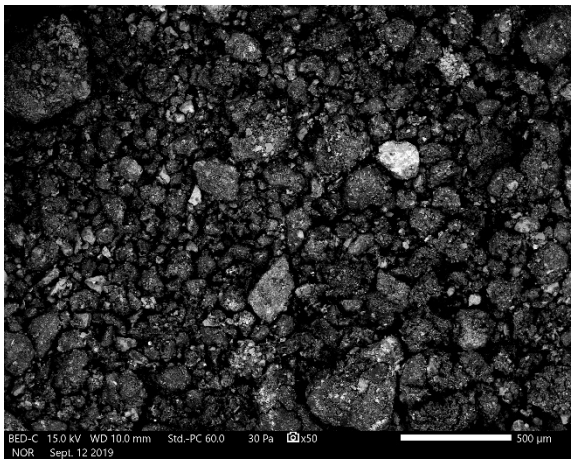
GEOSYNTEC CONSULTANTS Photographic Record	Geosyntec consultants
Client: AEP	**Project Number: CHA8495**
Site Name: Pirkey East Bottom Ash Pond	**Site Location: Hallsville, Texas**

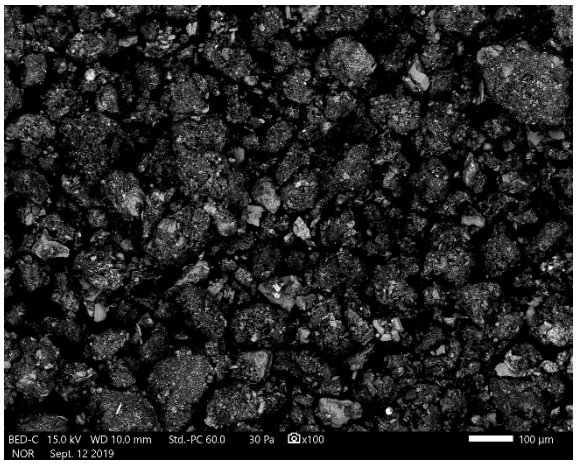
Photograph 9 **Date: 4/21/2020** **Direction: N/A** **Comments:** 30-35 foot interval of SB-2. Very little of this interval was recovered.. A sample was collected from this interval.	
Photograph 10 **Date: 4/21/2020** **Direction: N/A** **Comments:** 35-40 foot interval of SB-2	

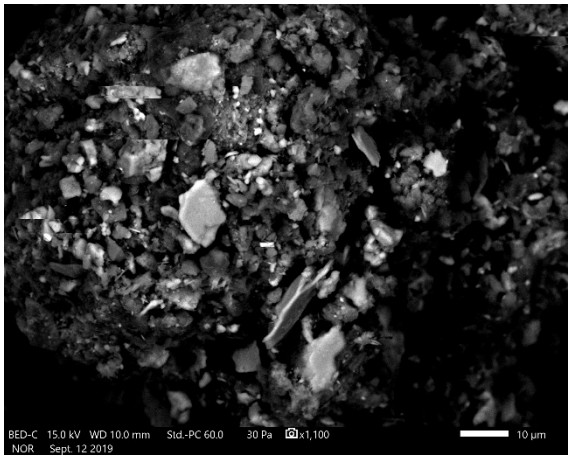
ATTACHMENT D
SEM/EDS Analysis

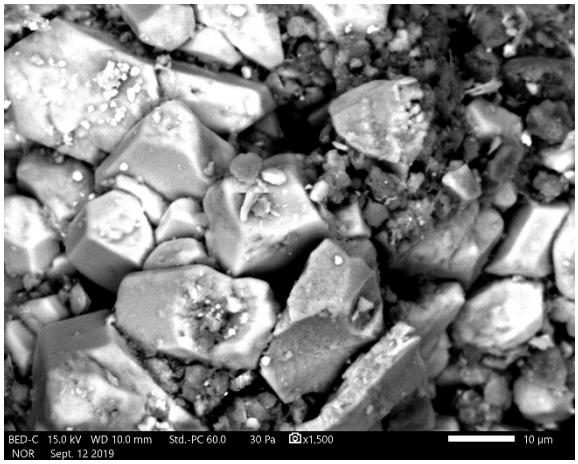
September 16, 2019

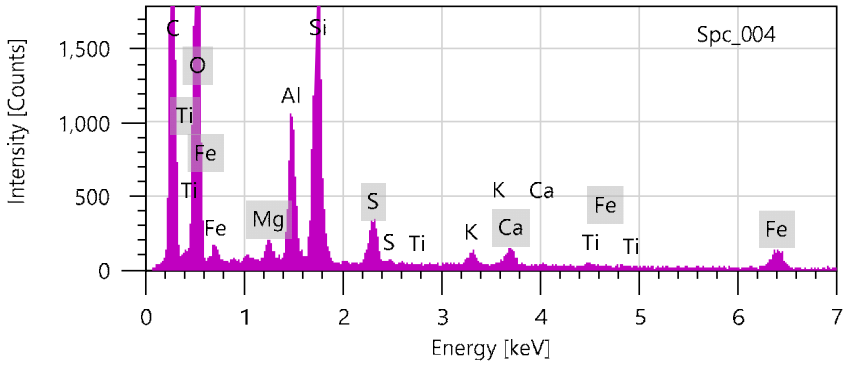
Dr. Bruce Sass
941 Chatham Lane, Suite 103, Columbus, OH 43221
via Email: BSass@geosyntec.com



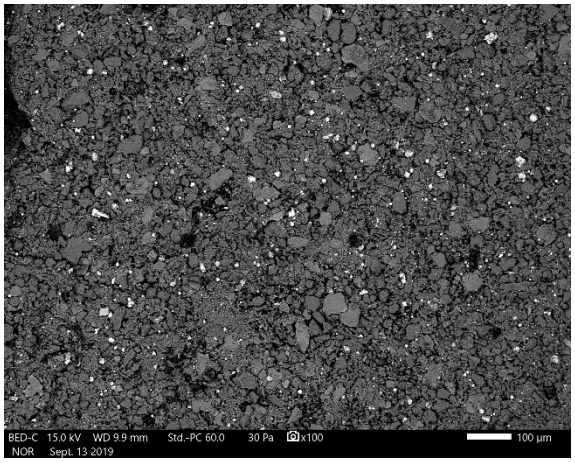


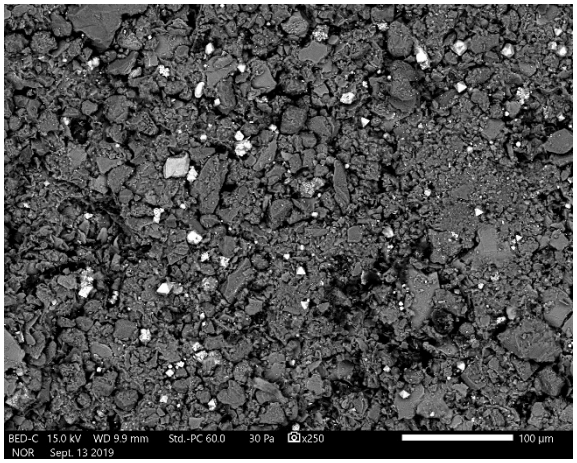


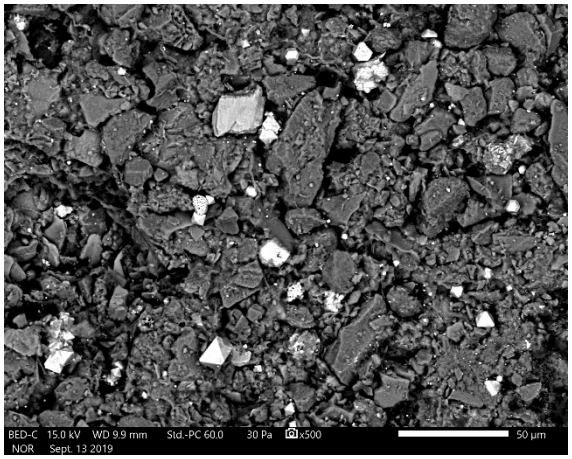


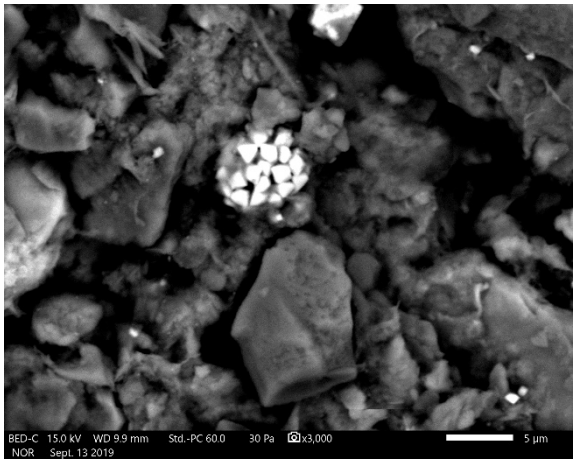


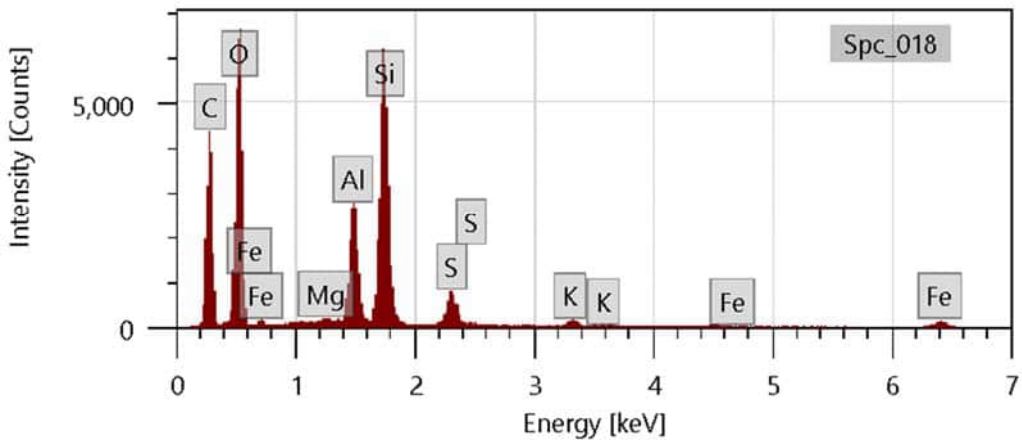
Lignite. Backscattered electron micrographs show the sample at 100X, 1,100X, and 1,500X. EDS spectrum at bottom is an area scan of the region shown in top right micrograph. Bright particles are mostly quartz and feldspar. Major peaks for carbon, oxygen, silicon, and aluminum suggest coal and clay.





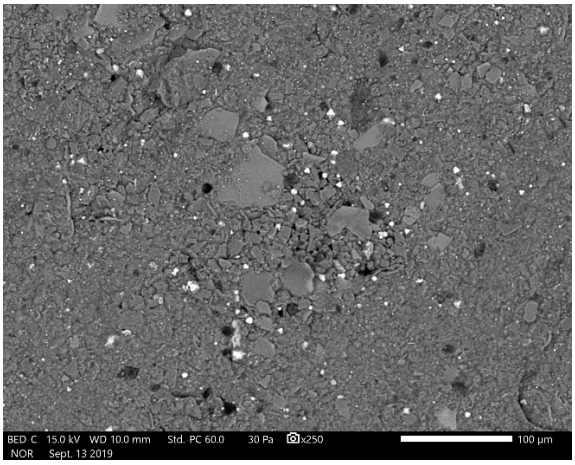


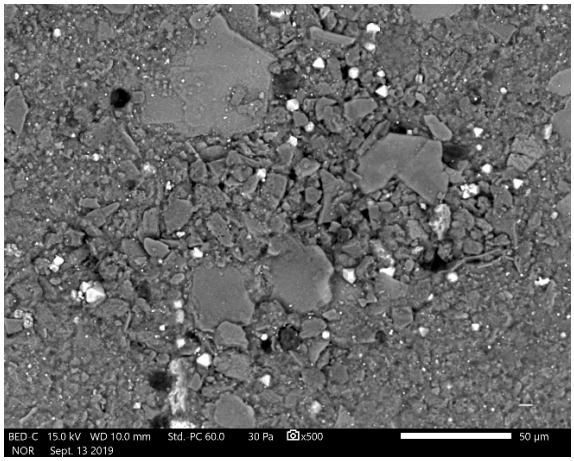


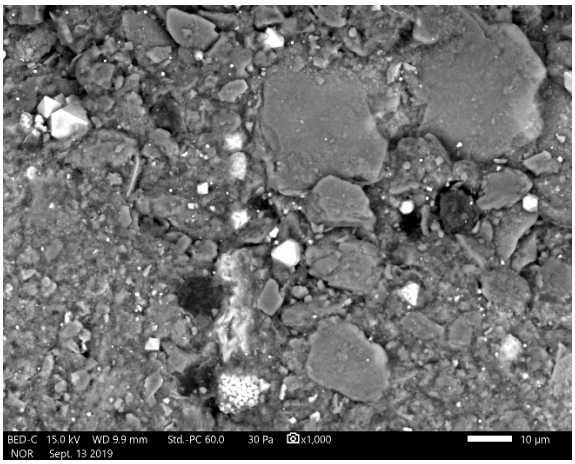


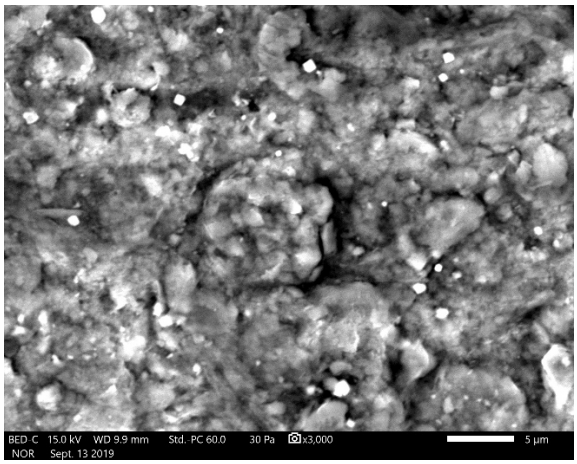
Sample VAP B3 40-45. Backscattered electron micrographs show the sample at 100X, 250X, 500X, and 3000X. EDS spectrum at bottom is an area scan of the region shown at 500X. Bright particles are pyrite (framboid in bottom right micrograph). Major peaks for carbon, oxygen, silicon, and aluminum suggest coal and clay.

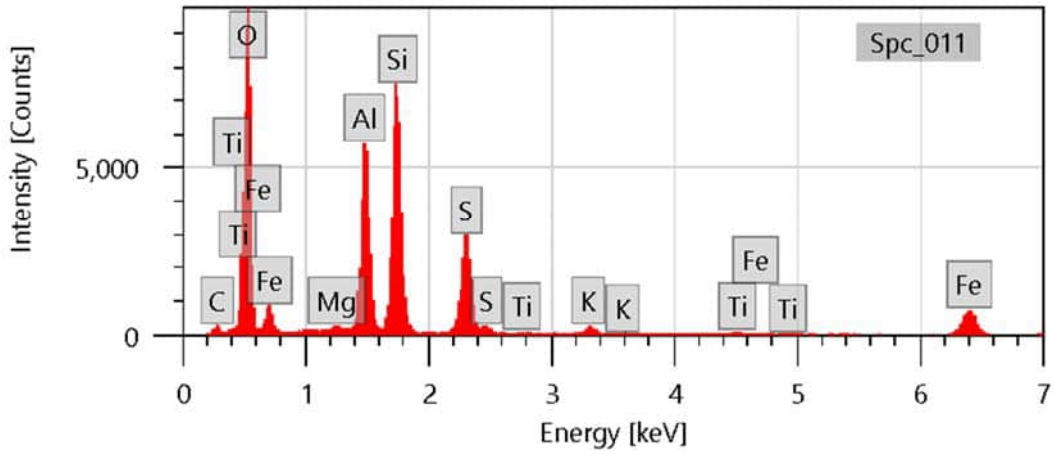
Geosyntec
CTLGroup 150350











Sample VAP B3 50-55. Backscattered electron micrographs show the sample at 250X, 500X, 1000X, and 3000X. EDS spectrum at bottom is an area scan of the region shown at 3000X. Bright particles are mostly pyrite (framboid in bottom left micrograph); occasional particles of Fe-Ti oxide are detected. Major peaks for oxygen, silicon, and aluminum suggest clay. Large blocky particles are mostly quartz, feldspar, and clay.

ATTACHMENT E
Tolerance Limit Calculation Using B-Series Data

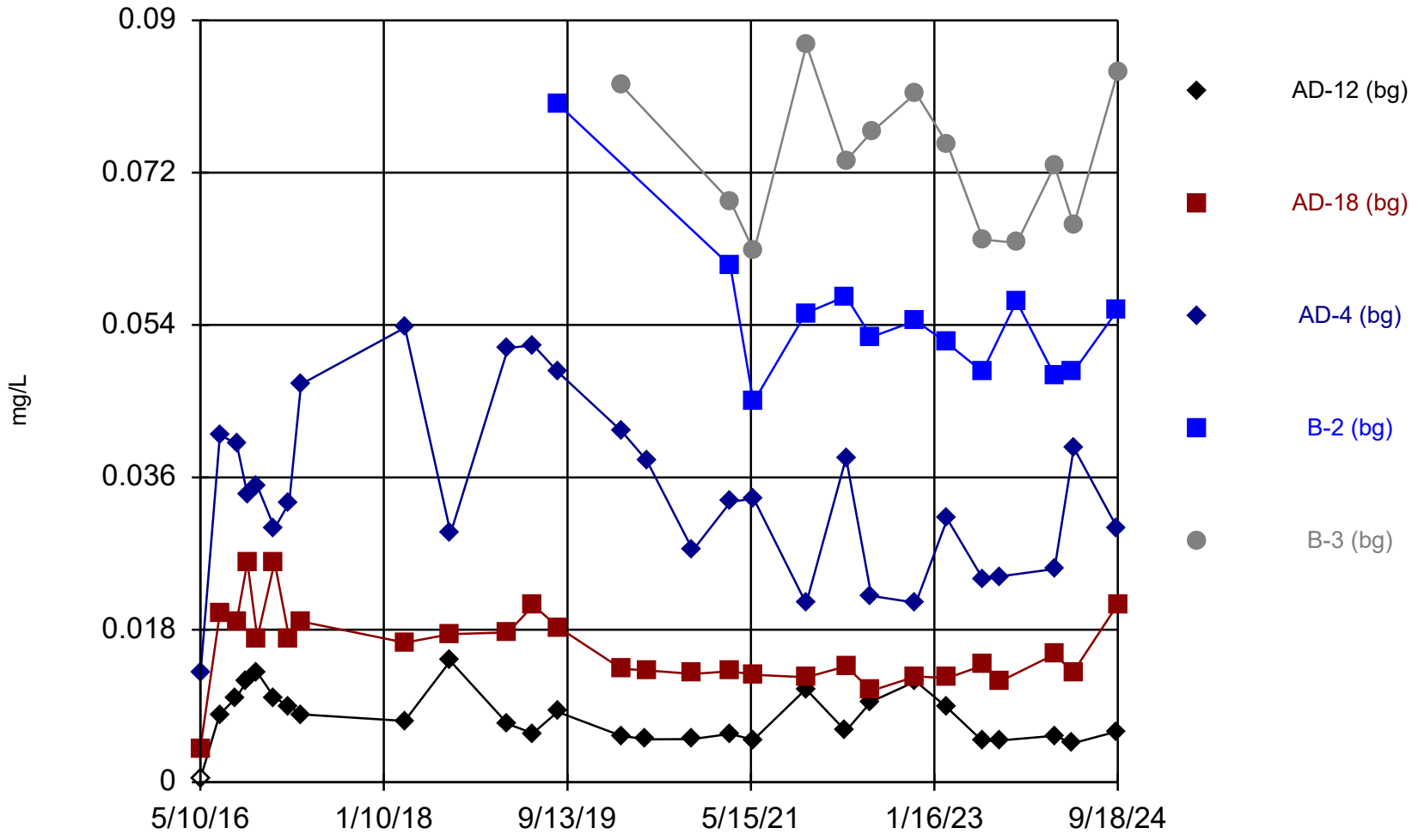
Upper Tolerance Limits

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP Printed 3/19/2025, 10:15 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Lithium, total (mg/L)	n/a	0.1231	n/a	n/a	n/a	n/a	110	0.9091	ln(x)	0.05	Inter

Sanitas™ v.10.0.24 Software licensed to Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Lithium, total Analysis Run 3/19/2025 9:56 AM View: Lithium UTLs

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

Tolerance Limit

Interwell Parametric



95% coverage. Background Data Summary (based on natural log transformation): Mean=-3.867, Std. Dev.=0.9275, n=110, 0.9091% NDs. Normality test: Chi Squared @alpha = 0.01, calculated = 11.09, critical = 14.07. Report alpha = 0.05.

Constituent: Lithium, total Analysis Run 3/19/2025 9:55 AM View: Lithium UTLs

Pirkey EBAP Client: Geosyntec Data: Pirkey EBAP

ATTACHMENT F
Certification by a Qualified Professional Engineer

CERTIFICATION BY A QUALIFIED PROFESSIONAL ENGINEER

I certify that the above described alternative source demonstration is appropriate for evaluating the groundwater monitoring data for the CCR management area of the former Pirkey East Bottom Ash Pond 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	December 23, 2025
License Number	Licensing State	Date

APPENDIX 4

Notices for Monitoring Program Transitions

Pirkey Plant

Notice of Assessment Monitoring Program Establishment

East Bottom Ash Pond

On January 3, 2018, it was determined that Pirkey Plant's East Bottom Ash Pond had statistically significant increases over background for Boron, Calcium, Chloride, Sulfate, and Total Dissolved Solids (TDS). An alternative source demonstration was not successful within the 90 day period as allowed for in 257.94(e)(2) prompting the initiation of an assessment monitoring program, which was established on April 3, 2018. Therefore this notice is being placed in the operating record in accordance with the requirement of 257.94(e)(3).

APPENDIX 5

Well Installation/Decommissioning Logs – NA

APPENDIX 6

Groundwater monitoring Field and Laboratory Reports

CCR Groundwater Monitoring Well Inspection Form

Facility: Pilgrim

Sampling Period: Feb 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
B-2				✓		✓	✓	lid will not shut
AD-12	✓	✓	✓	✓	✓	✓	✓	
AD-32	✓	✓	✓	✓	✓	✓	✓	
AD-31	✓	✓	✓	✓	✓	✓	✓	
AD-30	✓	✓	✓	✓	✓	✓	✓	
AD-26	✓	✓	✓	✓	✓	✓	✓	
AD-25	✓	✓	✓	✓	✓	✓	✓	
AD-28	✓	✓	✓	✓	✓	✓	✓	
AD-3	✓	✓	✓	✓	✓	✓	✓	

*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 Pinney PP

Sampling Period: February 2025

Sampling Contractor: EAGLE

Signature: KAM

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-18	✓	✓	✓	✓	✓	✓	✓	
AD-04	✓	✓	✓		✓	✓	✓	NO GOOD ACCESS TO WELL LOCATION STEEP HILL
B-3	✓	✓	✓	✓	✓		✓	NEEDS LABEL
AD-7R	✓	✓	✓	✓	✓		✓	NO LABEL
AD-22	✓	✓	✓	✓	✓	✓	✓	
AD-33	✓	✓	✓	✓	✓	✓	✓	
AD-02	✓	✓	✓	✓	✓	✓	✓	
AD-17	✓	✓	✓	✓	✓	✓	✓	

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.

Facility Name	AEP Pickaway PP
Sample by	Kenny McDonald

Sample Location ID	AD-02

Depth to water, feet (TOC)	15.31
Measured Total Depth, feet (TOC)	40.36

Depth to water date	02/04/25

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)		
1006	15.40	220	4.37	722	1.1	2.71	411	18.37		
1011	15.41	220	4.35	725	0.6	2.28	414	18.40		
1016	15.41	220	4.35	729	0.8	2.25	420	18.42		
1021	15.44	220	4.34	731	0.4	2.23	417	18.42		

Total volume purged	
Sample appearance	clear
Sample time	1023
Sample date	02/04/25

Facility Name	Pixley
Sample by	Matt Hamilton

Sample Location ID	AD-3
Depth to water date	2-4-25

Depth to water, feet (TOC)	33.98
Measured Total Depth, feet (TOC)	57.81

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)		
1032	34.22	220	4.55	105	22.3	1.00	413	21.71		
1037	34.31	220	4.57	106	22.7	0.48	400	21.18		
1042	34.39	220	4.58	105	8.2	0.93	394	20.82		
1047	34.49	220	4.57	104	8.4	0.91	390	20.67		

Total volume purged	
Sample appearance	clear
Sample time	1045
Sample date	2-4-25

Facility Name	AEP Pirkey PP
Sample by	Kenny McDonald

Sample Location ID	AD-04

Depth to water, feet (TOC)	10.93
Measured Total Depth, feet (TOC)	47.29

Depth to water date	02/03/25

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)		
0941	10.95	190	5.03	84	10.6	4.13	436	18.52		
0946	10.95	190	4.97	87	9.4	2.87	436	18.59		
0951	10.96	190	4.95	91	9.0	2.92	430	18.60		
0956	10.95	190	4.94	94	9.2	2.94	427	18.63		

Total volume purged	
Sample appearance	CLEAR
Sample time	0958
Sample date	02/03/25

Facility Name	AEP Pigeon PP
Sample by	Kenny McDonald

Sample Location ID	AD-7R

Depth to water, feet (TOC)	5.75
Measured Total Depth, feet (TOC)	33.03

Depth to water date	02/03/25

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)		
1052	5.91	230	5.08	234	1.4	3.21	287	17.46		
1057	5.87	230	5.23	238	0.8	2.26	285	17.50		
1102	5.86	230	5.26	240	0.0	2.22	280	17.54		
1107	5.86	230	5.27	236	0.5	2.21	279	17.56		
Qr										

Total volume purged	
Sample appearance	Clear
Sample time	1109
Sample date	02/03/25

Facility Name	Pixley
Sample by	MH Hamilton

Sample Location ID	AD-12

Depth to water, feet (TOC)	7.22
Measured Total Depth, feet (TOC)	52.00

Depth to water date	2-3-25

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)		
912	7.71	300	3.59	44	3.0	1.16	277	19.40		
917	7.89	300	3.22	41	3.3	1.05	347	19.67		
922	7.98	300	3.14	40	3.1	1.03	361	19.77		

Total volume purged	
Sample appearance	clear
Sample time	924
Sample date	2-3-25

Facility Name	AEP Pinch PP
Sample by	Kenny McDonald

Sample Location ID	AD-13

Depth to water, feet (TOC)	10.34
Measured Total Depth, feet (TOC)	40.70

Depth to water date	02/03/25

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)		
0756	10.61	180	5.69	386	15.6	4.87	218	18.21		
0801	10.63	180	5.71	379	11.3	3.29	209	18.24		
0806	10.64	180	5.71	377	8.2	3.06	209	18.27		
0811	10.68	180	5.74	377	8.0	3.10	209	18.30		
0816	10.70	180	5.72	375	8.4	3.07	206	18.30		

Total volume purged	
Sample appearance	REDDISH BROWN TINT
Sample time	0818
Sample date	02/03/25

DUPLICATE 0818

Facility Name	AEP PIRKEY PP
Sample by	KENNY McDONALD

Sample Location ID	AD-17

Depth to water, feet (TOC)	19.04
Measured Total Depth, feet (TOC)	33.05

Depth to water date	02/04/25

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	19.13	206	4.12	80	8.3	1.87	422	19.84		
1112	19.13	206	4.16	84	7.9	1.85	427	19.88		
1117	19.15	206	4.19	87	7.6	1.87	431	19.91		

Total volume purged	
Sample appearance	CLEAR
Sample time	1119
Sample date	02/04/25

Facility Name	ACP PINAM PP
Sample by	KIMMY McDONALD

Sample Location ID	AD-18

Depth to water, feet (TOC)	3.82
Measured Total Depth, feet (TOC)	28.42

Depth to water date	02/03/25

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)		
0917	4.91	96	4.61	60	13.7	2.61	422	18.91		
0922	5.76	96	4.57	56	14.3	2.48	417	19.03		
			Won't Hold							

Total volume purged	
Sample appearance	CLEAR
Sample time	0804
Sample date	02/04/25

Facility Name	ACP Pinnacle PP
Sample by	Kenny McDonald

Sample Location ID	AD-22

Depth to water, feet (TOC)	6.95
Measured Total Depth, feet (TOC)	32.70

Depth to water date	02/03/25

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)		
1204	7.02	180	4.20	796	0.8	2.03	342	18.11		
1209	7.02	180	4.21	802	1.1	1.98	346	18.13		
1214	7.04	180	4.22	805	0.7	1.97	348	18.13		

Total volume purged	
Sample appearance	Clear
Sample time	1216
Sample date	02/03/25

Facility Name	Pickett
Sample by	Matt Bonilla

Sample Location ID	AD-25

Depth to water, feet (TOC)	8.57
Measured Total Depth, feet (TOC)	27.38

Depth to water date	2-4-25

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)		
851	8.81	125	3.51	769	11.4	1.14	351	20.66		
856	8.89	125	3.58	739	8.2	0.98	364	21.cc		
901	8.91	125	3.61	741	8.3	0.90	276	21.09		
906	9.09	125	3.63	742	8.3	0.87	269	21.12		

Total volume purged	
Sample appearance	clear
Sample time	908
Sample date	2-4-25

Facility Name	Pinkey
Sample by	Hunt / Hamilton

Depth to water, feet (TOC)	16.14
Measured Total Depth, feet (TOC)	42.73

Sample Location ID	AD-26
Depth to water date	2-4-25

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)		
802	16.33	300	3.21	2,000	11.4	4.38	554	20.86		
807	16.51	300	3.78	2,100	8.8	1.49	523	21.06		
812	16.65	300	3.90	2,150	8.9	1.21	506	21.22		
817	16.78	300	3.94	2,250	8.8	1.13	498	21.31		

Total volume purged	
Sample appearance	clear
Sample time	819
Sample date	2-4-25

Facility Name	Pixley
Sample by	Matt Hamilton

Sample Location ID	AD-28

Depth to water, feet (TOC)	17.82
Measured Total Depth, feet (TOC)	38.59

Depth to water date	2-4-25

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)		
935	18.21	220	3.46	120	5.7	1.16	298	21.02		
940	18.31	220	3.51	113	3.0	1.03	343	20.89		
945	18.33	220	3.75	113	1.7	0.95	351	20.86		

Total volume purged	
Sample appearance	Clear
Sample time	947
Sample date	2-4-25

Facility Name	Pixley
Sample by	Hamilton

Sample Location ID	AD-30

Depth to water, feet (TOC)	17.95
Measured Total Depth, feet (TOC)	42.71

Depth to water date	2-3-25

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)		
1152	18.06	300	3.48	320	99	0.62	405	23.54		
1157	18.06	300	3.44	323	54.6	0.67	388	23.33		
1202	18.06	300	3.98	323	32.2	0.64	377	23.05		
1207	18.06	300	3.97	322	21.2	0.61	371	22.95		
1212	18.06	300	3.97	321	9.9	0.54	367	22.88		
1217	18.06	300	3.96	320	9.9	0.58	364	22.71		

Total volume purged	
Sample appearance	clear
Sample time	1219
Sample date	2-3-25

Facility Name	Pickaway
Sample by	Matt Hamilton

Sample Location ID	AD-31

Depth to water, feet (TOC)	21.38
Measured Total Depth, feet (TOC)	37.32

Depth to water date	2-3-25

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)		
1053	21.72	220	3.25	254	47.4	0.79	311	23.26		
1058	21.72	220	3.08	262	24.5	0.74	318	23.64		
1103	21.72	220	3.07	265	22.9	0.70	324	23.96		
1108	21.72	220	3.07	267	18.3	0.65	330	23.67		
1113	21.72	220	3.09	269	18.4	0.62	335	24.07		

Total volume purged	
Sample appearance	clear
Sample time	1115
Sample date	2-3-25

Facility Name	Pixley
Sample by	Matt / Hailey

Depth to water, feet (TOC)	14.44
Measured Total Depth, feet (TOC)	34.61

Sample Location ID	AD-32
Depth to water date	2-3-25

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)		
955	14.96	220	4.61	225	71.3	0.93	231	21.42		
1004	15.01	220	4.66	237	61.2	0.91	134	21.81		
1009	15.08	220	4.71	242	64.5	0.89	107	21.96		
1014	15.12	220	4.75	244	68.7	0.84	99	22.11		

Total volume purged	
Sample appearance	slightly turbid
Sample time	1016
Sample date	2-3-25

Facility Name	AEP PIKE PP
Sample by	KENNY McDONALD

Sample Location ID	AP-33

Depth to water, feet (TOC)	10.08
Measured Total Depth, feet (TOC)	32.50

Depth to water date	02/04/25

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)		
0912	10.13	224	4.08	198	1.3	3.35	306	17.24		
0917	10.14	224	4.07	200	1.3	3.34	311	17.26		
0922	10.14	224	4.06	204	1.0	3.36	313	17.27		

Total volume purged	
Sample appearance	CLEAR
Sample time	0924
Sample date	02/04/25

Facility Name	Pixley
Sample by	M-N Hamilton

Sample Location ID	B-2

Depth to water, feet (TOC)	15.25
Measured Total Depth, feet (TOC)	51.44

Depth to water date	2-3-25

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)		
830	15.65	300	4.67	233	9.2	0.74	327	19.56		
835	15.67	300	3.93	124	3.3	1.00	279	19.68		
840	15.68	300	4.00	121	2.1	0.98	268	19.73		

Total volume purged	
Sample appearance	clear
Sample time	842
Sample date	2-3-25

Duplicate
1333

Facility Name	AEP Pirkey PP
Sample by	Kiwny McDonald

Sample Location ID	B-3

Depth to water, feet (TOC)	10.30
Measured Total Depth, feet (TOC)	37.49

Depth to water date	02/03/25

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)		
1035	11.21	102	4.97	189	5.7	2.13	371	18.47		
1040	12.36	102	5.01	194	4.9	2.06	352	18.53		
			Well Hold	Water Level						

Total volume purged	
Sample appearance	Clear
Sample time	0845
Sample date	02/04/25

CCR Groundwater Monitoring Well Inspection Form

Facility: AEP Pirkey PP

Sampling Period: APRIL 2025

Sampling Contractor: EAGLE

Signature: KYM

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-16	✓	✓	✓		✓	✓	✓	TRAIL NEEDS CLEARING
AD-13	✓	✓	✓	✓	✓	✓	✓	
AD-7R	✓	✓	✓	✓	✓	✓	✓	
AD-22	✓	✓	✓	✓	✓	✓	✓	
AD-33	✓	✓	✓	✓	✓	✓	✓	
AD-2	✓	✓	✓	✓	✓	✓	✓	
AD-36	✓	✓	✓	✓	✓	✓	✓	
AD-8	✓	✓	✓	✓	✓	✓	✓	
B-3	✓	✓	✓	✓	✓	✓	✓	
AD-18	✓	✓	✓	✓	✓	✓	✓	
AD-34	✓	✓	✓		✓	✓	✓	FENCE REPAIRS SIDE OF ACCESS OVER LANDFILL
AD-4	✓	✓	✓		✓	✓	✓	STEEP SLOPE ONLY ACCESS

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: Pirkey

Sampling Period: April 2-25

Sampling Contractor: Eagle

Signature: Matt Tull

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
B-2		✓		✓	✓	✓	✓	lid will not close
AD-12	✓	✓	✓	✓	✓	✓	✓	
AD-32	✓	✓	✓	✓	✓	✓	✓	
AD-31	✓	✓	✓	✓	✓	✓	✓	
AD-3c	✓	✓	✓	✓	✓	✓	✓	
AD-17	✓	✓	✓	✓	✓	✓	✓	
AD-28	✓	✓	✓	✓	✓	✓	✓	
AD-3	✓	✓	✓	✓	✓	✓	✓	
AD-27	✓	✓	✓	✓	✓	✓	✓	
AD-26	✓	✓	✓	✓	✓	✓	✓	needs new lock
AD-25	✓	✓	✓	✓	✓	✓	✓	needs new lock
AD-23	✓	✓	✓	✓	✓	✓	✓	

*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	AFP Pinkney PP
Sample by	Kenny McDonald

Sample Location ID	AD-2

Depth to water, feet (TOC)	16.45
Measured Total Depth, feet (TOC)	40.36

Depth to water date	04/22/25

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)		
0916	16.51	220	3.93	732	1.1	1.99	424	21.31		
0921	16.52	220	3.95	749	0.8	1.97	424	21.24		
0926	16.52	220	3.96	758	0.6	1.93	422	21.20		
	1#									

Total volume purged	
Sample appearance	Clear
Sample time	0928
Sample date	04/22/25

Facility Name	Pilcoy
Sample by	M-N Hamilton

Depth to water, feet (TOC)	33.91
Measured Total Depth, feet (TOC)	57.46

Sample Location ID	AD-3
Depth to water date	4.22.25

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)
1030	33.82	220	4.89	124	10.6	1.05	432	22.53
1035	33.90	220	4.72	123	5	1.04	433	21.58
1040	33.94	220	4.74	123	4	1.00	416	21.41
1045	34.07	220	4.75	123	3	0.97	410	21.34

Total volume purged	
Sample appearance	Clear
Sample time	1047
Sample date	4.22.25

Facility Name	AGP Plant PP
Sample by	Kerry McDonald

Sample Location ID	AO-4

Depth to water, feet (TOC)	14.82
Measured Total Depth, feet (TOC)	47.29

Depth to water date	04/23/25

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)		
0945	14.92	180	4.09	88	13.7	2.97	410	22.28		
0950	14.94	180	4.02	106	15.3	2.04	413	22.31		
0955	14.95	180	4.00	107	15.0	1.99	415	22.31		
1000	14.97	180	3.99	111	14.8	1.97	418	22.31		

Total volume purged	
Sample appearance	Clear
Sample time	1002
Sample date	04/23/25

Facility Name	AFD PINNEY PP
Sample by	KENNY McDONALD

Sample Location ID	AO-7R

Depth to water, feet (TOC)	6.83
Measured Total Depth, feet (TOC)	33.03

Depth to water date	04/21/25

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)		
1046	6.85	218	4.21	231	8.2	2.80	222			
1051	6.85	218	4.20	230	4.6	1.77	225			
1056	6.85	218	4.18	230	4.5	1.73	227			
1101	6.87	218	4.18	226	4.2	1.71	229			

Total volume purged	
Sample appearance	CLEAR
Sample time	1103
Sample date	04/21/25

Facility Name	AEP Pirkey PP
Sample by	Kenny McDonald

Depth to water, feet (TOC)	11.88
Measured Total Depth, feet (TOC)	31.33

Sample Location ID	AP-08
Depth to water date	04/22/25

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)		
1057	11.91	206	5.94	416	4.7	3.12	334	22.41		
1102	11.91	206	5.63	420	5.3	1.84	318	22.37		
1107	11.91	206	5.61	422	5.7	1.80	311	22.35		
1112	11.93	206	5.60	422	5.9	1.79	306	22.33		

Total volume purged	
Sample appearance	Clear
Sample time	1114
Sample date	04/22/25

Facility Name	Pinkey
Sample by	Mert / Hamilton

Sample Location ID	AD-12

Depth to water, feet (TOC)	12.47
Measured Total Depth, feet (TOC)	52.00

Depth to water date	4.21.21

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)		
923	12.61	300	3.50	42	6.4	1.32	313	20.75		
928	12.72	300	3.18	39	7.3	1.27	348	21.05		
933	12.80	300	3.12	38	7.4	1.21	364	21.33		
938	12.92	300	3.15	37	7.4	1.19	371	21.31		

Total volume purged	
Sample appearance	clear
Sample time	940
Sample date	4-21.21

Facility Name	AFP Pitney PP
Sample by	Kenny McDonald

Sample Location ID	AD-13

Depth to water, feet (TOC)	10.47
Measured Total Depth, feet (TOC)	40.70

Depth to water date	04/21/25

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	10.56	184	5.59	415	425	5.31	253	22.93		
0947	10.60	184	5.56	397	315	5.02	124	23.06		
0952	10.63	184	5.55	399	228	4.97	80	23.09		
0957	10.65	184	5.55	399	223	4.96	79	23.10		
1002	10.69	184	5.54	398	220	4.92	77	23.10		

Total volume purged	
Sample appearance	TURBID
Sample time	1004
Sample date	04/21/25

Facility Name	AEP Pinnacle PP
Sample by	Kenny McDonald

Sample Location ID	AD-16

Depth to water, feet (TOC)	15.46
Measured Total Depth, feet (TOC)	38.24

Depth to water date	04/21/25

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	15.55	180	4.51	304	10.2	0.87	358	21.84		
0857	15.55	180	4.53	297	9.8	0.86	360	21.79		
0902	15.55	180	4.53	291	10.1	0.83	364	21.77		

Total volume purged	
Sample appearance	clear
Sample time	904
Sample date	04/21/25

Facility Name	Pillcox
Sample by	M-tt Hamilton

Depth to water, feet (TOC)	21.13
Measured Total Depth, feet (TOC)	33.05

Sample Location ID	AD-17
Depth to water date	4-22-25

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)		
854	21.63	200	4.18	68	17.4	1.17	474	20.83		
859	21.65	200	3.76	66	4.9	1.19	513	20.41		
904	21.66	200	3.74	65	3.3	1.17	514	20.36		
909	21.66	200	3.73	64	2.9	1.16	514	20.37		

Total volume purged	
Sample appearance	clear
Sample time	911
Sample date	4-22-25

Facility Name	AEP Pinnacle PP
Sample by	Kenny McDonald

Sample Location ID	MP-18

Depth to water, feet (TOC)	4.99
Measured Total Depth, feet (TOC)	28.42

Depth to water date	04/22/25

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)		
1201	6.03	106	4.10	135	1.3	1.58	407	21.83		
1206	6.97	106	4.18	123	2.5	1.47	389	21.96		
				won't hold warm level						

Total volume purged	
Sample appearance	clear
Sample time	0901
Sample date	04/23/25

Facility Name	AEP Pirkey PP
Sample by	Kenny McDonald

Sample Location ID	AO-22

Depth to water, feet (TOC)	8.40
Measured Total Depth, feet (TOC)	32.70

Depth to water date	04/21/25

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)		
1148	8.82	180	3.85	822	3.7	2.51	364	23.28		
1153	8.83	180	3.92	833	1.6	2.43	357	23.41		
1158	8.86	180	3.92	836	1.3	2.41	354	23.43		
1203	8.87	180	3.94	838	1.2	2.40	352	23.43		

Total volume purged	
Sample appearance	Clear
Sample time	1205
Sample date	04/21/25

Facility Name	Pixley
Sample by	M. Ft Hamilton

Sample Location ID	MW-23

Depth to water, feet (TOC)	29.66
Measured Total Depth, feet (TOC)	38.26

Depth to water date	4-23-25

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)		
1035	29.89	220	4.18	199	14.4	0.96	306	21.71		
1040	29.91	220	4.25	103	78.9	0.99	315	21.47		
1045	29.92	220	4.24	85	60.2	0.96	322	21.39		
1050	29.93	220	4.25	84	47.2	0.91	330	21.37		
1055	29.93	220	4.26	82	48.5	0.89	334	21.42		

Total volume purged	
Sample appearance	Turbid
Sample time	1057
Sample date	4-23-25

Facility Name	Pillar
Sample by	Matt Hamilton

Depth to water, feet (TOC)	8.64
Measured Total Depth, feet (TOC)	27.38

Sample Location ID	AD-23
Depth to water date	4-23-25

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)		
940	8.90	120	4.03	874	47.5	1.05	301	22.01		
945	9.01	120	4.21	739	23.5	1.04	278	21.75		
950	9.08	120	4.25	717	9.9	1.03	265	21.62		
955	9.16	120	4.27	710	9.5	1.04	258	21.56		

Total volume purged	
Sample appearance	Clear
Sample time	957
Sample date	4-23-25

Facility Name	Pixley
Sample by	Matt Hamilton

Sample Location ID	AD-26

Depth to water, feet (TOC)	15.67
Measured Total Depth, feet (TOC)	42.73

Depth to water date	4-23-25

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)		
856	16.08	300	3.47	2,060	6.4	1.41	467	21.43		
901	16.28	300	3.54	2,100	3.8	1.20	394	21.36		
906	16.35	300	3.57	2,110	4.7	1.16	390	21.44		

Total volume purged	
Sample appearance	Clear
Sample time	908
Sample date	4-23-25

Facility Name	Pillcy
Sample by	Matt Hamilton

Sample Location ID	AD-27

Depth to water, feet (TOC)	2.24
Measured Total Depth, feet (TOC)	40.07

Depth to water date	4-23-25

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)		
826	2.57	300	3.75	223	21.6	1.20	488	21.75		
831	2.64	300	3.53	238	11.3	1.15	498	21.57		
836	2.67	300	3.54	241	8.4	1.05	493	21.54		
841	2.69	300	3.55	243	8.3	1.01	490	21.53		

Total volume purged	
Sample appearance	clear
Sample time	843
Sample date	4-23-25

Facility Name	Pitney
Sample by	Mark Hamilton

Sample Location ID	AD-28

Depth to water, feet (TOC)	19.01
Measured Total Depth, feet (TOC)	38.54

Depth to water date	4.22.25

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)		
933	19.24	220	3.95	110	7.3	1.07	481	21.46		
938	19.41	220	3.80	113	4.9	1.18	459	20.86		
943	19.49	220	3.76	114	4.0	1.15	500	20.81		

Total volume purged	
Sample appearance	Clear
Sample time	945
Sample date	4.22.25

Facility Name	Pixley
Sample by	Matt / Hamilton

Sample Location ID	AD-30

Depth to water, feet (TOC)	19.59
Measured Total Depth, feet (TOC)	27.15

Depth to water date	4-22-25

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)		
803	19.74	220	4.55	300	45.2	1.01	450	21.01		
808	19.77	220	4.27	314	75.6	1.14	488	20.66		
813	19.79	220	4.23	316	82.0	1.08	492	20.52		
818	19.80	220	4.21	317	51.9	1.00	491	20.41		
823	19.81	220	4.21	317	22.1	0.85	489	20.41		
828	19.81	220	4.20	318	22.5	0.83	488	20.46		

Total volume purged	
Sample appearance	clear
Sample time	830
Sample date	4-22-25

Facility Name	Pixley
Sample by	Matt Hamilton

Sample Location ID	AD-31

Depth to water, feet (TOC)	21.16
Measured Total Depth, feet (TOC)	37.32

Depth to water date	4.21.25

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)		
1103	21.34	220	3.21	253	38.4	1.03	322	24.26		
1108	21.53	220	3.14	251	26.2	0.99	3-1	24.23		
1113	21.55	220	3.12	264	26.2	0.88	295	24.21		
1118	21.56	220	3.11	270	26.3	0.86	295	24.28		

Total volume purged	
Sample appearance	clear
Sample time	1120
Sample date	4-21-25

Facility Name	Pinney
Sample by	Matt Hamilton

Sample Location ID	AD-32

Depth to water, feet (TOC)	15.71
Measured Total Depth, feet (TOC)	34.65

Depth to water date	4-21-21

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)		
1012	16.37	220	4.69	231	42	1.068	269	21.46		
1017	16.51	220	4.81	245	25	0.99	148	21.54		
1022	16.62	220	4.85	251	36	0.85	121	21.78		
1027	16.70	220	4.84	252	38	0.77	114	22.35		

Total volume purged	
Sample appearance	~~Clear~~ Slightly turbid
Sample time	1029
Sample date	4-21-21

Facility Name	AEP Pinnacle PP
Sample by	K Gray/M Deardorff

Sample Location ID	AO-33

Depth to water, feet (TOC)	10.58
Measured Total Depth, feet (TOC)	32.50

Depth to water date	04/22/25

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)		
0753	10.63	214	3.73	266	0.0	1.97	446	21.05		
0758	10.64	214	3.70	247	0.0	1.93	459	20.94		
0803	10.64	214	3.69	246	0.0	1.91	467	20.92		
0808	10.63	214	3.69	241	0.0	1.90	478	20.91		

Total volume purged	
Sample appearance	Clear
Sample time	0810
Sample date	04/22/25

DUPLICATE-1 1200

Facility Name	AEP PIRKEY PP
Sample by	Kenny McDonald

Sample Location ID	AD-34

Depth to water, feet (TOC)	TOC
Measured Total Depth, feet (TOC)	26.05

Depth to water date	04/23/25

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)		
0754	0.52	118	3.86	1490	1.2	0.97	423	22.03		
0759	0.60	118	3.91	1500	0.8	0.93	428	21.95		
0804	0.63	118	3.92	1520	0.5	0.91	431	21.84		

Total volume purged	
Sample appearance	Clear
Sample time	0806
Sample date	04/23/25

Facility Name	AEP Pilgrim PP
Sample by	Kenny McDonald

Sample Location ID	AD-36

Depth to water, feet (TOC)	5.61
Measured Total Depth, feet (TOC)	17.10

Depth to water date	04/22/25

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)		
1009	5.69	172	4.47	109	2.8	1.74	364	22.41		
1014	5.69	172	4.48	99	1.9	1.42	378	22.50		
1019	5.72	172	4.48	97	1.6	1.38	381	22.52		
1024	5.73	172	4.48	96	1.7	1.37	384	22.55		

Total volume purged	
Sample appearance	Clear
Sample time	1026
Sample date	04/22/25

Facility Name	Pilkey
Sample by	Matt Hamilton

Sample Location ID	B-2

Depth to water, feet (TOC)	17.94
Measured Total Depth, feet (TOC)	51.44

Depth to water date	4-21-25

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)		
822	18.36	300	4.25	163	16.0	0.89	332	14.38		
827	18.48	300	4.02	118	4.8	1.24	316	19.56		
832	18.42	300	4.02	114	4.7	1.20	311	14.64		
837	18.43	300	4.03	112	4.6	1.18	310	19.69		

Total volume purged	
Sample appearance	clear
Sample time	839
Sample date	4-21-25

Duplicate

1222

Facility Name	AFP Pinkney PP
Sample by	Kenny McDonald

Sample Location ID	B-3

Depth to water, feet (TOC)	12.84
Measured Total Depth, feet (TOC)	37.49

Depth to water date	04/22/25

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)		
1141	13.73	104	5.45	192	8.7	2.41	350	21.38		
1146	14.92	104	5.48	197	4.6	2.36	342	21.29		
			WON'T HOLD WATER LEVEL							

Total volume purged	
Sample appearance	CLEAR
Sample time	1051
Sample date	04/23/25

CCR Groundwater Monitoring Well Inspection Form

Facility: AEP Pigeon PP

Sampling Period: September 2025

Sampling Contractor: Engle

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-7R	✓	✓	✓	✓	✓	✓	✓	
AD-22	✓	✓	✓	✓	✓	✓	✓	
AD-33	✓	✓	✓	✓	✓	✓	✓	
AD-34	✓	✓	✓	✓	✓	✓	✓	
AD-36	✓	✓	✓	✓	✓	✓	✓	
AD-8	✓	✓	✓	✓	✓	✓	✓	
AD-2	✓	✓	✓	✓	✓	✓	✓	
B-3	✓	✓	✓		✓	✓	✓	NEEDS WEEDEATING
AD-18	✓	✓	✓	✓	✓	✓	✓	
AB-4	✓	✓	✓		✓	✓	✓	NO GOOD ACCESS
AD-16	✓	✓	✓		✓	✓	✓	TRAIL NEEDS MAINTENANCE

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: Pilkey Sampling Period: Sept 2025

Sampling Contractor: Eagle Signature: [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
B-2					✓	✓	✓	Protective Casing will not close
AD-12	✓	✓	✓	✓	✓	✓	✓	
AD-32	✓	✓	✓	✓	✓	✓	✓	
AD-31	✓	✓	✓	✓	✓	✓	✓	
AD-30	✓	✓	✓	✓	✓	✓	✓	
AD-28	✓	✓	✓	✓	✓	✓	✓	
AD-17	✓	✓	✓	✓	✓	✓	✓	
AD-3	✓	✓	✓	✓	✓	✓	✓	
AD-27	✓	✓	✓	✓	✓	✓	✓	
AD-26	✓	✓	✓	✓	✓	✓	✓	
AD-25	✓	✓	✓	✓	✓	✓	✓	
AD-23	✓	✓	✓	✓	✓	✓	✓	

*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 Pinnacle PP
Sample by	Kenny McDonald

Sample Location ID	AD-2

Depth to water, feet (TOC)	16.52
Measured Total Depth, feet (TOC)	40.36

Depth to water date	09/09/25

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)		
1014	16.63	220	4.13	720	1.0	1.94	406	21.27		
1019	16.62	220	4.10	724	0.8	1.80	410	21.32		
1024	16.62	220	4.10	728	0.8	1.78	414	21.33		
1029	16.61	220	4.09	728	0.8	1.77	420	21.36		

Total volume purged	
Sample appearance	Clear
Sample time	1031
Sample date	09/09/25

Facility Name	Pixley
Sample by	Matt Hamilton

Sample Location ID	AD-3

Depth to water, feet (TOC)	36.42
Measured Total Depth, feet (TOC)	57.49

Depth to water date	4.6.21

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)		
1104	36.76	220	4.91	129	46.2	1.35	316	25.08		
1109	36.85	220	4.73	131	49.9	0.42	282	22.58		
1114	36.93	220	4.72	131	49.5	0.39	259	22.18		
1119	36.99	220	4.71	132	49.9	0.37	255	22.10		

Total volume purged	
Sample appearance	~~clear~~ slightly turbid
Sample time	1121
Sample date	4.6.21

Facility Name	AEP PIRKEY PP
Sample by	KENNY McDONALD

Sample Location ID	AD-4

Depth to water, feet (TOC)	17.86
Measured Total Depth, feet (TOC)	47.29

Depth to water date	09/10/25

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)		
0941	17.90	190	4.82	120	30.1	2.42	397	23.17		
0946	17.91	190	4.84	116	22.4	2.07	408	23.20		
0951	17.91	190	4.85	112	50.6	1.96	411	23.24		
0956	17.91	190	4.85	112	50.2	1.92	413	23.21		
1001	17.92	190	4.86	110	50.8	1.89	416	23.19		

Total volume purged	
Sample appearance	TURBID
Sample time	1003
Sample date	09/10/25

Facility Name	AEP PIMM PP
Sample by	KIMM McDONALD

Sample Location ID	AD-7R

Depth to water, feet (TOC)	8.26
Measured Total Depth, feet (TOC)	33.03

Depth to water date	09/08/25

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)		
0919	8.31	230	4.78	236	2.2	1.93	247	22.13		
0924	8.31	230	4.79	241	0.4	1.64	244	22.46		
0929	8.31	230	4.82	245	0.0	1.60	246	22.51		
0934	8.32	230	4.81	247	0.2	1.59	250	22.53		

Total volume purged	
Sample appearance	CLEAR
Sample time	0936
Sample date	09/08/25

Facility Name	AEP Pickaway PP
Sample by	Kenny McDonald

Sample Location ID	AD-8

Depth to water, feet (TOC)	12.71
Measured Total Depth, feet (TOC)	31.33

Depth to water date	09/09/25

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)		
0928	12.76	214	5.87	452	4.2	2.13	284	23.07		
0933	12.77	214	5.89	447	3.6	1.64	276	23.11		
0938	12.78	214	5.91	443	3.3	1.60	276	23.15		
0943	12.78	214	5.93	443	3.5	1.59	271	23.17		

Total volume purged	
Sample appearance	Clear
Sample time	0945
Sample date	09/09/25

Facility Name	Pixley
Sample by	Matt/ Hamilton

Sample Location ID	AD-12

Depth to water, feet (TOC)	13.87
Measured Total Depth, feet (TOC)	52.00

Depth to water date	9-8-25

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)		
921	14.12	300	3.48	42	19.5	1.74	447	23.37		
926	14.13	300	3.40	42	9.9	1.25	452	23.75		
931	14.13	300	3.44	42	7.2	1.25	448	23.78		
936	14.14	300	3.47	42	7.3	1.28	445	23.99		

Total volume purged	
Sample appearance	Clear
Sample time	938
Sample date	9-8-25

Facility Name	AEP Pickaway PP
Sample by	Kenny McDonald

Sample Location ID -	AD-13

Depth to water, feet (TOC)	12.68
Measured Total Depth, feet (TOC)	40.70

Depth to water date	09/08/25

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)		
0815	12.75	180	5.75	434	11.6	4.71	164	22.43		
0820	12.81	180	5.79	424	10.9	4.43	128	22.36		
0825	12.84	180	5.81	426	11.1	4.39	123	22.38		
0830	12.88	180	5.80	421	10.8	4.37	119	22.41		

Total volume purged	
Sample appearance	Clear
Sample time	0832
Sample date	09/08/25

DUPLICATE 1200

Facility Name	AFP Pitman PP
Sample by	Kenny McPintch

Sample Location ID	AD-16

Depth to water, feet (TOC)	18.65
Measured Total Depth, feet (TOC)	38.24

Depth to water date	09/10/25

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)		
1048	18.11	200	4.73	260	12.4	1.37	350	23.21		
1053	18.10	200	4.73	263	11.8	1.09	352	23.30		
1058	18.10	200	4.76	268	11.6	1.05	356	23.31		
1103	18.11	200	4.74	271	11.6	1.03	361	23.35		

Total volume purged	
Sample appearance	Clear
Sample time	1105
Sample date	09/10/25

Facility Name	D. Ilcox
Sample by	Staff Hamilton

Sample Location ID	AP-17

Depth to water, feet (TOC)	22.54
Measured Total Depth, feet (TOC)	33.05

Depth to water date	9-9-25

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	22.64	220	3.75	108	56.3	1.14	401	22.92		
1008	22.67	220	3.67	109	38.3	0.51	404	23.25		
1013	22.68	220	3.65	127	14.3	0.52	401	23.35		
1018	22.69	220	3.66	110	6.5	0.53	397	23.45		
1023	22.69	220	3.67	108	6.5	0.54	395	23.52		

Total volume purged	
Sample appearance	Clear
Sample time	1025
Sample date	9-9-25

Facility Name	ATP Pinney PP
Sample by	K Kinney/McDonald

Sample Location ID	AD-18

Depth to water, feet (TOC)	7.99
Measured Total Depth, feet (TOC)	28.42

Depth to water date	09/09/25

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)		
1121	8.37	102	4.20	98	6.4	2.03	357	22.83		
1126	9.24	102	4.18	87	5.1	1.89	364	22.94		
				WONT HOLD WATER LEVEL						

Total volume purged	
Sample appearance	SLIGHTLY TURBID
Sample time	0842
Sample date	09/10/25

Facility Name	AFP Pinney PP
Sample by	Kenny McDonald

Sample Location ID	AD-22

Depth to water, feet (TOC)	10.28
Measured Total Depth, feet (TOC)	32.70

Depth to water date	04/08/25

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	10.36	200	4.31	746	0.8	2.51	341	22.83		
1008	10.44	200	4.33	752	0.2	2.16	344	22.85		
1013	10.57	200	4.31	759	0.0	2.13	346	22.89		
1018	10.63	200	4.30	762	0.0	2.12	347	22.93		

Total volume purged	
Sample appearance	CLEAR
Sample time	1020
Sample date	09/08/25

Facility Name	Pillsley
Sample by	Matt Hamlin

Sample Location ID	MD-23

Depth to water, feet (TOC)	29.36
Measured Total Depth, feet (TOC)	38.26

Depth to water date	9-10-25

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)		
1046	29.53	220	4.10	140	90	2.72	281	26.82		
1051	29.54	220	4.11	95	145	1.75	294	25.68		
1056	29.60	220	4.10	88	117	1.61	303	25.02		
1101	29.60	220	4.10	87	70.6	1.28	305	25.01		
1106	29.61	220	4.11	89	52.7	1.21	301	25.11		
1111	29.61	220	4.10	90	37.2	1.04	311	25.15		
1116	29.62	220	4.09	91	34.2	1.03	313	25.32		
1121	29.62	220	4.04	91	34.5	0.99	314	25.61		

Total volume purged	
Sample appearance	Clear
Sample time	1123
Sample date	9-10-25

Facility Name	Pixley
Sample by	Matt Manilla

Sample Location ID	AD-25

Depth to water, feet (TOC)	10.31
Measured Total Depth, feet (TOC)	21.38

Depth to water date	9-10-23

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)		
959	10.64	120	4.32	685	47.8	2.11	278	27.16		
1004	10.72	120	4.52	806	48.3	0.38	222	26.85		
1009	10.80	120	4.56	792	48.4	0.41	211	26.54		
1014	10.84	120	4.60	784	46.8	0.44	208	26.38		

Total volume purged	
Sample appearance	Clear
Sample time	1016
Sample date	9-10-23

Facility Name	Chatt Hills Pitkey
Sample by	Matt Hamilton

Sample Location ID	AD- 26

Depth to water, feet (TOC)	15.65
Measured Total Depth, feet (TOC)	42.73

Depth to water date	9-10-25

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)		
854	16.04	300	3.38	1,990	10.4	1.43	425	23.4		
859	16.15	300	3.56	2,020	4.9	0.70	395	22.87		
904	16.19	300	3.53	2,050	3.5	0.46	386	22.97		

Total volume purged	
Sample appearance	Clear
Sample time	906
Sample date	9-10-25

Facility Name	Pilleey
Sample by	Matt Hanlon

Sample Location ID	AD.27

Depth to water, feet (TOC)	21.69
Measured Total Depth, feet (TOC)	46.07

Depth to water date	9-10-11

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)		
818	21.91	300	3.56	233	36.6	1.52	447	22.71		
823	21.98	300	3.31	244	28.3	0.64	451	22.21		
828	22.02	300	3.24	256	9.9	1.57	449	22.36		
833	22.03	300	3.28	259	9.9	1.54	448	22.39		

Total volume purged	
Sample appearance	Clear
Sample time	825
Sample date	9-10-11

Facility Name	Pixley
Sample by	Matt Hamilton

Sample Location ID	AD-28

Depth to water, feet (TOC)	19.33
Measured Total Depth, feet (TOC)	38.51

Depth to water date	9-9-25

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)		
917	19.54	220	3.82	116	12.7	1.90	382	21.31		
922	19.67	220	3.59	113	4.9	1.32	392	20.46		
927	19.71	220	3.55	113	4.9	1.35	392	20.45		

Total volume purged	
Sample appearance	Clear
Sample time	927
Sample date	9-9-25

Facility Name	Pixley
Sample by	Matt Hamilton

Sample Location ID	AD-30

Depth to water, feet (TOC)	20.18
Measured Total Depth, feet (TOC)	27.15

Depth to water date	9-9-25

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)		
807	20.47	220	3.48	318	49	2.86	309	19.13		
812	20.46	220	3.53	326	113	0.72	332	20.50		
817	20.48	220	3.59	327	94.2	0.63	332	21.12		
822	20.44	220	3.66	326	51.8	0.57	331	21.63		
827	20.44	220	3.70	328	35.2	0.57	329	21.96		
832	20.49	220	3.76	328	22.3	0.55	326	22.12		
837	20.50	220	3.79	328	19.4	0.54	325	22.30		
842	20.50	220	3.81	328	19.5	0.53	324	22.41		

Total volume purged	
Sample appearance	Clear
Sample time	844
Sample date	9-9-25

Facility Name	Pixley
Sample by	Matt Hamilton

Sample Location ID	AD-31

Depth to water, feet (TOC)	23.42
Measured Total Depth, feet (TOC)	37.32

Depth to water date	9-8-25

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)		
1109	23.64	220	3.45	254	184	1.08	293	26.12		
1114	23.68	220	3.46	254	97	0.54	298	26.24		
1119	23.70	220	3.46	269	129	0.47	295	25.97		
1124	23.71	220	3.48	270	133	0.46	295	25.71		
1129	23.73	220	3.44	271	135	0.44	293	25.72		

Total volume purged	
Sample appearance	turbid
Sample time	1131
Sample date	9-8-25

Facility Name	Pillow
Sample by	Matt Hamilton

Sample Location ID	AD-32

Depth to water, feet (TOC)	17.03
Measured Total Depth, feet (TOC)	34.65

Depth to water date	9-8-25

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)		
1014	17.35	220	5.28	257	226	2.90	305	23.55		
1019	17.51	220	5.26	259	131	0.68	147	23.35		
1024	17.65	220	5.28	261	112	0.54	116	23.73		
1029	17.77	220	5.30	262	113	0.50	102	24.03		
1034	17.86	220	5.32	263	116	0.48	95	24.08		

Total volume purged	
Sample appearance	turbid
Sample time	1036
Sample date	9-8-25

Facility Name	AFP Pigeon PP
Sample by	Kenny McDonald

Sample Location ID	AD-33

Depth to water, feet (TOC)	11.92
Measured Total Depth, feet (TOC)	32.50

Depth to water date	09/08/25

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)		
1106	11.94	220	4.10	223	0.0	2.61	382	23.02		
1111	11.95	220	4.08	223	0.0	1.92	386	22.97		
1116	11.96	220	4.08	223	0.0	1.90	390	23.00		
1121	11.96	220	4.08	222	0.0	1.90	393	23.06		

Total volume purged	
Sample appearance	Clear
Sample time	1123
Sample date	09/08/25

Facility Name	AEP PIRKEY PP
Sample by	KENNY McDONALD

Sample Location ID	AP-34

Depth to water, feet (TOC)	TOC
Measured Total Depth, feet (TOC)	26.05

Depth to water date	09/09/25

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)		
0757	0.41	120	4.02	1510	3.6	2.83	374	22.08		
0802	0.47	120	4.06	1510	3.4	2.51	379	22.11		
0807	0.53	120	4.04	1500	3.4	2.48	382	22.11		
0812	0.56	120	4.04	1490	3.4	2.47	388	22.13		

Total volume purged	
Sample appearance	CLEAR
Sample time	0814
Sample date	09/09/25

Facility Name	AFP Pitney PP
Sample by	Kenny McDonald

Sample Location ID	AD-36

Depth to water, feet (TOC)	5.49
Measured Total Depth, feet (TOC)	17.10

Depth to water date	09/09/25

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)		
0840	5.52	200	4.21	94	4.8	1.69	411	22.41		
0845	5.54	200	4.19	90	2.6	0.92	413	22.42		
0850	5.55	200	4.16	88	2.3	0.97	417	22.43		
0855	5.55	200	4.15	87	2.6	0.95	417	22.46		

Total volume purged	
Sample appearance	Clear
Sample time	0857
Sample date	09/09/25

Facility Name	Pilkey
Sample by	M-H Hamilton

Sample Location ID	B-2

Depth to water, feet (TOC)	23.45
Measured Total Depth, feet (TOC)	51.44

Depth to water date	9-8-23

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	23.19	300	4.72	97	35.3	2.02	324	20.41		
820	23.89	300	4.05	95	15.3	2.12	375	19.86		
825	23.97	300	3.98	95	6.1	2.14	385	19.81		
830	24.02	300	3.97	94	6.1	2.15	392	19.78		

Total volume purged	
Sample appearance	clear
Sample time	832
Sample date	9-8-23

Duplicate
1214

Facility Name	AEP Pinnypp
Sample by	Kimmy Mitchell

Sample Location ID	B-3

Depth to water, feet (TOC)	15.53
Measured Total Depth, feet (TOC)	37.49

Depth to water date	09/09/25

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)		
1139	16.38	102	4.97	207	5.2	2.06	332	23.06		
1144	17.14	102	4.99	214	5.8	1.83	340	22.94		
				WON'T Hold	WATER LEVEL					

Total volume purged	
Sample appearance	CLEAR
Sample time	0756
Sample date	09/10/25

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-2
Customer Description: TG-32
Lab Number: 250394-001
Preparation:
Date Collected: 02/04/2025 11:23 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.04	µg/L	5	0.50	0.04	U1	GES	02/10/2025 21:23	EPA 200.8-1994, Rev. 5.4
Arsenic	2.0	µg/L	5	0.5	0.2		GES	02/10/2025 21:23	EPA 200.8-1994, Rev. 5.4
Barium	15.0	µg/L	5	1.0	0.3		GES	02/10/2025 21:23	EPA 200.8-1994, Rev. 5.4
Beryllium	1.15	µg/L	5	0.25	0.04		GES	02/10/2025 21:23	EPA 200.8-1994, Rev. 5.4
Boron	3.98	mg/L	5	0.25	0.04		GES	02/10/2025 21:23	EPA 200.8-1994, Rev. 5.4
Cadmium	0.18	µg/L	5	0.10	0.02		GES	02/10/2025 21:23	EPA 200.8-1994, Rev. 5.4
Calcium	5.1	mg/L	5	0.3	0.1		GES	02/10/2025 21:23	EPA 200.8-1994, Rev. 5.4
Chromium	0.5	µg/L	5	1.5	0.4	J1	GES	02/10/2025 21:23	EPA 200.8-1994, Rev. 5.4
Cobalt	37.1	µg/L	5	0.10	0.03		GES	02/10/2025 21:23	EPA 200.8-1994, Rev. 5.4
Lead	0.8	µg/L	5	1.0	0.3	J1	GES	02/10/2025 21:23	EPA 200.8-1994, Rev. 5.4
Lithium	0.0872	mg/L	5	0.0015	0.0003		GES	02/10/2025 21:23	EPA 200.8-1994, Rev. 5.4
Magnesium	11.7	mg/L	5	0.50	0.05		GES	02/10/2025 21:23	EPA 200.8-1994, Rev. 5.4
Mercury	73	ng/L	1	5	2		RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.5	µg/L	5	2.5	0.5	U1	GES	02/10/2025 21:23	EPA 200.8-1994, Rev. 5.4
Potassium	1.68	mg/L	5	0.50	0.05		GES	02/10/2025 21:23	EPA 200.8-1994, Rev. 5.4
Selenium	7.9	µg/L	5	2.5	0.2		GES	02/10/2025 21:23	EPA 200.8-1994, Rev. 5.4
Sodium	132	mg/L	5	1.0	0.1		GES	02/10/2025 21:23	EPA 200.8-1994, Rev. 5.4
Strontium	0.0689	mg/L	5	0.0100	0.0003		GES	02/10/2025 21:23	EPA 200.8-1994, Rev. 5.4
Thallium	0.2	µg/L	5	1.0	0.1	J1	GES	02/10/2025 21:23	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.35	pCi/L	0.18	0.55	P2	WCG	02/19/2025 10:03	SW-846 9315-1986, Rev. 0
Carrier Recovery	82.4	%						
Radium-228	0.87	pCi/L	0.15	0.46		TTP	02/24/2025 14:57	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	86.8	%						

* 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.

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-2
Customer Description: TG-32
Lab Number: 250394-001-01
Preparation: Dissolved
Date Collected: 02/04/2025 11:23 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.04	µg/L	5	0.50	0.04	U1	GES	02/10/2025 23:12	EPA 200.8-1994, Rev. 5.4
Arsenic	2.0	µg/L	5	0.5	0.2		GES	02/10/2025 23:12	EPA 200.8-1994, Rev. 5.4
Barium	14.6	µg/L	5	1.0	0.3		GES	02/10/2025 23:12	EPA 200.8-1994, Rev. 5.4
Beryllium	1.12	µg/L	5	0.25	0.04		GES	02/10/2025 23:12	EPA 200.8-1994, Rev. 5.4
Boron	3.34	mg/L	5	0.25	0.04		GES	02/10/2025 23:12	EPA 200.8-1994, Rev. 5.4
Cadmium	0.14	µg/L	5	0.10	0.02		GES	02/10/2025 23:12	EPA 200.8-1994, Rev. 5.4
Calcium	4.5	mg/L	5	0.3	0.1		GES	02/10/2025 23:12	EPA 200.8-1994, Rev. 5.4
Chromium	0.5	µg/L	5	1.5	0.4	J1	GES	02/10/2025 23:12	EPA 200.8-1994, Rev. 5.4
Cobalt	35.7	µg/L	5	0.10	0.03	M1	GES	02/10/2025 23:12	EPA 200.8-1994, Rev. 5.4
Iron	0.14	mg/L	5	0.10	0.02		GES	02/10/2025 23:12	EPA 200.8-1994, Rev. 5.4
Lead	0.8	µg/L	5	1.0	0.3	J1	GES	02/10/2025 23:12	EPA 200.8-1994, Rev. 5.4
Lithium	0.0832	mg/L	5	0.0015	0.0003		GES	02/10/2025 23:12	EPA 200.8-1994, Rev. 5.4
Magnesium	9.62	mg/L	5	0.50	0.05	M1	GES	02/10/2025 23:12	EPA 200.8-1994, Rev. 5.4
Manganese	0.120	mg/L	5	0.0050	0.0004	M1	GES	02/10/2025 23:12	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.5	µg/L	5	2.5	0.5	U1	GES	02/10/2025 23:12	EPA 200.8-1994, Rev. 5.4
Potassium	1.62	mg/L	5	0.50	0.05		GES	02/10/2025 23:12	EPA 200.8-1994, Rev. 5.4
Selenium	7.1	µg/L	5	2.5	0.2		GES	02/10/2025 23:12	EPA 200.8-1994, Rev. 5.4
Sodium	125	mg/L	5	1.0	0.1	M1	GES	02/10/2025 23:12	EPA 200.8-1994, Rev. 5.4
Strontium	0.0653	mg/L	5	0.0100	0.0003		GES	02/10/2025 23:12	EPA 200.8-1994, Rev. 5.4
Thallium	0.2	µg/L	5	1.0	0.1	J1	GES	02/10/2025 23:12	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: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-3
Customer Description: TG-32
Lab Number: 250394-002
Preparation:
Date Collected: 02/04/2025 11:49 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.018	µg/L	1	0.100	0.008	J1	GES	02/10/2025 21:28	EPA 200.8-1994, Rev. 5.4
Arsenic	0.24	µg/L	1	0.10	0.03		GES	02/10/2025 21:28	EPA 200.8-1994, Rev. 5.4
Barium	68.5	µg/L	1	0.20	0.05		GES	02/10/2025 21:28	EPA 200.8-1994, Rev. 5.4
Beryllium	0.198	µg/L	1	0.050	0.007		GES	02/10/2025 21:28	EPA 200.8-1994, Rev. 5.4
Boron	0.082	mg/L	1	0.050	0.007		GES	02/10/2025 21:28	EPA 200.8-1994, Rev. 5.4
Cadmium	0.020	µg/L	1	0.020	0.004		GES	02/10/2025 21:28	EPA 200.8-1994, Rev. 5.4
Calcium	4.44	mg/L	1	0.05	0.02		GES	02/10/2025 21:28	EPA 200.8-1994, Rev. 5.4
Chromium	0.44	µg/L	1	0.30	0.07		GES	02/10/2025 21:28	EPA 200.8-1994, Rev. 5.4
Cobalt	3.62	µg/L	1	0.020	0.005		GES	02/10/2025 21:28	EPA 200.8-1994, Rev. 5.4
Lead	0.12	µg/L	1	0.20	0.05	J1	GES	02/10/2025 21:28	EPA 200.8-1994, Rev. 5.4
Lithium	0.0471	mg/L	1	0.00030	0.00006		GES	02/10/2025 21:28	EPA 200.8-1994, Rev. 5.4
Magnesium	1.98	mg/L	1	0.100	0.009		GES	02/10/2025 21:28	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/10/2025 21:28	EPA 200.8-1994, Rev. 5.4
Potassium	2.36	mg/L	1	0.10	0.01		GES	02/10/2025 21:28	EPA 200.8-1994, Rev. 5.4
Selenium	0.06	µg/L	1	0.50	0.04	J1	GES	02/10/2025 21:28	EPA 200.8-1994, Rev. 5.4
Sodium	9.72	mg/L	1	0.20	0.02		GES	02/10/2025 21:28	EPA 200.8-1994, Rev. 5.4
Strontium	0.0307	mg/L	1	0.00200	0.00005		GES	02/10/2025 21:28	EPA 200.8-1994, Rev. 5.4
Thallium	0.05	µg/L	1	0.20	0.02	J1	GES	02/10/2025 21:28	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	0.15	0.32	P2	WCG	02/19/2025 10:03	SW-846 9315-1986, Rev. 0
Carrier Recovery	99.1	%						
Radium-228	0.84	pCi/L	0.12	0.38		TTP	02/24/2025 14:57	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	91.1	%						

* 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.

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Job ID: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-3
Customer Description: TG-32
Lab Number: 250394-002-01
Preparation: Dissolved
Date Collected: 02/04/2025 11:49 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.022	µg/L	1	0.100	0.008	J1	GES	02/10/2025 23:28	EPA 200.8-1994, Rev. 5.4
Arsenic	0.20	µg/L	1	0.10	0.03		GES	02/10/2025 23:28	EPA 200.8-1994, Rev. 5.4
Barium	67.7	µg/L	1	0.20	0.05		GES	02/10/2025 23:28	EPA 200.8-1994, Rev. 5.4
Beryllium	0.204	µg/L	1	0.050	0.007		GES	02/10/2025 23:28	EPA 200.8-1994, Rev. 5.4
Boron	0.048	mg/L	1	0.050	0.007	J1	GES	02/10/2025 23:28	EPA 200.8-1994, Rev. 5.4
Cadmium	0.019	µg/L	1	0.020	0.004	J1	GES	02/10/2025 23:28	EPA 200.8-1994, Rev. 5.4
Calcium	4.43	mg/L	1	0.05	0.02		GES	02/10/2025 23:28	EPA 200.8-1994, Rev. 5.4
Chromium	0.29	µg/L	1	0.30	0.07	J1	GES	02/10/2025 23:28	EPA 200.8-1994, Rev. 5.4
Cobalt	3.93	µg/L	1	0.020	0.005		GES	02/10/2025 23:28	EPA 200.8-1994, Rev. 5.4
Iron	0.991	mg/L	1	0.020	0.003		GES	02/10/2025 23:28	EPA 200.8-1994, Rev. 5.4
Lead	0.05	µg/L	1	0.20	0.05	J1	GES	02/10/2025 23:28	EPA 200.8-1994, Rev. 5.4
Lithium	0.0479	mg/L	1	0.00030	0.00006		GES	02/10/2025 23:28	EPA 200.8-1994, Rev. 5.4
Magnesium	1.95	mg/L	1	0.100	0.009		GES	02/10/2025 23:28	EPA 200.8-1994, Rev. 5.4
Manganese	0.0409	mg/L	1	0.00100	0.00007		GES	02/10/2025 23:28	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/10/2025 23:28	EPA 200.8-1994, Rev. 5.4
Potassium	2.42	mg/L	1	0.10	0.01		GES	02/10/2025 23:28	EPA 200.8-1994, Rev. 5.4
Selenium	0.04	µg/L	1	0.50	0.04	J1	GES	02/10/2025 23:28	EPA 200.8-1994, Rev. 5.4
Sodium	9.87	mg/L	1	0.20	0.02		GES	02/10/2025 23:28	EPA 200.8-1994, Rev. 5.4
Strontium	0.0300	mg/L	1	0.00200	0.00005		GES	02/10/2025 23:28	EPA 200.8-1994, Rev. 5.4
Thallium	0.05	µg/L	1	0.20	0.02	J1	GES	02/10/2025 23:28	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: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-4
Customer Description: TG-32
Lab Number: 250394-003
Preparation:
Date Collected: 02/03/2025 10:58 EST
Date Received: 02/07/2025 12:05 EST

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	02/10/2025 21:34	EPA 200.8-1994, Rev. 5.4
Arsenic	0.11	µg/L	1	0.10	0.03		GES	02/10/2025 21:34	EPA 200.8-1994, Rev. 5.4
Barium	133	µg/L	1	0.20	0.05		GES	02/10/2025 21:34	EPA 200.8-1994, Rev. 5.4
Beryllium	0.36	µg/L	5	0.25	0.04		GES	02/11/2025 10:06	EPA 200.8-1994, Rev. 5.4
Boron	0.038	mg/L	1	0.050	0.007	J1	GES	02/10/2025 21:34	EPA 200.8-1994, Rev. 5.4
Cadmium	0.020	µg/L	1	0.020	0.004		GES	02/10/2025 21:34	EPA 200.8-1994, Rev. 5.4
Calcium	2.70	mg/L	1	0.05	0.02		GES	02/10/2025 21:34	EPA 200.8-1994, Rev. 5.4
Chromium	0.37	µg/L	1	0.30	0.07		GES	02/10/2025 21:34	EPA 200.8-1994, Rev. 5.4
Cobalt	3.52	µg/L	1	0.020	0.005		GES	02/10/2025 21:34	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	02/10/2025 21:34	EPA 200.8-1994, Rev. 5.4
Lithium	0.0254	mg/L	5	0.0015	0.0003		GES	02/11/2025 10:06	EPA 200.8-1994, Rev. 5.4
Magnesium	0.630	mg/L	1	0.100	0.009		GES	02/10/2025 21:34	EPA 200.8-1994, Rev. 5.4
Mercury	5	ng/L	1	5	2		RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/10/2025 21:34	EPA 200.8-1994, Rev. 5.4
Potassium	2.32	mg/L	1	0.10	0.01		GES	02/10/2025 21:34	EPA 200.8-1994, Rev. 5.4
Selenium	0.07	µg/L	1	0.50	0.04	J1	GES	02/10/2025 21:34	EPA 200.8-1994, Rev. 5.4
Sodium	6.46	mg/L	1	0.20	0.02		GES	02/10/2025 21:34	EPA 200.8-1994, Rev. 5.4
Strontium	0.0219	mg/L	1	0.00200	0.00005		GES	02/10/2025 21:34	EPA 200.8-1994, Rev. 5.4
Thallium	0.10	µg/L	1	0.20	0.02	J1	GES	02/10/2025 21:34	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.46	pCi/L	0.16	0.34	P2	WCG	02/19/2025 10:03	SW-846 9315-1986, Rev. 0
Carrier Recovery	98.0	%						
Radium-228	1.19	pCi/L	0.13	0.41		TTP	02/24/2025 14:57	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	98.7	%						

* 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.

Dolan Chemical Laboratory
4001 Bixby Road
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Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Job ID: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-4
Customer Description: TG-32
Lab Number: 250394-003-01
Preparation: Dissolved
Date Collected: 02/03/2025 10:58 EST
Date Received: 02/07/2025 12:05 EST

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	02/10/2025 23:34	EPA 200.8-1994, Rev. 5.4
Arsenic	0.06	µg/L	1	0.10	0.03	J1	GES	02/10/2025 23:34	EPA 200.8-1994, Rev. 5.4
Barium	129	µg/L	1	0.20	0.05		GES	02/10/2025 23:34	EPA 200.8-1994, Rev. 5.4
Beryllium	0.327	µg/L	1	0.050	0.007		GES	02/10/2025 23:34	EPA 200.8-1994, Rev. 5.4
Boron	0.019	mg/L	1	0.050	0.007	J1	GES	02/10/2025 23:34	EPA 200.8-1994, Rev. 5.4
Cadmium	0.023	µg/L	1	0.020	0.004		GES	02/10/2025 23:34	EPA 200.8-1994, Rev. 5.4
Calcium	2.62	mg/L	1	0.05	0.02		GES	02/10/2025 23:34	EPA 200.8-1994, Rev. 5.4
Chromium	0.26	µg/L	1	0.30	0.07	J1	GES	02/10/2025 23:34	EPA 200.8-1994, Rev. 5.4
Cobalt	3.57	µg/L	1	0.020	0.005		GES	02/10/2025 23:34	EPA 200.8-1994, Rev. 5.4
Iron	0.019	mg/L	1	0.020	0.003	J1	GES	02/10/2025 23:34	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	02/10/2025 23:34	EPA 200.8-1994, Rev. 5.4
Lithium	0.0212	mg/L	1	0.00030	0.00006		GES	02/10/2025 23:34	EPA 200.8-1994, Rev. 5.4
Magnesium	0.591	mg/L	1	0.100	0.009		GES	02/10/2025 23:34	EPA 200.8-1994, Rev. 5.4
Manganese	0.0291	mg/L	1	0.00100	0.00007		GES	02/10/2025 23:34	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/10/2025 23:34	EPA 200.8-1994, Rev. 5.4
Potassium	2.23	mg/L	1	0.10	0.01		GES	02/10/2025 23:34	EPA 200.8-1994, Rev. 5.4
Selenium	0.07	µg/L	1	0.50	0.04	J1	GES	02/10/2025 23:34	EPA 200.8-1994, Rev. 5.4
Sodium	6.60	mg/L	1	0.20	0.02		GES	02/10/2025 23:34	EPA 200.8-1994, Rev. 5.4
Strontium	0.0212	mg/L	1	0.00200	0.00005		GES	02/10/2025 23:34	EPA 200.8-1994, Rev. 5.4
Thallium	0.09	µg/L	1	0.20	0.02	J1	GES	02/10/2025 23:34	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: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-7R
Customer Description: TG-32
Lab Number: 250394-004
Preparation:
Date Collected: 02/03/2025 12:09 EST
Date Received: 02/07/2025 12:05 EST

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	02/10/2025 21:39	EPA 200.8-1994, Rev. 5.4
Arsenic	0.46	µg/L	1	0.10	0.03		GES	02/10/2025 21:39	EPA 200.8-1994, Rev. 5.4
Barium	51.4	µg/L	1	0.20	0.05		GES	02/10/2025 21:39	EPA 200.8-1994, Rev. 5.4
Beryllium	2.04	µg/L	1	0.050	0.007		GES	02/10/2025 21:39	EPA 200.8-1994, Rev. 5.4
Boron	0.217	mg/L	1	0.050	0.007		GES	02/10/2025 21:39	EPA 200.8-1994, Rev. 5.4
Cadmium	0.370	µg/L	1	0.020	0.004		GES	02/10/2025 21:39	EPA 200.8-1994, Rev. 5.4
Calcium	3.19	mg/L	1	0.05	0.02		GES	02/10/2025 21:39	EPA 200.8-1994, Rev. 5.4
Chromium	0.25	µg/L	1	0.30	0.07	J1	GES	02/10/2025 21:39	EPA 200.8-1994, Rev. 5.4
Cobalt	18.9	µg/L	1	0.020	0.005		GES	02/10/2025 21:39	EPA 200.8-1994, Rev. 5.4
Lead	0.38	µg/L	1	0.20	0.05		GES	02/10/2025 21:39	EPA 200.8-1994, Rev. 5.4
Lithium	0.0519	mg/L	1	0.00030	0.00006		GES	02/10/2025 21:39	EPA 200.8-1994, Rev. 5.4
Magnesium	4.89	mg/L	1	0.100	0.009		GES	02/10/2025 21:39	EPA 200.8-1994, Rev. 5.4
Mercury	131	ng/L	4	20	8		RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/10/2025 21:39	EPA 200.8-1994, Rev. 5.4
Potassium	1.89	mg/L	1	0.10	0.01		GES	02/10/2025 21:39	EPA 200.8-1994, Rev. 5.4
Selenium	1.92	µg/L	1	0.50	0.04		GES	02/10/2025 21:39	EPA 200.8-1994, Rev. 5.4
Sodium	23.8	mg/L	1	0.20	0.02		GES	02/10/2025 21:39	EPA 200.8-1994, Rev. 5.4
Strontium	0.0344	mg/L	1	0.00200	0.00005		GES	02/10/2025 21:39	EPA 200.8-1994, Rev. 5.4
Thallium	0.15	µg/L	1	0.20	0.02	J1	GES	02/10/2025 21:39	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.58	pCi/L	0.29	0.35	P2	WCG	02/19/2025 10:03	SW-846 9315-1986, Rev. 0
Carrier Recovery	95.2	%						
Radium-228	1.08	pCi/L	0.17	0.52		TTP	02/24/2025 14:57	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	73.0	%						

* 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.

Dolan Chemical Laboratory
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Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Job ID: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-7R
Customer Description: TG-32
Lab Number: 250394-004-01
Preparation: Dissolved
Date Collected: 02/03/2025 12:09 EST
Date Received: 02/07/2025 12:05 EST

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	02/10/2025 23:39	EPA 200.8-1994, Rev. 5.4
Arsenic	0.13	µg/L	1	0.10	0.03		GES	02/10/2025 23:39	EPA 200.8-1994, Rev. 5.4
Barium	50.7	µg/L	1	0.20	0.05		GES	02/10/2025 23:39	EPA 200.8-1994, Rev. 5.4
Beryllium	1.72	µg/L	1	0.050	0.007		GES	02/10/2025 23:39	EPA 200.8-1994, Rev. 5.4
Boron	0.195	mg/L	1	0.050	0.007		GES	02/10/2025 23:39	EPA 200.8-1994, Rev. 5.4
Cadmium	0.326	µg/L	1	0.020	0.004		GES	02/10/2025 23:39	EPA 200.8-1994, Rev. 5.4
Calcium	3.04	mg/L	1	0.05	0.02		GES	02/10/2025 23:39	EPA 200.8-1994, Rev. 5.4
Chromium	0.26	µg/L	1	0.30	0.07	J1	GES	02/10/2025 23:39	EPA 200.8-1994, Rev. 5.4
Cobalt	18.0	µg/L	1	0.020	0.005		GES	02/10/2025 23:39	EPA 200.8-1994, Rev. 5.4
Iron	0.567	mg/L	1	0.020	0.003		GES	02/10/2025 23:39	EPA 200.8-1994, Rev. 5.4
Lead	0.14	µg/L	1	0.20	0.05	J1	GES	02/10/2025 23:39	EPA 200.8-1994, Rev. 5.4
Lithium	0.0508	mg/L	1	0.00030	0.00006		GES	02/10/2025 23:39	EPA 200.8-1994, Rev. 5.4
Magnesium	4.69	mg/L	1	0.100	0.009		GES	02/10/2025 23:39	EPA 200.8-1994, Rev. 5.4
Manganese	0.0509	mg/L	1	0.00100	0.00007		GES	02/10/2025 23:39	EPA 200.8-1994, Rev. 5.4
Mercury	52	ng/L	1	5	2		RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/10/2025 23:39	EPA 200.8-1994, Rev. 5.4
Potassium	1.89	mg/L	1	0.10	0.01		GES	02/10/2025 23:39	EPA 200.8-1994, Rev. 5.4
Selenium	0.28	µg/L	1	0.50	0.04	J1	GES	02/10/2025 23:39	EPA 200.8-1994, Rev. 5.4
Sodium	23.4	mg/L	1	0.20	0.02		GES	02/10/2025 23:39	EPA 200.8-1994, Rev. 5.4
Strontium	0.0329	mg/L	1	0.00200	0.00005		GES	02/10/2025 23:39	EPA 200.8-1994, Rev. 5.4
Thallium	0.12	µg/L	1	0.20	0.02	J1	GES	02/10/2025 23:39	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: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-12
Customer Description: TG-32
Lab Number: 250394-005
Preparation:
Date Collected: 02/03/2025 10:24 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.016	µg/L	1	0.100	0.008	J1	GES	02/10/2025 23:45	EPA 200.8-1994, Rev. 5.4
Arsenic	0.09	µg/L	1	0.10	0.03	J1	GES	02/10/2025 23:45	EPA 200.8-1994, Rev. 5.4
Barium	19.1	µg/L	1	0.20	0.05		GES	02/10/2025 23:45	EPA 200.8-1994, Rev. 5.4
Beryllium	0.129	µg/L	1	0.050	0.007		GES	02/10/2025 23:45	EPA 200.8-1994, Rev. 5.4
Boron	0.029	mg/L	1	0.050	0.007	J1	GES	02/10/2025 23:45	EPA 200.8-1994, Rev. 5.4
Cadmium	0.012	µg/L	1	0.020	0.004	J1	GES	02/10/2025 23:45	EPA 200.8-1994, Rev. 5.4
Calcium	0.23	mg/L	1	0.05	0.02		GES	02/10/2025 23:45	EPA 200.8-1994, Rev. 5.4
Chromium	0.29	µg/L	1	0.30	0.07	J1	GES	02/10/2025 23:45	EPA 200.8-1994, Rev. 5.4
Cobalt	1.14	µg/L	1	0.020	0.005		GES	02/10/2025 23:45	EPA 200.8-1994, Rev. 5.4
Lead	0.10	µg/L	1	0.20	0.05	J1	GES	02/10/2025 23:45	EPA 200.8-1994, Rev. 5.4
Lithium	0.00579	mg/L	1	0.00030	0.00006		GES	02/10/2025 23:45	EPA 200.8-1994, Rev. 5.4
Magnesium	0.344	mg/L	1	0.100	0.009		GES	02/10/2025 23:45	EPA 200.8-1994, Rev. 5.4
Mercury	4	ng/L	1	5	2	J1	RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/10/2025 23:45	EPA 200.8-1994, Rev. 5.4
Potassium	0.27	mg/L	1	0.10	0.01		GES	02/10/2025 23:45	EPA 200.8-1994, Rev. 5.4
Selenium	0.31	µg/L	1	0.50	0.04	J1	GES	02/10/2025 23:45	EPA 200.8-1994, Rev. 5.4
Sodium	3.91	mg/L	1	0.20	0.02		GES	02/10/2025 23:45	EPA 200.8-1994, Rev. 5.4
Strontium	0.00234	mg/L	1	0.00200	0.00005		GES	02/10/2025 23:45	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	02/10/2025 23:45	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.58	pCi/L	0.19	0.45	P2	WCG	02/19/2025 10:03	SW-846 9315-1986, Rev. 0
Carrier Recovery	106	%						
Radium-228	0.32	pCi/L	0.17	0.57		TTP	02/24/2025 14:57	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	98.4	%						

* 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.

AMERICAN ELECTRIC POWER

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Job ID: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-12
Customer Description: TG-32
Lab Number: 250394-005-01
Preparation: Dissolved
Date Collected: 02/03/2025 10:24 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.017	µg/L	1	0.100	0.008	J1	GES	02/10/2025 23:50	EPA 200.8-1994, Rev. 5.4
Arsenic	0.06	µg/L	1	0.10	0.03	J1	GES	02/10/2025 23:50	EPA 200.8-1994, Rev. 5.4
Barium	18.9	µg/L	1	0.20	0.05		GES	02/10/2025 23:50	EPA 200.8-1994, Rev. 5.4
Beryllium	0.132	µg/L	1	0.050	0.007		GES	02/10/2025 23:50	EPA 200.8-1994, Rev. 5.4
Boron	0.030	mg/L	1	0.050	0.007	J1	GES	02/10/2025 23:50	EPA 200.8-1994, Rev. 5.4
Cadmium	0.012	µg/L	1	0.020	0.004	J1	GES	02/10/2025 23:50	EPA 200.8-1994, Rev. 5.4
Calcium	0.26	mg/L	1	0.05	0.02		GES	02/10/2025 23:50	EPA 200.8-1994, Rev. 5.4
Chromium	0.21	µg/L	1	0.30	0.07	J1	GES	02/10/2025 23:50	EPA 200.8-1994, Rev. 5.4
Cobalt	1.28	µg/L	1	0.020	0.005		GES	02/10/2025 23:50	EPA 200.8-1994, Rev. 5.4
Iron	0.021	mg/L	1	0.020	0.003		GES	02/10/2025 23:50	EPA 200.8-1994, Rev. 5.4
Lead	0.07	µg/L	1	0.20	0.05	J1	GES	02/10/2025 23:50	EPA 200.8-1994, Rev. 5.4
Lithium	0.00593	mg/L	1	0.00030	0.00006		GES	02/10/2025 23:50	EPA 200.8-1994, Rev. 5.4
Magnesium	0.340	mg/L	1	0.100	0.009		GES	02/10/2025 23:50	EPA 200.8-1994, Rev. 5.4
Manganese	0.00339	mg/L	1	0.00100	0.00007		GES	02/10/2025 23:50	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/10/2025 23:50	EPA 200.8-1994, Rev. 5.4
Potassium	0.27	mg/L	1	0.10	0.01		GES	02/10/2025 23:50	EPA 200.8-1994, Rev. 5.4
Selenium	0.32	µg/L	1	0.50	0.04	J1	GES	02/10/2025 23:50	EPA 200.8-1994, Rev. 5.4
Sodium	3.90	mg/L	1	0.20	0.02		GES	02/10/2025 23:50	EPA 200.8-1994, Rev. 5.4
Strontium	0.00234	mg/L	1	0.00200	0.00005		GES	02/10/2025 23:50	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	02/10/2025 23:50	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: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-13
Customer Description: TG-32
Lab Number: 250394-006
Preparation:
Date Collected: 02/03/2025 09:18 EST
Date Received: 02/07/2025 12:05 EST

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	02/10/2025 23:56	EPA 200.8-1994, Rev. 5.4
Arsenic	0.29	µg/L	1	0.10	0.03		GES	02/10/2025 23:56	EPA 200.8-1994, Rev. 5.4
Barium	68.9	µg/L	1	0.20	0.05		GES	02/10/2025 23:56	EPA 200.8-1994, Rev. 5.4
Beryllium	0.194	µg/L	1	0.050	0.007		GES	02/10/2025 23:56	EPA 200.8-1994, Rev. 5.4
Boron	0.061	mg/L	1	0.050	0.007		GES	02/10/2025 23:56	EPA 200.8-1994, Rev. 5.4
Cadmium	0.009	µg/L	1	0.020	0.004	J1	GES	02/10/2025 23:56	EPA 200.8-1994, Rev. 5.4
Calcium	19.5	mg/L	1	0.05	0.02	M1	GES	02/10/2025 23:56	EPA 200.8-1994, Rev. 5.4
Chromium	0.31	µg/L	1	0.30	0.07		GES	02/10/2025 23:56	EPA 200.8-1994, Rev. 5.4
Cobalt	28.1	µg/L	1	0.020	0.005		GES	02/10/2025 23:56	EPA 200.8-1994, Rev. 5.4
Lead	0.11	µg/L	1	0.20	0.05	J1	GES	02/10/2025 23:56	EPA 200.8-1994, Rev. 5.4
Lithium	0.123	mg/L	1	0.00030	0.00006		GES	02/10/2025 23:56	EPA 200.8-1994, Rev. 5.4
Magnesium	9.71	mg/L	1	0.100	0.009		GES	02/10/2025 23:56	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/10/2025 23:56	EPA 200.8-1994, Rev. 5.4
Potassium	4.95	mg/L	1	0.10	0.01		GES	02/10/2025 23:56	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	02/10/2025 23:56	EPA 200.8-1994, Rev. 5.4
Sodium	16.6	mg/L	1	0.20	0.02	M1	GES	02/10/2025 23:56	EPA 200.8-1994, Rev. 5.4
Strontium	0.502	mg/L	1	0.00200	0.00005	M1	GES	02/10/2025 23:56	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	GES	02/10/2025 23:56	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.41	pCi/L	0.14	0.26	P2	WCG	02/19/2025 10:03	SW-846 9315-1986, Rev. 0
Carrier Recovery	103	%						
Radium-228	1.51	pCi/L	0.13	0.38		TTP	02/24/2025 14:57	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: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-13
Customer Description: TG-32
Lab Number: 250394-006-01
Preparation: Dissolved
Date Collected: 02/03/2025 09:18 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.010	µg/L	1	0.100	0.008	J1	GES	02/11/2025 00:12	EPA 200.8-1994, Rev. 5.4
Arsenic	0.04	µg/L	1	0.10	0.03	J1	GES	02/11/2025 00:12	EPA 200.8-1994, Rev. 5.4
Barium	66.2	µg/L	1	0.20	0.05		GES	02/11/2025 00:12	EPA 200.8-1994, Rev. 5.4
Beryllium	0.163	µg/L	1	0.050	0.007		GES	02/11/2025 00:12	EPA 200.8-1994, Rev. 5.4
Boron	0.066	mg/L	1	0.050	0.007		GES	02/11/2025 00:12	EPA 200.8-1994, Rev. 5.4
Cadmium	0.009	µg/L	1	0.020	0.004	J1	GES	02/11/2025 00:12	EPA 200.8-1994, Rev. 5.4
Calcium	18.9	mg/L	1	0.05	0.02		GES	02/11/2025 00:12	EPA 200.8-1994, Rev. 5.4
Chromium	0.34	µg/L	1	0.30	0.07		GES	02/11/2025 00:12	EPA 200.8-1994, Rev. 5.4
Cobalt	27.2	µg/L	1	0.020	0.005		GES	02/11/2025 00:12	EPA 200.8-1994, Rev. 5.4
Iron	0.050	mg/L	1	0.020	0.003		GES	02/11/2025 00:12	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	02/11/2025 00:12	EPA 200.8-1994, Rev. 5.4
Lithium	0.120	mg/L	1	0.00030	0.00006		GES	02/11/2025 00:12	EPA 200.8-1994, Rev. 5.4
Magnesium	9.45	mg/L	1	0.100	0.009		GES	02/11/2025 00:12	EPA 200.8-1994, Rev. 5.4
Manganese	0.269	mg/L	1	0.00100	0.00007		GES	02/11/2025 00:12	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 00:12	EPA 200.8-1994, Rev. 5.4
Potassium	4.77	mg/L	1	0.10	0.01		GES	02/11/2025 00:12	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	02/11/2025 00:12	EPA 200.8-1994, Rev. 5.4
Sodium	16.1	mg/L	1	0.20	0.02		GES	02/11/2025 00:12	EPA 200.8-1994, Rev. 5.4
Strontium	0.492	mg/L	1	0.00200	0.00005		GES	02/11/2025 00:12	EPA 200.8-1994, Rev. 5.4
Thallium	0.07	µg/L	1	0.20	0.02	J1	GES	02/11/2025 00:12	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: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-17
Customer Description: TG-32
Lab Number: 250394-007
Preparation:
Date Collected: 02/04/2025 12:19 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.009	µg/L	1	0.100	0.008	J1	GES	02/11/2025 01:18	EPA 200.8-1994, Rev. 5.4
Arsenic	0.19	µg/L	1	0.10	0.03		GES	02/11/2025 01:18	EPA 200.8-1994, Rev. 5.4
Barium	53.0	µg/L	1	0.20	0.05		GES	02/11/2025 01:18	EPA 200.8-1994, Rev. 5.4
Beryllium	0.215	µg/L	1	0.050	0.007		GES	02/11/2025 01:18	EPA 200.8-1994, Rev. 5.4
Boron	0.033	mg/L	1	0.050	0.007	J1	GES	02/11/2025 01:18	EPA 200.8-1994, Rev. 5.4
Cadmium	0.009	µg/L	1	0.020	0.004	J1	GES	02/11/2025 01:18	EPA 200.8-1994, Rev. 5.4
Calcium	0.07	mg/L	1	0.05	0.02		GES	02/11/2025 01:18	EPA 200.8-1994, Rev. 5.4
Chromium	0.46	µg/L	1	0.30	0.07		GES	02/11/2025 01:18	EPA 200.8-1994, Rev. 5.4
Cobalt	2.39	µg/L	1	0.020	0.005		GES	02/11/2025 01:18	EPA 200.8-1994, Rev. 5.4
Lead	0.12	µg/L	1	0.20	0.05	J1	GES	02/11/2025 01:18	EPA 200.8-1994, Rev. 5.4
Lithium	0.00731	mg/L	1	0.00030	0.00006		GES	02/11/2025 01:18	EPA 200.8-1994, Rev. 5.4
Magnesium	0.894	mg/L	1	0.100	0.009		GES	02/11/2025 01:18	EPA 200.8-1994, Rev. 5.4
Mercury	52	ng/L	1	5	2		RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 01:18	EPA 200.8-1994, Rev. 5.4
Potassium	0.22	mg/L	1	0.10	0.01		GES	02/11/2025 01:18	EPA 200.8-1994, Rev. 5.4
Selenium	0.12	µg/L	1	0.50	0.04	J1	GES	02/11/2025 01:18	EPA 200.8-1994, Rev. 5.4
Sodium	5.32	mg/L	1	0.20	0.02		GES	02/11/2025 01:18	EPA 200.8-1994, Rev. 5.4
Strontium	0.00270	mg/L	1	0.00200	0.00005		GES	02/11/2025 01:18	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	02/11/2025 01:18	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.89	pCi/L	0.19	0.31		WCG	02/19/2025 11:56	SW-846 9315-1986, Rev. 0
Carrier Recovery	118	%						
Radium-228	1.31	pCi/L	0.13	0.40		TTP	02/24/2025 14:57	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	99.7	%						

* 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.

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-17
Customer Description: TG-32
Lab Number: 250394-007-01
Preparation: Dissolved
Date Collected: 02/04/2025 12:19 EST
Date Received: 02/07/2025 12:05 EST

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	02/11/2025 01:23	EPA 200.8-1994, Rev. 5.4
Arsenic	0.05	µg/L	1	0.10	0.03	J1	GES	02/11/2025 01:23	EPA 200.8-1994, Rev. 5.4
Barium	51.2	µg/L	1	0.20	0.05		GES	02/11/2025 01:23	EPA 200.8-1994, Rev. 5.4
Beryllium	0.220	µg/L	1	0.050	0.007		GES	02/11/2025 01:23	EPA 200.8-1994, Rev. 5.4
Boron	0.031	mg/L	1	0.050	0.007	J1	GES	02/11/2025 01:23	EPA 200.8-1994, Rev. 5.4
Cadmium	0.008	µg/L	1	0.020	0.004	J1	GES	02/11/2025 01:23	EPA 200.8-1994, Rev. 5.4
Calcium	0.07	mg/L	1	0.05	0.02		GES	02/11/2025 01:23	EPA 200.8-1994, Rev. 5.4
Chromium	0.24	µg/L	1	0.30	0.07	J1	GES	02/11/2025 01:23	EPA 200.8-1994, Rev. 5.4
Cobalt	2.44	µg/L	1	0.020	0.005		GES	02/11/2025 01:23	EPA 200.8-1994, Rev. 5.4
Iron	0.003	mg/L	1	0.020	0.003	J1	GES	02/11/2025 01:23	EPA 200.8-1994, Rev. 5.4
Lead	0.05	µg/L	1	0.20	0.05	J1	GES	02/11/2025 01:23	EPA 200.8-1994, Rev. 5.4
Lithium	0.00765	mg/L	1	0.00030	0.00006		GES	02/11/2025 01:23	EPA 200.8-1994, Rev. 5.4
Magnesium	0.860	mg/L	1	0.100	0.009		GES	02/11/2025 01:23	EPA 200.8-1994, Rev. 5.4
Manganese	0.00172	mg/L	1	0.00100	0.00007		GES	02/11/2025 01:23	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 01:23	EPA 200.8-1994, Rev. 5.4
Potassium	0.20	mg/L	1	0.10	0.01		GES	02/11/2025 01:23	EPA 200.8-1994, Rev. 5.4
Selenium	0.07	µg/L	1	0.50	0.04	J1	GES	02/11/2025 01:23	EPA 200.8-1994, Rev. 5.4
Sodium	5.25	mg/L	1	0.20	0.02		GES	02/11/2025 01:23	EPA 200.8-1994, Rev. 5.4
Strontium	0.00256	mg/L	1	0.00200	0.00005		GES	02/11/2025 01:23	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	02/11/2025 01:23	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: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-18
Customer Description: TG-32
Lab Number: 250394-008
Preparation:
Date Collected: 02/04/2025 09:04 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.009	µg/L	1	0.100	0.008	J1	GES	02/11/2025 01:29	EPA 200.8-1994, Rev. 5.4
Arsenic	0.20	µg/L	1	0.10	0.03		GES	02/11/2025 01:29	EPA 200.8-1994, Rev. 5.4
Barium	71.7	µg/L	1	0.20	0.05		GES	02/11/2025 01:29	EPA 200.8-1994, Rev. 5.4
Beryllium	0.090	µg/L	1	0.050	0.007		GES	02/11/2025 01:29	EPA 200.8-1994, Rev. 5.4
Boron	0.013	mg/L	1	0.050	0.007	J1	GES	02/11/2025 01:29	EPA 200.8-1994, Rev. 5.4
Cadmium	0.010	µg/L	1	0.020	0.004	J1	GES	02/11/2025 01:29	EPA 200.8-1994, Rev. 5.4
Calcium	0.20	mg/L	1	0.05	0.02		GES	02/11/2025 01:29	EPA 200.8-1994, Rev. 5.4
Chromium	0.59	µg/L	1	0.30	0.07		GES	02/11/2025 01:29	EPA 200.8-1994, Rev. 5.4
Cobalt	0.844	µg/L	1	0.020	0.005		GES	02/11/2025 01:29	EPA 200.8-1994, Rev. 5.4
Lead	0.13	µg/L	1	0.20	0.05	J1	GES	02/11/2025 01:29	EPA 200.8-1994, Rev. 5.4
Lithium	0.0135	mg/L	1	0.00030	0.00006		GES	02/11/2025 01:29	EPA 200.8-1994, Rev. 5.4
Magnesium	0.288	mg/L	1	0.100	0.009		GES	02/11/2025 01:29	EPA 200.8-1994, Rev. 5.4
Mercury	24	ng/L	1	5	2		RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 01:29	EPA 200.8-1994, Rev. 5.4
Potassium	0.75	mg/L	1	0.10	0.01		GES	02/11/2025 01:29	EPA 200.8-1994, Rev. 5.4
Selenium	0.14	µg/L	1	0.50	0.04	J1	GES	02/11/2025 01:29	EPA 200.8-1994, Rev. 5.4
Sodium	5.33	mg/L	1	0.20	0.02		GES	02/11/2025 01:29	EPA 200.8-1994, Rev. 5.4
Strontium	0.00415	mg/L	1	0.00200	0.00005		GES	02/11/2025 01:29	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	02/11/2025 01:29	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.35	pCi/L	0.15	0.42		WCG	02/19/2025 11:56	SW-846 9315-1986, Rev. 0
Carrier Recovery	105	%						
Radium-228	0.63	pCi/L	0.11	0.36		TTP	02/24/2025 14:57	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	97.0	%						

* 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.

AMERICAN ELECTRIC POWER

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Job ID: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-18
Customer Description: TG-32
Lab Number: 250394-008-01
Preparation: Dissolved
Date Collected: 02/04/2025 09:04 EST
Date Received: 02/07/2025 12:05 EST

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	02/11/2025 01:34	EPA 200.8-1994, Rev. 5.4
Arsenic	0.05	µg/L	1	0.10	0.03	J1	GES	02/11/2025 01:34	EPA 200.8-1994, Rev. 5.4
Barium	72.5	µg/L	1	0.20	0.05		GES	02/11/2025 01:34	EPA 200.8-1994, Rev. 5.4
Beryllium	0.087	µg/L	1	0.050	0.007		GES	02/11/2025 01:34	EPA 200.8-1994, Rev. 5.4
Boron	0.013	mg/L	1	0.050	0.007	J1	GES	02/11/2025 01:34	EPA 200.8-1994, Rev. 5.4
Cadmium	0.014	µg/L	1	0.020	0.004	J1	GES	02/11/2025 01:34	EPA 200.8-1994, Rev. 5.4
Calcium	0.21	mg/L	1	0.05	0.02		GES	02/11/2025 01:34	EPA 200.8-1994, Rev. 5.4
Chromium	0.26	µg/L	1	0.30	0.07	J1	GES	02/11/2025 01:34	EPA 200.8-1994, Rev. 5.4
Cobalt	1.04	µg/L	1	0.020	0.005		GES	02/11/2025 01:34	EPA 200.8-1994, Rev. 5.4
Iron	0.014	mg/L	1	0.020	0.003	J1	GES	02/11/2025 01:34	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	02/11/2025 01:34	EPA 200.8-1994, Rev. 5.4
Lithium	0.0140	mg/L	1	0.00030	0.00006		GES	02/11/2025 01:34	EPA 200.8-1994, Rev. 5.4
Magnesium	0.296	mg/L	1	0.100	0.009		GES	02/11/2025 01:34	EPA 200.8-1994, Rev. 5.4
Manganese	0.00369	mg/L	1	0.00100	0.00007		GES	02/11/2025 01:34	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 01:34	EPA 200.8-1994, Rev. 5.4
Potassium	0.78	mg/L	1	0.10	0.01		GES	02/11/2025 01:34	EPA 200.8-1994, Rev. 5.4
Selenium	0.08	µg/L	1	0.50	0.04	J1	GES	02/11/2025 01:34	EPA 200.8-1994, Rev. 5.4
Sodium	5.53	mg/L	1	0.20	0.02		GES	02/11/2025 01:34	EPA 200.8-1994, Rev. 5.4
Strontium	0.00419	mg/L	1	0.00200	0.00005		GES	02/11/2025 01:34	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	02/11/2025 01:34	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: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-22
Customer Description: TG-32
Lab Number: 250394-009
Preparation:
Date Collected: 02/03/2025 13:16 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.04	µg/L	5	0.50	0.04	U1	GES	02/17/2025 12:53	EPA 200.8-1994, Rev. 5.4
Arsenic	1.75	µg/L	1	0.10	0.03		GES	02/11/2025 01:40	EPA 200.8-1994, Rev. 5.4
Barium	18.6	µg/L	5	1.0	0.3		GES	02/17/2025 12:53	EPA 200.8-1994, Rev. 5.4
Beryllium	6.25	µg/L	1	0.050	0.007		GES	02/11/2025 01:40	EPA 200.8-1994, Rev. 5.4
Boron	0.070	mg/L	1	0.050	0.007		GES	02/11/2025 01:40	EPA 200.8-1994, Rev. 5.4
Cadmium	0.989	µg/L	1	0.020	0.004		GES	02/11/2025 01:40	EPA 200.8-1994, Rev. 5.4
Calcium	11.2	mg/L	1	0.05	0.02		GES	02/11/2025 01:40	EPA 200.8-1994, Rev. 5.4
Chromium	0.45	µg/L	1	0.30	0.07		GES	02/11/2025 01:40	EPA 200.8-1994, Rev. 5.4
Cobalt	77.9	µg/L	1	0.020	0.005		GES	02/11/2025 01:40	EPA 200.8-1994, Rev. 5.4
Lead	0.4	µg/L	5	1.0	0.3	J1	GES	02/17/2025 12:53	EPA 200.8-1994, Rev. 5.4
Lithium	0.110	mg/L	1	0.00030	0.00006		GES	02/11/2025 01:40	EPA 200.8-1994, Rev. 5.4
Magnesium	16.6	mg/L	1	0.100	0.009		GES	02/11/2025 01:40	EPA 200.8-1994, Rev. 5.4
Mercury	1060	ng/L	20	100	40		RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 01:40	EPA 200.8-1994, Rev. 5.4
Potassium	3.40	mg/L	1	0.10	0.01		GES	02/11/2025 01:40	EPA 200.8-1994, Rev. 5.4
Selenium	7.61	µg/L	1	0.50	0.04		GES	02/11/2025 01:40	EPA 200.8-1994, Rev. 5.4
Sodium	92.8	mg/L	1	0.20	0.02		GES	02/11/2025 01:40	EPA 200.8-1994, Rev. 5.4
Strontium	0.112	mg/L	1	0.00200	0.00005		GES	02/11/2025 01:40	EPA 200.8-1994, Rev. 5.4
Thallium	0.2	µg/L	5	1.0	0.1	J1	GES	02/17/2025 12:53	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.35	pCi/L	0.27	0.38		WCG	02/19/2025 11:56	SW-846 9315-1986, Rev. 0
Carrier Recovery	89.3	%						
Radium-228	1.53	pCi/L	0.15	0.44		TTP	02/24/2025 14:57	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	75.0	%						

* 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.

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-22
Customer Description: TG-32
Lab Number: 250394-009-01
Preparation: Dissolved
Date Collected: 02/03/2025 13:16 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.04	µg/L	5	0.50	0.04	U1	GES	02/11/2025 10:12	EPA 200.8-1994, Rev. 5.4
Arsenic	1.72	µg/L	1	0.10	0.03		GES	02/11/2025 01:45	EPA 200.8-1994, Rev. 5.4
Barium	16.9	µg/L	5	1.0	0.3		GES	02/11/2025 10:12	EPA 200.8-1994, Rev. 5.4
Beryllium	6.75	µg/L	5	0.25	0.04		GES	02/11/2025 10:12	EPA 200.8-1994, Rev. 5.4
Boron	0.071	mg/L	1	0.050	0.007		GES	02/11/2025 01:45	EPA 200.8-1994, Rev. 5.4
Cadmium	1.00	µg/L	1	0.020	0.004		GES	02/11/2025 01:45	EPA 200.8-1994, Rev. 5.4
Calcium	11.1	mg/L	1	0.05	0.02		GES	02/11/2025 01:45	EPA 200.8-1994, Rev. 5.4
Chromium	0.32	µg/L	1	0.30	0.07		GES	02/11/2025 01:45	EPA 200.8-1994, Rev. 5.4
Cobalt	78.4	µg/L	1	0.020	0.005		GES	02/11/2025 01:45	EPA 200.8-1994, Rev. 5.4
Iron	1.67	mg/L	1	0.020	0.003		GES	02/11/2025 01:45	EPA 200.8-1994, Rev. 5.4
Lead	<0.3	µg/L	5	1.0	0.3	U1	GES	02/11/2025 10:12	EPA 200.8-1994, Rev. 5.4
Lithium	0.136	mg/L	5	0.0015	0.0003		GES	02/11/2025 10:12	EPA 200.8-1994, Rev. 5.4
Magnesium	16.7	mg/L	1	0.100	0.009		GES	02/11/2025 01:45	EPA 200.8-1994, Rev. 5.4
Manganese	0.278	mg/L	1	0.00100	0.00007		GES	02/11/2025 01:45	EPA 200.8-1994, Rev. 5.4
Mercury	5	ng/L	1	5	2		RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 01:45	EPA 200.8-1994, Rev. 5.4
Potassium	3.38	mg/L	1	0.10	0.01		GES	02/11/2025 01:45	EPA 200.8-1994, Rev. 5.4
Selenium	7.61	µg/L	1	0.50	0.04		GES	02/11/2025 01:45	EPA 200.8-1994, Rev. 5.4
Sodium	94.5	mg/L	1	0.20	0.02		GES	02/11/2025 01:45	EPA 200.8-1994, Rev. 5.4
Strontium	0.112	mg/L	1	0.00200	0.00005		GES	02/11/2025 01:45	EPA 200.8-1994, Rev. 5.4
Thallium	0.2	µg/L	5	1.0	0.1	J1	GES	02/11/2025 10:12	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: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-28
Customer Description: TG-32
Lab Number: 250394-010
Preparation:
Date Collected: 02/04/2025 10:47 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.010	µg/L	1	0.100	0.008	J1	GES	02/11/2025 01:51	EPA 200.8-1994, Rev. 5.4
Arsenic	0.11	µg/L	1	0.10	0.03		GES	02/11/2025 01:51	EPA 200.8-1994, Rev. 5.4
Barium	122	µg/L	1	0.20	0.05		GES	02/11/2025 01:51	EPA 200.8-1994, Rev. 5.4
Beryllium	0.917	µg/L	1	0.050	0.007		GES	02/11/2025 01:51	EPA 200.8-1994, Rev. 5.4
Boron	0.347	mg/L	1	0.050	0.007		GES	02/11/2025 01:51	EPA 200.8-1994, Rev. 5.4
Cadmium	0.063	µg/L	1	0.020	0.004		GES	02/11/2025 01:51	EPA 200.8-1994, Rev. 5.4
Calcium	1.33	mg/L	1	0.05	0.02		GES	02/11/2025 01:51	EPA 200.8-1994, Rev. 5.4
Chromium	0.33	µg/L	1	0.30	0.07		GES	02/11/2025 01:51	EPA 200.8-1994, Rev. 5.4
Cobalt	14.4	µg/L	1	0.020	0.005		GES	02/11/2025 01:51	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	GES	02/11/2025 01:51	EPA 200.8-1994, Rev. 5.4
Lithium	0.0219	mg/L	1	0.00030	0.00006		GES	02/11/2025 01:51	EPA 200.8-1994, Rev. 5.4
Magnesium	3.10	mg/L	1	0.100	0.009		GES	02/11/2025 01:51	EPA 200.8-1994, Rev. 5.4
Mercury	18	ng/L	1	5	2		RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 01:51	EPA 200.8-1994, Rev. 5.4
Potassium	0.71	mg/L	1	0.10	0.01		GES	02/11/2025 01:51	EPA 200.8-1994, Rev. 5.4
Selenium	0.41	µg/L	1	0.50	0.04	J1	GES	02/11/2025 01:51	EPA 200.8-1994, Rev. 5.4
Sodium	6.77	mg/L	1	0.20	0.02		GES	02/11/2025 01:51	EPA 200.8-1994, Rev. 5.4
Strontium	0.0227	mg/L	1	0.00200	0.00005		GES	02/11/2025 01:51	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	GES	02/11/2025 01:51	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	2.44	pCi/L	0.36	0.37		WCG	02/19/2025 11:56	SW-846 9315-1986, Rev. 0
Carrier Recovery	97.0	%						
Radium-228	0.87	pCi/L	0.10	0.30		TTP	02/24/2025 17:05	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	94.5	%						

* 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.

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Job ID: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-28
Customer Description: TG-32
Lab Number: 250394-010-01
Preparation: Dissolved
Date Collected: 02/04/2025 10:47 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.009	µg/L	1	0.100	0.008	J1	GES	02/11/2025 01:56	EPA 200.8-1994, Rev. 5.4
Arsenic	0.10	µg/L	1	0.10	0.03		GES	02/11/2025 01:56	EPA 200.8-1994, Rev. 5.4
Barium	123	µg/L	1	0.20	0.05		GES	02/11/2025 01:56	EPA 200.8-1994, Rev. 5.4
Beryllium	0.765	µg/L	1	0.050	0.007		GES	02/11/2025 01:56	EPA 200.8-1994, Rev. 5.4
Boron	0.350	mg/L	1	0.050	0.007		GES	02/11/2025 01:56	EPA 200.8-1994, Rev. 5.4
Cadmium	0.058	µg/L	1	0.020	0.004		GES	02/11/2025 01:56	EPA 200.8-1994, Rev. 5.4
Calcium	1.31	mg/L	1	0.05	0.02		GES	02/11/2025 01:56	EPA 200.8-1994, Rev. 5.4
Chromium	0.32	µg/L	1	0.30	0.07		GES	02/11/2025 01:56	EPA 200.8-1994, Rev. 5.4
Cobalt	14.4	µg/L	1	0.020	0.005		GES	02/11/2025 01:56	EPA 200.8-1994, Rev. 5.4
Iron	0.014	mg/L	1	0.020	0.003	J1	GES	02/11/2025 01:56	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	GES	02/11/2025 01:56	EPA 200.8-1994, Rev. 5.4
Lithium	0.0203	mg/L	1	0.00030	0.00006		GES	02/11/2025 01:56	EPA 200.8-1994, Rev. 5.4
Magnesium	3.10	mg/L	1	0.100	0.009		GES	02/11/2025 01:56	EPA 200.8-1994, Rev. 5.4
Manganese	0.0418	mg/L	1	0.00100	0.00007		GES	02/11/2025 01:56	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 01:56	EPA 200.8-1994, Rev. 5.4
Potassium	0.72	mg/L	1	0.10	0.01		GES	02/11/2025 01:56	EPA 200.8-1994, Rev. 5.4
Selenium	0.36	µg/L	1	0.50	0.04	J1	GES	02/11/2025 01:56	EPA 200.8-1994, Rev. 5.4
Sodium	6.51	mg/L	1	0.20	0.02		GES	02/11/2025 01:56	EPA 200.8-1994, Rev. 5.4
Strontium	0.0223	mg/L	1	0.00200	0.00005		GES	02/11/2025 01:56	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	GES	02/11/2025 01:56	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: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-30
Customer Description: TG-32
Lab Number: 250394-011
Preparation:
Date Collected: 02/03/2025 13:19 EST
Date Received: 02/07/2025 12:05 EST

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	02/11/2025 02:01	EPA 200.8-1994, Rev. 5.4
Arsenic	0.14	µg/L	1	0.10	0.03		GES	02/11/2025 02:01	EPA 200.8-1994, Rev. 5.4
Barium	47.0	µg/L	1	0.20	0.05		GES	02/11/2025 02:01	EPA 200.8-1994, Rev. 5.4
Beryllium	0.080	µg/L	1	0.050	0.007		GES	02/11/2025 02:01	EPA 200.8-1994, Rev. 5.4
Boron	1.25	mg/L	1	0.050	0.007		GES	02/11/2025 02:01	EPA 200.8-1994, Rev. 5.4
Cadmium	0.008	µg/L	1	0.020	0.004	J1	GES	02/11/2025 02:01	EPA 200.8-1994, Rev. 5.4
Calcium	0.47	mg/L	1	0.05	0.02		GES	02/11/2025 02:01	EPA 200.8-1994, Rev. 5.4
Chromium	0.43	µg/L	1	0.30	0.07		GES	02/11/2025 02:01	EPA 200.8-1994, Rev. 5.4
Cobalt	3.06	µg/L	1	0.020	0.005		GES	02/11/2025 02:01	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	02/11/2025 02:01	EPA 200.8-1994, Rev. 5.4
Lithium	0.00873	mg/L	1	0.00030	0.00006		GES	02/11/2025 02:01	EPA 200.8-1994, Rev. 5.4
Magnesium	1.58	mg/L	1	0.100	0.009		GES	02/11/2025 02:01	EPA 200.8-1994, Rev. 5.4
Mercury	42	ng/L	2	10	4		RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 02:01	EPA 200.8-1994, Rev. 5.4
Potassium	0.71	mg/L	1	0.10	0.01		GES	02/11/2025 02:01	EPA 200.8-1994, Rev. 5.4
Selenium	0.21	µg/L	1	0.50	0.04	J1	GES	02/11/2025 02:01	EPA 200.8-1994, Rev. 5.4
Sodium	58.3	mg/L	1	0.20	0.02		GES	02/11/2025 02:01	EPA 200.8-1994, Rev. 5.4
Strontium	0.00682	mg/L	1	0.00200	0.00005		GES	02/11/2025 02:01	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	02/11/2025 02:01	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.14	pCi/L	0.26	0.46		WCG	02/19/2025 11:56	SW-846 9315-1986, Rev. 0
Carrier Recovery	94.8	%						
Radium-228	0.56	pCi/L	0.13	0.43		TTP	02/24/2025 17:06	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	91.3	%						

* 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.

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-30
Customer Description: TG-32
Lab Number: 250394-011-01
Preparation: Dissolved
Date Collected: 02/03/2025 13:19 EST
Date Received: 02/07/2025 12:05 EST

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	02/11/2025 02:07	EPA 200.8-1994, Rev. 5.4
Arsenic	0.09	µg/L	1	0.10	0.03	J1	GES	02/11/2025 02:07	EPA 200.8-1994, Rev. 5.4
Barium	43.5	µg/L	1	0.20	0.05		GES	02/11/2025 02:07	EPA 200.8-1994, Rev. 5.4
Beryllium	0.079	µg/L	1	0.050	0.007		GES	02/11/2025 02:07	EPA 200.8-1994, Rev. 5.4
Boron	1.24	mg/L	1	0.050	0.007		GES	02/11/2025 02:07	EPA 200.8-1994, Rev. 5.4
Cadmium	0.009	µg/L	1	0.020	0.004	J1	GES	02/11/2025 02:07	EPA 200.8-1994, Rev. 5.4
Calcium	0.46	mg/L	1	0.05	0.02		GES	02/11/2025 02:07	EPA 200.8-1994, Rev. 5.4
Chromium	0.40	µg/L	1	0.30	0.07		GES	02/11/2025 02:07	EPA 200.8-1994, Rev. 5.4
Cobalt	3.14	µg/L	1	0.020	0.005		GES	02/11/2025 02:07	EPA 200.8-1994, Rev. 5.4
Iron	0.013	mg/L	1	0.020	0.003	J1	GES	02/11/2025 02:07	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	02/11/2025 02:07	EPA 200.8-1994, Rev. 5.4
Lithium	0.00864	mg/L	1	0.00030	0.00006		GES	02/11/2025 02:07	EPA 200.8-1994, Rev. 5.4
Magnesium	1.54	mg/L	1	0.100	0.009		GES	02/11/2025 02:07	EPA 200.8-1994, Rev. 5.4
Manganese	0.0129	mg/L	1	0.00100	0.00007		GES	02/11/2025 02:07	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 02:07	EPA 200.8-1994, Rev. 5.4
Potassium	0.70	mg/L	1	0.10	0.01		GES	02/11/2025 02:07	EPA 200.8-1994, Rev. 5.4
Selenium	0.24	µg/L	1	0.50	0.04	J1	GES	02/11/2025 02:07	EPA 200.8-1994, Rev. 5.4
Sodium	58.5	mg/L	1	0.20	0.02		GES	02/11/2025 02:07	EPA 200.8-1994, Rev. 5.4
Strontium	0.00649	mg/L	1	0.00200	0.00005		GES	02/11/2025 02:07	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	02/11/2025 02:07	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: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-31
Customer Description: TG-32
Lab Number: 250394-012
Preparation:
Date Collected: 02/03/2025 12:15 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.009	µg/L	1	0.100	0.008	J1	GES	02/11/2025 02:12	EPA 200.8-1994, Rev. 5.4
Arsenic	0.30	µg/L	1	0.10	0.03		GES	02/11/2025 02:12	EPA 200.8-1994, Rev. 5.4
Barium	30.1	µg/L	1	0.20	0.05		GES	02/11/2025 02:12	EPA 200.8-1994, Rev. 5.4
Beryllium	0.96	µg/L	5	0.25	0.04		GES	02/11/2025 10:17	EPA 200.8-1994, Rev. 5.4
Boron	0.030	mg/L	1	0.050	0.007	J1	GES	02/11/2025 02:12	EPA 200.8-1994, Rev. 5.4
Cadmium	0.058	µg/L	1	0.020	0.004		GES	02/11/2025 02:12	EPA 200.8-1994, Rev. 5.4
Calcium	2.20	mg/L	1	0.05	0.02		GES	02/11/2025 02:12	EPA 200.8-1994, Rev. 5.4
Chromium	0.41	µg/L	1	0.30	0.07		GES	02/11/2025 02:12	EPA 200.8-1994, Rev. 5.4
Cobalt	8.68	µg/L	1	0.020	0.005		GES	02/11/2025 02:12	EPA 200.8-1994, Rev. 5.4
Lead	0.27	µg/L	1	0.20	0.05		GES	02/11/2025 02:12	EPA 200.8-1994, Rev. 5.4
Lithium	0.0782	mg/L	5	0.0015	0.0003		GES	02/11/2025 10:17	EPA 200.8-1994, Rev. 5.4
Magnesium	3.21	mg/L	1	0.100	0.009		GES	02/11/2025 02:12	EPA 200.8-1994, Rev. 5.4
Mercury	440	ng/L	10	50	20		RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 02:12	EPA 200.8-1994, Rev. 5.4
Potassium	1.50	mg/L	1	0.10	0.01		GES	02/11/2025 02:12	EPA 200.8-1994, Rev. 5.4
Selenium	0.50	µg/L	1	0.50	0.04		GES	02/11/2025 02:12	EPA 200.8-1994, Rev. 5.4
Sodium	29.2	mg/L	1	0.20	0.02		GES	02/11/2025 02:12	EPA 200.8-1994, Rev. 5.4
Strontium	0.0322	mg/L	1	0.00200	0.00005		GES	02/11/2025 02:12	EPA 200.8-1994, Rev. 5.4
Thallium	0.08	µg/L	1	0.20	0.02	J1	GES	02/11/2025 02:12	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.46	pCi/L	0.27	0.33		WCG	02/19/2025 11:56	SW-846 9315-1986, Rev. 0
Carrier Recovery	93.7	%						
Radium-228	2.90	pCi/L	0.14	0.31		TTP	03/03/2025 14:32	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	99.0	%						

* 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: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-31
Customer Description: TG-32
Lab Number: 250394-012-01
Preparation: Dissolved
Date Collected: 02/03/2025 12:15 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.009	µg/L	1	0.100	0.008	J1	GES	02/11/2025 02:18	EPA 200.8-1994, Rev. 5.4
Arsenic	0.27	µg/L	1	0.10	0.03		GES	02/11/2025 02:18	EPA 200.8-1994, Rev. 5.4
Barium	29.8	µg/L	1	0.20	0.05		GES	02/11/2025 02:18	EPA 200.8-1994, Rev. 5.4
Beryllium	0.88	µg/L	5	0.25	0.04		GES	02/11/2025 10:23	EPA 200.8-1994, Rev. 5.4
Boron	0.025	mg/L	1	0.050	0.007	J1	GES	02/11/2025 02:18	EPA 200.8-1994, Rev. 5.4
Cadmium	0.060	µg/L	1	0.020	0.004		GES	02/11/2025 02:18	EPA 200.8-1994, Rev. 5.4
Calcium	2.21	mg/L	1	0.05	0.02		GES	02/11/2025 02:18	EPA 200.8-1994, Rev. 5.4
Chromium	0.42	µg/L	1	0.30	0.07		GES	02/11/2025 02:18	EPA 200.8-1994, Rev. 5.4
Cobalt	8.79	µg/L	1	0.020	0.005		GES	02/11/2025 02:18	EPA 200.8-1994, Rev. 5.4
Iron	0.121	mg/L	1	0.020	0.003		GES	02/11/2025 02:18	EPA 200.8-1994, Rev. 5.4
Lead	0.26	µg/L	1	0.20	0.05		GES	02/11/2025 02:18	EPA 200.8-1994, Rev. 5.4
Lithium	0.0720	mg/L	5	0.0015	0.0003		GES	02/11/2025 10:23	EPA 200.8-1994, Rev. 5.4
Magnesium	3.20	mg/L	1	0.100	0.009		GES	02/11/2025 02:18	EPA 200.8-1994, Rev. 5.4
Manganese	0.0217	mg/L	1	0.00100	0.00007		GES	02/11/2025 02:18	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 02:18	EPA 200.8-1994, Rev. 5.4
Potassium	1.52	mg/L	1	0.10	0.01		GES	02/11/2025 02:18	EPA 200.8-1994, Rev. 5.4
Selenium	0.55	µg/L	1	0.50	0.04		GES	02/11/2025 02:18	EPA 200.8-1994, Rev. 5.4
Sodium	29.4	mg/L	1	0.20	0.02		GES	02/11/2025 02:18	EPA 200.8-1994, Rev. 5.4
Strontium	0.0324	mg/L	1	0.00200	0.00005		GES	02/11/2025 02:18	EPA 200.8-1994, Rev. 5.4
Thallium	0.08	µg/L	1	0.20	0.02	J1	GES	02/11/2025 02:18	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: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-32
Customer Description: TG-32
Lab Number: 250394-013
Preparation:
Date Collected: 02/03/2025 11:16 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.014	µg/L	1	0.100	0.008	J1	GES	02/11/2025 12:23	EPA 200.8-1994, Rev. 5.4
Arsenic	6.81	µg/L	1	0.10	0.03		GES	02/11/2025 12:23	EPA 200.8-1994, Rev. 5.4
Barium	37.6	µg/L	1	0.20	0.05		GES	02/11/2025 12:23	EPA 200.8-1994, Rev. 5.4
Beryllium	0.114	µg/L	1	0.050	0.007		GES	02/11/2025 12:23	EPA 200.8-1994, Rev. 5.4
Boron	0.097	mg/L	1	0.050	0.007		GES	02/11/2025 12:23	EPA 200.8-1994, Rev. 5.4
Cadmium	0.007	µg/L	1	0.020	0.004	J1	GES	02/11/2025 12:23	EPA 200.8-1994, Rev. 5.4
Calcium	6.08	mg/L	1	0.05	0.02	M1	GES	02/11/2025 12:23	EPA 200.8-1994, Rev. 5.4
Chromium	0.39	µg/L	1	0.30	0.07		GES	02/11/2025 12:23	EPA 200.8-1994, Rev. 5.4
Cobalt	13.7	µg/L	1	0.020	0.005		GES	02/11/2025 12:23	EPA 200.8-1994, Rev. 5.4
Lead	0.07	µg/L	1	0.20	0.05	J1	GES	02/11/2025 12:23	EPA 200.8-1994, Rev. 5.4
Lithium	0.0722	mg/L	1	0.00030	0.00006	M1	GES	02/11/2025 12:23	EPA 200.8-1994, Rev. 5.4
Magnesium	6.51	mg/L	1	0.100	0.009		GES	02/11/2025 12:23	EPA 200.8-1994, Rev. 5.4
Mercury	450	ng/L	20	100	40		RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 12:23	EPA 200.8-1994, Rev. 5.4
Potassium	3.09	mg/L	1	0.10	0.01		GES	02/11/2025 12:23	EPA 200.8-1994, Rev. 5.4
Selenium	0.14	µg/L	1	0.50	0.04	J1	GES	02/11/2025 12:23	EPA 200.8-1994, Rev. 5.4
Sodium	14.8	mg/L	1	0.20	0.02	M1	GES	02/11/2025 12:23	EPA 200.8-1994, Rev. 5.4
Strontium	0.0791	mg/L	1	0.00200	0.00005		GES	02/11/2025 12:23	EPA 200.8-1994, Rev. 5.4
Thallium	0.05	µg/L	1	0.20	0.02	J1	GES	02/11/2025 12:23	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.67	pCi/L	0.19	0.36		WCG	02/19/2025 11:56	SW-846 9315-1986, Rev. 0
Carrier Recovery	90.9	%						
Radium-228	2.71	pCi/L	0.16	0.42		TTP	03/03/2025 14:32	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.

Dolan Chemical Laboratory
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Phone: 614-836-4221
Audinet: 210-4221

Job ID: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-32
Customer Description: TG-32
Lab Number: 250394-013-01
Preparation: Dissolved
Date Collected: 02/03/2025 11:16 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.016	µg/L	1	0.100	0.008	J1	GES	02/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Arsenic	3.35	µg/L	1	0.10	0.03		GES	02/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Barium	36.5	µg/L	1	0.20	0.05		GES	02/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Beryllium	0.10	µg/L	5	0.25	0.04	J1	GES	02/11/2025 14:28	EPA 200.8-1994, Rev. 5.4
Boron	0.104	mg/L	1	0.050	0.007		GES	02/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Cadmium	0.019	µg/L	1	0.020	0.004	J1	GES	02/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Calcium	6.10	mg/L	1	0.05	0.02		GES	02/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Chromium	0.22	µg/L	1	0.30	0.07	J1	GES	02/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Cobalt	13.6	µg/L	1	0.020	0.005		GES	02/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Iron	16.7	mg/L	1	0.020	0.003		GES	02/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Lead	0.10	µg/L	1	0.20	0.05	J1	GES	02/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Lithium	0.0849	mg/L	5	0.0015	0.0003		GES	02/11/2025 14:28	EPA 200.8-1994, Rev. 5.4
Magnesium	6.49	mg/L	1	0.100	0.009		GES	02/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Manganese	0.112	mg/L	1	0.00100	0.00007		GES	02/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Mercury	8	ng/L	1	5	2		RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Potassium	3.07	mg/L	1	0.10	0.01		GES	02/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Selenium	0.07	µg/L	1	0.50	0.04	J1	GES	02/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Sodium	15.0	mg/L	1	0.20	0.02		GES	02/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Strontium	0.0786	mg/L	1	0.00200	0.00005		GES	02/11/2025 12:39	EPA 200.8-1994, Rev. 5.4
Thallium	0.10	µg/L	1	0.20	0.02	J1	GES	02/11/2025 12:39	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: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-33
Customer Description: TG-32
Lab Number: 250394-014
Preparation:
Date Collected: 02/04/2025 10:24 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.04	µg/L	5	0.50	0.04	U1	GES	02/11/2025 14:34	EPA 200.8-1994, Rev. 5.4
Arsenic	1.43	µg/L	1	0.10	0.03		GES	02/11/2025 12:45	EPA 200.8-1994, Rev. 5.4
Barium	51.1	µg/L	5	1.0	0.3		GES	02/11/2025 14:34	EPA 200.8-1994, Rev. 5.4
Beryllium	2.01	µg/L	5	0.25	0.04		GES	02/11/2025 14:34	EPA 200.8-1994, Rev. 5.4
Boron	0.224	mg/L	1	0.050	0.007		GES	02/11/2025 12:45	EPA 200.8-1994, Rev. 5.4
Cadmium	0.078	µg/L	1	0.020	0.004		GES	02/11/2025 12:45	EPA 200.8-1994, Rev. 5.4
Calcium	3.02	mg/L	1	0.05	0.02		GES	02/11/2025 12:45	EPA 200.8-1994, Rev. 5.4
Chromium	0.38	µg/L	1	0.30	0.07		GES	02/11/2025 12:45	EPA 200.8-1994, Rev. 5.4
Cobalt	15.0	µg/L	1	0.020	0.005		GES	02/11/2025 12:45	EPA 200.8-1994, Rev. 5.4
Lead	0.4	µg/L	5	1.0	0.3	J1	GES	02/11/2025 14:34	EPA 200.8-1994, Rev. 5.4
Lithium	0.0293	mg/L	5	0.0015	0.0003		GES	02/11/2025 14:34	EPA 200.8-1994, Rev. 5.4
Magnesium	5.87	mg/L	1	0.100	0.009		GES	02/11/2025 12:45	EPA 200.8-1994, Rev. 5.4
Mercury	5700	ng/L	100	500	200		RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 12:45	EPA 200.8-1994, Rev. 5.4
Potassium	0.31	mg/L	1	0.10	0.01		GES	02/11/2025 12:45	EPA 200.8-1994, Rev. 5.4
Selenium	5.62	µg/L	1	0.50	0.04		GES	02/11/2025 12:45	EPA 200.8-1994, Rev. 5.4
Sodium	20.0	mg/L	1	0.20	0.02		GES	02/11/2025 12:45	EPA 200.8-1994, Rev. 5.4
Strontium	0.0473	mg/L	1	0.00200	0.00005		GES	02/11/2025 12:45	EPA 200.8-1994, Rev. 5.4
Thallium	<0.1	µg/L	5	1.0	0.1	U1	GES	02/11/2025 14:34	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.34	pCi/L	0.27	0.35		WCG	02/19/2025 11:56	SW-846 9315-1986, Rev. 0
Carrier Recovery	92.8	%						
Radium-228	2.54	pCi/L	0.14	0.36		TTP	03/03/2025 14:32	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	101	%						

* 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.

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: AD-33
Customer Description: TG-32
Lab Number: 250394-014-01
Preparation: Dissolved
Date Collected: 02/04/2025 10:24 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.04	µg/L	5	0.50	0.04	U1	GES	02/11/2025 14:39	EPA 200.8-1994, Rev. 5.4
Arsenic	1.35	µg/L	1	0.10	0.03		GES	02/11/2025 12:50	EPA 200.8-1994, Rev. 5.4
Barium	51.4	µg/L	5	1.0	0.3		GES	02/11/2025 14:39	EPA 200.8-1994, Rev. 5.4
Beryllium	2.06	µg/L	5	0.25	0.04		GES	02/11/2025 14:39	EPA 200.8-1994, Rev. 5.4
Boron	0.222	mg/L	1	0.050	0.007		GES	02/11/2025 12:50	EPA 200.8-1994, Rev. 5.4
Cadmium	0.072	µg/L	1	0.020	0.004		GES	02/11/2025 12:50	EPA 200.8-1994, Rev. 5.4
Calcium	3.00	mg/L	1	0.05	0.02		GES	02/11/2025 12:50	EPA 200.8-1994, Rev. 5.4
Chromium	0.25	µg/L	1	0.30	0.07	J1	GES	02/11/2025 12:50	EPA 200.8-1994, Rev. 5.4
Cobalt	14.5	µg/L	1	0.020	0.005		GES	02/11/2025 12:50	EPA 200.8-1994, Rev. 5.4
Iron	0.021	mg/L	1	0.020	0.003		GES	02/11/2025 12:50	EPA 200.8-1994, Rev. 5.4
Lead	0.4	µg/L	5	1.0	0.3	J1	GES	02/11/2025 14:39	EPA 200.8-1994, Rev. 5.4
Lithium	0.0293	mg/L	5	0.0015	0.0003		GES	02/11/2025 14:39	EPA 200.8-1994, Rev. 5.4
Magnesium	5.75	mg/L	1	0.100	0.009		GES	02/11/2025 12:50	EPA 200.8-1994, Rev. 5.4
Manganese	0.00934	mg/L	1	0.00100	0.00007		GES	02/11/2025 12:50	EPA 200.8-1994, Rev. 5.4
Mercury	1140	ng/L	20	100	40		RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 12:50	EPA 200.8-1994, Rev. 5.4
Potassium	0.31	mg/L	1	0.10	0.01		GES	02/11/2025 12:50	EPA 200.8-1994, Rev. 5.4
Selenium	5.16	µg/L	1	0.50	0.04		GES	02/11/2025 12:50	EPA 200.8-1994, Rev. 5.4
Sodium	19.7	mg/L	1	0.20	0.02		GES	02/11/2025 12:50	EPA 200.8-1994, Rev. 5.4
Strontium	0.0459	mg/L	1	0.00200	0.00005		GES	02/11/2025 12:50	EPA 200.8-1994, Rev. 5.4
Thallium	<0.1	µg/L	5	1.0	0.1	U1	GES	02/11/2025 14:39	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: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: DUPLICATE
Customer Description: TG-32
Lab Number: 250394-015
Preparation:
Date Collected: 02/03/2025 09:18 EST
Date Received: 02/07/2025 12:05 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.018	µg/L	1	0.100	0.008	J1	GES	02/11/2025 12:56	EPA 200.8-1994, Rev. 5.4
Arsenic	0.27	µg/L	1	0.10	0.03		GES	02/11/2025 12:56	EPA 200.8-1994, Rev. 5.4
Barium	64.0	µg/L	1	0.20	0.05		GES	02/11/2025 12:56	EPA 200.8-1994, Rev. 5.4
Beryllium	0.22	µg/L	5	0.25	0.04	M1, J1	GES	02/11/2025 14:45	EPA 200.8-1994, Rev. 5.4
Boron	0.054	mg/L	1	0.050	0.007		GES	02/11/2025 12:56	EPA 200.8-1994, Rev. 5.4
Cadmium	0.007	µg/L	1	0.020	0.004	J1	GES	02/11/2025 12:56	EPA 200.8-1994, Rev. 5.4
Calcium	18.5	mg/L	1	0.05	0.02		GES	02/11/2025 12:56	EPA 200.8-1994, Rev. 5.4
Chromium	0.52	µg/L	1	0.30	0.07		GES	02/11/2025 12:56	EPA 200.8-1994, Rev. 5.4
Cobalt	25.4	µg/L	1	0.020	0.005		GES	02/11/2025 12:56	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	02/11/2025 12:56	EPA 200.8-1994, Rev. 5.4
Lithium	0.147	mg/L	5	0.0015	0.0003	M1	GES	02/11/2025 14:45	EPA 200.8-1994, Rev. 5.4
Magnesium	9.02	mg/L	1	0.100	0.009		GES	02/11/2025 12:56	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/18/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 12:56	EPA 200.8-1994, Rev. 5.4
Potassium	4.51	mg/L	1	0.10	0.01		GES	02/11/2025 12:56	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	02/11/2025 12:56	EPA 200.8-1994, Rev. 5.4
Sodium	14.8	mg/L	1	0.20	0.02	M1	GES	02/11/2025 12:56	EPA 200.8-1994, Rev. 5.4
Strontium	0.441	mg/L	1	0.00200	0.00005		GES	02/11/2025 12:56	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	02/11/2025 12:56	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: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: DUPLICATE
Customer Description: TG-32
Lab Number: 250394-015-01
Preparation: Dissolved
Date Collected: 02/03/2025 09:18 EST
Date Received: 02/07/2025 12:05 EST

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	02/11/2025 13:01	EPA 200.8-1994, Rev. 5.4
Arsenic	0.03	µg/L	1	0.10	0.03	J1	GES	02/11/2025 13:01	EPA 200.8-1994, Rev. 5.4
Barium	68.0	µg/L	1	0.20	0.05		GES	02/11/2025 13:01	EPA 200.8-1994, Rev. 5.4
Beryllium	0.166	µg/L	1	0.050	0.007		GES	02/11/2025 13:01	EPA 200.8-1994, Rev. 5.4
Boron	0.059	mg/L	1	0.050	0.007		GES	02/11/2025 13:01	EPA 200.8-1994, Rev. 5.4
Cadmium	0.006	µg/L	1	0.020	0.004	J1	GES	02/11/2025 13:01	EPA 200.8-1994, Rev. 5.4
Calcium	20.3	mg/L	1	0.05	0.02		GES	02/11/2025 13:01	EPA 200.8-1994, Rev. 5.4
Chromium	0.27	µg/L	1	0.30	0.07	J1	GES	02/11/2025 13:01	EPA 200.8-1994, Rev. 5.4
Cobalt	27.8	µg/L	1	0.020	0.005		GES	02/11/2025 13:01	EPA 200.8-1994, Rev. 5.4
Iron	0.053	mg/L	1	0.020	0.003		GES	02/11/2025 13:01	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	02/11/2025 13:01	EPA 200.8-1994, Rev. 5.4
Lithium	0.129	mg/L	1	0.00030	0.00006		GES	02/11/2025 13:01	EPA 200.8-1994, Rev. 5.4
Magnesium	9.80	mg/L	1	0.100	0.009		GES	02/11/2025 13:01	EPA 200.8-1994, Rev. 5.4
Manganese	0.279	mg/L	1	0.00100	0.00007		GES	02/11/2025 13:01	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	0.2	µg/L	1	0.5	0.1	J1	GES	02/11/2025 13:01	EPA 200.8-1994, Rev. 5.4
Potassium	4.86	mg/L	1	0.10	0.01		GES	02/11/2025 13:01	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	02/11/2025 13:01	EPA 200.8-1994, Rev. 5.4
Sodium	15.8	mg/L	1	0.20	0.02		GES	02/11/2025 13:01	EPA 200.8-1994, Rev. 5.4
Strontium	0.493	mg/L	1	0.00200	0.00005		GES	02/11/2025 13:01	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	GES	02/11/2025 13:01	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: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: EQUIPMENT BLANK
Customer Description: TG-32
Lab Number: 250394-016
Preparation:
Date Collected: 02/03/2025 10:00 EST
Date Received: 02/07/2025 12:05 EST

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	02/11/2025 13:06	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	02/11/2025 13:06	EPA 200.8-1994, Rev. 5.4
Barium	0.24	µg/L	1	0.20	0.05		GES	02/11/2025 13:06	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	GES	02/11/2025 13:06	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	GES	02/11/2025 13:06	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	02/11/2025 13:06	EPA 200.8-1994, Rev. 5.4
Calcium	0.05	mg/L	1	0.05	0.02		GES	02/11/2025 13:06	EPA 200.8-1994, Rev. 5.4
Chromium	0.50	µg/L	1	0.30	0.07		GES	02/11/2025 13:06	EPA 200.8-1994, Rev. 5.4
Cobalt	0.082	µg/L	1	0.020	0.005		GES	02/11/2025 13:06	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	02/11/2025 13:06	EPA 200.8-1994, Rev. 5.4
Lithium	0.00021	mg/L	1	0.00030	0.00006	J1	GES	02/11/2025 13:06	EPA 200.8-1994, Rev. 5.4
Magnesium	0.027	mg/L	1	0.100	0.009	J1	GES	02/11/2025 13:06	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 13:06	EPA 200.8-1994, Rev. 5.4
Potassium	0.01	mg/L	1	0.10	0.01	J1	GES	02/11/2025 13:06	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	02/11/2025 13:06	EPA 200.8-1994, Rev. 5.4
Sodium	0.04	mg/L	1	0.20	0.02	J1	GES	02/11/2025 13:06	EPA 200.8-1994, Rev. 5.4
Strontium	0.00173	mg/L	1	0.00200	0.00005	J1	GES	02/11/2025 13:06	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	02/11/2025 13:06	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: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

Customer Sample ID: FIELD BLANK
Customer Description: TG-32
Lab Number: 250394-017
Preparation:
Date Collected: 02/04/2025 10:15 EST
Date Received: 02/07/2025 12:05 EST

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	02/11/2025 13:12	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	02/11/2025 13:12	EPA 200.8-1994, Rev. 5.4
Barium	<0.05	µg/L	1	0.20	0.05	U1	GES	02/11/2025 13:12	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	GES	02/11/2025 13:12	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	GES	02/11/2025 13:12	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	02/11/2025 13:12	EPA 200.8-1994, Rev. 5.4
Calcium	<0.02	mg/L	1	0.05	0.02	U1	GES	02/11/2025 13:12	EPA 200.8-1994, Rev. 5.4
Chromium	0.19	µg/L	1	0.30	0.07	J1	GES	02/11/2025 13:12	EPA 200.8-1994, Rev. 5.4
Cobalt	<0.005	µg/L	1	0.020	0.005	U1	GES	02/11/2025 13:12	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	02/11/2025 13:12	EPA 200.8-1994, Rev. 5.4
Lithium	0.00009	mg/L	1	0.00030	0.00006	J1	GES	02/11/2025 13:12	EPA 200.8-1994, Rev. 5.4
Magnesium	<0.009	mg/L	1	0.100	0.009	U1	GES	02/11/2025 13:12	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/11/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	02/11/2025 13:12	EPA 200.8-1994, Rev. 5.4
Potassium	<0.01	mg/L	1	0.10	0.01	U1	GES	02/11/2025 13:12	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	02/11/2025 13:12	EPA 200.8-1994, Rev. 5.4
Sodium	<0.02	mg/L	1	0.20	0.02	U1	GES	02/11/2025 13:12	EPA 200.8-1994, Rev. 5.4
Strontium	<0.00005	mg/L	1	0.00200	0.00005	U1	GES	02/11/2025 13:12	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	02/11/2025 13:12	EPA 200.8-1994, Rev. 5.4

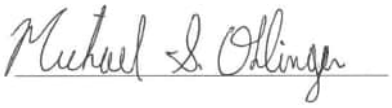
Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 250394 **Customer: Pirkey Power Station** **Date Reported: 03/19/2025**

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).
J1 - Concentration estimated. Analyte was detected between the method detection limit and the reporting limit.
P2 - The precision on the laboratory control sample duplicate (LCSD) was above acceptance limits.
M1 - The associated matrix spike (MS) or matrix spike duplicate (MSD) recovery was outside acceptance limits.

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Dolan Chemical Laboratory (DCL)
4001 Bixby Road
Groveport, Ohio 43125
Contacts: Jonathan Barnhill (318-673-3803)
Michael Ohlinger (614-836-4184)

Project Name: Pirkey - CCR
Contact Name: Pryce Warren
Contact Phone: 325-310-6668
Sampler(s): Matt Hamilton Kenny McDonald

Analysis Turnaround Time (in Calendar Days)

Site Contact:

Date:

For Lab Use Only:
COC/Order #: 250394

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 and Na, K, Mg, Sr	Field-filter 250 mL bottle, then pH<2, HNO_3 B, Ca, Li, Sb, As, Ba, Be, Cd, Cr, Co, Fe, Mn, Mo, Pb, Se, Tl and Na, K, Mg, Sr	1 L bottle, Cool, 0-6°C TDS, F, Cl, SO_4, and Br, Alkalinity	Three (six every 10th*) 1 L bottles, pH<2, HNO_3 Ra-226, Ra-228	Field-Filter 250 mL Glass bottle, HCL**, pH<2 Hg	250 mL Glass bottle, HCL**, pH<2 Hg		Sample Specific Notes:
AD-2	2/4/2025	1023	G	GW	7		X	X		X	X	X		
AD-3	2/4/2025	1049	G	GW	7		X	X		X	X	X		
AD-4	2/3/2025	958	G	GW	7		X	X		X	X	X		
AD-7R	2/3/2025	1109	G	GW	7		X	X		X	X	X		
AD-12	2/3/2025	924	G	GW	7		X	X		X	X	X		
AD-13	2/3/2025	818	G	GW	10		X	X		X	X	X		
AD-17	2/4/2025	1119	G	GW	7		X	X		X	X	X		
AD-18	2/4/2025	804	G	GW	7		X	X		X	X	X		
AD-22	2/3/2025	1216	G	GW	7		X	X		X	X	X		
AD-28	2/4/2025	947	G	GW	7		X	X		X	X	X		
AD-30	2/3/2025	1219	G	GW	7		X	X		X	X	X		
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____; F= filter in field							4	F4	1	4	F2	2		

* *Six 1L Bottles must be collected for Radium for every 10th sample.*

Special Instructions/QC Requirements & Comments:

TG-32

Relinquished by:	Company: EGF	Date/Time: 2-5-25 15:00	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in laboratory by:	Date/Time: 2/6/25 12:05

Form COC-04, AEP Chain of Custody (COC) Record for Coal Combustion Residual (CCR) Sampling - Shreveport, Rev. 1, 1/10/17

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Dolan Chemical Laboratory (DCL)
4001 Bixby Road
Groveport, Ohio 43125
Contacts: Jonathan Barnhill (318-673-3803)
Michael Ohlinger (614-836-4184)

Project Name: Pirkey - CCR
Contact Name: Pryce Warren
Contact Phone: 325-310-6668
Sampler(s): Matt Hamilton Kenny McDonald

Analysis Turnaround Time (in Calendar Days)

Site Contact:

Date:

For Lab Use Only:
COC/Order #:

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 and Na, K, Mg, Sr	Field-filter 250 mL bottle, then pH<2, HNO_3 B, Ca, Li, Sb, As, Ba, Be, Cd, Cr, Co, Fe, Mn, Mo, Pb, Se, TL and Na, K, Mg, Sr	1 L bottle, Cool, 0-6°C TDS, F, Cl, SO_4, and Br, Alkalinity	Three (six every 10th*) 1 L bottles, pH<2, HNO_3 Ra-226, Ra-228	Field-Filter 250 mL Glass bottle, HCL**, pH<2 Hg	250 mL Glass bottle, HCL**, pH<2 Hg		Sample Specific Notes.
AD-31	2/3/2025	1115	G	GW	7		X	X		X	X	X		
AD-32	2/3/2025	1016	G	GW	7		X	X		X	X	X		
AD-33	2/4/2025	924	G	GW	7		X	X		X	X	X		
DUPLICATE	2/3/2025	818	G	GW	4		X	X			X	X		
EQUIPMENT BLANK	2/3/2025	900	G	GW	2		X					X		
FIELD BLANK	2/4/2025	915	G	GW	2		X					X		
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____; F= filter in field							4	F4	1	4	F2	2		

* *Six 1L Bottles must be collected for Radium for every 10th sample.*

Special Instructions/QC Requirements & Comments:

TG-32

Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
[signature]	Esk	2-5-25 1500		
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Date/Time: 2/6/25 12:35

WATER & WASTE SAMPLE RECEIPT FORM

Form SOP-7102 — Sample Receipt Form Rev. 10, 01/03/25

Package Type

Cooler (circled) Box Bag Envelope

Delivery Type

UPS FedEX (circled) USPS

Other _____

Plant/Customer Pikes

Opened By WKG / MSC / VSM

Date/Time 02/06/25 1705

07 WKG / VSM 02/06/25

Total # of Containers RECEIVED in Job: ~~WKG 116~~ WKG 02/06/25 93 MSC 07 MSC 2/7/25 - 2/14/25

Were all required temperatures, per BN-water-900, T≤6°C *w/o sample freezing*? Y / N or N/A (circled)

Initial/Date: _____ on ice / no ice (circled)

If No, specify each deviation(s) on back of form. (IR Gun Ser# 240093386, *Expir.* 02/14/2025)

Was container in good condition? Y (circled) / N Comments

Was Chain of Custody received? Y (circled) / 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 (circled) / N or N/A

Initial/Date: MSC 02/07/25 24hr: 1-10 02/06/25 VSM 7 AD317 FB: 11 → 24

pH paper: mfr Lab Rat, PN 4801, LOT# X000RWDG21, EXPR DATE 11/30/2025

** Note changes to pH paper in comments below*

Was Add'l Preservative needed? Y / N (circled) If Yes: By whom & when: _____ (See Prep Book)

(Dissolved) Is sample filtration requested? Y / N (circled) Comments _____ (See Prep Book)

Was COC filled out properly? Y (circled) / N Comments _____

Were samples labeled properly? Y (circled) / N Comments _____

Were correct containers used? Y (circled) / N Comments _____

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 250394 Initial & Date & Time : _____

Logged by MSC Comments: FB label says 2/3/25 @ 9AM

(Record Test Count on back of form)

Total # of Containers LISTED on COC: ~~WKG~~ 109 MSC 2/7/25

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 # : 250394 **Initial/ Date:** MSO 2/7/25 **Peer Review Initial/ Date:** DMB 02/10/25

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
21	250394-001		21
21	" -001-01		
21	" -002		
21	" -002-01		
21	" -003		
21	" -003-01		
21	" -004		
21	" -004-01		
21	" -005		
21	" -005-01		
21	" -006		
21	" -006-01		
21	" -007		
21	" -007-01		
21	" -008		
21	" -008-01		
21	" -009		
21	" -009-01		
21	" -010		
21	" -010-01		
21	" -011		
21	" -011-01		
21	" -012		
21	" -012-01		

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 # : 250394 **Initial/ Date:** MSO 2/7/25 **Peer Review Initial/ Date:** [illegible] 02/10/25

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
21	250394-013		21
21	-013-01		21
21	-014		21
21	-014-01		21
19	-015		19
21	-015-01		21
19	-016		19
19	-017		19

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 Pixley **Total # of Containers RECEIVED in Job:** 16

Opened By KMD / MJSO

Date/Time 02/10/25 1155

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.* 02/14/2025)

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: 250394-008 → 009 R1→R3→R1 (009 only) KMD 02/10/25; 250394-003-R1→R3, 006-R1→R3;

pH paper: mfr Lab Rat, PN 4801, LOT# X000RWDG21, EXPIR DATE 11/30/2025

**** 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# 250394 Initial & Date & Time : _____

Logged by MJS Comments: _____

(Record Test Count on back of form)

Total # of Containers LISTED on COC: 16

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**

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 Palmer	Tamisha T. Palmer	Chemical Lab Technician, Prin.	03/18/2025
Name (printed)	Signature	Official Title	Date

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey Power

Reviewer Name: Tamisha Palmer

LRC Date: 03/18/2025

Laboratory Job Number: 250394

Prep Batch Number(s): PB25021403, PB25021404

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	ER
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: Pirkey Power

Reviewer Name: Tamisha Palmer

LRC Date: 03/18/2025

Laboratory Job Number: 250394

Prep Batch Number(s): PB25021403, PB25021404

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	

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey Power

Reviewer Name: Tamisha Palmer

LRC Date: 03/18/2025

Laboratory Job Number: 250394

Prep Batch Number(s): PB25021403, PB25021404

Exception Report No.	Description
ER1	The RPD for the duplicate was outside the 25% limit for both prep batches

[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."

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	

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.
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- [x] R2 Sample identification cross-reference
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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)
- [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	Timsina	Chemist Associate	03/06/2025
Name (printed)	Signature	Official Title	Date

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey Power Station

Reviewer Name: Sunita Timsina

LRC Date: 03/06/2025

Laboratory Job Number: 250394

Prep Batch Number(s): PB25021302, PB25022101

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: Pirkey Power Station

Reviewer Name: Sunita Timsina

LRC Date: 03/06/2025

Laboratory Job Number: 250394

Prep Batch Number(s): PB25021302, PB25022101

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: Pirkey Power Station

Reviewer Name: Sunita Timsina

LRC Date: 03/06/2025

Laboratory Job Number: 250394

Prep Batch Number(s): PB25021302, PB25022101

Exception Report No.	Description
ER1	For PB25022101, The precision on the matrix spike duplicate (MS) 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.

Kelsey Huff		Chemist	02/26/2025
Name (printed)	Signature	Official Title	Date

Mercury Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey

Reviewer Name: Kelsey Huff

LRC Date: 02/26/2025

Laboratory Job Number: 250394

Prep Batch Number(s): PB25021008, PB25021009, PB25021010, PB25021801

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	

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey

Reviewer Name: Kelsey Huff

LRC Date: 02/26/2025

Laboratory Job Number: 250394

Prep Batch Number(s): PB25021008, PB25021009, PB25021010, PB25021801

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: Pirkey

Reviewer Name: Kelsey Huff

LRC Date: 02/26/2025

Laboratory Job Number: 250394

Prep Batch Number(s): PB25021008, PB25021009, PB25021010, PB25021801

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: 2025.02.20 10:14:50 -05'00'	Chemist	2-20-2025
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: Pirkey CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 2-20-2025

Laboratory Job Number: 250394

Prep Batch Number(s): PB25021003, PB25021011, PB25021012, QC2502067, QC2502083, QC2502120

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?	No	ER3, ER4, ER5, ER6
	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: Pirkey CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 2-20-2025

Laboratory Job Number: 250394

Prep Batch Number(s): PB25021003, PB25021011, PB25021012, QC2502067, QC2502083, QC2502120

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	

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: Pirkey CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 2-20-2025

Laboratory Job Number: 250394

Prep Batch Number(s): PB25021003, PB25021011, PB25021012, QC2502067, QC2502083, QC2502120

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.
ER3	Matrix Spike failed for Co, Mn, Na, and Mg for sample 250394-001-01.
ER4	Matrix Spike failed for Ca, Na, and Sr for sample 250394-006.
ER5	Matrix Spike failed for Ca, Li, and Na for sample 250394-013.
ER6	Matrix Spike failed for Li, Be, and Na for sample 250394-015.

[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: 250367 **Customer: Pirkey Power Station** **Date Reported: 02/26/2025**

Customer Sample ID: AD-2
Customer Description: TG-32
Lab Number: 250367-001
Preparation:
Date Collected: 02/04/2025 11:23 EST
Date Received: 02/06/2025 10:00 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.45	mg/L	2	0.10	0.02		CRJ	02/13/2025 16:09	EPA 300.1 -1997, Rev. 1.0
Chloride	27.3	mg/L	2	0.06	0.02		CRJ	02/13/2025 16:09	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.36	mg/L	2	0.06	0.02		CRJ	02/13/2025 16:09	EPA 300.1 -1997, Rev. 1.0
Sulfate	290	mg/L	10	3.0	0.6		CRJ	02/13/2025 15:49	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	02/10/2025 10:06	SM 2320B-2011
TDS, Filterable Residue	590	mg/L	1	50	20	S7	SDW	02/07/2025 09:02	SM 2540C-2015

Customer Sample ID: AD-3
Customer Description: TG-32
Lab Number: 250367-002
Preparation:
Date Collected: 02/04/2025 11:49 EST
Date Received: 02/06/2025 10:00 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.07	mg/L	2	0.10	0.02	J1	CRJ	02/13/2025 15:28	EPA 300.1 -1997, Rev. 1.0
Chloride	5.91	mg/L	2	0.06	0.02		CRJ	02/13/2025 15:28	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.06	mg/L	2	0.06	0.02		CRJ	02/13/2025 15:28	EPA 300.1 -1997, Rev. 1.0
Sulfate	25.7	mg/L	2	0.6	0.1		CRJ	02/13/2025 15:28	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	6	mg/L	1	20	5	J1	MGK	02/10/2025 10:06	SM 2320B-2011
TDS, Filterable Residue	140	mg/L	1	50	20		SDW	02/07/2025 09:08	SM 2540C-2015

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 250367 **Customer: Pirkey Power Station** **Date Reported: 02/26/2025**

Customer Sample ID: AD-4
Customer Description: TG-32
Lab Number: 250367-003
Preparation:
Date Collected: 02/03/2025 10:58 EST
Date Received: 02/06/2025 10:00 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.24	mg/L	2	0.10	0.02		CRJ	02/13/2025 16:51	EPA 300.1 -1997, Rev. 1.0
Chloride	4.21	mg/L	2	0.06	0.02		CRJ	02/13/2025 16:51	EPA 300.1 -1997, Rev. 1.0
Fluoride	<0.02	mg/L	2	0.06	0.02	U1	CRJ	02/13/2025 16:51	EPA 300.1 -1997, Rev. 1.0
Sulfate	17.8	mg/L	2	0.6	0.1		CRJ	02/13/2025 16:51	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	02/10/2025 10:06	SM 2320B-2011
TDS, Filterable Residue	140	mg/L	1	50	20		SDW	02/07/2025 09:08	SM 2540C-2015

Customer Sample ID: AD-7R
Customer Description: TG-32
Lab Number: 250367-004
Preparation:
Date Collected: 02/03/2025 12:09 EST
Date Received: 02/06/2025 10:00 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.97	mg/L	2	0.10	0.02		CRJ	02/13/2025 17:12	EPA 300.1 -1997, Rev. 1.0
Chloride	23.0	mg/L	2	0.06	0.02		CRJ	02/13/2025 17:12	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.18	mg/L	2	0.06	0.02		CRJ	02/13/2025 17:12	EPA 300.1 -1997, Rev. 1.0
Sulfate	48.4	mg/L	2	0.6	0.1		CRJ	02/13/2025 17:12	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	02/10/2025 10:06	SM 2320B-2011
TDS, Filterable Residue	190	mg/L	1	50	20		SDW	02/07/2025 09:08	SM 2540C-2015

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 250367 **Customer: Pirkey Power Station** **Date Reported: 02/26/2025**

Customer Sample ID: AD-12 Customer Description: TG-32
Lab Number: 250367-005 Preparation:
Date Collected: 02/03/2025 10:24 EST Date Received: 02/06/2025 10:00 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.20	mg/L	2	0.10	0.02		CRJ	02/13/2025 17:32	EPA 300.1 -1997, Rev. 1.0
Chloride	4.94	mg/L	2	0.06	0.02		CRJ	02/13/2025 17:32	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.08	mg/L	2	0.06	0.02		CRJ	02/13/2025 17:32	EPA 300.1 -1997, Rev. 1.0
Sulfate	3.1	mg/L	2	0.6	0.1		CRJ	02/13/2025 17:32	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	02/10/2025 10:06	SM 2320B-2011
TDS, Filterable Residue	80	mg/L	1	50	20		SDW	02/07/2025 09:08	SM 2540C-2015

Customer Sample ID: AD-13 Customer Description: TG-32
Lab Number: 250367-006 Preparation:
Date Collected: 02/03/2025 09:18 EST Date Received: 02/06/2025 10:00 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.31	mg/L	2	0.10	0.02		CRJ	02/13/2025 17:53	EPA 300.1 -1997, Rev. 1.0
Chloride	35.2	mg/L	2	0.06	0.02		CRJ	02/13/2025 17:53	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.31	mg/L	2	0.06	0.02		CRJ	02/13/2025 17:53	EPA 300.1 -1997, Rev. 1.0
Sulfate	54.2	mg/L	2	0.6	0.1		CRJ	02/13/2025 17:53	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	20	mg/L	1	20	5		MGK	02/10/2025 10:06	SM 2320B-2011
TDS, Filterable Residue	180	mg/L	1	50	20		SDW	02/07/2025 09:15	SM 2540C-2015

Dolan Chemical Laboratory
4001 Bixby Road
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Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Job ID: 250367 **Customer: Pirkey Power Station** **Date Reported: 02/26/2025**

Customer Sample ID: AD-17
Customer Description: TG-32
Lab Number: 250367-007
Preparation:
Date Collected: 02/04/2025 12:19 EST
Date Received: 02/06/2025 10:00 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.11	mg/L	2	0.10	0.02		CRJ	02/13/2025 18:35	EPA 300.1 -1997, Rev. 1.0
Chloride	9.13	mg/L	2	0.06	0.02		CRJ	02/13/2025 18:35	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.10	mg/L	2	0.06	0.02		CRJ	02/13/2025 18:35	EPA 300.1 -1997, Rev. 1.0
Sulfate	2.9	mg/L	2	0.6	0.1		CRJ	02/13/2025 18:35	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	02/10/2025 10:06	SM 2320B-2011
TDS, Filterable Residue	40	mg/L	1	50	20	J1	SDW	02/07/2025 09:15	SM 2540C-2015

Customer Sample ID: AD-18
Customer Description: TG-32
Lab Number: 250367-008
Preparation:
Date Collected: 02/04/2025 09:04 EST
Date Received: 02/06/2025 10:00 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.05	mg/L	2	0.10	0.02	J1	CRJ	02/13/2025 18:55	EPA 300.1 -1997, Rev. 1.0
Chloride	4.80	mg/L	2	0.06	0.02		CRJ	02/13/2025 18:55	EPA 300.1 -1997, Rev. 1.0
Fluoride	<0.02	mg/L	2	0.06	0.02	U1	CRJ	02/13/2025 18:55	EPA 300.1 -1997, Rev. 1.0
Sulfate	6.8	mg/L	2	0.6	0.1		CRJ	02/13/2025 18:55	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	02/10/2025 10:06	SM 2320B-2011
TDS, Filterable Residue	90	mg/L	1	50	20		SDW	02/07/2025 09:15	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: 250367 **Customer: Pirkey Power Station** **Date Reported: 02/26/2025**

Customer Sample ID: AD-22 Customer Description: TG-32
Lab Number: 250367-009 Preparation:
Date Collected: 02/03/2025 13:16 EST Date Received: 02/06/2025 10:00 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.43	mg/L	2	0.10	0.02		CRJ	02/13/2025 21:41	EPA 300.1 -1997, Rev. 1.0
Chloride	63.2	mg/L	25	0.8	0.3		CRJ	02/13/2025 21:21	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.85	mg/L	2	0.06	0.02		CRJ	02/13/2025 21:41	EPA 300.1 -1997, Rev. 1.0
Sulfate	246	mg/L	25	8	2		CRJ	02/13/2025 21:21	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	02/10/2025 10:06	SM 2320B-2011
TDS, Filterable Residue	520	mg/L	1	50	20		SDW	02/07/2025 09:15	SM 2540C-2015

Customer Sample ID: AD-28 Customer Description: TG-32
Lab Number: 250367-010 Preparation:
Date Collected: 02/04/2025 10:47 EST Date Received: 02/06/2025 10:00 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.10	mg/L	2	0.10	0.02		CRJ	02/13/2025 22:23	EPA 300.1 -1997, Rev. 1.0
Chloride	4.95	mg/L	2	0.06	0.02		CRJ	02/13/2025 22:23	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.89	mg/L	2	0.06	0.02		CRJ	02/13/2025 22:23	EPA 300.1 -1997, Rev. 1.0
Sulfate	22.8	mg/L	2	0.6	0.1		CRJ	02/13/2025 22:23	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	02/10/2025 10:06	SM 2320B-2011
TDS, Filterable Residue	100	mg/L	1	50	20		SDW	02/07/2025 09:21	SM 2540C-2015

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 250367 **Customer: Pirkey Power Station** **Date Reported: 02/26/2025**

Customer Sample ID: AD-30 Customer Description: TG-32
Lab Number: 250367-011 Preparation:
Date Collected: 02/03/2025 13:19 EST Date Received: 02/06/2025 10:00 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.17	mg/L	2	0.10	0.02		CRJ	02/13/2025 23:04	EPA 300.1 -1997, Rev. 1.0
Chloride	13.5	mg/L	2	0.06	0.02		CRJ	02/13/2025 23:04	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.04	mg/L	2	0.06	0.02	J1	CRJ	02/13/2025 23:04	EPA 300.1 -1997, Rev. 1.0
Sulfate	93.2	mg/L	2	0.6	0.1		CRJ	02/13/2025 23:04	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	02/10/2025 10:06	SM 2320B-2011
TDS, Filterable Residue	210	mg/L	1	50	20		SDW	02/07/2025 09:21	SM 2540C-2015

Customer Sample ID: AD-31 Customer Description: TG-32
Lab Number: 250367-012 Preparation:
Date Collected: 02/03/2025 12:15 EST Date Received: 02/06/2025 10:00 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.23	mg/L	2	0.10	0.02		CRJ	02/13/2025 23:46	EPA 300.1 -1997, Rev. 1.0
Chloride	13.9	mg/L	2	0.06	0.02		CRJ	02/13/2025 23:46	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.13	mg/L	2	0.06	0.02		CRJ	02/13/2025 23:46	EPA 300.1 -1997, Rev. 1.0
Sulfate	70.6	mg/L	2	0.6	0.1		CRJ	02/13/2025 23:46	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	02/10/2025 10:06	SM 2320B-2011
TDS, Filterable Residue	240	mg/L	1	50	20		SDW	02/07/2025 09:21	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: 250367 **Customer: Pirkey Power Station** **Date Reported: 02/26/2025**

Customer Sample ID: AD-32
Customer Description: TG-32
Lab Number: 250367-013
Preparation:
Date Collected: 02/03/2025 11:16 EST
Date Received: 02/06/2025 10:00 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.28	mg/L	2	0.10	0.02		CRJ	02/14/2025 00:07	EPA 300.1 -1997, Rev. 1.0
Chloride	9.98	mg/L	2	0.06	0.02		CRJ	02/14/2025 00:07	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.37	mg/L	2	0.06	0.02		CRJ	02/14/2025 00:07	EPA 300.1 -1997, Rev. 1.0
Sulfate	52.7	mg/L	2	0.6	0.1		CRJ	02/14/2025 00:07	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	10	mg/L	1	20	5	J1	MGK	02/10/2025 10:06	SM 2320B-2011
TDS, Filterable Residue	160	mg/L	1	50	20		SDW	02/07/2025 09:21	SM 2540C-2015

Customer Sample ID: AD-33
Customer Description: TG-32
Lab Number: 250367-014
Preparation:
Date Collected: 02/04/2025 10:24 EST
Date Received: 02/06/2025 10:00 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.83	mg/L	2	0.10	0.02		CRJ	02/14/2025 01:30	EPA 300.1 -1997, Rev. 1.0
Chloride	11.7	mg/L	2	0.06	0.02		CRJ	02/14/2025 01:30	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.47	mg/L	2	0.06	0.02		CRJ	02/14/2025 01:30	EPA 300.1 -1997, Rev. 1.0
Sulfate	69.2	mg/L	2	0.6	0.1		CRJ	02/14/2025 01:30	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	02/10/2025 10:06	SM 2320B-2011
TDS, Filterable Residue	200	mg/L	1	50	20		SDW	02/07/2025 09:28	SM 2540C-2015

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 250367 **Customer: Pirkey Power Station** **Date Reported: 02/26/2025**

Customer Sample ID: DUPLICATE
Customer Description: TG-32
Lab Number: 250367-015
Preparation:
Date Collected: 02/03/2025 09:18 EST
Date Received: 02/06/2025 10:00 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.31	mg/L	2	0.10	0.02		CRJ	02/14/2025 00:28	EPA 300.1 -1997, Rev. 1.0
Chloride	35.1	mg/L	2	0.06	0.02		CRJ	02/14/2025 00:28	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.31	mg/L	2	0.06	0.02		CRJ	02/14/2025 00:28	EPA 300.1 -1997, Rev. 1.0
Sulfate	54.2	mg/L	2	0.6	0.1		CRJ	02/14/2025 00:28	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	20	mg/L	1	20	5		MGK	02/10/2025 10:06	SM 2320B-2011
TDS, Filterable Residue	200	mg/L	1	50	20		SDW	02/07/2025 09:28	SM 2540C-2015

Customer Sample ID: FIELD BLANK
Customer Description: TG-32
Lab Number: 250367-016
Preparation:
Date Collected: 02/04/2025 10:15 EST
Date Received: 02/06/2025 10:00 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	<0.02	mg/L	2	0.10	0.02	U1	CRJ	02/14/2025 01:09	EPA 300.1 -1997, Rev. 1.0
Chloride	<0.02	mg/L	2	0.06	0.02	U1	CRJ	02/14/2025 01:09	EPA 300.1 -1997, Rev. 1.0
Fluoride	<0.02	mg/L	2	0.06	0.02	U1	CRJ	02/14/2025 01:09	EPA 300.1 -1997, Rev. 1.0
Sulfate	<0.1	mg/L	2	0.6	0.1	U1	CRJ	02/14/2025 01:09	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	02/10/2025 10:06	SM 2320B-2011
TDS, Filterable Residue	<20	mg/L	1	50	20	U1	SDW	02/07/2025 09:28	SM 2540C-2015

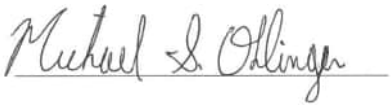
Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 250367 **Customer: Pirkey Power Station** **Date Reported: 02/26/2025**

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).
S7 - Sample did not achieve constant weight.
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: Jonathan Barnhill (318-673-3803)
Michael Ohlinger (614-836-4184)

Project Name: Pirkey - CCR
Contact Name: Pryce Warren
Contact Phone: 325-310-6668
Sampler(s) Matt Hamilton Kenny McDonald

Analysis Turnaround Time (in Calendar Days)

Site Contact:

Date:

For Lab Use Only:
COC/Order #: 250367

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 and Na, K, Mg, Sr	Field-filter 250 mL bottle, then pH<2, HNO_3: B, Ca, Li, Sb, As, Ba, Be, Cd, Cr, Co, Fe, Mn, Mo, Pb, Se, TL and Na, K, Mg, Sr	1 L bottle, Cool, 0-6°C: TDS, F, Cl, SO_4, Br, and Alkalinity	Three (six every 10th*) 1 L bottles, pH<2, HNO_3: Ra-226, Ra-228	Field-Filter 250 mL Glass bottle, HCL**, pH<2: Hg	250 mL Glass bottle, HCL**, pH<2: Hg		Sample Specific Notes.
AD-2	2/4/2025	1023	G	GW	1				X					
AD-3	2/4/2025	1049	G	GW	1				X					
AD-4	2/3/2025	958	G	GW	1				X					
AD-7R	2/3/2025	1109	G	GW	1				X					
AD-12	2/3/2025	924	G	GW	1				X					
AD-13	2/3/2025	818	G	GW	1				X					
AD-17	2/4/2025	1119	G	GW	1				X					
AD-18	2/4/2025	804	G	GW	1				X					
AD-22	2/3/2025	1216	G	GW	1				X					
AD-28	2/4/2025	947	G	GW	1				X					
AD-30	2/3/2025	1219	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	2		

** Six 1L Bottles must be collected for Radium for every 10th sample.*

Special Instructions/QC Requirements & Comments:

TG-32

Relinquished by:	Company: Eagle	Date/Time: 2-5-25 1300	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Date/Time: 2/6/25 10:00

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Dolan Chemical Laboratory (DCL)
4001 Bixby Road
Groveport, Ohio 43125
Contacts: Jonathan Barnhill (318-673-3803)
Michael Ohlinger (614-836-4184)

Project Name: Pirkey - CCR
Contact Name: Pryce Warren
Contact Phone: 325-310-6668
Sampler(s): Matt Hamilton Kenny McDonald

Analysis Turnaround Time (in Calendar Days)

Site Contact:

Date:

For Lab Use Only:
COC/Order #:

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 and Na, K, Mg, Sr	Field-filter 250 mL bottle, then pH<2, HNO_3: B, Ca, Li, Sb, As, Ba, Be, Cd, Cr, Co, Fe, Mn, Mo, Pb, Se, TL and Na, K, Mg, Sr	1 L bottle, Cool, 0-6°C: TDS, F, Cl, SO_4, Br, and Alkalinity	Three (six every 10th*) 1 L bottles, pH<2, HNO_3: Ra-226, Ra-228	Field-Filter 250 mL Glass bottle, HCL**, pH<2: Hg	250 mL Glass bottle, HCL**, pH<2: Hg		Sample Specific Notes
AD-31	2/3/2025	1115	G	GW	1				X					
AD-32	2/3/2025	1016	G	GW	1				X					
AD-33	2/4/2025	924	G	GW	1				X					
DUPLICATE	2/3/2025	818	G	GW	1				X					
FIELD BLANK	2/4/2025	915	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	2		

* *Six 1L Bottles must be collected for Radium for every 10th sample.*

Special Instructions/QC Requirements & Comments:

TG-32

Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
[signature]	Eagle	2-5-25 15:00		
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Date/Time: 2/6/25 10:00

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 Pirkey **Total # of Containers RECEIVED in Job:** 16

Opened By KSH / MSO

Date/Time 02/06/25 1005

Were all required temperatures, per BN-water-900, T≤6°C *w/o sample freezing*? (Y) / N or N/A

Initial/Date: mbc 02/06/25 (on ice) / no ice

If No, specify each deviation(s) on back of form. (IR Gun Ser# 240093386, *Expir.* 02/14/2025)

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: KSH 02/06/25

pH paper: mfr Lab Rat, PN 4801, LOT# X000RWDG21, EXPIR DATE 11/30/2025

*** 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# 250367 Initial & Date & Time : _____

Logged by ~~KSH~~ MSO Comments: _____

(Record Test Count on back of form)

02-06-25 MSC

Total # of Containers LISTED on COC: 16

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 # : 250367 **Initial/ Date:** MSO 2/6/25 **Peer Review Initial/ Date:** MBC 02/07/25

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
6	250367-001		6
	" -002		6
	" -003		6
	" -004		6
	" -005		6
	" -006		6
	" -007		6
	" -008		6
	" -009		6
	" -010		6
	" -011		6
	" -012		6
	" -013		6
	" -014		6
	" -015		6
	" -016		6

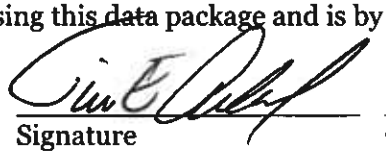
Municipal Solid Waste Laboratory Review Checklist

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 E Arnold		Chemist Principal	02/14/2025
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: Pirkey - CCR

Reviewer Name: Tim E Arnold

LRC Date: 2/14/2025

Laboratory Job Number: 250367

Prep Batch Number(s): QC2502101

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: Pirkey - CCR

Reviewer Name: Tim E Arnold

LRC Date: 2/14/2025

Laboratory Job Number: 250367

Prep Batch Number(s): QC2502101

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: Pirkey - CCR

Reviewer Name: Tim E Arnold

LRC Date: 2/14/2025

Laboratory Job Number: 250367

Prep Batch Number(s): QC2502101

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	2/26/2025
Name (printed)	Signature	Official Title	Date

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey Power Station

Reviewer Name: Sandra Williams

LRC Date: 2/26/2025

Laboratory Job Number: 250367

Prep Batch Number(s): QC2502082

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: Pirkey Power Station

Reviewer Name: Sandra Williams

LRC Date: 2/26/2025

Laboratory Job Number: 250367

Prep Batch Number(s): QC2502082

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: Pirkey Power Station

Reviewer Name: Sandra Williams

LRC Date: 2/26/2025

Laboratory Job Number: 250367

Prep Batch Number(s): QC2502082

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

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.

Michael Ohlinger		Chemist	02/26/2025
Name (printed)	Signature	Official Title	Date

Alkalinity Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey Plant

Reviewer Name: Michael Ohlinger

LRC Date: 02/26/2025

Laboratory Job Number: 250367

Prep Batch Number(s): QC2502056

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	
	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: Pirkey Plant

Reviewer Name: Michael Ohlinger

LRC Date: 02/26/2025

Laboratory Job Number: 250367

Prep Batch Number(s): QC2502056

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: Pirkey Plant

Reviewer Name: Michael Ohlinger

LRC Date: 02/26/2025

Laboratory Job Number: 250367

Prep Batch Number(s): QC2502056

Exception Report No.	Description
ER1	CCB acceptance criteria is CCB<0.5*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."

Water Analysis Report

Reissued

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-2
Customer Description: TG-32
Lab Number: 251109-001
Preparation:
Date Collected: 04/22/2025 10:28 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.04	µg/L	5	0.50	0.04	U1	GES	04/30/2025 13:27	EPA 200.8-1994, Rev. 5.4
Arsenic	1.5	µg/L	5	0.5	0.2		GES	04/30/2025 13:27	EPA 200.8-1994, Rev. 5.4
Barium	13.5	µg/L	5	1.0	0.3		GES	04/30/2025 13:27	EPA 200.8-1994, Rev. 5.4
Beryllium	0.90	µg/L	5	0.25	0.04		GES	04/30/2025 13:27	EPA 200.8-1994, Rev. 5.4
Boron	3.02	mg/L	5	0.25	0.04		GES	04/30/2025 13:27	EPA 200.8-1994, Rev. 5.4
Cadmium	0.12	µg/L	5	0.10	0.02		GES	04/30/2025 13:27	EPA 200.8-1994, Rev. 5.4
Calcium	4.6	mg/L	5	0.3	0.1		GES	04/30/2025 13:27	EPA 200.8-1994, Rev. 5.4
Chromium	0.5	µg/L	5	1.5	0.4	J1	GES	04/30/2025 13:27	EPA 200.8-1994, Rev. 5.4
Cobalt	34.9	µg/L	1	0.020	0.005		GES	04/30/2025 12:22	EPA 200.8-1994, Rev. 5.4
Copper	<0.5	µg/L	5	2.5	0.5	U1	GES	04/30/2025 13:27	EPA 200.8-1994, Rev. 5.4
Lead	0.7	µg/L	5	1.0	0.3	J1	GES	04/30/2025 13:27	EPA 200.8-1994, Rev. 5.4
Lithium	0.0791	mg/L	5	0.0015	0.0003	M1	GES	04/30/2025 13:27	EPA 200.8-1994, Rev. 5.4
Magnesium	10.2	mg/L	5	0.50	0.05		GES	04/30/2025 13:27	EPA 200.8-1994, Rev. 5.4
Mercury	62	ng/L	1	5	2		RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.5	µg/L	5	2.5	0.5	U1	GES	04/30/2025 13:27	EPA 200.8-1994, Rev. 5.4
Potassium	1.59	mg/L	5	0.50	0.05		GES	04/30/2025 13:27	EPA 200.8-1994, Rev. 5.4
Selenium	6.4	µg/L	5	2.5	0.2		GES	04/30/2025 13:27	EPA 200.8-1994, Rev. 5.4
Sodium	120	mg/L	5	1.0	0.1	M1	GES	04/30/2025 13:27	EPA 200.8-1994, Rev. 5.4
Strontium	0.0636	mg/L	5	0.0100	0.0003		GES	04/30/2025 13:27	EPA 200.8-1994, Rev. 5.4
Thallium	0.1	µg/L	5	1.0	0.1	J1	GES	04/30/2025 13:27	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	2.08	pCi/L	0.30	0.30	O3, L1	ST	05/09/2025 13:07	SW-846 9315-1986, Rev. 0
Carrier Recovery	89.4	%						
Radium-228	1.45	pCi/L	0.13	0.40	L1	TTP	05/08/2025 16:14	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	94.4	%						

* 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.

AMERICAN ELECTRIC POWER

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-2
Customer Description: TG-32
Lab Number: 251109-001-01
Preparation: Dissolved
Date Collected: 04/22/2025 10:28 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.04	µg/L	5	0.50	0.04	U1	GES	04/30/2025 13:44	EPA 200.8-1994, Rev. 5.4
Arsenic	1.43	µg/L	1	0.10	0.03		GES	04/30/2025 12:38	EPA 200.8-1994, Rev. 5.4
Barium	13.6	µg/L	5	1.0	0.3		GES	04/30/2025 13:44	EPA 200.8-1994, Rev. 5.4
Beryllium	0.94	µg/L	5	0.25	0.04		GES	04/30/2025 13:44	EPA 200.8-1994, Rev. 5.4
Cadmium	0.150	µg/L	1	0.020	0.004		GES	04/30/2025 12:38	EPA 200.8-1994, Rev. 5.4
Chromium	0.39	µg/L	1	0.30	0.07		GES	04/30/2025 12:38	EPA 200.8-1994, Rev. 5.4
Cobalt	35.1	µg/L	1	0.020	0.005		GES	04/30/2025 12:38	EPA 200.8-1994, Rev. 5.4
Copper	0.5	µg/L	1	0.5	0.1		GES	04/30/2025 12:38	EPA 200.8-1994, Rev. 5.4
Iron	0.194	mg/L	1	0.020	0.003		GES	04/30/2025 12:38	EPA 200.8-1994, Rev. 5.4
Lead	0.7	µg/L	5	1.0	0.3	J1	GES	04/30/2025 13:44	EPA 200.8-1994, Rev. 5.4
Lithium	0.0819	mg/L	5	0.0015	0.0003		GES	04/30/2025 13:44	EPA 200.8-1994, Rev. 5.4
Manganese	0.119	mg/L	1	0.00100	0.00007		GES	04/30/2025 12:38	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 12:38	EPA 200.8-1994, Rev. 5.4
Selenium	6.56	µg/L	1	0.50	0.04		GES	04/30/2025 12:38	EPA 200.8-1994, Rev. 5.4
Thallium	0.2	µg/L	5	1.0	0.1	J1	GES	04/30/2025 13:44	EPA 200.8-1994, Rev. 5.4

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-3
Customer Description: TG-32
Lab Number: 251109-002
Preparation:
Date Collected: 04/22/2025 11:47 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.015	µg/L	1	0.100	0.008	J1	GES	04/30/2025 12:54	EPA 200.8-1994, Rev. 5.4
Arsenic	0.50	µg/L	1	0.10	0.03		GES	04/30/2025 12:54	EPA 200.8-1994, Rev. 5.4
Barium	69.3	µg/L	1	0.20	0.05		GES	04/30/2025 12:54	EPA 200.8-1994, Rev. 5.4
Beryllium	0.175	µg/L	1	0.050	0.007		GES	04/30/2025 12:54	EPA 200.8-1994, Rev. 5.4
Boron	0.054	mg/L	1	0.050	0.007		GES	04/30/2025 12:54	EPA 200.8-1994, Rev. 5.4
Cadmium	0.017	µg/L	1	0.020	0.004	J1	GES	04/30/2025 12:54	EPA 200.8-1994, Rev. 5.4
Calcium	5.12	mg/L	1	0.05	0.02		GES	04/30/2025 12:54	EPA 200.8-1994, Rev. 5.4
Chromium	0.29	µg/L	1	0.30	0.07	J1	GES	04/30/2025 12:54	EPA 200.8-1994, Rev. 5.4
Cobalt	4.59	µg/L	1	0.020	0.005		GES	04/30/2025 12:54	EPA 200.8-1994, Rev. 5.4
Copper	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 12:54	EPA 200.8-1994, Rev. 5.4
Lead	0.11	µg/L	1	0.20	0.05	J1	GES	04/30/2025 12:54	EPA 200.8-1994, Rev. 5.4
Lithium	0.0589	mg/L	1	0.00030	0.00006		GES	04/30/2025 12:54	EPA 200.8-1994, Rev. 5.4
Magnesium	2.52	mg/L	1	0.100	0.009		GES	04/30/2025 12:54	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	0.1	µg/L	1	0.5	0.1	J1	GES	04/30/2025 12:54	EPA 200.8-1994, Rev. 5.4
Potassium	2.64	mg/L	1	0.10	0.01		GES	04/30/2025 12:54	EPA 200.8-1994, Rev. 5.4
Selenium	0.07	µg/L	1	0.50	0.04	J1	GES	04/30/2025 12:54	EPA 200.8-1994, Rev. 5.4
Sodium	10.2	mg/L	1	0.20	0.02		GES	04/30/2025 12:54	EPA 200.8-1994, Rev. 5.4
Strontium	0.0337	mg/L	1	0.00200	0.00005		GES	04/30/2025 12:54	EPA 200.8-1994, Rev. 5.4
Thallium	0.07	µg/L	1	0.20	0.02	J1	GES	04/30/2025 12:54	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.49	pCi/L	0.25	0.30	O3, L1	ST	05/09/2025 13:07	SW-846 9315-1986, Rev. 0
Carrier Recovery	93.9	%						
Radium-228	0.36	pCi/L	0.13	0.43	L1	TTP	05/08/2025 16:14	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	101	%						

* 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.

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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-3
Customer Description: TG-32
Lab Number: 251109-002-01
Preparation: Dissolved
Date Collected: 04/22/2025 11:47 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.04	µg/L	5	0.50	0.04	U1	GES	04/30/2025 14:00	EPA 200.8-1994, Rev. 5.4
Arsenic	0.40	µg/L	1	0.10	0.03		GES	04/30/2025 13:00	EPA 200.8-1994, Rev. 5.4
Barium	71.5	µg/L	5	1.0	0.3		GES	04/30/2025 14:00	EPA 200.8-1994, Rev. 5.4
Beryllium	0.19	µg/L	5	0.25	0.04	J1	GES	04/30/2025 14:00	EPA 200.8-1994, Rev. 5.4
Cadmium	0.019	µg/L	1	0.020	0.004	J1	GES	04/30/2025 13:00	EPA 200.8-1994, Rev. 5.4
Chromium	0.32	µg/L	1	0.30	0.07		GES	04/30/2025 13:00	EPA 200.8-1994, Rev. 5.4
Cobalt	4.87	µg/L	1	0.020	0.005		GES	04/30/2025 13:00	EPA 200.8-1994, Rev. 5.4
Copper	0.1	µg/L	1	0.5	0.1	J1	GES	04/30/2025 13:00	EPA 200.8-1994, Rev. 5.4
Iron	3.78	mg/L	1	0.020	0.003		GES	04/30/2025 13:00	EPA 200.8-1994, Rev. 5.4
Lead	<0.3	µg/L	5	1.0	0.3	U1	GES	04/30/2025 14:00	EPA 200.8-1994, Rev. 5.4
Lithium	0.0804	mg/L	5	0.0015	0.0003		GES	04/30/2025 14:00	EPA 200.8-1994, Rev. 5.4
Manganese	0.0634	mg/L	1	0.00100	0.00007		GES	04/30/2025 13:00	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 13:00	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	04/30/2025 13:00	EPA 200.8-1994, Rev. 5.4
Thallium	<0.1	µg/L	5	1.0	0.1	U1	GES	04/30/2025 14:00	EPA 200.8-1994, Rev. 5.4

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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-4
Customer Description: TG-32
Lab Number: 251109-003
Preparation:
Date Collected: 04/23/2025 11:02 EDT
Date Received: 04/28/2025 10:49 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	04/30/2025 13:05	EPA 200.8-1994, Rev. 5.4
Arsenic	0.35	µg/L	1	0.10	0.03		GES	04/30/2025 13:05	EPA 200.8-1994, Rev. 5.4
Barium	103	µg/L	1	0.20	0.05		GES	04/30/2025 13:05	EPA 200.8-1994, Rev. 5.4
Beryllium	0.50	µg/L	5	0.25	0.04		GES	04/30/2025 14:05	EPA 200.8-1994, Rev. 5.4
Boron	0.018	mg/L	1	0.050	0.007	J1	GES	04/30/2025 13:05	EPA 200.8-1994, Rev. 5.4
Cadmium	0.016	µg/L	1	0.020	0.004	J1	GES	04/30/2025 13:05	EPA 200.8-1994, Rev. 5.4
Calcium	2.37	mg/L	1	0.05	0.02		GES	04/30/2025 13:05	EPA 200.8-1994, Rev. 5.4
Chromium	0.32	µg/L	1	0.30	0.07		GES	04/30/2025 13:05	EPA 200.8-1994, Rev. 5.4
Cobalt	4.86	µg/L	1	0.020	0.005		GES	04/30/2025 13:05	EPA 200.8-1994, Rev. 5.4
Copper	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 13:05	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	04/30/2025 13:05	EPA 200.8-1994, Rev. 5.4
Lithium	0.0373	mg/L	5	0.0015	0.0003		GES	04/30/2025 14:05	EPA 200.8-1994, Rev. 5.4
Magnesium	0.898	mg/L	1	0.100	0.009		GES	04/30/2025 13:05	EPA 200.8-1994, Rev. 5.4
Mercury	4	ng/L	1	5	2	J1	RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 13:05	EPA 200.8-1994, Rev. 5.4
Potassium	2.21	mg/L	1	0.10	0.01		GES	04/30/2025 13:05	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	04/30/2025 13:05	EPA 200.8-1994, Rev. 5.4
Sodium	7.13	mg/L	1	0.20	0.02		GES	04/30/2025 13:05	EPA 200.8-1994, Rev. 5.4
Strontium	0.0187	mg/L	1	0.00200	0.00005		GES	04/30/2025 13:05	EPA 200.8-1994, Rev. 5.4
Thallium	0.09	µg/L	1	0.20	0.02	J1	GES	04/30/2025 13:05	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.51	pCi/L	0.26	0.39	O3, L1	ST	05/09/2025 13:07	SW-846 9315-1986, Rev. 0
Carrier Recovery	88.1	%						
Radium-228	0.88	pCi/L	0.13	0.40	L1	TTP	05/08/2025 16:14	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	104	%						

* 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.

AMERICAN ELECTRIC POWER

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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-4
Customer Description: TG-32
Lab Number: 251109-003-01
Preparation: Dissolved
Date Collected: 04/23/2025 11:02 EDT
Date Received: 04/28/2025 10:49 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	04/30/2025 13:11	EPA 200.8-1994, Rev. 5.4
Arsenic	0.04	µg/L	1	0.10	0.03	J1	GES	04/30/2025 13:11	EPA 200.8-1994, Rev. 5.4
Barium	109	µg/L	1	0.20	0.05		GES	04/30/2025 13:11	EPA 200.8-1994, Rev. 5.4
Beryllium	0.50	µg/L	5	0.25	0.04		GES	04/30/2025 14:11	EPA 200.8-1994, Rev. 5.4
Cadmium	0.017	µg/L	1	0.020	0.004	J1	GES	04/30/2025 13:11	EPA 200.8-1994, Rev. 5.4
Chromium	0.21	µg/L	1	0.30	0.07	J1	GES	04/30/2025 13:11	EPA 200.8-1994, Rev. 5.4
Cobalt	5.24	µg/L	1	0.020	0.005		GES	04/30/2025 13:11	EPA 200.8-1994, Rev. 5.4
Copper	0.2	µg/L	1	0.5	0.1	J1	GES	04/30/2025 13:11	EPA 200.8-1994, Rev. 5.4
Iron	0.118	mg/L	1	0.020	0.003		GES	04/30/2025 13:11	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	04/30/2025 13:11	EPA 200.8-1994, Rev. 5.4
Lithium	0.0369	mg/L	5	0.0015	0.0003		GES	04/30/2025 14:11	EPA 200.8-1994, Rev. 5.4
Manganese	0.0433	mg/L	1	0.00100	0.00007		GES	04/30/2025 13:11	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 13:11	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	04/30/2025 13:11	EPA 200.8-1994, Rev. 5.4
Thallium	0.09	µg/L	1	0.20	0.02	J1	GES	04/30/2025 13:11	EPA 200.8-1994, Rev. 5.4

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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-7R
Customer Description: TG-32
Lab Number: 251109-004
Preparation:
Date Collected: 04/21/2025 12:03 EDT
Date Received: 04/28/2025 10:49 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	04/30/2025 13:16	EPA 200.8-1994, Rev. 5.4
Arsenic	0.39	µg/L	1	0.10	0.03		GES	04/30/2025 13:16	EPA 200.8-1994, Rev. 5.4
Barium	45.7	µg/L	1	0.20	0.05		GES	04/30/2025 13:16	EPA 200.8-1994, Rev. 5.4
Beryllium	1.53	µg/L	1	0.050	0.007		GES	04/30/2025 13:16	EPA 200.8-1994, Rev. 5.4
Boron	0.293	mg/L	1	0.050	0.007		GES	04/30/2025 13:16	EPA 200.8-1994, Rev. 5.4
Cadmium	0.379	µg/L	1	0.020	0.004		GES	04/30/2025 13:16	EPA 200.8-1994, Rev. 5.4
Calcium	3.05	mg/L	1	0.05	0.02		GES	04/30/2025 13:16	EPA 200.8-1994, Rev. 5.4
Chromium	0.29	µg/L	1	0.30	0.07	J1	GES	04/30/2025 13:16	EPA 200.8-1994, Rev. 5.4
Cobalt	18.9	µg/L	1	0.020	0.005		GES	04/30/2025 13:16	EPA 200.8-1994, Rev. 5.4
Copper	0.2	µg/L	1	0.5	0.1	J1	GES	04/30/2025 13:16	EPA 200.8-1994, Rev. 5.4
Lead	0.09	µg/L	1	0.20	0.05	J1	GES	04/30/2025 13:16	EPA 200.8-1994, Rev. 5.4
Lithium	0.0506	mg/L	1	0.00030	0.00006		GES	04/30/2025 13:16	EPA 200.8-1994, Rev. 5.4
Magnesium	4.85	mg/L	1	0.100	0.009		GES	04/30/2025 13:16	EPA 200.8-1994, Rev. 5.4
Mercury	5	ng/L	1	5	2		RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 13:16	EPA 200.8-1994, Rev. 5.4
Potassium	1.76	mg/L	1	0.10	0.01		GES	04/30/2025 13:16	EPA 200.8-1994, Rev. 5.4
Selenium	1.39	µg/L	1	0.50	0.04		GES	04/30/2025 13:16	EPA 200.8-1994, Rev. 5.4
Sodium	22.3	mg/L	1	0.20	0.02		GES	04/30/2025 13:16	EPA 200.8-1994, Rev. 5.4
Strontium	0.0316	mg/L	1	0.00200	0.00005		GES	04/30/2025 13:16	EPA 200.8-1994, Rev. 5.4
Thallium	0.16	µg/L	1	0.20	0.02	J1	GES	04/30/2025 13:16	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.33	pCi/L	0.23	0.27	O3, L1	ST	05/09/2025 13:07	SW-846 9315-1986, Rev. 0
Carrier Recovery	92.3	%						
Radium-228	0.80	pCi/L	0.14	0.45	L1	TTP	05/08/2025 16:14	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	103	%						

* 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.

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Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-7R
Customer Description: TG-32
Lab Number: 251109-004-01
Preparation: Dissolved
Date Collected: 04/21/2025 12:03 EDT
Date Received: 04/28/2025 10:49 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	04/30/2025 13:22	EPA 200.8-1994, Rev. 5.4
Arsenic	0.31	µg/L	1	0.10	0.03		GES	04/30/2025 13:22	EPA 200.8-1994, Rev. 5.4
Barium	44.6	µg/L	1	0.20	0.05		GES	04/30/2025 13:22	EPA 200.8-1994, Rev. 5.4
Beryllium	1.47	µg/L	1	0.050	0.007		GES	04/30/2025 13:22	EPA 200.8-1994, Rev. 5.4
Cadmium	0.355	µg/L	1	0.020	0.004		GES	04/30/2025 13:22	EPA 200.8-1994, Rev. 5.4
Chromium	0.24	µg/L	1	0.30	0.07	J1	GES	04/30/2025 13:22	EPA 200.8-1994, Rev. 5.4
Cobalt	18.8	µg/L	1	0.020	0.005		GES	04/30/2025 13:22	EPA 200.8-1994, Rev. 5.4
Copper	0.4	µg/L	1	0.5	0.1	J1	GES	04/30/2025 13:22	EPA 200.8-1994, Rev. 5.4
Iron	4.87	mg/L	1	0.020	0.003		GES	04/30/2025 13:22	EPA 200.8-1994, Rev. 5.4
Lead	0.07	µg/L	1	0.20	0.05	J1	GES	04/30/2025 13:22	EPA 200.8-1994, Rev. 5.4
Lithium	0.0492	mg/L	1	0.00030	0.00006		GES	04/30/2025 13:22	EPA 200.8-1994, Rev. 5.4
Manganese	0.0605	mg/L	1	0.00100	0.00007		GES	04/30/2025 13:22	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 13:22	EPA 200.8-1994, Rev. 5.4
Selenium	1.47	µg/L	1	0.50	0.04		GES	04/30/2025 13:22	EPA 200.8-1994, Rev. 5.4
Thallium	0.15	µg/L	1	0.20	0.02	J1	GES	04/30/2025 13:22	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-8
Customer Description: TG-32
Lab Number: 251109-005
Preparation:
Date Collected: 04/22/2025 12:14 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.805	mg/L	1	0.050	0.007		GES	04/30/2025 15:16	EPA 200.8-1994, Rev. 5.4
Calcium	63.3	mg/L	1	0.05	0.02		GES	04/30/2025 15:16	EPA 200.8-1994, Rev. 5.4
Magnesium	5.25	mg/L	1	0.100	0.009		GES	04/30/2025 15:16	EPA 200.8-1994, Rev. 5.4
Potassium	1.04	mg/L	1	0.10	0.01		GES	04/30/2025 15:16	EPA 200.8-1994, Rev. 5.4
Sodium	9.65	mg/L	1	0.20	0.02		GES	04/30/2025 15:16	EPA 200.8-1994, Rev. 5.4
Strontium	0.384	mg/L	1	0.00200	0.00005		GES	04/30/2025 15:16	EPA 200.8-1994, Rev. 5.4

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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-12
Customer Description: TG-32
Lab Number: 251109-006
Preparation:
Date Collected: 04/21/2025 10:40 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.010	µg/L	1	0.100	0.008	J1	GES	04/30/2025 15:22	EPA 200.8-1994, Rev. 5.4
Arsenic	0.09	µg/L	1	0.10	0.03	J1	GES	04/30/2025 15:22	EPA 200.8-1994, Rev. 5.4
Barium	15.0	µg/L	1	0.20	0.05		GES	04/30/2025 15:22	EPA 200.8-1994, Rev. 5.4
Beryllium	0.108	µg/L	1	0.050	0.007		GES	04/30/2025 15:22	EPA 200.8-1994, Rev. 5.4
Boron	0.020	mg/L	1	0.050	0.007	J1	GES	04/30/2025 15:22	EPA 200.8-1994, Rev. 5.4
Cadmium	0.005	µg/L	1	0.020	0.004	J1	GES	04/30/2025 15:22	EPA 200.8-1994, Rev. 5.4
Calcium	0.17	mg/L	1	0.05	0.02		GES	04/30/2025 15:22	EPA 200.8-1994, Rev. 5.4
Chromium	0.52	µg/L	1	0.30	0.07		GES	04/30/2025 15:22	EPA 200.8-1994, Rev. 5.4
Cobalt	0.900	µg/L	1	0.020	0.005		GES	04/30/2025 15:22	EPA 200.8-1994, Rev. 5.4
Copper	0.2	µg/L	1	0.5	0.1	J1	GES	04/30/2025 15:22	EPA 200.8-1994, Rev. 5.4
Lead	0.10	µg/L	1	0.20	0.05	J1	GES	04/30/2025 15:22	EPA 200.8-1994, Rev. 5.4
Lithium	0.00514	mg/L	1	0.00030	0.00006		GES	04/30/2025 15:22	EPA 200.8-1994, Rev. 5.4
Magnesium	0.273	mg/L	1	0.100	0.009		GES	04/30/2025 15:22	EPA 200.8-1994, Rev. 5.4
Mercury	2	ng/L	1	5	2	J1	RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 15:22	EPA 200.8-1994, Rev. 5.4
Potassium	0.18	mg/L	1	0.10	0.01		GES	04/30/2025 15:22	EPA 200.8-1994, Rev. 5.4
Selenium	0.20	µg/L	1	0.50	0.04	J1	GES	04/30/2025 15:22	EPA 200.8-1994, Rev. 5.4
Sodium	3.29	mg/L	1	0.20	0.02		GES	04/30/2025 15:22	EPA 200.8-1994, Rev. 5.4
Strontium	0.00157	mg/L	1	0.00200	0.00005	J1	GES	04/30/2025 15:22	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	04/30/2025 15:22	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.51	pCi/L	0.14	0.27	O3, L1	ST	05/09/2025 13:07	SW-846 9315-1986, Rev. 0
Carrier Recovery	96.9	%						
Radium-228	0.81	pCi/L	0.16	0.52	L1	TTP	05/08/2025 16:14	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	102	%						

* 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.

Dolan Chemical Laboratory
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Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-12
Customer Description: TG-32
Lab Number: 251109-006-01
Preparation: Dissolved
Date Collected: 04/21/2025 10:40 EDT
Date Received: 04/28/2025 10:49 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	04/30/2025 15:27	EPA 200.8-1994, Rev. 5.4
Arsenic	0.06	µg/L	1	0.10	0.03	J1	GES	04/30/2025 15:27	EPA 200.8-1994, Rev. 5.4
Barium	15.4	µg/L	1	0.20	0.05		GES	04/30/2025 15:27	EPA 200.8-1994, Rev. 5.4
Beryllium	0.109	µg/L	1	0.050	0.007		GES	04/30/2025 15:27	EPA 200.8-1994, Rev. 5.4
Cadmium	0.005	µg/L	1	0.020	0.004	J1	GES	04/30/2025 15:27	EPA 200.8-1994, Rev. 5.4
Chromium	0.34	µg/L	1	0.30	0.07		GES	04/30/2025 15:27	EPA 200.8-1994, Rev. 5.4
Cobalt	1.02	µg/L	1	0.020	0.005		GES	04/30/2025 15:27	EPA 200.8-1994, Rev. 5.4
Copper	0.3	µg/L	1	0.5	0.1	J1	GES	04/30/2025 15:27	EPA 200.8-1994, Rev. 5.4
Iron	0.021	mg/L	1	0.020	0.003		GES	04/30/2025 15:27	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	04/30/2025 15:27	EPA 200.8-1994, Rev. 5.4
Lithium	0.00530	mg/L	1	0.00030	0.00006		GES	04/30/2025 15:27	EPA 200.8-1994, Rev. 5.4
Manganese	0.00263	mg/L	1	0.00100	0.00007		GES	04/30/2025 15:27	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 15:27	EPA 200.8-1994, Rev. 5.4
Selenium	0.15	µg/L	1	0.50	0.04	J1	GES	04/30/2025 15:27	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	04/30/2025 15:27	EPA 200.8-1994, Rev. 5.4

AMERICAN ELECTRIC POWER

Dolan Chemical Laboratory
4001 Bixby Road
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Phone: 614-836-4221
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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-13
Customer Description: TG-32
Lab Number: 251109-007
Preparation:
Date Collected: 04/21/2025 11:04 EDT
Date Received: 04/28/2025 10:49 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	04/30/2025 15:33	EPA 200.8-1994, Rev. 5.4
Arsenic	2.15	µg/L	1	0.10	0.03		GES	04/30/2025 15:33	EPA 200.8-1994, Rev. 5.4
Barium	37.5	µg/L	1	0.20	0.05		GES	04/30/2025 15:33	EPA 200.8-1994, Rev. 5.4
Beryllium	0.327	µg/L	1	0.050	0.007		GES	04/30/2025 15:33	EPA 200.8-1994, Rev. 5.4
Boron	0.072	mg/L	1	0.050	0.007		GES	04/30/2025 15:33	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	04/30/2025 15:33	EPA 200.8-1994, Rev. 5.4
Calcium	10.2	mg/L	1	0.05	0.02		GES	04/30/2025 15:33	EPA 200.8-1994, Rev. 5.4
Chromium	0.26	µg/L	1	0.30	0.07	J1	GES	04/30/2025 15:33	EPA 200.8-1994, Rev. 5.4
Cobalt	49.9	µg/L	1	0.020	0.005		GES	04/30/2025 15:33	EPA 200.8-1994, Rev. 5.4
Copper	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 15:33	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	04/30/2025 15:33	EPA 200.8-1994, Rev. 5.4
Lithium	0.129	mg/L	1	0.00030	0.00006		GES	04/30/2025 15:33	EPA 200.8-1994, Rev. 5.4
Magnesium	14.0	mg/L	1	0.100	0.009		GES	04/30/2025 15:33	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 15:33	EPA 200.8-1994, Rev. 5.4
Potassium	4.90	mg/L	1	0.10	0.01		GES	04/30/2025 15:33	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	04/30/2025 15:33	EPA 200.8-1994, Rev. 5.4
Sodium	20.2	mg/L	1	0.20	0.02		GES	04/30/2025 15:33	EPA 200.8-1994, Rev. 5.4
Strontium	0.0740	mg/L	1	0.00200	0.00005		GES	04/30/2025 15:33	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	04/30/2025 15:33	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.03	pCi/L	0.21	0.29	O3, L1	ST	05/09/2025 13:07	SW-846 9315-1986, Rev. 0
Carrier Recovery	86.7	%						
Radium-228	0.88	pCi/L	0.15	0.48	L1	TTP	05/08/2025 16:14	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	101	%						

* 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.

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Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-13
Customer Description: TG-32
Lab Number: 251109-007-01
Preparation: Dissolved
Date Collected: 04/21/2025 11:04 EDT
Date Received: 04/28/2025 10:49 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	04/30/2025 15:38	EPA 200.8-1994, Rev. 5.4
Arsenic	0.49	µg/L	1	0.10	0.03		GES	04/30/2025 15:38	EPA 200.8-1994, Rev. 5.4
Barium	37.1	µg/L	1	0.20	0.05		GES	04/30/2025 15:38	EPA 200.8-1994, Rev. 5.4
Beryllium	0.233	µg/L	1	0.050	0.007		GES	04/30/2025 15:38	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	04/30/2025 15:38	EPA 200.8-1994, Rev. 5.4
Chromium	0.25	µg/L	1	0.30	0.07	J1	GES	04/30/2025 15:38	EPA 200.8-1994, Rev. 5.4
Cobalt	50.1	µg/L	1	0.020	0.005		GES	04/30/2025 15:38	EPA 200.8-1994, Rev. 5.4
Copper	0.1	µg/L	1	0.5	0.1	J1	GES	04/30/2025 15:38	EPA 200.8-1994, Rev. 5.4
Iron	28.5	mg/L	1	0.020	0.003		GES	04/30/2025 15:38	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	04/30/2025 15:38	EPA 200.8-1994, Rev. 5.4
Lithium	0.128	mg/L	1	0.00030	0.00006		GES	04/30/2025 15:38	EPA 200.8-1994, Rev. 5.4
Manganese	0.479	mg/L	1	0.00100	0.00007		GES	04/30/2025 15:38	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 15:38	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	04/30/2025 15:38	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	04/30/2025 15:38	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-16
Customer Description: TG-32
Lab Number: 251109-008
Preparation:
Date Collected: 04/21/2025 10:04 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.015	mg/L	1	0.050	0.007	J1	GES	04/30/2025 15:44	EPA 200.8-1994, Rev. 5.4
Calcium	0.88	mg/L	1	0.05	0.02		GES	04/30/2025 15:44	EPA 200.8-1994, Rev. 5.4
Manganese	0.0157	mg/L	1	0.00100	0.00007		GES	04/30/2025 15:44	EPA 200.8-1994, Rev. 5.4
Potassium	1.09	mg/L	1	0.10	0.01		GES	04/30/2025 15:44	EPA 200.8-1994, Rev. 5.4
Sodium	17.6	mg/L	1	0.20	0.02		GES	04/30/2025 15:44	EPA 200.8-1994, Rev. 5.4
Strontium	0.0114	mg/L	1	0.00200	0.00005		GES	04/30/2025 15:44	EPA 200.8-1994, Rev. 5.4

AMERICAN ELECTRIC POWER

Dolan Chemical Laboratory
4001 Bixby Road
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Audinet: 210-4221

Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-17
Customer Description: TG-32
Lab Number: 251109-009
Preparation:
Date Collected: 04/22/2025 10:11 EDT
Date Received: 04/28/2025 10:49 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	04/30/2025 15:49	EPA 200.8-1994, Rev. 5.4
Arsenic	0.07	µg/L	1	0.10	0.03	J1	GES	04/30/2025 15:49	EPA 200.8-1994, Rev. 5.4
Barium	93.1	µg/L	1	0.20	0.05		GES	04/30/2025 15:49	EPA 200.8-1994, Rev. 5.4
Beryllium	0.240	µg/L	1	0.050	0.007		GES	04/30/2025 15:49	EPA 200.8-1994, Rev. 5.4
Boron	0.039	mg/L	1	0.050	0.007	J1	GES	04/30/2025 15:49	EPA 200.8-1994, Rev. 5.4
Cadmium	0.019	µg/L	1	0.020	0.004	J1	GES	04/30/2025 15:49	EPA 200.8-1994, Rev. 5.4
Calcium	0.25	mg/L	1	0.05	0.02		GES	04/30/2025 15:49	EPA 200.8-1994, Rev. 5.4
Chromium	0.33	µg/L	1	0.30	0.07		GES	04/30/2025 15:49	EPA 200.8-1994, Rev. 5.4
Cobalt	4.60	µg/L	1	0.020	0.005		GES	04/30/2025 15:49	EPA 200.8-1994, Rev. 5.4
Copper	0.3	µg/L	1	0.5	0.1	J1	GES	04/30/2025 15:49	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	04/30/2025 15:49	EPA 200.8-1994, Rev. 5.4
Lithium	0.00984	mg/L	1	0.00030	0.00006		GES	04/30/2025 15:49	EPA 200.8-1994, Rev. 5.4
Magnesium	1.45	mg/L	1	0.100	0.009		GES	04/30/2025 15:49	EPA 200.8-1994, Rev. 5.4
Mercury	97	ng/L	4	20	8		RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 15:49	EPA 200.8-1994, Rev. 5.4
Potassium	0.37	mg/L	1	0.10	0.01		GES	04/30/2025 15:49	EPA 200.8-1994, Rev. 5.4
Selenium	0.06	µg/L	1	0.50	0.04	J1	GES	04/30/2025 15:49	EPA 200.8-1994, Rev. 5.4
Sodium	6.39	mg/L	1	0.20	0.02		GES	04/30/2025 15:49	EPA 200.8-1994, Rev. 5.4
Strontium	0.00715	mg/L	1	0.00200	0.00005		GES	04/30/2025 15:49	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	04/30/2025 15:49	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.69	pCi/L	0.27	0.41	O3, L1	ST	05/09/2025 13:07	SW-846 9315-1986, Rev. 0
Carrier Recovery	89.2	%						
Radium-228	1.06	pCi/L	0.11	0.34	L1	TTP	05/08/2025 16:14	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	105	%						

* 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.

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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-17
Customer Description: TG-32
Lab Number: 251109-009-01
Preparation: Dissolved
Date Collected: 04/22/2025 10:11 EDT
Date Received: 04/28/2025 10:49 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	04/30/2025 15:55	EPA 200.8-1994, Rev. 5.4
Arsenic	0.05	µg/L	1	0.10	0.03	J1	GES	04/30/2025 15:55	EPA 200.8-1994, Rev. 5.4
Barium	86.9	µg/L	1	0.20	0.05		GES	04/30/2025 15:55	EPA 200.8-1994, Rev. 5.4
Beryllium	0.240	µg/L	1	0.050	0.007		GES	04/30/2025 15:55	EPA 200.8-1994, Rev. 5.4
Cadmium	0.020	µg/L	1	0.020	0.004		GES	04/30/2025 15:55	EPA 200.8-1994, Rev. 5.4
Chromium	0.29	µg/L	1	0.30	0.07	J1	GES	04/30/2025 15:55	EPA 200.8-1994, Rev. 5.4
Cobalt	4.21	µg/L	1	0.020	0.005		GES	04/30/2025 15:55	EPA 200.8-1994, Rev. 5.4
Copper	0.3	µg/L	1	0.5	0.1	J1	GES	04/30/2025 15:55	EPA 200.8-1994, Rev. 5.4
Iron	0.005	mg/L	1	0.020	0.003	J1	GES	04/30/2025 15:55	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	04/30/2025 15:55	EPA 200.8-1994, Rev. 5.4
Lithium	0.00980	mg/L	1	0.00030	0.00006		GES	04/30/2025 15:55	EPA 200.8-1994, Rev. 5.4
Manganese	0.00360	mg/L	1	0.00100	0.00007		GES	04/30/2025 15:55	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 15:55	EPA 200.8-1994, Rev. 5.4
Selenium	0.06	µg/L	1	0.50	0.04	J1	GES	04/30/2025 15:55	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	04/30/2025 15:55	EPA 200.8-1994, Rev. 5.4

AMERICAN ELECTRIC POWER

Dolan Chemical Laboratory
4001 Bixby Road
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Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-18
Customer Description: TG-32
Lab Number: 251109-010
Preparation:
Date Collected: 04/23/2025 10:01 EDT
Date Received: 04/28/2025 10:49 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	04/30/2025 16:00	EPA 200.8-1994, Rev. 5.4
Arsenic	0.18	µg/L	1	0.10	0.03		GES	04/30/2025 16:00	EPA 200.8-1994, Rev. 5.4
Barium	76.8	µg/L	1	0.20	0.05		GES	04/30/2025 16:00	EPA 200.8-1994, Rev. 5.4
Beryllium	0.082	µg/L	1	0.050	0.007		GES	04/30/2025 16:00	EPA 200.8-1994, Rev. 5.4
Boron	0.011	mg/L	1	0.050	0.007	J1	GES	04/30/2025 16:00	EPA 200.8-1994, Rev. 5.4
Cadmium	0.011	µg/L	1	0.020	0.004	J1	GES	04/30/2025 16:00	EPA 200.8-1994, Rev. 5.4
Calcium	0.23	mg/L	1	0.05	0.02		GES	04/30/2025 16:00	EPA 200.8-1994, Rev. 5.4
Chromium	0.49	µg/L	1	0.30	0.07		GES	04/30/2025 16:00	EPA 200.8-1994, Rev. 5.4
Cobalt	0.991	µg/L	1	0.020	0.005		GES	04/30/2025 16:00	EPA 200.8-1994, Rev. 5.4
Copper	0.2	µg/L	1	0.5	0.1	J1	GES	04/30/2025 16:00	EPA 200.8-1994, Rev. 5.4
Lead	0.09	µg/L	1	0.20	0.05	J1	GES	04/30/2025 16:00	EPA 200.8-1994, Rev. 5.4
Lithium	0.0152	mg/L	1	0.00030	0.00006		GES	04/30/2025 16:00	EPA 200.8-1994, Rev. 5.4
Magnesium	0.327	mg/L	1	0.100	0.009		GES	04/30/2025 16:00	EPA 200.8-1994, Rev. 5.4
Mercury	14	ng/L	1	5	2		RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 16:00	EPA 200.8-1994, Rev. 5.4
Potassium	0.82	mg/L	1	0.10	0.01		GES	04/30/2025 16:00	EPA 200.8-1994, Rev. 5.4
Selenium	0.10	µg/L	1	0.50	0.04	J1	GES	04/30/2025 16:00	EPA 200.8-1994, Rev. 5.4
Sodium	5.98	mg/L	1	0.20	0.02		GES	04/30/2025 16:00	EPA 200.8-1994, Rev. 5.4
Strontium	0.00446	mg/L	1	0.00200	0.00005		GES	04/30/2025 16:00	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	04/30/2025 16:00	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.67	pCi/L	0.15	0.20	O3, L1	ST	05/09/2025 13:07	SW-846 9315-1986, Rev. 0
Carrier Recovery	105	%						
Radium-228	0.45	pCi/L	0.14	0.45		TTP	05/12/2025 17:25	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	99.3	%						

* 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.

AMERICAN ELECTRIC POWER

Dolan Chemical Laboratory
4001 Bixby Road
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Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-18
Customer Description: TG-32
Lab Number: 251109-010-01
Preparation: Dissolved
Date Collected: 04/23/2025 10:01 EDT
Date Received: 04/28/2025 10:49 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	04/30/2025 16:05	EPA 200.8-1994, Rev. 5.4
Arsenic	0.06	µg/L	1	0.10	0.03	J1	GES	04/30/2025 16:05	EPA 200.8-1994, Rev. 5.4
Barium	71.3	µg/L	1	0.20	0.05		GES	04/30/2025 16:05	EPA 200.8-1994, Rev. 5.4
Beryllium	0.084	µg/L	1	0.050	0.007		GES	04/30/2025 16:05	EPA 200.8-1994, Rev. 5.4
Cadmium	0.011	µg/L	1	0.020	0.004	J1	GES	04/30/2025 16:05	EPA 200.8-1994, Rev. 5.4
Chromium	0.22	µg/L	1	0.30	0.07	J1	GES	04/30/2025 16:05	EPA 200.8-1994, Rev. 5.4
Cobalt	1.10	µg/L	1	0.020	0.005		GES	04/30/2025 16:05	EPA 200.8-1994, Rev. 5.4
Copper	0.3	µg/L	1	0.5	0.1	J1	GES	04/30/2025 16:05	EPA 200.8-1994, Rev. 5.4
Iron	0.018	mg/L	1	0.020	0.003	J1	GES	04/30/2025 16:05	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	04/30/2025 16:05	EPA 200.8-1994, Rev. 5.4
Lithium	0.0158	mg/L	1	0.00030	0.00006		GES	04/30/2025 16:05	EPA 200.8-1994, Rev. 5.4
Manganese	0.00444	mg/L	1	0.00100	0.00007		GES	04/30/2025 16:05	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 16:05	EPA 200.8-1994, Rev. 5.4
Selenium	0.05	µg/L	1	0.50	0.04	J1	GES	04/30/2025 16:05	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	04/30/2025 16:05	EPA 200.8-1994, Rev. 5.4

AMERICAN ELECTRIC POWER

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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-22
Customer Description: TG-32
Lab Number: 251109-011
Preparation:
Date Collected: 04/21/2025 13:05 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.04	µg/L	5	0.50	0.04	U1	GES	05/06/2025 22:20	EPA 200.8-1994, Rev. 5.4
Arsenic	2.06	µg/L	1	0.10	0.03		GES	04/30/2025 16:11	EPA 200.8-1994, Rev. 5.4
Barium	14.8	µg/L	5	1.0	0.3		GES	05/06/2025 22:20	EPA 200.8-1994, Rev. 5.4
Beryllium	8.00	µg/L	1	0.050	0.007		GES	04/30/2025 16:11	EPA 200.8-1994, Rev. 5.4
Boron	0.069	mg/L	1	0.050	0.007		GES	04/30/2025 16:11	EPA 200.8-1994, Rev. 5.4
Cadmium	1.50	µg/L	1	0.020	0.004		GES	04/30/2025 16:11	EPA 200.8-1994, Rev. 5.4
Calcium	14.0	mg/L	1	0.05	0.02		GES	04/30/2025 16:11	EPA 200.8-1994, Rev. 5.4
Chromium	0.51	µg/L	1	0.30	0.07		GES	04/30/2025 16:11	EPA 200.8-1994, Rev. 5.4
Cobalt	104	µg/L	1	0.020	0.005		GES	04/30/2025 16:11	EPA 200.8-1994, Rev. 5.4
Copper	0.5	µg/L	1	0.5	0.1		GES	04/30/2025 16:11	EPA 200.8-1994, Rev. 5.4
Lead	0.3	µg/L	5	1.0	0.3	J1	GES	05/06/2025 22:20	EPA 200.8-1994, Rev. 5.4
Lithium	0.135	mg/L	1	0.00030	0.00006		GES	04/30/2025 16:11	EPA 200.8-1994, Rev. 5.4
Magnesium	21.0	mg/L	1	0.100	0.009		GES	04/30/2025 16:11	EPA 200.8-1994, Rev. 5.4
Mercury	1700	ng/L	50	300	100		RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 16:11	EPA 200.8-1994, Rev. 5.4
Potassium	3.89	mg/L	1	0.10	0.01		GES	04/30/2025 16:11	EPA 200.8-1994, Rev. 5.4
Selenium	10.0	µg/L	1	0.50	0.04		GES	04/30/2025 16:11	EPA 200.8-1994, Rev. 5.4
Sodium	98.4	mg/L	1	0.20	0.02		GES	04/30/2025 16:11	EPA 200.8-1994, Rev. 5.4
Strontium	0.127	mg/L	1	0.00200	0.00005		GES	04/30/2025 16:11	EPA 200.8-1994, Rev. 5.4
Thallium	0.2	µg/L	5	1.0	0.1	J1	GES	05/06/2025 22:20	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.75	pCi/L	0.15	0.23		WCG	05/06/2025 13:38	SW-846 9315-1986, Rev. 0
Carrier Recovery	90.8	%						
Radium-228	1.80	pCi/L	0.17	0.50		TTP	05/12/2025 17:25	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	91.8	%						

* 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.

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Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-22
Customer Description: TG-32
Lab Number: 251109-011-01
Preparation: Dissolved
Date Collected: 04/21/2025 13:05 EDT
Date Received: 04/28/2025 10:49 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	04/30/2025 16:16	EPA 200.8-1994, Rev. 5.4
Arsenic	1.96	µg/L	1	0.10	0.03		GES	04/30/2025 16:16	EPA 200.8-1994, Rev. 5.4
Barium	14.6	µg/L	5	1.0	0.3		GES	05/06/2025 22:25	EPA 200.8-1994, Rev. 5.4
Beryllium	7.92	µg/L	1	0.050	0.007		GES	04/30/2025 16:16	EPA 200.8-1994, Rev. 5.4
Cadmium	1.48	µg/L	1	0.020	0.004		GES	04/30/2025 16:16	EPA 200.8-1994, Rev. 5.4
Chromium	0.54	µg/L	1	0.30	0.07		GES	04/30/2025 16:16	EPA 200.8-1994, Rev. 5.4
Cobalt	103	µg/L	1	0.020	0.005		GES	04/30/2025 16:16	EPA 200.8-1994, Rev. 5.4
Copper	0.9	µg/L	1	0.5	0.1		GES	04/30/2025 16:16	EPA 200.8-1994, Rev. 5.4
Iron	5.58	mg/L	1	0.020	0.003		GES	04/30/2025 16:16	EPA 200.8-1994, Rev. 5.4
Lead	0.4	µg/L	5	1.0	0.3	J1	GES	05/06/2025 22:25	EPA 200.8-1994, Rev. 5.4
Lithium	0.138	mg/L	1	0.00030	0.00006		GES	04/30/2025 16:16	EPA 200.8-1994, Rev. 5.4
Manganese	0.353	mg/L	1	0.00100	0.00007		GES	04/30/2025 16:16	EPA 200.8-1994, Rev. 5.4
Mercury	39	ng/L	1	5	2		RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 16:16	EPA 200.8-1994, Rev. 5.4
Selenium	9.95	µg/L	1	0.50	0.04		GES	04/30/2025 16:16	EPA 200.8-1994, Rev. 5.4
Thallium	0.2	µg/L	5	1.0	0.1	J1	GES	05/06/2025 22:25	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-23
Customer Description: TG-32
Lab Number: 251109-012
Preparation:
Date Collected: 04/23/2025 11:57 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.424	mg/L	1	0.050	0.007		GES	04/30/2025 17:55	EPA 200.8-1994, Rev. 5.4
Calcium	0.21	mg/L	1	0.05	0.02		GES	04/30/2025 17:55	EPA 200.8-1994, Rev. 5.4
Magnesium	0.200	mg/L	1	0.100	0.009		GES	04/30/2025 17:55	EPA 200.8-1994, Rev. 5.4
Potassium	2.83	mg/L	1	0.10	0.01		GES	04/30/2025 17:55	EPA 200.8-1994, Rev. 5.4
Sodium	5.00	mg/L	1	0.20	0.02		GES	04/30/2025 17:55	EPA 200.8-1994, Rev. 5.4
Strontium	0.00229	mg/L	1	0.00200	0.00005		GES	04/30/2025 17:55	EPA 200.8-1994, Rev. 5.4

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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-27
Customer Description: TG-32
Lab Number: 251109-013
Preparation:
Date Collected: 04/23/2025 10:43 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.083	mg/L	1	0.050	0.007		GES	04/30/2025 18:11	EPA 200.8-1994, Rev. 5.4
Calcium	3.67	mg/L	1	0.05	0.02		GES	04/30/2025 18:11	EPA 200.8-1994, Rev. 5.4
Magnesium	4.98	mg/L	1	0.100	0.009		GES	04/30/2025 18:11	EPA 200.8-1994, Rev. 5.4
Potassium	2.07	mg/L	1	0.10	0.01		GES	04/30/2025 18:11	EPA 200.8-1994, Rev. 5.4
Sodium	11.5	mg/L	1	0.20	0.02		GES	04/30/2025 18:11	EPA 200.8-1994, Rev. 5.4
Strontium	0.0556	mg/L	1	0.00200	0.00005		GES	04/30/2025 18:11	EPA 200.8-1994, Rev. 5.4

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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-28
Customer Description: TG-32
Lab Number: 251109-014
Preparation:
Date Collected: 04/22/2025 10:45 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.011	µg/L	1	0.100	0.008	J1	GES	04/30/2025 18:28	EPA 200.8-1994, Rev. 5.4
Arsenic	0.13	µg/L	1	0.10	0.03		GES	04/30/2025 18:28	EPA 200.8-1994, Rev. 5.4
Barium	136	µg/L	1	0.20	0.05		GES	04/30/2025 18:28	EPA 200.8-1994, Rev. 5.4
Beryllium	0.615	µg/L	1	0.050	0.007		GES	05/06/2025 22:30	EPA 200.8-1994, Rev. 5.4
Boron	0.350	mg/L	1	0.050	0.007		GES	04/30/2025 18:28	EPA 200.8-1994, Rev. 5.4
Cadmium	0.061	µg/L	1	0.020	0.004		GES	04/30/2025 18:28	EPA 200.8-1994, Rev. 5.4
Calcium	1.65	mg/L	1	0.05	0.02		GES	04/30/2025 18:28	EPA 200.8-1994, Rev. 5.4
Chromium	0.41	µg/L	1	0.30	0.07		GES	04/30/2025 18:28	EPA 200.8-1994, Rev. 5.4
Cobalt	16.1	µg/L	1	0.020	0.005		GES	04/30/2025 18:28	EPA 200.8-1994, Rev. 5.4
Copper	0.4	µg/L	1	0.5	0.1	J1	GES	04/30/2025 18:28	EPA 200.8-1994, Rev. 5.4
Lead	0.11	µg/L	1	0.20	0.05	J1	GES	04/30/2025 18:28	EPA 200.8-1994, Rev. 5.4
Lithium	0.0266	mg/L	1	0.00030	0.00006		GES	04/30/2025 18:28	EPA 200.8-1994, Rev. 5.4
Magnesium	3.62	mg/L	1	0.100	0.009		GES	04/30/2025 18:28	EPA 200.8-1994, Rev. 5.4
Mercury	11	ng/L	1	5	2		RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 18:28	EPA 200.8-1994, Rev. 5.4
Potassium	0.82	mg/L	1	0.10	0.01		GES	04/30/2025 18:28	EPA 200.8-1994, Rev. 5.4
Selenium	0.29	µg/L	1	0.50	0.04	J1	GES	04/30/2025 18:28	EPA 200.8-1994, Rev. 5.4
Sodium	6.66	mg/L	1	0.20	0.02		GES	04/30/2025 18:28	EPA 200.8-1994, Rev. 5.4
Strontium	0.0238	mg/L	1	0.00200	0.00005		GES	04/30/2025 18:28	EPA 200.8-1994, Rev. 5.4
Thallium	0.05	µg/L	1	0.20	0.02	J1	GES	04/30/2025 18:28	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.58	pCi/L	0.22	0.27		WCG	05/06/2025 13:38	SW-846 9315-1986, Rev. 0
Carrier Recovery	97.7	%						
Radium-228	0.99	pCi/L	0.13	0.39		TTP	05/12/2025 17:25	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	98.8	%						

* 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.

AMERICAN ELECTRIC POWER

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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-28
Customer Description: TG-32
Lab Number: 251109-014-01
Preparation: Dissolved
Date Collected: 04/22/2025 10:45 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.009	µg/L	1	0.100	0.008	J1	GES	04/30/2025 18:33	EPA 200.8-1994, Rev. 5.4
Arsenic	0.08	µg/L	1	0.10	0.03	J1	GES	04/30/2025 18:33	EPA 200.8-1994, Rev. 5.4
Barium	133	µg/L	1	0.20	0.05		GES	04/30/2025 18:33	EPA 200.8-1994, Rev. 5.4
Beryllium	0.607	µg/L	1	0.050	0.007		GES	05/06/2025 22:36	EPA 200.8-1994, Rev. 5.4
Cadmium	0.061	µg/L	1	0.020	0.004		GES	04/30/2025 18:33	EPA 200.8-1994, Rev. 5.4
Chromium	0.30	µg/L	1	0.30	0.07		GES	04/30/2025 18:33	EPA 200.8-1994, Rev. 5.4
Cobalt	15.6	µg/L	1	0.020	0.005		GES	04/30/2025 18:33	EPA 200.8-1994, Rev. 5.4
Copper	0.4	µg/L	1	0.5	0.1	J1	GES	04/30/2025 18:33	EPA 200.8-1994, Rev. 5.4
Iron	0.012	mg/L	1	0.020	0.003	J1	GES	04/30/2025 18:33	EPA 200.8-1994, Rev. 5.4
Lead	0.09	µg/L	1	0.20	0.05	J1	GES	04/30/2025 18:33	EPA 200.8-1994, Rev. 5.4
Lithium	0.0263	mg/L	1	0.00030	0.00006		GES	04/30/2025 18:33	EPA 200.8-1994, Rev. 5.4
Manganese	0.0595	mg/L	1	0.00100	0.00007		GES	04/30/2025 18:33	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 18:33	EPA 200.8-1994, Rev. 5.4
Selenium	0.18	µg/L	1	0.50	0.04	J1	GES	04/30/2025 18:33	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	04/30/2025 18:33	EPA 200.8-1994, Rev. 5.4

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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-30
Customer Description: TG-32
Lab Number: 251109-015
Preparation:
Date Collected: 04/22/2025 09:30 EDT
Date Received: 04/28/2025 10:49 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	04/30/2025 18:39	EPA 200.8-1994, Rev. 5.4
Arsenic	0.14	µg/L	1	0.10	0.03		GES	04/30/2025 18:39	EPA 200.8-1994, Rev. 5.4
Barium	43.7	µg/L	1	0.20	0.05		GES	04/30/2025 18:39	EPA 200.8-1994, Rev. 5.4
Beryllium	0.070	µg/L	1	0.050	0.007		GES	05/06/2025 22:41	EPA 200.8-1994, Rev. 5.4
Boron	1.02	mg/L	1	0.050	0.007		GES	04/30/2025 18:39	EPA 200.8-1994, Rev. 5.4
Cadmium	0.005	µg/L	1	0.020	0.004	J1	GES	04/30/2025 18:39	EPA 200.8-1994, Rev. 5.4
Calcium	0.44	mg/L	1	0.05	0.02		GES	04/30/2025 18:39	EPA 200.8-1994, Rev. 5.4
Chromium	0.50	µg/L	1	0.30	0.07		GES	04/30/2025 18:39	EPA 200.8-1994, Rev. 5.4
Cobalt	3.05	µg/L	1	0.020	0.005		GES	04/30/2025 18:39	EPA 200.8-1994, Rev. 5.4
Copper	0.2	µg/L	1	0.5	0.1	J1	GES	04/30/2025 18:39	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	04/30/2025 18:39	EPA 200.8-1994, Rev. 5.4
Lithium	0.00856	mg/L	1	0.00030	0.00006		GES	04/30/2025 18:39	EPA 200.8-1994, Rev. 5.4
Magnesium	1.58	mg/L	1	0.100	0.009		GES	04/30/2025 18:39	EPA 200.8-1994, Rev. 5.4
Mercury	16	ng/L	1	5	2		RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 18:39	EPA 200.8-1994, Rev. 5.4
Potassium	0.70	mg/L	1	0.10	0.01		GES	04/30/2025 18:39	EPA 200.8-1994, Rev. 5.4
Selenium	0.23	µg/L	1	0.50	0.04	J1	GES	04/30/2025 18:39	EPA 200.8-1994, Rev. 5.4
Sodium	54.6	mg/L	1	0.20	0.02		GES	04/30/2025 18:39	EPA 200.8-1994, Rev. 5.4
Strontium	0.00630	mg/L	1	0.00200	0.00005		GES	04/30/2025 18:39	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	04/30/2025 18:39	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.53	pCi/L	0.15	0.28		WCG	05/06/2025 13:38	SW-846 9315-1986, Rev. 0
Carrier Recovery	69.7	%						
Radium-228	0.28	pCi/L	0.10	0.33		TTP	05/12/2025 17:25	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	101	%						

* 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.

AMERICAN ELECTRIC POWER

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-30
Customer Description: TG-32
Lab Number: 251109-015-01
Preparation: Dissolved
Date Collected: 04/22/2025 09:30 EDT
Date Received: 04/28/2025 10:49 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	04/30/2025 18:44	EPA 200.8-1994, Rev. 5.4
Arsenic	0.09	µg/L	1	0.10	0.03	J1	GES	04/30/2025 18:44	EPA 200.8-1994, Rev. 5.4
Barium	42.5	µg/L	1	0.20	0.05		GES	04/30/2025 18:44	EPA 200.8-1994, Rev. 5.4
Beryllium	0.067	µg/L	1	0.050	0.007		GES	05/06/2025 22:47	EPA 200.8-1994, Rev. 5.4
Cadmium	0.008	µg/L	1	0.020	0.004	J1	GES	04/30/2025 18:44	EPA 200.8-1994, Rev. 5.4
Chromium	0.38	µg/L	1	0.30	0.07		GES	04/30/2025 18:44	EPA 200.8-1994, Rev. 5.4
Cobalt	3.17	µg/L	1	0.020	0.005		GES	04/30/2025 18:44	EPA 200.8-1994, Rev. 5.4
Copper	0.3	µg/L	1	0.5	0.1	J1	GES	04/30/2025 18:44	EPA 200.8-1994, Rev. 5.4
Iron	0.007	mg/L	1	0.020	0.003	J1	GES	04/30/2025 18:44	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	04/30/2025 18:44	EPA 200.8-1994, Rev. 5.4
Lithium	0.00892	mg/L	1	0.00030	0.00006		GES	04/30/2025 18:44	EPA 200.8-1994, Rev. 5.4
Manganese	0.0127	mg/L	1	0.00100	0.00007		GES	04/30/2025 18:44	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 18:44	EPA 200.8-1994, Rev. 5.4
Selenium	0.24	µg/L	1	0.50	0.04	J1	GES	04/30/2025 18:44	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	04/30/2025 18:44	EPA 200.8-1994, Rev. 5.4

AMERICAN ELECTRIC POWER

Dolan Chemical Laboratory
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Audinet: 210-4221

Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-31
Customer Description: TG-32
Lab Number: 251109-016
Preparation:
Date Collected: 04/21/2025 12:20 EDT
Date Received: 04/28/2025 10:49 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	04/30/2025 18:49	EPA 200.8-1994, Rev. 5.4
Arsenic	0.26	µg/L	1	0.10	0.03		GES	04/30/2025 18:49	EPA 200.8-1994, Rev. 5.4
Barium	31.0	µg/L	1	0.20	0.05		GES	04/30/2025 18:49	EPA 200.8-1994, Rev. 5.4
Beryllium	0.94	µg/L	5	0.25	0.04		GES	05/06/2025 22:52	EPA 200.8-1994, Rev. 5.4
Boron	0.024	mg/L	1	0.050	0.007	J1	GES	04/30/2025 18:49	EPA 200.8-1994, Rev. 5.4
Cadmium	0.061	µg/L	1	0.020	0.004		GES	04/30/2025 18:49	EPA 200.8-1994, Rev. 5.4
Calcium	2.20	mg/L	1	0.05	0.02		GES	04/30/2025 18:49	EPA 200.8-1994, Rev. 5.4
Chromium	0.39	µg/L	1	0.30	0.07		GES	04/30/2025 18:49	EPA 200.8-1994, Rev. 5.4
Cobalt	8.87	µg/L	1	0.020	0.005		GES	04/30/2025 18:49	EPA 200.8-1994, Rev. 5.4
Copper	0.5	µg/L	1	0.5	0.1		GES	04/30/2025 18:49	EPA 200.8-1994, Rev. 5.4
Lead	0.27	µg/L	1	0.20	0.05		GES	04/30/2025 18:49	EPA 200.8-1994, Rev. 5.4
Lithium	0.0934	mg/L	10	0.0030	0.0006		GES	05/08/2025 14:49	EPA 200.8-1994, Rev. 5.4
Magnesium	3.40	mg/L	1	0.100	0.009		GES	04/30/2025 18:49	EPA 200.8-1994, Rev. 5.4
Mercury	500	ng/L	10	50	20		RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 18:49	EPA 200.8-1994, Rev. 5.4
Potassium	1.54	mg/L	1	0.10	0.01		GES	04/30/2025 18:49	EPA 200.8-1994, Rev. 5.4
Selenium	0.38	µg/L	1	0.50	0.04	J1	GES	04/30/2025 18:49	EPA 200.8-1994, Rev. 5.4
Sodium	29.5	mg/L	1	0.20	0.02		GES	04/30/2025 18:49	EPA 200.8-1994, Rev. 5.4
Strontium	0.0322	mg/L	1	0.00200	0.00005		GES	04/30/2025 18:49	EPA 200.8-1994, Rev. 5.4
Thallium	0.09	µg/L	1	0.20	0.02	J1	GES	04/30/2025 18:49	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.07	pCi/L	0.18	0.20		WCG	05/06/2025 13:38	SW-846 9315-1986, Rev. 0
Carrier Recovery	100	%						
Radium-228	1.60	pCi/L	0.15	0.45		TTP	05/12/2025 17:25	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	102	%						

* 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.

AMERICAN ELECTRIC POWER

Dolan Chemical Laboratory
4001 Bixby Road
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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-31
Customer Description: TG-32
Lab Number: 251109-016-01
Preparation: Dissolved
Date Collected: 04/21/2025 12:20 EDT
Date Received: 04/28/2025 10:49 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	04/30/2025 18:55	EPA 200.8-1994, Rev. 5.4
Arsenic	0.18	µg/L	1	0.10	0.03		GES	04/30/2025 18:55	EPA 200.8-1994, Rev. 5.4
Barium	30.0	µg/L	1	0.20	0.05		GES	04/30/2025 18:55	EPA 200.8-1994, Rev. 5.4
Beryllium	0.89	µg/L	5	0.25	0.04		GES	05/06/2025 22:58	EPA 200.8-1994, Rev. 5.4
Cadmium	0.055	µg/L	1	0.020	0.004		GES	04/30/2025 18:55	EPA 200.8-1994, Rev. 5.4
Chromium	0.33	µg/L	1	0.30	0.07		GES	04/30/2025 18:55	EPA 200.8-1994, Rev. 5.4
Cobalt	8.90	µg/L	1	0.020	0.005		GES	04/30/2025 18:55	EPA 200.8-1994, Rev. 5.4
Copper	0.5	µg/L	1	0.5	0.1		GES	04/30/2025 18:55	EPA 200.8-1994, Rev. 5.4
Iron	0.106	mg/L	1	0.020	0.003		GES	04/30/2025 18:55	EPA 200.8-1994, Rev. 5.4
Lead	0.31	µg/L	1	0.20	0.05		GES	04/30/2025 18:55	EPA 200.8-1994, Rev. 5.4
Lithium	0.0929	mg/L	10	0.0030	0.0006		GES	05/08/2025 14:54	EPA 200.8-1994, Rev. 5.4
Manganese	0.0222	mg/L	1	0.00100	0.00007		GES	04/30/2025 18:55	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 18:55	EPA 200.8-1994, Rev. 5.4
Selenium	0.32	µg/L	1	0.50	0.04	J1	GES	04/30/2025 18:55	EPA 200.8-1994, Rev. 5.4
Thallium	0.09	µg/L	1	0.20	0.02	J1	GES	04/30/2025 18:55	EPA 200.8-1994, Rev. 5.4

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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-32
Customer Description: TG-32
Lab Number: 251109-017
Preparation:
Date Collected: 04/21/2025 11:29 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.009	µg/L	1	0.100	0.008	J1	GES	04/30/2025 20:06	EPA 200.8-1994, Rev. 5.4
Arsenic	5.81	µg/L	1	0.10	0.03		GES	04/30/2025 20:06	EPA 200.8-1994, Rev. 5.4
Barium	40.8	µg/L	1	0.20	0.05		GES	04/30/2025 20:06	EPA 200.8-1994, Rev. 5.4
Beryllium	0.08	µg/L	5	0.25	0.04	J1	GES	05/08/2025 15:00	EPA 200.8-1994, Rev. 5.4
Boron	0.097	mg/L	1	0.050	0.007		GES	04/30/2025 20:06	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	04/30/2025 20:06	EPA 200.8-1994, Rev. 5.4
Calcium	6.15	mg/L	1	0.05	0.02		GES	04/30/2025 20:06	EPA 200.8-1994, Rev. 5.4
Chromium	0.27	µg/L	1	0.30	0.07	J1	GES	04/30/2025 20:06	EPA 200.8-1994, Rev. 5.4
Cobalt	14.8	µg/L	1	0.020	0.005		GES	04/30/2025 20:06	EPA 200.8-1994, Rev. 5.4
Copper	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 20:06	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	04/30/2025 20:06	EPA 200.8-1994, Rev. 5.4
Lithium	0.0684	mg/L	1	0.00030	0.00006		GES	04/30/2025 20:06	EPA 200.8-1994, Rev. 5.4
Magnesium	6.89	mg/L	1	0.100	0.009		GES	04/30/2025 20:06	EPA 200.8-1994, Rev. 5.4
Mercury	240	ng/L	20	100	40		RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 20:06	EPA 200.8-1994, Rev. 5.4
Potassium	3.17	mg/L	1	0.10	0.01		GES	04/30/2025 20:06	EPA 200.8-1994, Rev. 5.4
Selenium	0.07	µg/L	1	0.50	0.04	J1	GES	04/30/2025 20:06	EPA 200.8-1994, Rev. 5.4
Sodium	15.6	mg/L	1	0.20	0.02		GES	04/30/2025 20:06	EPA 200.8-1994, Rev. 5.4
Strontium	0.0797	mg/L	1	0.00200	0.00005		GES	04/30/2025 20:06	EPA 200.8-1994, Rev. 5.4
Thallium	0.06	µg/L	1	0.20	0.02	J1	GES	04/30/2025 20:06	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.33	pCi/L	0.11	0.26		WCG	05/06/2025 13:38	SW-846 9315-1986, Rev. 0
Carrier Recovery	94.2	%						
Radium-228	0.61	pCi/L	0.15	0.49		TTP	05/12/2025 17:25	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	77.6	%						

* 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.

AMERICAN ELECTRIC POWER

Dolan Chemical Laboratory
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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-32
Customer Description: TG-32
Lab Number: 251109-017-01
Preparation: Dissolved
Date Collected: 04/21/2025 11:29 EDT
Date Received: 04/28/2025 10:49 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	04/30/2025 20:12	EPA 200.8-1994, Rev. 5.4
Arsenic	4.11	µg/L	1	0.10	0.03		GES	04/30/2025 20:12	EPA 200.8-1994, Rev. 5.4
Barium	40.2	µg/L	1	0.20	0.05		GES	04/30/2025 20:12	EPA 200.8-1994, Rev. 5.4
Beryllium	0.07	µg/L	5	0.25	0.04	J1	GES	05/08/2025 15:05	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	04/30/2025 20:12	EPA 200.8-1994, Rev. 5.4
Chromium	0.35	µg/L	1	0.30	0.07		GES	04/30/2025 20:12	EPA 200.8-1994, Rev. 5.4
Cobalt	15.0	µg/L	1	0.020	0.005		GES	04/30/2025 20:12	EPA 200.8-1994, Rev. 5.4
Copper	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 20:12	EPA 200.8-1994, Rev. 5.4
Iron	19.1	mg/L	1	0.020	0.003		GES	04/30/2025 20:12	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	04/30/2025 20:12	EPA 200.8-1994, Rev. 5.4
Lithium	0.0681	mg/L	1	0.00030	0.00006		GES	04/30/2025 20:12	EPA 200.8-1994, Rev. 5.4
Manganese	0.125	mg/L	1	0.00100	0.00007		GES	04/30/2025 20:12	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 20:12	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	04/30/2025 20:12	EPA 200.8-1994, Rev. 5.4
Thallium	0.06	µg/L	1	0.20	0.02	J1	GES	04/30/2025 20:12	EPA 200.8-1994, Rev. 5.4

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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-33
Customer Description: TG-32
Lab Number: 251109-018
Preparation:
Date Collected: 04/22/2025 09:10 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.04	µg/L	5	0.50	0.04	U1	GES	05/06/2025 23:14	EPA 200.8-1994, Rev. 5.4
Arsenic	1.13	µg/L	1	0.10	0.03		GES	04/30/2025 20:17	EPA 200.8-1994, Rev. 5.4
Barium	48.8	µg/L	5	1.0	0.3		GES	05/06/2025 23:14	EPA 200.8-1994, Rev. 5.4
Beryllium	2.04	µg/L	5	0.25	0.04		GES	05/06/2025 23:14	EPA 200.8-1994, Rev. 5.4
Boron	0.211	mg/L	1	0.050	0.007		GES	04/30/2025 20:17	EPA 200.8-1994, Rev. 5.4
Cadmium	0.083	µg/L	1	0.020	0.004		GES	04/30/2025 20:17	EPA 200.8-1994, Rev. 5.4
Calcium	3.04	mg/L	1	0.05	0.02		GES	04/30/2025 20:17	EPA 200.8-1994, Rev. 5.4
Chromium	0.38	µg/L	1	0.30	0.07		GES	04/30/2025 20:17	EPA 200.8-1994, Rev. 5.4
Cobalt	15.8	µg/L	1	0.020	0.005		GES	04/30/2025 20:17	EPA 200.8-1994, Rev. 5.4
Copper	0.9	µg/L	1	0.5	0.1		GES	04/30/2025 20:17	EPA 200.8-1994, Rev. 5.4
Lead	0.3	µg/L	5	1.0	0.3	J1	GES	05/06/2025 23:14	EPA 200.8-1994, Rev. 5.4
Lithium	0.0246	mg/L	1	0.00030	0.00006		GES	04/30/2025 20:17	EPA 200.8-1994, Rev. 5.4
Magnesium	6.33	mg/L	1	0.100	0.009		GES	04/30/2025 20:17	EPA 200.8-1994, Rev. 5.4
Mercury	6300	ng/L	100	500	200		RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 20:17	EPA 200.8-1994, Rev. 5.4
Potassium	0.31	mg/L	1	0.10	0.01		GES	04/30/2025 20:17	EPA 200.8-1994, Rev. 5.4
Selenium	4.93	µg/L	1	0.50	0.04		GES	04/30/2025 20:17	EPA 200.8-1994, Rev. 5.4
Sodium	20.3	mg/L	1	0.20	0.02		GES	04/30/2025 20:17	EPA 200.8-1994, Rev. 5.4
Strontium	0.0477	mg/L	1	0.00200	0.00005		GES	04/30/2025 20:17	EPA 200.8-1994, Rev. 5.4
Thallium	<0.1	µg/L	5	1.0	0.1	U1	GES	05/06/2025 23:14	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.94	pCi/L	0.16	0.19		WCG	05/06/2025 13:38	SW-846 9315-1986, Rev. 0
Carrier Recovery	97.5	%						
Radium-228	1.36	pCi/L	0.13	0.41		TTP	05/12/2025 17:25	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	101	%						

* 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.

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Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-33
Customer Description: TG-32
Lab Number: 251109-018-01
Preparation: Dissolved
Date Collected: 04/22/2025 09:10 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.04	µg/L	5	0.50	0.04	U1	GES	05/06/2025 23:20	EPA 200.8-1994, Rev. 5.4
Arsenic	1.04	µg/L	1	0.10	0.03		GES	04/30/2025 20:22	EPA 200.8-1994, Rev. 5.4
Barium	46.7	µg/L	5	1.0	0.3		GES	05/06/2025 23:20	EPA 200.8-1994, Rev. 5.4
Beryllium	2.05	µg/L	5	0.25	0.04		GES	05/06/2025 23:20	EPA 200.8-1994, Rev. 5.4
Cadmium	0.079	µg/L	1	0.020	0.004		GES	04/30/2025 20:22	EPA 200.8-1994, Rev. 5.4
Chromium	0.34	µg/L	1	0.30	0.07		GES	04/30/2025 20:22	EPA 200.8-1994, Rev. 5.4
Cobalt	15.5	µg/L	1	0.020	0.005		GES	04/30/2025 20:22	EPA 200.8-1994, Rev. 5.4
Copper	2.2	µg/L	1	0.5	0.1		GES	04/30/2025 20:22	EPA 200.8-1994, Rev. 5.4
Iron	0.016	mg/L	1	0.020	0.003	J1	GES	04/30/2025 20:22	EPA 200.8-1994, Rev. 5.4
Lead	0.3	µg/L	5	1.0	0.3	J1	GES	05/06/2025 23:20	EPA 200.8-1994, Rev. 5.4
Lithium	0.0245	mg/L	1	0.00030	0.00006		GES	04/30/2025 20:22	EPA 200.8-1994, Rev. 5.4
Manganese	0.0101	mg/L	1	0.00100	0.00007		GES	04/30/2025 20:22	EPA 200.8-1994, Rev. 5.4
Mercury	1050	ng/L	20	100	40		RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 20:22	EPA 200.8-1994, Rev. 5.4
Selenium	4.64	µg/L	1	0.50	0.04		GES	04/30/2025 20:22	EPA 200.8-1994, Rev. 5.4
Thallium	<0.1	µg/L	5	1.0	0.1	U1	GES	05/06/2025 23:20	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-34
Customer Description: TG-32
Lab Number: 251109-019
Preparation:
Date Collected: 04/23/2025 09:06 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.08	mg/L	10	0.50	0.07	J1	GES	04/30/2025 20:28	EPA 200.8-1994, Rev. 5.4
Calcium	42.2	mg/L	10	0.5	0.2		GES	04/30/2025 20:28	EPA 200.8-1994, Rev. 5.4
Magnesium	40.3	mg/L	10	1.00	0.09		GES	04/30/2025 20:28	EPA 200.8-1994, Rev. 5.4
Potassium	7.5	mg/L	10	1.0	0.1		GES	04/30/2025 20:28	EPA 200.8-1994, Rev. 5.4
Sodium	15.7	mg/L	10	2.0	0.2		GES	04/30/2025 20:28	EPA 200.8-1994, Rev. 5.4
Strontium	0.433	mg/L	10	0.0200	0.0005		GES	04/30/2025 20:28	EPA 200.8-1994, Rev. 5.4

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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: AD-36
Customer Description: TG-32
Lab Number: 251109-020
Preparation:
Date Collected: 04/23/2025 09:06 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.079	mg/L	1	0.050	0.007		GES	04/30/2025 20:33	EPA 200.8-1994, Rev. 5.4
Calcium	1.34	mg/L	1	0.05	0.02		GES	04/30/2025 20:33	EPA 200.8-1994, Rev. 5.4
Magnesium	2.72	mg/L	1	0.100	0.009		GES	04/30/2025 20:33	EPA 200.8-1994, Rev. 5.4
Potassium	1.72	mg/L	1	0.10	0.01		GES	04/30/2025 20:33	EPA 200.8-1994, Rev. 5.4
Sodium	8.03	mg/L	1	0.20	0.02		GES	04/30/2025 20:33	EPA 200.8-1994, Rev. 5.4
Strontium	0.0147	mg/L	1	0.00200	0.00005		GES	04/30/2025 20:33	EPA 200.8-1994, Rev. 5.4

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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: Duplicate 1
Customer Description: TG-32
Lab Number: 251109-021
Preparation:
Date Collected: 04/22/2025 13:00 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.04	µg/L	5	0.50	0.04	U1	GES	05/07/2025 00:31	EPA 200.8-1994, Rev. 5.4
Arsenic	1.11	µg/L	1	0.10	0.03		GES	04/30/2025 20:39	EPA 200.8-1994, Rev. 5.4
Barium	47.7	µg/L	5	1.0	0.3		GES	05/07/2025 00:31	EPA 200.8-1994, Rev. 5.4
Beryllium	1.99	µg/L	5	0.25	0.04		GES	05/07/2025 00:31	EPA 200.8-1994, Rev. 5.4
Boron	0.214	mg/L	1	0.050	0.007		GES	04/30/2025 20:39	EPA 200.8-1994, Rev. 5.4
Cadmium	0.080	µg/L	1	0.020	0.004		GES	04/30/2025 20:39	EPA 200.8-1994, Rev. 5.4
Calcium	3.01	mg/L	1	0.05	0.02		GES	04/30/2025 20:39	EPA 200.8-1994, Rev. 5.4
Chromium	0.40	µg/L	1	0.30	0.07		GES	04/30/2025 20:39	EPA 200.8-1994, Rev. 5.4
Cobalt	15.9	µg/L	1	0.020	0.005		GES	04/30/2025 20:39	EPA 200.8-1994, Rev. 5.4
Copper	0.9	µg/L	1	0.5	0.1		GES	04/30/2025 20:39	EPA 200.8-1994, Rev. 5.4
Lead	0.4	µg/L	5	1.0	0.3	J1	GES	05/07/2025 00:31	EPA 200.8-1994, Rev. 5.4
Lithium	0.0244	mg/L	1	0.00030	0.00006		GES	04/30/2025 20:39	EPA 200.8-1994, Rev. 5.4
Magnesium	6.30	mg/L	1	0.100	0.009		GES	04/30/2025 20:39	EPA 200.8-1994, Rev. 5.4
Mercury	6400	ng/L	100	500	200		RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 20:39	EPA 200.8-1994, Rev. 5.4
Potassium	0.31	mg/L	1	0.10	0.01		GES	04/30/2025 20:39	EPA 200.8-1994, Rev. 5.4
Selenium	4.75	µg/L	1	0.50	0.04		GES	04/30/2025 20:39	EPA 200.8-1994, Rev. 5.4
Sodium	20.5	mg/L	1	0.20	0.02		GES	04/30/2025 20:39	EPA 200.8-1994, Rev. 5.4
Strontium	0.0479	mg/L	1	0.00200	0.00005		GES	04/30/2025 20:39	EPA 200.8-1994, Rev. 5.4
Thallium	<0.1	µg/L	5	1.0	0.1	U1	GES	05/07/2025 00:31	EPA 200.8-1994, Rev. 5.4

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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: Duplicate 1
Customer Description: TG-32
Lab Number: 251109-021-01
Preparation: Dissolved
Date Collected: 04/22/2025 13:00 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.04	µg/L	5	0.50	0.04	U1	GES	05/07/2025 00:36	EPA 200.8-1994, Rev. 5.4
Arsenic	1.05	µg/L	1	0.10	0.03		GES	04/30/2025 20:44	EPA 200.8-1994, Rev. 5.4
Barium	49.9	µg/L	5	1.0	0.3		GES	05/07/2025 00:36	EPA 200.8-1994, Rev. 5.4
Beryllium	1.61	µg/L	5	0.25	0.04		GES	05/07/2025 00:36	EPA 200.8-1994, Rev. 5.4
Cadmium	0.078	µg/L	1	0.020	0.004		GES	04/30/2025 20:44	EPA 200.8-1994, Rev. 5.4
Chromium	0.34	µg/L	1	0.30	0.07		GES	04/30/2025 20:44	EPA 200.8-1994, Rev. 5.4
Cobalt	15.3	µg/L	1	0.020	0.005		GES	04/30/2025 20:44	EPA 200.8-1994, Rev. 5.4
Copper	0.9	µg/L	1	0.5	0.1		GES	04/30/2025 20:44	EPA 200.8-1994, Rev. 5.4
Iron	0.016	mg/L	1	0.020	0.003	J1	GES	04/30/2025 20:44	EPA 200.8-1994, Rev. 5.4
Lead	0.4	µg/L	5	1.0	0.3	J1	GES	05/07/2025 00:36	EPA 200.8-1994, Rev. 5.4
Lithium	0.0308	mg/L	1	0.00030	0.00006		GES	04/30/2025 20:44	EPA 200.8-1994, Rev. 5.4
Manganese	0.00994	mg/L	1	0.00100	0.00007		GES	04/30/2025 20:44	EPA 200.8-1994, Rev. 5.4
Mercury	990	ng/L	20	100	40		RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 20:44	EPA 200.8-1994, Rev. 5.4
Potassium	0.30	mg/L	1	0.10	0.01		GES	04/30/2025 20:44	EPA 200.8-1994, Rev. 5.4
Selenium	4.59	µg/L	1	0.50	0.04		GES	04/30/2025 20:44	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	04/30/2025 20:34	EPA 200.8-1994, Rev. 5.4

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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: Equipment Blank
Customer Description: TG-32
Lab Number: 251109-022
Preparation:
Date Collected: 04/22/2025 11:22 EDT
Date Received: 04/28/2025 10:49 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	04/30/2025 20:50	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	04/30/2025 20:50	EPA 200.8-1994, Rev. 5.4
Barium	0.05	µg/L	1	0.20	0.05	J1	GES	04/30/2025 20:50	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	GES	05/07/2025 00:41	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	GES	04/30/2025 20:50	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	04/30/2025 20:50	EPA 200.8-1994, Rev. 5.4
Calcium	0.02	mg/L	1	0.05	0.02	J1	GES	04/30/2025 20:50	EPA 200.8-1994, Rev. 5.4
Chromium	0.36	µg/L	1	0.30	0.07		GES	04/30/2025 20:50	EPA 200.8-1994, Rev. 5.4
Cobalt	0.007	µg/L	1	0.020	0.005	J1	GES	04/30/2025 20:50	EPA 200.8-1994, Rev. 5.4
Copper	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 20:50	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	04/30/2025 20:50	EPA 200.8-1994, Rev. 5.4
Lithium	0.00006	mg/L	1	0.00030	0.00006	J1	GES	04/30/2025 20:50	EPA 200.8-1994, Rev. 5.4
Magnesium	<0.009	mg/L	1	0.100	0.009	U1	GES	04/30/2025 20:50	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 20:50	EPA 200.8-1994, Rev. 5.4
Potassium	<0.01	mg/L	1	0.10	0.01	U1	GES	04/30/2025 20:50	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	04/30/2025 20:50	EPA 200.8-1994, Rev. 5.4
Sodium	<0.02	mg/L	1	0.20	0.02	U1	GES	04/30/2025 20:50	EPA 200.8-1994, Rev. 5.4
Strontium	<0.00005	mg/L	1	0.00200	0.00005	U1	GES	04/30/2025 20:50	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	04/30/2025 20:50	EPA 200.8-1994, Rev. 5.4

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Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

Customer Sample ID: Field Blank
Customer Description: TG-32
Lab Number: 251109-023
Preparation:
Date Collected: 04/23/2025 09:19 EDT
Date Received: 04/28/2025 10:49 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.067	µg/L	1	0.100	0.008	J1	GES	04/30/2025 20:55	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	04/30/2025 20:55	EPA 200.8-1994, Rev. 5.4
Barium	<0.05	µg/L	1	0.20	0.05	U1	GES	04/30/2025 20:55	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	GES	05/07/2025 00:47	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	GES	04/30/2025 20:55	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	04/30/2025 20:55	EPA 200.8-1994, Rev. 5.4
Calcium	0.02	mg/L	1	0.05	0.02	J1	GES	04/30/2025 20:55	EPA 200.8-1994, Rev. 5.4
Chromium	0.23	µg/L	1	0.30	0.07	J1	GES	04/30/2025 20:55	EPA 200.8-1994, Rev. 5.4
Cobalt	<0.005	µg/L	1	0.020	0.005	U1	GES	04/30/2025 20:55	EPA 200.8-1994, Rev. 5.4
Copper	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 20:55	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	04/30/2025 20:55	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00006	mg/L	1	0.00030	0.00006	U1	GES	04/30/2025 20:55	EPA 200.8-1994, Rev. 5.4
Magnesium	<0.009	mg/L	1	0.100	0.009	U1	GES	04/30/2025 20:55	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/02/2025 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	04/30/2025 20:55	EPA 200.8-1994, Rev. 5.4
Potassium	<0.01	mg/L	1	0.10	0.01	U1	GES	04/30/2025 20:55	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	04/30/2025 20:55	EPA 200.8-1994, Rev. 5.4
Sodium	<0.02	mg/L	1	0.20	0.02	U1	GES	04/30/2025 20:55	EPA 200.8-1994, Rev. 5.4
Strontium	<0.00005	mg/L	1	0.00200	0.00005	U1	GES	04/30/2025 20:55	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	04/30/2025 20:55	EPA 200.8-1994, Rev. 5.4

251109
Job Comments:

Original report issued 5/13/25. Report reissued 6/26/25 with Tl added to 251109-021-01. Report reissued 7/2/25 with Co added to samples originally reported with Cu.

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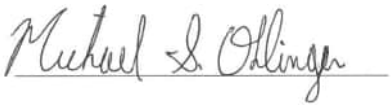
Water Analysis Report

Reissued

Job ID: 251109 **Customer: Pirkey Power Station** **Date Reported: 07/02/2025**

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).
J1 - Concentration estimated. Analyte was detected between the method detection limit and the reporting limit.
M1 - The associated matrix spike (MS) or matrix spike duplicate (MSD) recovery was outside acceptance limits.
O3 - Insufficient sample was received to perform the duplicate analysis with this sample batch.
L1 - The associated laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) recovery was outside 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)
Dave Conover (614-836-4219)

Project Name: Pirkey PP CCR
Contact Name: Pryce Warren
Contact Phone: 325-310-6668
Sampler(s): Matt Hamilton Kenny McDonald

Analysis Turnaround Time (in Calendar Days)
(•) Routine (28 days for Monitoring Wells)

Site Contact: 18 14 2 1
Date: — 15

For Lab Use Only:
COC/Order #: 251109

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 — Sb, As, B, Ba, Be, Ca Cd, Cr, Co, K, Li, Mg, Mo, Na, Pb, Se, Sr, Tl	Field-filter 250 mL bottle, then pH<2, HNO_3 — Dissolved Sb, As, Ba, Be, Cd, Cr, Co, Fe, Li, Mn, Mo, Pb, Se, Tl	Three (six every 10th*) 1 L bottles, pH<2, HNO3 — Ra-226, Ra-228	250 mL Glass bottle, HCL**, pH<2 — Mercury	250 mL Glass bottle, HCL**, pH<2 — Dissolved Mercury	250 mL bottle, pH<2, HNO_3 — B, Ca, K, Mg, Na, Sr		Sample Specific Notes
AD-2	4/22/2025	928	G	GW	7		X	X	X	X	X			1
AD-3	4/22/2025	1047	G	GW	7		X	X	X	X	X			2
AD-4	4/23/2025	1002	G	GW	7		X	X	X	X	X			3
AD-7R	4/21/2025	1103	G	GW	7		X	X	X	X	X			4
AD-8	4/22/2025	1114	G	GW	1							X		5
AD-12	4/21/2025	940	G	GW	7		X	X	X	X	X			6
AD-13	4/21/2025	1004	G	GW	7		X	X	X	X	X			7
AD-16	4/21/2025	904	G	GW	1							X		8
AD-17	4/22/2025	911	G	GW	7		X	X	X	X	X			9
AD-18	4/23/2025	901	G	GW	7		X	X	X	X	X			10
AD-22	4/21/2025	1205	G	GW	7		X	X	X	X	X			11
AD-23	4/23/2025	1057	G	GW	1							X		12
Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other _____; F= filter in field							4	F4	4	2	F2			

* *Six 1L Bottles must be collected for Radium for every 10th sample.*

Special Instructions/QC Requirements & Comments:

TG-32 needed

Relinquished by: [signature]	Company: Eagle	Date/Time: 4-24-25 1300	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Date/Time: 04/28/25 10:49 AM

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)
Dave Conover (614-836-4219)

Project Name: Pirkey PP CCR
Contact Name: Pryce Warren
Contact Phone: 325-310-6668
Sampler(s): Matt Hamilton Kenny McDonald

Analysis Turnaround Time (in Calendar Days)
◉ Routine (28 days for Monitoring Wells)

Site Contact: 8 14 2 –
Date: – 6

For Lab Use Only:
COC/Order #:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	Sb, As, B, Ba, Be, Ca Cd, Cr, Co, K, Li, Mg, Mo, Na, Pb, Se, Sr, Tl (250 mL bottle, pH<2, HNO_3)	Dissolved Sb, As, Ba, Be, Cd, Cr, Co, Fe, Li, Mn, Mo, Pb, Se, Tl (Field-filter 250 mL bottle, then pH<2, HNO_3)	Ra-226, Ra-228 (Three (six every 10th*) 1 L bottles, pH<2, HNO3)	Mercury (250 mL Glass bottle, HCL**, pH<2)	Dissolved Mercury (250 mL Glass bottle, HCL**, pH<2)	B, Ca, K, Mg, Na, Sr (250 mL bottle, pH<2, HNO_3)		Sample Specific Notes:
AD-27	4/23/2025	843	G	GW	1							X		13
AD-28	4/22/2025	945	G	GW	7		X	X	X	X	X			14
AD-30	4/22/2025	830	G	GW	7		X	X	X	X	X			15
AD-31	4/21/2025	1120	G	GW	7		X	X	X	X	X			16
AD-32	4/21/2025	1029	G	GW	7		X	X	X	X	X			17
AD-33	4/22/2025	810	G	GW	10		X	X	X	X	X			18
AD-34	4/23/2025	806	G	GW	1							X		19
AD-36	4/22/2025	1026	G	GW	1							X		20
Duplicate 1	4/22/2025	1200	G	GW	4		X	X		X	X			21
Equipment Blank	4/22/2025	1022	G	GW	2		X			X				22
Field Blank	4/23/2025	819	G	GW	2		X			X				23
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____; F= filter in field							**4**	**F4**	**4**	**2**	**F2**	**4**		

** Six 1L Bottles must be collected for Radium for every 10th sample.*

Special Instructions/QC Requirements & Comments:

TG-32 needed

Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
[signature]	Eagle	4-24-25 1300		
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Date/Time:
			[signature]	04/28/25 10:49 AM

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 Pirkey **Total # of Containers RECEIVED in Job:** 115

Opened By ELH

Date/Time 4/28/25 @11:00am

Were all required temperatures, per BN-water-900, T≤6°C *w/o sample freezing*? Y / N or (N/A)

Initial/Date: BLB 4/28/25 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: 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: BLB 4/28/25

***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# 251109 Initial & Date & Time : _____

Logged by MLC Comments: _____

(Record Test Count on back of form)

Total # of Containers LISTED on COC: 115

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 # : 251109 **Initial/ Date:** MDL 04/28/25 **Peer Review Initial/ Date:** MSO 4/28/25

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
21	251109-001		21
15	251109-001-01		15
21	251109-002		21
15	251109-002-01		15
21	251109-003		21
15	251109-003-01		15
21	251109-004		21
15	251109-004-01		15
6	251109-005		6
21	251109-006		21
15	251109-006-01		15
21	251109-007		21
15	251109-007-01		15
6	251109-008		6
21	251109-009		21
15	251109-009-01		15
21	251109-010		21
15	251109-010-01		15
21	251109-011		21
15	251109-011-01		15
6	251109-012		6
6	251109-013		6
21	251109-014		21
15	251109-014-01		15

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 # : 25/109 **Initial/ Date:** MBK 04/28/25 **Peer Review Initial/ Date:** MBD 4/28/25

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
21	25/109-015		21
15	25/109-015-01		15
21	25/109-016		21
15	25/109-016-01		15
21	25/109-017		21
15	25/109-017-01		15
21	25/109-018		21
15	25/109-018-01		15
6	25/109-019		6
6	25/109-020		6
21	25/109-021		~~21~~ 19
15	25/109-021-01		15
19	25/109-022		19
19	25/109-023		19

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	05/13/2025
Name (printed)	Signature	Official Title	Date

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey

Reviewer Name: Tamisha Palmer

LRC Date: 05/13/2025

Laboratory Job Number: 251109

Prep Batch Number(s): PB25043002

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?	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?	No	ER2
	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: Pirkey

Reviewer Name: Tamisha Palmer

LRC Date: 05/13/2025

Laboratory Job Number: 251109

Prep Batch Number(s): PB25043002

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: Pirkey

Reviewer Name: Tamisha Palmer

LRC Date: 05/13/2025

Laboratory Job Number: 251109

Prep Batch Number(s): PB25043002

Exception Report No.	Description
ER1	The associated LCS recovery was outside limits: LCSD was acceptable
ER2	There was not a duplicate available for analysis with this batch.

[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	05/13/2025
Name (printed)	Signature	Official Title	Date

Radium Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey Power Station

Reviewer Name: Sunita Timsina

LRC Date: 05/13/2025

Laboratory Job Number: 251109

Prep Batch Number(s): PB25050106, PB25050203

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?	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?	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	ER2
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: Pirkey Power Station

Reviewer Name: Sunita Timsina

LRC Date: 05/13/2025

Laboratory Job Number: 251109

Prep Batch Number(s): PB25050106, PB25050203

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: Pirkey Power Station

Reviewer Name: Sunita Timsina

LRC Date: 05/13/2025

Laboratory Job Number: 251109

Prep Batch Number(s): PB25050106, PB25050203

Exception Report No.	Description
ER1	PB25050106, The associated laboratory control sample (LCS) or laboratory control
	sample duplicate (LCSD) recovery was outside acceptance limits.
ER2	PB25050106, The precision on the matrix spike duplicate (MSD) 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)
- [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	05/09/2025
Name (printed)	Signature	Official Title	Date

Mercury Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey

Reviewer Name: Kelsey Huff

LRC Date: 05/09/2025

Laboratory Job Number: 251109

Prep Batch Number(s): PB25050101, PB25050102, PB25050104

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: Pirkey

Reviewer Name: Kelsey Huff

LRC Date: 05/09/2025

Laboratory Job Number: 251109

Prep Batch Number(s): PB25050101, PB25050102, PB25050104

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: Pirkey

Reviewer Name: Kelsey Huff

LRC Date: 05/09/2025

Laboratory Job Number: 251109

Prep Batch Number(s): PB25050101, PB25050102, PB25050104

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)
- [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.

Elizabeth Hoitink	Elizabeth L Hoitink Digitally signed by Elizabeth L Hoitink Date: 2025.07.01 10:04:30 -04'00'	Chemist	7-1-2025
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: Pirkey CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 07-1-2025

Laboratory Job Number: 251109

Prep Batch Number(s): PB25042901, PB25042905, QC250515, QC2505057, 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?	No	ER3
	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: Pirkey CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 07-1-2025

Laboratory Job Number: 251109

Prep Batch Number(s): PB25042901, PB25042905, QC250515, QC2505057, 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: Pirkey CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 07-1-2025

Laboratory Job Number: 251109

Prep Batch Number(s): PB25042901, PB25042905, QC250515, QC2505057, 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.
ER3	Matrix spike failed for Li and Na for sample 251109-001.

[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: 251095 **Customer: Pirkey Power Station** **Date Reported: 05/08/2025**

Customer Sample ID: AD-2 Customer Description:
Lab Number: 251095-001 Preparation:
Date Collected: 04/22/2025 10:28 EDT Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.47	mg/L	2	0.10	0.02		CRJ	04/30/2025 15:05	EPA 300.1 -1997, Rev. 1.0
Chloride	26.8	mg/L	2	0.06	0.02		CRJ	04/30/2025 15:05	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.37	mg/L	2	0.06	0.02		CRJ	04/30/2025 15:05	EPA 300.1 -1997, Rev. 1.0
Sulfate	298	mg/L	10	3.0	0.6		CRJ	04/30/2025 15:47	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	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	570	mg/L	1	50	20		BLB	04/25/2025 12:36	SM 2540C-2015

Customer Sample ID: AD-3 Customer Description:
Lab Number: 251095-002 Preparation:
Date Collected: 04/22/2025 11:47 EDT Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.07	mg/L	2	0.10	0.02	J1	CRJ	04/30/2025 14:45	EPA 300.1 -1997, Rev. 1.0
Chloride	6.30	mg/L	2	0.06	0.02		CRJ	04/30/2025 14:45	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.09	mg/L	2	0.06	0.02		CRJ	04/30/2025 14:45	EPA 300.1 -1997, Rev. 1.0
Sulfate	29.6	mg/L	2	0.6	0.1		CRJ	04/30/2025 14:45	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	12	mg/L	1	20	5	J1	MGK	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	130	mg/L	1	50	20		BLB	04/28/2025 08:09	SM 2540C-2015

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Job ID: 251095 **Customer: Pirkey Power Station** **Date Reported: 05/08/2025**

Customer Sample ID: AD-4
Customer Description:
Lab Number: 251095-003
Preparation:
Date Collected: 04/23/2025 11:02 EDT
Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.23	mg/L	2	0.10	0.02		CRJ	04/30/2025 16:22	EPA 300.1 -1997, Rev. 1.0
Chloride	4.12	mg/L	2	0.06	0.02		CRJ	04/30/2025 16:22	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.05	mg/L	2	0.06	0.02	J1	CRJ	04/30/2025 16:22	EPA 300.1 -1997, Rev. 1.0
Sulfate	20.5	mg/L	2	0.6	0.1		CRJ	04/30/2025 16:22	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	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	110	mg/L	1	50	20		BLB	04/28/2025 08:15	SM 2540C-2015

Customer Sample ID: AD-7R
Customer Description:
Lab Number: 251095-004
Preparation:
Date Collected: 04/21/2025 12:03 EDT
Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	1.32	mg/L	2	0.10	0.02		CRJ	04/30/2025 17:45	EPA 300.1 -1997, Rev. 1.0
Chloride	24.2	mg/L	2	0.06	0.02		CRJ	04/30/2025 17:45	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.17	mg/L	2	0.06	0.02		CRJ	04/30/2025 17:45	EPA 300.1 -1997, Rev. 1.0
Sulfate	49.5	mg/L	2	0.6	0.1		CRJ	04/30/2025 17:45	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	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	190	mg/L	1	50	20		BLB	04/25/2025 12:41	SM 2540C-2015

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Job ID: 251095 **Customer: Pirkey Power Station** **Date Reported: 05/08/2025**

Customer Sample ID: AD-8
Customer Description:
Lab Number: 251095-005
Preparation:
Date Collected: 04/22/2025 12:14 EDT
Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.85	mg/L	2	0.10	0.02		CRJ	04/30/2025 16:42	EPA 300.1 -1997, Rev. 1.0
Chloride	7.58	mg/L	2	0.06	0.02		CRJ	04/30/2025 16:42	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.36	mg/L	2	0.06	0.02		CRJ	04/30/2025 16:42	EPA 300.1 -1997, Rev. 1.0
Sulfate	136	mg/L	10	3.0	0.6		CRJ	04/30/2025 17:24	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	71	mg/L	1	20	5		MGK	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	270	mg/L	1	50	20		BLB	04/28/2025 08:15	SM 2540C-2015

Customer Sample ID: AD-12
Customer Description:
Lab Number: 251095-006
Preparation:
Date Collected: 04/21/2025 10:40 EDT
Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.11	mg/L	2	0.10	0.02		CRJ	04/30/2025 18:05	EPA 300.1 -1997, Rev. 1.0
Chloride	4.58	mg/L	2	0.06	0.02		CRJ	04/30/2025 18:05	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.08	mg/L	2	0.06	0.02		CRJ	04/30/2025 18:05	EPA 300.1 -1997, Rev. 1.0
Sulfate	2.7	mg/L	2	0.6	0.1		CRJ	04/30/2025 18:05	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	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	70	mg/L	1	50	20		BLB	04/25/2025 12:41	SM 2540C-2015

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Job ID: 251095 **Customer: Pirkey Power Station** **Date Reported: 05/08/2025**

Customer Sample ID: AD-13 Customer Description:
Lab Number: 251095-007 Preparation:
Date Collected: 04/21/2025 11:04 EDT Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.30	mg/L	2	0.10	0.02		CRJ	04/30/2025 18:26	EPA 300.1 -1997, Rev. 1.0
Chloride	42.1	mg/L	10	0.3	0.1		CRJ	05/01/2025 10:16	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.31	mg/L	2	0.06	0.02		CRJ	04/30/2025 18:26	EPA 300.1 -1997, Rev. 1.0
Sulfate	78.8	mg/L	2	0.6	0.1		CRJ	04/30/2025 18:26	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	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	240	mg/L	1	50	20		BLB	04/25/2025 12:47	SM 2540C-2015

Customer Sample ID: AD-16 Customer Description:
Lab Number: 251095-008 Preparation:
Date Collected: 04/21/2025 10:04 EDT Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.21	mg/L	2	0.10	0.02		CRJ	04/30/2025 19:08	EPA 300.1 -1997, Rev. 1.0
Chloride	29.2	mg/L	2	0.06	0.02		CRJ	04/30/2025 19:08	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.12	mg/L	2	0.06	0.02		CRJ	04/30/2025 19:08	EPA 300.1 -1997, Rev. 1.0
Sulfate	10.2	mg/L	2	0.6	0.1		CRJ	04/30/2025 19:08	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	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	120	mg/L	1	50	20		BLB	04/25/2025 12:47	SM 2540C-2015

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Job ID: 251095 **Customer: Pirkey Power Station** **Date Reported: 05/08/2025**

Customer Sample ID: AD-17
Customer Description:
Lab Number: 251095-009
Preparation:
Date Collected: 04/22/2025 10:11 EDT
Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.15	mg/L	2	0.10	0.02		CRJ	04/30/2025 22:35	EPA 300.1 -1997, Rev. 1.0
Chloride	12.3	mg/L	2	0.06	0.02		CRJ	04/30/2025 22:35	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.17	mg/L	2	0.06	0.02		CRJ	04/30/2025 22:35	EPA 300.1 -1997, Rev. 1.0
Sulfate	1.8	mg/L	2	0.6	0.1		CRJ	04/30/2025 22:35	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	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	30	mg/L	1	50	20	J1	BLB	04/28/2025 08:20	SM 2540C-2015

Customer Sample ID: AD-18
Customer Description:
Lab Number: 251095-010
Preparation:
Date Collected: 04/23/2025 10:01 EDT
Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.04	mg/L	2	0.10	0.02	J1	CRJ	04/30/2025 22:56	EPA 300.1 -1997, Rev. 1.0
Chloride	4.98	mg/L	2	0.06	0.02		CRJ	04/30/2025 22:56	EPA 300.1 -1997, Rev. 1.0
Fluoride	<0.02	mg/L	2	0.06	0.02	U1	CRJ	04/30/2025 22:56	EPA 300.1 -1997, Rev. 1.0
Sulfate	7.5	mg/L	2	0.6	0.1		CRJ	04/30/2025 22:56	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	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	100	mg/L	1	50	20		BLB	04/28/2025 08:20	SM 2540C-2015

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Job ID: 251095 **Customer: Pirkey Power Station** **Date Reported: 05/08/2025**

Customer Sample ID: AD-22 Customer Description:
Lab Number: 251095-011 Preparation:
Date Collected: 04/21/2025 13:05 EDT Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.53	mg/L	2	0.10	0.02		CRJ	04/30/2025 21:54	EPA 300.1 -1997, Rev. 1.0
Chloride	82.6	mg/L	25	0.8	0.3		CRJ	04/30/2025 21:33	EPA 300.1 -1997, Rev. 1.0
Fluoride	1.07	mg/L	2	0.06	0.02		CRJ	04/30/2025 21:54	EPA 300.1 -1997, Rev. 1.0
Sulfate	294	mg/L	25	8	2		CRJ	04/30/2025 21:33	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	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	610	mg/L	1	50	20		BLB	04/25/2025 12:53	SM 2540C-2015

Customer Sample ID: AD-23 Customer Description:
Lab Number: 251095-012 Preparation:
Date Collected: 04/23/2025 11:57 EDT Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.37	mg/L	2	0.10	0.02		CRJ	04/30/2025 23:17	EPA 300.1 -1997, Rev. 1.0
Chloride	10.4	mg/L	2	0.06	0.02		CRJ	04/30/2025 23:17	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.05	mg/L	2	0.06	0.02	J1	CRJ	04/30/2025 23:17	EPA 300.1 -1997, Rev. 1.0
Sulfate	4.7	mg/L	2	0.6	0.1		CRJ	04/30/2025 23:17	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	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	40	mg/L	1	50	20	J1	BLB	04/28/2025 08:26	SM 2540C-2015

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Job ID: 251095 **Customer: Pirkey Power Station** **Date Reported: 05/08/2025**

Customer Sample ID: AD-27
Customer Description:
Lab Number: 251095-013
Preparation:
Date Collected: 04/23/2025 09:43 EDT
Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.38	mg/L	2	0.10	0.02		CRJ	04/30/2025 23:38	EPA 300.1 -1997, Rev. 1.0
Chloride	12.5	mg/L	2	0.06	0.02		CRJ	04/30/2025 23:38	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.22	mg/L	2	0.06	0.02		CRJ	04/30/2025 23:38	EPA 300.1 -1997, Rev. 1.0
Sulfate	49.8	mg/L	2	0.6	0.1		CRJ	04/30/2025 23:38	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	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	130	mg/L	1	50	20		BLB	04/28/2025 08:26	SM 2540C-2015

Customer Sample ID: AD-28
Customer Description:
Lab Number: 251095-014
Preparation:
Date Collected: 04/22/2025 10:45 EDT
Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.13	mg/L	2	0.10	0.02		CRJ	05/01/2025 00:19	EPA 300.1 -1997, Rev. 1.0
Chloride	4.99	mg/L	2	0.06	0.02		CRJ	05/01/2025 00:19	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.76	mg/L	2	0.06	0.02		CRJ	05/01/2025 00:19	EPA 300.1 -1997, Rev. 1.0
Sulfate	25.4	mg/L	2	0.6	0.1		CRJ	05/01/2025 00:19	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	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	100	mg/L	1	50	20		BLB	04/25/2025 12:53	SM 2540C-2015

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Job ID: 251095 **Customer: Pirkey Power Station** **Date Reported: 05/08/2025**

Customer Sample ID: AD-30 Customer Description:
Lab Number: 251095-015 Preparation:
Date Collected: 04/22/2025 09:30 EDT Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.13	mg/L	2	0.10	0.02		CRJ	05/01/2025 01:01	EPA 300.1 -1997, Rev. 1.0
Chloride	11.5	mg/L	2	0.06	0.02		CRJ	05/01/2025 01:01	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.04	mg/L	2	0.06	0.02	J1	CRJ	05/01/2025 01:01	EPA 300.1 -1997, Rev. 1.0
Sulfate	99.0	mg/L	10	3.0	0.6		CRJ	05/01/2025 00:40	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	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	220	mg/L	1	50	20	S7	BLB	04/25/2025 13:00	SM 2540C-2015

Customer Sample ID: AD-31 Customer Description:
Lab Number: 251095-016 Preparation:
Date Collected: 04/21/2025 12:20 EDT Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.22	mg/L	2	0.10	0.02		CRJ	05/01/2025 01:42	EPA 300.1 -1997, Rev. 1.0
Chloride	13.1	mg/L	2	0.06	0.02		CRJ	05/01/2025 01:42	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.12	mg/L	2	0.06	0.02		CRJ	05/01/2025 01:42	EPA 300.1 -1997, Rev. 1.0
Sulfate	75.3	mg/L	10	3.0	0.6		CRJ	05/01/2025 15:06	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	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	230	mg/L	1	50	20		BLB	04/25/2025 13:00	SM 2540C-2015

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Job ID: 251095 **Customer: Pirkey Power Station** **Date Reported: 05/08/2025**

Customer Sample ID: AD-32 Customer Description:
Lab Number: 251095-017 Preparation:
Date Collected: 04/21/2025 11:29 EDT Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.32	mg/L	2	0.10	0.02		CRJ	05/01/2025 05:10	EPA 300.1 -1997, Rev. 1.0
Chloride	10.3	mg/L	2	0.06	0.02		CRJ	05/01/2025 05:10	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.39	mg/L	2	0.06	0.02		CRJ	05/01/2025 05:10	EPA 300.1 -1997, Rev. 1.0
Sulfate	55.2	mg/L	2	0.6	0.1		CRJ	05/01/2025 05:10	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	8	mg/L	1	20	5	J1	MGK	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	180	mg/L	1	50	20		BLB	04/25/2025 13:06	SM 2540C-2015

Customer Sample ID: AD-33 Customer Description:
Lab Number: 251095-018 Preparation:
Date Collected: 04/22/2025 09:10 EDT Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	1.04	mg/L	2	0.10	0.02		CRJ	05/01/2025 05:31	EPA 300.1 -1997, Rev. 1.0
Chloride	12.7	mg/L	2	0.06	0.02		CRJ	05/01/2025 05:31	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.50	mg/L	2	0.06	0.02		CRJ	05/01/2025 05:31	EPA 300.1 -1997, Rev. 1.0
Sulfate	68.5	mg/L	2	0.6	0.1		CRJ	05/01/2025 05:31	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	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	190	mg/L	1	50	20		BLB	04/25/2025 13:06	SM 2540C-2015

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Job ID: 251095 **Customer: Pirkey Power Station** **Date Reported: 05/08/2025**

Customer Sample ID: AD-34 Customer Description:
Lab Number: 251095-019 Preparation:
Date Collected: 04/23/2025 09:06 EDT Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.17	mg/L	5	0.25	0.05	J1	CRJ	05/01/2025 06:33	EPA 300.1 -1997, Rev. 1.0
Chloride	7.65	mg/L	5	0.15	0.05		CRJ	05/01/2025 06:33	EPA 300.1 -1997, Rev. 1.0
Fluoride	1.39	mg/L	5	0.15	0.05		CRJ	05/01/2025 06:33	EPA 300.1 -1997, Rev. 1.0
Sulfate	1110	mg/L	50	15	3		CRJ	05/01/2025 06:12	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	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	1600	mg/L	1	50	20	S7	BLB	04/28/2025 08:32	SM 2540C-2015

Customer Sample ID: AD-36 Customer Description:
Lab Number: 251095-020 Preparation:
Date Collected: 04/23/2025 11:26 EDT Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.84	mg/L	2	0.10	0.02		CRJ	05/01/2025 08:17	EPA 300.1 -1997, Rev. 1.0
Chloride	17.0	mg/L	2	0.06	0.02		CRJ	05/01/2025 08:17	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.11	mg/L	2	0.06	0.02		CRJ	05/01/2025 08:17	EPA 300.1 -1997, Rev. 1.0
Sulfate	6.2	mg/L	2	0.6	0.1		CRJ	05/01/2025 08:17	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	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	<20	mg/L	1	50	20	S12, U1	BLB	04/28/2025 08:32	SM 2540C-2015

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 251095 **Customer: Pirkey Power Station** **Date Reported: 05/08/2025**

Customer Sample ID: Duplicate
Lab Number: 251095-021
Date Collected: 04/22/2025 01:00 EDT

Customer Description:
Preparation:
Date Received: 04/25/2025 09:45 EDT

Ion Chromatography

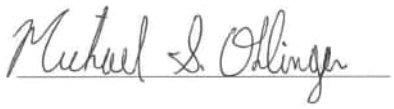
Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	1.05	mg/L	2	0.10	0.02		CRJ	05/01/2025 07:35	EPA 300.1 -1997, Rev. 1.0
Chloride	12.7	mg/L	2	0.06	0.02		CRJ	05/01/2025 07:35	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.50	mg/L	2	0.06	0.02		CRJ	05/01/2025 07:35	EPA 300.1 -1997, Rev. 1.0
Sulfate	68.9	mg/L	2	0.6	0.1		CRJ	05/01/2025 07:35	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	04/25/2025 14:25	SM 2320B-2011
TDS, Filterable Residue	200	mg/L	1	50	20		BLB	04/25/2025 13:11	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

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.
S7 - Sample did not achieve constant weight.
S12 - Residue weight is below the method criteria but was already analyzed with 100 mL.

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)
Dave Conover (614-836-4219)

Project Name: Pirkey PP Semi-Annual CCR
Contact Name: Pryce Warren
Contact Phone: 325-310-6668
Sampler(s): Matt Hamilton Kenny McDonald

Analysis Turnaround Time (in Calendar Days)
Routine (28 days for Monitoring Wells)

Site Contact:

Date:

For Lab Use Only:
COC/Order #: 251095

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	250 mL bottle, pH<2, HNO3 — Mercury	Field-filter 250 mL bottle, then pH<2, HNO3 — Dissolved Mercury	1 L bottle, Cool, 0-6C — F, Cl, SO4, Br, TDS, Alkalinity	Three (six every 10th*) 1 L bottles, pH<2, HNO3 — Ra-226, Ra-228				Sample Specific Notes:
AD-2	4/22/2025	928	G	GW	1				X					
AD-3	4/22/2025	1047	G	GW	1				X					
AD-4	4/23/2025	1002	G	GW	1				X					
AD-7R	4/21/2025	1103	G	GW	1				X					
AD-8	4/22/2025	1114	G	GW	1				X					
AD-12	4/21/2025	940	G	GW	1				X					
AD-13	4/21/2025	1004	G	GW	1				X					
AD-16	4/21/2025	904	G	GW	1				X					
AD-17	4/22/2025	911	G	GW	1				X					
AD-18	4/23/2025	901	G	GW	1				X					
AD-22	4/21/2025	1205	G	GW	1				X					
AD-23	4/23/2025	1057	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:

TG-32 needed

Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Matt Hamilton	Eagle	4-24-25 1300		
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Date/Time:
			Michael Ohlinger	4/25/25 9:45

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)
Dave Conover (614-836-4219)

Project Name: Pirkey PP CCR
Contact Name: Pryce Warren
Contact Phone: 325-310-6668
Sampler(s): Matt Hamilton Kenny McDonald

Analysis Turnaround Time (in Calendar Days)
◉ Routine (28 days for Monitoring Wells)

Site Contact: | Date: | For Lab Use Only: COC/Order #:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	Mercury (250 mL bottle, pH<2, HNO3)	Dissolved Mercury (Field-filter 250 mL bottle, then pH<2, HNO3)	F, Cl, SO4, Br, TDS, Alkalinity (1 L bottle, Cool, 0-6C)	Ra-226, Ra-228 (Three (six every 10th*) 1 L bottles, pH<2, HNO3)				Sample Specific Notes
AD-27	4/23/2025	843	G	GW	1				X					
AD-28	4/22/2025	945	G	GW	1				X					
AD-30	4/22/2025	830	G	GW	1				X					
AD-31	4/21/2025	1120	G	GW	1				X					
AD-32	4/21/2025	1029	G	GW	1				X					
AD-33	4/22/2025	810	G	GW	1				X					
AD-34	4/23/2025	806	G	GW	1				X					
AD-36	4/22/2025	1026	G	GW	1				X					
Duplicate 1	4/22/2025	1200	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:

TG-32 needed

Relinquished by:	Company:	Date/Time:	Received by:	Date/Time
[signature]	Eng'r	4-24-25 1300		
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Date/Time: 4/25/25 9:45.

Form COC-04, AEP Chain of Custody (COC) Record for Coal Combustion Residual (CCR) Sampling - Shreveport, Rev. 1, 1/10/17

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 Pirkey **Total # of Containers RECEIVED in Job:** 21

Opened By WCh

Date/Time 4/25/25 0945

Were all required temperatures, per BN-water-900, T≤6°C *w/o sample freezing*? (Y) / N or N/A

Initial/Date: mbc 04/25/25 (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: 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: ELH 4-25-25 (#1-17) MBC 04/25/25 (18-20)

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# 251095 Initial & Date & Time : _____

Logged by MSD Comments: _____

(Record Test Count on back of form)

Total # of Containers LISTED on COC: 21

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 # : 251095 **Initial/ Date:** MSO 4/25/25 **Peer Review Initial/ Date:** CLH 4/28/25

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
6	251095-001		6
6	" -002		
6	" -003		
6	" -004		
6	" -005		
6	" -006		
6	" -007		
6	" -008		
6	" -009		
6	" -010		
6	" -011		
6	" -012		
6	" -013		
6	" -014		
6	" -015		
6	" -016		
6	" -017		
6	" -018		
6	" -019		
6	" -020		
6	" -021		

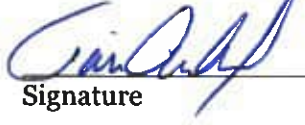
Municipal Solid Waste Laboratory Review Checklist

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	5/2/2025
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: Semi-annual CCR

Reviewer Name: Tim Arnold

LRC Date: 5/2/2025

Laboratory Job Number: 251095

Prep Batch Number(s): QC2505020

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: Semi-annual CCR

Reviewer Name: Tim Arnold

LRC Date: 5/2/2025

Laboratory Job Number: 251095

Prep Batch Number(s): QC2505020

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: Semi-annual CCR

Reviewer Name: Tim Arnold

LRC Date: 5/2/2025

Laboratory Job Number: 251095

Prep Batch Number(s): QC2505020

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.

Sandra Williams	Sandra D. Williams	Chemist	05/05/2025
Name (printed)	Signature	Official Title	Date

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	

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	

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.

Michael Ohlinger	Michael Ohlinger	Senior Chemist	05/02/2025
Name (printed)	Signature	Official Title	Date

Alkalinity Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey Plant

Reviewer Name: Michael Ohlinger

LRC Date: 05/02/2025

Laboratory Job Number: 251095

Prep Batch Number(s): QC2504171

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	
	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: Pirkey Plant

Reviewer Name: Michael Ohlinger

LRC Date: 05/02/2025

Laboratory Job Number: 251095

Prep Batch Number(s): QC2504171

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: Pirkey Plant

Reviewer Name: Michael Ohlinger

LRC Date: 05/02/2025

Laboratory Job Number: 251095

Prep Batch Number(s): QC2504171

Exception Report No.	Description
ER1	CCB acceptance criteria is CCB<0.5*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."

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-2
Lab Number: 252402-001
Date Collected: 09/09/2025 11:31 EDT

Customer Description:
Preparation:
Date Received: 09/15/2025 12:40 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.1	µg/L	5	0.5	0.1	U1	GES	09/22/2025 14:17	EPA 200.8-1994, Rev. 5.4
Arsenic	1.7	µg/L	5	0.5	0.2		GES	09/22/2025 14:17	EPA 200.8-1994, Rev. 5.4
Barium	14.2	µg/L	5	1.0	0.3		GES	09/22/2025 14:17	EPA 200.8-1994, Rev. 5.4
Beryllium	0.9	µg/L	5	0.3	0.1		GES	09/22/2025 14:17	EPA 200.8-1994, Rev. 5.4
Boron	2.82	mg/L	5	0.25	0.03		GES	09/22/2025 14:17	EPA 200.8-1994, Rev. 5.4
Cadmium	0.13	µg/L	5	0.10	0.02		GES	09/22/2025 14:17	EPA 200.8-1994, Rev. 5.4
Calcium	4.1	mg/L	5	0.5	0.1		GES	09/22/2025 14:17	EPA 200.8-1994, Rev. 5.4
Chromium	0.5	µg/L	5	1.5	0.4	J1	GES	09/22/2025 14:17	EPA 200.8-1994, Rev. 5.4
Cobalt	31.3	µg/L	5	0.15	0.05		GES	09/22/2025 14:17	EPA 200.8-1994, Rev. 5.4
Lead	0.8	µg/L	5	1.0	0.3	J1	GES	09/22/2025 14:17	EPA 200.8-1994, Rev. 5.4
Lithium	0.0828	mg/L	5	0.0015	0.0004		GES	09/22/2025 14:17	EPA 200.8-1994, Rev. 5.4
Magnesium	8.36	mg/L	5	0.50	0.05		GES	09/22/2025 14:17	EPA 200.8-1994, Rev. 5.4
Mercury	55	ng/L	20	10	4		JLD	10/03/2025 00:00	EPA 1631E-2002
Molybdenum	<0.3	µg/L	5	2.5	0.3	U1	GES	09/22/2025 14:17	EPA 200.8-1994, Rev. 5.4
Potassium	1.6	mg/L	5	0.5	0.1		GES	09/22/2025 14:17	EPA 200.8-1994, Rev. 5.4
Selenium	6.7	µg/L	5	2.5	0.2		GES	09/22/2025 14:17	EPA 200.8-1994, Rev. 5.4
Sodium	111	mg/L	5	1.0	0.1		GES	09/22/2025 14:17	EPA 200.8-1994, Rev. 5.4
Strontium	0.0561	mg/L	5	0.0100	0.0003		GES	09/22/2025 14:17	EPA 200.8-1994, Rev. 5.4
Thallium	0.1	µg/L	5	1.0	0.1	J1	GES	09/22/2025 14:17	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.96	pCi/L	0.35	0.58		TTP	09/19/2025 09:46	SW-846 9315-1986, Rev. 0
Carrier Recovery	83.8	%						
Radium-228	1.19	pCi/L	0.19	0.58	B1	ST	09/30/2025 14:16	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	79.7	%						

* 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: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-2 Dissolved
Customer Description:
Lab Number: 252402-001-01
Preparation: Dissolved
Date Collected: 09/09/2025 11:31 EDT
Date Received: 09/15/2025 12:40 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.1	µg/L	5	0.5	0.1	U1	GES	09/22/2025 14:22	EPA 200.8-1994, Rev. 5.4
Arsenic	1.9	µg/L	5	0.5	0.2		GES	09/22/2025 14:22	EPA 200.8-1994, Rev. 5.4
Barium	13.9	µg/L	5	1.0	0.3		GES	09/22/2025 14:22	EPA 200.8-1994, Rev. 5.4
Beryllium	0.9	µg/L	5	0.3	0.1		GES	09/22/2025 14:22	EPA 200.8-1994, Rev. 5.4
Cadmium	0.13	µg/L	5	0.10	0.02		GES	09/22/2025 14:22	EPA 200.8-1994, Rev. 5.4
Chromium	0.8	µg/L	5	1.5	0.4	J1	GES	09/22/2025 14:22	EPA 200.8-1994, Rev. 5.4
Cobalt	32.3	µg/L	5	0.15	0.05		GES	09/22/2025 14:22	EPA 200.8-1994, Rev. 5.4
Iron	0.81	mg/L	5	0.10	0.02		GES	09/22/2025 14:22	EPA 200.8-1994, Rev. 5.4
Lead	0.8	µg/L	5	1.0	0.3	J1	GES	09/22/2025 14:22	EPA 200.8-1994, Rev. 5.4
Lithium	0.0820	mg/L	5	0.0015	0.0004		GES	09/22/2025 14:22	EPA 200.8-1994, Rev. 5.4
Manganese	0.118	mg/L	5	0.0050	0.0005		GES	09/22/2025 14:22	EPA 200.8-1994, Rev. 5.4
Mercury	6	ng/L	10	5	2		JLD	10/03/2025 00:00	EPA 1631E-2002
Molybdenum	<0.3	µg/L	5	2.5	0.3	U1	GES	09/22/2025 14:22	EPA 200.8-1994, Rev. 5.4
Selenium	7.5	µg/L	5	2.5	0.2		GES	09/22/2025 14:22	EPA 200.8-1994, Rev. 5.4
Thallium	0.1	µg/L	5	1.0	0.1	J1	GES	09/22/2025 14:22	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: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-3
Lab Number: 252402-002
Date Collected: 09/09/2025 12:21 EDT

Customer Description:
Preparation:
Date Received: 09/15/2025 12:40 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	09/22/2025 14:27	EPA 200.8-1994, Rev. 5.4
Arsenic	0.84	µg/L	1	0.10	0.03		GES	09/22/2025 14:27	EPA 200.8-1994, Rev. 5.4
Barium	63.4	µg/L	1	0.20	0.05		GES	09/22/2025 14:27	EPA 200.8-1994, Rev. 5.4
Beryllium	0.19	µg/L	1	0.05	0.02		GES	09/22/2025 14:27	EPA 200.8-1994, Rev. 5.4
Boron	0.045	mg/L	1	0.050	0.006	J1	GES	09/22/2025 14:27	EPA 200.8-1994, Rev. 5.4
Cadmium	0.014	µg/L	1	0.020	0.004	J1	GES	09/22/2025 14:27	EPA 200.8-1994, Rev. 5.4
Calcium	4.48	mg/L	1	0.10	0.02		GES	09/22/2025 14:27	EPA 200.8-1994, Rev. 5.4
Chromium	0.61	µg/L	1	0.30	0.07		GES	09/22/2025 14:27	EPA 200.8-1994, Rev. 5.4
Cobalt	4.68	µg/L	1	0.03	0.01		GES	09/22/2025 14:27	EPA 200.8-1994, Rev. 5.4
Lead	0.38	µg/L	1	0.20	0.05		GES	09/22/2025 14:27	EPA 200.8-1994, Rev. 5.4
Lithium	0.0564	mg/L	1	0.00030	0.00007		GES	09/22/2025 14:27	EPA 200.8-1994, Rev. 5.4
Magnesium	2.53	mg/L	1	0.10	0.01		GES	09/22/2025 14:27	EPA 200.8-1994, Rev. 5.4
Mercury	5	ng/L	10	5	2		JLD	10/03/2025 00:00	EPA 1631E-2002
Molybdenum	0.07	µg/L	1	0.50	0.05	J1	GES	09/22/2025 14:27	EPA 200.8-1994, Rev. 5.4
Potassium	2.58	mg/L	1	0.10	0.02		GES	09/22/2025 14:27	EPA 200.8-1994, Rev. 5.4
Selenium	0.06	µg/L	1	0.50	0.04	J1	GES	09/22/2025 14:27	EPA 200.8-1994, Rev. 5.4
Sodium	9.75	mg/L	1	0.20	0.02		GES	09/22/2025 14:27	EPA 200.8-1994, Rev. 5.4
Strontium	0.0300	mg/L	1	0.00200	0.00006		GES	09/22/2025 14:27	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	09/22/2025 14:27	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	2.24	pCi/L	0.36	0.33		TTP	09/19/2025 09:46	SW-846 9315-1986, Rev. 0
Carrier Recovery	83.0	%						
Radium-228	1.30	pCi/L	0.15	0.43	B1	ST	09/30/2025 14:16	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	88.7	%						

* 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: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-3 Dissolved
Customer Description:
Lab Number: 252402-002-01
Preparation: Dissolved
Date Collected: 09/09/2025 12:21 EDT
Date Received: 09/15/2025 12:40 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	09/22/2025 14:33	EPA 200.8-1994, Rev. 5.4
Arsenic	0.25	µg/L	1	0.10	0.03		GES	09/22/2025 14:33	EPA 200.8-1994, Rev. 5.4
Barium	64.1	µg/L	1	0.20	0.05		GES	09/22/2025 14:33	EPA 200.8-1994, Rev. 5.4
Beryllium	0.17	µg/L	1	0.05	0.02		GES	09/22/2025 14:33	EPA 200.8-1994, Rev. 5.4
Cadmium	0.014	µg/L	1	0.020	0.004	J1	GES	09/22/2025 14:33	EPA 200.8-1994, Rev. 5.4
Chromium	0.40	µg/L	1	0.30	0.07		GES	09/22/2025 14:33	EPA 200.8-1994, Rev. 5.4
Cobalt	4.76	µg/L	1	0.03	0.01		GES	09/22/2025 14:33	EPA 200.8-1994, Rev. 5.4
Iron	3.49	mg/L	1	0.020	0.003		GES	09/22/2025 14:33	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	09/22/2025 14:33	EPA 200.8-1994, Rev. 5.4
Lithium	0.0584	mg/L	1	0.00030	0.00007		GES	09/22/2025 14:33	EPA 200.8-1994, Rev. 5.4
Manganese	0.0633	mg/L	1	0.0010	0.0001		GES	09/22/2025 14:33	EPA 200.8-1994, Rev. 5.4
Mercury	3	ng/L	10	5	2	J1	JLD	10/03/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/22/2025 14:33	EPA 200.8-1994, Rev. 5.4
Selenium	0.05	µg/L	1	0.50	0.04	J1	GES	09/22/2025 14:33	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	09/22/2025 14:33	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: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-4
Lab Number: 252402-003
Date Collected: 09/10/2025 11:03 EDT

Customer Description:
Preparation:
Date Received: 09/15/2025 12:40 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	09/22/2025 14:38	EPA 200.8-1994, Rev. 5.4
Arsenic	1.95	µg/L	1	0.10	0.03		GES	09/22/2025 14:38	EPA 200.8-1994, Rev. 5.4
Barium	114	µg/L	1	0.20	0.05		GES	09/22/2025 14:38	EPA 200.8-1994, Rev. 5.4
Beryllium	0.25	µg/L	1	0.05	0.02		GES	09/22/2025 14:38	EPA 200.8-1994, Rev. 5.4
Boron	0.013	mg/L	1	0.050	0.006	J1	GES	09/22/2025 14:38	EPA 200.8-1994, Rev. 5.4
Cadmium	0.020	µg/L	1	0.020	0.004		GES	09/22/2025 14:38	EPA 200.8-1994, Rev. 5.4
Calcium	2.21	mg/L	1	0.10	0.02		GES	09/22/2025 14:38	EPA 200.8-1994, Rev. 5.4
Chromium	0.55	µg/L	1	0.30	0.07		GES	09/22/2025 14:38	EPA 200.8-1994, Rev. 5.4
Cobalt	3.26	µg/L	1	0.03	0.01		GES	09/22/2025 14:38	EPA 200.8-1994, Rev. 5.4
Lead	0.30	µg/L	1	0.20	0.05		GES	09/22/2025 14:38	EPA 200.8-1994, Rev. 5.4
Lithium	0.0236	mg/L	1	0.00030	0.00007		GES	09/22/2025 14:38	EPA 200.8-1994, Rev. 5.4
Magnesium	0.59	mg/L	1	0.10	0.01		GES	09/22/2025 14:38	EPA 200.8-1994, Rev. 5.4
Mercury	9	ng/L	10	5	2		JLD	10/03/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/22/2025 14:38	EPA 200.8-1994, Rev. 5.4
Potassium	2.08	mg/L	1	0.10	0.02		GES	09/22/2025 14:38	EPA 200.8-1994, Rev. 5.4
Selenium	0.09	µg/L	1	0.50	0.04	J1	GES	09/22/2025 14:38	EPA 200.8-1994, Rev. 5.4
Sodium	6.25	mg/L	1	0.20	0.02		GES	09/22/2025 14:38	EPA 200.8-1994, Rev. 5.4
Strontium	0.0176	mg/L	1	0.00200	0.00006		GES	09/22/2025 14:38	EPA 200.8-1994, Rev. 5.4
Thallium	0.09	µg/L	1	0.20	0.02	J1	GES	09/22/2025 14:38	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.47	pCi/L	0.14	0.29		TTP	09/24/2025 16:19	SW-846 9315-1986, Rev. 0
Carrier Recovery	59.5	%						
Radium-228	1.28	pCi/L	0.16	0.50	B1	ST	09/30/2025 14:16	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	83.9	%						

* 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: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-4 Dissolved
Customer Description:
Lab Number: 252402-003-01
Preparation: Dissolved
Date Collected: 09/10/2025 11:03 EDT
Date Received: 09/15/2025 12:40 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	09/22/2025 15:49	EPA 200.8-1994, Rev. 5.4
Arsenic	0.16	µg/L	1	0.10	0.03		GES	09/22/2025 15:49	EPA 200.8-1994, Rev. 5.4
Barium	113	µg/L	1	0.20	0.05		GES	09/22/2025 15:49	EPA 200.8-1994, Rev. 5.4
Beryllium	0.21	µg/L	1	0.05	0.02		GES	09/22/2025 15:49	EPA 200.8-1994, Rev. 5.4
Cadmium	0.019	µg/L	1	0.020	0.004	J1	GES	09/22/2025 15:49	EPA 200.8-1994, Rev. 5.4
Chromium	0.45	µg/L	1	0.30	0.07		GES	09/22/2025 15:49	EPA 200.8-1994, Rev. 5.4
Cobalt	3.40	µg/L	1	0.03	0.01		GES	09/22/2025 15:49	EPA 200.8-1994, Rev. 5.4
Iron	3.08	mg/L	1	0.020	0.003		GES	09/22/2025 15:49	EPA 200.8-1994, Rev. 5.4
Lead	0.05	µg/L	1	0.20	0.05	J1	GES	09/22/2025 15:49	EPA 200.8-1994, Rev. 5.4
Lithium	0.0229	mg/L	1	0.00030	0.00007		GES	09/24/2025 10:06	EPA 200.8-1994, Rev. 5.4
Manganese	0.0308	mg/L	1	0.0010	0.0001		GES	09/22/2025 15:49	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	10	5	2	U1	JLD	10/03/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/22/2025 15:49	EPA 200.8-1994, Rev. 5.4
Selenium	0.05	µg/L	1	0.50	0.04	J1	GES	09/22/2025 15:49	EPA 200.8-1994, Rev. 5.4
Thallium	0.09	µg/L	1	0.20	0.02	J1	GES	09/22/2025 15:49	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: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-7R
Lab Number: 252402-004
Date Collected: 09/08/2025 10:36 EDT

Customer Description:
Preparation:
Date Received: 09/15/2025 12:40 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	09/22/2025 15:55	EPA 200.8-1994, Rev. 5.4
Arsenic	0.99	µg/L	1	0.10	0.03		GES	09/22/2025 15:55	EPA 200.8-1994, Rev. 5.4
Barium	60.1	µg/L	1	0.20	0.05		GES	09/22/2025 15:55	EPA 200.8-1994, Rev. 5.4
Beryllium	1.35	µg/L	1	0.05	0.02		GES	09/22/2025 15:55	EPA 200.8-1994, Rev. 5.4
Boron	0.566	mg/L	1	0.050	0.006		GES	09/22/2025 15:55	EPA 200.8-1994, Rev. 5.4
Cadmium	0.336	µg/L	1	0.020	0.004		GES	09/22/2025 15:55	EPA 200.8-1994, Rev. 5.4
Calcium	2.46	mg/L	1	0.10	0.02		GES	09/22/2025 15:55	EPA 200.8-1994, Rev. 5.4
Chromium	0.27	µg/L	1	0.30	0.07	J1	GES	09/22/2025 15:55	EPA 200.8-1994, Rev. 5.4
Cobalt	15.2	µg/L	1	0.03	0.01		GES	09/22/2025 15:55	EPA 200.8-1994, Rev. 5.4
Lead	0.22	µg/L	1	0.20	0.05		GES	09/22/2025 15:55	EPA 200.8-1994, Rev. 5.4
Lithium	0.0358	mg/L	1	0.00030	0.00007		GES	09/24/2025 10:12	EPA 200.8-1994, Rev. 5.4
Magnesium	4.54	mg/L	1	0.10	0.01		GES	09/22/2025 15:55	EPA 200.8-1994, Rev. 5.4
Mercury	101	ng/L	20	10	4		JLD	10/03/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/22/2025 15:55	EPA 200.8-1994, Rev. 5.4
Potassium	1.45	mg/L	1	0.10	0.02		GES	09/22/2025 15:55	EPA 200.8-1994, Rev. 5.4
Selenium	4.10	µg/L	1	0.50	0.04		GES	09/22/2025 15:55	EPA 200.8-1994, Rev. 5.4
Sodium	20.2	mg/L	1	0.20	0.02		GES	09/22/2025 15:55	EPA 200.8-1994, Rev. 5.4
Strontium	0.0301	mg/L	1	0.00200	0.00006		GES	09/22/2025 15:55	EPA 200.8-1994, Rev. 5.4
Thallium	0.13	µg/L	1	0.20	0.02	J1	GES	09/22/2025 15:55	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	2.64	pCi/L	0.27	0.24		TTP	09/24/2025 16:19	SW-846 9315-1986, Rev. 0
Carrier Recovery	91.8	%						
Radium-228	2.15	pCi/L	0.15	0.40	B1	ST	09/30/2025 14:16	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	89.4	%						

* 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.

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-7R Dissolved
Customer Description:
Lab Number: 252402-004-01
Preparation: Dissolved
Date Collected: 09/08/2025 10:36 EDT
Date Received: 09/15/2025 12:40 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	09/22/2025 16:00	EPA 200.8-1994, Rev. 5.4
Arsenic	1.02	µg/L	1	0.10	0.03		GES	09/22/2025 16:00	EPA 200.8-1994, Rev. 5.4
Barium	60.2	µg/L	1	0.20	0.05		GES	09/22/2025 16:00	EPA 200.8-1994, Rev. 5.4
Beryllium	1.29	µg/L	1	0.05	0.02		GES	09/22/2025 16:00	EPA 200.8-1994, Rev. 5.4
Cadmium	0.346	µg/L	1	0.020	0.004		GES	09/22/2025 16:00	EPA 200.8-1994, Rev. 5.4
Chromium	0.27	µg/L	1	0.30	0.07	J1	GES	09/22/2025 16:00	EPA 200.8-1994, Rev. 5.4
Cobalt	15.5	µg/L	1	0.03	0.01		GES	09/22/2025 16:00	EPA 200.8-1994, Rev. 5.4
Iron	1.25	mg/L	1	0.020	0.003		GES	09/22/2025 16:00	EPA 200.8-1994, Rev. 5.4
Lead	0.23	µg/L	1	0.20	0.05		GES	09/22/2025 16:00	EPA 200.8-1994, Rev. 5.4
Lithium	0.0362	mg/L	1	0.00030	0.00007		GES	09/24/2025 10:17	EPA 200.8-1994, Rev. 5.4
Manganese	0.0389	mg/L	1	0.0010	0.0001		GES	09/22/2025 16:00	EPA 200.8-1994, Rev. 5.4
Mercury	18	ng/L	10	5	2		JLD	10/03/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/22/2025 16:00	EPA 200.8-1994, Rev. 5.4
Selenium	4.18	µg/L	1	0.50	0.04		GES	09/22/2025 16:00	EPA 200.8-1994, Rev. 5.4
Thallium	0.12	µg/L	1	0.20	0.02	J1	GES	09/22/2025 16:00	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-8
Customer Description:
Lab Number: 252402-005
Preparation:
Date Collected: 09/09/2025 10:45 EDT
Date Received: 09/15/2025 12:40 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	1.06	mg/L	1	0.050	0.006		GES	09/22/2025 16:06	EPA 200.8-1994, Rev. 5.4
Calcium	66.0	mg/L	1	0.10	0.02		GES	09/22/2025 16:06	EPA 200.8-1994, Rev. 5.4
Magnesium	4.72	mg/L	1	0.10	0.01		GES	09/22/2025 16:06	EPA 200.8-1994, Rev. 5.4
Potassium	1.71	mg/L	1	0.10	0.02		GES	09/22/2025 16:06	EPA 200.8-1994, Rev. 5.4
Sodium	8.08	mg/L	1	0.20	0.02		GES	09/22/2025 16:06	EPA 200.8-1994, Rev. 5.4
Strontium	0.398	mg/L	1	0.00200	0.00006		GES	09/22/2025 16:06	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: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-12
Lab Number: 252402-006
Date Collected: 09/08/2025 10:38 EDT

Customer Description:
Preparation:
Date Received: 09/15/2025 12:40 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	09/18/2025 10:49	EPA 200.8-1994, Rev. 5.4
Arsenic	0.09	µg/L	1	0.10	0.03	J1	GES	09/18/2025 10:49	EPA 200.8-1994, Rev. 5.4
Barium	17.2	µg/L	1	0.20	0.05		GES	09/18/2025 10:49	EPA 200.8-1994, Rev. 5.4
Beryllium	0.12	µg/L	1	0.05	0.02		GES	09/18/2025 10:49	EPA 200.8-1994, Rev. 5.4
Boron	0.081	mg/L	1	0.050	0.006		GES	09/18/2025 10:49	EPA 200.8-1994, Rev. 5.4
Cadmium	0.006	µg/L	1	0.020	0.004	J1	GES	09/18/2025 10:49	EPA 200.8-1994, Rev. 5.4
Calcium	0.18	mg/L	1	0.10	0.02		GES	09/18/2025 10:49	EPA 200.8-1994, Rev. 5.4
Chromium	0.81	µg/L	1	0.30	0.07		GES	09/18/2025 10:49	EPA 200.8-1994, Rev. 5.4
Cobalt	0.95	µg/L	1	0.03	0.01		GES	09/18/2025 10:49	EPA 200.8-1994, Rev. 5.4
Lead	0.10	µg/L	1	0.20	0.05	J1	GES	09/18/2025 10:49	EPA 200.8-1994, Rev. 5.4
Lithium	0.00589	mg/L	1	0.00030	0.00007		GES	09/18/2025 10:49	EPA 200.8-1994, Rev. 5.4
Magnesium	0.30	mg/L	1	0.10	0.01		GES	09/18/2025 10:49	EPA 200.8-1994, Rev. 5.4
Mercury	5	ng/L	10	5	2		JLD	10/03/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/18/2025 10:49	EPA 200.8-1994, Rev. 5.4
Potassium	0.16	mg/L	1	0.10	0.02		GES	09/18/2025 10:49	EPA 200.8-1994, Rev. 5.4
Selenium	0.20	µg/L	1	0.50	0.04	J1	GES	09/18/2025 10:49	EPA 200.8-1994, Rev. 5.4
Sodium	3.41	mg/L	1	0.20	0.02		GES	09/18/2025 10:49	EPA 200.8-1994, Rev. 5.4
Strontium	0.00169	mg/L	1	0.00200	0.00006	J1	GES	09/18/2025 10:49	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	GES	09/18/2025 10:49	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.13	pCi/L	0.16	0.15		TTP	09/24/2025 16:19	SW-846 9315-1986, Rev. 0
Carrier Recovery	112	%						
Radium-228	0.77	pCi/L	0.15	0.48	B1	ST	09/30/2025 14:16	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	80.2	%						

* 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.

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-12 Dissolved
Customer Description:
Lab Number: 252402-006-01
Preparation: Dissolved
Date Collected: 09/08/2025 10:38 EDT
Date Received: 09/15/2025 12:40 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	09/18/2025 10:54	EPA 200.8-1994, Rev. 5.4
Arsenic	0.05	µg/L	1	0.10	0.03	J1	GES	09/18/2025 10:54	EPA 200.8-1994, Rev. 5.4
Barium	17.2	µg/L	1	0.20	0.05		GES	09/18/2025 10:54	EPA 200.8-1994, Rev. 5.4
Beryllium	0.12	µg/L	1	0.05	0.02		GES	09/18/2025 10:54	EPA 200.8-1994, Rev. 5.4
Cadmium	0.006	µg/L	1	0.020	0.004	J1	GES	09/18/2025 10:54	EPA 200.8-1994, Rev. 5.4
Chromium	0.40	µg/L	1	0.30	0.07		GES	09/18/2025 10:54	EPA 200.8-1994, Rev. 5.4
Cobalt	1.10	µg/L	1	0.03	0.01		GES	09/18/2025 10:54	EPA 200.8-1994, Rev. 5.4
Iron	0.016	mg/L	1	0.020	0.003	J1	GES	09/18/2025 10:54	EPA 200.8-1994, Rev. 5.4
Lead	0.06	µg/L	1	0.20	0.05	J1	GES	09/18/2025 10:54	EPA 200.8-1994, Rev. 5.4
Lithium	0.00583	mg/L	1	0.00030	0.00007		GES	09/18/2025 10:54	EPA 200.8-1994, Rev. 5.4
Manganese	0.0027	mg/L	1	0.0010	0.0001		GES	09/18/2025 10:54	EPA 200.8-1994, Rev. 5.4
Mercury	3	ng/L	10	5	2	J1	JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/18/2025 10:54	EPA 200.8-1994, Rev. 5.4
Selenium	0.20	µg/L	1	0.50	0.04	J1	GES	09/18/2025 10:54	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	09/18/2025 10:54	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: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-13
Lab Number: 252402-007
Date Collected: 09/08/2025 09:32 EDT

Customer Description:
Preparation:
Date Received: 09/15/2025 12:40 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	09/18/2025 10:59	EPA 200.8-1994, Rev. 5.4
Arsenic	1.85	µg/L	1	0.10	0.03		GES	09/18/2025 10:59	EPA 200.8-1994, Rev. 5.4
Barium	36.8	µg/L	1	0.20	0.05		GES	09/18/2025 10:59	EPA 200.8-1994, Rev. 5.4
Beryllium	0.14	µg/L	1	0.05	0.02		GES	09/18/2025 10:59	EPA 200.8-1994, Rev. 5.4
Boron	0.058	mg/L	1	0.050	0.006		GES	09/18/2025 10:59	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	09/18/2025 10:59	EPA 200.8-1994, Rev. 5.4
Calcium	6.11	mg/L	1	0.10	0.02		GES	09/18/2025 10:59	EPA 200.8-1994, Rev. 5.4
Chromium	0.27	µg/L	1	0.30	0.07	J1	GES	09/18/2025 10:59	EPA 200.8-1994, Rev. 5.4
Cobalt	34.8	µg/L	1	0.03	0.01		GES	09/18/2025 10:59	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	09/18/2025 10:59	EPA 200.8-1994, Rev. 5.4
Lithium	0.140	mg/L	20	0.006	0.001		GES	09/22/2025 10:51	EPA 200.8-1994, Rev. 5.4
Magnesium	8.69	mg/L	1	0.10	0.01		GES	09/18/2025 10:59	EPA 200.8-1994, Rev. 5.4
Mercury	3	ng/L	10	5	2	J1	JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/18/2025 10:59	EPA 200.8-1994, Rev. 5.4
Potassium	4.33	mg/L	1	0.10	0.02		GES	09/18/2025 10:59	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	09/18/2025 10:59	EPA 200.8-1994, Rev. 5.4
Sodium	13.6	mg/L	1	0.20	0.02		GES	09/18/2025 10:59	EPA 200.8-1994, Rev. 5.4
Strontium	0.0320	mg/L	1	0.00200	0.00006		GES	09/18/2025 10:59	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	09/18/2025 10:59	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.60	pCi/L	0.21	0.19		TTP	09/24/2025 16:19	SW-846 9315-1986, Rev. 0
Carrier Recovery	93.1	%						
Radium-228	1.40	pCi/L	0.17	0.50	B1	ST	09/30/2025 14:16	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	86.6	%						

* 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.

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-13 Dissolved
Lab Number: 252402-007-01
Date Collected: 09/08/2025 09:32 EDT

Customer Description:
Preparation: Dissolved
Date Received: 09/15/2025 12:40 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	09/18/2025 11:05	EPA 200.8-1994, Rev. 5.4
Arsenic	1.53	µg/L	1	0.10	0.03		GES	09/18/2025 11:05	EPA 200.8-1994, Rev. 5.4
Barium	36.1	µg/L	1	0.20	0.05		GES	09/18/2025 11:05	EPA 200.8-1994, Rev. 5.4
Beryllium	0.13	µg/L	1	0.05	0.02		GES	09/18/2025 11:05	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	09/18/2025 11:05	EPA 200.8-1994, Rev. 5.4
Chromium	0.25	µg/L	1	0.30	0.07	J1	GES	09/18/2025 11:05	EPA 200.8-1994, Rev. 5.4
Cobalt	34.4	µg/L	1	0.03	0.01		GES	09/18/2025 11:05	EPA 200.8-1994, Rev. 5.4
Iron	28.3	mg/L	1	0.020	0.003		GES	09/18/2025 11:05	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	09/18/2025 11:05	EPA 200.8-1994, Rev. 5.4
Lithium	0.140	mg/L	20	0.006	0.001		GES	09/22/2025 10:57	EPA 200.8-1994, Rev. 5.4
Manganese	0.279	mg/L	1	0.0010	0.0001		GES	09/18/2025 11:05	EPA 200.8-1994, Rev. 5.4
Mercury	2	ng/L	10	5	2	J1	JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/18/2025 11:05	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	09/18/2025 11:05	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	09/18/2025 11:05	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-16
Lab Number: 252402-008
Date Collected: 09/10/2025 12:05 EDT

Customer Description:
Preparation:
Date Received: 09/15/2025 12:40 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.019	mg/L	1	0.050	0.006	J1	GES	09/18/2025 11:10	EPA 200.8-1994, Rev. 5.4
Calcium	1.02	mg/L	1	0.10	0.02		GES	09/18/2025 11:10	EPA 200.8-1994, Rev. 5.4
Magnesium	1.98	mg/L	1	0.10	0.01		GES	09/18/2025 11:10	EPA 200.8-1994, Rev. 5.4
Potassium	1.18	mg/L	1	0.10	0.02		GES	09/18/2025 11:10	EPA 200.8-1994, Rev. 5.4
Sodium	16.6	mg/L	1	0.20	0.02		GES	09/18/2025 11:10	EPA 200.8-1994, Rev. 5.4
Strontium	0.0127	mg/L	1	0.00200	0.00006		GES	09/18/2025 11:10	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: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-17
Lab Number: 252402-009
Date Collected: 09/09/2025 11:25 EDT

Customer Description:
Preparation:
Date Received: 09/15/2025 12:40 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	09/18/2025 11:16	EPA 200.8-1994, Rev. 5.4
Arsenic	0.12	µg/L	1	0.10	0.03		GES	09/18/2025 11:16	EPA 200.8-1994, Rev. 5.4
Barium	128	µg/L	1	0.20	0.05		GES	09/18/2025 11:16	EPA 200.8-1994, Rev. 5.4
Beryllium	0.37	µg/L	1	0.05	0.02		GES	09/18/2025 11:16	EPA 200.8-1994, Rev. 5.4
Boron	0.040	mg/L	1	0.050	0.006	J1	GES	09/18/2025 11:16	EPA 200.8-1994, Rev. 5.4
Cadmium	0.032	µg/L	1	0.020	0.004		GES	09/18/2025 11:16	EPA 200.8-1994, Rev. 5.4
Calcium	0.35	mg/L	1	0.10	0.02		GES	09/18/2025 11:16	EPA 200.8-1994, Rev. 5.4
Chromium	0.45	µg/L	1	0.30	0.07		GES	09/18/2025 11:16	EPA 200.8-1994, Rev. 5.4
Cobalt	5.68	µg/L	1	0.03	0.01		GES	09/18/2025 11:16	EPA 200.8-1994, Rev. 5.4
Lead	0.06	µg/L	1	0.20	0.05	J1	GES	09/18/2025 11:16	EPA 200.8-1994, Rev. 5.4
Lithium	0.0167	mg/L	1	0.00030	0.00007		GES	09/18/2025 11:16	EPA 200.8-1994, Rev. 5.4
Magnesium	1.98	mg/L	1	0.10	0.01		GES	09/18/2025 11:16	EPA 200.8-1994, Rev. 5.4
Mercury	123	ng/L	10	5	2		JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/18/2025 11:16	EPA 200.8-1994, Rev. 5.4
Potassium	0.49	mg/L	1	0.10	0.02		GES	09/18/2025 11:16	EPA 200.8-1994, Rev. 5.4
Selenium	0.35	µg/L	1	0.50	0.04	J1	GES	09/18/2025 11:16	EPA 200.8-1994, Rev. 5.4
Sodium	7.33	mg/L	1	0.20	0.02		GES	09/18/2025 11:16	EPA 200.8-1994, Rev. 5.4
Strontium	0.00784	mg/L	1	0.00200	0.00006		GES	09/18/2025 11:16	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	GES	09/18/2025 11:16	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.80	pCi/L	0.22	0.23		TTP	09/24/2025 16:19	SW-846 9315-1986, Rev. 0
Carrier Recovery	92.5	%						
Radium-228	1.79	pCi/L	0.16	0.44	B1	ST	09/30/2025 14:16	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	94.6	%						

* 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.

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-17 Dissolved
Customer Description:
Lab Number: 252402-009-01
Preparation: Dissolved
Date Collected: 09/09/2025 11:25 EDT
Date Received: 09/15/2025 12:40 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	09/18/2025 11:21	EPA 200.8-1994, Rev. 5.4
Arsenic	0.10	µg/L	1	0.10	0.03		GES	09/18/2025 11:21	EPA 200.8-1994, Rev. 5.4
Barium	136	µg/L	1	0.20	0.05		GES	09/18/2025 11:21	EPA 200.8-1994, Rev. 5.4
Beryllium	0.38	µg/L	1	0.05	0.02		GES	09/18/2025 11:21	EPA 200.8-1994, Rev. 5.4
Cadmium	0.034	µg/L	1	0.020	0.004		GES	09/18/2025 11:21	EPA 200.8-1994, Rev. 5.4
Chromium	0.36	µg/L	1	0.30	0.07		GES	09/18/2025 11:21	EPA 200.8-1994, Rev. 5.4
Cobalt	6.05	µg/L	1	0.03	0.01		GES	09/18/2025 11:21	EPA 200.8-1994, Rev. 5.4
Iron	0.014	mg/L	1	0.020	0.003	J1	GES	09/18/2025 11:21	EPA 200.8-1994, Rev. 5.4
Lead	0.06	µg/L	1	0.20	0.05	J1	GES	09/18/2025 11:21	EPA 200.8-1994, Rev. 5.4
Lithium	0.0170	mg/L	1	0.00030	0.00007		GES	09/18/2025 11:21	EPA 200.8-1994, Rev. 5.4
Manganese	0.0144	mg/L	1	0.0010	0.0001		GES	09/18/2025 11:21	EPA 200.8-1994, Rev. 5.4
Mercury	2	ng/L	10	5	2	J1	JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/18/2025 11:21	EPA 200.8-1994, Rev. 5.4
Selenium	0.34	µg/L	1	0.50	0.04	J1	GES	09/18/2025 11:21	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	GES	09/18/2025 11:21	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: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-18
Lab Number: 252402-010
Date Collected: 09/10/2025 09:42 EDT

Customer Description:
Preparation:
Date Received: 09/15/2025 12:40 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	09/18/2025 11:27	EPA 200.8-1994, Rev. 5.4
Arsenic	2.87	µg/L	1	0.10	0.03		GES	09/18/2025 11:27	EPA 200.8-1994, Rev. 5.4
Barium	87.7	µg/L	1	0.20	0.05		GES	09/18/2025 11:27	EPA 200.8-1994, Rev. 5.4
Beryllium	0.11	µg/L	1	0.05	0.02		GES	09/18/2025 11:27	EPA 200.8-1994, Rev. 5.4
Boron	0.015	mg/L	1	0.050	0.006	J1	GES	09/18/2025 11:27	EPA 200.8-1994, Rev. 5.4
Cadmium	0.012	µg/L	1	0.020	0.004	J1	GES	09/18/2025 11:27	EPA 200.8-1994, Rev. 5.4
Calcium	0.23	mg/L	1	0.10	0.02		GES	09/18/2025 11:27	EPA 200.8-1994, Rev. 5.4
Chromium	3.43	µg/L	1	0.30	0.07		GES	09/18/2025 11:27	EPA 200.8-1994, Rev. 5.4
Cobalt	1.04	µg/L	1	0.03	0.01		GES	09/18/2025 11:27	EPA 200.8-1994, Rev. 5.4
Lead	1.47	µg/L	1	0.20	0.05		GES	09/18/2025 11:27	EPA 200.8-1994, Rev. 5.4
Lithium	0.0151	mg/L	1	0.00030	0.00007		GES	09/18/2025 11:27	EPA 200.8-1994, Rev. 5.4
Magnesium	0.41	mg/L	1	0.10	0.01		GES	09/18/2025 11:27	EPA 200.8-1994, Rev. 5.4
Mercury	32	ng/L	10	5	2		JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	0.12	µg/L	1	0.50	0.05	J1	GES	09/18/2025 11:27	EPA 200.8-1994, Rev. 5.4
Potassium	0.83	mg/L	1	0.10	0.02		GES	09/18/2025 11:27	EPA 200.8-1994, Rev. 5.4
Selenium	0.87	µg/L	1	0.50	0.04		GES	09/18/2025 11:27	EPA 200.8-1994, Rev. 5.4
Sodium	4.96	mg/L	1	0.20	0.02		GES	09/18/2025 11:27	EPA 200.8-1994, Rev. 5.4
Strontium	0.00645	mg/L	1	0.00200	0.00006		GES	09/18/2025 11:27	EPA 200.8-1994, Rev. 5.4
Thallium	0.06	µg/L	1	0.20	0.02	J1	GES	09/18/2025 11:27	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.06	pCi/L	0.13	0.11	R2	TTP	09/24/2025 16:19	SW-846 9315-1986, Rev. 0
Carrier Recovery	137	%						
Radium-228	1.24	pCi/L	0.17	0.53	B1	ST	09/30/2025 14:16	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	90.2	%						

* 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.

AMERICAN ELECTRIC POWER

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Job ID: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-18 Dissolved
Customer Description: PK_AD18
Lab Number: 252402-010-01
Preparation: Dissolved
Date Collected: 09/10/2025 09:42 EDT
Date Received: 09/15/2025 12:40 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	09/18/2025 11:32	EPA 200.8-1994, Rev. 5.4
Arsenic	0.05	µg/L	1	0.10	0.03	J1	GES	09/18/2025 11:32	EPA 200.8-1994, Rev. 5.4
Barium	76.9	µg/L	1	0.20	0.05		GES	09/18/2025 11:32	EPA 200.8-1994, Rev. 5.4
Beryllium	0.07	µg/L	1	0.05	0.02		GES	09/18/2025 11:32	EPA 200.8-1994, Rev. 5.4
Cadmium	0.010	µg/L	1	0.020	0.004	J1	GES	09/18/2025 11:32	EPA 200.8-1994, Rev. 5.4
Chromium	0.24	µg/L	1	0.30	0.07	J1	GES	09/18/2025 11:32	EPA 200.8-1994, Rev. 5.4
Cobalt	0.89	µg/L	1	0.03	0.01		GES	09/18/2025 11:32	EPA 200.8-1994, Rev. 5.4
Iron	0.010	mg/L	1	0.020	0.003	J1	GES	09/18/2025 11:32	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	09/18/2025 11:32	EPA 200.8-1994, Rev. 5.4
Lithium	0.0159	mg/L	1	0.00030	0.00007		GES	09/18/2025 11:32	EPA 200.8-1994, Rev. 5.4
Manganese	0.0029	mg/L	1	0.0010	0.0001		GES	09/18/2025 11:32	EPA 200.8-1994, Rev. 5.4
Mercury	3	ng/L	10	5	2	J1	JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/18/2025 11:32	EPA 200.8-1994, Rev. 5.4
Selenium	0.07	µg/L	1	0.50	0.04	J1	GES	09/18/2025 11:32	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	09/18/2025 11:32	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: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-22
Lab Number: 252402-011
Date Collected: 09/08/2025 11:20 EDT

Customer Description:
Preparation:
Date Received: 09/15/2025 12:40 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	09/18/2025 12:43	EPA 200.8-1994, Rev. 5.4
Arsenic	0.80	µg/L	1	0.10	0.03		GES	09/18/2025 12:43	EPA 200.8-1994, Rev. 5.4
Barium	17.3	µg/L	1	0.20	0.05		GES	09/18/2025 12:43	EPA 200.8-1994, Rev. 5.4
Beryllium	1.81	µg/L	1	0.05	0.02		GES	09/18/2025 12:43	EPA 200.8-1994, Rev. 5.4
Boron	0.023	mg/L	1	0.050	0.006	J1	GES	09/18/2025 12:43	EPA 200.8-1994, Rev. 5.4
Cadmium	0.465	µg/L	1	0.020	0.004		GES	09/18/2025 12:43	EPA 200.8-1994, Rev. 5.4
Calcium	9.16	mg/L	1	0.10	0.02		GES	09/18/2025 12:43	EPA 200.8-1994, Rev. 5.4
Chromium	0.54	µg/L	1	0.30	0.07		GES	09/18/2025 12:43	EPA 200.8-1994, Rev. 5.4
Cobalt	54.0	µg/L	1	0.03	0.01		GES	09/18/2025 12:43	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	GES	09/18/2025 12:43	EPA 200.8-1994, Rev. 5.4
Lithium	0.101	mg/L	20	0.006	0.001		GES	09/22/2025 11:16	EPA 200.8-1994, Rev. 5.4
Magnesium	13.1	mg/L	1	0.10	0.01		GES	09/18/2025 12:43	EPA 200.8-1994, Rev. 5.4
Mercury	100	ng/L	100	50	20		JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/18/2025 12:43	EPA 200.8-1994, Rev. 5.4
Potassium	2.99	mg/L	1	0.10	0.02		GES	09/18/2025 12:43	EPA 200.8-1994, Rev. 5.4
Selenium	2.61	µg/L	1	0.50	0.04		GES	09/18/2025 12:43	EPA 200.8-1994, Rev. 5.4
Sodium	84.4	mg/L	1	0.20	0.02		GES	09/18/2025 12:43	EPA 200.8-1994, Rev. 5.4
Strontium	0.0761	mg/L	1	0.00200	0.00006		GES	09/18/2025 12:43	EPA 200.8-1994, Rev. 5.4
Thallium	0.13	µg/L	1	0.20	0.02	J1	GES	09/18/2025 12:43	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.04	pCi/L	0.16	0.17		TTP	09/24/2025 16:19	SW-846 9315-1986, Rev. 0
Carrier Recovery	93.2	%						
Radium-228	1.56	pCi/L	0.20	0.62	B1	ST	09/30/2025 14:16	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	86.2	%						

* 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.

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-22 Dissolved
Lab Number: 252402-011-01
Date Collected: 09/08/2025 11:20 EDT

Customer Description:
Preparation: Dissolved
Date Received: 09/15/2025 12:40 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	09/18/2025 12:49	EPA 200.8-1994, Rev. 5.4
Arsenic	0.82	µg/L	1	0.10	0.03		GES	09/18/2025 12:49	EPA 200.8-1994, Rev. 5.4
Barium	17.7	µg/L	1	0.20	0.05		GES	09/18/2025 12:49	EPA 200.8-1994, Rev. 5.4
Beryllium	1.69	µg/L	1	0.05	0.02		GES	09/18/2025 12:49	EPA 200.8-1994, Rev. 5.4
Cadmium	0.450	µg/L	1	0.020	0.004		GES	09/18/2025 12:49	EPA 200.8-1994, Rev. 5.4
Chromium	0.53	µg/L	1	0.30	0.07		GES	09/18/2025 12:49	EPA 200.8-1994, Rev. 5.4
Cobalt	58.7	µg/L	1	0.03	0.01		GES	09/18/2025 12:49	EPA 200.8-1994, Rev. 5.4
Iron	26.6	mg/L	1	0.020	0.003		GES	09/18/2025 12:49	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	GES	09/18/2025 12:49	EPA 200.8-1994, Rev. 5.4
Lithium	0.109	mg/L	20	0.006	0.001		GES	09/22/2025 11:22	EPA 200.8-1994, Rev. 5.4
Manganese	0.290	mg/L	1	0.0010	0.0001		GES	09/18/2025 12:49	EPA 200.8-1994, Rev. 5.4
Mercury	23	ng/L	10	5	2		JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/18/2025 12:49	EPA 200.8-1994, Rev. 5.4
Selenium	2.51	µg/L	1	0.50	0.04		GES	09/18/2025 12:49	EPA 200.8-1994, Rev. 5.4
Thallium	0.13	µg/L	1	0.20	0.02	J1	GES	09/18/2025 12:49	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-23
Lab Number: 252402-012
Date Collected: 09/10/2025 12:23 EDT

Customer Description:
Preparation:
Date Received: 09/15/2025 12:40 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.525	mg/L	1	0.050	0.006		GES	09/18/2025 12:54	EPA 200.8-1994, Rev. 5.4
Calcium	0.19	mg/L	1	0.10	0.02		GES	09/18/2025 12:54	EPA 200.8-1994, Rev. 5.4
Magnesium	0.17	mg/L	1	0.10	0.01		GES	09/18/2025 12:54	EPA 200.8-1994, Rev. 5.4
Potassium	2.96	mg/L	1	0.10	0.02		GES	09/18/2025 12:54	EPA 200.8-1994, Rev. 5.4
Sodium	5.90	mg/L	1	0.20	0.02		GES	09/18/2025 12:54	EPA 200.8-1994, Rev. 5.4
Strontium	0.00190	mg/L	1	0.00200	0.00006	J1	GES	09/18/2025 12:54	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: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-27
Customer Description:
Lab Number: 252402-013
Preparation:
Date Collected: 09/10/2025 09:25 EDT
Date Received: 09/15/2025 12:40 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.137	mg/L	1	0.050	0.006		GES	09/18/2025 13:00	EPA 200.8-1994, Rev. 5.4
Calcium	3.96	mg/L	1	0.10	0.02		GES	09/18/2025 13:00	EPA 200.8-1994, Rev. 5.4
Magnesium	5.09	mg/L	1	0.10	0.01		GES	09/18/2025 13:00	EPA 200.8-1994, Rev. 5.4
Potassium	2.06	mg/L	1	0.10	0.02		GES	09/18/2025 13:00	EPA 200.8-1994, Rev. 5.4
Sodium	11.9	mg/L	1	0.20	0.02		GES	09/18/2025 13:00	EPA 200.8-1994, Rev. 5.4
Strontium	0.0598	mg/L	1	0.00200	0.00006		GES	09/18/2025 13:00	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: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-28
Lab Number: 252402-014
Date Collected: 09/09/2025 10:29 EDT

Customer Description:
Preparation:
Date Received: 09/15/2025 12:40 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.14	µg/L	1	0.10	0.02		GES	09/18/2025 13:05	EPA 200.8-1994, Rev. 5.4
Arsenic	0.23	µg/L	1	0.10	0.03		GES	09/18/2025 13:05	EPA 200.8-1994, Rev. 5.4
Barium	125	µg/L	1	0.20	0.05		GES	09/18/2025 13:05	EPA 200.8-1994, Rev. 5.4
Beryllium	0.53	µg/L	1	0.05	0.02		GES	09/18/2025 13:05	EPA 200.8-1994, Rev. 5.4
Boron	0.327	mg/L	1	0.050	0.006		GES	09/18/2025 13:05	EPA 200.8-1994, Rev. 5.4
Cadmium	0.051	µg/L	1	0.020	0.004		GES	09/18/2025 13:05	EPA 200.8-1994, Rev. 5.4
Calcium	1.54	mg/L	1	0.10	0.02		GES	09/18/2025 13:05	EPA 200.8-1994, Rev. 5.4
Chromium	0.62	µg/L	1	0.30	0.07		GES	09/18/2025 13:05	EPA 200.8-1994, Rev. 5.4
Cobalt	13.7	µg/L	1	0.03	0.01		GES	09/18/2025 13:05	EPA 200.8-1994, Rev. 5.4
Lead	0.20	µg/L	1	0.20	0.05		GES	09/18/2025 13:05	EPA 200.8-1994, Rev. 5.4
Lithium	0.0289	mg/L	1	0.00030	0.00007		GES	09/18/2025 13:05	EPA 200.8-1994, Rev. 5.4
Magnesium	3.06	mg/L	1	0.10	0.01		GES	09/18/2025 13:05	EPA 200.8-1994, Rev. 5.4
Mercury	21	ng/L	10	5	2		JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/18/2025 13:05	EPA 200.8-1994, Rev. 5.4
Potassium	0.82	mg/L	1	0.10	0.02		GES	09/18/2025 13:05	EPA 200.8-1994, Rev. 5.4
Selenium	0.25	µg/L	1	0.50	0.04	J1	GES	09/18/2025 13:05	EPA 200.8-1994, Rev. 5.4
Sodium	5.93	mg/L	1	0.20	0.02		GES	09/18/2025 13:05	EPA 200.8-1994, Rev. 5.4
Strontium	0.0213	mg/L	1	0.00200	0.00006		GES	09/18/2025 13:05	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	09/18/2025 13:05	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.26	pCi/L	0.18	0.17		TTP	09/24/2025 16:19	SW-846 9315-1986, Rev. 0
Carrier Recovery	94.7	%						
Radium-228	1.94	pCi/L	0.19	0.56	B1	ST	09/30/2025 14:16	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	86.9	%						

* 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.

AMERICAN ELECTRIC POWER

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Job ID: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-28 Dissolved
Customer Description: PK_AD28
Lab Number: 252402-014-01
Preparation: Dissolved
Date Collected: 09/09/2025 10:29 EDT
Date Received: 09/15/2025 12:40 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	09/18/2025 13:11	EPA 200.8-1994, Rev. 5.4
Arsenic	0.08	µg/L	1	0.10	0.03	J1	GES	09/18/2025 13:11	EPA 200.8-1994, Rev. 5.4
Barium	125	µg/L	1	0.20	0.05		GES	09/18/2025 13:11	EPA 200.8-1994, Rev. 5.4
Beryllium	0.54	µg/L	1	0.05	0.02		GES	09/18/2025 13:11	EPA 200.8-1994, Rev. 5.4
Cadmium	0.057	µg/L	1	0.020	0.004		GES	09/18/2025 13:11	EPA 200.8-1994, Rev. 5.4
Chromium	0.38	µg/L	1	0.30	0.07		GES	09/18/2025 13:11	EPA 200.8-1994, Rev. 5.4
Cobalt	13.9	µg/L	1	0.03	0.01		GES	09/18/2025 13:11	EPA 200.8-1994, Rev. 5.4
Iron	0.045	mg/L	1	0.020	0.003		GES	09/18/2025 13:11	EPA 200.8-1994, Rev. 5.4
Lead	0.12	µg/L	1	0.20	0.05	J1	GES	09/18/2025 13:11	EPA 200.8-1994, Rev. 5.4
Lithium	0.0290	mg/L	1	0.00030	0.00007		GES	09/18/2025 13:11	EPA 200.8-1994, Rev. 5.4
Manganese	0.0545	mg/L	1	0.0010	0.0001		GES	09/18/2025 13:11	EPA 200.8-1994, Rev. 5.4
Mercury	8	ng/L	10	5	2		JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/18/2025 13:11	EPA 200.8-1994, Rev. 5.4
Selenium	0.20	µg/L	1	0.50	0.04	J1	GES	09/18/2025 13:11	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	09/18/2025 13:11	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: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-30
Lab Number: 252402-015
Date Collected: 09/09/2025 09:44 EDT

Customer Description:
Preparation:
Date Received: 09/15/2025 12:40 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	09/18/2025 13:16	EPA 200.8-1994, Rev. 5.4
Arsenic	0.13	µg/L	1	0.10	0.03		GES	09/18/2025 13:16	EPA 200.8-1994, Rev. 5.4
Barium	51.8	µg/L	1	0.20	0.05		GES	09/18/2025 13:16	EPA 200.8-1994, Rev. 5.4
Beryllium	0.07	µg/L	1	0.05	0.02		GES	09/18/2025 13:16	EPA 200.8-1994, Rev. 5.4
Boron	1.18	mg/L	1	0.050	0.006		GES	09/18/2025 13:16	EPA 200.8-1994, Rev. 5.4
Cadmium	0.006	µg/L	1	0.020	0.004	J1	GES	09/18/2025 13:16	EPA 200.8-1994, Rev. 5.4
Calcium	0.50	mg/L	1	0.10	0.02		GES	09/18/2025 13:16	EPA 200.8-1994, Rev. 5.4
Chromium	0.52	µg/L	1	0.30	0.07		GES	09/18/2025 13:16	EPA 200.8-1994, Rev. 5.4
Cobalt	3.15	µg/L	1	0.03	0.01		GES	09/18/2025 13:16	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	09/18/2025 13:16	EPA 200.8-1994, Rev. 5.4
Lithium	0.0117	mg/L	1	0.00030	0.00007		GES	09/18/2025 13:16	EPA 200.8-1994, Rev. 5.4
Magnesium	1.62	mg/L	1	0.10	0.01		GES	09/18/2025 13:16	EPA 200.8-1994, Rev. 5.4
Mercury	16	ng/L	20	10	4		JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/18/2025 13:16	EPA 200.8-1994, Rev. 5.4
Potassium	0.76	mg/L	1	0.10	0.02		GES	09/18/2025 13:16	EPA 200.8-1994, Rev. 5.4
Selenium	0.26	µg/L	1	0.50	0.04	J1	GES	09/18/2025 13:16	EPA 200.8-1994, Rev. 5.4
Sodium	51.0	mg/L	1	0.20	0.02	M1	GES	09/18/2025 13:16	EPA 200.8-1994, Rev. 5.4
Strontium	0.00695	mg/L	1	0.00200	0.00006		GES	09/18/2025 13:16	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	09/18/2025 13:16	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	17.30	pCi/L	0.88	0.30		TTP	09/24/2025 16:19	SW-846 9315-1986, Rev. 0
Carrier Recovery	75.0	%						
Radium-228	1.04	pCi/L	0.14	0.41	B1	ST	09/30/2025 14:16	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	90.9	%						

* 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.

Dolan Chemical Laboratory
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Water Analysis Report

Job ID: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-30 Dissolved
Customer Description: PK_AD30
Lab Number: 252402-015-01
Preparation: Dissolved
Date Collected: 09/09/2025 09:44 EDT
Date Received: 09/15/2025 12:40 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	09/18/2025 13:32	EPA 200.8-1994, Rev. 5.4
Arsenic	0.09	µg/L	1	0.10	0.03	J1	GES	09/18/2025 13:32	EPA 200.8-1994, Rev. 5.4
Barium	45.0	µg/L	1	0.20	0.05		GES	09/18/2025 13:32	EPA 200.8-1994, Rev. 5.4
Beryllium	0.07	µg/L	1	0.05	0.02		GES	09/18/2025 13:32	EPA 200.8-1994, Rev. 5.4
Cadmium	0.006	µg/L	1	0.020	0.004	J1	GES	09/18/2025 13:32	EPA 200.8-1994, Rev. 5.4
Chromium	0.55	µg/L	1	0.30	0.07		GES	09/18/2025 13:32	EPA 200.8-1994, Rev. 5.4
Cobalt	3.02	µg/L	1	0.03	0.01		GES	09/18/2025 13:32	EPA 200.8-1994, Rev. 5.4
Iron	0.087	mg/L	1	0.020	0.003		GES	09/18/2025 13:32	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	09/18/2025 13:32	EPA 200.8-1994, Rev. 5.4
Lithium	0.0115	mg/L	1	0.00030	0.00007		GES	09/18/2025 13:32	EPA 200.8-1994, Rev. 5.4
Manganese	0.0140	mg/L	1	0.0010	0.0001		GES	09/18/2025 13:32	EPA 200.8-1994, Rev. 5.4
Mercury	3	ng/L	10	5	2	J1	JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/18/2025 13:32	EPA 200.8-1994, Rev. 5.4
Selenium	0.24	µg/L	1	0.50	0.04	J1	GES	09/18/2025 13:32	EPA 200.8-1994, Rev. 5.4
Thallium	0.07	µg/L	1	0.20	0.02	J1	GES	09/18/2025 13:32	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: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-31
Lab Number: 252402-016
Date Collected: 09/08/2025 12:31 EDT

Customer Description:
Preparation:
Date Received: 09/15/2025 12:40 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.10	µg/L	1	0.10	0.02		GES	09/22/2025 17:55	EPA 200.8-1994, Rev. 5.4
Arsenic	1.26	µg/L	1	0.10	0.03		GES	09/22/2025 17:55	EPA 200.8-1994, Rev. 5.4
Barium	36.5	µg/L	1	0.20	0.05		GES	09/22/2025 17:55	EPA 200.8-1994, Rev. 5.4
Beryllium	0.75	µg/L	1	0.05	0.02	M1	GES	09/29/2025 14:01	EPA 200.8-1994, Rev. 5.4
Boron	0.023	mg/L	1	0.050	0.006	J1	GES	09/22/2025 17:55	EPA 200.8-1994, Rev. 5.4
Cadmium	0.054	µg/L	1	0.020	0.004		GES	09/22/2025 17:55	EPA 200.8-1994, Rev. 5.4
Calcium	2.09	mg/L	1	0.10	0.02		GES	09/22/2025 17:55	EPA 200.8-1994, Rev. 5.4
Chromium	2.24	µg/L	1	0.30	0.07		GES	09/22/2025 17:55	EPA 200.8-1994, Rev. 5.4
Cobalt	8.06	µg/L	1	0.03	0.01		GES	09/22/2025 17:55	EPA 200.8-1994, Rev. 5.4
Lead	1.07	µg/L	1	0.20	0.05		GES	09/22/2025 17:55	EPA 200.8-1994, Rev. 5.4
Lithium	0.0894	mg/L	10	0.0030	0.0007		GES	09/22/2025 22:17	EPA 200.8-1994, Rev. 5.4
Magnesium	3.03	mg/L	1	0.10	0.01		GES	09/22/2025 17:55	EPA 200.8-1994, Rev. 5.4
Mercury	610	ng/L	100	50	20		JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	0.06	µg/L	1	0.50	0.05	J1	GES	09/22/2025 17:55	EPA 200.8-1994, Rev. 5.4
Potassium	1.62	mg/L	1	0.10	0.02		GES	09/22/2025 17:55	EPA 200.8-1994, Rev. 5.4
Selenium	0.85	µg/L	1	0.50	0.04		GES	09/22/2025 17:55	EPA 200.8-1994, Rev. 5.4
Sodium	26.4	mg/L	1	0.20	0.02	M1	GES	09/22/2025 17:55	EPA 200.8-1994, Rev. 5.4
Strontium	0.0311	mg/L	1	0.00200	0.00006		GES	09/22/2025 17:55	EPA 200.8-1994, Rev. 5.4
Thallium	0.10	µg/L	1	0.20	0.02	J1	GES	09/22/2025 17:55	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	2.91	pCi/L	0.26	0.11		TTP	09/24/2025 16:19	SW-846 9315-1986, Rev. 0
Carrier Recovery	111	%						
Radium-228	1.71	pCi/L	0.17	0.51	L1, P2	TTP	09/29/2025 16:28	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	86.8	%						

* 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.

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-31 Dissolved
Customer Description: PK_AD31
Lab Number: 252402-016-01
Preparation: Dissolved
Date Collected: 09/08/2025 12:31 EDT
Date Received: 09/15/2025 12:40 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	09/22/2025 18:12	EPA 200.8-1994, Rev. 5.4
Arsenic	0.19	µg/L	1	0.10	0.03		GES	09/22/2025 18:12	EPA 200.8-1994, Rev. 5.4
Barium	28.3	µg/L	1	0.20	0.05		GES	09/22/2025 18:12	EPA 200.8-1994, Rev. 5.4
Beryllium	0.74	µg/L	1	0.05	0.02	M1	GES	09/29/2025 15:12	EPA 200.8-1994, Rev. 5.4
Cadmium	0.054	µg/L	1	0.020	0.004		GES	09/22/2025 18:12	EPA 200.8-1994, Rev. 5.4
Chromium	0.41	µg/L	1	0.30	0.07		GES	09/22/2025 18:12	EPA 200.8-1994, Rev. 5.4
Cobalt	7.98	µg/L	1	0.03	0.01		GES	09/22/2025 18:12	EPA 200.8-1994, Rev. 5.4
Iron	0.151	mg/L	1	0.020	0.003		GES	09/22/2025 18:12	EPA 200.8-1994, Rev. 5.4
Lead	0.30	µg/L	1	0.20	0.05		GES	09/22/2025 18:12	EPA 200.8-1994, Rev. 5.4
Lithium	0.0882	mg/L	10	0.0030	0.0007		GES	09/22/2025 22:34	EPA 200.8-1994, Rev. 5.4
Manganese	0.0215	mg/L	1	0.0010	0.0001		GES	09/22/2025 18:12	EPA 200.8-1994, Rev. 5.4
Mercury	3	ng/L	10	5	2	J1	JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	0.06	µg/L	1	0.50	0.05	J1	GES	09/22/2025 18:12	EPA 200.8-1994, Rev. 5.4
Selenium	0.50	µg/L	1	0.50	0.04		GES	09/22/2025 18:12	EPA 200.8-1994, Rev. 5.4
Thallium	0.12	µg/L	1	0.20	0.02	J1	GES	09/22/2025 18:12	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: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-32
Lab Number: 252402-017
Date Collected: 09/08/2025 11:36 EDT

Customer Description:
Preparation:
Date Received: 09/15/2025 12:40 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.11	µg/L	1	0.10	0.02		GES	09/22/2025 18:28	EPA 200.8-1994, Rev. 5.4
Arsenic	9.77	µg/L	1	0.10	0.03		GES	09/22/2025 18:28	EPA 200.8-1994, Rev. 5.4
Barium	46.0	µg/L	1	0.20	0.05		GES	09/22/2025 18:28	EPA 200.8-1994, Rev. 5.4
Beryllium	0.07	µg/L	1	0.05	0.02		GES	09/29/2025 15:28	EPA 200.8-1994, Rev. 5.4
Boron	0.081	mg/L	1	0.050	0.006		GES	09/22/2025 18:28	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	09/22/2025 18:28	EPA 200.8-1994, Rev. 5.4
Calcium	6.03	mg/L	1	0.10	0.02		GES	09/22/2025 18:28	EPA 200.8-1994, Rev. 5.4
Chromium	0.39	µg/L	1	0.30	0.07		GES	09/22/2025 18:28	EPA 200.8-1994, Rev. 5.4
Cobalt	14.4	µg/L	1	0.03	0.01		GES	09/22/2025 18:28	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	GES	09/22/2025 18:28	EPA 200.8-1994, Rev. 5.4
Lithium	0.0629	mg/L	1	0.00030	0.00007		GES	09/22/2025 18:28	EPA 200.8-1994, Rev. 5.4
Magnesium	6.50	mg/L	1	0.10	0.01		GES	09/22/2025 18:28	EPA 200.8-1994, Rev. 5.4
Mercury	2480	ng/L	100	50	20		JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	0.09	µg/L	1	0.50	0.05	J1	GES	09/22/2025 18:28	EPA 200.8-1994, Rev. 5.4
Potassium	3.13	mg/L	1	0.10	0.02		GES	09/22/2025 18:28	EPA 200.8-1994, Rev. 5.4
Selenium	0.17	µg/L	1	0.50	0.04	J1	GES	09/22/2025 18:28	EPA 200.8-1994, Rev. 5.4
Sodium	14.7	mg/L	1	0.20	0.02		GES	09/22/2025 18:28	EPA 200.8-1994, Rev. 5.4
Strontium	0.0720	mg/L	1	0.00200	0.00006		GES	09/22/2025 18:28	EPA 200.8-1994, Rev. 5.4
Thallium	0.08	µg/L	1	0.20	0.02	J1	GES	09/22/2025 18:28	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.42	pCi/L	0.10	0.17		ST	10/10/2025 11:15	SW-846 9315-1986, Rev. 0
Carrier Recovery	81.8	%						
Radium-228	1.02	pCi/L	0.16	0.51	L1, P2	TTP	09/29/2025 16:28	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.

AMERICAN ELECTRIC POWER

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Job ID: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-32 Dissolved
Customer Description: PK_AD32
Lab Number: 252402-017-01
Preparation: Dissolved
Date Collected: 09/08/2025 11:36 EDT
Date Received: 09/15/2025 12:40 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	09/22/2025 18:33	EPA 200.8-1994, Rev. 5.4
Arsenic	3.99	µg/L	1	0.10	0.03		GES	09/22/2025 18:33	EPA 200.8-1994, Rev. 5.4
Barium	44.4	µg/L	1	0.20	0.05		GES	09/22/2025 18:33	EPA 200.8-1994, Rev. 5.4
Beryllium	0.04	µg/L	1	0.05	0.02	J1	GES	09/29/2025 15:33	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	09/22/2025 18:33	EPA 200.8-1994, Rev. 5.4
Chromium	0.60	µg/L	1	0.30	0.07		GES	09/22/2025 18:33	EPA 200.8-1994, Rev. 5.4
Cobalt	14.7	µg/L	1	0.03	0.01		GES	09/22/2025 18:33	EPA 200.8-1994, Rev. 5.4
Iron	19.0	mg/L	1	0.020	0.003		GES	09/22/2025 18:33	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	09/22/2025 18:33	EPA 200.8-1994, Rev. 5.4
Lithium	0.0646	mg/L	1	0.00030	0.00007		GES	09/22/2025 18:33	EPA 200.8-1994, Rev. 5.4
Manganese	0.131	mg/L	1	0.0010	0.0001		GES	09/22/2025 18:33	EPA 200.8-1994, Rev. 5.4
Mercury	4	ng/L	10	5	2	J1	JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/22/2025 18:33	EPA 200.8-1994, Rev. 5.4
Selenium	0.05	µg/L	1	0.50	0.04	J1	GES	09/22/2025 18:33	EPA 200.8-1994, Rev. 5.4
Thallium	0.05	µg/L	1	0.20	0.02	J1	GES	09/22/2025 18:33	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: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-33
Lab Number: 252402-018
Date Collected: 09/08/2025 12:23 EDT

Customer Description:
Preparation:
Date Received: 09/15/2025 12:40 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	09/22/2025 18:39	EPA 200.8-1994, Rev. 5.4
Arsenic	0.93	µg/L	1	0.10	0.03		GES	09/22/2025 18:39	EPA 200.8-1994, Rev. 5.4
Barium	40.9	µg/L	1	0.20	0.05		GES	09/22/2025 18:39	EPA 200.8-1994, Rev. 5.4
Beryllium	1.23	µg/L	1	0.05	0.02		GES	09/29/2025 15:39	EPA 200.8-1994, Rev. 5.4
Boron	0.135	mg/L	1	0.050	0.006		GES	09/22/2025 18:39	EPA 200.8-1994, Rev. 5.4
Cadmium	0.052	µg/L	1	0.020	0.004		GES	09/22/2025 18:39	EPA 200.8-1994, Rev. 5.4
Calcium	1.69	mg/L	1	0.10	0.02		GES	09/22/2025 18:39	EPA 200.8-1994, Rev. 5.4
Chromium	0.28	µg/L	1	0.30	0.07	J1	GES	09/22/2025 18:39	EPA 200.8-1994, Rev. 5.4
Cobalt	10.0	µg/L	1	0.03	0.01		GES	09/22/2025 18:39	EPA 200.8-1994, Rev. 5.4
Lead	0.31	µg/L	1	0.20	0.05		GES	09/22/2025 18:39	EPA 200.8-1994, Rev. 5.4
Lithium	0.0212	mg/L	1	0.00030	0.00007		GES	09/22/2025 18:39	EPA 200.8-1994, Rev. 5.4
Magnesium	3.86	mg/L	1	0.10	0.01		GES	09/22/2025 18:39	EPA 200.8-1994, Rev. 5.4
Mercury	6000	ng/L	1000	500	200		JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/22/2025 18:39	EPA 200.8-1994, Rev. 5.4
Potassium	0.28	mg/L	1	0.10	0.02		GES	09/22/2025 18:39	EPA 200.8-1994, Rev. 5.4
Selenium	3.79	µg/L	1	0.50	0.04		GES	09/22/2025 18:39	EPA 200.8-1994, Rev. 5.4
Sodium	16.1	mg/L	1	0.20	0.02		GES	09/22/2025 18:39	EPA 200.8-1994, Rev. 5.4
Strontium	0.0297	mg/L	1	0.00200	0.00006		GES	09/22/2025 18:39	EPA 200.8-1994, Rev. 5.4
Thallium	0.05	µg/L	1	0.20	0.02	J1	GES	09/22/2025 18:39	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.42	pCi/L	0.10	0.19		ST	10/10/2025 11:15	SW-846 9315-1986, Rev. 0
Carrier Recovery	93.6	%						
Radium-228	1.37	pCi/L	0.15	0.44	L1, P2	TTP	09/29/2025 16:28	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	88.5	%						

* 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.

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-33 Dissolved
Customer Description: PK_AD33
Lab Number: 252402-018-01
Preparation: Dissolved
Date Collected: 09/08/2025 12:23 EDT
Date Received: 09/15/2025 12:40 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	09/22/2025 18:44	EPA 200.8-1994, Rev. 5.4
Arsenic	0.93	µg/L	1	0.10	0.03		GES	09/22/2025 18:44	EPA 200.8-1994, Rev. 5.4
Barium	41.0	µg/L	1	0.20	0.05		GES	09/22/2025 18:44	EPA 200.8-1994, Rev. 5.4
Beryllium	1.22	µg/L	1	0.05	0.02		GES	09/29/2025 15:44	EPA 200.8-1994, Rev. 5.4
Cadmium	0.055	µg/L	1	0.020	0.004		GES	09/22/2025 18:44	EPA 200.8-1994, Rev. 5.4
Chromium	0.39	µg/L	1	0.30	0.07		GES	09/22/2025 18:44	EPA 200.8-1994, Rev. 5.4
Cobalt	10.4	µg/L	1	0.03	0.01		GES	09/22/2025 18:44	EPA 200.8-1994, Rev. 5.4
Iron	0.012	mg/L	1	0.020	0.003	J1	GES	09/22/2025 18:44	EPA 200.8-1994, Rev. 5.4
Lead	0.32	µg/L	1	0.20	0.05		GES	09/22/2025 18:44	EPA 200.8-1994, Rev. 5.4
Lithium	0.0212	mg/L	1	0.00030	0.00007		GES	09/22/2025 18:44	EPA 200.8-1994, Rev. 5.4
Magnesium	3.98	mg/L	1	0.10	0.01		GES	09/22/2025 18:44	EPA 200.8-1994, Rev. 5.4
Manganese	0.0063	mg/L	1	0.0010	0.0001		GES	09/22/2025 18:44	EPA 200.8-1994, Rev. 5.4
Mercury	210	ng/L	50	30	10		JLD	10/07/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/22/2025 18:44	EPA 200.8-1994, Rev. 5.4
Selenium	4.00	µg/L	1	0.50	0.04		GES	09/22/2025 18:44	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	09/22/2025 18:44	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-34
Customer Description:
Lab Number: 252402-019
Preparation:
Date Collected: 09/09/2025 09:14 EDT
Date Received: 09/15/2025 12:40 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.063	mg/L	1	0.050	0.006		GES	09/22/2025 18:50	EPA 200.8-1994, Rev. 5.4
Calcium	39.2	mg/L	1	0.10	0.02		GES	09/22/2025 18:50	EPA 200.8-1994, Rev. 5.4
Magnesium	34.2	mg/L	1	0.10	0.01		GES	09/22/2025 18:50	EPA 200.8-1994, Rev. 5.4
Potassium	7.19	mg/L	1	0.10	0.02		GES	09/22/2025 18:50	EPA 200.8-1994, Rev. 5.4
Sodium	14.6	mg/L	1	0.20	0.02		GES	09/22/2025 18:50	EPA 200.8-1994, Rev. 5.4
Strontium	0.407	mg/L	1	0.00200	0.00006		GES	09/22/2025 18:50	EPA 200.8-1994, Rev. 5.4

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: AD-36
Lab Number: 252402-020
Date Collected: 09/09/2025 09:57 EDT

Customer Description:
Preparation:
Date Received: 09/15/2025 12:40 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.099	mg/L	1	0.050	0.006		GES	09/22/2025 18:55	EPA 200.8-1994, Rev. 5.4
Calcium	1.43	mg/L	1	0.10	0.02		GES	09/22/2025 18:55	EPA 200.8-1994, Rev. 5.4
Magnesium	2.80	mg/L	1	0.10	0.01		GES	09/22/2025 18:55	EPA 200.8-1994, Rev. 5.4
Potassium	1.93	mg/L	1	0.10	0.02		GES	09/22/2025 18:55	EPA 200.8-1994, Rev. 5.4
Sodium	7.26	mg/L	1	0.20	0.02		GES	09/22/2025 18:55	EPA 200.8-1994, Rev. 5.4
Strontium	0.0147	mg/L	1	0.00200	0.00006		GES	09/22/2025 18:55	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: Duplicate
Lab Number: 252402-021
Date Collected: 09/08/2025 13:00 EDT

Customer Description:
Preparation:
Date Received: 09/15/2025 12:40 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	09/22/2025 20:06	EPA 200.8-1994, Rev. 5.4
Arsenic	1.85	µg/L	1	0.10	0.03		GES	09/22/2025 20:06	EPA 200.8-1994, Rev. 5.4
Barium	35.4	µg/L	1	0.20	0.05		GES	09/22/2025 20:06	EPA 200.8-1994, Rev. 5.4
Beryllium	0.15	µg/L	1	0.05	0.02		GES	09/29/2025 15:50	EPA 200.8-1994, Rev. 5.4
Boron	0.048	mg/L	1	0.050	0.006	J1	GES	09/22/2025 20:06	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	09/22/2025 20:06	EPA 200.8-1994, Rev. 5.4
Calcium	5.68	mg/L	1	0.10	0.02		GES	09/22/2025 20:06	EPA 200.8-1994, Rev. 5.4
Chromium	0.30	µg/L	1	0.30	0.07		GES	09/22/2025 20:06	EPA 200.8-1994, Rev. 5.4
Cobalt	33.7	µg/L	1	0.03	0.01		GES	09/22/2025 20:06	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	09/22/2025 20:06	EPA 200.8-1994, Rev. 5.4
Lithium	0.101	mg/L	1	0.00030	0.00007		GES	09/24/2025 10:23	EPA 200.8-1994, Rev. 5.4
Magnesium	8.29	mg/L	1	0.10	0.01		GES	09/22/2025 20:06	EPA 200.8-1994, Rev. 5.4
Mercury	3	ng/L	10	5	2	J1	JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/22/2025 20:06	EPA 200.8-1994, Rev. 5.4
Potassium	4.16	mg/L	1	0.10	0.02		GES	09/22/2025 20:06	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	09/22/2025 20:06	EPA 200.8-1994, Rev. 5.4
Sodium	13.5	mg/L	1	0.20	0.02		GES	09/22/2025 20:06	EPA 200.8-1994, Rev. 5.4
Strontium	0.0307	mg/L	1	0.00200	0.00006		GES	09/22/2025 20:06	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	09/22/2025 20:06	EPA 200.8-1994, Rev. 5.4

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Job ID: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: Duplicate Dissolved
Customer Description: PK_DUP
Lab Number: 252402-021-01
Preparation: Dissolved
Date Collected: 09/08/2025 13:00 EDT
Date Received: 09/15/2025 12:40 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	09/22/2025 20:12	EPA 200.8-1994, Rev. 5.4
Arsenic	1.55	µg/L	1	0.10	0.03		GES	09/22/2025 20:12	EPA 200.8-1994, Rev. 5.4
Barium	35.1	µg/L	1	0.20	0.05		GES	09/22/2025 20:12	EPA 200.8-1994, Rev. 5.4
Beryllium	0.13	µg/L	1	0.05	0.02		GES	09/29/2025 15:55	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	09/22/2025 20:12	EPA 200.8-1994, Rev. 5.4
Chromium	0.32	µg/L	1	0.30	0.07		GES	09/22/2025 20:12	EPA 200.8-1994, Rev. 5.4
Cobalt	34.2	µg/L	1	0.03	0.01		GES	09/22/2025 20:12	EPA 200.8-1994, Rev. 5.4
Iron	28.3	mg/L	1	0.020	0.003		GES	09/22/2025 20:12	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	09/22/2025 20:12	EPA 200.8-1994, Rev. 5.4
Lithium	0.101	mg/L	1	0.00030	0.00007		GES	09/24/2025 10:28	EPA 200.8-1994, Rev. 5.4
Manganese	0.276	mg/L	1	0.0010	0.0001		GES	09/22/2025 20:12	EPA 200.8-1994, Rev. 5.4
Mercury	3	ng/L	10	5	2	J1	JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/22/2025 20:12	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	09/22/2025 20:12	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	09/22/2025 20:12	EPA 200.8-1994, Rev. 5.4

Dolan Chemical Laboratory
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Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: Equipment Blank
Customer Description:
Lab Number: 252402-022
Preparation:
Date Collected: 09/09/2025 10:20 EDT
Date Received: 09/15/2025 12:40 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	09/22/2025 20:17	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	09/22/2025 20:17	EPA 200.8-1994, Rev. 5.4
Barium	<0.05	µg/L	1	0.20	0.05	U1	GES	09/22/2025 20:17	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.02	µg/L	1	0.05	0.02	U1	GES	09/29/2025 16:01	EPA 200.8-1994, Rev. 5.4
Boron	<0.006	mg/L	1	0.050	0.006	U1	GES	09/22/2025 20:17	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	09/22/2025 20:17	EPA 200.8-1994, Rev. 5.4
Calcium	<0.02	mg/L	1	0.10	0.02	U1	GES	09/22/2025 20:17	EPA 200.8-1994, Rev. 5.4
Chromium	0.39	µg/L	1	0.30	0.07		GES	09/22/2025 20:17	EPA 200.8-1994, Rev. 5.4
Cobalt	0.01	µg/L	1	0.03	0.01	J1	GES	09/22/2025 20:17	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	09/22/2025 20:17	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00007	mg/L	1	0.00030	0.00007	U1	GES	09/22/2025 20:17	EPA 200.8-1994, Rev. 5.4
Magnesium	<0.01	mg/L	1	0.10	0.01	U1	GES	09/22/2025 20:17	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	10	5	2	U1	JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/22/2025 20:17	EPA 200.8-1994, Rev. 5.4
Potassium	<0.02	mg/L	1	0.10	0.02	U1	GES	09/22/2025 20:17	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	09/22/2025 20:17	EPA 200.8-1994, Rev. 5.4
Sodium	<0.02	mg/L	1	0.20	0.02	U1	GES	09/22/2025 20:17	EPA 200.8-1994, Rev. 5.4
Strontium	<0.00006	mg/L	1	0.00200	0.00006	U1	GES	09/22/2025 20:17	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	09/22/2025 20:17	EPA 200.8-1994, Rev. 5.4

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

Customer Sample ID: Field Blank
Customer Description:
Lab Number: 252402-023
Preparation:
Date Collected: 09/09/2025 10:21 EDT
Date Received: 09/15/2025 12:40 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.05	µg/L	1	0.10	0.02	J1	GES	09/22/2025 20:23	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	09/22/2025 20:23	EPA 200.8-1994, Rev. 5.4
Barium	<0.05	µg/L	1	0.20	0.05	U1	GES	09/22/2025 20:23	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.02	µg/L	1	0.05	0.02	U1	GES	09/29/2025 16:06	EPA 200.8-1994, Rev. 5.4
Boron	<0.006	mg/L	1	0.050	0.006	U1	GES	09/22/2025 20:23	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	09/22/2025 20:23	EPA 200.8-1994, Rev. 5.4
Calcium	0.03	mg/L	1	0.10	0.02	J1	GES	09/22/2025 20:23	EPA 200.8-1994, Rev. 5.4
Chromium	0.25	µg/L	1	0.30	0.07	J1	GES	09/22/2025 20:23	EPA 200.8-1994, Rev. 5.4
Cobalt	<0.01	µg/L	1	0.03	0.01	U1	GES	09/22/2025 20:23	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	09/22/2025 20:23	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00007	mg/L	1	0.00030	0.00007	U1	GES	09/22/2025 20:23	EPA 200.8-1994, Rev. 5.4
Magnesium	<0.01	mg/L	1	0.10	0.01	U1	GES	09/22/2025 20:23	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	10	5	2	U1	JLD	10/06/2025 00:00	EPA 1631E-2002
Molybdenum	<0.05	µg/L	1	0.50	0.05	U1	GES	09/22/2025 20:23	EPA 200.8-1994, Rev. 5.4
Potassium	<0.02	mg/L	1	0.10	0.02	U1	GES	09/22/2025 20:23	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	09/22/2025 20:23	EPA 200.8-1994, Rev. 5.4
Sodium	<0.02	mg/L	1	0.20	0.02	U1	GES	09/22/2025 20:23	EPA 200.8-1994, Rev. 5.4
Strontium	<0.00006	mg/L	1	0.00200	0.00006	U1	GES	09/22/2025 20:23	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	09/22/2025 20:23	EPA 200.8-1994, Rev. 5.4

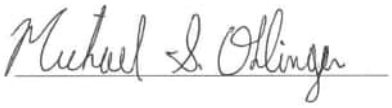
Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252402 **Customer: Pirkey Power Station** **Date Reported: 10/15/2025**

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).
J1 - Concentration estimated. Analyte was detected between the method detection limit and the reporting limit.
B1 - Analyte detected in method blank (MB) at or above the method criteria.
R2 - Carrier recovery was outside acceptance limits.
M1 - The associated matrix spike (MS) or matrix spike duplicate (MSD) recovery was outside acceptance limits.
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)
Dave Conover (614-836-4219)

Project Name: Pirkey PP CCR
Contact Name: Pryce Warren
Contact Phone: 325-310-6668
Sampler(s): Matt Hamilton Kenny McDonald

Analysis Turnaround Time (in Calendar Days)
◉ Routine (28 days for Monitoring Wells)

Site Contact:

Date:

For Lab Use Only:
COC/Order #: 252402 1/2

	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 Sb, As, B, Ba, Be, Ca Cd, Cr, Co, K, Li, Mg, Mo, Na, Pb, Se, Sr, Tl	Field-filter 250 mL bottle, then pH<2, HNO_3 Dissolved Sb, As, Ba, Be, Cd, Cr, Co, Fe, Li, Mn, Mo, Pb, Se, Tl	Three (six every 10th*) 1 L bottles, pH<2, HNO3 Ra-226, Ra-228	250 mL Glass bottle, HCL**, pH<2 Mercury	250 mL Glass bottle, HCL**, pH<2 Dissolved Mercury	250 mL bottle, pH<2, HNO_3 B, Ca, K, Mg, Na, Sr		Sample Specific Notes
1	AD-2	9/9/2025	1031	G	GW	7		X	X	X	X	X			
2	AD-3	9/9/2025	1121	G	GW	7		X	X	X	X	X			
3	AD-4	9/10/2025	1003	G	GW	7		X	X	X	X	X			
4	AD-7R	9/8/2025	936	G	GW	7		X	X	X	X	X			
5	AD-8	9/9/2025	945	G	GW	1							X		
6	AD-12	9/8/2025	938	G	GW	7		X	X	X	X	X			
7	AD-13	9/8/2025	932	G	GW	10		X	X	X	X	X			
8	AD-16	9/10/2025	1105	G	GW	1							X		
9	AD-17	9/9/2025	1025	G	GW	7		X	X	X	X	X			
10	AD-18	9/10/2025	842	G	GW	7		X	X	X	X	X			
11	AD-22	9/8/2025	1020	G	GW	7		X	X	X	X	X			
12	AD-23	9/10/2025	1123	G	GW	1							X		
	Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____; F= filter in field							4	F4	4	2	F2	4		

* *Six 1L Bottles must be collected for Radium for every 10th sample.*

Special Instructions/QC Requirements & Comments:

TG-32 needed

Relinquished by: Matt Hamilton	Company: Eagle	Date/Time: 9-11-25 1400	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: Aeung Award	Date/Time: 9-15-25 1240

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)
Dave Conover (614-836-4219)

Project Name: Pirkey PP CCR
Contact Name: Pryce Warren
Contact Phone: 325-310-6668
Sampler(s): Matt Hamilton Kenny McDonald

Analysis Turnaround Time (in Calendar Days)
◉ Routine (28 days for Monitoring Wells)

Site Contact: | Date:

For Lab Use Only:
COC/Order #: 252402 2/2

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 Sb, As, B, Ba, Be, Ca Cd, Cr, Co, K, Li, Mg, Mo, Na, Pb, Se, Sr, Tl	Field-filter 250 mL bottle, then pH<2, HNO_3 Dissolved Sb, As, Ba, Be, Cd, Cr, Co, Fe, Li, Mn, Mo, Pb, Se, Tl	Three (six every 10th*) 1 L bottles, pH<2, HNO3 Ra-226, Ra-228	250 mL Glass bottle, HCL**, pH<2 Mercury	250 mL Glass bottle, HCL**, pH<2 Dissolved Mercury	250 mL bottle, pH<2, HNO_3 B, Ca, K, Mg, Na, Sr		Sample Specific Notes
AD-27	9/10/2025	825	G	GW	1							X		
AD-28	9/9/2025	929	G	GW	7		X	X	X	X	X			
AD-30	9/9/2025	844	G	GW	7		X	X	X	X	X			
AD-31	9/8/2025	1131	G	GW	7		X	X	X	X	X			
AD-32	9/8/2025	1036	G	GW	7		X	X	X	X	X			
AD-33	9/8/2025	1123	G	GW	7		X	X	X	X	X			
AD-34	9/9/2025	814	G	GW	1							X		
AD-36	9/9/2025	857	G	GW	1							X		
Duplicate	9/8/2025	832	G	GW	4		X	X		X	X			
Equipment Blank	9/9/2025	920	G	GW	2		X			X				
Field Blank	9/9/2025	921	G	GW	2		X			X				
Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other _____; F= filter in field							4	F4	4	2	F2	4		

* *Six 1L Bottles must be collected for Radium for every 10th sample.*

Special Instructions/QC Requirements & Comments:

TG-32 needed

Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
[signature]	Eagle	9-11-25 1400		
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Date/Time: 9.15.25 1240

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 Pinney **Total # of Containers RECEIVED in Job:** 115

Opened By KSH/AMR

Date/Time 09/15/25 1246

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: AMR 9.15.25

***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 *AD-13, AD-16, Duplicate time diff on label vs. COC

Were correct containers used? (Y) / N Comments _____

Was the customer contacted? If Yes: Person Contacted: Pryce Warren AMR 9.15.25

Lab ID# 252402 Initial & Date & Time : AMR 9.15.25 1454

Logged by AMR Comments: Per email AD-13 and duplicate bottle times used and AD-16 COC time used.

(Record Test Count on back of form)

Total # of Containers LISTED on COC: 115

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 "LE" if needs Lab filtered, Temperature or Preservative deviation, Preserved upon arrival , etc.

JOB # : ~~252401~~ 252402 AMR 9/16/25 **Initial/ Date:** AMR 9.15.25 **Peer Review Initial/ Date:** EGM 9/16/25

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
21	~~252402~~ ~~252401~~ AMR 9.16.25 -001		21
15	-001-01		15
21	-002		21
15	-002-01		15
21	-003		21
15	-003-01		15
21	-004		21
15	-004-01		15
6	-005		6
21	-006		21
15	-006-01		15
21	-007		21
15	-007-01		15
6	-008		6
21	-009		21
15	-009-01		15
21	-010		21
15	-010-01		15
21	-011		21
15	-011-01		15
6	-012		6
6	-013		6
21	-014		21
15	-014-01		15

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 # : ~~252401~~ 252402 **Initial/ Date:** AMP 9.15.25 **Peer Review Initial/ Date:** EGM 9/16/25

AMP 9.16.25

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
	252402 AMP 9.16.25		
21	~~252401~~ -015		21
15	-015-01		15
21	-016		21
15	-016-01		15
21	-017		21
15	-017-01		15
21	-018		21
15	-018-01		15
6	-019		6
6	-020		6
19	-021		19
15	-021-01		15
19	-022		19
19	-023		19

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 Technican, Principal	10/14/2025
Name (printed)	Signature	Official Title	Date

Radium Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey Power Plant

Reviewer Name: Tamisha Palmer

LRC Date: 10/14/2025

Laboratory Job Number: 252402

Prep Batch Number(s): PB25092402

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?	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	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: Pirkey Power Plant

Reviewer Name: Tamisha Palmer

LRC Date: 10/14/2025

Laboratory Job Number: 252402

Prep Batch Number(s): PB25092402

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: Pirkey Power Plant

Reviewer Name: Tamisha Palmer

LRC Date: 10/14/2025

Laboratory Job Number: 252402

Prep Batch Number(s): PB25092402

Exception Report No.	Description
ER1	The RPD was outside criteria. The sample and the Duplicate both were below the detection 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.

Tamisha Palmer	Tami L. Palmer	Chemical Technician Principal	10/14/2025
Name (printed)	Signature	Official Title	Date

Radium Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey Power Plant

Reviewer Name: Tamisha Palmer

LRC Date: 10/14/2025

Laboratory Job Number: 252401, 252402

Prep Batch Number(s): PB25091701

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?	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?	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: Pirkey Power Plant

Reviewer Name: Tamisha Palmer

LRC Date: 10/14/2025

Laboratory Job Number: 252401, 252402

Prep Batch Number(s): PB25091701

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: Pirkey Power Plant

Reviewer Name: Tamisha Palmer

LRC Date: 10/14/2025

Laboratory Job Number: 252401, 252402

Prep Batch Number(s): PB25091701

Exception Report No.	Description
ER1	RPD for MS/MSD was outside of the criteria of 25%

[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: Pirkey

Reviewer Name: Kelsey Huff

LRC Date: 10/09/2025

Laboratory Job Number: 252402

Prep Batch Number(s): PB25100305, PB25100306, PB25100307, 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: Pirkey

Reviewer Name: Kelsey Huff

LRC Date: 10/09/2025

Laboratory Job Number: 252402

Prep Batch Number(s): PB25100305, PB25100306, PB25100307, 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: Pirkey

Reviewer Name: Kelsey Huff

LRC Date: 10/09/2025

Laboratory Job Number: 252402

Prep Batch Number(s): PB25100305, PB25100306, PB25100307, 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 2025.10.02 12:53:38 -04'00'	Chemist	10-02-2025
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: Pirkey CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 10-02-2025

Laboratory Job Number: 252402

Prep Batch Number(s): PB25091702, PB25091704, PB25091801, QC2509106, QC2509157, QC2509160, QC2509171

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?	No	ER3
	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	

ICP-MS Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 10-02-2025

Laboratory Job Number: 252402

Prep Batch Number(s): PB25091702, PB25091704, PB25091801, QC2509106, QC2509157, QC2509160, QC2509171

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: Pirkey CCR

Reviewer Name: Elizabeth Hoitink

LRC Date: 10-02-2025

Laboratory Job Number: 252402

Prep Batch Number(s): PB25091702, PB25091704, PB25091801, QC2509106, QC2509157, QC2509160, QC2509171

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.
ER3	252402-015 matrix spike failed Na. 252402-016 matrix spike failed Be, Na. 252402-016-01 matrix spike failed Be.

[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: 252381 **Customer: Pirkey Power Station** **Date Reported: 10/14/2025**

Customer Sample ID: AD-31
Lab Number: 252381-001
Date Collected: 09/08/2025 12:31 EDT
Customer Description:
Preparation:
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.22	mg/L	2	0.10	0.02		JCF	09/19/2025 18:43	EPA 300.1 -1997, Rev. 1.0
Chloride	14.0	mg/L	2	0.06	0.02		JCF	09/19/2025 18:43	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.10	mg/L	2	0.06	0.02		JCF	09/19/2025 18:43	EPA 300.1 -1997, Rev. 1.0
Sulfate	69.5	mg/L	2	0.60	0.04		JCF	09/19/2025 18:43	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	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	260	mg/L	1	50	20		BLB	09/15/2025 07:06	SM 2540C-2020

Customer Sample ID: AD-30
Lab Number: 252381-002
Date Collected: 09/09/2025 09:44 EDT
Customer Description:
Preparation:
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.23	mg/L	2	0.10	0.02		JCF	09/19/2025 19:06	EPA 300.1 -1997, Rev. 1.0
Chloride	16.8	mg/L	2	0.06	0.02		JCF	09/19/2025 19:06	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.04	mg/L	2	0.06	0.02	J1	JCF	09/19/2025 19:06	EPA 300.1 -1997, Rev. 1.0
Sulfate	91.1	mg/L	2	0.60	0.04		JCF	09/19/2025 19:06	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	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	210	mg/L	1	50	20		BLB	09/15/2025 07:06	SM 2540C-2020

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252381 **Customer: Pirkey Power Station** **Date Reported: 10/14/2025**

Customer Sample ID: AD-28
Lab Number: 252381-003
Date Collected: 09/09/2025 10:29 EDT
Customer Description:
Preparation:
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.09	mg/L	2	0.10	0.02	J1	JCF	09/19/2025 19:29	EPA 300.1 -1997, Rev. 1.0
Chloride	4.79	mg/L	2	0.06	0.02		JCF	09/19/2025 19:29	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.62	mg/L	2	0.06	0.02		JCF	09/19/2025 19:29	EPA 300.1 -1997, Rev. 1.0
Sulfate	22.7	mg/L	2	0.60	0.04		JCF	09/19/2025 19:29	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	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	100	mg/L	1	50	20		BLB	09/15/2025 07:06	SM 2540C-2020

Customer Sample ID: AD-27
Lab Number: 252381-004
Date Collected: 09/10/2025 09:25 EDT
Customer Description:
Preparation:
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.36	mg/L	2	0.10	0.02		JCF	09/19/2025 19:51	EPA 300.1 -1997, Rev. 1.0
Chloride	14.0	mg/L	2	0.06	0.02		JCF	09/19/2025 19:51	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.24	mg/L	2	0.06	0.02		JCF	09/19/2025 19:51	EPA 300.1 -1997, Rev. 1.0
Sulfate	60.5	mg/L	2	0.60	0.04		JCF	09/19/2025 19:51	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	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	210	mg/L	1	50	20		BLB	09/15/2025 06:39	SM 2540C-2020

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252381 **Customer: Pirkey Power Station** **Date Reported: 10/14/2025**

Customer Sample ID: AD-32
Customer Description:
Lab Number: 252381-005
Preparation:
Date Collected: 09/08/2025 11:36 EDT
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.29	mg/L	2	0.10	0.02		JCF	09/19/2025 20:37	EPA 300.1 -1997, Rev. 1.0
Chloride	10.1	mg/L	2	0.06	0.02		JCF	09/19/2025 20:37	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.34	mg/L	2	0.06	0.02		JCF	09/19/2025 20:37	EPA 300.1 -1997, Rev. 1.0
Sulfate	53.0	mg/L	2	0.60	0.04		JCF	09/19/2025 20:37	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	7	mg/L	1	20	5	J8, J1	MGK	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	170	mg/L	1	50	20		BLB	09/15/2025 06:39	SM 2540C-2020

Customer Sample ID: AD-33
Customer Description:
Lab Number: 252381-006
Preparation:
Date Collected: 09/08/2025 12:23 EDT
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.72	mg/L	2	0.10	0.02		JCF	09/19/2025 21:00	EPA 300.1 -1997, Rev. 1.0
Chloride	11.3	mg/L	2	0.06	0.02		JCF	09/19/2025 21:00	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.31	mg/L	2	0.06	0.02		JCF	09/19/2025 21:00	EPA 300.1 -1997, Rev. 1.0
Sulfate	49.1	mg/L	2	0.60	0.04		JCF	09/19/2025 21:00	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	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	170	mg/L	1	50	20		BLB	09/15/2025 06:45	SM 2540C-2020

AMERICAN ELECTRIC POWER

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Job ID: 252381 **Customer: Pirkey Power Station** **Date Reported: 10/14/2025**

Customer Sample ID: AD-34
Lab Number: 252381-007
Date Collected: 09/09/2025 09:14 EDT
Customer Description:
Preparation:
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.16	mg/L	5	0.25	0.05	J1	JCF	09/19/2025 22:53	EPA 300.1 -1997, Rev. 1.0
Chloride	7.54	mg/L	5	0.15	0.05		JCF	09/19/2025 22:53	EPA 300.1 -1997, Rev. 1.0
Fluoride	1.17	mg/L	5	0.15	0.05		JCF	09/19/2025 22:53	EPA 300.1 -1997, Rev. 1.0
Sulfate	955	mg/L	50	15	1		JCF	09/19/2025 22:31	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	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	1670	mg/L	1	50	20		BLB	09/15/2025 07:06	SM 2540C-2020

Customer Sample ID: AD-36
Lab Number: 252381-008
Date Collected: 09/08/2025 09:57 EDT
Customer Description:
Preparation:
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.92	mg/L	2	0.10	0.02		JCF	09/19/2025 21:22	EPA 300.1 -1997, Rev. 1.0
Chloride	18.8	mg/L	2	0.06	0.02		JCF	09/19/2025 21:22	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.12	mg/L	2	0.06	0.02		JCF	09/19/2025 21:22	EPA 300.1 -1997, Rev. 1.0
Sulfate	4.99	mg/L	2	0.60	0.04		JCF	09/19/2025 21:22	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	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	60	mg/L	1	50	20		BLB	09/15/2025 06:45	SM 2540C-2020

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252381 **Customer: Pirkey Power Station** **Date Reported: 10/14/2025**

Customer Sample ID: Duplicate
Lab Number: 252381-009
Date Collected: 09/09/2025 13:00 EDT

Customer Description:
Preparation:
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

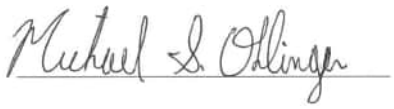
Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.28	mg/L	2	0.10	0.02		JCF	09/19/2025 21:45	EPA 300.1 -1997, Rev. 1.0
Chloride	24.8	mg/L	2	0.06	0.02		JCF	09/19/2025 21:45	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.37	mg/L	2	0.06	0.02		JCF	09/19/2025 21:45	EPA 300.1 -1997, Rev. 1.0
Sulfate	41.5	mg/L	2	0.60	0.04		JCF	09/19/2025 21:45	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	51	mg/L	1	20	5		MGK	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	220	mg/L	1	50	20		BLB	09/15/2025 07:12	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

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.
J8 - Concentration estimated. Per the method, this Low Alkalinity sample (< 20 mg/L) was titrated to a fixed pH 4.4.

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)
Dave Conover (614-836-4219)

Project Name: Pirkey PP CCR
Contact Name: Pryce Warren
Contact Phone: 325-310-6668
Sampler(s): Matt Hamilton Kenny McDonald

Analysis Turnaround Time (in Calendar Days)
◉ Routine (28 days for Monitoring Wells)

Site Contact: | Date:

For Lab Use Only:
COC/Order #: 252381

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) initials	Mercury (250 mL bottle, pH<2, HNO3)	Dissolved Mercury (Field-filter 250 mL bottle, then pH<2, HNO3)	F, Cl, SO4, Br, TDS, Alkalinity (1 L bottle, Cool, 0-6C)	Ra-226, Ra-228 (Three (six every 10th*) 1 L bottles, pH<2, HNO3)				Sample Specific Notes:
AD-27	9/10/2025	825	G	GW	1				X					
AD-28	9/9/2025	929	G	GW	1				X					
AD-30	9/9/2025	844	G	GW	1				X					
AD-31	9/8/2025	1131	G	GW	1				X					
AD-32	9/8/2025	1036	G	GW	1				X					
AD-33	9/8/2025	1123	G	GW	1				X					
AD-34	9/9/2025	814	G	GW	1				X					
AD-36	9/9/2025	857	G	GW	1				X					
Duplicate	9/8/2025	832	G	GW	1				X					Collection time 1200
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:

TG-32 needed

Relinquished by: Matt Hamilton	Company: Eagle	Date/Time: 9-11-25 1400	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Date/Time: 9/12/25 0940

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 Pirkey **Total # of Containers RECEIVED in Job:** 9

Opened By EGM

Date/Time 9/12/25 0940

Were all required temperatures, per BN-water-900, T≤6°C *w/o sample freezing*? (Y) / N or N/A

Initial/Date: EGM 9/12/25 or (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 9/12/25

***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 The Duplicate sample was listed w/ the incorrect time on the COC.

Were samples labeled properly? (Y) / N Comments

Were correct containers used? (Y) / N Comments /NA

Was the customer contacted? If Yes: Person Contacted: Pryce Warren

Lab ID# 252381 Initial & Date & Time : EGM 9/12/25 1004

Logged by EGM Comments: Duplicate bottle was labeled w/ a different time than COC.

(Record Test Count on back of form)

Total # of Containers LISTED on COC: 9

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 # : 252381 **Initial/ Date:** EGW 9/12/25 **Peer Review Initial/ Date:** AMR 9.12.25

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
9	252381 -001		9
	-002		
	-003		
	-004		
	-005		
	-006		
	-007		
	-008		
	-009	Incorrect time	

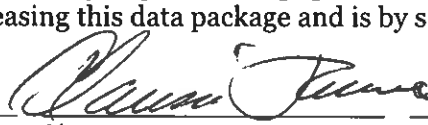
Municipal Solid Waste Laboratory Review Checklist

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	10/3/2025
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: Pirkey PP CCR

Reviewer Name: Clarissa Jameson

LRC Date: 10/3/2025

Laboratory Job Number: 252381

Prep Batch Number(s): QC2509119

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: Pirkey PP CCR

Reviewer Name: Clarissa Jameson

LRC Date: 10/3/2025

Laboratory Job Number: 252381

Prep Batch Number(s): QC2509119

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: Pirkey PP CCR

Reviewer Name: Clarissa Jameson

LRC Date: 10/3/2025

Laboratory Job Number: 252381

Prep Batch Number(s): QC2509119

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	09/22/2025
Name (printed)	Signature	Official Title	Date

TDS Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey Power Station

Reviewer Name: Sandra Williams

LRC Date: 09/22/2025

Laboratory Job Number: 252381

Prep Batch Number(s): QC2509103

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: Pirkey Power Station

Reviewer Name: Sandra Williams

LRC Date: 09/22/2025

Laboratory Job Number: 252381

Prep Batch Number(s): QC2509103

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	

TDS 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: Pirkey Power Station

Reviewer Name: Sandra Williams

LRC Date: 09/22/2025

Laboratory Job Number: 252381

Prep Batch Number(s): QC2509103

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

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.

Michael Ohlinger	Michael Ohlinger	Chemist	09/17/25
Name (printed)	Signature	Official Title	Date

Alkalinity Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey Plant

Reviewer Name: Michael Ohlinger

LRC Date: 09/17/25

Laboratory Job Number: 252380, 252381, 252382

Prep Batch Number(s): QC2509094

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	
	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: Pirkey Plant

Reviewer Name: Michael Ohlinger

LRC Date: 09/17/25

Laboratory Job Number: 252380, 252381, 252382

Prep Batch Number(s): QC2509094

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: Pirkey Plant

Reviewer Name: Michael Ohlinger

LRC Date: 09/17/25

Laboratory Job Number: 252380, 252381, 252382

Prep Batch Number(s): QC2509094

Exception Report No.	Description
ER1	CCB acceptance criteria is CCB<0.5*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."

Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252382 **Customer: Pirkey Power Station** **Date Reported: 10/14/2025**

Customer Sample ID: AD-12
Customer Description:
Lab Number: 252382-001
Preparation:
Date Collected: 09/08/2025 10:38 EDT
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.25	mg/L	2	0.10	0.02		CRJ	09/30/2025 16:57	EPA 300.1 -1997, Rev. 1.0
Chloride	4.61	mg/L	2	0.06	0.02		CRJ	09/30/2025 16:57	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.07	mg/L	2	0.06	0.02		CRJ	09/30/2025 16:57	EPA 300.1 -1997, Rev. 1.0
Sulfate	3.11	mg/L	2	0.60	0.04		CRJ	09/30/2025 16:57	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	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	70	mg/L	1	50	20		BLB	09/15/2025 07:12	SM 2540C-2020

Customer Sample ID: AD-8
Customer Description:
Lab Number: 252382-002
Preparation:
Date Collected: 09/09/2025 10:45 EDT
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.74	mg/L	2	0.10	0.02		CRJ	09/30/2025 17:43	EPA 300.1 -1997, Rev. 1.0
Chloride	5.85	mg/L	2	0.06	0.02		CRJ	09/30/2025 17:43	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.36	mg/L	2	0.06	0.02		CRJ	09/30/2025 17:43	EPA 300.1 -1997, Rev. 1.0
Sulfate	103	mg/L	10	3.0	0.2		CRJ	09/30/2025 17:20	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	90	mg/L	1	20	5		MGK	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	280	mg/L	1	50	20		BLB	09/15/2025 07:12	SM 2540C-2020

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Job ID: 252382 **Customer: Pirkey Power Station** **Date Reported: 10/14/2025**

Customer Sample ID: AD-7R
Lab Number: 252382-003
Date Collected: 09/08/2025 10:36 EDT
Customer Description:
Preparation:
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	1.36	mg/L	2	0.10	0.02		CRJ	09/30/2025 18:28	EPA 300.1 -1997, Rev. 1.0
Chloride	27.5	mg/L	2	0.06	0.02		CRJ	09/30/2025 18:28	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.14	mg/L	2	0.06	0.02		CRJ	09/30/2025 18:28	EPA 300.1 -1997, Rev. 1.0
Sulfate	34.1	mg/L	2	0.60	0.04		CRJ	09/30/2025 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	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	180	mg/L	1	50	20		BLB	09/15/2025 07:56	SM 2540C-2020

Customer Sample ID: AD-4
Lab Number: 252382-004
Date Collected: 09/10/2025 11:03 EDT
Customer Description:
Preparation:
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.21	mg/L	2	0.10	0.02		CRJ	09/30/2025 20:00	EPA 300.1 -1997, Rev. 1.0
Chloride	3.91	mg/L	2	0.06	0.02		CRJ	09/30/2025 20:00	EPA 300.1 -1997, Rev. 1.0
Fluoride	<0.02	mg/L	2	0.06	0.02	U1	CRJ	09/30/2025 20:00	EPA 300.1 -1997, Rev. 1.0
Sulfate	19.0	mg/L	2	0.60	0.04		CRJ	09/30/2025 20:00	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	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	150	mg/L	1	50	20		BLB	09/15/2025 06:45	SM 2540C-2020

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Job ID: 252382 **Customer: Pirkey Power Station** **Date Reported: 10/14/2025**

Customer Sample ID: AD-3
Customer Description:
Lab Number: 252382-005
Preparation:
Date Collected: 09/09/2025 12:21 EDT
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.08	mg/L	2	0.10	0.02	J1	CRJ	09/30/2025 19:14	EPA 300.1 -1997, Rev. 1.0
Chloride	6.41	mg/L	2	0.06	0.02		CRJ	09/30/2025 19:14	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.07	mg/L	2	0.06	0.02		CRJ	09/30/2025 19:14	EPA 300.1 -1997, Rev. 1.0
Sulfate	31.5	mg/L	2	0.60	0.04		CRJ	09/30/2025 19:14	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	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	150	mg/L	1	50	20		BLB	09/15/2025 07:56	SM 2540C-2020

Customer Sample ID: AD-2
Customer Description:
Lab Number: 252382-006
Preparation:
Date Collected: 09/09/2025 11:31 EDT
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.42	mg/L	2	0.10	0.02		CRJ	09/30/2025 20:23	EPA 300.1 -1997, Rev. 1.0
Chloride	25.4	mg/L	2	0.06	0.02		CRJ	09/30/2025 20:23	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.26	mg/L	2	0.06	0.02		CRJ	09/30/2025 20:23	EPA 300.1 -1997, Rev. 1.0
Sulfate	271	mg/L	10	3.0	0.2		CRJ	10/01/2025 09:14	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	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	520	mg/L	1	50	20		BLB	09/15/2025 06:45	SM 2540C-2020

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252382 **Customer: Pirkey Power Station** **Date Reported: 10/14/2025**

Customer Sample ID: AD-13
Customer Description:
Lab Number: 252382-007
Preparation:
Date Collected: 09/08/2025 09:32 EDT
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.26	mg/L	2	0.10	0.02		CRJ	09/30/2025 23:04	EPA 300.1 -1997, Rev. 1.0
Chloride	26.1	mg/L	2	0.06	0.02		CRJ	09/30/2025 23:04	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.39	mg/L	2	0.06	0.02		CRJ	09/30/2025 23:04	EPA 300.1 -1997, Rev. 1.0
Sulfate	44.5	mg/L	2	0.60	0.04		CRJ	09/30/2025 23:04	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	49	mg/L	1	20	5		MGK	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	210	mg/L	1	50	20		BLB	09/15/2025 06:52	SM 2540C-2020

Customer Sample ID: AD-16
Customer Description:
Lab Number: 252382-008
Preparation:
Date Collected: 09/10/2025 12:05 EDT
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.22	mg/L	2	0.10	0.02		CRJ	09/30/2025 23:27	EPA 300.1 -1997, Rev. 1.0
Chloride	30.5	mg/L	2	0.06	0.02		CRJ	09/30/2025 23:27	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.08	mg/L	2	0.06	0.02		CRJ	09/30/2025 23:27	EPA 300.1 -1997, Rev. 1.0
Sulfate	8.80	mg/L	2	0.60	0.04		CRJ	09/30/2025 23:27	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	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	110	mg/L	1	50	20		BLB	09/15/2025 07:56	SM 2540C-2020

AMERICAN ELECTRIC POWER

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Water Analysis Report

Job ID: 252382 **Customer: Pirkey Power Station** **Date Reported: 10/14/2025**

Customer Sample ID: AD-17
Customer Description:
Lab Number: 252382-009
Preparation:
Date Collected: 09/09/2025 11:25 EDT
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.22	mg/L	2	0.10	0.02		CRJ	09/30/2025 23:49	EPA 300.1 -1997, Rev. 1.0
Chloride	20.0	mg/L	2	0.06	0.02		CRJ	09/30/2025 23:49	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.18	mg/L	2	0.06	0.02		CRJ	09/30/2025 23:49	EPA 300.1 -1997, Rev. 1.0
Sulfate	2.84	mg/L	2	0.60	0.04		CRJ	09/30/2025 23:49	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	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	60	mg/L	1	50	20		BLB	09/15/2025 07:56	SM 2540C-2020

Customer Sample ID: AD-18
Customer Description:
Lab Number: 252382-010
Preparation:
Date Collected: 09/10/2025 09:42 EDT
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.06	mg/L	2	0.10	0.02	J1	CRJ	10/01/2025 00:12	EPA 300.1 -1997, Rev. 1.0
Chloride	5.92	mg/L	2	0.06	0.02		CRJ	10/01/2025 00:12	EPA 300.1 -1997, Rev. 1.0
Fluoride	<0.02	mg/L	2	0.06	0.02	U1	CRJ	10/01/2025 00:12	EPA 300.1 -1997, Rev. 1.0
Sulfate	7.57	mg/L	2	0.60	0.04		CRJ	10/01/2025 00:12	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	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	150	mg/L	1	50	20		BLB	09/15/2025 08:03	SM 2540C-2020

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252382 **Customer: Pirkey Power Station** **Date Reported: 10/14/2025**

Customer Sample ID: AD-22
Customer Description:
Lab Number: 252382-011
Preparation:
Date Collected: 09/08/2025 11:20 EDT
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.65	mg/L	2	0.10	0.02		CRJ	10/01/2025 01:21	EPA 300.1 -1997, Rev. 1.0
Chloride	84.9	mg/L	25	0.8	0.3		CRJ	10/01/2025 00:58	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.21	mg/L	2	0.06	0.02		CRJ	10/01/2025 01:21	EPA 300.1 -1997, Rev. 1.0
Sulfate	221	mg/L	25	7.5	0.5		CRJ	10/01/2025 00:58	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	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	530	mg/L	1	50	20		BLB	09/15/2025 06:52	SM 2540C-2020

Customer Sample ID: AD-23
Customer Description:
Lab Number: 252382-012
Preparation:
Date Collected: 09/10/2025 12:23 EDT
Date Received: 09/12/2025 09:40 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.34	mg/L	2	0.10	0.02		CRJ	10/01/2025 02:07	EPA 300.1 -1997, Rev. 1.0
Chloride	11.1	mg/L	2	0.06	0.02		CRJ	10/01/2025 02:07	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.04	mg/L	2	0.06	0.02	J1	CRJ	10/01/2025 02:07	EPA 300.1 -1997, Rev. 1.0
Sulfate	7.44	mg/L	2	0.60	0.04		CRJ	10/01/2025 02:07	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	09/16/2025 14:39	SM 2320B-2021
TDS, Filterable Residue	60	mg/L	1	50	20		BLB	09/15/2025 08:03	SM 2540C-2020

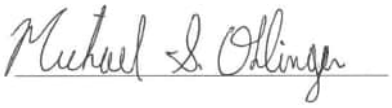
Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 252382 **Customer: Pirkey Power Station** **Date Reported: 10/14/2025**

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).

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)
Dave Conover (614-836-4219)

Project Name: Pirkey PP Semi-Annual CCR
Contact Name: Pryce Warren
Contact Phone: 325-310-6668
Sampler(s): Matt Hamilton Kenny McDonald

Analysis Turnaround Time (In Calendar Days)
◉ Routine (28 days for Monitoring Wells)

Site Contact: | Date:

For Lab Use Only:
COC/Order #: 252382

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	Mercury (250 mL bottle, pH<2, HNO3)	Dissolved Mercury (Field-filter 250 mL bottle, then pH<2, HNO3)	F, Cl, SO4, Br, TDS, Alkalinity (1 L bottle, Cool, 0-6C)	Ra-226, Ra-228 (Three (six every 10th*) 1 L bottles, pH<2, HNO3)				Sample Specific Notes:
AD-2	9/9/2025	1031	G	GW	1				X					
AD-3	9/9/2025	1121	G	GW	1				X					
AD-4	9/10/2025	1003	G	GW	1				X					
AD-7R	9/8/2025	936	G	GW	1				X					
AD-8	9/9/2025	945	G	GW	1				X					
AD-12	9/8/2025	938	G	GW	1				X					
AD-13	9/8/2025	932	G	GW	1				X					collection time 0832
AD-16	9/10/2025	1105	G	GW	1				X					
AD-17	9/9/2025	1025	G	GW	1				X					
AD-18	9/10/2025	842	G	GW	1				X					
AD-22	9/8/2025	1020	G	GW	1				X					
AD-23	9/10/2025	1123	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:

TG-32 needed

Relinquished by: Matt Hamilton	Company: Eagle	Date/Time: 9-11-25 1400	Received by	Date/Time
Relinquished by:	Company:	Date/Time:	Received by	Date/Time
Relinquished by	Company:	Date/Time:	Received in Laboratory by:	Date/Time: 9/12/25 0940

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 Pirkey **Total # of Containers RECEIVED in Job:** 12

Opened By EGM

Date/Time 9/12/25 0940

Were all required temperatures, per BN-water-900, T≤6°C *w/o sample freezing*? (Y) N or N/A

Initial/Date: EGM 9/12/25 (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 9/12/25

***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 The listed time for AD-13 was incorrect on the CoC.

Were samples labeled properly? (Y) / N Comments

Were correct containers used? (Y) / N Comments

Was the customer contacted? If Yes: Person Contacted: Pryce Warren

Lab ID# 252382 Initial & Date & Time : EGM 9/12/25 1004

Logged by EGM Comments: AD-13 had a different collection time on bottle than CoC.

(Record Test Count on back of form)

Total # of Containers LISTED on COC: 12

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 # : 252382 **Initial/ Date:** EGM 9/12/25 **Peer Review Initial/ Date:** AMR 9.12.25

Login Test Count from COC	LIMS Sample ID (or COC Sample Name) EGM 9/12/25	Comments /Nonconformities	Peer Review Test Count from COC
12	252382-001		12
	-002		
	-003		
	-004	NA	
	-005		
	-006		
	-007	Incorrect time on CoC	
	-008		
	-009		
	-010	NA	
	-011		
	-012		

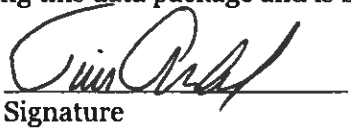
Municipal Solid Waste Laboratory Review Checklist

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	10/2/25
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: Pirkey PP Semi-Annual CCR

Reviewer Name: Tim Arnold

LRC Date: 10/2/25

Laboratory Job Number: 252382

Prep Batch Number(s): QC2510008

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: Pirkey PP Semi-Annual CCR

Reviewer Name: Tim Arnold

LRC Date: 10/2/25

Laboratory Job Number: 252382

Prep Batch Number(s): QC2510008

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: Pirkey PP Semi-Annual CCR

Reviewer Name: Tim Arnold

LRC Date: 10/2/25

Laboratory Job Number: 252382

Prep Batch Number(s): QC2510008

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.

Sandra Williams	Sandra D. Williams	Chemist	09/22/2025
Name (printed)	Signature	Official Title	Date

TDS Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey Power Station

Reviewer Name: Sandra Williams

LRC Date: 09/22/2025

Laboratory Job Number: 252382

Prep Batch Number(s): QC2509103

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: Pirkey Power Station

Reviewer Name: Sandra Williams

LRC Date: 09/22/2025

Laboratory Job Number: 252382

Prep Batch Number(s): QC2509103

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	

TDS 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: Pirkey Power Station

Reviewer Name: Sandra Williams

LRC Date: 09/22/2025

Laboratory Job Number: 252382

Prep Batch Number(s): QC2509103

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

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.

Michael Ohlinger	Michael Ohlinger	Chemist	09/17/25
Name (printed)	Signature	Official Title	Date

Alkalinity Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey Plant

Reviewer Name: Michael Ohlinger

LRC Date: 09/17/25

Laboratory Job Number: 252380, 252381, 252382

Prep Batch Number(s): QC2509094

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	
	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: Pirkey Plant

Reviewer Name: Michael Ohlinger

LRC Date: 09/17/25

Laboratory Job Number: 252380, 252381, 252382

Prep Batch Number(s): QC2509094

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: Pirkey Plant

Reviewer Name: Michael Ohlinger

LRC Date: 09/17/25

Laboratory Job Number: 252380, 252381, 252382

Prep Batch Number(s): QC2509094

Exception Report No.	Description
ER1	CCB acceptance criteria is CCB<0.5*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."