

Annual Groundwater Monitoring Report

Southwestern Electric Power Company

H. W. Pirkey Power Plant

Landfill CCR Unit

CN600126767; RN100214287

Registration No: CCR104

Hallsville, Texas

January 31, 2025

Prepared by:

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An **AEP** Company

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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

I. Summary

This *Annual Groundwater Monitoring Report* (Report) has been prepared to report the status of activities for the preceding year for the Landfill (LF) Coal Combustion Residual (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 rule requires that the Annual Groundwater Monitoring Report be posted to the operating record for the preceding year no later than January 31, 2025.

In general, the following activities were completed:

- At the start of the current annual reporting period, the LF was operating under the Detection monitoring program.
- At the end of the current annual reporting period, the LF was operating under the Detection monitoring program.
- Groundwater samples were collected for AD-8, AD-12, AD-16, AD-23, AD-27, AD-34 and AD-36 in April and September 2024 and analyzed for Appendix III, as specified in 30 TAC §352.941 *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.
- Pirkey Power Plant submitted a Notice of SSI over background to TCEQ (January 5, 2024) 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 SSI determination.
- A successful ASDs for the SSIs over background for the 1st semi-annual 2023 was certified on March 16, 2024, and submitted to TCEQ for approval.
- Data and statistical analysis not available for the previous reporting period indicated that during the 2nd semi-annual 2023 sampling event (October 2023) with confirmation sampling conducted in February 2024:

The following Appendix III parameters exceeded background:

- Boron at AD-36
- Chloride at AD-36
- A successful ASDs for the SSI over background for the 2nd semi-annual 2023 was certified on August 1, 2024, and submitted to TCEQ for approval.
- During the 1st semi-annual 2024 sampling event (April 2024) with confirmation sampling conducted in June 2024:

The following Appendix III parameters exceeded background:

- Boron at AD-23
- Chloride at AD-36
- A successful ASDs for the SSIs over background for the 1st semi-annual 2024 was certified on December 23, 2024, and submitted to TCEQ for approval.
- During the 2nd semi-annual 2024 sampling event (September 2024) with confirmation sampling conducted in November 2024:

The following Appendix III parameters exceeded background:

- Boron at AD-23 and AD-36
- Chloride at AD-23 and AD-36
- Pirkey Power Plant submitted a Notice of SSI over background to TCEQ (December 31, 2024, 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 SSI determination.
- The background data was re-established on January 25, 2024.
- 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).

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 LF CCR unit, all groundwater monitoring wells and monitoring well identification numbers;
- 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**);

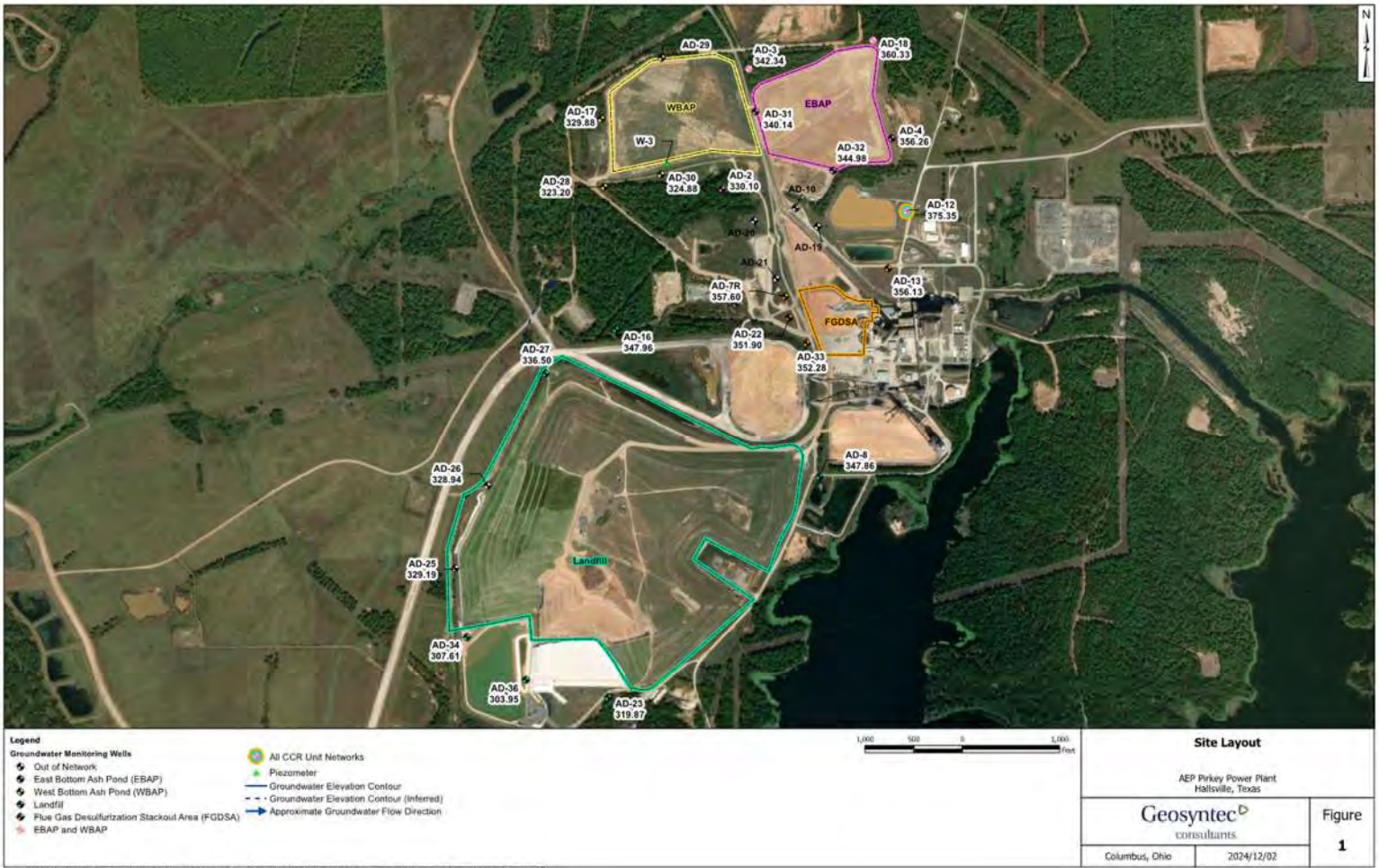
- A summary of any transition between monitoring programs, or an alternate monitoring frequency, for example the date and circumstances for transitioning from detection monitoring to assessment monitoring, in addition to identifying the constituents detected at a SSI over background concentrations (where applicable);
- Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a statement as to why that happened (Attached as **Appendix 6**);
- Other information required to be included in the annual report such as field sheets, analytical reports, etc. (Attached as **Appendix 4 and 5**)

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.

Landfill Monitoring Wells	
Upgradient	Downgradient
AD-8	AD-23
AD-12	AD-34
AD-16	AD-35 (decommissioned 2018)
AD-27	AD-36 (installed 2019)



III. Monitoring Wells Installed or Decommissioned

There were no new groundwater monitoring wells installed during 2024. The network design is summarized in the *Groundwater Monitoring Network Design Report* (January 2021) and is posted at the CCR website for Pirkey Power Plant's LF. 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. The groundwater velocity calculations, groundwater flow direction, and potentiometric maps developed after each sampling event are shown in **Appendix 1**.

As required by the detection monitoring rules, 30 TAC §352.941 *et seq.*, two rounds of sampling were conducted in April and September including all 30 TAC §352 Appendix III parameters.

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

Detection monitoring will continue in 2025.

V. Groundwater Quality Data Statistical Analysis

Data and statistical analysis not available for the previous reporting period indicated that during the 2nd semi-annual 2023 sampling event (October 2023) with confirmation sampling conducted in February 2024:

The following Appendix III parameters exceeded background:

- Boron at AD-36
- Chloride at AD-36

During the 1st semi-annual 2024 sampling event (April 2024) with confirmation sampling conducted in June 2024:

The following Appendix III parameters exceeded background:

- Boron at AD-23
- Chloride at AD-36

During the 2nd semi-annual 2024 sampling event (September 2024) with confirmation sampling conducted in November 2024:

The following Appendix III parameters exceeded background:

- Boron at AD-23 and AD-36
- Chloride at AD-23 and AD-36

Appendix 2 contains the statistical analysis report(s).

VI. Alternate Source Demonstration

A successful ASD for the SSI over background for the 1st semi-annual 2023 was certified on March 16, 2024, and submitted to TCEQ for approval.

Pirkey Power Plant submitted a Notice of SSI over background to TCEQ (January 5, 2024) 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 SSI determination.

A successful ASDs for the SSI over background for the 2nd semi-annual 2023 was certified on August 1, 2024, and submitted to TCEQ for approval.

A successful ASDs for the SSIs over background for the 1st semi-annual 2024 was certified on December 23, 2024, and submitted to TCEQ for approval.

Pirkey Power Plant submitted a Notice of SSI over background to TCEQ (December 31, 2024, 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 SSI determination.

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

No transition was made during the reporting period and the CCR Unit remained in detection monitoring.

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

The background data was re-established on January 25, 2024.

As required by the CCR detection monitoring rules in 30 TAC §352.941, sampling all LF CCR wells for the 30 TAC §352 Appendix III parameters was completed in 2024.

IX. Description of Any Problems Encountered in 2024 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 2024 groundwater monitoring activities.

X. A Projection of Key Activities for the Upcoming Year

Key activities for the next year include:

- Detection monitoring sampling will be conducted;
- Conduct groundwater sampling events for all constituents listed in 30 TAC §352 Appendix III as required by 30 TAC 352.941;
- Perform statistical analysis on the sampling results for the 30 TAC §352 Appendix III parameters as required by 30 TAC 352.941;
- Evaluation of the detection monitoring results from a statistical analysis viewpoint, looking for any SSIs over background;
- Completed ASDs, as needed;
- Responding to any new data received in light of TCEQ CCR rule requirements;
- Preparation of the next annual groundwater report.

APPENDIX 1- Groundwater Data Tables and Figures

Figures 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.

**Table 1. Groundwater Data Summary: AD-8
Pirkey - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
5/10/2016	Background	1.58	109	9	< 0.083 U1	6.1	181	432
7/13/2016	Background	0.775	20.7	13	2	6.2	131	280
9/8/2016	Background	1.04	50.7	12	2	5.1	121	285
10/12/2016	Background	0.793	20.8	13	2	3.7	184	276
11/15/2016	Background	0.769	17.2	13	3	3.7	208	296
1/11/2017	Background	0.734	18.6	13	3	3.6	228	280
2/28/2017	Background	0.777	18.1	10	2	3.7	157	250
4/11/2017	Background	0.779	17.1	12	3	3.9	168	284
8/23/2017	Detection	0.411	19.4	9	0.587 J1	3.9	56	110
3/21/2018	Assessment	1.03	56.1	8	1.1987	5.7	140	278
8/20/2018	Assessment	0.714	14.5	18	5.1991	3.7	168	300
2/28/2019	Assessment	1.05	103	6.83	0.40	5.7	175	462
5/21/2019	Assessment	1.11	85.5	4.48	0.33	5.9	127	296
8/13/2019	Detection	0.818	27.6	12.7	3.39	4.6	128	260
6/3/2020	Detection	0.783	74.4	11.5	2.45	5.8	196	396
11/3/2020	Detection	0.822	18.5	15.8	2.50	4.1	119	237
5/26/2021	Detection	0.986	93.4	3.28	0.35	5.9	168	390
11/17/2021	Detection	0.693	21.9 M1, P3	15.4	2.31	4.2	97.2	220
6/22/2022	Detection	1.04	37.2 M1	17.0	2.85	5.0	117	270
11/14/2022	Detection	1.03	17.9	23.1	2.04	4.5	119	240
6/27/2023	Detection	0.994	92.7	6.97	0.31	5.8	182	410
10/18/2023	Detection	1.11	19.6	21.9	2.26	4.2	99.4	230
4/23/2024	Detection	0.999	87.7	4.81	0.28	5.3	168	390
9/18/2024	Detection	1.61	61.6	17.5	0.40	5.9	116	290

**Table 1. Groundwater Data Summary: AD-8
Pirkey - LF
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	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
5/10/2016	Background	< 0.93 U1	< 1.05 U1	38	1	< 0.07 U1	1	1.80288 J1	0.9155	< 0.083 U1	1.02541 J1	< 0.00013 U1	0.027	< 0.29 U1	15	1.19926 J1
7/13/2016	Background	< 0.93 U1	1.16508 J1	61	7	0.175996 J1	1	20	6.75	2	1.46729 J1	0.032	0.211	< 0.29 U1	< 0.99 U1	< 0.86 U1
9/8/2016	Background	< 0.93 U1	< 1.05 U1	48	2	< 0.07 U1	0.835837 J1	9	1.658	2	< 0.68 U1	0.018	0.048	< 0.29 U1	3.84567 J1	< 0.86 U1
10/12/2016	Background	< 0.93 U1	1.46586 J1	61	6	< 0.07 U1	0.74214 J1	18	6.72	2	2.30733 J1	0.032	0.112	< 0.29 U1	2.51464 J1	< 0.86 U1
11/15/2016	Background	< 0.93 U1	< 1.05 U1	52	6	0.118693 J1	0.805286 J1	18	6.14	3	2.85553 J1	0.03	0.16	< 0.29 U1	< 0.99 U1	< 0.86 U1
1/11/2017	Background	< 0.93 U1	1.53134 J1	60	6	0.108717 J1	2	18	6.29	3	2.99592 J1	0.032	0.157	< 0.29 U1	1.4083 J1	< 0.86 U1
2/28/2017	Background	< 0.93 U1	1.68597 J1	52	6	0.13889 J1	0.633257 J1	18	7.64	2	3.26919 J1	0.031	0.153	< 0.29 U1	1.78549 J1	< 0.86 U1
4/11/2017	Background	< 0.93 U1	< 1.05 U1	51	6	0.128137 J1	0.887504 J1	19	5.56	3	2.44168 J1	0.031	0.01068 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
3/21/2018	Assessment	< 0.93 U1	< 1.05 U1	37.9	2.57	< 0.07 U1	< 0.23 U1	9.38	2.499	1.1987	0.95 J1	0.01503	0.049	< 0.29 U1	27.68	< 0.86 U1
8/20/2018	Assessment	0.02 J1	4.05	33.4	4.55	0.18	0.759	15.9	0.145	5.1991	4.46	0.0221	0.105	0.02 J1	9.8	0.083
2/28/2019	Assessment	< 0.4 U1	< 0.6 U1	46.8	< 0.4 U1	< 0.2 U1	< 0.8 U1	0.8 J1	1.066	0.40	< 0.4 U1	0.002 J1	< 0.005 U1	< 8 U1	30.8	< 2 U1
5/21/2019	Assessment	< 0.4 U1	1 J1	42.8	1 J1	< 0.2 U1	< 0.8 U1	< 0.4 U1	1.786	0.33	< 0.4 U1	0.0003 J1	0.009 J1	< 8 U1	23.9	< 0.1 U1

**Table 1. Groundwater Data Summary: AD-12
Pirkey - LF
Appendix III Constituents**

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	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
9/7/2016	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	Detection	< 0.02 U1	0.278	7.24	0.06 J1	4.9	2.6	90
3/10/2020	Detection	0.02 J1	0.3 J1	6.08	0.10	4.9	3.7	62
6/2/2020	Detection	< 0.02 U1	0.2 J1	5.63	0.10	4.0	3.9	91
11/2/2020	Detection	0.03 J1	0.3 J1	4.65	0.08	4.3	3.3	74
3/8/2021	Detection	0.01 J1	0.2 J1	6.46	0.11	4.1	3.8	68
5/24/2021	Detection	0.032 J1	0.2 J1	5.54	0.12	4.2	5.46	70
11/15/2021	Detection	0.012 J1	0.28	8.03	0.07	3.5	2.90	90
3/28/2022	Detection	0.021 J1	0.20	6.10	0.07	3.9	3.80	60 L1
6/20/2022	Detection	0.042 J1	0.32	7.59	0.09	4.3	4.81	80
11/15/2022	Detection	0.013 J1	0.36	8.03	0.08	4.7	3.39	70
2/27/2023	Detection	0.021 J1	0.34	6.51	0.07	3.8	3.90	70
6/26/2023	Detection	0.019 J1	0.21	4.68	0.06	4.6	2.9	80
8/23/2023	Detection	0.017 J1	0.22	4.74	0.07	3.8	3.5	75
10/17/2023	Detection	0.015 J1	0.27	6.74	0.07	3.8	2.7	58
2/19/2024	Detection	0.016 J1	0.27	5.87	0.11	3.2	3.1	60
4/22/2024	Detection	0.015 J1	0.18	4.86	0.08	3.4	4.2	60
9/16/2024	Detection	0.018 J1	0.23	4.45	0.07	3.0	3.1	60

Table 1. Groundwater Data Summary: AD-12

Pirkey - LF

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	µg/L	pCi/L	mg/L	µg/L	mg/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
9/7/2016	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

Table 1. Groundwater Data Summary: AD-16

Geosyntec Consultants, Inc.

Pirkey - LF

Appendix III Constituents

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
5/10/2016	Background	0.02	1.21	8	< 0.083 U1	3.9	16	116
7/14/2016	Background	0.03	2	9	< 0.083 U1	3.8	45	148
9/8/2016	Background	0.03	1.83	9	< 0.083 U1	3.9	33	133
10/13/2016	Background	0.03	1.15	9	< 0.083 U1	3.9	16	124
11/14/2016	Background	0.03	1.58	9	< 0.083 U1	4.4	23	124
1/12/2017	Background	0.02	1.76	10	< 0.083 U1	3.7	43	112
3/1/2017	Background	0.03	1.29	9	< 0.083 U1	3.2	22	108
4/10/2017	Background	0.02	1.21	11	< 0.083 U1	3.4	24	106
8/24/2017	Detection	0.03648	0.945	12	< 0.083 U1	4.3	14	96
3/22/2018	Assessment	0.0171	1.03	14	< 0.083 U1	4.0	13	96
8/21/2018	Assessment	0.020	1.17	17	< 0.083 U1	4.0	15	128
2/27/2019	Assessment	0.03 J1	0.704	20.3	0.07 J1	4.1	17.7	76
5/23/2019	Assessment	0.022	1.06	20.8	0.06 J1	4.6	26.9	128
8/15/2019	Detection	< 0.02 U1	0.874	20.0	0.06 J1	5.1	15.4	110
6/3/2020	Detection	< 0.02 U1	0.872	21.7	0.11	4.7	13.3	122
11/3/2020	Detection	< 0.02 U1	0.817	19.9	0.07	4.4	11.0	105
5/26/2021	Detection	0.016 J1	0.8	23.2	0.13	4.4	7.36	120
11/17/2021	Detection	0.206	0.94	22.3	0.07	4.3	9.64	110
6/22/2022	Detection	0.021 J1	1.80	24.7	0.10	4.5	9.58	110
11/14/2022	Detection	0.024 J1	0.91	25.2	0.07	4.3	6.68	90
6/27/2023	Detection	0.016 J1	0.79	28.9	0.08	4.4	7.3	120
10/18/2023	Detection	0.026 J1	1.13	22.0	0.07	4.2	9.3	97
4/24/2024	Detection	0.013 J1	1.13	26.1	0.09	4.7	14.8	120
9/17/2024	Detection	0.015 J1	0.95	32.5	0.08	4.9	11.0	120

Table 1. Groundwater Data Summary: AD-16

Pirkey - LF

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	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
5/10/2016	Background	< 0.93 U1	1.83497 J1	61	0.453643 J1	0.0817904 J1	1	4.23727 J1	1.294	< 0.083 U1	< 0.68 U1	0.006	0.01506 J1	< 0.29 U1	2.26113 J1	1.3697 J1
7/14/2016	Background	< 0.93 U1	< 1.05 U1	64	0.565692 J1	< 0.07 U1	1	6	1.438	< 0.083 U1	< 0.68 U1	0.036	0.02395 J1	1.1177 J1	< 0.99 U1	< 0.86 U1
9/8/2016	Background	8	< 1.05 U1	70	0.810547 J1	0.0926258 J1	2	8	1.931	< 0.083 U1	< 0.68 U1	0.032	0.00753 J1	< 0.29 U1	< 0.99 U1	1.75243 J1
10/13/2016	Background	< 0.93 U1	1.52475 J1	56	0.250902 J1	< 0.07 U1	1	3.33761 J1	1.843	< 0.083 U1	< 0.68 U1	0.033	< 0.005 U1	< 0.29 U1	1.70284 J1	< 0.86 U1
11/14/2016	Background	< 0.93 U1	< 1.05 U1	55	0.38481 J1	< 0.07 U1	0.561291 J1	4.34297 J1	2.123	< 0.083 U1	< 0.68 U1	0.028	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
1/12/2017	Background	< 0.93 U1	< 1.05 U1	58	0.70928 J1	< 0.07 U1	0.406161 J1	8	2.629	< 0.083 U1	< 0.68 U1	0.031	0.01045 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
3/1/2017	Background	< 0.93 U1	1.50766 J1	76	0.487946 J1	< 0.07 U1	0.558767 J1	5	1.417	< 0.083 U1	< 0.68 U1	0.021	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
4/10/2017	Background	< 0.93 U1	< 1.05 U1	77	0.435552 J1	< 0.07 U1	0.822329 J1	5	0.932	< 0.083 U1	< 0.68 U1	0.019	0.00733 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
3/22/2018	Assessment	< 0.93 U1	< 1.05 U1	83.66	0.27 J1	< 0.07 U1	1.59	3.6 J1	2.11	< 0.083 U1	< 0.68 U1	0.02224	0.018 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
8/21/2018	Assessment	0.03 J1	0.42	69.0	0.213	0.03	0.211	3.78	1.92	< 0.083 U1	0.082	0.0347	0.014 J1	< 0.02 U1	0.1	0.051
2/27/2019	Assessment	< 0.4 U1	7.74	56.2	< 0.4 U1	< 0.2 U1	< 0.8 U1	3.21	0.848	0.07 J1	< 0.4 U1	0.0154	0.011 J1	< 8 U1	< 0.6 U1	< 2 U1
5/23/2019	Assessment	< 0.4 U1	5.80	83.4	< 0.4 U1	< 0.2 U1	< 0.8 U1	3.16	1.957	0.06 J1	< 0.4 U1	0.0227	< 0.005 U1	< 8 U1	< 0.6 U1	< 0.1 U1

Table 1. Groundwater Data Summary: AD-23

Pirkey - LF

Appendix III Constituents

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
5/10/2016	Background	0.01	0.535	4	< 0.083 U1	4.0	10	72
7/13/2016	Background	0.03	0.317	4	< 0.083 U1	2.7	11	59
9/8/2016	Background	0.02	0.26	5	< 0.083 U1	3.5	12	64
10/12/2016	Background	0.03	0.321	6	< 0.083 U1	3.7	13	68
11/15/2016	Background	0.03	0.249	5	< 0.083 U1	3.5	14	100
1/11/2017	Background	0.02	0.319	6	< 0.083 U1	3.7	13	60
2/28/2017	Background	0.03	0.217	4	< 0.083 U1	4.0	9	48
4/11/2017	Background	0.03	0.543	7	0.2688 J1	4.2	11	76
8/23/2017	Detection	0.04021	0.276	6	0.198 J1	4.1	11	64
12/21/2017	Detection	0.04498	0.469	--	--	--	--	--
3/21/2018	Assessment	0.01762	0.227	4	< 0.083 U1	3.9	10	72
8/20/2018	Assessment	0.017	0.247	9	< 0.083 U1	3.8	11	92
2/28/2019	Assessment	0.02 J1	0.3 J1	6.94	0.04 J1	5.1	7.2	70
5/23/2019	Assessment	0.017	0.3 J1	6.82	0.04 J1	4.8	9.1	54
8/13/2019	Detection	< 0.02 U1	0.325	7.12	0.03 J1	5.0	7.4	126
1/27/2020	Detection	--	--	--	--	4.3	--	70 J1
6/3/2020	Detection	< 0.02 U1	0.2 J1	7.08	0.07	4.3	8.5	65
11/4/2020	Detection	< 0.02 U1	0.2 J1	6.97	0.05 J1	3.9	7.9	71
5/26/2021	Detection	0.023 J1	0.3	6.94	0.06	3.6	7.90	70
11/17/2021	Detection	0.045 J1	0.22	7.11	0.05 J1	3.9	7.84	70
1/26/2022	Detection	0.040 J1	--	--	--	4.1	--	--
6/22/2022	Detection	0.057	0.25	7.32	0.07	3.6	9.52	80
8/30/2022	Detection	0.032 J1	--	--	--	3.9	--	--
11/14/2022	Detection	0.078	0.24	7.49	0.06	4.5	8.03	80
2/28/2023	Detection	0.049 J1	--	--	--	4.4	--	--
6/27/2023	Detection	0.061	0.44	7.55	0.04 J1	4.5	7.7	70
8/23/2023	Detection	0.026 J1	--	--	--	4.4	--	--
10/18/2023	Detection	0.051	0.26	7.99	0.05 J1	4.0	7.7	44 J1
4/24/2024	Detection	0.207	0.22	8.65	0.06	3.7	7.1	70
6/26/2024	Detection	0.242	--	--	--	3.4	--	--
9/18/2024	Detection	0.229	0.20	9.03	0.05 J1	3.0	7.1	60
11/6/2024	Detection	0.279	--	9.44	--	3.8	--	--

Table 1. Groundwater Data Summary: AD-23

Pirkey - LF

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	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
5/10/2016	Background	2.89148 J1	1.65098 J1	48	0.186855 J1	0.0739811 J1	2	2.29646 J1	6.86	< 0.083 U1	< 0.68 U1	0.000135818 J1	0.01188 J1	< 0.29 U1	1.91991 J1	< 0.86 U1
7/13/2016	Background	3.79558 J1	< 1.05 U1	48	0.192156 J1	0.0925427 J1	2	2.72879 J1	5.69	< 0.083 U1	< 0.68 U1	0.006	0.01721 J1	1.34973 J1	2.00038 J1	< 0.86 U1
9/8/2016	Background	< 0.93 U1	< 1.05 U1	53	0.20435 J1	< 0.07 U1	5	2.01019 J1	6.68	< 0.083 U1	2.23756 J1	0.006	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
10/12/2016	Background	1.29835 J1	7	120	0.463688 J1	0.13648 J1	41	3.91303 J1	12.89	< 0.083 U1	31	1.01	0.095	0.563586 J1	2.10924 J1	< 0.86 U1
11/15/2016	Background	< 0.93 U1	< 1.05 U1	50	0.129296 J1	< 0.07 U1	6	1.66943 J1	7.54	< 0.083 U1	3.21271 J1	0.006	0.02438 J1	0.403857 J1	1.34763 J1	< 0.86 U1
1/11/2017	Background	< 0.93 U1	2.03681 J1	73	0.159 J1	< 0.07 U1	15	2.25934 J1	8.06	< 0.083 U1	11	0.009	0.092	< 0.29 U1	< 0.99 U1	< 0.86 U1
2/28/2017	Background	1.65681 J1	< 1.05 U1	41	0.116844 J1	< 0.07 U1	0.295768 J1	1.05228 J1	5.74	< 0.083 U1	< 0.68 U1	0.005	< 0.005 U1	< 0.29 U1	1.3076 J1	< 0.86 U1
4/11/2017	Background	< 0.93 U1	3.9673 J1	86	0.318917 J1	0.107977 J1	22	2.60853 J1	10.31	0.2688 J1	15	0.01	0.118	0.31517 J1	< 0.99 U1	< 0.86 U1
3/21/2018	Assessment	< 0.93 U1	< 1.05 U1	56.1	0.17 J1	< 0.07 U1	5.7	1.09 J1	7.55	< 0.083 U1	3.52 J1	0.00709	0.02 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
8/20/2018	Assessment	0.03 J1	0.87	53.5	0.147	0.01 J1	1.77	0.803	11	< 0.083 U1	4.79	0.00634	0.025	0.07 J1	1.0	0.176
2/28/2019	Assessment	< 0.4 U1	1 J1	46.9	< 0.4 U1	< 0.2 U1	4.16	1 J1	6.14	0.04 J1	3.46	0.00646	0.035	< 8 U1	1 J1	< 2 U1
5/23/2019	Assessment	< 0.4 U1	0.7 J1	56.4	< 0.4 U1	< 0.2 U1	3 J1	0.7 J1	9.66	0.04 J1	8.99	0.00537	0.058 J1	< 8 U1	< 0.6 U1	0.2 J1

Table 1. Groundwater Data Summary: AD-27

Geosyntec Consultants, Inc.

Pirkey - LF

Appendix III Constituents

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
5/11/2016	Background	0.02	4.41	8	0.6176 J1	3.9	51	198
7/13/2016	Background	0.03	4.43	8	< 0.083 U1	2.7	54	192
9/8/2016	Background	0.03	4.17	8	< 0.083 U1	2.9	52	196
10/12/2016	Background	0.03	4.09	8	< 0.083 U1	3.0	58	216
11/15/2016	Background	0.03	4.52	8	< 0.083 U1	3.5	92	216
1/11/2017	Background	0.02	3.74	9	< 0.083 U1	4.1	58	180
3/1/2017	Background	0.03	4.31	8	< 0.083 U1	2.8	56	216
4/10/2017	Background	0.03	4.01	9	< 0.083 U1	3.3	54	180
8/24/2017	Detection	0.0358	3.58	9	0.197 J1	3.7	52	168
3/22/2018	Assessment	0.03901	5.58	11	< 0.083 U1	3.9	78	192
8/21/2018	Assessment	0.024	4.58	10	< 0.083 U1	3.5	65	196
2/28/2019	Assessment	0.07 J1	4.02	11.7	0.20	4.7	52.8	42
5/23/2019	Assessment	0.023	3.89	11.4	0.20	4.4	55.2	204
8/16/2019	Detection	0.02 J1	3.94	10.5	0.18	3.9	53.2	198
6/3/2020	Detection	0.03 J1	3.55	12.8	0.25	4.2	54.6	219
11/3/2020	Detection	0.03 J1	3.45	10.8	0.19	3.6	53.1	196
5/26/2021	Detection	0.029 J1	3.6	13.5	0.25	3.5	50.8	230
11/17/2021	Detection	0.040 J1	3.76	11.6	0.20	3.7	56.4	190 P1
6/22/2022	Detection	0.028 J1	3.88	12.5	0.22	3.3	57.2	210
11/14/2022	Detection	0.034 J1	3.79	12.7	0.20	4.0	59.4	180
6/27/2023	Detection	0.032 J1	3.86	13.6	0.14	4.2	59.9	210
10/18/2023	Detection	0.040 J1	3.76	12.1	0.19	3.4	61.5	180
4/24/2024	Detection	0.037 J1	3.89	14.4	0.16	3.6	60.4	200
9/18/2024	Detection	0.052	3.80	12.7	0.15	3.2	60.6	200

Table 1. Groundwater Data Summary: AD-27

Pirkey - LF

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	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
5/11/2016	Background	1.20808 J1	2.15232 J1	43	5	0.431235 J1	0.87101 J1	20	2.031	0.6176 J1	< 0.68 U1	0.066	< 0.005 U1	< 0.29 U1	1.10872 J1	< 0.86 U1
7/13/2016	Background	0.956365 J1	1.27952 J1	45	5	0.434627 J1	2	21	2.406	< 0.083 U1	< 0.68 U1	0.097	0.02241 J1	0.434679 J1	< 0.99 U1	< 0.86 U1
9/8/2016	Background	< 0.93 U1	< 1.05 U1	47	6	0.398469 J1	2	20	2.71	< 0.083 U1	< 0.68 U1	0.095	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
10/12/2016	Background	< 0.93 U1	2.14429 J1	46	5	0.424977 J1	2	20	4.43	< 0.083 U1	< 0.68 U1	0.096	< 0.005 U1	< 0.29 U1	1.35863 J1	< 0.86 U1
11/15/2016	Background	< 0.93 U1	< 1.05 U1	41	5	0.419182 J1	2	22	3.69	< 0.083 U1	< 0.68 U1	0.095	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
1/11/2017	Background	< 0.93 U1	1.56781 J1	46	5	0.30207 J1	1	18	2.62	< 0.083 U1	< 0.68 U1	0.1	0.00659 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
3/1/2017	Background	< 0.93 U1	< 1.05 U1	43	5	0.286804 J1	2	21	3.48	< 0.083 U1	< 0.68 U1	0.1	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
4/10/2017	Background	< 0.93 U1	< 1.05 U1	45	5	0.414787 J1	0.954802 J1	21	2.58	< 0.083 U1	< 0.68 U1	0.104	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
3/22/2018	Assessment	< 0.93 U1	< 1.05 U1	40.53	5.29	0.48 J1	3.09	25.63	2.808	< 0.083 U1	< 0.68 U1	0.108	0.012 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
8/21/2018	Assessment	0.02 J1	1.71	39.5	4.90	0.46	1.14	24.6	2.619	< 0.083 U1	0.296	0.0921	0.006 J1	0.07 J1	3.7	0.137
2/28/2019	Assessment	< 0.4 U1	1 J1	39.5	5.32	0.5 J1	< 0.8 U1	18.9	2.95	0.20	< 0.4 U1	0.0892	< 0.005 U1	< 8 U1	2 J1	< 2 U1
5/23/2019	Assessment	< 0.4 U1	< 0.6 U1	41.0	5.22	0.3 J1	< 0.8 U1	19.9	3.93	0.20	< 0.4 U1	0.0885	< 0.005 U1	< 8 U1	0.6 J1	0.2 J1

Table 1. Groundwater Data Summary: AD-34

Pirkey - LF

Appendix III Constituents

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
5/10/2016	Background	0.08	37.8	7	< 0.083 U1	4.0	974	1,516
7/13/2016	Background	0.111	33.2	8	< 0.083 U1	3.6	837	1,396
9/8/2016	Background	0.09	39.5	8	< 0.083 U1	3.3	870	1,520
10/12/2016	Background	0.09	35.8	7	0.6272 J1	3.6	1,084	1,464
11/15/2016	Background	0.1	36.3	7	0.9978 J1	3.7	1,006	1,428
1/11/2017	Background	0.07	39.9	8	< 0.083 U1	3.2	1,334	1,378
2/28/2017	Background	0.08	37	6	< 0.083 U1	3.7	993	1,402
4/10/2017	Background	0.09	38.2	8	0.5241 J1	3.0	1,016	1,490
8/23/2017	Detection	0.107	36.2	7	0.619 J1	3.7	1,231	1,128
12/21/2017	Detection	--	--	8	0.6669 J1	--	1,020	1,260
3/21/2018	Assessment	0.171	40.1	6	< 0.083 U1	3.7	956	1,424
8/20/2018	Assessment	0.067	37.0	10	< 0.083 U1	3.7	1,064	1,462
2/27/2019	Assessment	0.08 J1	39.9	7.64	0.86	2.9	970	1,470
5/21/2019	Assessment	0.060	42.0	7.34	0.69	3.3	1,080	1,154
8/13/2019	Detection	0.070	39.8	7.46	1.13	3.7	1,060	1,648
1/27/2020	Detection	--	--	--	0.9	3.6	--	1,550
3/11/2020	Detection	--	--	--	--	3.6	--	--
6/3/2020	Detection	0.058	40.1	7.68	1.22	3.4	1,150	1,620
7/15/2020	Detection	--	--	--	1.39	4.1	--	1,510
11/4/2020	Detection	0.060	39.5	7.10	0.82	3.4	1,090	1,670
5/26/2021	Detection	0.063	39.7	7.44	2.1	2.9	1,110	1,670
7/27/2021	Detection	--	--	--	0.82	3.2	--	--
11/17/2021	Detection	0.069	45.8	7.09	1.11	3.1	1,280	1,850
1/26/2022	Detection	--	42.6	--	--	3.4	--	1,720 S7
6/22/2022	Detection	0.066	45.8	7.38	1.20	3.7	1,260	1,750
8/30/2022	Detection	--	46.0	--	--	4.0	--	1,650
11/14/2022	Detection	0.067	44.6	7.47	0.44	3.5	1,250	1,720
2/28/2023	Detection	--	41.9	--	--	3.8	--	1,640
6/27/2023	Detection	0.057	40.1	7.18	0.63	3.7	1,230	1,710
8/23/2023	Detection	--	--	--	--	3.8	--	1,560
10/18/2023	Detection	0.057	34.6	7.33	0.74	3.3	1,160	1,620
4/24/2024	Detection	0.057	40.5	7.32	0.69	3.7	1,150	1,650
9/18/2024	Detection	< 0.07 U1	43.0	7.20	0.54	4.0	1,160	1,620

Table 1. Groundwater Data Summary: AD-34

Pirkey - LF

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	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
5/10/2016	Background	< 0.93 U1	12	72	3	6	34	301	9.64	< 0.083 U1	12	0.176	0.105	0.688222 J1	< 0.99 U1	< 0.86 U1
7/13/2016	Background	< 0.93 U1	25	177	4	6	81	296	7.75	< 0.083 U1	39	0.183	0.313	2.11044 J1	7	< 0.86 U1
9/8/2016	Background	< 0.93 U1	9	31	3	8	12	306	7.91	< 0.083 U1	1.01746 J1	0.158	0.064	< 0.29 U1	< 0.99 U1	< 0.86 U1
10/12/2016	Background	< 0.93 U1	10	39	3	5	15	297	10.12	0.6272 J1	3.69632 J1	0.174	0.036	< 0.29 U1	< 0.99 U1	< 0.86 U1
11/15/2016	Background	< 0.93 U1	7	23	2	8	6	292	13.21	0.9978 J1	< 0.68 U1	0.154	0.025	< 0.29 U1	4.50827 J1	< 0.86 U1
1/11/2017	Background	< 0.93 U1	6	29	2	7	8	284	11.90	< 0.083 U1	< 0.68 U1	0.164	0.032	< 0.29 U1	< 0.99 U1	< 0.86 U1
2/28/2017	Background	< 0.93 U1	7	11	2	6	< 0.23 U1	294	9.87	< 0.083 U1	< 0.68 U1	0.158	< 0.005 U1	< 0.29 U1	< 0.99 U1	< 0.86 U1
4/10/2017	Background	< 0.93 U1	4.49903 J1	23	2	11	7	299	2.407	0.5241 J1	< 0.68 U1	0.167	0.0164 J1	< 0.29 U1	< 0.99 U1	< 0.86 U1
3/21/2018	Assessment	< 0.93 U1	6.51	10.6	2.24	11.97	< 0.23 U1	279	8.85	< 0.083 U1	< 0.68 U1	0.156	< 0.005 U1	< 0.29 U1	3.24 J1	< 0.86 U1
8/20/2018	Assessment	0.01 J1	14.4	7.77	1.77	4.34	0.977	249	10.17	< 0.083 U1	1.32	0.114	0.005 J1	0.03 J1	13.0	0.070
2/27/2019	Assessment	< 0.4 U1	15.9	9.93	2.42	4.57	0.9 J1	260	8.56	0.86	1 J1	0.153	0.015 J1	< 8 U1	14.8	< 2 U1
5/21/2019	Assessment	< 0.4 U1	12.7	10.5	2.25	4.48	0.8 J1	272	10.82	0.69	1 J1	0.158	< 0.005 U1	< 8 U1	4.9	< 0.1 U1

Table 1. Groundwater Data Summary: AD-36

Geosyntec Consultants, Inc.

Pirkey - LF

Appendix III Constituents

Collection Date	Monitoring Program	Boron	Calcium	Chloride	Fluoride	pH	Sulfate	Total Dissolved Solids
		mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
8/13/2019	Background	0.065	0.240	9.46	0.05 J1	4.7	2.2	92
1/27/2020	Background	0.056	0.304	8.65	0.05 J1	4.7	3.5	40 J1
3/11/2020	Background	0.05 J1	0.2 J1	8.44	0.06	5.0	3.7	60 J1
4/15/2020	Background	0.054	0.2 J1	8.40	0.05 J1	3.6	3.7	40 J1
5/13/2020	Background	0.055	0.2 J1	8.56	0.05 J1	4.1	3.4	40 J1
6/3/2020	Background	0.052	0.2 J1	8.52	0.07	4.6	3.3	65
6/16/2020	Background	0.064	0.2 J1	8.39	0.05 J1	4.6	3.6	50 J1
7/1/2020	Background	0.059	0.3 J1	--	--	4.9	--	52
7/15/2020	Background	--	--	8.09	0.08	5.0	3.7	--
11/4/2020	Detection	0.068	0.2 J1	7.99	0.06 J1	4.6	3.1	57
5/26/2021	Detection	0.057	0.6	10.6	0.10	4.0	4.08	60
7/27/2021	Detection	--	0.3	8.67	0.07	3.9	--	--
11/17/2021	Detection	0.070	0.25	8.97	0.05 J1	4.0	2.89	50 P1
6/22/2022	Detection	0.059	0.38	10.1	0.09	4.6	5.00	60
8/30/2022	Detection	--	0.28	10.3	0.07	4.9	3.00	--
11/14/2022	Detection	0.068	0.28	11.1	0.07	4.5	2.93	50
2/28/2023	Detection	--	--	11.7	--	4.5	--	--
6/27/2023	Detection	0.067	0.88	11.1	0.06	4.0	3.6	60 P1
8/23/2023	Detection	--	1.22	11.8	--	4.2	--	--
10/18/2023	Detection	0.081	0.76	12.4	0.07	4.2	3.1	52
2/20/2024	Detection	0.055	--	14.0	--	4.1	--	--
4/23/2024	Detection	0.053	0.75	14.8	0.08	4.7	2.9	60
6/26/2024	Detection	--	--	14.2	--	3.6	--	--
9/18/2024	Detection	0.082	0.77	15.7	0.08	3.6	2.8	50
11/6/2024	Detection	0.085	--	16.3	--	3.9	--	--

Table 1. Groundwater Data Summary: AD-36

Pirkey - LF

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	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L
8/13/2019	Background	< 0.02 U1	0.15	10.8	0.234	< 0.01 U1	0.203	0.901	1.298	0.05 J1	< 0.05 U1	0.0161	< 0.005 U1	< 0.4 U1	0.09 J1	< 0.1 U1
1/27/2020	Background	< 0.02 U1	0.14	9.94	0.191	0.01 J1	0.09 J1	0.762	1.096	0.05 J1	< 0.05 U1	0.00277	< 0.2 U1	< 0.4 U1	0.07 J1	< 0.1 U1
3/11/2020	Background	< 0.02 U1	0.09 J1	10.2	0.184	< 0.01 U1	< 0.04 U1	0.760	4.056	0.06	< 0.05 U1	0.00246	< 0.002 U1	< 0.4 U1	0.1 J1	< 0.1 U1
4/15/2020	Background	< 0.02 U1	0.10	10.1	0.179	< 0.01 U1	0.1 J1	0.770	2.84	0.05 J1	< 0.05 U1	0.00210	0.003 J1	0.8 J1	0.09 J1	< 0.1 U1
5/13/2020	Background	< 0.02 U1	0.15	10.2	0.194	< 0.01 U1	0.247	0.750	2.346	0.05 J1	< 0.05 U1	0.00266	0.004 J1	< 0.4 U1	0.08 J1	< 0.1 U1
6/3/2020	Background	< 0.02 U1	0.11	9.81	0.204	< 0.01 U1	0.08 J1	0.683	0.692	0.07	< 0.05 U1	0.00262	0.005 J1	< 0.4 U1	0.09 J1	< 0.1 U1
6/16/2020	Background	< 0.02 U1	0.11	9.75	0.173	< 0.01 U1	0.214	0.723	0.885	0.05 J1	0.08 J1	0.00254	0.003 J1	1 J1	0.1 J1	< 0.1 U1
7/1/2020	Background	< 0.02 U1	0.09 J1	9.72	0.179	< 0.01 U1	0.09 J1	0.681	1.171	--	< 0.05 U1	0.00268	0.004 J1	< 0.4 U1	0.06 J1	< 0.1 U1
7/15/2020	Background	--	--	--	--	--	--	--	--	0.08	--	--	--	--	--	--

**Table 1. Groundwater Data Summary
Pirkey - Landfill**

Geosyntec Consultants, Inc.

Notes:

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.

mg/L: milligrams per liter

P1: The precision between duplicate results was above acceptance limits.

P3: The precision on the matrix spike duplicate (MSD) was above acceptance limits.

pCi/L: picocuries per liter

S7: Sample did not achieve constant weight.

SU: standard unit

µg/L: micrograms per liter

**Table 1. Groundwater Elevation Data Summary
Pirkey Power Plant**

Unit	All Units	East Bottom Ash Pond					West Bottom Ash Pond				
		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	--	--	--	--	--	--	--	--	--	--	--

**Table 1. Groundwater Elevation Data Summary
Pirkey Power Plant**

Unit	FGD Stackout Area					Landfill					
	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	--	--	--	346.93	--	--	--	--	320.61	--	303.31

Notes:

1. Groundwater elevation measured in feet above mean sea level.
2. AD-7R added to the FGD Stackout Area certified monitoring network in December 2023.

**Table 1: Residence Time Calculation Summary
Pirkey Landfill**

Geosyntec Consultants, Inc.

CCR Management Unit	Monitoring Well	Well Diameter (inches)	2024-02 ^[3]		2024-04		2024-06 ^[3]		2024-09		2024-11 ^[3]	
			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)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)
Landfill	AD-8 ^[1]	4.0	NC	NC	6.8	17.8	7.0	17.4	7.2	17.0	NC	NC
	AD-12 ^[1]	4.0	46.3	2.6	47.3	2.6	NC	NC	37.5	3.2	NC	NC
	AD-16 ^[1]	2.0	NC	NC	21.5	2.8	NC	NC	23.5	2.6	NC	NC
	AD-23 ^[2]	2.0	NC	NC	19.6	3.1	20.8	2.9	19.1	3.2	14.2	4.3
	AD-27 ^[1]	2.0	NC	NC	13.3	4.6	NC	NC	15.2	4.0	NC	NC
	AD-34 ^[2]	2.0	NC	NC	15.0	4.1	NC	NC	NC	NC	NC	NC
	AD-36 ^[2]	2.0	20.7	2.9	24.1	2.5	24.5	2.5	24.9	2.4	25.2	2.4

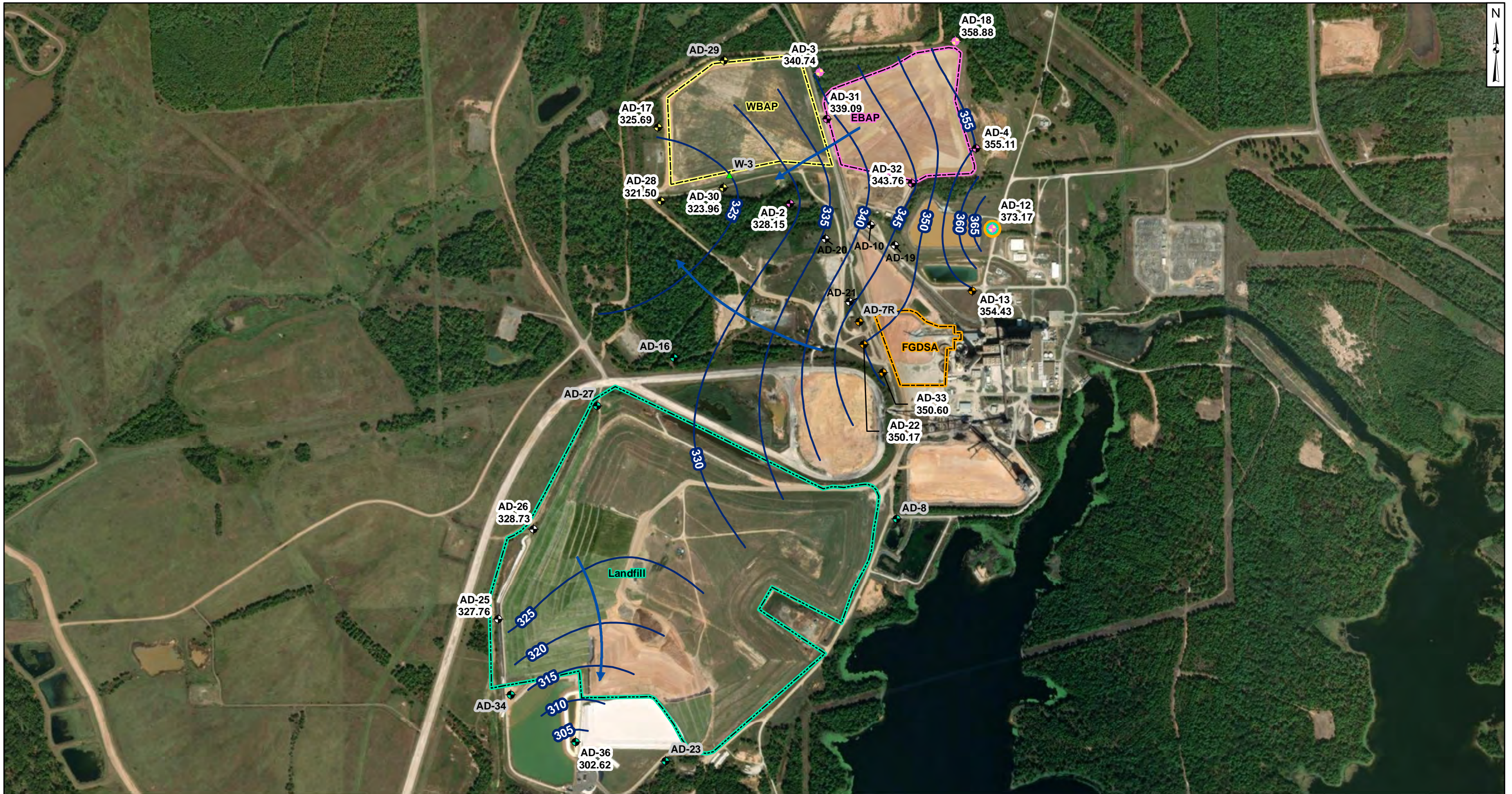
Notes:

[1] - Background Well

[2] - Downgradient Well

[3] - Only select wells were gauged as part of two-of-two verification sampling

NC - Not Calculated



Legend

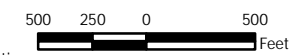
Groundwater Monitoring Wells

- ◆ 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 level data (collected on February 19 and 20, 2024) provided by AEP.
2. Site features based on information available in coal combustion residual (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. AD-08, AD-10, AD-16, AD-19, AD-20, AD-21, AD-23, AD-27, AD-29, AD-34, and W-3 were not gauged during the February 2024 event.
5. AD-7R replaced AD-7, which was abandoned.
6. AD-7R (355.99 ft msl) was not used for contouring due to an anomalous reading.
7. Wells shaded in grey were not used for contouring.
8. AD-35 was abandoned on November 13, 2018.
9. Removal of CCR plus one foot of material for the WBAP was completed 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 ESRI, dated September 19, 2023.



December 11, 2024
 Geosyntec Consultants, Inc.
 Texas Firm Registration No. 1182

Beth Ann Gross



Potentiometric Contours: Uppermost Aquifer
 February 2024

AEP Pirkey Power Plant
 Hallsville, Texas

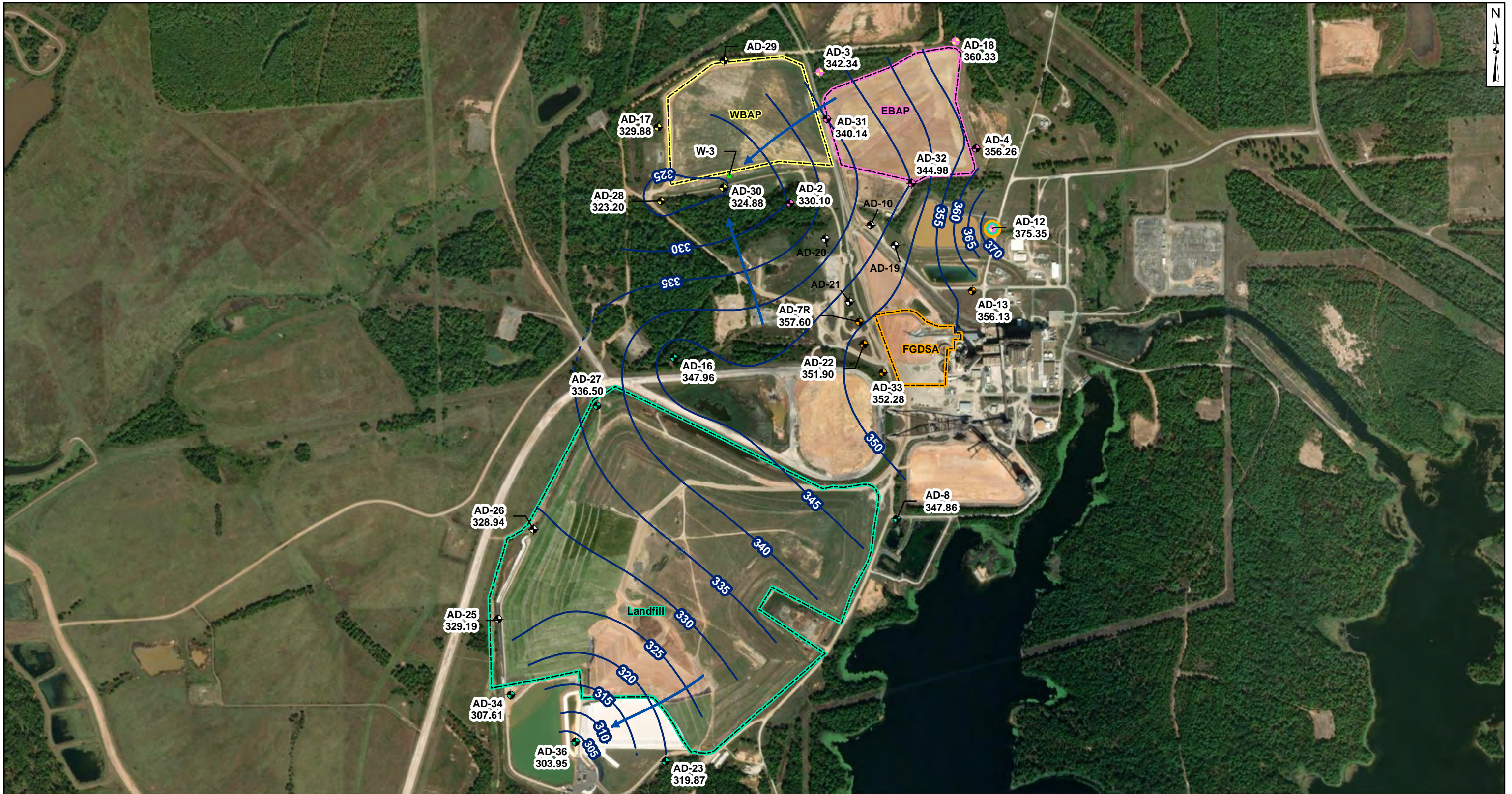
Geosyntec
 consultants

Figure

1

Columbus, Ohio

2024/12/02



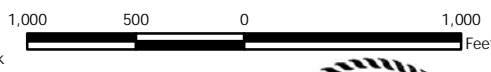
Legend
Groundwater Monitoring Wells

- 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 level data (collected on April 22, 23 and 24, 2024) provided by AEP.
2. Site features based on information available in coal combustion residual (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. AD-10, AD-19, AD-20, AD-21, AD-29, and W-3 were not gauged during the April 2024 event.
5. AD-7R replaced AD-7, which was abandoned.
6. AD-7R (357.60 ft msl) was not used for contouring due to an anomalous reading.
7. Wells shaded in grey were not used for contouring.
8. AD-35 was abandoned on November 13, 2018.
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 was completed for the FGDSA 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.



December 11, 2024
Geosyntec Consultants, Inc.
Texas Firm Registration No. 1182

Beth Ann Gross



Potentiometric Contours: Uppermost Aquifer
April 2024

AEP Pirkey Power Plant
Hallsville, Texas

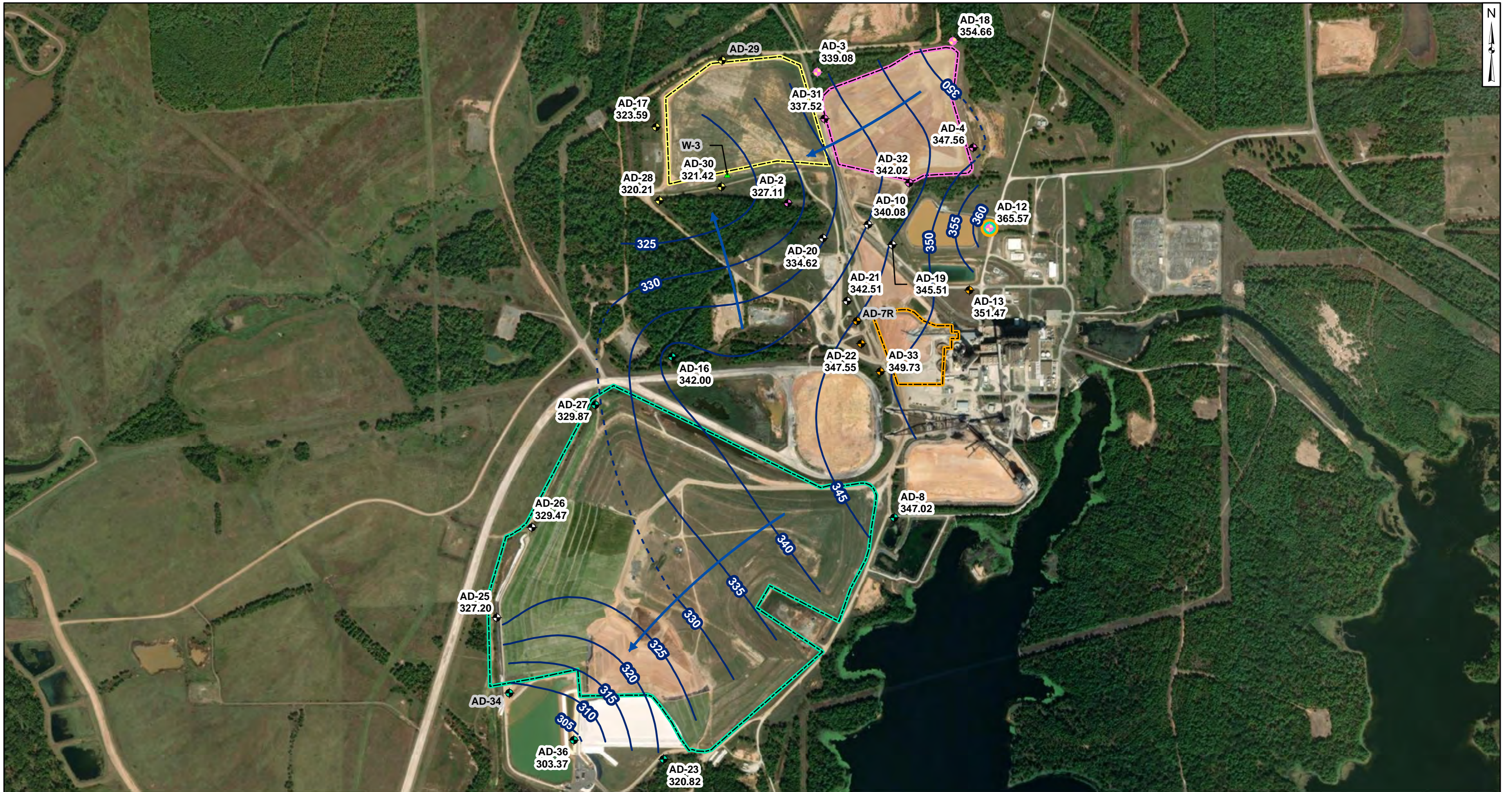
Geosyntec
consultants

Columbus, Ohio

2024/12/02

Figure

2



- 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

Potentiometric Contours: Uppermost Aquifer
September 2024

AEP Pirkey Power Plant
Hallsville, Texas

Geosyntec
consultants

Columbus, Ohio 2024/12/24

Figure
3

APPENDIX 2- Statistical Analyses

The reports summarizing the statistical evaluation follow.

Memorandum

Date: April 24, 2024

To: David Miller (AEP)

Copies to: Leslie Fuerschbach (AEP)

From: Allison Kreinberg (Geosyntec)

Subject: Evaluation of Detection Monitoring Data at Pirkey Plant's Landfill

In accordance with the Texas Commission on Environmental Quality's (TCEQ's) regulations regarding the disposal of coal combustion residuals (CCR) in landfills and surface impoundments (30 TAC 352, "CCR rule"), the second semiannual detection monitoring event of 2023 at the Landfill, an existing CCR unit at the Pirkey Power Plant in Hallsville, Texas, was completed on October 18, 2023. Based on the results, a two-of-two verification sampling was completed on February 20, 2024.

A data quality review was completed to assess if the data collected for this semiannual detection monitoring event met the objectives outlined in TCEQ Draft Technical Guidance No. 32 related to groundwater sampling and analysis¹. The data were determined usable for supporting project objectives, as documented in the review memoranda provided in Attachment A.

Background values (prediction limits) for the LF were originally calculated in January 2018 and have been periodically updated as sufficient data becomes available. An alternative source demonstration (ASD) was certified on January 7, 2020 which resulted in a revision from interwell tests to intrawell tests for the pH, sulfate, and TDS prediction limits. After a minimum of four additional detection monitoring events, the results of those events were compared to the existing background, and the dataset was updated as appropriate. Revised upper prediction limits (UPLs) were calculated for each Appendix III parameter to represent background values. Lower prediction limits (LPLs) were also calculated for pH. Details on the most recent calculation of

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

these revised background values are described in Geosyntec's *Statistical Analysis Summary* report, dated January 25, 2024.

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

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

- Boron concentrations were above the intrawell UPL of 0.0747 mg/L in both the initial (0.081 mg/L) and second (0.220 mg/L) samples collected at AD-36. Therefore, an SSI over background is concluded for boron at AD-36.
- Chloride concentrations were above the intrawell UPL of 11.8 mg/L in both the initial (12.4 mg/L) and second (14.0 mg/L) samples collected at AD-36. Therefore, an SSI over background is concluded for chloride at AD-36.

In response to the exceedances noted above, the Pirkey LF will either transition to assessment monitoring or an ASD for boron and chloride at AD-36 will be conducted in accordance with 30 TAC 352.931. The statistical analysis was conducted in accordance with 30 TAC 352.931 and completed within 90 days of sampling and analysis. A certification of these statistics by a qualified professional engineer is provided in Attachment B.

**Table 1. Detection Monitoring Data Evaluation
Detection Summary Memorandum
Pirkey - Landfill**

Analyte	Unit	Description	AD-23	AD-34	AD-36	
			10/18/2023	10/18/2023	10/18/2023	2/20/2024
Boron	mg/L	Intrawell Background Value (UPL)	0.0612	0.108	0.0747	
		Analytical Result	0.051	0.057	0.081	0.220
Calcium	mg/L	Intrawell Background Value (UPL)	0.503	46.1	1.22	
		Analytical Result	0.26	34.6	0.76	--
Chloride	mg/L	Intrawell Background Value (UPL)	8.92	8.97	11.8	
		Analytical Result	7.99	7.33	12.4	14.0
Fluoride	mg/L	Intrawell Background Value (UPL)	0.156	1.58	0.0980	
		Analytical Result	0.05	0.74	0.07	--
pH	SU	Intrawell Background Value (UPL)	5.0	4.1	5.2	
		Intrawell Background Value (LPL)	3.1	2.9	3.7	
		Analytical Result	4.0	3.3	4.2	--
Sulfate	mg/L	Intrawell Background Value (UPL)	13.6	1,340	4.77	
		Analytical Result	7.7	1,160	3.1	--
Total Dissolved Solids	mg/L	Intrawell Background Value (UPL)	104	1,840	84.9	
		Analytical Result	44	1,620	52	--

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
Data Quality Review Memoranda

Memorandum

Date: April 17, 2024
To: David Miller (AEP)
Copies to: Leslie Fuerschbach (AEP)
From: Allison Kreinberg (Geosyntec)
Subject: Data Quality Review – Pirkey Power Plant Landfill
October 2023 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 October 2023. 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 constituents were analyzed.

The following sample data groups (SDGs) were associated with the groundwater samples collected during the October 2023 sampling event and are reviewed in this memorandum:

- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 233269
- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 233280

The data included in these SDGs were reviewed to assess if they met the objectives outlined in TCEQ Draft Technical Guideline No. 32¹ prior to submittal of this data to TCEQ.

The following data quality issues were identified:

- As reported in SDG 233269, chloride were detected in the field blank sample “FIELD BLANK” collected on 10/18/2023. While chloride (0.11 mg/L) was detected in the field

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

blank, the concentration was less than 10% of all groundwater samples; thus, the results are acceptable.

- As reported in SDG 233269, chloride and sulfate were detected in the equipment blank sample “EQUIPMENT BLANK” collected on 10/18/2023. While chloride (0.11 mg/L) and sulfate (0.1 mg/L) were detected in the equipment blank, the concentrations were less than 10% of all groundwater samples; thus, the results are acceptable.
- As reported in SDG 233280, calcium was detected in the equipment blank sample “EQUIPMENT BLANK” collected on 10/18/2023. While calcium (0.02 mg/L) was detected in the equipment blank, the concentration was less than 10% of all groundwater samples; thus, the results are acceptable.

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, the data are considered usable for supporting project objectives.

Memorandum

Date: April 17, 2024
To: David Miller (AEP)
Copies to: Leslie Fuerschbach (AEP)
From: Allison Kreinberg (Geosyntec)
Subject: Data Quality Review – Pirkey Power Plant
February 2024 Verification Resampling Event

This memorandum summarizes the findings of a data quality review for groundwater samples collected at the Pirkey Power Plant in Hallsville, Texas in February 2024. 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 constituents were analyzed.

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

- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 240643
- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 249670

The data included in these SDGs were reviewed to assess if they met the objectives outlined in TCEQ Draft Technical Guideline No. 32¹ prior to submittal of this data to TCEQ.

The following data quality issues were identified:

- As reported in SDG 249670, boron was detected in the equipment blank sample “Equipment Blank” collected on 2/20/2024. The estimated boron concentration in the equipment blank (0.223 mg/L) was more than 10% of the detected value for boron in the

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

AD-36 groundwater sample, which could result in high bias for the AD-36 groundwater boron results.

Based on these findings, the majority of the data reported in these SDGs are considered accurate and complete. Although the QC failure mentioned above will result in some limitations of data use since the affected result is considered estimated, the data are considered usable for supporting project objectives.

ATTACHMENT B

Certification by a Qualified Professional Engineer

CERTIFICATION BY QUALIFIED PROFESSIONAL ENGINEER

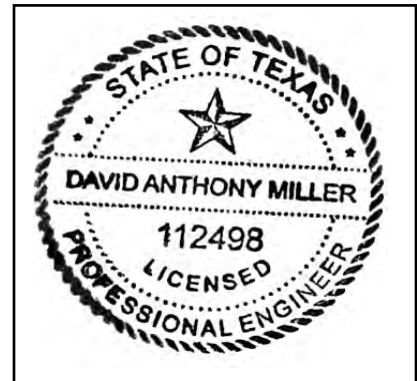
I certify that the selected statistical method, described above and in the January 25, 2024 *Statistical Analysis Summary* report, is appropriate for evaluating the groundwater monitoring data for the Pirkey Landfill CCR management area and that the requirements of 30 TAC 352.931(a) have been met.

David Anthony Miller

Printed Name of Licensed Professional Engineer

David Anthony Miller

Signature



112498

License Number

Texas

Licensing State

05.07.2024

Date

Memorandum

Date: September 23, 2024

To: David Miller (AEP)

Copies to: Leslie Fuerschbach (AEP)

From: Allison Kreinberg (Geosyntec)

Subject: Evaluation of Detection Monitoring Data at Pirkey Plant's Landfill

In accordance with the Texas Commission on Environmental Quality's (TCEQ's) regulations regarding the disposal of coal combustion residuals (CCR) in landfills and surface impoundments (30 TAC 352, "CCR rule"), the first semiannual detection monitoring event of 2024 at the Landfill, an existing CCR unit at the Pirkey Power Plant in Hallsville, Texas, was completed on April 23-24, 2024. Based on the results, a two-of-two verification sampling was completed on June 26, 2024.

A data quality review was completed to assess if the data collected for this semiannual detection monitoring event met the objectives outlined in TCEQ Draft Technical Guidance No. 32 related to groundwater sampling and analysis¹. The data were determined usable for supporting project objectives, as documented in the review memoranda provided in Attachment A.

Background values (prediction limits) for the LF were originally calculated in January 2018 and have been periodically updated as sufficient data becomes available. An alternative source demonstration (ASD) was certified on January 7, 2020 which resulted in a revision from interwell tests to intrawell tests for the pH, sulfate, and TDS prediction limits. After a minimum of four additional detection monitoring events, the results of those events were compared to the existing background, and the dataset was updated as appropriate. Revised upper prediction limits (UPLs) were calculated for each Appendix III parameter to represent background values. Lower prediction limits (LPLs) were also calculated for pH. Details on the most recent calculation of

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

these revised background values are described in Geosyntec's *Statistical Analysis Summary* report, dated January 25, 2024.

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

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

- Boron concentrations were above the intrawell UPL of 0.0612 mg/L in both the initial (0.207 mg/L) and second (0.242 mg/L) samples collected at AD-23. Therefore, an SSI over background is concluded for boron at AD-23.
- Chloride concentrations were above the intrawell UPL of 11.8 mg/L in both the initial (14.8 mg/L) and second (14.2 mg/L) samples collected at AD-36. Therefore, an SSI over background is concluded for chloride at AD-36.

In response to the exceedances noted above, the Pirkey LF will either transition to assessment monitoring or an ASD for boron at AD-23 and chloride at AD-36 will be conducted in accordance with 30 TAC 352.931. The statistical analysis was conducted in accordance with 30 TAC 352.931 and completed within 90 days of sampling and analysis. A certification of these statistics by a qualified professional engineer is provided in Attachment B.

**Table 1. Detection Monitoring Data Evaluation
Detection Summary Memorandum
Pirkey – Landfill**

Analyte	Unit	Description	AD-23		AD-34	AD-36	
			4/24/2024	6/26/2024	4/24/2024	4/23/2024	6/26/2024
Boron	mg/L	Intrawell Background Value (UPL)	0.0612		0.108	0.0747	
		Analytical Result	0.207	0.242	0.057	0.053	--
Calcium	mg/L	Intrawell Background Value (UPL)	0.503		46.1	1.22	
		Analytical Result	0.22	--	40.5	0.75	--
Chloride	mg/L	Intrawell Background Value (UPL)	8.92		8.97	11.8	
		Analytical Result	8.65	--	7.32	14.8	14.2
Fluoride	mg/L	Intrawell Background Value (UPL)	0.156		1.58	0.0980	
		Analytical Result	0.06	--	0.69	0.08	--
pH	SU	Intrawell Background Value (UPL)	5.0		4.1	5.2	
		Intrawell Background Value (LPL)	3.1		2.9	3.7	
		Analytical Result	3.7	--	3.7	4.7	--
Sulfate	mg/L	Intrawell Background Value (UPL)	13.6		1,340	4.77	
		Analytical Result	7.1	--	1,150	2.9	--
Total Dissolved Solids	mg/L	Intrawell Background Value (UPL)	104		1,840	84.9	
		Analytical Result	70	--	1,650	60	--

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
Data Quality Review Memoranda

Memorandum

Date: September 23, 2024
To: David Miller (AEP)
Copies to: Leslie Fuerschbach (AEP)
From: Allison Kreinberg (Geosyntec)
Subject: Data Quality Review – Pirkey Power Plant
April 2024 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 2024. 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 2024 sampling event and are reviewed in this memorandum:

- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 241393
- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 241410

The data included in these SDGs were reviewed to assess if they met the objectives outlined in TCEQ Draft Technical Guideline No. 32¹ prior to submittal of this data to TCEQ.

The following data quality issues were identified:

- As reported in SDG 241410, barium, chromium, and cobalt were detected in the field blank sample “Field Blank” collected on 4/23/24. The detected chromium concentration in the field blank (0.26 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 241410, chromium and cobalt were detected in the equipment blank sample “Equipment Blank” collected on 4/23/24. The detected chromium concentration in the equipment blank (0.23 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 241410, the relative percent difference (RPD) for lithium concentrations from parent sample “AD-7R” and duplicate sample “Duplicate 1” was 21%. The AD-7R result for lithium should be considered estimated.
- As reported in SDG 241410, matrix spike duplicate (MSD) recovery for beryllium (69%), cobalt (13.2%), and lithium (72.4%) were below the acceptable limit of 75%. The low percent recovery of cobalt was likely due to the high concentration in the original sample. The associated sample (AD-22) was flagged M1: the associated matrix spike (MS) or MSD recovery was outside acceptance limits. The AD-22 beryllium, cobalt, and lithium results should be considered estimated.
- The RPD for radium-228 in the laboratory control spike duplicate (LCSD) sample “PB24050222” (31) was above the acceptable limit of 25. Samples associated with that QC batch on SDG 241410 were flagged P2: the precision on the LCSD was above acceptance limits. Additional bottles for radium duplicates were not provided. Samples associated with this QC batch on SDG 241410 were flagged O2: client did not provide additional bottles; therefore, the MS and duplicate are missing in this batch. 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.

Memorandum

Date: September 4, 2024
To: David Miller (AEP)
Copies to: Leslie Fuerschbach (AEP)
From: Allison Kreinberg (Geosyntec)
Subject: Data Quality Review – Pirkey Power Plant
June 2024 Verification Resampling Event

This memorandum summarizes the findings of a data quality review for groundwater samples collected at the Pirkey Power Plant in Hallsville, Texas in June 2024. 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 constituents were analyzed.

The following sample data group (SDG) was associated with the groundwater samples collected during the June 2024 verification resampling event and is reviewed in this memorandum:

- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 241961

The data included in this SDG was reviewed to assess if it met the objectives outlined in TCEQ Draft Technical Guideline No. 32¹ prior to submittal of this data to TCEQ.

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

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

ATTACHMENT B

Certification by a Qualified Professional Engineer

CERTIFICATION BY QUALIFIED PROFESSIONAL ENGINEER

I certify that the selected statistical method, described above and in the January 25, 2024 *Statistical Analysis Summary* report, is appropriate for evaluating the groundwater monitoring data for the Pirkey Landfill CCR management area and that the requirements of 30 TAC 352.931(a) have been met.

David Anthony Miller

Printed Name of Licensed Professional Engineer

David Anthony Miller

Signature



112498

License Number

Texas

Licensing State

09.27.2024

Date

Memorandum

Date: December 23, 2024
To: David Miller (AEP)
Copies to: Leslie Fuerschbach (AEP)
From: Allison Kreinberg (Geosyntec)
Subject: Evaluation of Detection Monitoring Data at Pirkey Plant's Landfill

In accordance with the Texas Commission on Environmental Quality's (TCEQ's) regulations regarding the disposal of coal combustion residuals (CCR) in landfills and surface impoundments (30 TAC 352, "CCR rule"), the second semiannual detection monitoring event of 2024 at the Landfill, an existing CCR unit at the Pirkey Power Plant in Hallsville, Texas, was completed on September 18, 2024. Based on the results, a two-of-two verification sampling was completed on November 6, 2024.

A data quality review was completed to assess if the data collected for this semiannual detection monitoring event met the objectives outlined in TCEQ Draft Technical Guidance No. 32 related to groundwater sampling and analysis¹. The data were determined usable for supporting project objectives, as documented in the review memoranda provided in Attachment A.

Background values (prediction limits) for the LF were originally calculated in January 2018 and have been periodically updated as sufficient data becomes available. An alternative source demonstration (ASD) was certified on January 7, 2020 which resulted in a revision from interwell tests to intrawell tests for the pH, sulfate, and TDS prediction limits. After a minimum of four additional detection monitoring events, the results of those events were compared to the existing background, and the dataset was updated as appropriate. Revised upper prediction limits (UPLs) were calculated for each Appendix III parameter to represent background values. Lower prediction limits (LPLs) were also calculated for pH. Details on the most recent calculation of

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

these revised background values are described in Geosyntec’s *Statistical Analysis Summary* report, dated January 25, 2024.

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

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

- Boron concentrations were above the intrawell UPL of 0.0612 mg/L in both the initial (0.229 mg/L) and second (0.279 mg/L) samples collected at AD-23. Boron concentrations were above the intrawell UPL of 0.0747 mg/L in both the initial (0.082 mg/L) and second (0.085 mg/L) samples collected at AD-36. Therefore, SSIs over background are concluded for boron at AD-23 and AD-36.
- Chloride concentrations were above the intrawell UPL of 8.92 mg/L in both the initial (9.03 mg/L) and second (9.44 mg/L) samples collected at AD-23. Chloride concentrations were above the intrawell UPL of 11.8 mg/L in both the initial (15.7 mg/L) and second (16.3 mg/L) samples collected at AD-36. Therefore, SSIs over background are concluded for chloride at AD-23 and AD-36.

In response to the exceedances noted above, the Pirkey LF will either transition to assessment monitoring or an ASD for boron and chloride at AD-23 and AD-36 will be conducted in accordance with 30 TAC 352.931. The statistical analysis was conducted in accordance with 30 TAC 352.931 and completed within 90 days of sampling and analysis. A certification of these statistics by a qualified professional engineer is provided in Attachment B.

**Table 1. Detection Monitoring Data Evaluation
Detection Summary Memorandum
Pirkey - Landfill**

Analyte	Unit	Description	AD-23		AD-34	AD-36	
			9/18/2024	11/6/2024	9/18/2024	9/18/2024	11/6/2024
Boron	mg/L	Intrawell Background Value (UPL)	0.0612		0.108	0.0747	
		Analytical Result	0.229	0.279	0.07	0.082	0.085
Calcium	mg/L	Intrawell Background Value (UPL)	0.503		46.1	1.22	
		Analytical Result	0.20	--	43.0	0.77	--
Chloride	mg/L	Intrawell Background Value (UPL)	8.92		8.97	11.8	
		Analytical Result	9.03	9.44	7.20	15.7	16.3
Fluoride	mg/L	Intrawell Background Value (UPL)	0.156		1.58	0.0980	
		Analytical Result	0.05	--	0.54	0.08	--
pH	SU	Intrawell Background Value (UPL)	5.0		4.1	5.2	
		Intrawell Background Value (LPL)	3.1		2.9	3.7	
		Analytical Result	3.0	3.8	4.0	3.6	3.9
Sulfate	mg/L	Intrawell Background Value (UPL)	13.6		1,340	4.77	
		Analytical Result	7.1	--	1,160	2.8	--
Total Dissolved Solids	mg/L	Intrawell Background Value (UPL)	104		1,840	84.9	
		Analytical Result	60	--	1,620	50	--

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
Data Quality Review Memoranda

Memorandum

Date: December 2, 2024
To: David Miller (AEP)
Copies to: Pryce Warren (AEP)
From: Allison Kreinberg (Geosyntec)
Subject: Data Quality Review – Pirkey Power Plant
September 2024 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 2024. 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 2024 sampling event and are reviewed in this memorandum:

- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 242807
- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 242840

The data included in these SDGs were reviewed to assess if they met the objectives outlined in TCEQ Draft Technical Guideline No. 32¹ prior to submittal of this data to TCEQ. Only data quality issues which affected data used for compliance with the CCR Rule are discussed herein (i.e., issues associated with filtered samples or additional parameters beyond those included in 40 CFR 257 Appendix III and IV are not discussed).

The following data quality issues were identified:

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

- As reported in SDG 242840, chromium and lithium were detected in the field blank sample “Field Blank” collected on 9/17/24. The detected estimated (J-flagged) chromium concentration in the field blank (0.23 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 242840, chromium was detected in the equipment blank sample “Equipment Blank” collected on 9/17/24. The detected estimated (J-flagged) chromium concentration in the equipment blank (0.22 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 242840, the relative percent difference (RPD) for chromium concentrations from parent sample “AD-22” and duplicate sample “Duplicate 1” was 22%. The RPD for lead concentrations from AD-22 and Duplicate was 32%. The AD-22 results for chromium, and lead should be considered estimated.
- As reported in SDG 242840, Radium-228 was detected in the method blank (MB) above the UCL of 0.95 pCi/L and the associated samples were flagged B1: analyte detected in the MB at or above the method criteria. The associated results should be considered estimated.
- As reported in SDG 242840, laboratory control spike (LCS) recovery for Radium-228 (136%) was above the acceptable limit of 125%. The associated sample (AD-31) was flagged L1: the associated LCS or laboratory control spike duplicate (LCS D) recovery was outside acceptance limits. Insufficient sample was provided for radium duplicates, and AD-31 was flagged O2: insufficient sample was received to perform the matrix spike (MS) and duplicate analyses with this sample batch. The AD-31 Radium-228 result should be considered estimated.
- As reported in SDG 242840, matrix spike duplicate (MSD) recoveries for calcium (129%) and cobalt (205%) were above the acceptable limit of 125%, and MSD recovery for lithium (66.1%) was below the acceptable limit of 75%. The associated sample (AD-22) was flagged M1: the associated MS or MSD recovery was outside acceptance limits. The AD-22 calcium, cobalt, and lithium 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.

Memorandum

Date: December 23, 2024
To: David Miller (AEP)
Copies to: Pryce Warren (AEP)
From: Allison Kreinberg (Geosyntec)
Subject: Data Quality Review – Pirkey Power Plant
November 2024 Verification Resampling Event

This memorandum summarizes the findings of a data quality review for groundwater samples collected at the Pirkey Power Plant in Hallsville, Texas in November 2024. 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”). Select 40 CFR 257 Appendix III constituents were analyzed.

The following sample data group (SDG) was associated with the groundwater samples collected during the November 2024 verification resampling event and is reviewed in this memorandum:

- Dolan Chemical Laboratory (Groveport, Ohio) Job ID # 243294

The data included in this SDG was reviewed to assess if it met the objectives outlined in TCEQ Draft Technical Guideline No. 32¹ prior to submittal of this data to TCEQ.

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

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

ATTACHMENT B

Certification by a Qualified Professional Engineer

CERTIFICATION BY QUALIFIED PROFESSIONAL ENGINEER

I certify that the selected statistical method, described above and in the January 25, 2024 *Statistical Analysis Summary* report, is appropriate for evaluating the groundwater monitoring data for the Pirkey Landfill CCR management area and that the requirements of 30 TAC 352.931(a) have been met.

David Anthony Miller

Printed Name of Licensed Professional Engineer

David Anthony Miller

Signature



112498

License Number

Texas

Licensing State

12.30.2024

Date

APPENDIX 3- Alternate Source Demonstrations

Alternate source demonstrations are included in this appendix. Alternate sources are sources or reasons that explain that statistically significant increases over background or statistically significant levels above the groundwater protection standard are not attributable to the CCR unit.

ALTERNATIVE SOURCE DEMONSTRATION REPORT TEXAS STATE CCR RULE

H.W. Pirkey Power Plant Landfill Registration No. CCR 104 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 CHA8495B

March 2024

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Figure 4: AD-36 Location Photograph

Figure 5: Calcium Time Series Graph

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LIST OF ATTACHMENTS

Attachment A: Arcadis Geologic Cross Sections

Attachment B: AD-36 Boring Log and Well Construction Diagram

Attachment C: February 2023 Pirkey Landfill Leachate Laboratory Analytical Report

Attachment D: Certification by a Qualified Professional Engineer

ACRONYMS AND ABBREVIATIONS

AEP	American Electric Power
ASD	alternative source demonstration
CCR	coal combustion residuals
EPRI	Electric Power Research Institute
HDPE	high-density polyethylene
LPL	lower prediction limit
mg/L	milligrams per liter
SSI	statistically significant increase
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
UPL	upper prediction limit

1. INTRODUCTION AND SUMMARY

This alternative source demonstration (ASD) report has been prepared to address statistically significant increases (SSIs) for calcium and chloride in the groundwater monitoring network at the H.W. Pirkey Plant Landfill (Landfill) in Hallsville, Texas, following the first semiannual detection monitoring event of 2023. 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, including the Landfill (**Figure 1**). The western side of the Landfill overlies a former lignite mining area, as shown on **Figure 2**.

Background groundwater concentrations for the Landfill were initially calculated in January 2018 with data from at least eight monitoring events (Geosyntec 2018). Upper prediction limits (UPLs) were calculated for each Appendix III parameter to represent background values. Lower prediction limits (LPLs) were also calculated for pH.

Because of the presence of lignite mine spoils within the screened interval at downgradient well AD-34, an ASD was certified on January 7, 2020 which resulted in a switch from interwell tests to intrawell tests for evaluation of pH, sulfate, and total dissolved solids prediction limits (Geosyntec 2020). The intrawell prediction limits were updated once sufficient data could be incorporated into the background data set (Geosyntec 2021). Prediction limits were calculated based on a one-of-two retesting procedure to maintain an appropriate site-wide false positive rate. With this procedure, an SSI is concluded only if both samples in a series of two exceed the UPL or, in the case of pH, are below the LPL.

The first semiannual detection monitoring event of 2023 was performed in June 2023 (initial sampling event), and the results were compared to the calculated prediction limits in accordance with 30 Texas Administrative Code (TAC) §352.941(a). Where initial exceedances were identified, verification resampling was completed in August 2023. Following verification resampling, SSIs for calcium and chloride were identified at well AD-36 by intrawell analysis. A summary of the detection monitoring analytical results for the downgradient compliance wells and the calculated prediction limits to which they were compared is provided in **Table 1**.

1.1 CCR Rule Requirements

TCEQ regulations regarding detection monitoring programs for CCR landfills and surface impoundments provide owners and operators with the option to make an ASD when an SSI is identified:

In making a demonstration under this section, the owner or operator must . . . within 90 days of making a determination of an SSI over the background value for any Appendix III constituent adopted by reference in §352.1421 of this title, submit a report prepared and certified in accordance with §352.4 of this title (relating to Engineering and Geoscientific Information), to the executive director, and any local pollution agency with jurisdiction that has requested to be notified, demonstrating that a source other than a coal combustion residuals unit caused the SSI or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. (30 TAC §352.941(c)(2)).

Pursuant to 30 TAC §352.941(c)(2), Geosyntec Consultants, Inc. (Geosyntec) has prepared this ASD report on behalf of American Electric Power (AEP) to document that the SSIs identified for

calcium and chloride in the groundwater monitoring network for the Landfill are from a source other than the Landfill.

1.2 Demonstration of Alternative Sources

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

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

A demonstration was conducted to show that the SSIs identified for calcium and chloride were based on a Type V cause and not by a release from the Pirkey Landfill.

2. SUMMARY OF SITE CONDITIONS

The Landfill design and construction, regional geology and site hydrogeology, and groundwater monitoring network and flow conditions are described below.

2.1 Landfill Design and Construction

The Pirkey Landfill was designed to receive CCR materials including fly ash, bottom ash, economizer ash, and stabilized flue gas desulfurization sludge (Arcadis 2022). The Landfill consists of cells which have been constructed periodically since 1984, when the first cell was developed at the northeastern corner of the Landfill. The most recent cell that has been developed was constructed at the southeast corner of the Landfill beginning in 2018. The Landfill is now approximately 134 acres in size.

The Landfill was constructed within an unnamed tributary creek, and the base of the Landfill is partially excavated into the creek bed (Arcadis 2022). Earthen embankments were installed around portions of the Landfill to control stormwater flow. Leachate is drained from the Landfill via bottom area drains and collection pipes installed at the base of the Landfill. From previous investigations of the Landfill summarized by Arcadis (2022), the Landfill was constructed with an engineered liner. The initial cells included a 3-foot thick compacted soil liner. In 1995, the design was modified to include a 60-mil thick high-density polyethylene (HDPE) geomembrane liner overlying a geosynthetic clay liner. The most recent cell was constructed with a single-composite liner system consisting of, from top to bottom: a 2-foot thick leachate drainage layer; a 60-mil thick HDPE geomembrane liner; and a 2-foot thick compacted clay liner (Akron Consulting, LLC 2022).

As of November 2023, the 2018 expansion is the only cell still actively receiving waste. The approximate area of active waste placement is shown in **Figure 2**. The remainder of the Landfill is either considered closed and covered by a final vegetative cover or closure turf material or considered inactive with temporary soil cover (AEP 2023).

2.2 Regional Geology / Site Hydrogeology

The Landfill is positioned on an outcrop of the Eocene-age Recklaw Formation, which consists predominantly of clay and fine-grained sand (Arcadis 2022). The Recklaw Formation is underlain by the Carrizo Sand, which crops out in the topographically lower southern portion of the plant. The Carrizo Sand consists of fine- to medium-grained sand interbedded with silt and clay.

The Landfill monitoring well network monitors groundwater within the uppermost aquifer, which was defined by Arcadis (2022) as very-fine- to fine-grained clayey and silty sand located below and adjacent to the Landfill, between an elevation of approximately 270 and 330 feet above mean sea level. Cross sections and a cross-section location map from the Arcadis Monitoring Well Network Report (2022) are provided as **Attachment A**. Geologic cross sections C-C' and D-D' show the subsurface structure of the uppermost aquifer (indicated as clayey silty sand, brown to gray) underlying the Landfill. These geologic cross sections also demonstrate lateral continuity of the uppermost aquifer, spanning both directions underneath the entire length of the Landfill.

2.3 Groundwater Monitoring Network and Flow Conditions

The Landfill monitoring well network consists of upgradient monitoring wells AD-8, AD-12, AD-16, and AD-27, and downgradient compliance wells AD-23, AD-34, and AD-36. AD-36 was

installed in April 2019 (after the initial monitoring well network was already in place) as a replacement for well AD-35, which was decommissioned in November 2018 due to the Landfill expansion (Arcadis 2022). The groundwater flow direction near the Landfill is southwesterly (**Figure 1**). Seasonal variability in groundwater flow direction has not been observed since the monitoring well network was installed.

3. ALTERNATIVE SOURCE DEMONSTRATION

The ASD evaluation methods, proposed alternative sources for calcium and chloride, and future groundwater sampling requirements 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 calcium and chloride due to Type I (sampling), Type II (laboratory), Type III (statistical evaluation), or Type IV (natural variation) issues. Groundwater sampling, laboratory analysis, and statistical evaluations were generally completed in accordance with 30 TAC §352.941(a) and the draft TCEQ guidance for groundwater monitoring (TCEQ 2020). Based on a review of groundwater data and recent site construction events, the SSIs for calcium and chloride were attributed to anthropogenic impacts associated with construction activities near the Landfill, which is a Type V issue.

3.1.1 Calcium and Chloride

SSIs for calcium and chloride were observed at monitoring well AD-36, which is located immediately downgradient of the Landfill adjacent to a non-CCR pond. As discussed in a previous ASD (Geosyntec 2023), several construction activities were completed in the vicinity of AD-36 in late 2022 and early 2023, including earthworks and construction to support the installation of an evaporation system associated with plant closure. An area of the non-CCR pond immediately adjacent to AD-36 was bermed and lined to support its use as brine storage, as shown in the photograph provided in **Figure 3**.

Well AD-36 is screened from 5-15 feet below ground surface, as shown in the boring log and well construction diagram provided as **Attachment B**. Given the proximity of AD-36's screen to the ground surface and the construction activities occurring immediately adjacent to AD-36 within the non-CCR pond, these construction activities likely resulted in a change to groundwater composition at AD-36. The location of AD-36 relative to the brine storage area that was recently constructed is shown in **Figure 4**.

Despite slight increases in recent groundwater monitoring events, calcium concentrations at AD-36 remain within the range of those observed at other wells in the groundwater monitoring network. Calcium concentrations at MW-36 have historically been less than or comparable to background monitoring wells AD-12, AD-16, and AD-27. The calcium concentration at AD-36 (0.88 milligrams per liter [mg/L]) remained two orders of magnitude below upgradient background monitoring well AD-8 (93.4 mg/L) during the June 2023 sampling event (**Figure 5**). Similarly, chloride concentrations at AD-36 have historically remained consistent with or below values found at background monitoring wells AD-8, AD-16, and AD-27. While the chloride concentration at AD-36 (12.4 mg/L) exceeded AD-27 (12.1 mg/L) during the most recent October 2023 event, it still was below chloride concentrations found at upgradient wells AD-8 (21.9 mg/L) and AD-16 (22.0 mg/L) (**Figure 6**). These results suggest that while the nearby construction activities have affected calcium and chloride concentrations at AD-36, they are still comparable to other locations across the uppermost aquifer.

Finally, sulfate concentration trends at AD-36 do not support a release from the Landfill. Sulfate is considered an indicator for potential CCR releases. A review of the sulfate concentrations at downgradient well AD-36 over time do not display an increasing trend (**Figure 7**). A leachate

sample collected in February 2023 from the Landfill had a reported sulfate concentration of 329 mg/L, which is almost two orders of magnitude higher than those observed at AD-36 (**Attachment C**). If Landfill leachate were impacting groundwater quality at downgradient wells, an increase in sulfate concentrations at AD-36 would also be expected. Therefore, the variability of calcium and chloride in groundwater at AD-36 should not be attributed to a release from the Landfill.

3.2 Sampling Requirements

As the ASD presented above supports the position that the identified SSIs are not due to a release from the Pirkey Landfill, the unit will remain in the detection monitoring program. Groundwater at the unit will continue to be sampled for Appendix III parameters semiannually.

4. CONCLUSIONS AND RECOMMENDATIONS

The preceding information serves as the ASD prepared in accordance with 30 TAC §352.941(c)(2) and supports the position that the SSIs for calcium and chloride identified during detection monitoring in June 2023 were not due to a release from the Landfill. The identified SSIs should instead be attributed to anthropogenic impacts due to site construction activities. Therefore, no further action is warranted, and the Pirkey Landfill will remain in the detection monitoring program. Certification of this ASD by a qualified professional engineer is provided in **Attachment D**.

5. REFERENCES

- AEP. 2023. 2023 Annual Landfill Inspection Report. H.W. Pirkey Plant. American Electric Power. November.
- Akron Consulting, LLC. 2022. 2018 Landfill Cell – Liner and Leachate Collection Construction Certification. January.
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- TCEQ. 2020. Coal Combustion Residuals Groundwater Monitoring and Corrective Action Draft Technical Guideline No. 32. Topic: Coal Combustion Residuals (CCR) Groundwater Monitoring and Corrective Action. Texas Commission on Environmental Quality, Waste Permits Division. May.

TABLES

**Table 1. Detection Monitoring Data Evaluation
Detection Summary Memorandum
Pirkey - Landfill**

Analyte	Unit	Description	AD-23		AD-34		AD-36	
			6/27/2023	8/23/2023	6/27/2023	8/23/2023	6/27/2023	8/23/2023
Boron	mg/L	Intrawell Background Value (UPL)	0.0433		0.145		0.0702	
		Analytical Result	0.061	0.026	0.057	--	0.067	--
Calcium	mg/L	Intrawell Background Value (UPL)	0.536		42.8		0.304	
		Analytical Result	0.44	--	40.1	--	0.88	1.22
Chloride	mg/L	Intrawell Background Value (UPL)	8.88		9.35		9.54	
		Analytical Result	7.55	--	7.18	--	11.1	11.8
Fluoride	mg/L	Intrawell Background Value (UPL)	1.00		1.29		0.0800	
		Analytical Result	0.04	--	0.63	--	0.06	--
pH	SU	Intrawell Background Value (UPL)	5.2		4.2		5.7	
		Intrawell Background Value (LPL)	2.8		2.9		3.5	
		Analytical Result	4.5	--	3.7	--	4.0	--
Sulfate	mg/L	Intrawell Background Value (UPL)	14.5		1,280		4.20	
		Analytical Result	7.7	--	1,230	--	3.6	--
Total Dissolved Solids	mg/L	Intrawell Background Value (UPL)	111		1,700		98.5	
		Analytical Result	70	--	1,710	1,560	60	--

Notes:

1. Bold values exceed the background value.

2. Background values shaded gray.

LPL: lower prediction limit

mg/L: milligrams per liter

SU: standard units

UPL: upper prediction limit

FIGURES



Legend

Groundwater Monitoring Wells

- ⊕ Out of Network
- ⊕ EBAP
- ⊕ WBAP
- ⊕ Landfill
- ⊕ Stackout Area
- ⊕ EBAP and WBAP
- ⊕ All CCR Unit Networks
- ▲ Piezometer
- Groundwater Elevation Contour
- - - Groundwater Elevation Contours (Inferred)
- ➔ Approximate Groundwater Flow Direction

Notes

1. Monitoring well coordinates and water level data (collected on June 26 and 27, 2023) provided by American Electric Power (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.
4. AD-10, AD-19, AD-20, AD-21, AD-29, and W-3 were not gauged during the June 2023 event.
5. AD-35 was abandoned on November 13, 2018.
6. Removal of CCR plus one foot of material was completed on July 26, 2022 for the West Bottom Ash Pond (WBAP).

EBAP: East Bottom Ash Pond.

1,000 500 0 1,000 Feet

Beth Ann Gross
November 9, 2023

Geosyntec Consultants, Inc.
Texas Firm
Registration No. 1182

Potentiometric Contours: Uppermost Aquifer
June 2023

AEP Pirkey Power Plant
Hallsville, Texas

Geosyntec
consultants

Columbus, Ohio 2023/10/06

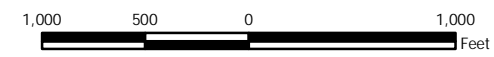
Figure
1



- Legend**
- Upgradient Well
 - Downgradient Well
 - Out of Network Well
 - Abandoned Well
 - Former Lignite Mine
 - Landfill
 - Waste Placement

Notes

- Monitoring well coordinates and water level data (collected on June 20-22, 2022) provided by AEP.
- AD-35 was abandoned on November 13, 2018.
- Active Waste Placement location is approximate.



Landfill Location Relative to Former Lignite Mine Area

AEP Pirkey Power Plant
Hallsville, Texas

Geosyntec
consultants

Figure

2

Columbus, Ohio

2023/08/28



Notes:

1. Photograph illustrating the construction of a lined brine tank immediately adjacent to monitoring well AD-36.
2. The photograph was taken looking south on July 28, 2023.

Non-CCR Pond Construction Photograph

Pirkey Landfill

Geosyntec
consultants



Figure

3

Columbus, Ohio

February 2024



Notes:

1. Photograph depicting the location of AD-36 relative to the newly constructed brine tank portion of the non-CCR pond.
2. The photograph was taken looking northwest on August 28, 2023.

AD-36 Location Photograph
Pirkey Landfill

Geosyntec
consultants

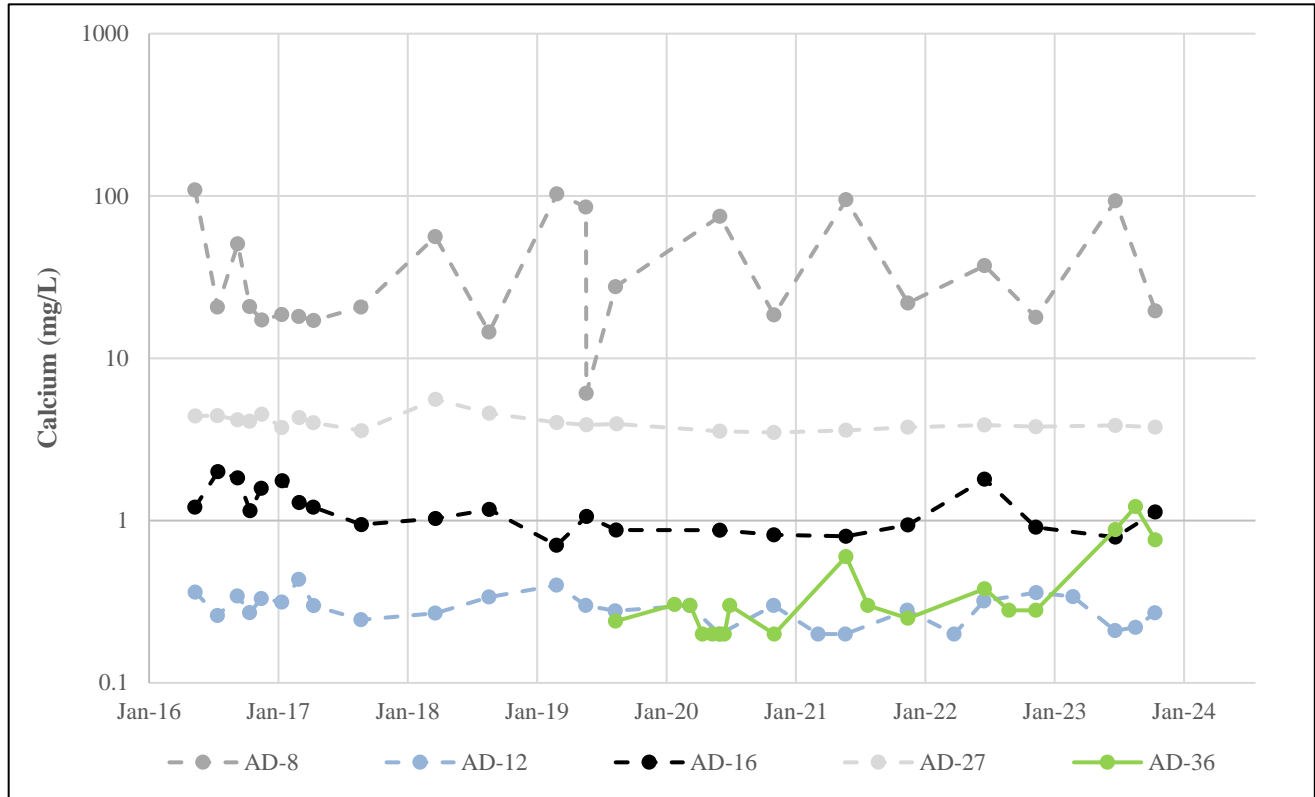


Figure

4

Columbus, Ohio

February 2024



Notes:

1. Calcium concentrations are shown in milligrams per liter (mg/L).
2. Graph is displayed on a logarithmic scale.
3. Graph includes the most recent October 2023 sampling value.
4. Solid lines represent downgradient wells and dashed lines represent upgradient wells.

Calcium Time Series Graph
Pirkey Landfill

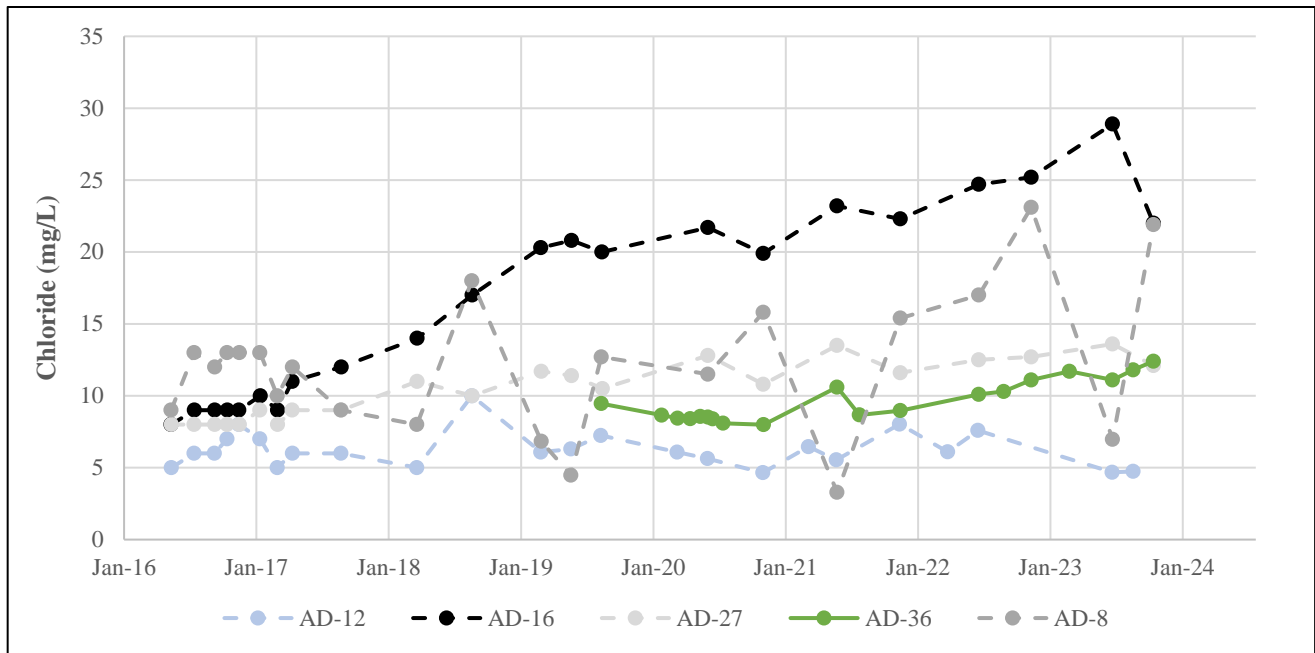


Columbus, Ohio

February 2024

Figure

5



Notes:

1. Chloride concentrations are shown in milligrams per liter (mg/L).
2. Graph includes the most recent October 2023 sampling value.
3. Solid lines represent downgradient wells and dashed lines represent upgradient wells.

Chloride Time Series Graph

Pirkey Landfill

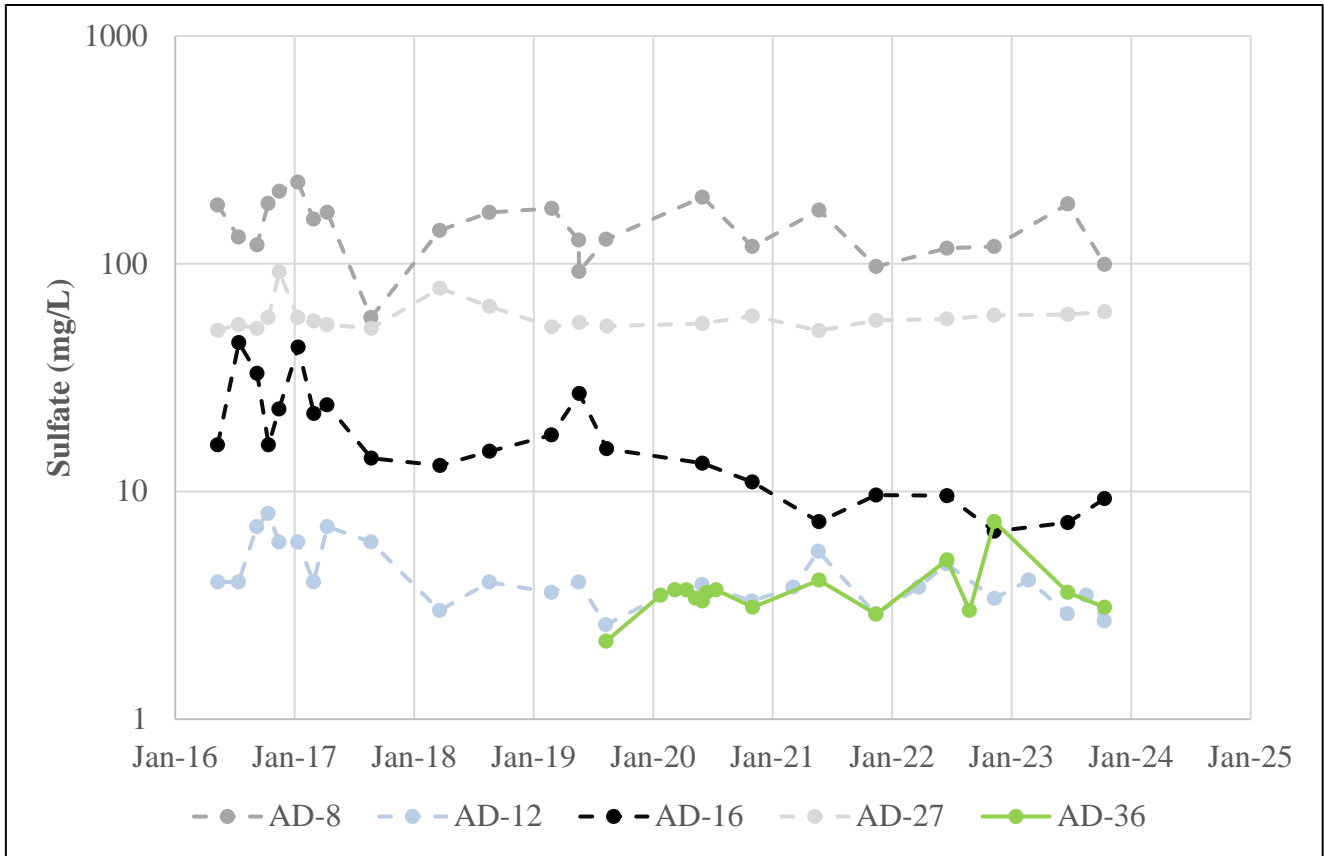


Figure

6

Columbus, Ohio

February 2024



Notes:

1. Sulfate concentrations are shown in milligrams per liter (mg/L).
2. Graph includes the most recent October 2023 sampling value.
3. Graph is displayed on a logarithmic scale.
4. Solid lines represent downgradient wells and dashed lines represent upgradient wells.

Sulfate Time Series Graph
Pirkey Landfill



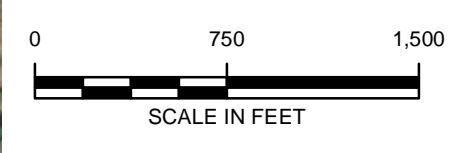
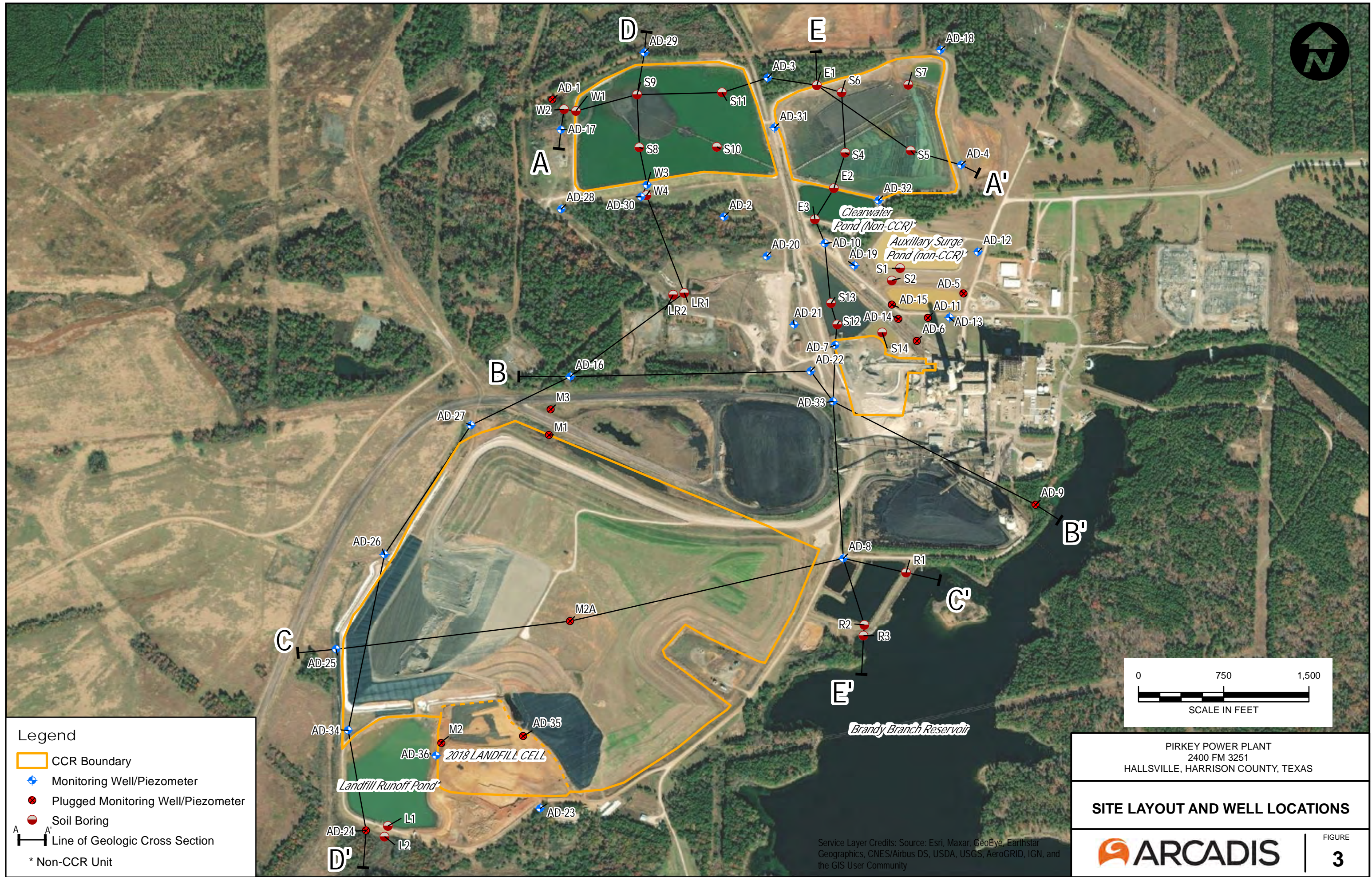
Columbus, Ohio

February 2024

Figure

7

ATTACHMENT A
Arcadis Geologic Cross Sections



- 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

FIGURE
3

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

CITY: DIVGROUP: DE: LD: AM: PD: TM: TR: LYRON+OFF+REF*
 G:\Active Projects\AEP3011794 - Pirkey 2022\Figures-Maps\Figure 6 Cross Section C-C.dwg LAYOUT: MODEL: SAVER: 2/22/2018 11:19 AM: ACADVER: 24.05 (LMS TECH): PAGES: 1: PLOT: 1: PLOTSTYLETABLE: : PLOTTED: 1/13/2022 11:01 AM BY: LEASE, DIANA

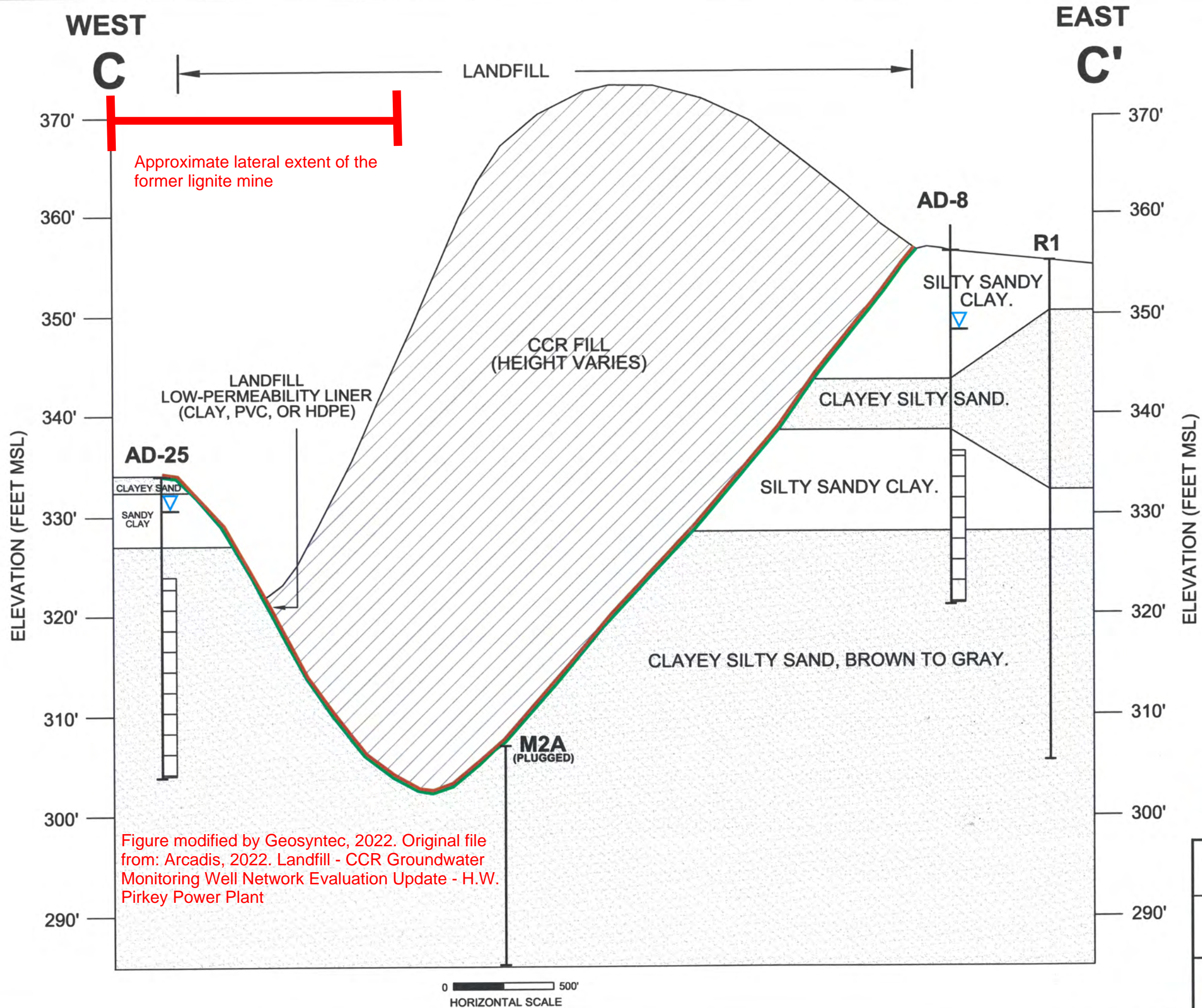


Figure modified by Geosyntec, 2022. Original file from: Arcadis, 2022. Landfill - CCR Groundwater Monitoring Well Network Evaluation Update - H.W. Pirkey Power Plant



PIRKEY POWER PLANT
 2400 FM 3251
 HALLSVILLE, HARRISON COUNTY, TEXAS

CROSS SECTION C - C'

ARCADIS Design & Consultancy for natural and built assets

FIGURE 6

CITY: DIV/GRP: DB: LD: AM: PD: TM: TR: LYRON™-OFF-REF*
 G:\Active Projects\AEP\30117944 - Pirkey 2022\Figures-Maps\Figure 7 Cross Section D-D'.dwg LAYOUT: MODEL: SAV: 2/22/2016 11:20 AM ACADVER: 24.05 (LMS TECH) PAGES: 7 PLOT: 1/13/2022 11:07 AM BY: LEASE, DIANA

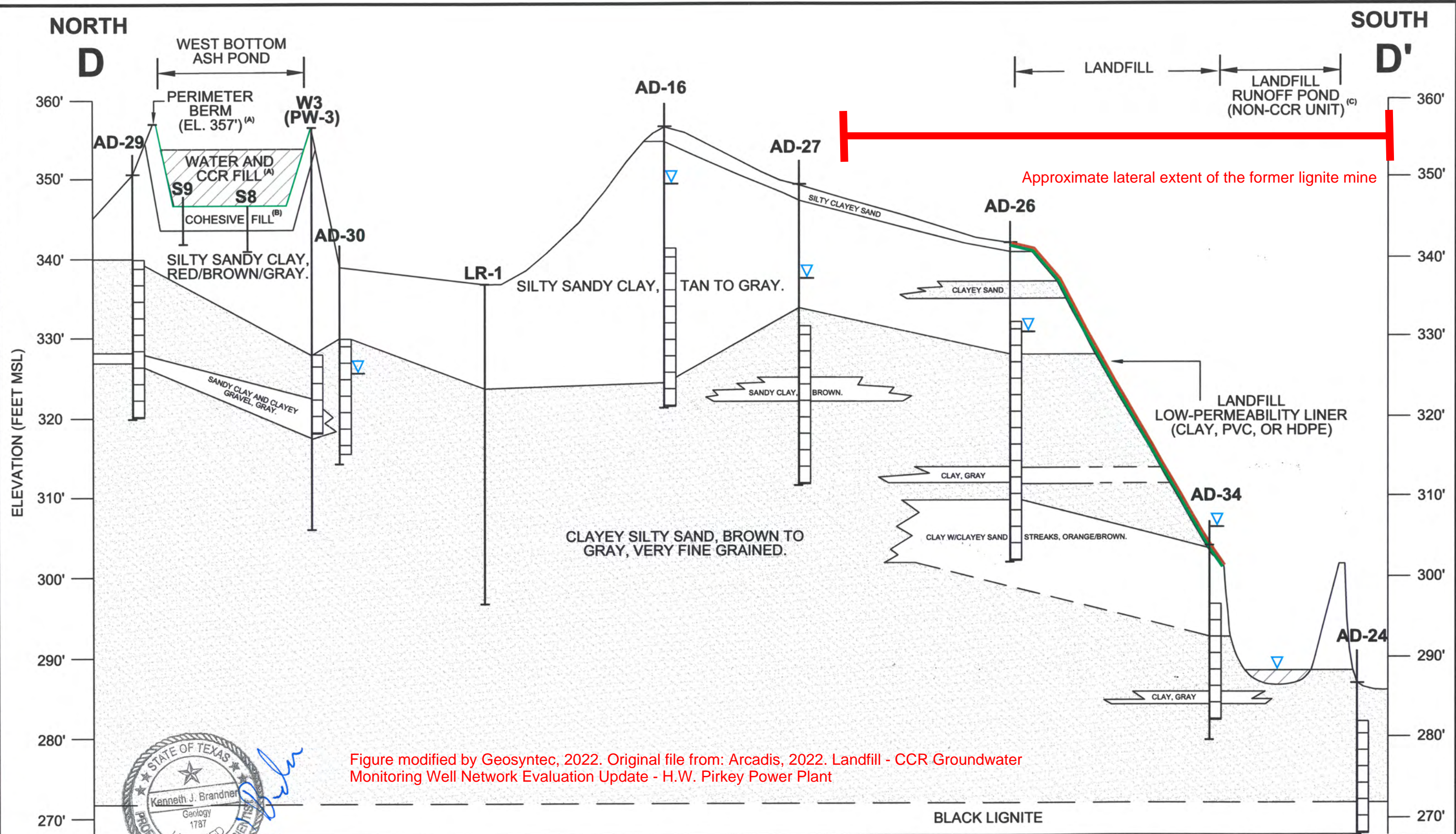
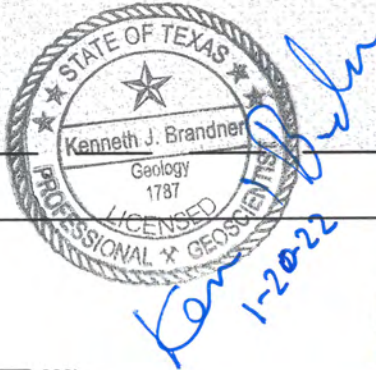


Figure modified by Geosyntec, 2022. Original file from: Arcadis, 2022. Landfill - CCR Groundwater Monitoring Well Network Evaluation Update - H.W. Pirkey Power Plant



- LEGEND**
- MONITORING WELL SCREENED INTERVAL
 - WATER LEVEL IN MONITORING WELL (MAY 2021)
 - BASE OF CCR UNIT

- NOTES:**
- A) TOP OF WEST BOTTOM ASH POND PERIMETER BERM ELEVATION IS 357', OPERATING LEVEL IS 354' (JOHNSON & PACE, MAY 2011); BASE ELEVATION OF WEST 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) LANDFILL RUNOFF POND PERIMETER BERM APPROXIMATE ELEVATION 302' MSL, BASE OF LANDFILL RUNOFF POND APPROXIMATE ELEVATION 286' MSL. NORMAL OPERATING LEVEL 288' MSL (JOHNSON & PACE MAY 2011).



PIRKEY POWER PLANT
 2400 FM 3251
 HALLSVILLE, HARRISON COUNTY, TEXAS

**CROSS SECTION
 D - D'**

ARCADIS Design & Construction for natural and built worlds

FIGURE 7

ATTACHMENT B
AD-36 Boring Log and
Well Construction Diagram

SOIL/WELL BORING LOG



Auckland Consulting LLC

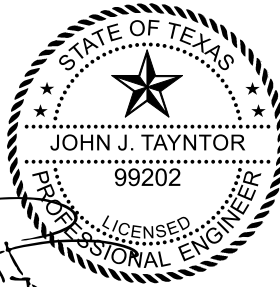
TBPE Firm

No: ~~F10721~~ **F16721** Pirkey Power Station
Harrison County

Drilling Co.: C&S Lease

Driller: Buford E. Collier

Drilling Method: Hollow Stem Auger



04/30/20

Well/Boring #: AD-36	Date Drilled: 4/24/19
Depth of Boring/well: 15 feet	Diameter of Boring: 8.25 inches
Length of Screen: 10 feet	Diameter of Screen: 2 inches
Length of Casing: 5 feet	Diameter of Casing: 2 inches
Filter Pack: 20/40	Slot Size: 0.010 inches
Logged By: John J. Tayntor	Screen Material: Sch 40 PVC

- Concrete/cement
- Clay
- Silty Sand
- Bentonite
- Silty Clay
- Sandy Clay
- Well Screen
- Sand
- Lignite
- Gravel
- Initial Water Level

Depth Feet	GEOLOGIC DESCRIPTION	Lithology Classification	PID ppm	Depth Feet	Well Completion and Lithology	Remarks
0.0	Fill - Reddish Brown, Sandy Lean Clay (CL) with gravel	CL/Fill		0-9		
5.0	Reddish Brown and Tan, Clayey Sand (SC), with gravel	SC		9-11		
10.0	Reddish brown, Sandy Lean Clay (CL), few gravel	CL		11-14		
15.0	Reddish brown, Clayey Sand (SC), with gravel	SC		14-15		
	Well TD = 15 feet.					

*Soil descriptions based on visual observations and intervals are approximate.

MW Location Coordinates: N6871017.4, E3202874.4

ATTACHMENT C
February 2023 Pirkey Landfill Leachate
Laboratory Analytical Report



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 230659

Customer: Pirkey Power Station

Date Reported: 04/06/2023

Customer Sample ID: EBAP

Customer Description: TG-32

Lab Number: 230659-003

Preparation:

Date Collected: 03/01/2023 00:23 EST

Date Received: 03/02/2023 10:30 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.59	mg/L	5	0.25	0.05		CRJ	03/16/2023 13:42	EPA 300.1 -1997, Rev. 1.0
Chloride	84.5	mg/L	5	0.10	0.05		CRJ	03/16/2023 13:42	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.56	mg/L	5	0.15	0.05		CRJ	03/16/2023 13:42	EPA 300.1 -1997, Rev. 1.0
Sulfate	2780	mg/L	100	20	3		CRJ	03/16/2023 19:11	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	03/03/2023 11:26	SM 2320B-2011
TDS, Filterable Residue	3900	mg/L	20	1000	400		SDW	03/07/2023 10:50	SM 2540C-2015

Customer Sample ID: Leachate

Customer Description: TG-32

Lab Number: 230659-004

Preparation:

Date Collected: 02/28/2023 10:55 EST

Date Received: 03/02/2023 10:30 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	1.82	mg/L	5	0.25	0.05		CRJ	03/16/2023 14:15	EPA 300.1 -1997, Rev. 1.0
Chloride	41.7	mg/L	5	0.10	0.05		CRJ	03/16/2023 14:15	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.47	mg/L	5	0.15	0.05		CRJ	03/16/2023 14:15	EPA 300.1 -1997, Rev. 1.0
Sulfate	329	mg/L	50	10	2		CRJ	03/16/2023 21:23	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	94	mg/L	1	20	5		MGK	03/03/2023 11:26	SM 2320B-2011
TDS, Filterable Residue	600	mg/L	20	1000	400	J1	SDW	03/03/2023 12:09	SM 2540C-2015

ATTACHMENT D
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 Landfill CCR management area and that the requirements of 30 TAC §352.941(c)(2) 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
License Number

Texas
Licensing State

March 16, 2024
Date

ALTERNATIVE SOURCE DEMONSTRATION REPORT TEXAS STATE CCR RULE

**H.W. Pirkey Power Plant Landfill
Registration No. CCR 104
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 CHA8495B

August 2024

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Attachment A:	Reissued Laboratory Report for AD-36
Attachment B:	Arcadis Geologic Cross Sections
Attachment C:	February 2023 Pirkey Landfill Leachate Laboratory Analytical Report

Attachment D: AD-36 Boring Log and Well Construction Diagram

Attachment E: Certification by a Qualified Professional Engineer

ACRONYMS AND ABBREVIATIONS

AEP	American Electric Power
ASD	alternative source demonstration
CCR	coal combustion residuals
EPRI	Electric Power Research Institute
HDPE	high-density polyethylene
LPL	lower prediction limit
mg/L	milligrams per liter
SSI	statistically significant increase
SU	standard units
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
UPL	upper prediction limit

1. INTRODUCTION AND SUMMARY

This alternative source demonstration (ASD) report has been prepared to address a statistically significant increase (SSI) for chloride in the groundwater monitoring network at the H.W. Pirkey Plant Landfill (Landfill) in Hallsville, Texas, following the second semiannual detection monitoring event of 2023. 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, including the Landfill (**Figure 1**). The western side of the Landfill overlies a former lignite mining area, as shown on **Figure 2**.

Background groundwater concentrations for the Landfill were initially calculated in January 2018 with data from at least eight monitoring events (Geosyntec 2018). Upper prediction limits (UPLs) were calculated for each Appendix III parameter to represent background values. Lower prediction limits (LPLs) were also calculated for pH.

Because of the presence of lignite mine spoils within the screened interval at downgradient well AD-34, an ASD was certified on January 7, 2020 which resulted in a switch in the groundwater monitoring network statistics from interwell tests to intrawell tests for evaluation of pH, sulfate, and total dissolved solids prediction limits for all wells (Geosyntec 2020). The intrawell prediction limits were updated once sufficient data could be incorporated into the background data set (Geosyntec 2021). After a minimum of four additional detection monitoring events were completed, the prediction limits were recalculated based on a one-of-two retesting procedure to maintain an appropriate site-wide false positive rate (Geosyntec 2024a). With this procedure, an SSI is concluded only if both samples in a series of two exceed the UPL or, in the case of pH, are below the LPL.

The second semiannual detection monitoring event of 2023 was performed in October 2023, and the results were compared to the calculated prediction limits in accordance with 30 Texas Administrative Code (TAC) §352.941(a). Where initial exceedances were identified, verification resampling was completed in February 2024. Following verification resampling, SSIs for boron and chloride were identified at well AD-36 by intrawell analysis (Geosyntec 2024b). A summary of the detection monitoring analytical results for the downgradient compliance wells and the calculated prediction limits to which they were compared is provided in **Table 1**.

Following certification of the statistical evaluation for the second semiannual detection monitoring event of 2023, the laboratory analytical report which contained the boron results for the verification sampling event (sample data group job ID # 249670) was revised and reissued. The reported boron results for both the AD-36 groundwater sample and the associated equipment blank were revised, with the revised results no longer identifying an SSI for boron at AD-36. A summary of the revised analytical results and the calculated prediction limits to which they were compared is provided in **Table 2**. The laboratory analytical report can be found in **Attachment A**.

1.1 CCR Rule Requirements

TCEQ regulations regarding detection monitoring programs for CCR landfills and surface impoundments provide owners and operators with the option to make an ASD when an SSI is identified:

In making a demonstration under this section, the owner or operator must . . . within 90 days of making a determination of an SSI over the background value for any Appendix III

constituent adopted by reference in §352.1421 of this title, submit a report prepared and certified in accordance with §352.4 of this title (relating to Engineering and Geoscientific Information), to the executive director, and any local pollution agency with jurisdiction that has requested to be notified, demonstrating that a source other than a coal combustion residuals unit caused the SSI or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. (30 TAC §352.941(c)(2)).

Pursuant to 30 TAC §352.941(c)(2), Geosyntec Consultants, Inc. (Geosyntec) has prepared this ASD report on behalf of American Electric Power (AEP) to document that the SSI identified for chloride in the groundwater monitoring network for the Landfill is from a source other than the Landfill.

1.2 Demonstration of Alternative Sources

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

- ASD Type I: Sampling Causes
- ASD Type II: Laboratory Causes
- ASD Type III: Statistical Evaluation Causes
- ASD Type IV: Natural Variation
- ASD Type V: Alternative Sources (i.e., anthropogenic impacts)

A demonstration was conducted to show that the SSI identified for chloride was based on a Type IV cause and not by a release from the Pirkey Landfill.

2. SUMMARY OF SITE CONDITIONS

The Landfill design and construction, regional geology and site hydrogeology, and groundwater monitoring network and flow conditions are described below.

2.1 Landfill Design and Construction

The Pirkey Landfill was designed to receive CCR materials including fly ash, bottom ash, economizer ash, and stabilized flue gas desulfurization sludge (Arcadis 2022). The Landfill consists of cells which have been constructed periodically since 1984, when the first cell was developed at the northeastern corner of the Landfill. The most recent cell that has been developed was constructed at the southeast corner of the Landfill beginning in 2018. The Landfill is now approximately 134 acres in size.

The Landfill was constructed within an unnamed tributary creek, and the base of the Landfill is partially excavated into the creek bed (Arcadis 2022). Earthen embankments were installed around portions of the Landfill to control stormwater flow. Leachate is drained from the Landfill via bottom area drains and collection pipes installed at the base of the Landfill. From previous investigations of the Landfill summarized by Arcadis (2022), the Landfill was constructed with an engineered liner. The initial cells included a 3-foot thick compacted soil liner. In 1995, the design was modified to include a 60-mil thick high-density polyethylene (HDPE) geomembrane liner overlying a geosynthetic clay liner. The most recent cell was constructed with a single-composite liner system consisting of, from top to bottom: a 2-foot thick leachate drainage layer; a 60-mil thick HDPE geomembrane liner; and a 2-foot thick compacted clay liner (Akron Consulting, LLC 2022).

As of November 2023, the 2018 expansion is the only cell still actively receiving waste. The approximate area of active waste placement is shown in **Figure 2**. The remainder of the Landfill is either considered closed and covered by a final vegetative cover or closure turf material or considered inactive with temporary soil cover (AEP 2023).

2.2 Regional Geology / Site Hydrogeology

The Landfill is positioned on an outcrop of the Eocene-age Recklaw Formation, which consists predominantly of clay and fine-grained sand (Arcadis 2022). The Recklaw Formation is underlain by the Carrizo Sand, which crops out in the topographically lower southern portion of the plant. The Carrizo Sand consists of fine- to medium-grained sand interbedded with silt and clay.

The Landfill monitoring well network monitors groundwater within the uppermost aquifer, which was defined by Arcadis (2022) as very-fine- to fine-grained clayey and silty sand located below and adjacent to the Landfill, between an elevation of approximately 270 and 330 feet above mean sea level. Cross sections and a cross-section location map from the Arcadis Monitoring Well Network Report (2022) are provided as **Attachment B**. Geologic cross sections C-C' and D-D' show the subsurface structure of the uppermost aquifer (indicated as clayey silty sand, brown to gray) underlying the Landfill. These geologic cross sections also demonstrate lateral continuity of the uppermost aquifer, spanning both directions underneath the entire length of the Landfill.

2.3 Groundwater Monitoring Network and Flow Conditions

The Landfill monitoring well network consists of upgradient monitoring wells AD-8, AD-12, AD-16, and AD-27, and downgradient compliance wells AD-23, AD-34, and AD-36. AD-36 was

installed in April 2019 (after the initial monitoring well network was already in place) as a replacement for well AD-35, which was decommissioned in November 2018 due to the Landfill expansion (Arcadis 2022). The groundwater flow direction near the Landfill is southwesterly (**Figure 1**). Seasonal variability in groundwater flow direction has not been observed since the monitoring well network was installed.

3. ALTERNATIVE SOURCE DEMONSTRATION

The ASD evaluation method and proposed alternative source of chloride and the future groundwater sampling requirements 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 an alternative source for chloride due to Type I (sampling), Type II (laboratory), Type III (statistical evaluation), or Type V (anthropogenic impact) issues. Groundwater sampling, laboratory analysis, and statistical evaluations were generally completed in accordance with 30 TAC §352.941(a) and the draft TCEQ guidance for groundwater monitoring (TCEQ 2020). Based on a review of groundwater data and recent site construction events, the SSI for chloride was attributed to natural variation associated with naturally occurring aqueous chloride concentrations within the aquifer unit beneath the Landfill, which is a Type IV issue.

3.1.1 Evaluation of Analytical Data

The SSI for chloride was observed at monitoring well AD-36, which is located immediately downgradient of the Landfill adjacent to a non-CCR pond (**Figure 1**). Following the initial exceedance (12.4 mg/L, which exceeds the UPL of 11.8 milligrams/liter [mg/L]) reported during the October 2023 sampling event, a verification event was completed. The February 2024 verification event chloride concentration at AD-36 (14.0 mg/L) confirmed the SSI.

The AD-36 aqueous chloride concentrations detected during the second semiannual and verification events were less than concentrations reported for upgradient wells AD-8 (21.9 mg/L) and AD-16 (22.0 mg/L) (**Figure 3**). Although chloride values have been slightly increasing at AD-36 over the previous four (4) sampling events, similar increases in chloride have also been observed at upgradient monitoring well AD-16 and chloride concentrations at background monitoring well AD-27 have generally been trending similar to those at AD-36 since 2020 (**Figure 3**). Despite minor increases in chloride at AD-36, concentrations still fall within the range observed for background chloride from monitoring wells upgradient of the Landfill. Slight chloride increases within the background groundwater over multi-year time periods are occasionally observed and reflect natural fluctuations in aqueous chloride within the aquifer unit. These same fluctuations would be expected to occur within the AD-36 groundwater as well.

Sulfate concentration trends at AD-36 do not support a release from the Landfill. Sulfate is considered an indicator for potential CCR releases due to its high concentrations in CCR source material and lack of chemical attenuation along groundwater flow paths. A review of the sulfate concentrations at downgradient well AD-36 over time do not display an increasing trend, but rather generally stable concentrations which are less than or comparable to the background monitoring wells (**Figure 4**). A leachate sample collected in February 2023 from the Landfill leachate collection system had a reported sulfate concentration of 329 mg/L (**Attachment C**), which is almost two orders of magnitude higher than the groundwater concentrations observed at AD-36. If Landfill leachate were impacting groundwater quality at downgradient wells and causing the minor increases in chloride at AD-36, an increase in sulfate concentrations at AD-36 would also be expected.

Historical boron concentrations also support that AD-36 is not impacted by a release from the Landfill. Similarly to sulfate, boron is considered an indicator for CCR releases. As shown on

Figure 5, boron values found at AD-36 have continued to remain stable and comparable to background monitoring wells AD-12, AD-16, and AD-27 and less than background monitoring well AD-8. The February 2023 leachate sample, also shown on **Figure 5**, had a reported boron concentration of 2.37 mg/L, which is over an order of magnitude greater than concentrations observed at AD-36 (0.051 to 0.081 mg/L). Due to the elevated leachate boron concentration, it is assumed that increasing boron trends would also be observed at AD-36 should a release occur.

Based on the above evaluation, the variability of chloride in groundwater at AD-36 should not be attributed to the Landfill.

3.1.2 Effect of Construction Activities

While the chloride concentrations found at AD-36 are indicative of a Type IV source, additional anthropogenic activities may be contributing factors. As discussed in previous ASDs (Geosyntec 2023; Geosyntec 2024c), several construction activities were completed in the vicinity of AD-36 in late 2022 and early 2023, including extensive earthwork and construction to support the installation of an evaporation system associated with plant closure at the brine pond immediately adjacent to well AD-36. An area of the non-CCR pond immediately adjacent to AD-36 was bermed and lined to support its use as brine storage, as shown in the photograph provided in **Figure 6**. The location of AD-36 relative to the recently constructed brine storage area is shown in **Figure 7**.

Well AD-36 is screened from 5-15 feet below ground surface, as shown in the boring log and well construction diagram provided as **Attachment D**. Given the proximity of the screen of well AD-36 to the ground surface and the previous construction activities occurring immediately adjacent to AD-36 within the non-CCR pond, these construction activities potentially resulted in changes to the groundwater composition at AD-36 (e.g., impacts from meteoric or surface water infiltration, infiltration of water used as dust suppressant on the adjacent gravel road).

3.2 Sampling Requirements

As the ASD presented above supports the position that the identified SSI was not due to a release from the Pirkey Landfill, the unit will remain in the detection monitoring program. Groundwater at the unit will continue to be sampled for Appendix III parameters semiannually.

4. CONCLUSIONS AND RECOMMENDATIONS

The preceding information serves as the ASD prepared in accordance with 30 TAC §352.941(c)(2) and supports the position that the SSI for chloride identified during detection monitoring in October 2023 was not due to a release from the Landfill. The identified SSI should instead be attributed to naturally occurring aqueous chloride concentrations found within the aquifer. Therefore, no further action is warranted, and the Pirkey Landfill will remain in the detection monitoring program. Certification of this ASD by a qualified professional engineer is provided in **Attachment E**.

5. REFERENCES

- AEP. 2023. 2023 Annual Landfill Inspection Report. H.W. Pirkey Plant. American Electric Power. November.
- Akron Consulting, LLC. 2022. 2018 Landfill Cell – Liner and Leachate Collection Construction Certification. January.
- Arcadis. 2022. Landfill – CCR Groundwater Monitoring Well Network Evaluation Update. H.W. Pirkey Power Plant. January.
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- TAC. 2020. Texas Administrative Code, Title 30, Part 1, Chapter 352: Coal Combustion Residuals Waste Management. May 22.
- TCEQ. 2020. Coal Combustion Residuals Groundwater Monitoring and Corrective Action Draft Technical Guideline No. 32. Topic: Coal Combustion Residuals (CCR) Groundwater Monitoring and Corrective Action. Texas Commission on Environmental Quality, Waste Permits Division. May.

TABLES

**Table 1. Detection Monitoring Data Evaluation
Alternative Source Demonstration Report
Pirkey - Landfill**

Analyte	Unit	Description	AD-23	AD-34	AD-36	
			10/18/2023	10/18/2023	10/18/2023	2/20/2024
Boron	mg/L	Intrawell Background Value (UPL)	0.0612	0.108	0.0747	
		Analytical Result	0.051	0.057	0.081	0.220
Calcium	mg/L	Intrawell Background Value (UPL)	0.503	46.1	1.22	
		Analytical Result	0.26	34.6	0.76	--
Chloride	mg/L	Intrawell Background Value (UPL)	8.92	8.97	11.8	
		Analytical Result	7.99	7.33	12.4	14.0
Fluoride	mg/L	Intrawell Background Value (UPL)	0.156	1.58	0.0980	
		Analytical Result	0.05	0.74	0.07	--
pH	SU	Intrawell Background Value (UPL)	5.0	4.1	5.2	
		Intrawell Background Value (LPL)	3.1	2.9	3.7	
		Analytical Result	4.0	3.3	4.2	--
Sulfate	mg/L	Intrawell Background Value (UPL)	13.6	1,340	4.77	
		Analytical Result	7.7	1,160	3.1	--
Total Dissolved Solids	mg/L	Intrawell Background Value (UPL)	104	1,840	84.9	
		Analytical Result	44	1,620	52	--

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

**Table 2. Revised Data Evaluation
Alternative Source Demonstration Report
Pirkey - Landfill**

Analyte	Unit	Description	AD-23	AD-34	AD-36	
			10/18/2023	10/18/2023	10/18/2023	2/20/2024
Boron	mg/L	Intrawell Background Value (UPL)	0.0612	0.108	0.0747	
		Analytical Result	0.051	0.057	0.081	0.055
Calcium	mg/L	Intrawell Background Value (UPL)	0.503	46.1	1.22	
		Analytical Result	0.26	34.6	0.76	--
Chloride	mg/L	Intrawell Background Value (UPL)	8.92	8.97	11.8	
		Analytical Result	7.99	7.33	12.4	14.0
Fluoride	mg/L	Intrawell Background Value (UPL)	0.156	1.58	0.0980	
		Analytical Result	0.05	0.74	0.07	--
pH	SU	Intrawell Background Value (UPL)	5.0	4.1	5.2	
		Intrawell Background Value (LPL)	3.1	2.9	3.7	
		Analytical Result	4.0	3.3	4.2	--
Sulfate	mg/L	Intrawell Background Value (UPL)	13.6	1,340	4.77	
		Analytical Result	7.7	1,160	3.1	--
Total Dissolved Solids	mg/L	Intrawell Background Value (UPL)	104	1,840	84.9	
		Analytical Result	44	1,620	52	--

Notes:

1. Bold values exceed the background value.

2. Background values are shaded gray.

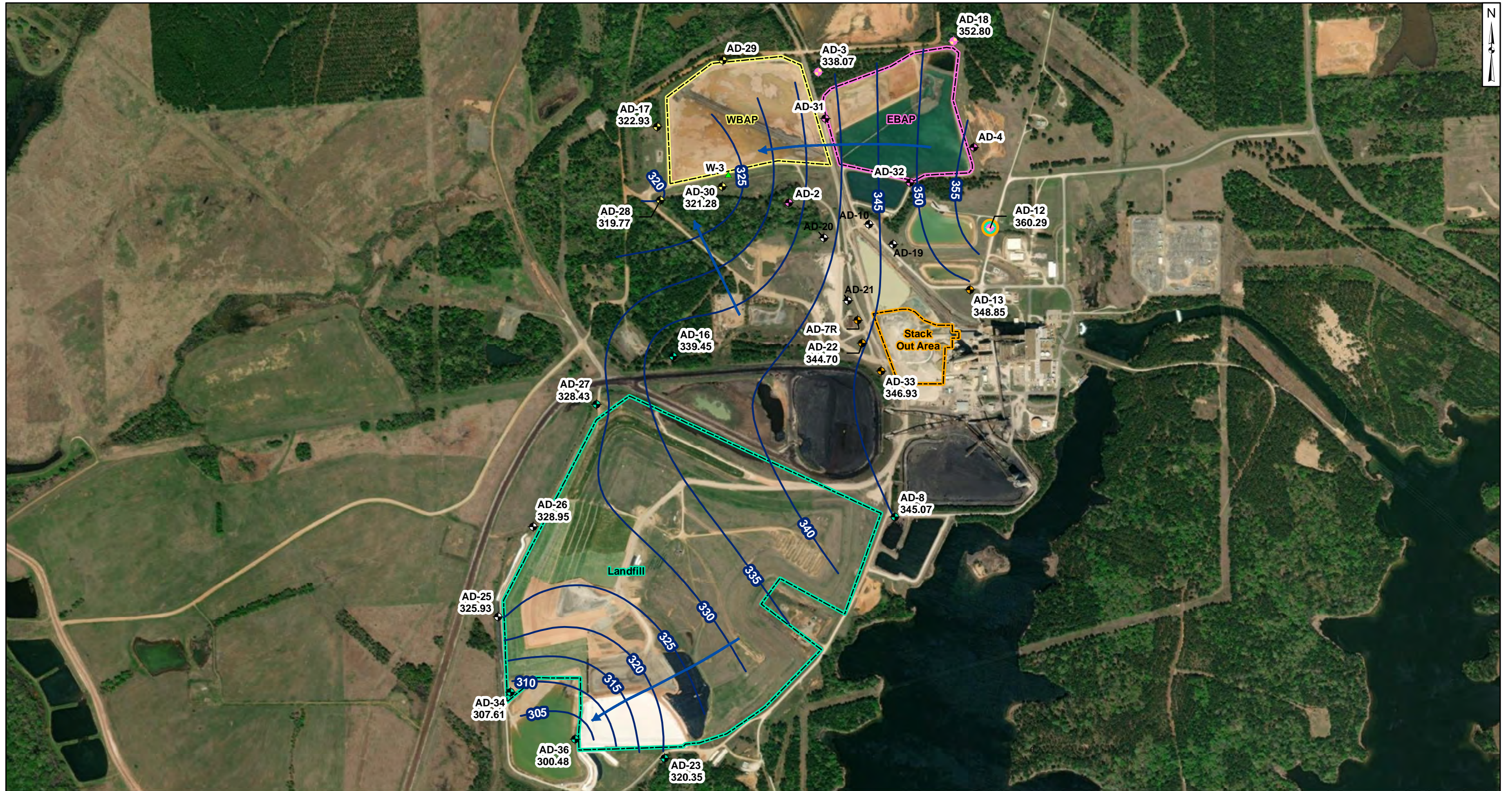
LPL: lower prediction limit

mg/L: milligrams per liter

SU: standard units

UPL: upper prediction limit

FIGURES



Legend

Groundwater Monitoring Wells

- Out of Network
- EBAP
- WBAP
- Landfill
- Stackout Area
- EBAP and WBAP
- All CCR Unit Networks
- Piezometer
- Groundwater Elevation Contour
- Approximate Groundwater Flow Direction

- Notes**
1. Monitoring well coordinates and water level data (collected on October 17 and 18, 2023) provided by AEP.
 2. Site features based on information available in CCR Groundwater Monitoring Well Network Evaluation Update (Arcadis 2022) provided by AEP.
 3. Groundwater elevation units are feet above mean sea level.
 4. EBAP wells were not gauged during the October 2023 event.
 5. AD-02, AD-04, AD-10, AD-19, AD-20, AD-21, AD-24, AD-29, AD-31, AD-32, and W-3 were not gauged during the October 2023 event.
 6. AD-7R (350.92 ft msl) was not used for contouring due to an anomalous reading.
 7. AD-35 was abandoned on November 13, 2018.
 8. AD-7R will be used as a substitute for AD-07, as it was abandoned.
 9. Removal of CCR plus one foot of material was completed on July 26, 2022, for the West Pond.
 10. Removal of CCR plus one foot of material was completed on July 20, 2023, for the East Pond.
 11. Removal of CCR plus one foot of material was completed on September 18, 2023, for FGDSA.

1,000 500 1,000 Feet

Beth Ann Gross

January 19, 2024

Geosyntec Consultants, Inc.
Texas Firm
Registration No. 1182

Potentiometric Contours: Uppermost Aquifer
October 2023

AEP Pirkey Power Plant
Hallsville, Texas

Geosyntec
consultants

Columbus, Ohio 2024/01/10

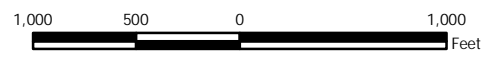
Figure
1



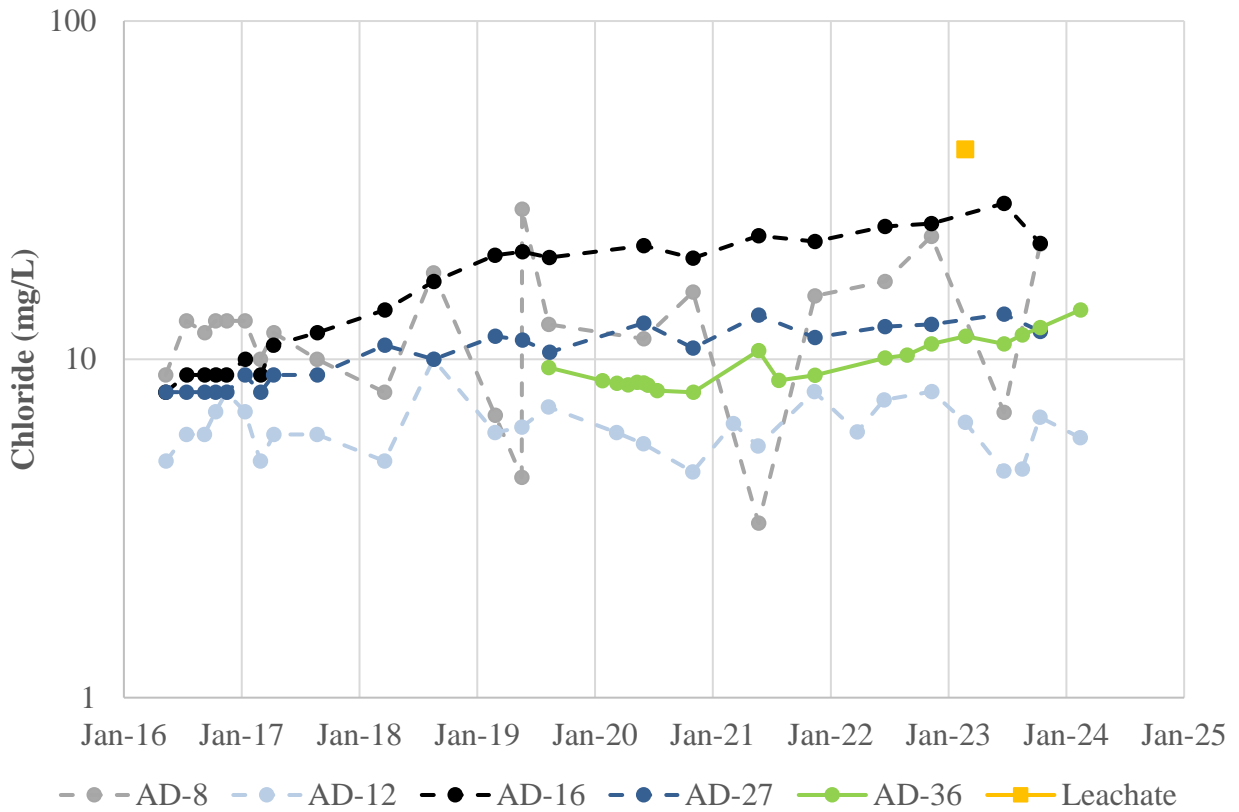
- Legend**
- Upgradient Well
 - Downgradient Well
 - Out of Network Well
 - Abandoned Well
 - Former Lignite Mine
 - Waste Placement
 - Landfill

Notes

- Monitoring well coordinates and water level data (collected on June 20-22, 2022) provided by AEP.
- AD-35 was abandoned on November 13, 2018.
- Active Waste Placement location is approximate.



<p>Landfill Location Relative to Former Lignite Mine Area</p> <p>AEP Pirkey Power Plant Hallsville, Texas</p>		<p>Figure 2</p>
<p>Geosyntec consultants</p>		
<p>Columbus, Ohio</p>	<p>2023/08/28</p>	



Notes:

1. Chloride concentrations are shown in milligrams per liter (mg/L).
2. Graph includes the AD-12 and AD-36 2024 verification sampling results and the leachate sample collected in February 2023.
3. Graph is displayed on a logarithmic scale.
4. Solid lines represent downgradient wells and dashed lines represent upgradient wells.

Chloride Time Series Graph

Pirkey Landfill

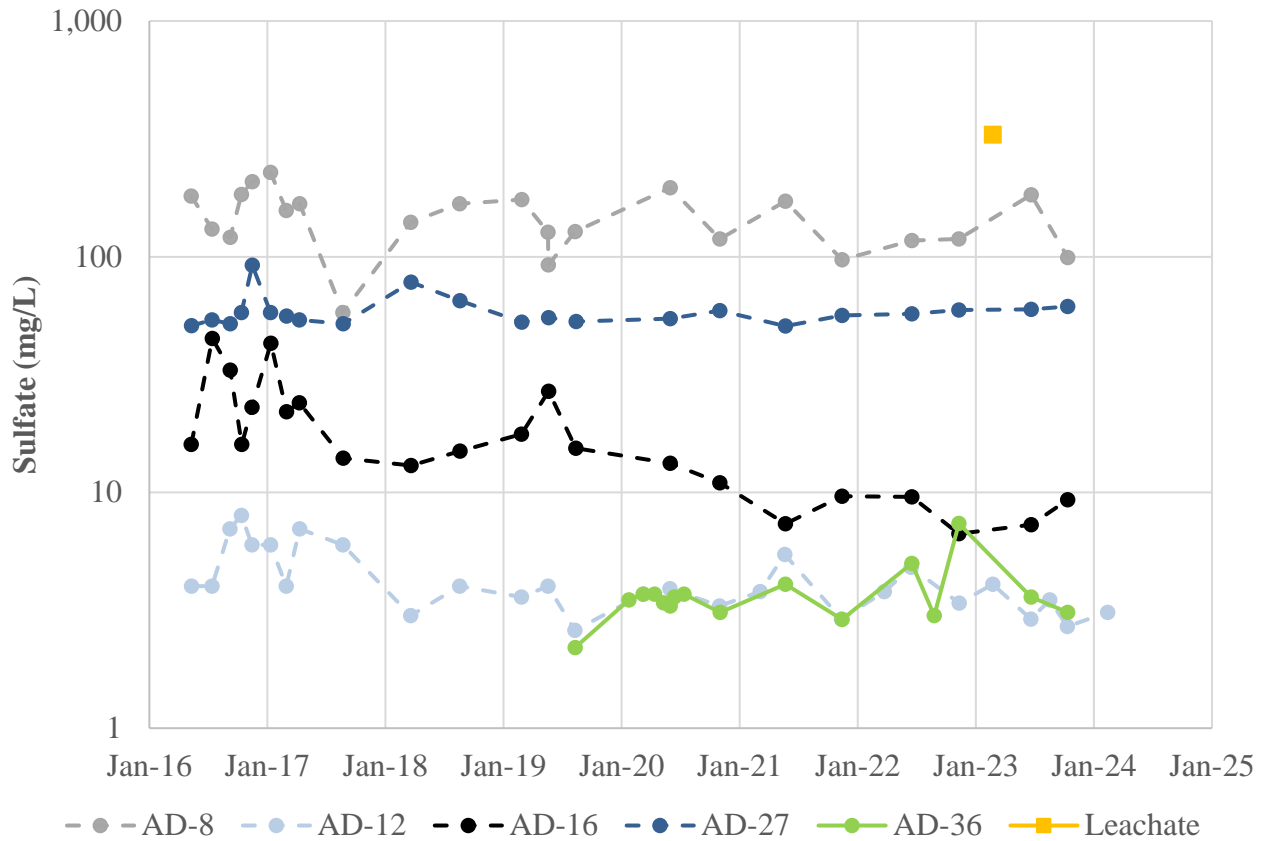


Figure

3

Columbus, Ohio

July 2024



Notes:

1. Sulfate concentrations are shown in milligrams per liter (mg/L).
2. Graph includes the AD-12 2024 verification sampling event result and leachate sample collected in February 2023.
3. Graph is displayed on a logarithmic scale.
4. Solid lines represent downgradient wells and dashed lines represent upgradient wells.

Sulfate Time Series Graph

Pirkey Landfill

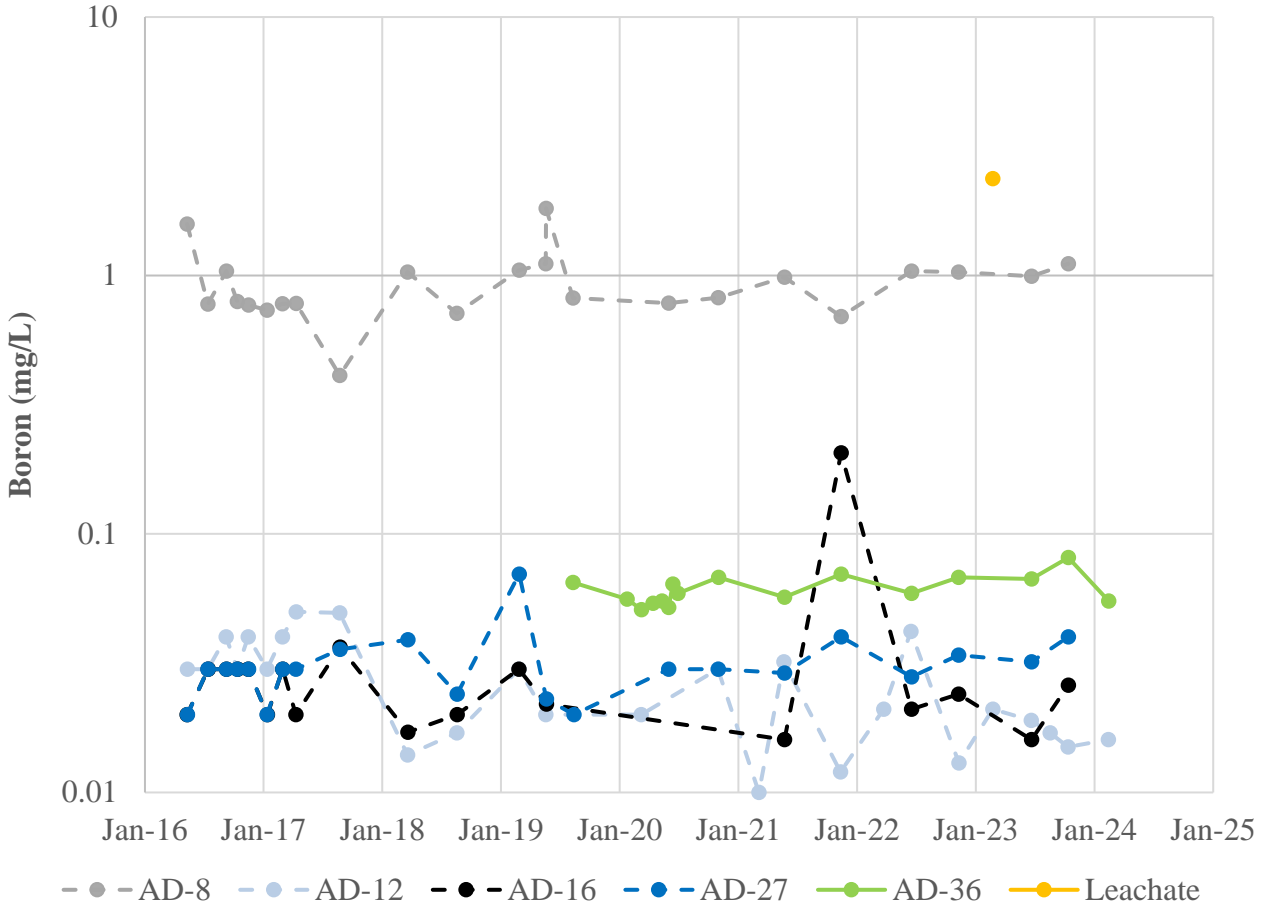


Figure

4

Columbus, Ohio

July 2024



Notes:
 1. Boron concentrations are shown in milligrams per liter (mg/L).
 2. Graph includes the AD-12 and AD-36 2024 verification sampling event result and leachate sample collected in February 2023.
 3. Graph is displayed on a logarithmic scale.
 4. Solid lines represent downgradient wells and dashed lines represent upgradient wells.

Boron Time Series Graph
 Pirkey Landfill



Columbus, Ohio

July 2024

Figure
5



Notes:

1. Photograph illustrating the construction of a lined brine tank immediately adjacent to monitoring well AD-36.
2. The photograph was taken looking south on July 28, 2023.

Non-CCR Pond Construction Photograph

Pirkey Landfill

Geosyntec
consultants



Figure

6

Columbus, Ohio

February 2024



Notes:

1. Photograph depicting the location of AD-36 relative to the newly constructed brine tank portion of the non-CCR pond.
2. The photograph was taken looking northwest on August 28, 2023.

AD-36 Location Photograph
Pirkey Landfill

Geosyntec
consultants



Figure

7

Columbus, Ohio

February 2024

ATTACHMENT A
Reissued Laboratory Report for AD-36



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 240643

Customer: Pirkey Power Station

Date Reported: 03/19/2024

Customer Sample ID: AD-36

Customer Description:

Lab Number: 240643-001

Preparation:

Date Collected: 02/20/2024 09:36 EST

Date Received: 02/22/2024 09:50 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	14.0	mg/L	2	0.04	0.01		CRJ	02/28/2024 15:48	EPA 300.1 -1997, Rev. 1.0

Report Verification

This report and the above data have been confirmed by the following analyst.

Michael Ohlinger, Chemist

Email: msohlinger@aep.com

Phone: 614-836-4184

Audinet: 8-210-4184

THIS TEST REPORT RELATES ONLY TO THE ITEMS TESTED AND SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THE LABORATORY. ALL TEST RESULTS MEET ALL OF THE REQUIREMENTS OF THE ACCREDITING AUTHORITY, UNLESS OTHERWISE NOTED. ALL TIMES LISTED ARE IN THE EASTERN TIME ZONE.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Reissued

Job ID: 240670

Customer: Pirkey Power Station

Date Reported: 05/28/2024

Customer Sample ID: AD-36

Customer Description:

Lab Number: 240670-001

Preparation:

Date Collected: 02/20/2024 09:36 EST

Date Received: 02/23/2024 11:00 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.055	mg/L	1	0.050	0.007		GES	05/21/2024 15:41	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: Equipment Blank

Customer Description:

Lab Number: 240670-002

Preparation:

Date Collected: 02/20/2024 09:45 EST

Date Received: 02/23/2024 11:00 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	<0.007	mg/L	1	0.050	0.007	U1	GES	05/21/2024 15:46	EPA 200.8-1994, Rev. 5.4

240670

Job Comments:

Original report issued 3/25/24. Report reissued 5/28/24 with ammendments for boron.

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.



Job ID: 240670

Water Analysis Report

Reissued

Customer: Pirkey Power Station

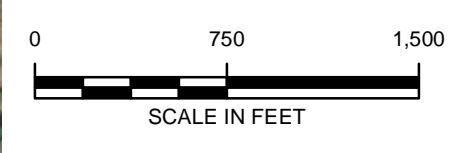
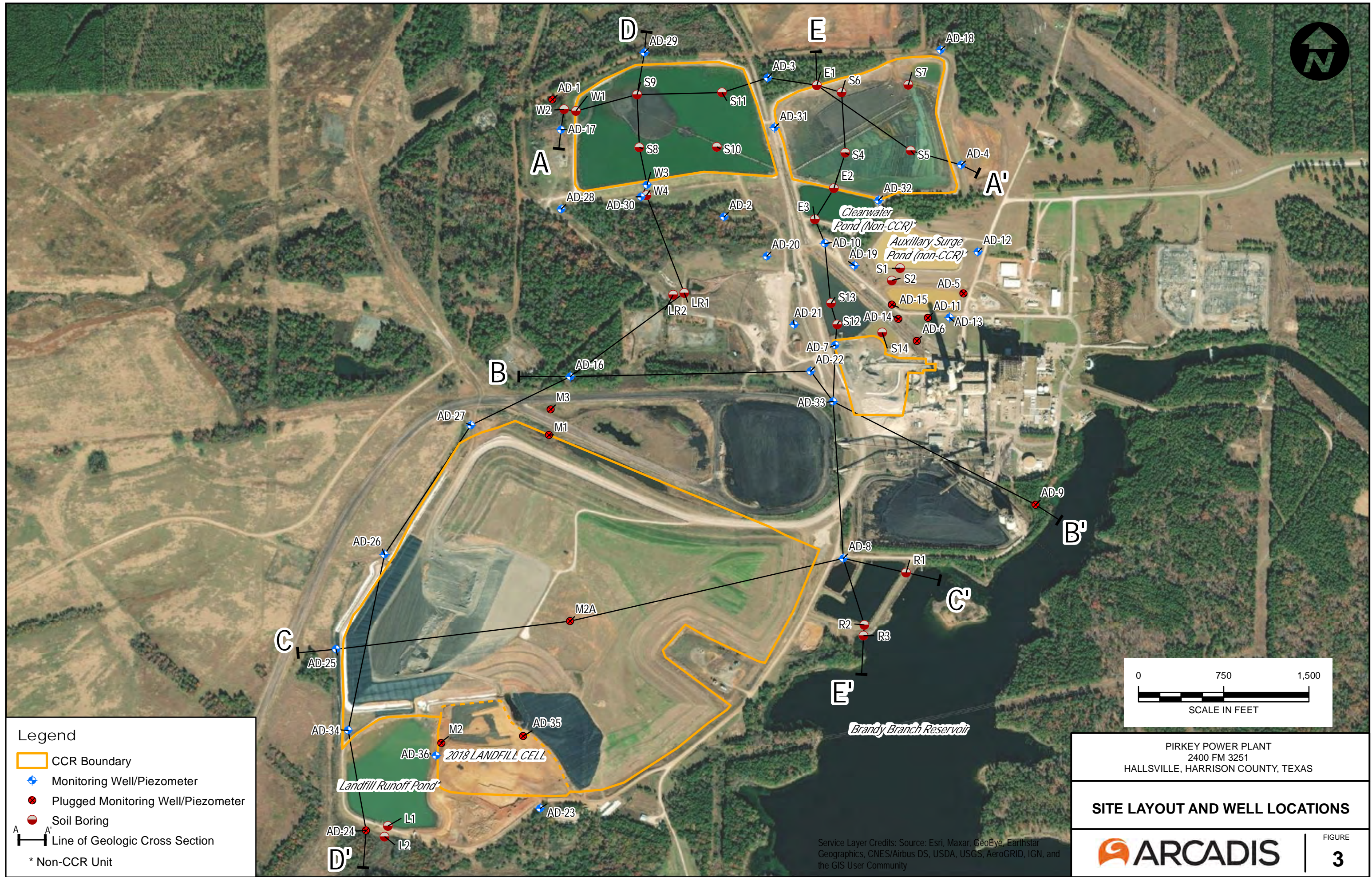
Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Date Reported: 05/28/2024

Data Qualifier Legend

U1 - Not detected at or below method detection limit (MDL).

ATTACHMENT B
Arcadis Geologic Cross Sections



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


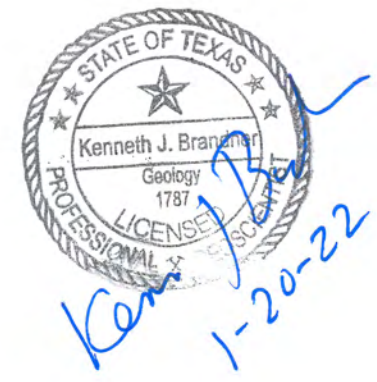
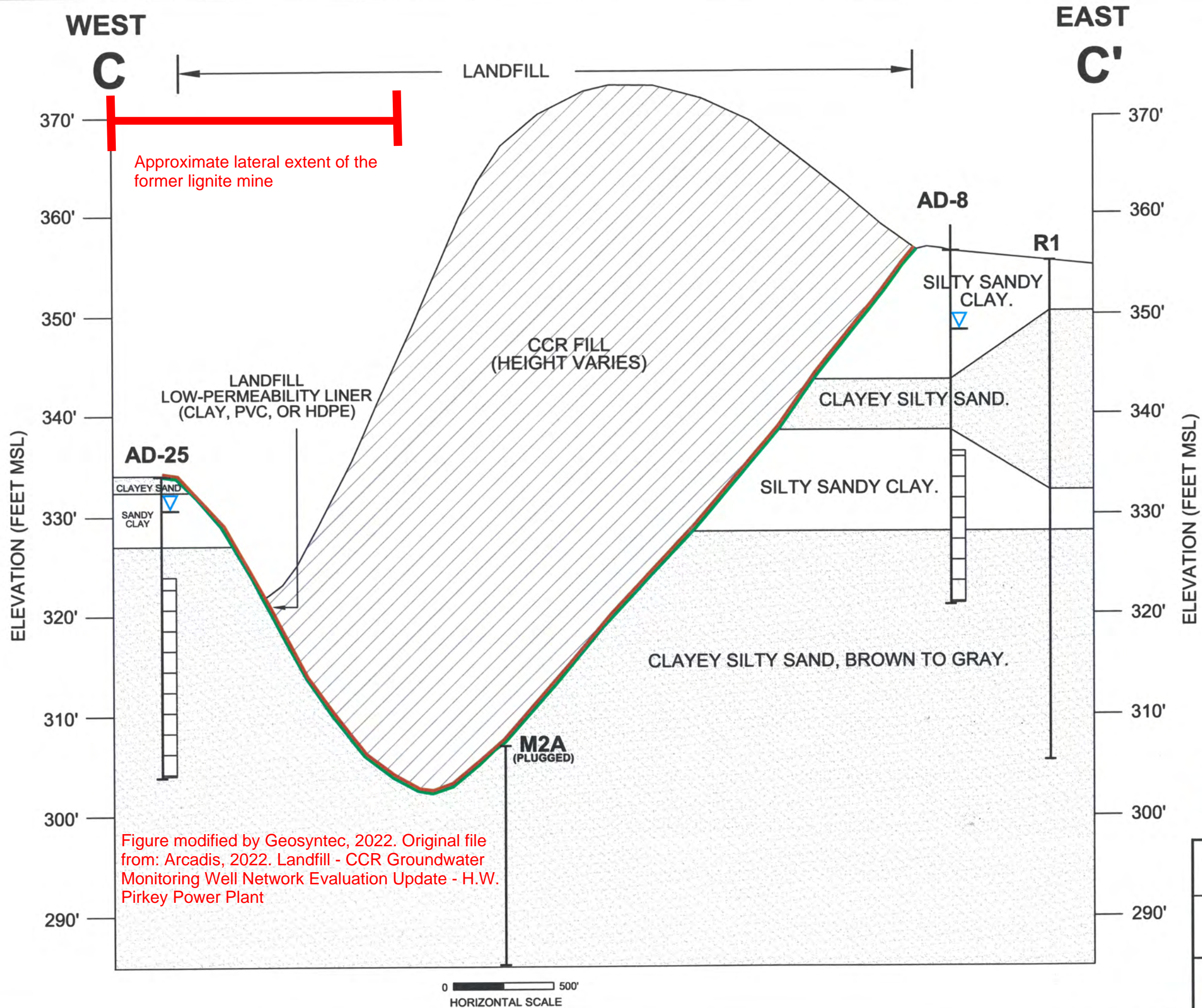


FIGURE
3

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

CITY: DIVGROUP: DE: LD: AM: PD: TM: TR: LYRON+OFF+REF*
G:\Active Projects\AEP3011794 - Pirkey 2022\Figures-Maps\Figure 6 Cross Section C-C.dwg LAYOUT: MODEL: SAVED: 2/22/2018 11:19 AM: ACADVER: 24.05 (LMS TECH): PAGESETUP: PLOTSTYLETABLE: PLOTTED: 1/13/2022 11:01 AM BY: LEASE, DIANA



PIRKEY POWER PLANT
2400 FM 3251
HALLSVILLE, HARRISON COUNTY, TEXAS

**CROSS SECTION
C - C'**

ARCADIS Design & Consultancy
for natural and built assets

FIGURE
6

CITY: DIV/GRP: DB: LD: AM: PD: TM: TR: LYRON™-OFF-REF*
 G:\Active Projects\AEP\30117944 - Pirkey 2022\Figures-Maps\Figure 7 Cross Section D-D'.dwg LAYOUT: MODEL: SAVER: 2/22/2016 11:20 AM ACADVER: 24.05 (LMS TECH) PAGES: 1/1 PLOTTED: 1/13/2022 11:07 AM BY: LEASE, DIANA

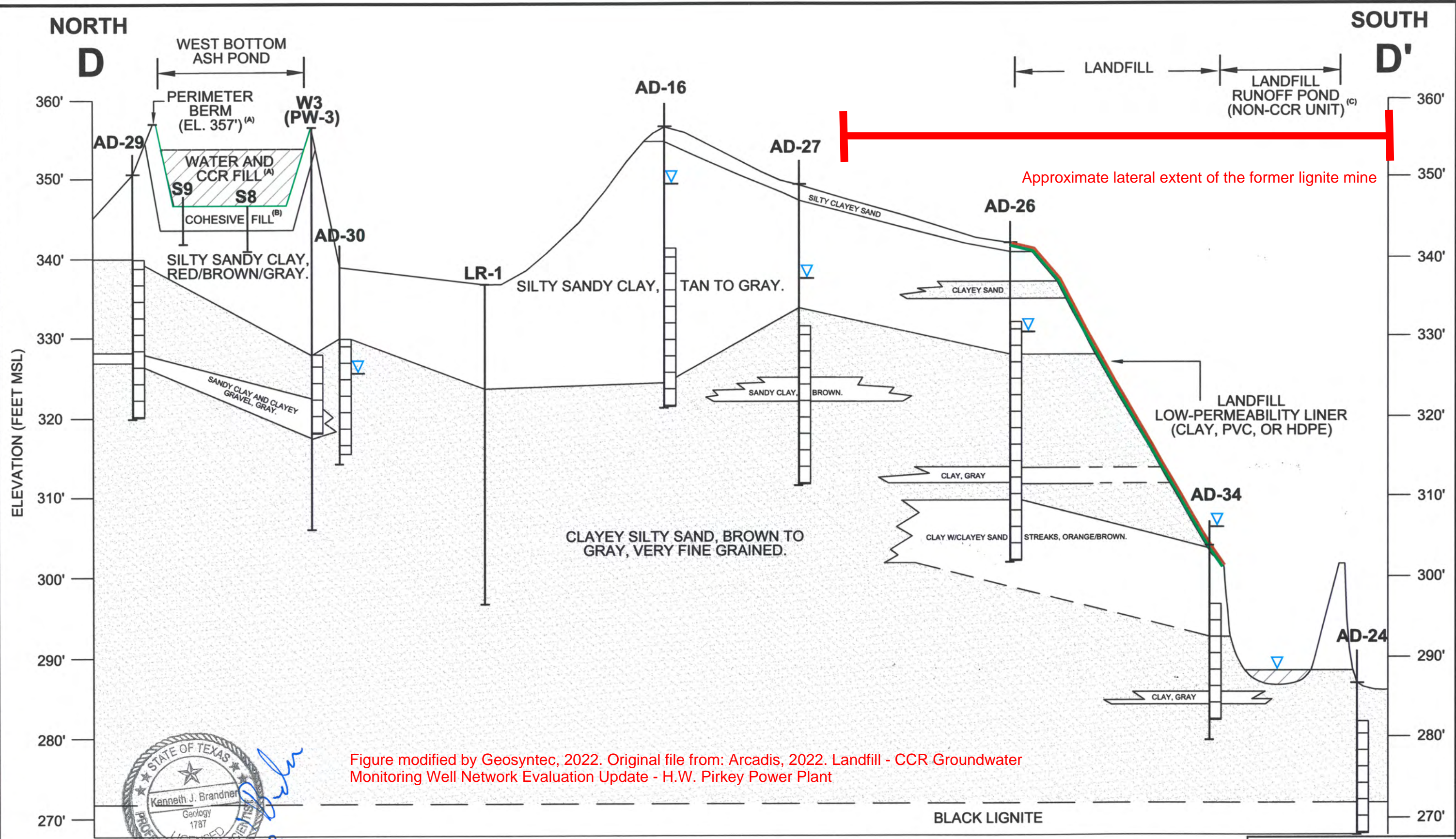
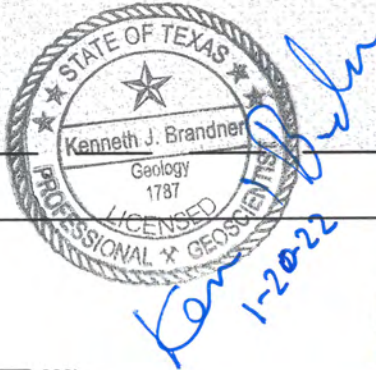


Figure modified by Geosyntec, 2022. Original file from: Arcadis, 2022. Landfill - CCR Groundwater Monitoring Well Network Evaluation Update - H.W. Pirkey Power Plant



- LEGEND**
- MONITORING WELL SCREENED INTERVAL
 - WATER LEVEL IN MONITORING WELL (MAY 2021)
 - BASE OF CCR UNIT

- NOTES:**
- A) TOP OF WEST BOTTOM ASH POND PERIMETER BERM ELEVATION IS 357', OPERATING LEVEL IS 354' (JOHNSON & PACE, MAY 2011); BASE ELEVATION OF WEST 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) LANDFILL RUNOFF POND PERIMETER BERM APPROXIMATE ELEVATION 302' MSL, BASE OF LANDFILL RUNOFF POND APPROXIMATE ELEVATION 286' MSL. NORMAL OPERATING LEVEL 288' MSL (JOHNSON & PACE MAY 2011).

PIRKEY POWER PLANT
 2400 FM 3251
 HALLSVILLE, HARRISON COUNTY, TEXAS

**CROSS SECTION
 D - D'**

ARCADIS Design & Construction for natural and built assets

FIGURE
7

ATTACHMENT C
February 2023 Pirkey Landfill Leachate
Laboratory Analytical Report



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 230659

Customer: Pirkey Power Station

Date Reported: 04/06/2023

Customer Sample ID: EBAP

Customer Description: TG-32

Lab Number: 230659-003

Preparation:

Date Collected: 03/01/2023 00:23 EST

Date Received: 03/02/2023 10:30 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.59	mg/L	5	0.25	0.05		CRJ	03/16/2023 13:42	EPA 300.1 -1997, Rev. 1.0
Chloride	84.5	mg/L	5	0.10	0.05		CRJ	03/16/2023 13:42	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.56	mg/L	5	0.15	0.05		CRJ	03/16/2023 13:42	EPA 300.1 -1997, Rev. 1.0
Sulfate	2780	mg/L	100	20	3		CRJ	03/16/2023 19:11	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	03/03/2023 11:26	SM 2320B-2011
TDS, Filterable Residue	3900	mg/L	20	1000	400		SDW	03/07/2023 10:50	SM 2540C-2015

Customer Sample ID: Leachate

Customer Description: TG-32

Lab Number: 230659-004

Preparation:

Date Collected: 02/28/2023 10:55 EST

Date Received: 03/02/2023 10:30 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	1.82	mg/L	5	0.25	0.05		CRJ	03/16/2023 14:15	EPA 300.1 -1997, Rev. 1.0
Chloride	41.7	mg/L	5	0.10	0.05		CRJ	03/16/2023 14:15	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.47	mg/L	5	0.15	0.05		CRJ	03/16/2023 14:15	EPA 300.1 -1997, Rev. 1.0
Sulfate	329	mg/L	50	10	2		CRJ	03/16/2023 21:23	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	94	mg/L	1	20	5		MGK	03/03/2023 11:26	SM 2320B-2011
TDS, Filterable Residue	600	mg/L	20	1000	400	J1	SDW	03/03/2023 12:09	SM 2540C-2015

ATTACHMENT D
AD-36 Boring Log and Well Construction
Diagram

SOIL/WELL BORING LOG



Auckland Consulting LLC

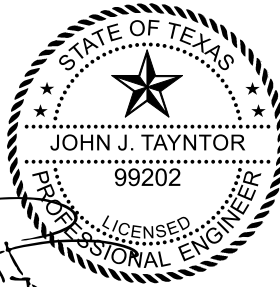
TBPE Firm

No: F16721 Pirkey Power Station
Harrison County

Drilling Co.: C&S Lease

Driller: Buford E. Collier

Drilling Method: Hollow Stem Auger



04/30/20

Well/Boring #: AD-36	Date Drilled: 4/24/19
Depth of Boring/well: 15 feet	Diameter of Boring: 8.25 inches
Length of Screen: 10 feet	Diameter of Screen: 2 inches
Length of Casing: 5 feet	Diameter of Casing: 2 inches
Filter Pack: 20/40	Slot Size: 0.010 inches
Logged By: John J. Tayntor	Screen Material: Sch 40 PVC

- Concrete/cement
 - Clay
 - Silty Sand
- Bentonite
 - Silty Clay
 - Sandy Clay
- Well Screen
 - Sand
 - Lignite
- Gravel
 ▽ - Initial Water Level

Depth Feet	GEOLOGIC DESCRIPTION	Lithology Classification	PID ppm	Depth Feet	Well Completion and Lithology	Remarks
0.0	Fill - Reddish Brown, Sandy Lean Clay (CL) with gravel	CL/Fill		0-9		
5.0	Reddish Brown and Tan, Clayey Sand (SC), with gravel	SC		9-11		
10.0	Reddish brown, Sandy Lean Clay (CL), few gravel	CL		11-14		
15.0	Reddish brown, Clayey Sand (SC), with gravel	SC		14-15		
	Well TD = 15 feet.					

*Soil descriptions based on visual observations and intervals are approximate.
MW Location Coordinates: N6871017.4, E3202874.4

ATTACHMENT E
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 Landfill CCR management area and that the requirements of 30 TAC §352.941(c)(2) 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
License Number

Texas
Licensing State

August 1, 2024
Date

ALTERNATIVE SOURCE DEMONSTRATION REPORT

2024 1st SEMIANNUAL EVENT TEXAS STATE CCR RULE

H.W. Pirkey Power Plant Landfill Registration No. CCR 104 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 CHA8495B

December 2024

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Attachment B Arcadis Geologic Cross Sections

Attachment C February 2023 Pirkey Landfill Leachate Laboratory Analytical Report

Attachment D AD-36 Boring Log and Well Construction Diagram

Attachment E Certification by a Qualified Professional Engineer

ACRONYMS AND ABBREVIATIONS

AEP	American Electric Power
ASD	alternative source demonstration
CCR	coal combustion residuals
EPRI	Electric Power Research Institute
HDPE	high-density polyethylene
LPL	lower prediction limit
mg/L	milligrams per liter
SSI	statistically significant increase
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
UPL	upper prediction limit

1. INTRODUCTION AND SUMMARY

This alternative source demonstration (ASD) report has been prepared to address statistically significant increases (SSIs) for boron and chloride in the groundwater monitoring network at the H.W. Pirkey Plant Landfill (Landfill) in Hallsville, Texas, following the first semiannual detection 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, including the Landfill (**Figure 1**). The western side of the Landfill overlies a former lignite mining area, as shown on **Figure 2**.

Background groundwater concentrations for the Landfill were initially calculated in January 2018 with data from at least eight monitoring events (Geosyntec 2018). Upper prediction limits (UPLs) were calculated for each Appendix III parameter to represent background values. Lower prediction limits (LPLs) were also calculated for pH.

Because of the presence of lignite mine spoils within the screened interval at downgradient well AD-34, an ASD was certified on January 7, 2020 which resulted in a switch in the groundwater monitoring network statistics from interwell tests to intrawell tests for evaluation of pH, sulfate, and total dissolved solids prediction limits for all wells (Geosyntec 2020). The intrawell prediction limits were updated once sufficient data could be incorporated into the background data set (Geosyntec 2021). After a minimum of four additional detection monitoring events were completed, the prediction limits were recalculated based on a one-of-two retesting procedure to maintain an appropriate site-wide false positive rate (Geosyntec 2024a). With this procedure, an SSI is concluded only if both samples in a series of two exceed the UPL or, in the case of pH, are below the LPL.

The first semiannual detection monitoring event of 2024 was performed in April 2024, and the results were compared to the calculated prediction limits in accordance with Texas Administrative Code (TAC) Title 30, §352.941(a) [30 TAC §352.941(a)]. Where initial exceedances were identified, verification resampling was completed in June 2024. Following verification resampling, SSIs were identified for boron at well AD-23 and chloride at AD-36 by intrawell analysis (Geosyntec 2024b). A summary of the detection monitoring analytical results for the downgradient compliance wells and the calculated prediction limits to which they were compared is provided in **Table 1**. The laboratory analytical reports can be found in **Attachment A**.

1.1 CCR Rule Requirements

TCEQ regulations regarding detection monitoring programs for CCR landfills and surface impoundments provide owners and operators with the option to make an ASD when an SSI is identified:

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

statistical evaluation, or natural variation in groundwater quality. (30 TAC §352.941(c)(2)).

Pursuant to 30 TAC §352.941(c)(2), Geosyntec Consultants, Inc. (Geosyntec) has prepared this ASD report on behalf of American Electric Power (AEP) to document that the SSIs identified for boron and chloride in the groundwater monitoring network for the Landfill are from a source other than the Landfill.

1.2 Demonstration of Alternative Sources

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

- ASD Type I: Sampling Causes
- ASD Type II: Laboratory Causes
- ASD Type III: Statistical Evaluation Causes
- ASD Type IV: Natural Variation
- ASD Type V: Alternative Sources (i.e., anthropogenic impacts)

A demonstration was conducted to show that the SSIs identified for boron and chloride were based on a Type IV cause and not by a release from the Pirkey Landfill.

2. SUMMARY OF SITE CONDITIONS

The Landfill design and construction, regional geology and site hydrogeology, and groundwater monitoring network and flow conditions are described below.

2.1 Landfill Design and Construction

The Pirkey Landfill was designed to receive CCR materials including fly ash, bottom ash, economizer ash, and stabilized flue gas desulfurization sludge (Arcadis 2022). The Landfill consists of cells which have been constructed periodically since 1984, when the first cell was developed at the northeastern corner of the Landfill. The most recent cell that has been developed was constructed at the southeast corner of the Landfill beginning in 2018. The Landfill is now approximately 134 acres in size.

The Landfill was constructed within an unnamed tributary creek, and the base of the Landfill is partially excavated into the creek bed (Arcadis 2022). Earthen embankments were installed around portions of the Landfill to control stormwater flow. Leachate is drained from the Landfill via bottom area drains and collection pipes installed at the base of the Landfill. From previous investigations of the Landfill summarized by Arcadis (2022), the Landfill was constructed with an engineered liner. The initial cells included a 3-foot thick compacted soil liner. In 1995, the design was modified to include a 60-mil thick high-density polyethylene (HDPE) geomembrane liner overlying a geosynthetic clay liner. The most recent cell was constructed with a single-composite liner system consisting of, from top to bottom: a 2-foot thick leachate drainage layer; a 60-mil thick HDPE geomembrane liner; and a 2-foot thick compacted clay liner (Akron Consulting, LLC 2022).

As of November 2023, the 2018 expansion is the only cell still actively receiving waste. The approximate area of active waste placement is shown in **Figure 2**. The remainder of the Landfill is either considered closed and covered by a final vegetative cover or closure turf material or considered inactive with temporary soil cover (AEP 2023).

2.2 Regional Geology / Site Hydrogeology

The Landfill is positioned on an outcrop of the Eocene-age Recklaw Formation, which consists predominantly of clay and fine-grained sand (Arcadis 2022). The Recklaw Formation is underlain by the Carrizo Sand, which crops out in the topographically lower southern portion of the plant. The Carrizo Sand consists of fine- to medium-grained sand interbedded with silt and clay.

The Landfill monitoring well network monitors groundwater within the uppermost aquifer, which was defined by Arcadis (2022) as very-fine- to fine-grained clayey and silty sand located below and adjacent to the Landfill, between an elevation of approximately 270 and 330 feet above mean sea level. Cross sections and a cross-section location map from the Arcadis Monitoring Well Network Report (2022) are provided as **Attachment B**. Geologic cross sections C-C' and D-D' show the subsurface structure of the uppermost aquifer (indicated as clayey silty sand, brown to gray) underlying the Landfill. These geologic cross sections also demonstrate lateral continuity of the uppermost aquifer, spanning both directions underneath the entire length of the Landfill.

2.3 Groundwater Monitoring Network and Flow Conditions

The Landfill monitoring well network consists of upgradient monitoring wells AD-8, AD-12, AD-16, and AD-27, and downgradient compliance wells AD-23, AD-34, and AD-36. AD-36 was

installed in April 2019 (after the initial monitoring well network was already in place) as a replacement for well AD-35, which was decommissioned in November 2018 due to the Landfill expansion (Arcadis 2022). The groundwater flow direction near the Landfill is southwesterly (**Figure 1**). Seasonal variability in groundwater flow direction has not been observed since the monitoring well network was installed.

3. ALTERNATIVE SOURCE DEMONSTRATION

The ASD evaluation method and proposed alternative source of boron in AD-23 and chloride in AD-36 and the future groundwater sampling requirements 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 an alternative source for boron or chloride due to Type I (sampling), Type II (laboratory), Type III (statistical evaluation), or Type V (anthropogenic impact) issues. Groundwater sampling, laboratory analysis, and statistical evaluations were generally completed in accordance with 30 TAC §352.931(a) and the draft TCEQ guidance for groundwater monitoring (TCEQ 2020). Based on a review of groundwater data and recent site construction events, the SSIs for boron and chloride were attributed to natural variation associated with naturally occurring aqueous boron and chloride concentrations within the aquifer unit beneath the Landfill, which is a Type IV issue.

3.1.1 Boron

An SSI for boron was observed at downgradient monitoring well AD-23. The boron concentration at AD-23 observed during the initial sampling event (0.207 milligrams per liter [mg/L]) exceeded the UPL of 0.0612 mg/L. The June verification event confirmed the exceedance, with a boron concentration of 0.242 mg/L. Boron concentrations at AD-23 are within the range of those observed at other wells in the groundwater monitoring network (**Figure 3**). Upgradient background well AD-8 consistently has greater boron concentrations than downgradient well AD-23. Given that the uppermost aquifer unit is horizontally continuous in the area surrounding the Landfill (**Attachment B**), migration of boron from this upgradient location to downgradient wells is possible.

Sulfate and chloride concentration trends at AD-23 do not support a release from the Landfill. Sulfate and chloride are considered indicator parameters for potential CCR releases due to their concentrations in CCR source material and limited chemical attenuation along groundwater flow paths. A review of the sulfate and chloride concentrations at downgradient well AD-23 over time do not display an increasing trend, but rather generally stable concentrations which are less than or comparable to the downgradient monitoring wells (**Figures 4 and 5**).

AD-23 major ion geochemistry also does not support a release from the Landfill. Major ion chemistry for AD-23 over time is illustrated on a Piper diagram (**Figure 6**). The Piper diagram shows trends in major ion chemistry over time by indicating the relative proportion of individual major cations and anions. A Landfill release would be expected to cause notable changes in the major ion signature of AD-23 groundwater. AD-23 shows general geochemical stability over time, indicating that the geochemistry is not changing appreciably as would be expected in the event of a Landfill release.

A leachate sample collected in February 2023 from the Landfill had a reported sulfate concentration of 329 mg/L, which is over an order of magnitude higher than those observed at AD-23 (**Attachment C**). If Landfill leachate were impacting groundwater quality at downgradient wells, an increase in sulfate concentrations at AD-23 would also be expected. Therefore, the variability of boron in groundwater at AD-23 should not be attributed to a release from the Landfill.

TCEQ established a Texas-specific soil median background concentration of 30 milligrams per kilogram of boron in 30 TAC §350.51(m). Given the abundance of boron in Texas soils, some contribution of boron to groundwater from the aquifer is anticipated. Therefore, the boron concentrations observed at AD-23 are within the expected range attributable to natural variation within the aquifer. Groundwater boron concentrations at AD-23 are an order of magnitude lower than the Texas Risk Reduction Program (TRRP) Class I residential ingestion pathway limit ($^{GW}GW_{Ing}$) of 4.9 mg/L (TCEQ 2009; updated TCEQ 2023a).

3.1.2 Chloride

The SSI for chloride was observed at monitoring well AD-36, which is located immediately downgradient of the Landfill adjacent to a non-CCR pond (**Figure 1**). Following the initial exceedance (14.8 mg/L, which exceeds the UPL of 11.8 mg/L) reported during the April 2024 sampling event, a verification event was completed. The June 2024 verification event chloride concentration at AD-36 (14.2 mg/L) confirmed the SSI.

Although chloride values have been slightly increasing at AD-36 since mid-2023, similar increases in chloride have also been observed at upgradient monitoring wells AD-16 and AD-27 (**Figure 5**). AD-36 aqueous chloride concentrations detected during the first semiannual and verification events were less than concentrations reported for upgradient well AD-16 (26.1 mg/L) (**Figure 5**).

Despite minor increases in chloride at AD-36, concentrations still fall within the range observed for background chloride from monitoring wells upgradient of the Landfill. Slight chloride increases within the background groundwater over multi-year time periods are occasionally observed and reflect natural fluctuations in aqueous chloride within the aquifer unit. These same fluctuations would be expected to occur within the AD-36 groundwater as well.

Boron and sulfate concentration trends at AD-36 do not support a release from the Landfill. A review of the boron and sulfate concentrations at downgradient well AD-36 over time do not display an increasing trend, but rather generally stable concentrations which are less than or comparable to the downgradient monitoring wells (**Figures 4 and 5**). A leachate sample collected in February 2023 from the Landfill leachate collection system had a reported sulfate concentration of 329 mg/L (**Attachment C**), which is almost two orders of magnitude higher than the groundwater concentrations observed at AD-36. If Landfill leachate were impacting groundwater quality at downgradient wells and causing the minor increases in chloride at AD-36, an increase in boron and sulfate concentrations at AD-36 would also be expected.

Based on the above evaluation, the variability of chloride in groundwater at AD-36 should not be attributed to the Landfill.

3.1.2.1 Effect of Construction Activities

While the chloride concentrations found at AD-36 are indicative of a Type IV source, additional anthropogenic activities may be contributing factors. As discussed in previous ASDs (Geosyntec 2023; Geosyntec 2024c), several construction activities were completed in the vicinity of AD-36 in late 2022 and early 2023, including extensive earthwork and construction to support the installation of an evaporation system associated with plant closure at the brine pond immediately adjacent to well AD-36. An area of the non-CCR pond immediately adjacent to AD-36 was bermed and lined to support its use as brine storage, as shown in the photograph provided in **Figure 7**. The location of AD-36 relative to the recently constructed brine storage area is shown in **Figure 8**.

Well AD-36 is screened from 5-15 feet below ground surface, as shown in the boring log and well construction diagram provided as **Attachment D**. Given the proximity of the screen of well AD-36 to the ground surface and the previous construction activities occurring immediately adjacent to AD-36 within the non-CCR pond, these construction activities potentially resulted in changes to the groundwater composition at AD-36 (e.g., impacts from meteoric or surface water infiltration, infiltration of water used as dust suppressant on the adjacent gravel road).

3.2 Sampling Requirements

As the ASD presented above supports the position that the identified SSIs were not due to a release from the Pirkey Landfill, the unit will remain in the detection monitoring program. Groundwater at the unit will continue to be sampled for Appendix III parameters semiannually.

4. CONCLUSIONS AND RECOMMENDATIONS

The preceding information serves as the ASD prepared in accordance with 30 TAC §352.941(c)(2) and supports the position that the SSIs for boron and chloride identified during detection monitoring in April 2024 were not due to a release from the Landfill. The identified SSIs were instead attributed to naturally occurring aqueous boron and chloride concentrations found within the aquifer. Therefore, no further action is warranted, and the Pirkey Landfill will remain in the detection monitoring program. Certification of this ASD by a qualified professional engineer is provided in **Attachment E**.

5. REFERENCES

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- TCEQ. 2023. *Update to Texas Risk Reduction Program (TRRP) Protective Concentration Limits and Chemical/Physical Properties*. Texas Commission on Environmental Quality, Remediation Division. May 10.

TABLES

**Table 1. Detection Monitoring Data Summary
Detection Summary Memorandum
Pirkey – Landfill**

Analyte	Unit	Description	AD-23		AD-34	AD-36	
			4/24/2024	6/26/2024	4/24/2024	4/23/2024	6/26/2024
Boron	mg/L	Intrawell Background Value (UPL)	0.0612		0.108	0.0747	
		Analytical Result	0.207	0.242	0.057	0.053	--
Calcium	mg/L	Intrawell Background Value (UPL)	0.503		46.1	1.22	
		Analytical Result	0.22	--	40.5	0.75	--
Chloride	mg/L	Intrawell Background Value (UPL)	8.92		8.97	11.8	
		Analytical Result	8.65	--	7.32	14.8	14.2
Fluoride	mg/L	Intrawell Background Value (UPL)	0.156		1.58	0.0980	
		Analytical Result	0.06	--	0.69	0.08	--
pH	SU	Intrawell Background Value (UPL)	5.0		4.1	5.2	
		Intrawell Background Value (LPL)	3.1		2.9	3.7	
		Analytical Result	3.7	--	3.7	4.7	--
Sulfate	mg/L	Intrawell Background Value (UPL)	13.6		1,340	4.77	
		Analytical Result	7.1	--	1,150	2.9	--
Total Dissolved Solids	mg/L	Intrawell Background Value (UPL)	104		1,840	84.9	
		Analytical Result	70	--	1,650	60	--

Notes:

1. Bold values exceed the background value.

2. Background values are shaded gray.

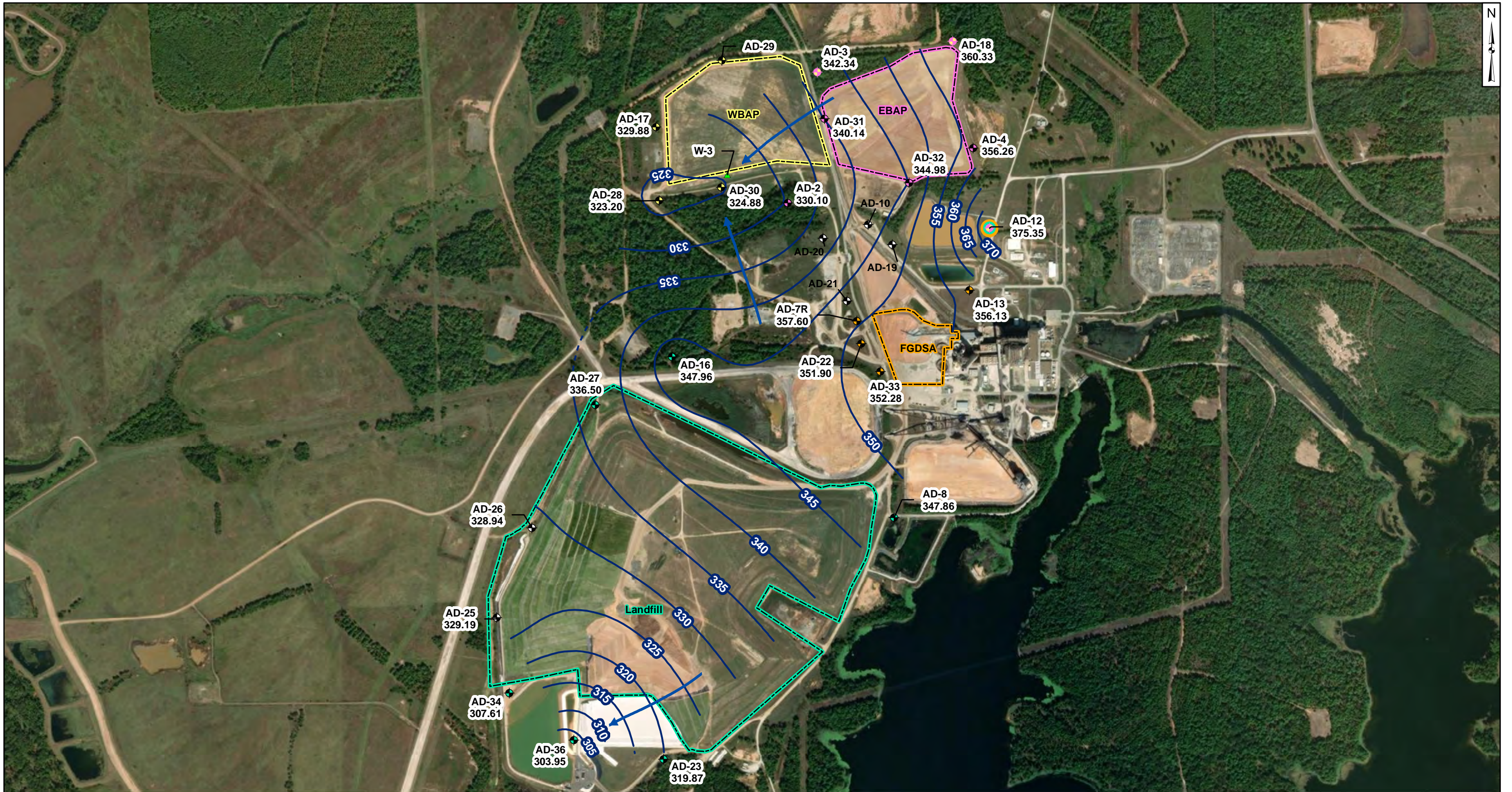
LPL: lower prediction limit

mg/L: milligrams per liter

SU: standard units

UPL: upper prediction limit

FIGURES



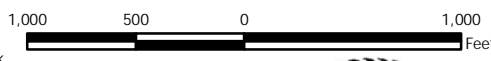
Legend

- 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 level data (collected on April 22, 23 and 24, 2024) provided by AEP.
2. Site features based on information available in coal combustion residual (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. AD-10, AD-19, AD-20, AD-21, AD-29, and W-3 were not gauged during the April 2024 event.
5. AD-7R replaced AD-7, which was abandoned.
6. AD-7R (357.60 ft msl) was not used for contouring due to an anomalous reading.
7. Wells shaded in grey were not used for contouring.
8. AD-35 was abandoned on November 13, 2018.
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 was completed for the FGDSA 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.



December 11, 2024
 Geosyntec Consultants, Inc.
 Texas Firm Registration No. 1182

Beth Ann Gross



**Potentiometric Contours: Uppermost Aquifer
 April 2024**

AEP Pirkey Power Plant
 Hallsville, Texas

Geosyntec
 consultants

Columbus, Ohio

2024/12/02

Figure

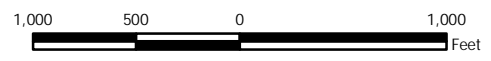
1



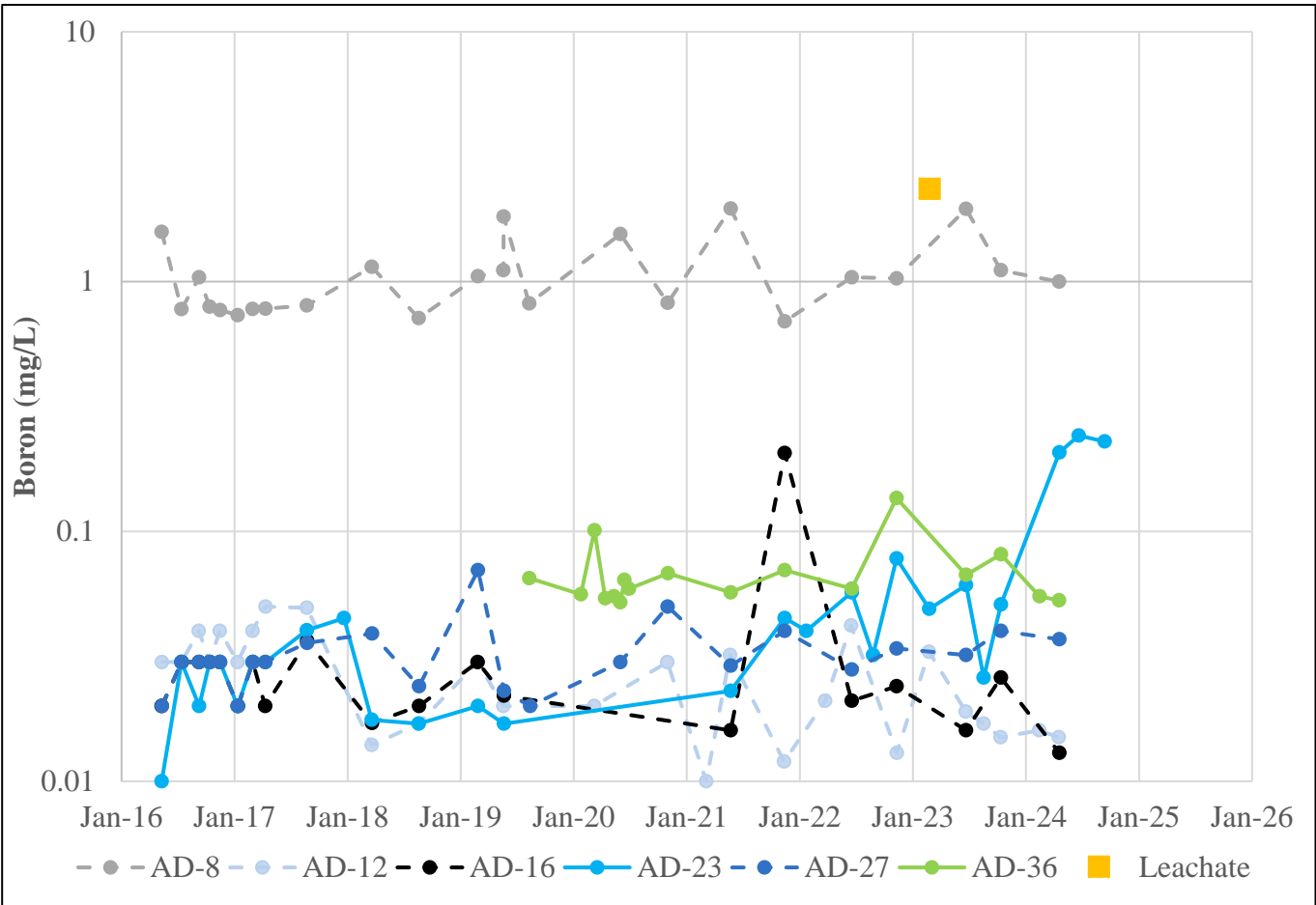
- Legend**
- Upgradient Well
 - Downgradient Well
 - Out of Network Well
 - Abandoned Well
 - Former Lignite Mine
 - Waste Placement
 - Landfill

Notes

- Monitoring well locations provided by AEP.
- AD-35 was abandoned on November 13, 2018.
- Active Waste Placement location is approximate.
- Aerial imagery provided by ESRI, dated September 19, 2023.



<p>Landfill Location Relative to Former Lignite Mine Area</p> <p>AEP Pirkey Power Plant Hallsville, Texas</p>		<p>Figure 2</p>
<p>Geosyntec consultants</p>		
Columbus, Ohio	2024/12/11	



Notes:

1. Boron concentrations are shown in milligrams per liter (mg/L).
2. Graph includes the AD-23 2024 verification sampling event result and leachate sample collected in June 2024.
3. Boron data collected for AD-23 during the September event is represented on the graph.
4. Graph is displayed on a logarithmic scale.
5. Solid lines represent downgradient wells and dashed lines represent upgradient wells.

Boron Time Series Graph

Pirkey Landfill

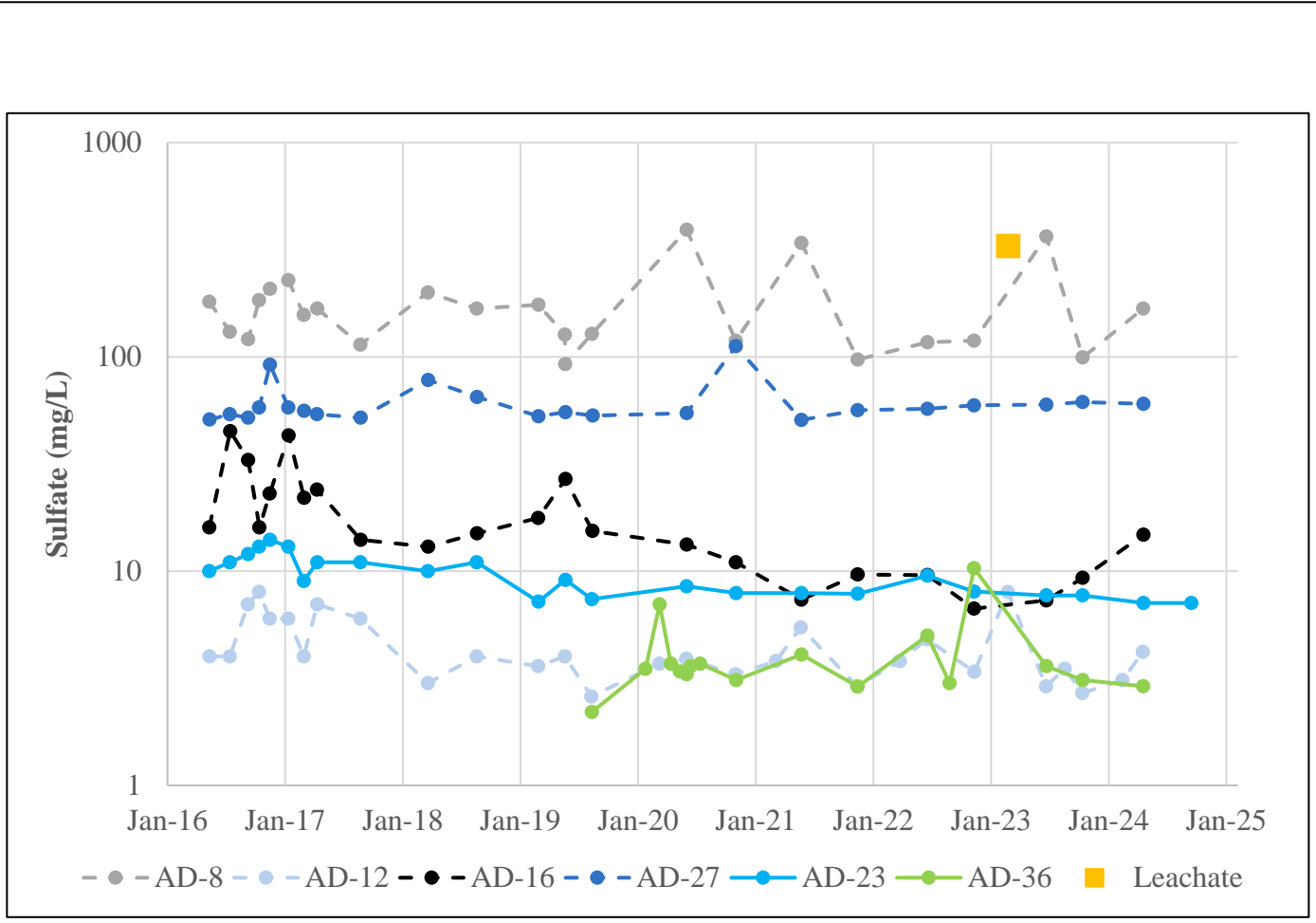


Figure

3



Columbus, Ohio

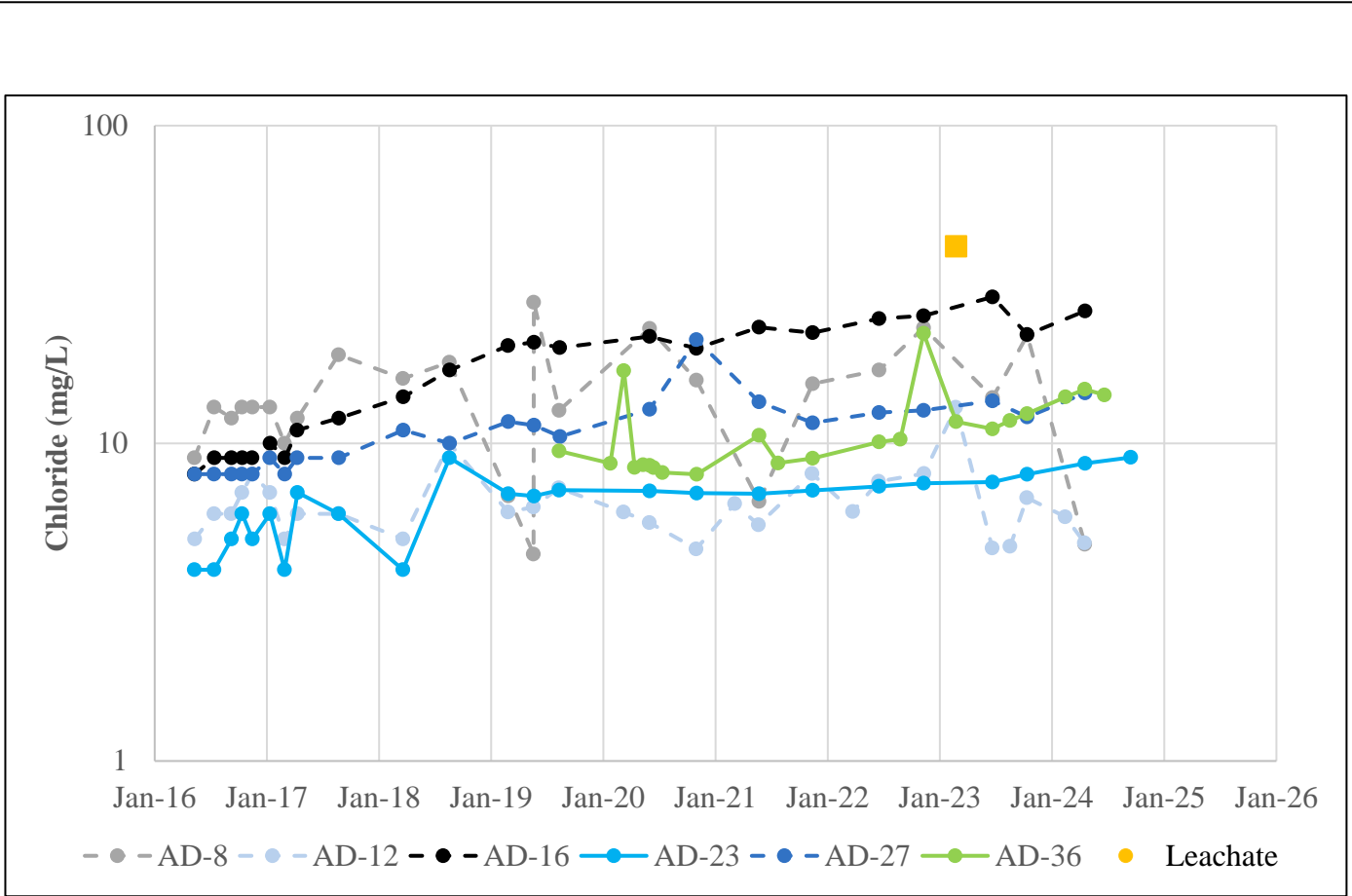
December 2024



- Notes:
1. Sulfate concentrations are shown in milligrams per liter (mg/L).
 2. Solid lines represent downgradient wells and dashed lines represent upgradient wells.
 3. Sulfate data collected for AD-23 during the September event is represented on the graph.
 4. AD-34 is not shown due to effect of acid mine drainage on sulfate concentrations at that location.
 5. Graph is displayed on a logarithmic scale.

Sulfate Time Series Graph
Pirkey Landfill

		<p>Figure 4</p>
Columbus, Ohio	December 2024	



Notes:

1. Chloride concentrations are shown in milligrams per liter (mg/L).
2. Graph includes the AD-36 June 2024 verification sampling result and the leachate sample collected in February 2023.
3. Chloride data collected for AD-23 during the September event is represented on the graph.
4. Graph is displayed on a logarithmic scale.
5. Solid lines represent downgradient wells and dashed lines represent upgradient wells.

Chloride Time Series Graph
Pirkey Landfill

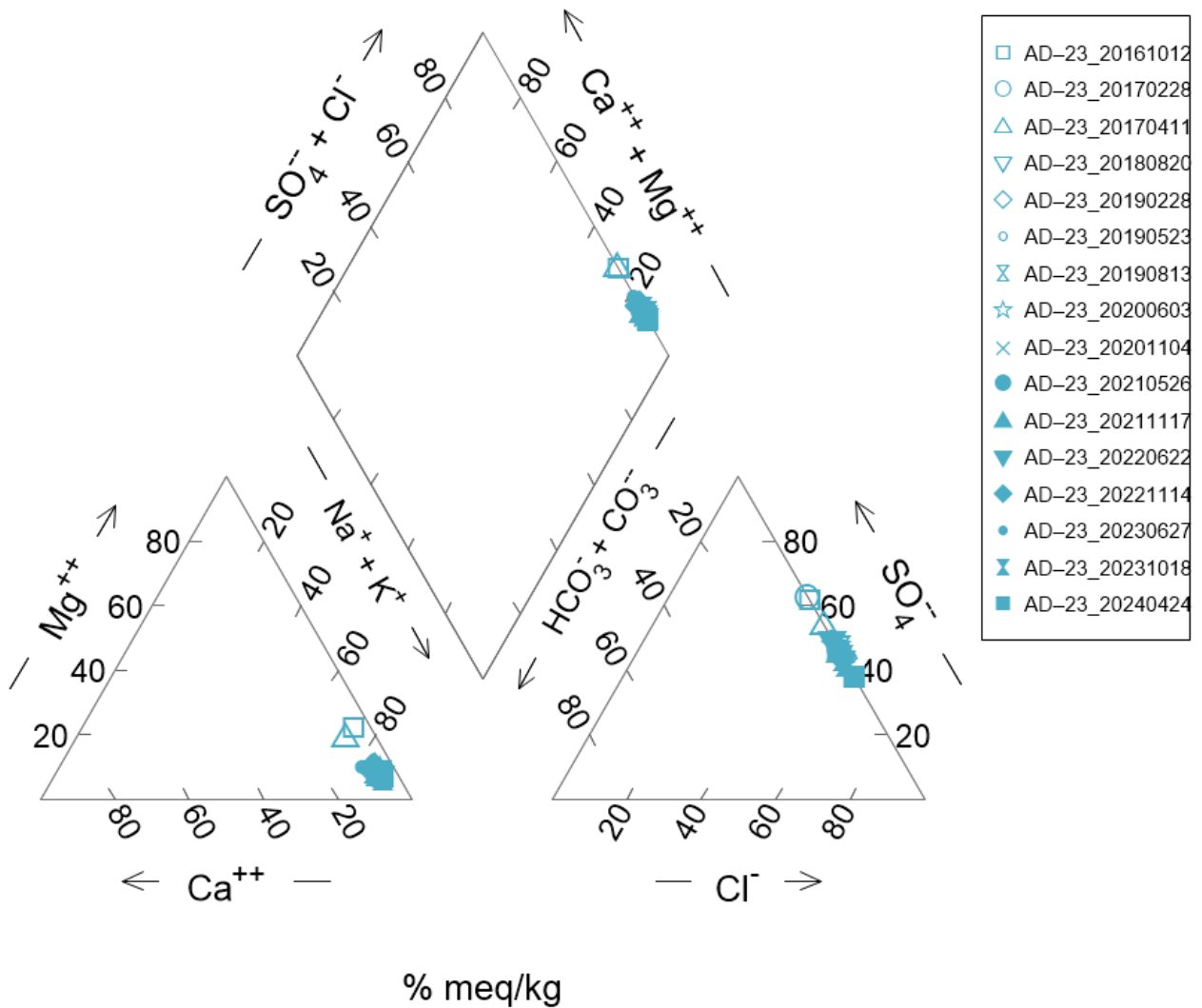


Figure

5

Columbus, Ohio

December 2024



Notes:

- AD-23 groundwater samples are plotted in units of percentage milliequivalents per kilogram of water (% meq/kg).
- All AD-23 groundwater samples contained total alkalinity at values below the method detection limit. Alkalinity values of 0 % meq/kg were used in the Piper plot.

AD-23 Piper Diagram
Pirkey Landfill

Geosyntec
consultants



Figure

6

Columbus, Ohio

December 2024



Notes:

1. Photograph illustrating the construction of a lined brine tank immediately adjacent to monitoring well AD-36.
2. The photograph was taken looking south on July 28, 2023.

Non-CCR Pond Construction Photograph

Pirkey Landfill

Geosyntec
consultants



Figure

7

Columbus, Ohio

December 2024



Notes:

1. Photograph depicting the location of AD-36 relative to the newly constructed brine tank portion of the non-CCR pond.
2. The photograph was taken looking northwest on August 28, 2023.

AD-36 Location Photograph
Pirkey Landfill

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Figure

8

Columbus, Ohio

December 2024

ATTACHMENT A

Groundwater Analytical Data



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-2

Customer Description:

Lab Number: 241393-001

Preparation:

Date Collected: 04/23/2024 09:21 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.44	mg/L	2	0.10	0.02		CRJ	05/09/2024 18:59	EPA 300.1 -1997, Rev. 1.0
Chloride	31.2	mg/L	2	0.06	0.02		CRJ	05/09/2024 18:59	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.27	mg/L	2	0.06	0.02		CRJ	05/09/2024 18:59	EPA 300.1 -1997, Rev. 1.0
Sulfate	309	mg/L	10	3.0	0.6		CRJ	05/09/2024 15:09	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	570	mg/L	1	50	20		ELT	04/29/2024 06:46	SM 2540C-2015

Customer Sample ID: AD-3

Customer Description:

Lab Number: 241393-002

Preparation:

Date Collected: 04/23/2024 12:04 EDT

Date Received: 04/26/2024 10:00 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	05/09/2024 15:41	EPA 300.1 -1997, Rev. 1.0
Chloride	5.83	mg/L	2	0.06	0.02		CRJ	05/09/2024 15:41	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.05	mg/L	2	0.06	0.02	J1	CRJ	05/09/2024 15:41	EPA 300.1 -1997, Rev. 1.0
Sulfate	28.5	mg/L	2	0.6	0.1		CRJ	05/09/2024 15:41	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	160	mg/L	1	50	20		ELT	04/29/2024 06:54	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-4

Customer Description:

Lab Number: 241393-003

Preparation:

Date Collected: 04/24/2024 10:31 EDT

Date Received: 04/26/2024 10:00 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	05/09/2024 16:14	EPA 300.1 -1997, Rev. 1.0
Chloride	3.97	mg/L	2	0.06	0.02		CRJ	05/09/2024 16:14	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.07	mg/L	2	0.06	0.02		CRJ	05/09/2024 16:14	EPA 300.1 -1997, Rev. 1.0
Sulfate	20.3	mg/L	2	0.6	0.1		CRJ	05/09/2024 16:14	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	140	mg/L	1	50	20		ELT	04/29/2024 06:54	SM 2540C-2015

Customer Sample ID: AD-7R

Customer Description:

Lab Number: 241393-004

Preparation:

Date Collected: 04/22/2024 10:25 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.61	mg/L	2	0.10	0.02		CRJ	05/09/2024 16:47	EPA 300.1 -1997, Rev. 1.0
Chloride	20.6	mg/L	2	0.06	0.02		CRJ	05/09/2024 16:47	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.16	mg/L	2	0.06	0.02		CRJ	05/09/2024 16:47	EPA 300.1 -1997, Rev. 1.0
Sulfate	73.6	mg/L	2	0.6	0.1		CRJ	05/09/2024 16:47	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	220	mg/L	1	50	20		ELT	04/29/2024 06:54	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-8

Customer Description:

Lab Number: 241393-005

Preparation:

Date Collected: 04/23/2024 11:11 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.60	mg/L	2	0.10	0.02		CRJ	05/09/2024 18:26	EPA 300.1 -1997, Rev. 1.0
Chloride	4.81	mg/L	2	0.06	0.02		CRJ	05/09/2024 18:26	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.28	mg/L	2	0.06	0.02		CRJ	05/09/2024 18:26	EPA 300.1 -1997, Rev. 1.0
Sulfate	168	mg/L	10	3.0	0.6		CRJ	05/09/2024 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	126	mg/L	1	20	5		MGK	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	390	mg/L	1	50	20		ELT	04/29/2024 06:54	SM 2540C-2015

Customer Sample ID: AD-12

Customer Description:

Lab Number: 241393-006

Preparation:

Date Collected: 04/22/2024 10:44 EDT

Date Received: 04/26/2024 10:00 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	05/09/2024 21:44	EPA 300.1 -1997, Rev. 1.0
Chloride	4.86	mg/L	2	0.06	0.02		CRJ	05/09/2024 21:44	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.08	mg/L	2	0.06	0.02		CRJ	05/09/2024 21:44	EPA 300.1 -1997, Rev. 1.0
Sulfate	4.2	mg/L	2	0.6	0.1		CRJ	05/09/2024 21:44	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	60	mg/L	1	50	20		ELT	04/29/2024 07:00	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-13

Customer Description:

Lab Number: 241393-007

Preparation:

Date Collected: 04/22/2024 09:20 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.27	mg/L	2	0.10	0.02		CRJ	05/09/2024 20:38	EPA 300.1 -1997, Rev. 1.0
Chloride	42.2	mg/L	10	0.3	0.1		CRJ	05/09/2024 20:05	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.34	mg/L	2	0.06	0.02		CRJ	05/09/2024 20:38	EPA 300.1 -1997, Rev. 1.0
Sulfate	84.9	mg/L	2	0.6	0.1		CRJ	05/09/2024 20:38	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	220	mg/L	1	50	20		ELT	04/29/2024 07:00	SM 2540C-2015

Customer Sample ID: AD-16

Customer Description:

Lab Number: 241393-008

Preparation:

Date Collected: 04/24/2024 12:04 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.18	mg/L	2	0.10	0.02		CRJ	05/10/2024 01:01	EPA 300.1 -1997, Rev. 1.0
Chloride	26.1	mg/L	2	0.06	0.02		CRJ	05/10/2024 01:01	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.09	mg/L	2	0.06	0.02		CRJ	05/10/2024 01:01	EPA 300.1 -1997, Rev. 1.0
Sulfate	14.8	mg/L	2	0.6	0.1		CRJ	05/10/2024 01:01	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	120	mg/L	1	50	20		ELT	04/29/2024 07:00	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-17

Customer Description:

Lab Number: 241393-009

Preparation:

Date Collected: 04/23/2024 11:16 EDT

Date Received: 04/26/2024 10:00 EDT

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	05/10/2024 01:34	EPA 300.1 -1997, Rev. 1.0
Chloride	6.44	mg/L	2	0.06	0.02		CRJ	05/10/2024 01:34	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.09	mg/L	2	0.06	0.02		CRJ	05/10/2024 01:34	EPA 300.1 -1997, Rev. 1.0
Sulfate	2.1	mg/L	2	0.6	0.1		CRJ	05/10/2024 01:34	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	40	mg/L	1	50	20	J1	ELT	04/29/2024 07:00	SM 2540C-2015

Customer Sample ID: AD-18

Customer Description:

Lab Number: 241393-010

Preparation:

Date Collected: 04/23/2024 11:58 EDT

Date Received: 04/26/2024 10:00 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	05/10/2024 02:07	EPA 300.1 -1997, Rev. 1.0
Chloride	5.39	mg/L	2	0.06	0.02		CRJ	05/10/2024 02:07	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.02	mg/L	2	0.06	0.02	J1	CRJ	05/10/2024 02:07	EPA 300.1 -1997, Rev. 1.0
Sulfate	7.2	mg/L	2	0.6	0.1		CRJ	05/10/2024 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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	90	mg/L	1	50	20		ELT	04/29/2024 07:08	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-22

Customer Description:

Lab Number: 241393-011

Preparation:

Date Collected: 04/22/2024 11:22 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.40	mg/L	2	0.10	0.02		CRJ	05/10/2024 04:19	EPA 300.1 -1997, Rev. 1.0
Chloride	70.5	mg/L	25	0.8	0.3		CRJ	05/10/2024 03:46	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.75	mg/L	2	0.06	0.02		CRJ	05/10/2024 04:19	EPA 300.1 -1997, Rev. 1.0
Sulfate	360	mg/L	25	8	2		CRJ	05/10/2024 03:46	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	610	mg/L	1	50	20		ELT	04/29/2024 07:08	SM 2540C-2015

Customer Sample ID: AD-23

Customer Description:

Lab Number: 241393-012

Preparation:

Date Collected: 04/24/2024 12:05 EDT

Date Received: 04/26/2024 10:00 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	05/10/2024 02:40	EPA 300.1 -1997, Rev. 1.0
Chloride	8.65	mg/L	2	0.06	0.02		CRJ	05/10/2024 02:40	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.06	mg/L	2	0.06	0.02		CRJ	05/10/2024 02:40	EPA 300.1 -1997, Rev. 1.0
Sulfate	7.1	mg/L	2	0.6	0.1		CRJ	05/10/2024 02:40	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	70	mg/L	1	50	20		ELT	04/29/2024 07:08	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-27

Customer Description:

Lab Number: 241393-013

Preparation:

Date Collected: 04/24/2024 09:30 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.39	mg/L	2	0.10	0.02		CRJ	05/10/2024 05:25	EPA 300.1 -1997, Rev. 1.0
Chloride	14.4	mg/L	2	0.06	0.02		CRJ	05/10/2024 05:25	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.16	mg/L	2	0.06	0.02		CRJ	05/10/2024 05:25	EPA 300.1 -1997, Rev. 1.0
Sulfate	60.4	mg/L	2	0.6	0.1		CRJ	05/10/2024 05:25	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	200	mg/L	1	50	20		ELT	04/29/2024 07:08	SM 2540C-2015

Customer Sample ID: AD-28

Customer Description:

Lab Number: 241393-014

Preparation:

Date Collected: 04/23/2024 10:28 EDT

Date Received: 04/26/2024 10:00 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	CRJ	05/10/2024 07:36	EPA 300.1 -1997, Rev. 1.0
Chloride	3.90	mg/L	2	0.06	0.02		CRJ	05/10/2024 07:36	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.79	mg/L	2	0.06	0.02		CRJ	05/10/2024 07:36	EPA 300.1 -1997, Rev. 1.0
Sulfate	24.7	mg/L	2	0.6	0.1		CRJ	05/10/2024 07:36	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	100	mg/L	1	50	20		ELT	04/29/2024 07:17	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-30

Customer Description:

Lab Number: 241393-015

Preparation:

Date Collected: 04/23/2024 09:43 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.16	mg/L	2	0.10	0.02		CRJ	05/10/2024 06:30	EPA 300.1 -1997, Rev. 1.0
Chloride	12.2	mg/L	2	0.06	0.02		CRJ	05/10/2024 06:30	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.05	mg/L	2	0.06	0.02	J1	CRJ	05/10/2024 06:30	EPA 300.1 -1997, Rev. 1.0
Sulfate	104	mg/L	10	3.0	0.6		CRJ	05/10/2024 05:58	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	U1	MGK	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	220	mg/L	1	50	20		ELT	04/29/2024 07:17	SM 2540C-2015

Customer Sample ID: AD-31

Customer Description:

Lab Number: 241393-016

Preparation:

Date Collected: 04/22/2024 12:20 EDT

Date Received: 04/26/2024 10:00 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	05/10/2024 13:57	EPA 300.1 -1997, Rev. 1.0
Chloride	16.8	mg/L	2	0.06	0.02		CRJ	05/10/2024 13:57	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.10	mg/L	2	0.06	0.02		CRJ	05/10/2024 13:57	EPA 300.1 -1997, Rev. 1.0
Sulfate	79.8	mg/L	2	0.6	0.1		CRJ	05/10/2024 13:57	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	U1	MGK	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	250	mg/L	1	50	20		ELT	04/29/2024 07:17	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-32

Customer Description:

Lab Number: 241393-017

Preparation:

Date Collected: 04/22/2024 11:33 EDT

Date Received: 04/26/2024 10:00 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	05/10/2024 15:03	EPA 300.1 -1997, Rev. 1.0
Chloride	10.6	mg/L	2	0.06	0.02		CRJ	05/10/2024 15:03	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.32	mg/L	2	0.06	0.02		CRJ	05/10/2024 15:03	EPA 300.1 -1997, Rev. 1.0
Sulfate	67.0	mg/L	2	0.6	0.1		CRJ	05/10/2024 15:03	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	190	mg/L	1	50	20		ELT	04/29/2024 07:17	SM 2540C-2015

Customer Sample ID: AD-33

Customer Description:

Lab Number: 241393-018

Preparation:

Date Collected: 04/22/2024 12:13 EDT

Date Received: 04/26/2024 10:00 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		CRJ	05/10/2024 19:26	EPA 300.1 -1997, Rev. 1.0
Chloride	9.97	mg/L	2	0.06	0.02		CRJ	05/10/2024 19:26	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.27	mg/L	2	0.06	0.02		CRJ	05/10/2024 19:26	EPA 300.1 -1997, Rev. 1.0
Sulfate	65.7	mg/L	2	0.6	0.1		CRJ	05/10/2024 19:26	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	180	mg/L	1	50	20		ELT	04/29/2024 07:24	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-34

Customer Description:

Lab Number: 241393-019

Preparation:

Date Collected: 04/24/2024 11:11 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.21	mg/L	5	0.25	0.05	J1	CRJ	05/10/2024 16:42	EPA 300.1 -1997, Rev. 1.0
Chloride	7.32	mg/L	5	0.15	0.05		CRJ	05/10/2024 16:42	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.69	mg/L	5	0.15	0.05		CRJ	05/10/2024 16:42	EPA 300.1 -1997, Rev. 1.0
Sulfate	1150	mg/L	50	15	3		CRJ	05/10/2024 16:09	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	1650	mg/L	1	50	20		ELT	04/29/2024 07:24	SM 2540C-2015

Customer Sample ID: AD-36

Customer Description:

Lab Number: 241393-020

Preparation:

Date Collected: 04/23/2024 10:20 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.59	mg/L	2	0.10	0.02		CRJ	05/10/2024 19:59	EPA 300.1 -1997, Rev. 1.0
Chloride	14.8	mg/L	2	0.06	0.02		CRJ	05/10/2024 19:59	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.08	mg/L	2	0.06	0.02		CRJ	05/10/2024 19:59	EPA 300.1 -1997, Rev. 1.0
Sulfate	2.9	mg/L	2	0.6	0.1		CRJ	05/10/2024 19:59	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	60	mg/L	1	50	20		ELT	04/29/2024 07:24	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: Duplicate 1

Customer Description:

Lab Number: 241393-021

Preparation:

Date Collected: 04/22/2024 15:00 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.61	mg/L	2	0.10	0.02		CRJ	05/10/2024 18:20	EPA 300.1 -1997, Rev. 1.0
Chloride	20.8	mg/L	2	0.06	0.02		CRJ	05/10/2024 18:20	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.15	mg/L	2	0.06	0.02		CRJ	05/10/2024 18:20	EPA 300.1 -1997, Rev. 1.0
Sulfate	76.5	mg/L	2	0.6	0.1		CRJ	05/10/2024 18:20	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	<5	mg/L	1	20	5	U1	MGK	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	230	mg/L	1	50	20		ELT	04/29/2024 07:37	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 Qualifier 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.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-2

Customer Description:

Lab Number: 241410-001

Preparation:

Date Collected: 04/23/2024 09:21 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Arsenic	2.05	µg/L	1	0.10	0.03		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Barium	14.8	µg/L	1	0.20	0.05		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Beryllium	1.03	µg/L	5	0.25	0.04		GES	05/08/2024 08:29	EPA 200.8-1994, Rev. 5.4
Boron	3.18	mg/L	1	0.050	0.007		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Cadmium	0.135	µg/L	1	0.020	0.004		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Calcium	4.51	mg/L	1	0.05	0.02		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Chromium	0.54	µg/L	1	0.30	0.07		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Cobalt	33.0	µg/L	1	0.020	0.005		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Lead	0.65	µg/L	1	0.20	0.05		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Lithium	0.0739	mg/L	5	0.0015	0.0003		GES	05/08/2024 08:29	EPA 200.8-1994, Rev. 5.4
Magnesium	9.21	mg/L	1	0.100	0.009		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Mercury	56	ng/L	1	5	2		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Potassium	1.43	mg/L	1	0.10	0.01		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Selenium	6.51	µg/L	1	0.50	0.04		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Sodium	111	mg/L	1	0.20	0.02		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Strontium	0.0635	mg/L	1	0.00200	0.00005		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Thallium	0.13	µg/L	1	0.20	0.02	J1	GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.55	pCi/L	0.13	0.16		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	91.9	%						
Radium-228	1.63	pCi/L	0.17	0.50		TTP	05/24/2024 13:03	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	83.4	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-2

Customer Description:

Lab Number: 241410-001-01

Preparation: Dissolved

Date Collected: 04/23/2024 09:21 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.023	µg/L	1	0.100	0.008	J1	GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Arsenic	2.06	µg/L	1	0.10	0.03		GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Barium	15.5	µg/L	1	0.20	0.05		GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Beryllium	1.10	µg/L	5	0.25	0.04		GES	05/08/2024 08:34	EPA 200.8-1994, Rev. 5.4
Cadmium	0.138	µg/L	1	0.020	0.004		GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Chromium	0.54	µg/L	1	0.30	0.07		GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Cobalt	34.1	µg/L	1	0.020	0.005		GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Iron	0.198	mg/L	1	0.020	0.003		GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Lead	0.73	µg/L	1	0.20	0.05		GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Lithium	0.0784	mg/L	5	0.0015	0.0003		GES	05/08/2024 08:34	EPA 200.8-1994, Rev. 5.4
Manganese	0.112	mg/L	1	0.00100	0.00007		GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Selenium	6.84	µg/L	1	0.50	0.04		GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Thallium	0.13	µg/L	1	0.20	0.02	J1	GES	05/07/2024 19:36	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-3

Customer Description:

Lab Number: 241410-002

Preparation:

Date Collected: 04/23/2024 12:04 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Arsenic	0.25	µg/L	1	0.10	0.03		GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Barium	65.2	µg/L	1	0.20	0.05		GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Beryllium	0.24	µg/L	5	0.25	0.04	J1	GES	05/08/2024 08:39	EPA 200.8-1994, Rev. 5.4
Boron	0.038	mg/L	1	0.050	0.007	J1	GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Cadmium	0.017	µg/L	1	0.020	0.004	J1	GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Calcium	4.32	mg/L	1	0.05	0.02		GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Chromium	0.24	µg/L	1	0.30	0.07	J1	GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Cobalt	3.57	µg/L	1	0.020	0.005		GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Lead	0.05	µg/L	1	0.20	0.05	J1	GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Lithium	0.0599	mg/L	5	0.0015	0.0003		GES	05/08/2024 08:39	EPA 200.8-1994, Rev. 5.4
Magnesium	1.93	mg/L	1	0.100	0.009		GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Potassium	2.28	mg/L	1	0.10	0.01		GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Selenium	0.06	µg/L	1	0.50	0.04	J1	GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Sodium	8.66	mg/L	1	0.20	0.02		GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Strontium	0.0298	mg/L	1	0.00200	0.00005		GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Thallium	0.05	µg/L	1	0.20	0.02	J1	GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.66	pCi/L	0.13	0.15		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	100	%						
Radium-228	1.15	pCi/L	0.15	0.46		TTP	05/24/2024 13:03	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	87.3	%						

* 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.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-3

Customer Description:

Lab Number: 241410-002-01

Preparation: Dissolved

Date Collected: 04/23/2024 12:04 EDT

Date Received: 04/29/2024 10:00 EDT

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	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Arsenic	0.22	µg/L	1	0.10	0.03		GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Barium	67.0	µg/L	1	0.20	0.05		GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Beryllium	0.26	µg/L	5	0.25	0.04		GES	05/08/2024 08:45	EPA 200.8-1994, Rev. 5.4
Cadmium	0.017	µg/L	1	0.020	0.004	J1	GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Chromium	0.28	µg/L	1	0.30	0.07	J1	GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Cobalt	3.78	µg/L	1	0.020	0.005		GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Iron	1.21	mg/L	1	0.020	0.003		GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Lead	0.11	µg/L	1	0.20	0.05	J1	GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Lithium	0.0633	mg/L	5	0.0015	0.0003		GES	05/08/2024 08:45	EPA 200.8-1994, Rev. 5.4
Manganese	0.0427	mg/L	1	0.00100	0.00007		GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Thallium	0.05	µg/L	1	0.20	0.02	J1	GES	05/07/2024 19:47	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-4

Customer Description:

Lab Number: 241410-003

Preparation:

Date Collected: 04/24/2024 10:31 EDT

Date Received: 04/29/2024 10:00 EDT

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	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Arsenic	0.44	µg/L	1	0.10	0.03		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Barium	97.2	µg/L	1	0.20	0.05		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Beryllium	0.64	µg/L	5	0.25	0.04		GES	05/08/2024 08:50	EPA 200.8-1994, Rev. 5.4
Boron	0.017	mg/L	1	0.050	0.007	J1	GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Cadmium	0.020	µg/L	1	0.020	0.004		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Calcium	2.26	mg/L	1	0.05	0.02		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Chromium	0.31	µg/L	1	0.30	0.07		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Cobalt	5.95	µg/L	1	0.020	0.005		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Lead	0.06	µg/L	1	0.20	0.05	J1	GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Lithium	0.0395	mg/L	5	0.0015	0.0003		GES	05/08/2024 08:50	EPA 200.8-1994, Rev. 5.4
Magnesium	1.18	mg/L	1	0.100	0.009		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Potassium	2.36	mg/L	1	0.10	0.01		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Sodium	8.05	mg/L	1	0.20	0.02		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Strontium	0.0189	mg/L	1	0.00200	0.00005		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Thallium	0.07	µg/L	1	0.20	0.02	J1	GES	05/07/2024 19:52	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	0.13	0.18		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	106	%						
Radium-228	1.12	pCi/L	0.19	0.60		TTP	05/24/2024 13:03	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	79.0	%						

* 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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-4

Customer Description:

Lab Number: 241410-003-01

Preparation: Dissolved

Date Collected: 04/24/2024 10:31 EDT

Date Received: 04/29/2024 10:00 EDT

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	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Barium	96.5	µg/L	1	0.20	0.05		GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Beryllium	0.66	µg/L	5	0.25	0.04		GES	05/08/2024 08:55	EPA 200.8-1994, Rev. 5.4
Cadmium	0.011	µg/L	1	0.020	0.004	J1	GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Chromium	0.28	µg/L	1	0.30	0.07	J1	GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Cobalt	5.86	µg/L	1	0.020	0.005		GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Iron	0.025	mg/L	1	0.020	0.003		GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Lithium	0.0411	mg/L	5	0.0015	0.0003		GES	05/08/2024 08:55	EPA 200.8-1994, Rev. 5.4
Manganese	0.0497	mg/L	1	0.00100	0.00007		GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Selenium	0.05	µg/L	1	0.50	0.04	J1	GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Thallium	0.07	µg/L	1	0.20	0.02	J1	GES	05/07/2024 19:57	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-7R

Customer Description:

Lab Number: 241410-004

Preparation:

Date Collected: 04/22/2024 10:25 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Arsenic	0.38	µg/L	1	0.10	0.03		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Barium	41.3	µg/L	1	0.20	0.05		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Beryllium	2.37	µg/L	5	0.25	0.04		GES	05/08/2024 09:00	EPA 200.8-1994, Rev. 5.4
Boron	0.049	mg/L	1	0.050	0.007	J1	GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Cadmium	0.310	µg/L	1	0.020	0.004		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Calcium	3.37	mg/L	1	0.05	0.02		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Chromium	0.23	µg/L	1	0.30	0.07	J1	GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Cobalt	20.9	µg/L	1	0.020	0.005		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Lithium	0.0790	mg/L	5	0.0015	0.0003		GES	05/08/2024 09:00	EPA 200.8-1994, Rev. 5.4
Magnesium	5.03	mg/L	1	0.100	0.009		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Mercury	<4	ng/L	2	10	4	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Potassium	1.99	mg/L	1	0.10	0.01		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Selenium	1.00	µg/L	1	0.50	0.04		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Sodium	23.4	mg/L	1	0.20	0.02		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Strontium	0.0366	mg/L	1	0.00200	0.00005		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Thallium	0.14	µg/L	1	0.20	0.02	J1	GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.16	pCi/L	0.18	0.16		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	99.8	%						
Radium-228	1.46	pCi/L	0.18	0.55		TTP	05/24/2024 13:03	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	87.3	%						

* 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.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-7R

Customer Description:

Lab Number: 241410-004-01

Preparation: Dissolved

Date Collected: 04/22/2024 10:25 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Arsenic	0.37	µg/L	1	0.10	0.03		GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Barium	41.7	µg/L	1	0.20	0.05		GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Beryllium	1.96	µg/L	1	0.050	0.007		GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Cadmium	0.318	µg/L	1	0.020	0.004		GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Chromium	0.25	µg/L	1	0.30	0.07	J1	GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Cobalt	21.0	µg/L	1	0.020	0.005		GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Iron	5.21	mg/L	1	0.020	0.003		GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Lead	0.06	µg/L	1	0.20	0.05	J1	GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Lithium	0.0678	mg/L	1	0.00030	0.00006		GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Manganese	0.0649	mg/L	1	0.00100	0.00007		GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Selenium	1.03	µg/L	1	0.50	0.04		GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Thallium	0.14	µg/L	1	0.20	0.02	J1	GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-8

Customer Description:

Lab Number: 241410-005

Preparation:

Date Collected: 04/23/2024 11:11 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.999	mg/L	1	0.050	0.007		GES	05/07/2024 20:12	EPA 200.8-1994, Rev. 5.4
Calcium	87.7	mg/L	1	0.05	0.02		GES	05/07/2024 20:12	EPA 200.8-1994, Rev. 5.4
Magnesium	6.27	mg/L	1	0.100	0.009		GES	05/07/2024 20:12	EPA 200.8-1994, Rev. 5.4
Potassium	1.19	mg/L	1	0.10	0.01		GES	05/07/2024 20:12	EPA 200.8-1994, Rev. 5.4
Sodium	11.5	mg/L	1	0.20	0.02		GES	05/07/2024 20:12	EPA 200.8-1994, Rev. 5.4
Strontium	0.526	mg/L	1	0.00200	0.00005		GES	05/07/2024 20:12	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-12

Customer Description:

Lab Number: 241410-006

Preparation:

Date Collected: 04/22/2024 10:44 EDT

Date Received: 04/29/2024 10:00 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	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Arsenic	0.09	µg/L	1	0.10	0.03	J1	GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Barium	19.3	µg/L	1	0.20	0.05		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Beryllium	0.121	µg/L	1	0.050	0.007		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Boron	0.015	mg/L	1	0.050	0.007	J1	GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Cadmium	0.007	µg/L	1	0.020	0.004	J1	GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Calcium	0.18	mg/L	1	0.05	0.02		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Chromium	0.34	µg/L	1	0.30	0.07		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Cobalt	1.08	µg/L	1	0.020	0.005		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Lithium	0.00462	mg/L	1	0.00030	0.00006		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Magnesium	0.342	mg/L	1	0.100	0.009		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Potassium	0.20	mg/L	1	0.10	0.01		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Selenium	0.31	µg/L	1	0.50	0.04	J1	GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Sodium	3.75	mg/L	1	0.20	0.02		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Strontium	0.00203	mg/L	1	0.00200	0.00005		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.83	pCi/L	0.15	0.14		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	106	%						
Radium-228	1.79	pCi/L	0.21	0.64		TTP	05/24/2024 13:03	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	74.6	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-12

Customer Description:

Lab Number: 241410-006-01

Preparation: Dissolved

Date Collected: 04/22/2024 10:44 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.037	µg/L	1	0.100	0.008	J1	GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Arsenic	0.07	µg/L	1	0.10	0.03	J1	GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Barium	19.5	µg/L	1	0.20	0.05		GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Beryllium	0.129	µg/L	1	0.050	0.007		GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Cadmium	0.007	µg/L	1	0.020	0.004	J1	GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Chromium	0.25	µg/L	1	0.30	0.07	J1	GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Cobalt	1.07	µg/L	1	0.020	0.005		GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Iron	0.020	mg/L	1	0.020	0.003		GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Lead	0.12	µg/L	1	0.20	0.05	J1	GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Lithium	0.00490	mg/L	1	0.00030	0.00006		GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Manganese	0.00313	mg/L	1	0.00100	0.00007		GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Selenium	0.26	µg/L	1	0.50	0.04	J1	GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	GES	05/07/2024 21:34	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-13

Customer Description:

Lab Number: 241410-007

Preparation:

Date Collected: 04/22/2024 09:20 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Arsenic	0.54	µg/L	1	0.10	0.03		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Barium	34.9	µg/L	1	0.20	0.05		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Beryllium	0.163	µg/L	1	0.050	0.007		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Boron	0.066	mg/L	1	0.050	0.007		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Calcium	10.6	mg/L	1	0.05	0.02		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Chromium	0.22	µg/L	1	0.30	0.07	J1	GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Cobalt	46.2	µg/L	1	0.020	0.005		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Lithium	0.135	mg/L	1	0.00030	0.00006		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Magnesium	13.2	mg/L	1	0.100	0.009		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Potassium	4.83	mg/L	1	0.10	0.01		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Sodium	19.9	mg/L	1	0.20	0.02		GES	05/08/2024 10:01	EPA 200.8-1994, Rev. 5.4
Strontium	0.0787	mg/L	1	0.00200	0.00005		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.65	pCi/L	0.15	0.23		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	92.6	%						
Radium-228	2.02	pCi/L	0.20	0.59		TTP	05/24/2024 13:03	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	86.1	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-13

Customer Description:

Lab Number: 241410-007-01

Preparation: Dissolved

Date Collected: 04/22/2024 09:20 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Arsenic	0.32	µg/L	1	0.10	0.03		GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Barium	33.9	µg/L	1	0.20	0.05		GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Beryllium	0.151	µg/L	1	0.050	0.007		GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Chromium	0.19	µg/L	1	0.30	0.07	J1	GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Cobalt	44.9	µg/L	1	0.020	0.005		GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Iron	33.8	mg/L	1	0.020	0.003		GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Lithium	0.133	mg/L	1	0.00030	0.00006		GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Manganese	0.447	mg/L	1	0.00100	0.00007		GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-16

Customer Description:

Lab Number: 241410-008

Preparation:

Date Collected: 04/24/2024 12:04 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.013	mg/L	1	0.050	0.007	J1	GES	05/07/2024 21:50	EPA 200.8-1994, Rev. 5.4
Calcium	1.13	mg/L	1	0.05	0.02		GES	05/07/2024 21:50	EPA 200.8-1994, Rev. 5.4
Magnesium	2.37	mg/L	1	0.100	0.009		GES	05/07/2024 21:50	EPA 200.8-1994, Rev. 5.4
Potassium	1.53	mg/L	1	0.10	0.01		GES	05/07/2024 21:50	EPA 200.8-1994, Rev. 5.4
Sodium	13.5	mg/L	1	0.20	0.02		GES	05/08/2024 10:12	EPA 200.8-1994, Rev. 5.4
Strontium	0.0135	mg/L	1	0.00200	0.00005		GES	05/07/2024 21:50	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-17

Customer Description:

Lab Number: 241410-009

Preparation:

Date Collected: 04/23/2024 12:16 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Arsenic	0.09	µg/L	1	0.10	0.03	J1	GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Barium	47.6	µg/L	1	0.20	0.05		GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Beryllium	0.221	µg/L	1	0.050	0.007		GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Boron	0.020	mg/L	1	0.050	0.007	J1	GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Cadmium	0.011	µg/L	1	0.020	0.004	J1	GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Calcium	0.04	mg/L	1	0.05	0.02	J1	GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Chromium	0.37	µg/L	1	0.30	0.07		GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Cobalt	1.99	µg/L	1	0.020	0.005		GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Lithium	0.00705	mg/L	1	0.00030	0.00006		GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Magnesium	0.899	mg/L	1	0.100	0.009		GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Mercury	51	ng/L	4	20	8		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Potassium	0.15	mg/L	1	0.10	0.01		GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Selenium	0.11	µg/L	1	0.50	0.04	J1	GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Sodium	3.85	mg/L	1	0.20	0.02		GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Strontium	0.00224	mg/L	1	0.00200	0.00005		GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.45	pCi/L	0.11	0.15		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	101	%						
Radium-228	1.35	pCi/L	0.15	0.44		TTP	05/24/2024 13:02	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	83.0	%						

* 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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-17

Customer Description:

Lab Number: 241410-009-01

Preparation: Dissolved

Date Collected: 04/23/2024 11:16 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Arsenic	0.05	µg/L	1	0.10	0.03	J1	GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Barium	46.3	µg/L	1	0.20	0.05		GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Beryllium	0.196	µg/L	1	0.050	0.007		GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Cadmium	0.010	µg/L	1	0.020	0.004	J1	GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Chromium	0.38	µg/L	1	0.30	0.07		GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Cobalt	1.95	µg/L	1	0.020	0.005		GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Iron	0.004	mg/L	1	0.020	0.003	J1	GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Lithium	0.00647	mg/L	1	0.00030	0.00006		GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Manganese	0.00240	mg/L	1	0.00100	0.00007		GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Selenium	0.09	µg/L	1	0.50	0.04	J1	GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/07/2024 22:00	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-18

Customer Description:

Lab Number: 241410-010

Preparation:

Date Collected: 04/23/2024 11:58 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Arsenic	0.19	µg/L	1	0.10	0.03		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Barium	76.6	µg/L	1	0.20	0.05		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Beryllium	0.083	µg/L	1	0.050	0.007		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Boron	0.008	mg/L	1	0.050	0.007	J1	GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Cadmium	0.010	µg/L	1	0.020	0.004	J1	GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Calcium	0.19	mg/L	1	0.05	0.02		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Chromium	0.32	µg/L	1	0.30	0.07		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Cobalt	0.851	µg/L	1	0.020	0.005		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Lead	0.06	µg/L	1	0.20	0.05	J1	GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Lithium	0.0130	mg/L	1	0.00030	0.00006		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Magnesium	0.294	mg/L	1	0.100	0.009		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Mercury	8	ng/L	1	5	2		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Potassium	0.74	mg/L	1	0.10	0.01		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Selenium	0.11	µg/L	1	0.50	0.04	J1	GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Sodium	5.64	mg/L	1	0.20	0.02		GES	05/08/2024 10:27	EPA 200.8-1994, Rev. 5.4
Strontium	0.00415	mg/L	1	0.00200	0.00005		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	05/07/2024 22:05	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	0.11	0.18		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	104	%						
Radium-228	0.57	pCi/L	0.13	0.42		TTP	05/24/2024 13:02	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	85.9	%						

* 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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-18

Customer Description:

Lab Number: 241410-010-01

Preparation: Dissolved

Date Collected: 04/23/2024 11:58 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.020	µg/L	1	0.100	0.008	J1	GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Arsenic	0.07	µg/L	1	0.10	0.03	J1	GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Barium	80.5	µg/L	1	0.20	0.05		GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Beryllium	0.084	µg/L	1	0.050	0.007		GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Cadmium	0.011	µg/L	1	0.020	0.004	J1	GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Chromium	0.41	µg/L	1	0.30	0.07		GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Cobalt	0.921	µg/L	1	0.020	0.005		GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Iron	0.031	mg/L	1	0.020	0.003		GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Lead	0.07	µg/L	1	0.20	0.05	J1	GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Lithium	0.0135	mg/L	1	0.00030	0.00006		GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Manganese	0.00407	mg/L	1	0.00100	0.00007		GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Selenium	0.08	µg/L	1	0.50	0.04	J1	GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	05/07/2024 22:10	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-22

Customer Description:

Lab Number: 241410-011

Preparation:

Date Collected: 04/22/2024 11:22 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Arsenic	3.54	µg/L	1	0.10	0.03		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Barium	16.2	µg/L	1	0.20	0.05		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Beryllium	7.53	µg/L	1	0.050	0.007	M1	GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Boron	0.064	mg/L	1	0.050	0.007		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Cadmium	1.22	µg/L	1	0.020	0.004		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Calcium	13.5	mg/L	1	0.05	0.02		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Chromium	0.43	µg/L	1	0.30	0.07		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Cobalt	99.3	µg/L	1	0.020	0.005	M1	GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Lead	0.23	µg/L	1	0.20	0.05		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Lithium	0.146	mg/L	1	0.00030	0.00006	M1	GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Magnesium	19.9	mg/L	1	0.100	0.009		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Mercury	66	ng/L	4	20	8		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Potassium	3.81	mg/L	1	0.10	0.01		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Selenium	11.9	µg/L	1	0.50	0.04		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Sodium	90.3	mg/L	5	1.0	0.1		GES	05/08/2024 10:37	EPA 200.8-1994, Rev. 5.4
Strontium	0.129	mg/L	1	0.00200	0.00005		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Thallium	0.20	µg/L	1	0.20	0.02		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.78	pCi/L	0.23	0.17		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	95.0	%						
Radium-228	1.24	pCi/L	0.14	0.40	O2, P2	TTP	06/05/2024 13:38	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	56.2	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-22

Customer Description:

Lab Number: 241410-011-01

Preparation: Dissolved

Date Collected: 04/22/2024 11:22 EDT

Date Received: 04/29/2024 10:00 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	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Arsenic	3.76	µg/L	1	0.10	0.03		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Barium	16.7	µg/L	1	0.20	0.05		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Beryllium	7.18	µg/L	1	0.050	0.007		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Cadmium	1.30	µg/L	1	0.020	0.004		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Chromium	0.44	µg/L	1	0.30	0.07		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Cobalt	106	µg/L	1	0.020	0.005		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Iron	17.8	mg/L	1	0.020	0.003		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Lead	0.23	µg/L	1	0.20	0.05		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Lithium	0.141	mg/L	1	0.00030	0.00006		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Manganese	0.347	mg/L	1	0.00100	0.00007		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Mercury	9	ng/L	1	5	2		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Selenium	12.1	µg/L	1	0.50	0.04		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Thallium	0.24	µg/L	1	0.20	0.02		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-23

Customer Description:

Lab Number: 241410-012

Preparation:

Date Collected: 04/24/2024 12:05 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.207	mg/L	1	0.050	0.007		GES	05/08/2024 00:14	EPA 200.8-1994, Rev. 5.4
Calcium	0.22	mg/L	1	0.05	0.02		GES	05/08/2024 00:14	EPA 200.8-1994, Rev. 5.4
Magnesium	0.197	mg/L	1	0.100	0.009		GES	05/08/2024 00:14	EPA 200.8-1994, Rev. 5.4
Potassium	2.51	mg/L	1	0.10	0.01		GES	05/08/2024 00:14	EPA 200.8-1994, Rev. 5.4
Sodium	3.54	mg/L	1	0.20	0.02		GES	05/08/2024 12:25	EPA 200.8-1994, Rev. 5.4
Strontium	0.00254	mg/L	1	0.00200	0.00005		GES	05/08/2024 00:14	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-27

Customer Description:

Lab Number: 241410-013

Preparation:

Date Collected: 04/24/2024 09:30 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.037	mg/L	1	0.050	0.007	J1	GES	05/08/2024 00:19	EPA 200.8-1994, Rev. 5.4
Calcium	3.89	mg/L	1	0.05	0.02		GES	05/08/2024 00:19	EPA 200.8-1994, Rev. 5.4
Magnesium	4.97	mg/L	1	0.100	0.009		GES	05/08/2024 00:19	EPA 200.8-1994, Rev. 5.4
Potassium	1.87	mg/L	1	0.10	0.01		GES	05/08/2024 00:19	EPA 200.8-1994, Rev. 5.4
Sodium	8.79	mg/L	1	0.20	0.02		GES	05/08/2024 12:30	EPA 200.8-1994, Rev. 5.4
Strontium	0.0560	mg/L	1	0.00200	0.00005		GES	05/08/2024 00:19	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-28

Customer Description:

Lab Number: 241410-014

Preparation:

Date Collected: 04/23/2024 10:28 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Arsenic	0.12	µg/L	1	0.10	0.03		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Barium	121	µg/L	1	0.20	0.05		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Beryllium	0.770	µg/L	1	0.050	0.007		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Boron	0.290	mg/L	1	0.050	0.007		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Cadmium	0.055	µg/L	1	0.020	0.004		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Calcium	1.19	mg/L	1	0.05	0.02		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Chromium	0.38	µg/L	1	0.30	0.07		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Cobalt	13.0	µg/L	1	0.020	0.005		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Lead	0.07	µg/L	1	0.20	0.05	J1	GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Lithium	0.0179	mg/L	1	0.00030	0.00006		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Magnesium	2.81	mg/L	1	0.100	0.009		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Mercury	13	ng/L	1	5	2		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Potassium	0.61	mg/L	1	0.10	0.01		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Selenium	0.33	µg/L	1	0.50	0.04	J1	GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Sodium	5.13	mg/L	1	0.20	0.02		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Strontium	0.0209	mg/L	1	0.00200	0.00005		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.56	pCi/L	0.13	0.22		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	98.4	%						
Radium-228	0.99	pCi/L	0.19	0.60	02, P2	TTP	06/05/2024 13:38	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	75.8	%						

* 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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-28

Customer Description:

Lab Number: 241410-014-01

Preparation: Dissolved

Date Collected: 04/23/2024 10:28 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Arsenic	0.10	µg/L	1	0.10	0.03		GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Barium	124	µg/L	1	0.20	0.05		GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Beryllium	0.755	µg/L	1	0.050	0.007		GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Cadmium	0.052	µg/L	1	0.020	0.004		GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Chromium	0.22	µg/L	1	0.30	0.07	J1	GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Cobalt	13.0	µg/L	1	0.020	0.005		GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Iron	0.008	mg/L	1	0.020	0.003	J1	GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Lead	0.05	µg/L	1	0.20	0.05	J1	GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Lithium	0.0186	mg/L	1	0.00030	0.00006		GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Manganese	0.0382	mg/L	1	0.00100	0.00007		GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Mercury	5	ng/L	1	5	2		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Selenium	0.27	µg/L	1	0.50	0.04	J1	GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	GES	05/08/2024 00:29	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-30

Customer Description:

Lab Number: 241410-015

Preparation:

Date Collected: 04/23/2024 09:43 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Arsenic	0.15	µg/L	1	0.10	0.03		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Barium	49.9	µg/L	1	0.20	0.05		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Beryllium	0.122	µg/L	1	0.050	0.007		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Boron	1.13	mg/L	1	0.050	0.007		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Cadmium	0.012	µg/L	1	0.020	0.004	J1	GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Calcium	0.38	mg/L	1	0.05	0.02		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Chromium	0.42	µg/L	1	0.30	0.07		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Cobalt	3.30	µg/L	1	0.020	0.005		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Lithium	0.00736	mg/L	1	0.00030	0.00006		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Magnesium	1.72	mg/L	1	0.100	0.009		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Mercury	23	ng/L	1	5	2		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Potassium	0.70	mg/L	1	0.10	0.01		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Selenium	0.30	µg/L	1	0.50	0.04	J1	GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Sodium	56.1	mg/L	1	0.20	0.02		GES	05/08/2024 12:45	EPA 200.8-1994, Rev. 5.4
Strontium	0.00645	mg/L	1	0.00200	0.00005		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.21	pCi/L	0.08	0.16		ST	05/21/2024 11:31	SW-846 9315-1986, Rev. 0
Carrier Recovery	92.4	%						
Radium-228	0.68	pCi/L	0.17	0.54	02, P2	TTP	06/05/2024 13:38	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	83.0	%						

* 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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-30

Customer Description:

Lab Number: 241410-015-01

Preparation: Dissolved

Date Collected: 04/23/2024 09:43 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Arsenic	0.11	µg/L	1	0.10	0.03		GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Barium	48.3	µg/L	1	0.20	0.05		GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Beryllium	0.124	µg/L	1	0.050	0.007		GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Cadmium	0.010	µg/L	1	0.020	0.004	J1	GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Chromium	0.32	µg/L	1	0.30	0.07		GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Cobalt	3.34	µg/L	1	0.020	0.005		GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Iron	0.005	mg/L	1	0.020	0.003	J1	GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Lithium	0.00741	mg/L	1	0.00030	0.00006		GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Manganese	0.0147	mg/L	1	0.00100	0.00007		GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Selenium	0.30	µg/L	1	0.50	0.04	J1	GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	05/08/2024 00:39	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-31

Customer Description:

Lab Number: 241410-016

Preparation:

Date Collected: 04/22/2024 12:20 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Arsenic	0.44	µg/L	1	0.10	0.03		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Barium	33.3	µg/L	1	0.20	0.05		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Beryllium	1.04	µg/L	5	0.25	0.04		GES	05/08/2024 12:56	EPA 200.8-1994, Rev. 5.4
Boron	0.022	mg/L	1	0.050	0.007	J1	GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Cadmium	0.064	µg/L	1	0.020	0.004		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Calcium	2.45	mg/L	1	0.05	0.02		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Chromium	0.55	µg/L	1	0.30	0.07		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Cobalt	9.38	µg/L	1	0.020	0.005		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Lead	0.31	µg/L	1	0.20	0.05		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Lithium	0.0792	mg/L	5	0.0015	0.0003		GES	05/08/2024 12:56	EPA 200.8-1994, Rev. 5.4
Magnesium	3.62	mg/L	1	0.100	0.009		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Mercury	430	ng/L	10	50	20		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Potassium	1.52	mg/L	1	0.10	0.01		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Selenium	0.51	µg/L	1	0.50	0.04		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Sodium	31.0	mg/L	5	1.0	0.1		GES	05/08/2024 12:56	EPA 200.8-1994, Rev. 5.4
Strontium	0.0357	mg/L	1	0.00200	0.00005		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Thallium	0.09	µg/L	1	0.20	0.02	J1	GES	05/08/2024 00:44	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	0.11	0.16		ST	05/21/2024 11:31	SW-846 9315-1986, Rev. 0
Carrier Recovery	93.2	%						
Radium-228	2.12	pCi/L	0.17	0.48	02, P2	TTP	06/05/2024 13:38	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	84.1	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-31

Customer Description:

Lab Number: 241410-016-01

Preparation: Dissolved

Date Collected: 04/22/2024 12:20 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.027	µg/L	1	0.100	0.008	J1	GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Arsenic	0.29	µg/L	1	0.10	0.03		GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Barium	32.4	µg/L	1	0.20	0.05		GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Beryllium	1.02	µg/L	5	0.25	0.04		GES	05/08/2024 13:01	EPA 200.8-1994, Rev. 5.4
Cadmium	0.063	µg/L	1	0.020	0.004		GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Chromium	0.38	µg/L	1	0.30	0.07		GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Cobalt	9.05	µg/L	1	0.020	0.005		GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Iron	0.125	mg/L	1	0.020	0.003		GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Lead	0.31	µg/L	1	0.20	0.05		GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Lithium	0.0780	mg/L	5	0.0015	0.0003		GES	05/08/2024 13:01	EPA 200.8-1994, Rev. 5.4
Manganese	0.0230	mg/L	1	0.00100	0.00007		GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Mercury	17	ng/L	1	5	2		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Selenium	0.44	µg/L	1	0.50	0.04	J1	GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Thallium	0.09	µg/L	1	0.20	0.02	J1	GES	05/08/2024 00:49	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-32

Customer Description:

Lab Number: 241410-017

Preparation:

Date Collected: 04/22/2024 11:33 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Arsenic	3.46	µg/L	1	0.10	0.03		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Barium	40.3	µg/L	1	0.20	0.05		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Beryllium	0.449	µg/L	1	0.050	0.007		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Boron	0.231	mg/L	1	0.050	0.007		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Cadmium	0.035	µg/L	1	0.020	0.004		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Calcium	5.63	mg/L	1	0.05	0.02		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Chromium	0.34	µg/L	1	0.30	0.07		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Cobalt	13.2	µg/L	1	0.020	0.005		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Lithium	0.0567	mg/L	1	0.00030	0.00006		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Magnesium	6.18	mg/L	1	0.100	0.009		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Mercury	180	ng/L	20	100	40		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Potassium	2.65	mg/L	1	0.10	0.01		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Selenium	0.48	µg/L	1	0.50	0.04	J1	GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Sodium	19.6	mg/L	1	0.20	0.02		GES	05/08/2024 13:06	EPA 200.8-1994, Rev. 5.4
Strontium	0.0806	mg/L	1	0.00200	0.00005		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Thallium	0.07	µg/L	1	0.20	0.02	J1	GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.48	pCi/L	0.12	0.21		ST	05/21/2024 11:31	SW-846 9315-1986, Rev. 0
Carrier Recovery	92.3	%						
Radium-228	1.16	pCi/L	0.17	0.51	02, P2	TTP	06/05/2024 13:38	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	83.0	%						

* 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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-32

Customer Description:

Lab Number: 241410-017-01

Preparation: Dissolved

Date Collected: 04/22/2024 11:33 EDT

Date Received: 04/29/2024 10:00 EDT

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	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Arsenic	2.44	µg/L	1	0.10	0.03		GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Barium	40.1	µg/L	1	0.20	0.05		GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Beryllium	0.472	µg/L	1	0.050	0.007		GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Cadmium	0.037	µg/L	1	0.020	0.004		GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Chromium	0.21	µg/L	1	0.30	0.07	J1	GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Cobalt	13.1	µg/L	1	0.020	0.005		GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Iron	10.9	mg/L	1	0.020	0.003	M1	GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Lead	0.07	µg/L	1	0.20	0.05	J1	GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Lithium	0.0569	mg/L	1	0.00030	0.00006	M1	GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Manganese	0.0827	mg/L	1	0.00100	0.00007		GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Selenium	0.47	µg/L	1	0.50	0.04	J1	GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Thallium	0.07	µg/L	1	0.20	0.02	J1	GES	05/08/2024 01:00	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-33

Customer Description:

Lab Number: 241410-018

Preparation:

Date Collected: 04/22/2024 12:13 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Arsenic	1.00	µg/L	1	0.10	0.03		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Barium	42.2	µg/L	1	0.20	0.05		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Beryllium	1.31	µg/L	1	0.050	0.007		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Boron	0.141	mg/L	1	0.050	0.007		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Cadmium	0.058	µg/L	1	0.020	0.004		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Calcium	2.08	mg/L	1	0.05	0.02		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Chromium	0.23	µg/L	1	0.30	0.07	J1	GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Cobalt	11.0	µg/L	1	0.020	0.005		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Lead	0.27	µg/L	1	0.20	0.05		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Lithium	0.0199	mg/L	1	0.00030	0.00006		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Magnesium	4.36	mg/L	1	0.100	0.009		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Mercury	6600	ng/L	100	500	200		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Potassium	0.26	mg/L	1	0.10	0.01		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Selenium	3.18	µg/L	1	0.50	0.04		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Sodium	17.7	mg/L	1	0.20	0.02		GES	05/08/2024 14:23	EPA 200.8-1994, Rev. 5.4
Strontium	0.0350	mg/L	1	0.00200	0.00005		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.73	pCi/L	0.15	0.18		ST	05/21/2024 11:31	SW-846 9315-1986, Rev. 0
Carrier Recovery	87.2	%						
Radium-228	0.88	pCi/L	0.12	0.38	02, P2	TTP	06/05/2024 13:38	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	89.1	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-33

Customer Description:

Lab Number: 241410-018-01

Preparation: Dissolved

Date Collected: 04/22/2024 12:13 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.030	µg/L	1	0.100	0.008	J1	GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Arsenic	1.04	µg/L	1	0.10	0.03		GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Barium	42.7	µg/L	1	0.20	0.05		GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Beryllium	1.28	µg/L	1	0.050	0.007		GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Cadmium	0.058	µg/L	1	0.020	0.004		GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Chromium	0.23	µg/L	1	0.30	0.07	J1	GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Cobalt	11.3	µg/L	1	0.020	0.005		GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Iron	0.015	mg/L	1	0.020	0.003	J1	GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Lead	0.29	µg/L	1	0.20	0.05		GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Lithium	0.0194	mg/L	1	0.00030	0.00006		GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Manganese	0.00682	mg/L	1	0.00100	0.00007		GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Mercury	890	ng/L	20	100	40		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Selenium	3.36	µg/L	1	0.50	0.04		GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-34

Customer Description:

Lab Number: 241410-019

Preparation:

Date Collected: 04/24/2024 11:11 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.057	mg/L	1	0.050	0.007		GES	05/08/2024 02:27	EPA 200.8-1994, Rev. 5.4
Calcium	40.5	mg/L	1	0.05	0.02		GES	05/08/2024 02:27	EPA 200.8-1994, Rev. 5.4
Magnesium	34.9	mg/L	1	0.100	0.009		GES	05/08/2024 02:27	EPA 200.8-1994, Rev. 5.4
Potassium	6.93	mg/L	1	0.10	0.01		GES	05/08/2024 02:27	EPA 200.8-1994, Rev. 5.4
Sodium	15.8	mg/L	1	0.20	0.02		GES	05/08/2024 14:33	EPA 200.8-1994, Rev. 5.4
Strontium	0.437	mg/L	1	0.00200	0.00005		GES	05/08/2024 02:27	EPA 200.8-1994, Rev. 5.4



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-36

Customer Description:

Lab Number: 241410-020

Preparation:

Date Collected: 04/23/2024 10:20 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.053	mg/L	1	0.050	0.007		GES	05/08/2024 02:32	EPA 200.8-1994, Rev. 5.4
Calcium	0.75	mg/L	1	0.05	0.02		GES	05/08/2024 02:32	EPA 200.8-1994, Rev. 5.4
Magnesium	2.28	mg/L	1	0.100	0.009		GES	05/08/2024 02:32	EPA 200.8-1994, Rev. 5.4
Potassium	1.56	mg/L	1	0.10	0.01		GES	05/08/2024 02:32	EPA 200.8-1994, Rev. 5.4
Sodium	6.51	mg/L	1	0.20	0.02		GES	05/08/2024 14:38	EPA 200.8-1994, Rev. 5.4
Strontium	0.0113	mg/L	1	0.00200	0.00005		GES	05/08/2024 02:32	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: Duplicate 1

Customer Description:

Lab Number: 241410-021

Preparation:

Date Collected: 04/22/2024 15:00 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Arsenic	0.37	µg/L	1	0.10	0.03		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Barium	41.0	µg/L	1	0.20	0.05		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Beryllium	1.93	µg/L	1	0.050	0.007		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Boron	0.048	mg/L	1	0.050	0.007	J1	GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Cadmium	0.311	µg/L	1	0.020	0.004		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Calcium	3.32	mg/L	1	0.05	0.02		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Chromium	0.27	µg/L	1	0.30	0.07	J1	GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Cobalt	20.6	µg/L	1	0.020	0.005		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Lithium	0.0639	mg/L	1	0.00030	0.00006		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Magnesium	4.93	mg/L	1	0.100	0.009		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/06/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Potassium	1.99	mg/L	1	0.10	0.01		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Selenium	1.06	µg/L	1	0.50	0.04		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Sodium	25.9	mg/L	1	0.20	0.02		GES	05/08/2024 14:43	EPA 200.8-1994, Rev. 5.4
Strontium	0.0360	mg/L	1	0.00200	0.00005		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Thallium	0.14	µg/L	1	0.20	0.02	J1	GES	05/08/2024 02:37	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: Duplicate 1

Customer Description:

Lab Number: 241410-021-01

Preparation: Dissolved

Date Collected: 04/22/2024 15:00 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Arsenic	0.37	µg/L	1	0.10	0.03		GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Barium	40.1	µg/L	1	0.20	0.05		GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Beryllium	1.99	µg/L	1	0.050	0.007		GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Cadmium	0.313	µg/L	1	0.020	0.004		GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Chromium	0.25	µg/L	1	0.30	0.07	J1	GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Cobalt	20.6	µg/L	1	0.020	0.005		GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Iron	5.10	mg/L	1	0.020	0.003		GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Lithium	0.0655	mg/L	1	0.00030	0.00006		GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Manganese	0.0630	mg/L	1	0.00100	0.00007		GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/06/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Selenium	1.00	µg/L	1	0.50	0.04		GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Thallium	0.14	µg/L	1	0.20	0.02	J1	GES	05/08/2024 02:42	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: Equipment Blank

Customer Description:

Lab Number: 241410-022

Preparation:

Date Collected: 04/23/2024 10:53 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Barium	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Calcium	<0.02	mg/L	1	0.05	0.02	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Chromium	0.23	µg/L	1	0.30	0.07	J1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Cobalt	0.007	µg/L	1	0.020	0.005	J1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00006	mg/L	1	0.00030	0.00006	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Magnesium	<0.009	mg/L	1	0.100	0.009	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Potassium	<0.01	mg/L	1	0.10	0.01	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Sodium	<0.02	mg/L	1	0.20	0.02	U1	GES	05/08/2024 14:54	EPA 200.8-1994, Rev. 5.4
Strontium	<0.00005	mg/L	1	0.00200	0.00005	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/08/2024 02:48	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: Field Blank

Customer Description:

Lab Number: 241410-023

Preparation:

Date Collected: 04/23/2024 10:56 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Barium	0.10	µg/L	1	0.20	0.05	J1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Calcium	<0.02	mg/L	1	0.05	0.02	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Chromium	0.26	µg/L	1	0.30	0.07	J1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Cobalt	0.025	µg/L	1	0.020	0.005		GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00006	mg/L	1	0.00030	0.00006	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Magnesium	<0.009	mg/L	1	0.100	0.009	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Potassium	<0.01	mg/L	1	0.10	0.01	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Sodium	<0.02	mg/L	1	0.20	0.02	U1	GES	05/08/2024 14:59	EPA 200.8-1994, Rev. 5.4
Strontium	<0.00005	mg/L	1	0.00200	0.00005	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/08/2024 02:53	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

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 Qualifier 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.

O2 - Client did not provide additional bottles; therefore, the MS and duplicate are missing in this batch.

P2 - The precision on the laboratory control sample duplicate (LCSD) was above acceptance limits.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241961

Customer: Pirkey Power Station

Date Reported: 07/26/2024

Customer Sample ID: AD-23

Customer Description:

Lab Number: 241961-001

Preparation:

Date Collected: 06/26/2024 09:42 EDT

Date Received: 06/27/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.242	mg/L	1	0.050	0.007		GES	07/03/2024 10:09	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-36

Customer Description:

Lab Number: 241961-002

Preparation:

Date Collected: 06/26/2024 10:04 EDT

Date Received: 06/27/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	14.2	mg/L	2	0.06	0.02		CRJ	07/09/2024 11:46	EPA 300.1 -1997, Rev. 1.0

Report Verification

This report and the above data have been confirmed by the following analyst.

Michael Ohlinger, Chemist

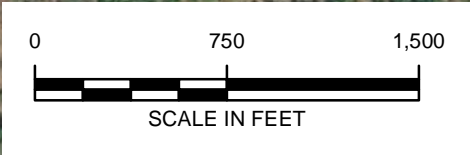
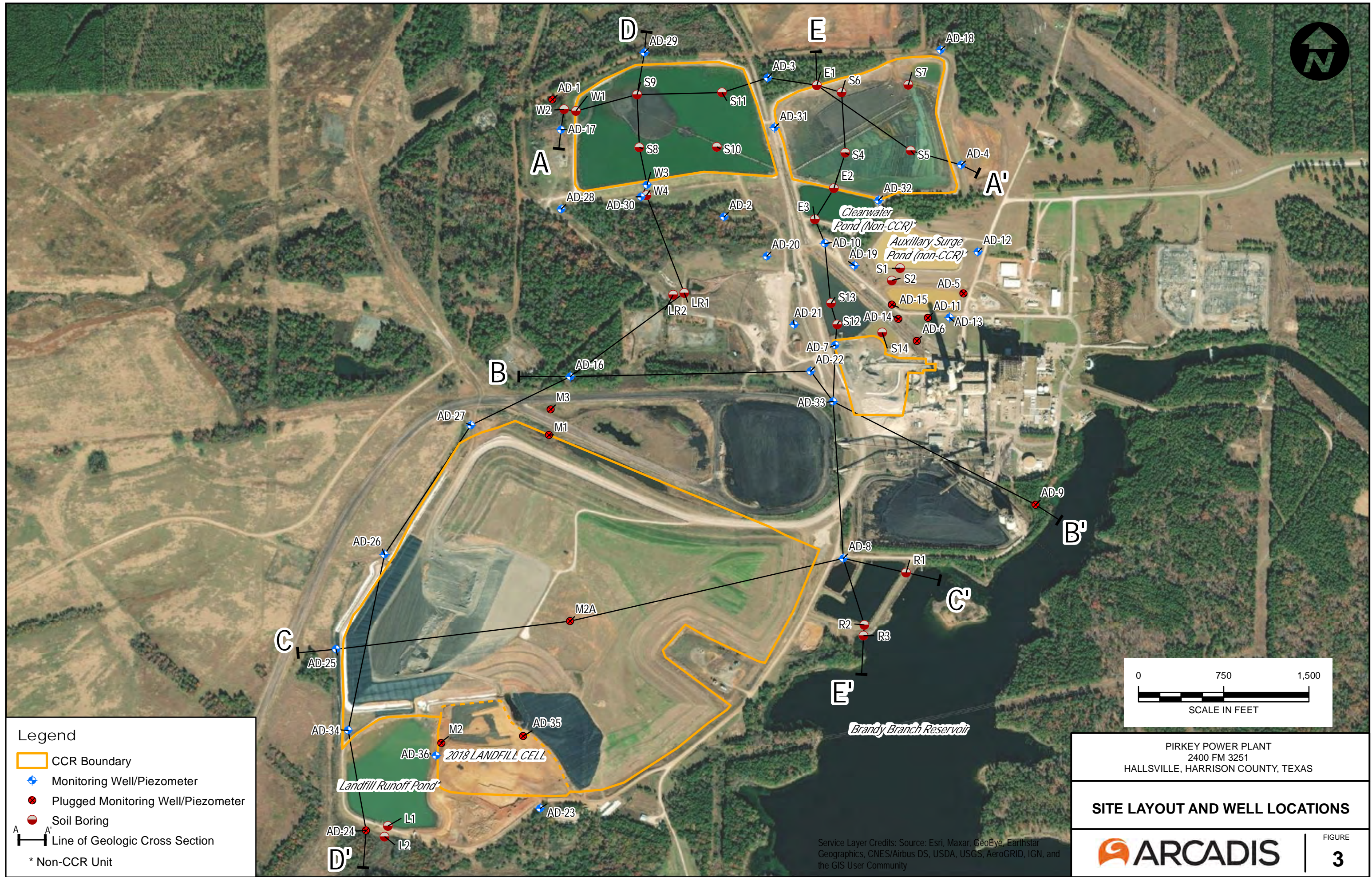
Email: msohlinger@aep.com

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.

ATTACHMENT B
Arcadis Geologic Cross Sections



Legend

- CCR Boundary
- ◆ Monitoring Well/Piezometer
- Plugged Monitoring Well/Piezometer
- Soil Boring
- Line of Geologic Cross Section

* Non-CCR Unit

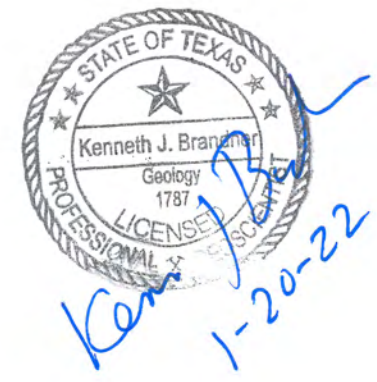
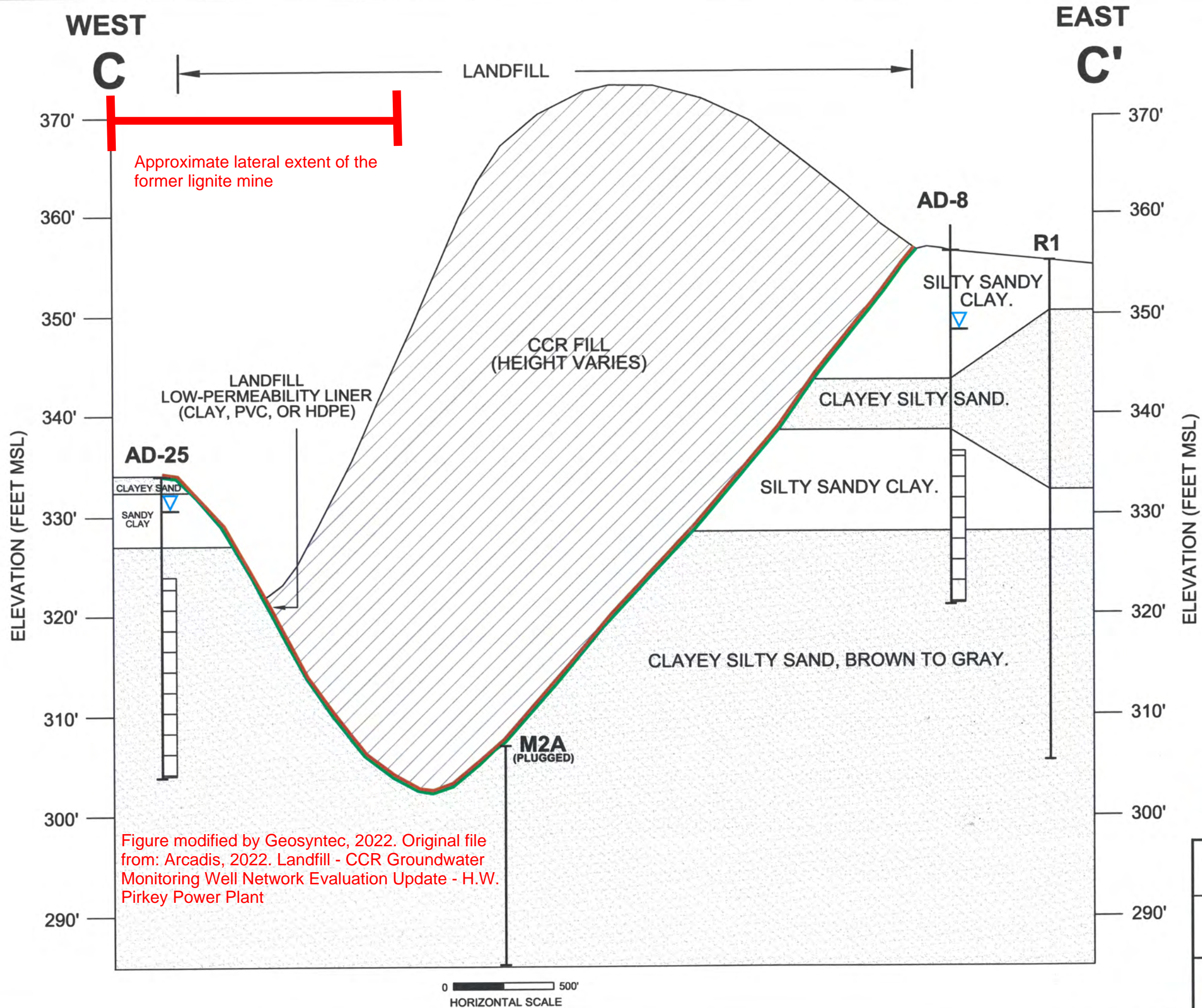
PIRKEY POWER PLANT
 2400 FM 3251
 HALLSVILLE, HARRISON COUNTY, TEXAS

SITE LAYOUT AND WELL LOCATIONS

FIGURE
3

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

CITY: DIVGROUP: DE: LD: AM: PD: TM: TR: LYRON+OFF+REF*
 G:\Active Projects\AEP\3011794 - Pirkey 2022\Figures-Maps\Figure 6 Cross Section C-C.dwg LAYOUT: MODEL: SAVED: 2/22/2018 11:19 AM: ACADVER: 24.05 (LMS TECH): PAGES: 1: PLOT: 1: PLOTSTYLETABLE: PLOTTED: 1/13/2022 11:01 AM BY: LEASE, DIANA



- LEGEND**
- MONITORING WELL SCREENED INTERVAL
 - WATER LEVEL IN MONITORING WELL (MAY 2021)
 - BASE OF CCR UNIT

PIRKEY POWER PLANT
 2400 FM 3251
 HALLSVILLE, HARRISON COUNTY, TEXAS

CROSS SECTION C - C'

Design & Consultancy for natural and built assets

FIGURE
6

CITY: DIV/GRP: DB: LD: AM: PD: TM: TR: LYRON™-OFF-REF*
 G:\Active Projects\AEP\30117944 - Pirkey 2022\Figures-Maps\Figure 7 Cross Section D-D'.dwg LAYOUT: MODEL: SAVER: 2/22/2016 11:20 AM ACADVER: 24.05 (LMS TECH) PAGES: 1/1 PLOTTED: 1/13/2022 11:07 AM BY: LEASE, DIANA

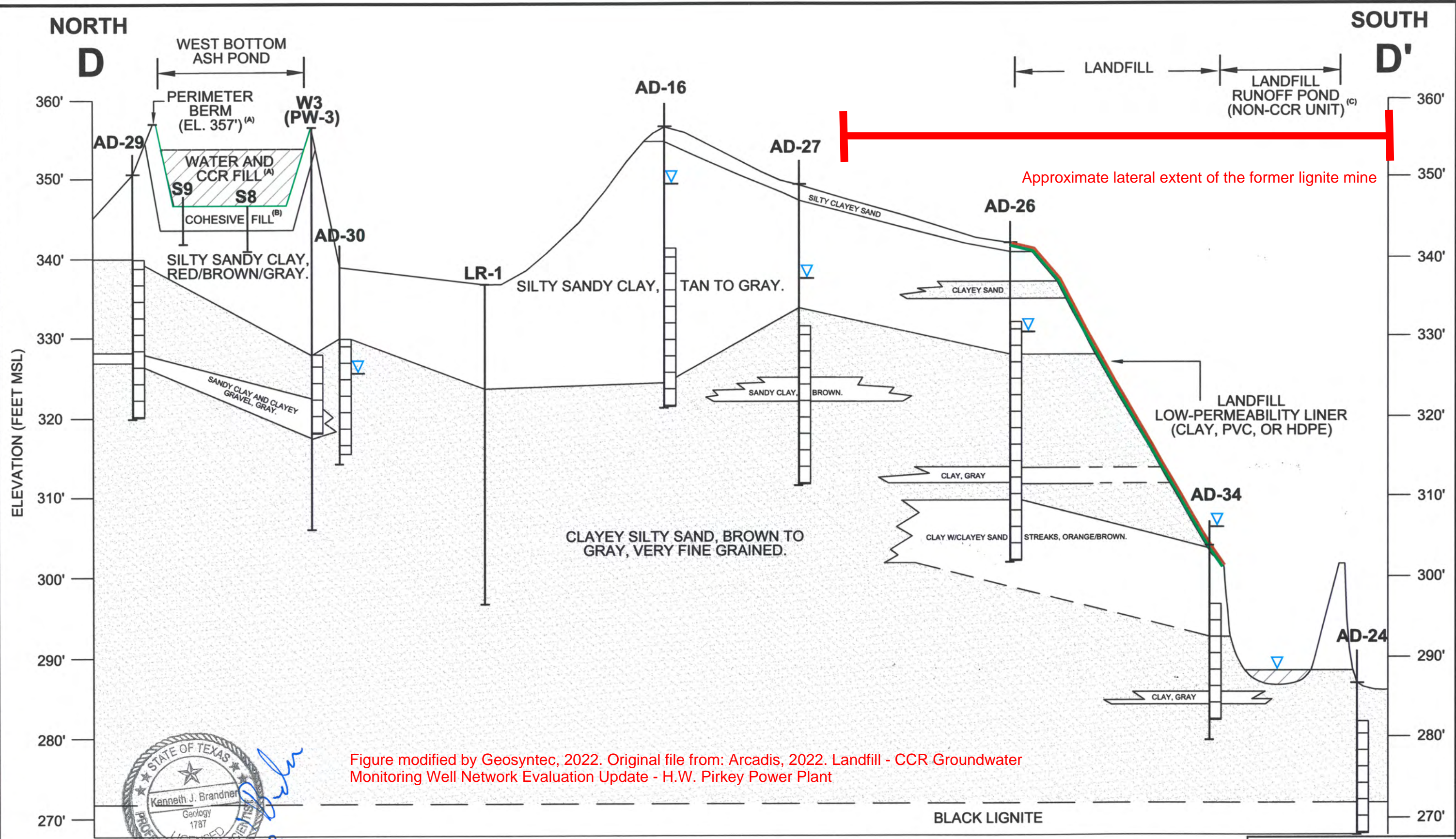
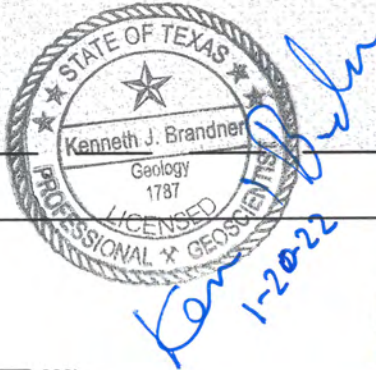


Figure modified by Geosyntec, 2022. Original file from: Arcadis, 2022. Landfill - CCR Groundwater Monitoring Well Network Evaluation Update - H.W. Pirkey Power Plant



- LEGEND**
- MONITORING WELL SCREENED INTERVAL
 - WATER LEVEL IN MONITORING WELL (MAY 2021)
 - BASE OF CCR UNIT

- NOTES:**
- A) TOP OF WEST BOTTOM ASH POND PERIMETER BERM ELEVATION IS 357', OPERATING LEVEL IS 354' (JOHNSON & PACE, MAY 2011); BASE ELEVATION OF WEST 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) LANDFILL RUNOFF POND PERIMETER BERM APPROXIMATE ELEVATION 302' MSL, BASE OF LANDFILL RUNOFF POND APPROXIMATE ELEVATION 286' MSL. NORMAL OPERATING LEVEL 288' MSL (JOHNSON & PACE MAY 2011).

PIRKEY POWER PLANT
 2400 FM 3251
 HALLSVILLE, HARRISON COUNTY, TEXAS

**CROSS SECTION
 D - D'**

ARCADIS Design & Construction for natural and built worlds

FIGURE
7

ATTACHMENT C
February 2023 Pirkey Landfill Leachate
Laboratory Analytical Report



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 230659

Customer: Pirkey Power Station

Date Reported: 04/06/2023

Customer Sample ID: EBAP

Customer Description: TG-32

Lab Number: 230659-003

Preparation:

Date Collected: 03/01/2023 00:23 EST

Date Received: 03/02/2023 10:30 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.59	mg/L	5	0.25	0.05		CRJ	03/16/2023 13:42	EPA 300.1 -1997, Rev. 1.0
Chloride	84.5	mg/L	5	0.10	0.05		CRJ	03/16/2023 13:42	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.56	mg/L	5	0.15	0.05		CRJ	03/16/2023 13:42	EPA 300.1 -1997, Rev. 1.0
Sulfate	2780	mg/L	100	20	3		CRJ	03/16/2023 19:11	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	03/03/2023 11:26	SM 2320B-2011
TDS, Filterable Residue	3900	mg/L	20	1000	400		SDW	03/07/2023 10:50	SM 2540C-2015

Customer Sample ID: Leachate

Customer Description: TG-32

Lab Number: 230659-004

Preparation:

Date Collected: 02/28/2023 10:55 EST

Date Received: 03/02/2023 10:30 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	1.82	mg/L	5	0.25	0.05		CRJ	03/16/2023 14:15	EPA 300.1 -1997, Rev. 1.0
Chloride	41.7	mg/L	5	0.10	0.05		CRJ	03/16/2023 14:15	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.47	mg/L	5	0.15	0.05		CRJ	03/16/2023 14:15	EPA 300.1 -1997, Rev. 1.0
Sulfate	329	mg/L	50	10	2		CRJ	03/16/2023 21:23	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	94	mg/L	1	20	5		MGK	03/03/2023 11:26	SM 2320B-2011
TDS, Filterable Residue	600	mg/L	20	1000	400	J1	SDW	03/03/2023 12:09	SM 2540C-2015

ATTACHMENT D
AD-36 Boring Log and Well
Construction Diagram

SOIL/WELL BORING LOG



Auckland Consulting LLC

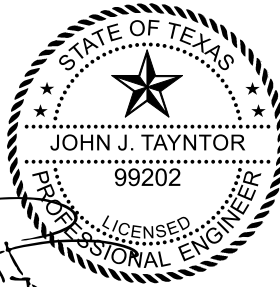
TBPE Firm

No: F16721 Pirkey Power Station
Harrison County

Drilling Co.: C&S Lease

Driller: Buford E. Collier

Drilling Method: Hollow Stem Auger



04/30/20

Well/Boring #: AD-36	Date Drilled: 4/24/19
Depth of Boring/well: 15 feet	Diameter of Boring: 8.25 inches
Length of Screen: 10 feet	Diameter of Screen: 2 inches
Length of Casing: 5 feet	Diameter of Casing: 2 inches
Filter Pack: 20/40	Slot Size: 0.010 inches
Logged By: John J. Tayntor	Screen Material: Sch 40 PVC

- Concrete/cement
 - Clay
 - Silty Sand
- Bentonite
 - Silty Clay
 - Sandy Clay
- Well Screen
 - Sand
 - Lignite
- Gravel
 ▽ - Initial Water Level

Depth Feet	GEOLOGIC DESCRIPTION	Lithology Classification	PID ppm	Depth Feet	Well Completion and Lithology	Remarks
0.0	Fill - Reddish Brown, Sandy Lean Clay (CL) with gravel	CL/Fill		0-9		
5.0	Reddish Brown and Tan, Clayey Sand (SC), with gravel	SC		9-11		
10.0	Reddish brown, Sandy Lean Clay (CL), few gravel	CL		11-14		
15.0	Reddish brown, Clayey Sand (SC), with gravel	SC		14-15		
	Well TD = 15 feet.					

*Soil descriptions based on visual observations and intervals are approximate.

MW Location Coordinates: N6871017.4, E3202874.4

ATTACHMENT E
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 Landfill CCR management area and that the requirements of 30 TAC §352.941(c)(2) 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
License Number

Texas
Licensing State

December 23, 2024
Date

APPENDIX 4- Field Reports

CCR Groundwater Monitoring Well Inspection Form

Facility: AEP Primary PP Sampling Period: FEBRUARY 2024
 Sampling Contractor: EAULT 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	✓	✓	✓	✓	✓	✓	✓	
AP-33	✓	✓	✓	✓	✓	✓	✓	
AO-22	✓	✓	✓	✓	✓	✓	✓	
AO-7R	✓	✓	✓	✓	✓	✓	✓	
B-3	✓	✓	✓	✓	✓	✓	✓	NO LABCL
AO-18	✓	✓	✓	✓	✓	✓	✓	
AO-4	✓	✓	✓	✓	✓	✓	✓	ACCESS LIMITED
AD-2	✓	✓	✓	✓	✓	✓	✓	
AO-28	✓	✓	✓	✓	✓	✓	✓	
AO-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.

CCR Groundwater Monitoring Well Inspection Form

Facility: Piney Sampling Period: Feb 2024
 Signature: [Signature]
 Sampling Contractor: Fisk

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
B-2	✓	✓	✓	✓	✓	✓	✓	Well will not close
AD-12	✓	✓	✓	✓	✓	✓	✓	
AD-32	✓	✓	✓	✓	✓	✓	✓	
AD-31	✓	✓	✓	✓	✓	✓	✓	
AD-30	✓	✓	✓	✓	✓	✓	✓	
AD-36	✓	✓	✓	✓	✓	✓	✓	
AD-25	✓	✓	✓	✓	✓	✓	✓	
AD-26	✓	✓	✓	✓	✓	✓	✓	
AD-3	✓	✓	✓	✓	✓	✓	✓	

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	ATEP Pumps PP
Sample by	Kenny McDermid

Sample Location ID	A0-2
--------------------	------

Depth to water, feet (TOC)	15.89
Measured Total Depth, feet (TOC)	40.36

Depth to water date	02/20/24
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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)
1025	16.04	220	4.50	758	1.8	3.98	433	18.58
1030	16.06	220	4.54	750	1.1	2.26	435	19.01
1035	16.04	220	4.53	758	0.0	2.20	436	19.12
1040	16.02	220	4.53	758	0.0	2.19	435	19.24

Total volume purged	
Sample appearance	CGM
Sample time	1092
Sample date	02/20/24

Facility Name	Pikeville
Sample by	19.484 / H. M. Wilson

Depth to water, feet (TOC)	34.56
Measured Total Depth, feet (TOC)	57.45

Sample Location ID	AD-3
Depth to water date	2-26-24

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)
11:05	34.74	220	4.91	135	26.7	1.43	414	22.42
11:10	34.85	220	4.87	134	18.5	1.28	308	22.35
11:15	34.92	220	4.83	133	18.1	1.20	195	22.29
11:20	34.96	200	4.82	130	18.8	1.16	191	22.28

Total volume purged	
Sample appearance	Clear
Sample time	11:25
Sample date	2-26-24

Facility Name ACP Piercing pp
 Sample by Kerran M. Demond

Sample Location ID AD-4

Depth to water, feet (TOC) 11.68
 Measured Total Depth, feet (TOC) 47.29

Depth to water date 02/20/24

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)	
0914	11.81	180	4.84	80	3.7	4.03	450	18.11	
0919	11.83	180	4.86	80	4.2	2.55	449	18.44	
0924	11.88	180	4.90	80	3.1	2.51	447	19.80	
0929	11.92	180	4.92	80	4.0	2.47	449	18.76	

Total volume purged _____
 Sample appearance clear
 Sample time 0931
 Sample date 02/20/24

Facility Name	A&P PICKING PP
Sample by	Kenny McDonald

Sample Location ID	AD-7R
--------------------	-------

Depth to water, feet (TOC)	6.93
Measured Total Depth, feet (TOC)	33.03

Depth to water date	02/19/24
---------------------	----------

Purge Stabilization Data								
Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (μ S/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature ($^{\circ}$ C)
1111	7.13	220	5.30	277	4.8	2.08	362	18.39
1116	7.17	220	5.37	268	1.6	1.95	361	18.47
1121	7.21	220	5.39	261	1.3	1.93	361	18.51
1126	7.26	220	5.39	257	1.0	1.87	360	18.54

Total volume purged	
Sample appearance	clear
Sample time	1128
Sample date	02/19/24

Facility Name	Dillon
Sample by	M.H. Nault
Depth to water, feet (TOC)	8.62
Measured Total Depth, feet (TOC)	52.00

Sample Location ID	AD-12
--------------------	-------

Depth to water date	2-15-24
---------------------	---------

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (μ S/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)
8:44	9.08	300	3.65	47	13.5	0.20	427	3.64
8:45	9.38	300	3.15	47	20.5	0.16	471	5.53
8:54	9.42	300	3.17	43	20.6	0.17	451	6.08
8:55	9.45	300	3.16	42	20.6	0.18	497	6.17

Total volume purged	
Sample appearance	Clear
Sample time	9:01
Sample date	2-15-24

Facility Name	AEP P11414 PP
Sample by	Kenny McDonald

Sample Location ID	AP-13
--------------------	-------

Depth to water, feet (TOC)	10.33
Measured Total Depth, feet (TOC)	40.70

Depth to water date	02/19/24
---------------------	----------

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)
0822	10.62	190	5.68	356	147	4.97	152	17.70
0827	10.69	190	5.69	354	103	3.16	135	18.26
0832	10.73	190	5.68	353	97.2	2.84	129	18.43
0837	10.80	190	5.68	352	96.5	2.77	124	18.47
0842	10.86	190	5.69	352	95.8	2.72	116	18.51

Total volume purged	
Sample appearance	BROWN TINT
Sample time	0844
Sample date	02/19/24

Facility Name
Sample by

APPRIARY PP
KIMMY McDERMID

Sample Location ID

AD-17

Depth to water, feet (TOC)
Measured Total Depth, feet (TOC)

20.40
33.05

Depth to water date

02/20/24

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (μ S/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature ($^{\circ}$ C)
1213	20.71	200	4.70	77	11.4	4.30	398	23.18
1218	20.73	200	4.81	76	6.2	2.26	395	23.34
1223	20.78	200	4.84	75	5.9	2.21	395	23.37
1228	20.80	200	4.86	75	5.3	2.17	393	23.40

Total volume purged
Sample appearance
Sample time
Sample date

CL/GNR
1230
02/20/24

Facility Name	ALCO PULVERY P.P
Sample by	KERRY McDONALD

Sample Location ID	AD-18
--------------------	-------

Depth to water, feet (TOC)	4.54
Measured Total Depth, feet (TOC)	28.42

Depth to water date	02/19/24
---------------------	----------

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)		
1238	5.51	106	4.52	57	24.7	2.83	447	16.93		
1243	6.43	106	4.47	56	13.9	2.51	464	17.24		

Total volume purged	
Sample appearance	CLAR
Sample time	0829
Sample date	02/20/24

Facility Name	AT&T PARK PA
Sample by	KIRBY M. DONARD

Sample Location ID: AD-22

Depth to water, feet (TOC)	8.34
Measured Total Depth, feet (TOC)	32.70

Depth to water date: 02/19/24

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)
1027	8.43	170	4.05	824	12.2	3.16	361	17.57
1032	8.44	170	4.08	879	6.4	2.09	355	17.97
1037	8.46	170	4.09	885	5.8	2.04	352	18.09
1042	8.46	170	4.11	891	6.2	1.93	350	18.15

Total volume purged	CLM
Sample appearance	1044
Sample time	02/19/24
Sample date	

Facility Name	P. York
Sample by	W. H. / N. W. / L. A.

Depth to water, feet (TOC)	9.33
Measured Total Depth, feet (TOC)	27.38

Sample Location ID: AD-25

Depth to water date: 2-20-24

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)
9:01	9.76	125	3.86	1180	71.9	0.04	509	23.42
9:06	9.75	125	4.01	1100	42.8	1.01	278	22.78
9:11	9.86	125	4.14	1020	33.6	1.17	232	22.51
9:16	9.95	125	4.26	1000	33.5	1.24	221	22.46
9:21	10.07	125	4.29	985	33.8	1.27	216	22.37

Total volume purged	0.01
Sample appearance	clear
Sample time	9:23
Sample date	2-20-24

Facility Name	Plywood
Sample by	M-H / H. H. V. H. V.

Sample Location ID	AD-26
--------------------	-------

Depth to water, feet (TOC)	16.52
Measured Total Depth, feet (TOC)	42.73

Depth to water date	2.20.24
---------------------	---------

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond ($\mu S/cm$)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature ($^{\circ}C$)
10:02	17.05	300	3.56	1,520	6.5	0.04	473	22.81
10:07	17.21	300	3.67	1,540	7.8	0.22	415	22.65
10:12	17.33	300	3.68	1,870	6.2	0.27	314	22.63
10:17	17.48	300	3.70	1,670	5.1	0.28	352	22.58
10:22	17.61	300	3.71	1,680	4.5	0.31	374	22.54

Total volume purged	
Sample appearance	Clear
Sample time	10:24
Sample date	2.20.24

Facility Name	AEP Pinking PP
Sample by	Kerry McDonald

Sample Location ID	AD-28
--------------------	-------

Depth to water, feet (TOC)	17.90
Measured Total Depth, feet (TOC)	38.59

Depth to water date	02/20/24
---------------------	----------

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)
1117	18.21	200	4.70	148	13.8	3.21	400	22.54
1122	18.28	200	4.78	139	6.2	2.08	398	22.49
1127	18.31	200	4.81	132	6.0	2.01	397	22.45
1132	18.34	200	4.83	126	5.7	1.93	397	22.44

Total volume purged	
Sample appearance	Clear
Sample time	1134
Sample date	02/20/24

Facility Name	9-11-2009
Sample by	9-27 / Norm, H. U.
Depth to water, feet (TOC)	18.06
Measured Total Depth, feet (TOC)	42.71

Sample Location ID	AD-30
Depth to water date	2-14-24

Purge Stabilization Data									
Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (μ S/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)	
114	18.14	300	4.07	343	3.4	0.08	480	22.37	
115	18.15	300	4.27	337	5.5	0.08	475	22.35	
124	18.15	300	4.27	338	2.2	0.07	467	22.25	
125	18.16	300	4.27	355	2.3	0.07	465	22.20	

Total volume purged	
Sample appearance	Clear
Sample time	1131
Sample date	2-15-24

Facility Name	Pikeville
Sample by	M-41 / H-mil/jh

Sample Location ID	AD-31
Depth to water date	2-11-24

Depth to water, feet (TOC)	21.66
Measured Total Depth, feet (TOC)	37.32

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)
1026	21.94	220	3.18	220	53.7	0.16	429	11.64
1035	21.96	220	3.37	257	61.8	0.08	444	21.35
1030	21.97	220	3.36	267	60.4	0.08	446	21.75
1035	21.98	220	3.35	264	60.1	0.07	447	21.86
1040	21.99	220	3.35	266	60.3	0.07	448	21.91

Total volume purged	
Sample appearance	c/c/d
Sample time	1042
Sample date	2-11-24

Facility Name: Pillay
 Sample by: Not Hamilton

Depth to water, feet (TOC): 15.42
 Measured Total Depth, feet (TOC): 34.61

Sample Location ID: AP-32

Depth to water date: 2-21-24

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)
626	15.45	220	4.54	141	118	0.24	484	13.75
934	16.05	220	4.61	173	125	0.15	463	15.75
935	16.13	220	4.66	185	88.6	0.16	425	17.35
944	16.17	220	4.74	188	32.1	0.15	352	17.85
945	16.20	220	4.75	196	19.8	0.15	376	18.04
954	16.22	220	4.81	191	15.5	0.14	370	18.12

Total volume purged: 0.11
 Sample appearance: 956
 Sample time: 2-19-24
 Sample date: 2-19-24

Facility Name	AKA Pinkney PP
Sample by	Kimberly M. Davidson

Sample Location ID	AD-33
--------------------	-------

Depth to water, feet (TOC)	11.77
Measured Total Depth, feet (TOC)	32.50

Depth to water date	02/19/24
---------------------	----------

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)
0918	11.81	200	4.05	202	4.7	6.21	236	16.30
0923	11.81	200	4.10	201	3.2	3.07	299	17.13
0928	11.83	200	4.12	203	2.9	2.98	311	17.18
0933	11.85	200	4.13	202	2.5	2.94	318	17.21

Total volume purged	
Sample appearance	clear
Sample time	0935
Sample date	02/19/24

Duplicate 1460

CCR Groundwater Monitoring Well Inspection Form

Facility: APP P1001 PP Sampling Period: APRIL 2024
 Sampling Contractor: EAGLE Signature: [Signature]

Well No.	Well Locked	Lock Functioning	Well Locked After Sampling	Access to Well Maintained	Well Casing, Housing, and Pad in Good Shape	Well Properly Labeled	Well cap present	Comments
AD-13	✓	✓	✓	✓	✓	✓	✓	
AD-7R	✓	✓	✓	✓	✓		✓	NO LABEL
AD-22	✓	✓	✓	✓	✓	✓	✓	
AD-33	✓	✓	✓	✓	✓	✓	✓	
AD-02	✓	✓	✓	✓	✓	✓	✓	
AD-36	✓	✓	✓	✓	✓	✓	✓	
AD-08	✓	✓	✓	✓	✓	✓	✓	
AD-18	✓	✓	✓	✓	✓	✓	✓	
B-3	✓	✓	✓	✓	✓		✓	NO LABEL
AD-27	✓	✓	✓	✓	✓	✓	✓	
AD-04	✓	✓	✓		✓	✓	✓	ONLY ACCESS ALONG STEPSIDE
AD-16	✓		✓		✓	✓	✓	NEEDS NEW LOCK

RIGHT OF WAY TO WILL BE CLEARED

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.

AS A WHOLE MAINTENANCE IS LESS. MOWING & WEEDING AROUND WELLS DOESN'T APPEAR TO BE BEING PERFORMED

CCR Groundwater Monitoring Well Inspection Form

Facility: Pikey

Sampling Contractor: Eagle

Sampling Period: April 2024

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	-	-	-	-	-	-	-	
AD-12	-	-	-	-	-	-	-	Well protected by wood deck
AD-32	-	-	-	-	-	-	-	
AD-31	-	-	-	-	-	-	-	
AD-30	-	-	-	-	-	-	-	No label
AD-28	-	-	-	-	-	-	-	
AD-17	-	-	-	-	-	-	-	Starting to overgrow
AD-3	-	-	-	-	-	-	-	
AD-26	-	-	-	-	-	-	-	Starting to overgrow
AD-25	-	-	-	-	-	-	-	overgrown, road removed
AD-34	-	-	-	-	-	-	-	
AD-23	-	-	-	-	-	-	-	road removed

*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: APB PIRKROY PP
Sample by: KIM MCDONALD

Sample Location ID: APB-02

Depth to water, feet (TOC): 13.94
Measured Total Depth, feet (TOC): 40.36

Depth to water date: 04/23/24

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)	
0804	14.02	220	4.09	800	3.6	7.63	360	15.17	
0809	14.04	220	4.08	801	3.3	2.07	411	15.52	
0814	14.08	220	4.07	797	2.9	2.01	415	15.57	
0819	14.12	220	4.07	794	2.7	1.97	415	15.61	

Total volume purged
Sample appearance: Clear
Sample time: 0821
Sample date: 04/23/24

Facility Name	Pinecoy
Sample by	Matt Hamilton

Depth to water, feet (TOC)	32.96
Measured Total Depth, feet (TOC)	57.45

Sample Location ID	AD-3
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Depth to water date	4-23-24
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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	33.38	220	4.38	1.8	0	3.40	458	21.63
1057	33.47	220	4.52	1.7	0	0.87	454	21.66
1102	33.56	220	4.51	1.7	0	0.45	448	21.11

Total volume purged	
Sample appearance	clear
Sample time	1104
Sample date	4-23-24

Facility Name: APP P106207 PP
 Sample by: KIRBY McDONALD

Sample Location ID: A0-04

Depth to water, feet (TOC): 10.53
 Measured Total Depth, feet (TOC): 47.29

Depth to water date: 09/24/24

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (μ S/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mv)	Temperature (°C)
0919	10.82	178	4.61	112	28.2	3.21	402	22.61
0924	10.86	178	4.61	111	27.9	3.18	404	22.62
0929	10.92	178	4.62	110	27.8	3.15	406	22.62

Total volume purged: 6600m
 Sample appearance: 0931
 Sample time: 09/24/24
 Sample date: 09/24/24

Facility Name Atco Pinnac PP
Sample by Kennan M. DeNardis

Sample Location ID AD-7A

Depth to water, feet (TOC) 5.32
Measured Total Depth, feet (TOC) 33.03

Depth to water date 04/22/24

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)		
0908	5.36	224	4.81	264	6.2	3.42	145	18.80		
0913	5.36	224	4.50	258	2.1	2.16	174	18.94		
0918	5.38	224	4.49	255	1.8	2.10	180	18.96		
0923	5.39	224	4.47	252	1.8	2.08	184	18.99		

Total volume purged
Sample appearance CLAM
Sample time 0925
Sample date 04/22/24

Duplicate - 1 1400

Facility Name
 Sample by

ATP Pumps PP
 KERRY M. DONOFRIO

Sample Location ID

AD-08

Depth to water, feet (TOC)

11.98

Depth to water date

04/23/24

Measured Total Depth, feet (TOC)

31.33

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)
0954	12.13	200	5.13	528	6.8	2.87	280	21.43
0959	12.13	200	5.24	533	5.1	2.06	274	21.51
1004	12.12	200	5.26	534	4.5	1.97	274	21.54
1009	12.12	200	5.29	539	4.2	1.93	272	21.57

Total volume purged
 Sample appearance
 Sample time
 Sample date

666m
 10.11
 04/23/24

Facility Name	Parkley
Sample by	Matt Hamilton

Depth to water, feet (TOC)	6.64
Measured Total Depth, feet (TOC)	52.00

Sample Location ID	AD 12
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Depth to water date	4-22-24
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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)
922	7.22	300	3.56	42	7.9	3.13	382	18.61
927	7.31	300	3.36	42	16.2	2.66	425	15.68
932	7.40	300	3.38	42	17.2	2.64	435	15.73
937	7.50	300	3.31	42	14.2	2.63	445	15.85
942	7.61	300	3.40	42	14.3	2.62	445	15.92

Total volume purged	
Sample appearance	Clear
Sample time	944
Sample date	4-22-24

Facility Name	AGP PIAAM PP
Sample by	KERRY McDONALD

Sample Location ID **A0-13**

Depth to water, feet (TOC)	8.63
Measured Total Depth, feet (TOC)	40.70

Depth to water date **04/22/24**

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)
0803	9.91	180	6.14	451	28.2	6.21	-111	17.66
0808	9.97	180	6.05	447	20.6	5.83	-120	17.68
0813	10.02	180	6.03	439	22.4	5.79	-120	17.69
0818	10.11	180	6.02	437	21.3	5.77	-124	17.71

Total volume purged	CLM
Sample appearance	OK
Sample time	0820
Sample date	04/22/24

Facility Name: AWP Pumphouse
Sample by: Kenneth McC Denard

Sample Location ID: PD-16

Depth to water, feet (TOC): 12.09
Measured Total Depth, feet (TOC): 38.24

Depth to water date: 09/24/24

Purge Stabilization Data									
Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond ($\mu\text{S/cm}$)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature ($^{\circ}\text{C}$)	
1047	12.21	200	4.62	218	16.2	1.13	339	22.13	
1052	12.21	200	4.64	218	13.3	1.07	346	22.15	
1057	12.24	200	4.65	218	12.8	0.99	352	22.18	
1102	12.26	200	4.68	217	12.4	0.94	357	22.23	

Total volume purged: 66 gal
Sample appearance: 1104
Sample time: 04/24/24
Sample date: 04/24/24

Facility Name
 Sample by
 P. Keen
 M. A. Humilton

Sample Location ID
 AD-17

Depth to water, feet (TOC) | 6.2 |
 Measured Total Depth, feet (TOC) | 33.05

Depth to water date
 4/23/24

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)
9:55	16.75	200	3.61	50	15.5	2.88	522	20.52
10:04	16.87	200	3.61	48	7.8	2.21	516	20.60
10:09	16.83	200	3.62	47	7.6	2.01	514	20.67
10:14	16.84	200	3.62	47	7.5	1.98	512	20.73

Total volume purged
 Sample appearance
 Sample time
 Sample date
 0.04
 1016
 4/23/24

Facility Name
Sample by

ACD Pinkney PP
Kurt's McDonald

Sample Location ID

AD-18

Depth to water, feet (TOC)
Measured Total Depth, feet (TOC)

3.09
28.42

Depth to water date

04/23/24

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)
1041	3.36	120	5.04	56	10.2	1.87	347	22.62
1046	3.41	120	4.72	52	7.1	1.42	354	22.62
1051	3.54	120	4.66	52	6.8	1.40	357	22.64
1056	3.72	120	4.65	51	6.6	1.37	364	22.64

Total volume purged
Sample appearance
Sample time
Sample date

CLM
1058
04/23/24

Facility Name
 Sample by

App Pointon PP
 KERRY M. DONARD

Sample Location ID

AD-22

Depth to water, feet (TOC)
 Measured Total Depth, feet (TOC)

6.61
 32.70

Depth to water date

04/22/24

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (μ S/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature ($^{\circ}$ C)
1010	6.75	170	3.96	817	0.0	2.74	283	22.86
1015	6.78	170	3.95	818	0.0	2.69	284	22.87
1020	6.81	170	3.95	819	0.0	2.66	286	22.89

Total volume purged
 Sample appearance
 Sample time
 Sample date

CVMAN
 1022
 04/22/24

Facility Name	P. Hillery
Sample by	Host / Hillery

Sample Location ID AP-23

Depth to water, feet (TOC)	<u>30.23</u>
Measured Total Depth, feet (TOC)	<u>38.20</u>

Depth to water date 4-24-24

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)
1038	30.56	220	3.55	117	78.6	2.17	351	23.24
1043	30.56	220	3.65	84	55.3	1.66	355	22.94
1048	30.56	220	3.63	77	42.0	1.44	402	22.80
1053	30.56	220	3.64	74	21.7	1.22	405	22.91
1058	30.56	220	3.64	72	12.3	1.18	412	22.93
1103	30.56	220	3.65	71	12.4	1.16	415	22.55

Total volume purged	
Sample appearance	Clear
Sample time	11:05
Sample date	4-24-24

Facility Name	Piasey
Sample by	M-D-T Hamilton

Depth to water, feet (TOC)	7.50
Measured Total Depth, feet (TOC)	27.38

Sample Location ID	AD-25
Depth to water date	4.24.24

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)		
916	8.04	120	3.71	1,340	27.5	1.13	376	22.14		
921	8.11	120	3.78	1,310	12.8	0.62	323	22.14 22.04		
926	8.17	120	3.85	1,280	8.6	0.50	301	21.99		
931	8.23	120	3.93	1,250	8.5	0.47	299	21.98		

Total volume purged	
Sample appearance	clear
Sample time	9:33
Sample date	4.24.24

Facility Name	Pikee
Sample by	Matt Hamilton

Sample Location ID	AD-26
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Depth to water, feet (TOC)	6.3
Measured Total Depth, feet (TOC)	42.73

Depth to water date	4-24-24
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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)
827	16.65	300	3.15	1980	48.4	1.35	455	21.93
832	16.91	300	3.18	2050	9.9	0.53	478	21.58
837	17.24	300	3.20	2040	0	0.74	454	21.56
842	17.10	300	3.22	2030	0	0.69	447	21.49

Total volume purged	
Sample appearance	clear
Sample time	842
Sample date	4-24-24

Facility Name	<i>AFCP Parkway PP</i>
Sample by	<i>KERRY A. DONOHUE</i>

Sample Location ID	<i>AD-27</i>
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Depth to water, feet (TOC)	<i>16.12</i>
Measured Total Depth, feet (TOC)	<i>40.07</i>

Depth to water date	<i>04/24/24</i>
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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)	
<i>0818</i>	<i>16.34</i>	<i>310</i>	<i>3.60</i>	<i>218</i>	<i>6.2</i>	<i>1.97</i>	<i>441</i>	<i>22.75</i>	
<i>0823</i>	<i>16.39</i>	<i>310</i>	<i>3.64</i>	<i>222</i>	<i>5.9</i>	<i>1.93</i>	<i>437</i>	<i>22.65</i>	
<i>0828</i>	<i>16.41</i>	<i>310</i>	<i>3.63</i>	<i>223</i>	<i>5.6</i>	<i>1.88</i>	<i>431</i>	<i>22.51</i>	

Total volume purged	
Sample appearance	<i>CLEAR</i>
Sample time	<i>0830</i>
Sample date	<i>04/24/24</i>

Facility Name: Pillbox
Sample by: M. H. Hamilton

Sample Location ID: AD-28

Depth to water, feet (TOC): 16.20
Measured Total Depth, feet (TOC): 38.59

Depth to water date: 4-23-24

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)
916	16.68	220	3.36	93	0	3.57	553	18.65
921	16.72	220	3.33	93	0	2.28	547	18.73
926	16.74	220	3.37	93	0	2.21	543	18.65

Total volume purged: _____
Sample appearance: clear
Sample time: 928
Sample date: 4-23-24

Facility Name
 Sample by

Depth to water, feet (TOC)
 Measured Total Depth, feet (TOC)

Sample Location ID

Depth to water date

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)
816	17.25	220	3.55	306	57.2	2.08	523	17.41
821	17.25	220	3.84	256	62.9	1.22	527	18.42
826	17.25	220	3.82	284	37.9	1.16	527	14.22
831	17.25	220	3.84	245	20.6	1.04	524	14.36
836	17.26	220	3.84	291	7.8	0.95	520	14.52
841	17.26	220	3.84	259	7.7	0.91	518	11.57

Total volume purged
 Sample appearance
 Sample time
 Sample date

Facility Name
 Sample by
 P. Riley
 M-HH Harris, T.C.A

Sample Location ID
 AD-31

Depth to water, feet (TOC)
 Measured Total Depth, feet (TOC)
 20.61 57.32

Depth to water date
 4.22.24

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (μ S/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature ($^{\circ}$ C)
1058	21.08	220	3.43	245	55.1	8.31	377	21.83
1103	21.15	220	3.38	255	42.5	0.57	377	21.97
1108	21.15	220	3.41	259	39.1	0.43	373	22.14
1113	21.23	220	3.43	261	30.2	0.37	374	22.18
1118	21.26	220	3.44	261	30.4	0.36	376	22.18

Total volume purged
 Sample appearance
 Sample time
 Sample date
 Clear
 1120
 4.22.24

Facility Name Pikey
 Sample by M. H. Hamilton

Sample Location ID AP-32

Depth to water, feet (TOC) 14.20
 Measured Total Depth, feet (TOC) 34.65

Depth to water date 4.22.24

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond ($\mu\text{S/cm}$)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature ($^{\circ}\text{C}$)
1008	14.85	220	4.74	186	125	1.44	445	20.13
1013	15.11	220	4.84	190	61.2	0.55	399	20.66
1018	15.20	220	4.88	201	54.1	0.43	330	20.71
1023	15.24	220	4.92	213	43.4	0.30	258	21.07
1028	15.27	220	4.93	217	35.6	0.33	224	21.16
1033	15.29	220	4.94	222	35.6	0.31	208	21.28

Total volume purged
 Sample appearance clear
 Sample time 1033
 Sample date 4.22.24

Facility Name
 Sample by

ACAP/ARCT PP
 KERRY McDENARD

Sample Location ID

AD-33

Depth to water, feet (TOC)
 Measured Total Depth, feet (TOC)

10.09
 32.50

Depth to water date

04/22/24

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)
1101	10.20	220	4.15	207	1.3	2.21	336	25.31
1106	10.20	220	4.15	196	1.0	2.18	334	25.28
1111	10.21	220	4.15	196	1.1	2.15	330	25.26

Total volume purged
 Sample appearance
 Sample time
 Sample date

CLFAA
 113
 04/22/24

Facility Name	Pikeview
Sample by	Y-N-F Hamilton
Depth to water, feet (TOC)	13.89
Measured Total Depth, feet (TOC)	

Sample Location ID	B-2
Depth to water date	4.22.24

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)
825	14.53	300	3.66	177	8.5	5.93	466	16.88
830	14.65	300	4.26	113	33.4	0.80	412	18.46
835	14.68	300	4.36	120	28.7	0.60	354	18.12
840	14.70	300	4.44	122	27.5	0.51	371	18.65
845	14.71	300	4.51	123	27.7	0.50	363	18.68

Total volume purged	
Sample appearance	Clear
Sample time	847
Sample date	4.22.24

Duplicate

1215

Facility Name	
Sample by	Patricia Hamilton
Depth to water, feet (TOC)	11.86
Measured Total Depth, feet (TOC)	31.33

Sample Location ID	AD-8
Depth to water date	6-26-24

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond ($\mu\text{S}/\text{cm}$)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature ($^{\circ}\text{C}$)

Total volume purged	
Sample appearance	
Sample time	
Sample date	

Facility Name	Pikey
Sample by	M. St. Hamilton

Depth to water, feet (TOC)	29.66
Measured Total Depth, feet (TOC)	38.20

Sample Location ID	AD-23
Depth to water date	6-26-24

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	30.41	220	7.12	42.8	85.6	3.15	216	27.26
820	30.41	220	4.13	95	64.8	1.83	313	24.88
825	30.41	220	3.37	70	27.3	1.36	374	24.40
830	30.41	220	3.41	68	200	1.23	436	24.25
835	30.41	220	3.38	69	9.9	1.13	458	24.36
840	30.41	220	3.35	69	9.8	1.12	416	24.32

Total volume purged	
Sample appearance	clear
Sample time	842
Sample date	6-26-24

Bolton

Facility Name P. N. Lee
 Sample by Y. Hoff Noni H.

Depth to water, feet (TOC) 5.35
 Measured Total Depth, feet (TOC) 17.10

Sample Location ID AD-36
 Depth to water date 6.26.24

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond ($\mu\text{S}/\text{cm}$)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature ($^{\circ}\text{C}$)
853	5.84	180	3.65	65	0	1.27	465	27.23
857	5.85 ^a	180	3.65	63	0	0.62	474	26.80
902	5.86	180	3.63	62	0	0.57	469	26.56

Total volume purged _____
 Sample appearance clear
 Sample time 9:04
 Sample date 6-26-24

Chloride

CCR Groundwater Monitoring Well Inspection Form

Facility: Plum PP Sampling Period: SEPTEMBER 2024
 Sampling Contractor: EA666 ENVIRONMENTAL 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	✓	✓	✓	✓	✓		✓	NO LABEL
AD-22	✓	✓	✓	✓	✓	✓	✓	
AD-33	✓	✓	✓	✓	✓	✓	✓	WELL PAD STRAIGHT NO FLOAT
AD-19	✓	✓	✓	✓	✓	✓	✓	17.31
AD-10	✓	✓	✓	✓	✓	✓	✓	22.13
AD-21	✓	✓	✓	✓	✓	✓	✓	8.21
AD-20	✓	✓	✓	✓	✓	✓	✓	21.17
AD-02	✓	✓	✓	✓	✓	✓	✓	
AD-04	✓	✓	✓	✓	✓	✓	✓	NO GOOD ACCESS STEEP HILL OR OUPPER WINDY AREA
AD-18	✓	✓	✓	✓	✓	✓	✓	
B-3	✓	✓	✓	✓	✓	✓	✓	NEED MORE INFO NO LABEL

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: FRANCY PP Sampling Period: SEPTEMBER 2024
 Sampling Contractor: EAGLE ENVIRONMENTAL 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-16	✓				✓	✓	✓	TRAIL TO WELL OVER GROUND NEEDS NEW LOCK FUNCTIONAL ISSUE
AD-37	✓	✓	✓		✓	✓	✓	ACCESS ROAD HAS BEEN REMOVED
AD-08	✓	✓	✓	✓	✓	✓	✓	
AD-25	✓	✓	✓		✓	✓	✓	ROAD NOT MAINTAINED OVER GROUND, ROAD HAS DITCH CUT IN IT

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: Pitney

Sampling Contractor: Engle

Sampling Period: Sept 2024

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					✓		✓	lid will not close No label @ Verigoma
AD-12	—	—	—	—	—	—	—	
AD-32	—	—	—	—	—	—	—	
AD-31	✓	—	—	—	—	—	—	
AD-30	—	—	—	—	—	—	—	
AD-28	✓	—	—	—	—	—	—	
AD-17	✓	—	—	—	✓	—	—	@ Verigoma
AD-3	✓	—	—	—	—	—	—	
AD-36	—	—	—	—	—	—	—	
AD-23	✓	—	—	—	—	—	—	
AD-27	—	—	—	—	—	—	—	No path to well Need access
AD-26	—	—	—	—	—	—	—	No path to well Need access ↳ Below rd ↳ Kibota

*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	Flanery PP
Sample by	Kerry McDaniel

Sample Location ID A0-02

Depth to water, feet (TOC)	16.93
Measured Total Depth, feet (TOC)	40.36

Depth to water date 09/17/24

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)		
0741	17.04	210	4.04	713	1.7	3.01	398	22.92		
0746	17.08	210	4.02	728	1.0	2.30	398	22.83		
0751	17.12	210	4.02	737	1.4	2.27	398	22.81		
0756	17.14	210	4.00	741	1.2	2.25	402	22.74		

Total volume purged	
Sample appearance	CLEAR
Sample time	0758
Sample date	09/17/24

Facility Name	P. O. Levey
Sample by	Matt Hamilton

Depth to water, feet (TOC)	36.27
Measured Total Depth, feet (TOC)	57.45

Sample Location ID AD-3

Depth to water date 9-17-24

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)
1039	36.55	220	4.36	126	39.3	3.45	431	24.34
1044	36.67	220	4.31	130	53.1	0.97	424	22.64
1048	36.77	220	4.28	130	20.1	0.38	415	22.36
1054	36.85	220	4.26	130	20.2	0.62	408	22.34
1059	36.95	220	4.27	130	20.1	0.60	404	22.33

Total volume purged	
Sample appearance	Clear
Sample time	1101
Sample date	9-17-24

Facility Name	Pinney, pp
Sample by	Kenny McDonald

Sample Location ID: AD-04

Depth to water, feet (TOC)	19.23
Measured Total Depth, feet (TOC)	47.29

Depth to water date: 09/17/24

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)	
0908	19.48	182	5.04	106	47.6	3.28	421	24.27	
0913	19.51	182	4.96	110	51.2	2.41	420	24.31	
0918	19.51	182	4.95	108	55.7	2.37	418	24.34	
0923	19.52	182	4.94	105	54.8	2.35	418	24.37	
0928	19.52	182	4.94	103	55.1	2.35	416	24.35	
0933	19.55	182	4.94	103	55.4	2.33	415	24.33	

Total volume purged	
Sample appearance	Turbid & brown
Sample time	0935
Sample date	09/17/24

Facility Name
 Sample by

P124 07 AP
 K. G. R. P. C. D. N. A. J.

Sample Location ID

AD-7R

Depth to water, feet (TOC)
 Measured Total Depth, feet (TOC)

8.80
 33.03

Depth to water date

09/16/24

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)
0848	8.91	226	4.89	265	1.3	3.02	262	25.24
0853	8.92	226	4.72	204	0.6	2.52	265	25.00
0858	8.92	226	4.72	206	0.3	2.49	262	24.89
0903	8.93	226	4.72	207	0.0	2.45	261	24.91

Total volume purged
 Sample appearance
 Sample time
 Sample date

0.66A
 0905
 09/16/24

Facility Name	Paragon PP
Sample by	Kenny McDonald

Sample Location ID	A0-08
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Depth to water, feet (TOC)	12.82
Measured Total Depth, feet (TOC)	31.33

Depth to water date	09/18/24
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Purge Stabilization Data									
Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (μ S/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature ($^{\circ}$ C)	
0945	12.87	210	5.99	445	13.2	6.05	247	27.02	
0950	12.87	210	5.96	434	11.6	2.51	239	26.88	
0955	12.89	210	5.94	428	9.9	1.47	233	26.47	
1000	12.91	210	5.91	427	10.2	1.42	225	26.87	
1005	12.92	210	5.90	426	9.7	1.38	220	27.12	

Total volume purged	
Sample appearance	Clear
Sample time	1007
Sample date	09/18/24

Facility Name Pipeline
 Sample by M. 457 H. W. H. H.

Sample Location ID AD-17

Depth to water, feet (TOC) 22.50
 Measured Total Depth, feet (TOC) 33.05

Depth to water date 9-17-24

Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (μ S/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature ($^{\circ}$ C)
938	22.62	200	3.19	1.5	17.9	8.49	496	23.74
943	22.65	200	3.07	1.8	24.6	1.08	465	23.24
948	22.67	200	3.05	1.1	5.0	1.00	453	23.20
953	22.67	200	3.11	1.7	4.9	0.57	490	23.15

Total volume purged
 Sample appearance Cloudy
 Sample time 9:55
 Sample date 9-17-24

Facility Name	Pipera PD
Sample by	K(wn) m. Derr

Sample Location ID	AD-18
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Depth to water, feet (TOC)	8.76
Measured Total Depth, feet (TOC)	28.42

Depth to water date	09/17/24
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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)
1015	9.93	108	4.27	50	13.9	3.26	367	24.74
1020	11.06	108	4.17	61	18.4	2.89	374	23.51
				WON'T HOLD				

Total volume purged	
Sample appearance	Turbid
Sample time	0744
Sample date	09/18/24

Facility Name	Pickens PP
Sample by	KTP/M (Dor Act)

Sample Location ID	AD-22
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Depth to water, feet (TOC)	10.96
Measured Total Depth, feet (TOC)	32.70

Depth to water date	09/06/24
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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	11.37	180	4.21	712	0.0	3.07	336	25.38	
0947	11.41	180	4.24	715	0.0	2.56	335	25.17	
0952	11.43	180	4.25	716	0.0	2.53	331	25.11	
0957	11.49	180	4.25	718	0.0	2.54	328	25.08	

Total volume purged	0.000
Sample appearance	0959
Sample time	09/10/24
Sample date	

Duplicate - 1 100

Facility Name: P. Wilkey
 Sample by: Matt Hamilton

Depth to water, feet (TOC): 29.28
 Measured Total Depth, feet (TOC): 38.20

Sample Location ID: AD-23

Depth to water date: 9-18-24

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	25.65	220	3.10	70	160	3.16	453	24.42
926	25.65	220	3.05	73	69.0	2.07	459	23.50
931	25.65	220	3.07	74	52.3	1.63	452	23.14
936	25.65	220	3.04	75	23.1	1.61	453	23.05
941	25.65	220	3.04	76	23.2	1.60	453	22.94
946	25.65	220	3.03	76	23.2	1.55	494	22.85

Total volume purged: 6.1 gal
 Sample appearance: 448
 Sample time: 9-18-24
 Sample date: 9-18-24

Facility Name: Flannery pp
 Sample by: Kerry McDonald

Sample Location ID: AD-25

Depth to water, feet (TOC): 9.89
 Measured Total Depth, feet (TOC): 27.38

Depth to water date: 9/18/24

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)
1058	10.00	120	3.56	957	26.2	2.45	377	28.14
1103	10.10	120	3.69	1010	15.5	1.27	340	24.58
1108	10.19	120	3.69	1020	12.1	0.96	329	24.65
1113	10.27	120	3.72	1030	9.9	0.88	318	24.62
1118	10.38	120	3.73	1030	9.9	0.82	311	24.49

Total volume purged: 0.644L
 Sample appearance: 1120
 Sample time: 09/18/24
 Sample date:

Facility Name	Pikeview
Sample by	M. St. H. Smith

Sample Location ID	AD-26
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Depth to water, feet (TOC)	15.78
Measured Total Depth, feet (TOC)	42.73

Depth to water date	5-18-24
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Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond ($\mu\text{S}/\text{cm}$)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature ($^{\circ}\text{C}$)
1121	16.05	300	3.37	1,520	8.6	1.80	437	26.10
1126	16.24	300	3.40	1,540	0	1.01	433	25.58
1131	16.35	300	3.41	1,560	0	0.98	426	25.32

Total volume purged	
Sample appearance	clear
Sample time	1133
Sample date	5-18-24

Facility Name: Billerica
 Sample by: Matt Harrison

Depth to water, feet (TOC): 22.75
 Measured Total Depth, feet (TOC): 4.07

Sample Location ID: AD-27
 Depth to water date: 9-18-27

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)
10:46	22.66	300	3.06	216	17.1	2.25	487	29.76
10:51	23.05	300	3.19	218	6.5	2.07	452	34.48
10:56	23.11	300	3.23	220	6.4	2.03	446	24.09

Total volume purged:
 Sample appearance: clear
 Sample time: 10:58
 Sample date: 9-18-24

Facility Name
 Sample by

P. Kelly
 Nutt / H-smith

Sample Location ID

AD-28

Depth to water, feet (TOC)
 Measured Total Depth, feet (TOC)

19.19
 38.59

Depth to water date

9-17-24

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)
8:54	19.43	220	3.29	117	1.7	4.66	502	23.46
8:55	19.53	220	3.06	112	2.5	1.87	502	23.09
9:01	19.53	220	3.12	113	3.0	1.73	504	23.17

Total volume purged
 Sample appearance
 Sample time
 Sample date

clear
 9:06
 9-17-24

Facility Name	Pilliken
Sample by	Matt Hamilton

Depth to water, feet (TOC)	20.6
Measured Total Depth, feet (TOC)	27.15

Sample Location ID	AD-30
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Depth to water date	9-17-24
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Purge Stabilization Data

Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond ($\mu\text{S}/\text{cm}$)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature ($^{\circ}\text{C}$)
803	21.09	220	3.88	351	37.7	1.97	473	24.14
808	21.11	220	3.69	354	46.9	0.91	465	23.62
813	21.12	220	3.68	354	13.6	0.84	464	23.66
818	21.13	220	3.66	354	9.8	0.76	463	23.68
823	21.13	220	3.67	355	9.8	0.73	461	23.73

Total volume purged	
Sample appearance	Clear
Sample time	825
Sample date	9-17-24

Facility Name	Pilloy
Sample by	H. A. L. J. [unclear]

Sample Location ID AJ-31

Depth to water, feet (TOC)	23.23
Measured Total Depth, feet (TOC)	37.32

Depth to water date 8-16-24

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)
1059	23.69	220	3.15	246	3.9	6.52	387	25.76
1101	23.55	220	3.61	255	20.6	0.53	328	24.97
1105	23.60	220	2.91	262	18.5	0.76	350	24.50
1121	23.62	220	2.98	264	65.6	0.68	345	24.91
1175	23.63	220	3.02	265	73.6	0.57	335	25.00
1124	23.64	220	3.03	266	64.5	0.55	336	24.74
1127	23.64	220	3.03	267	67.3	0.60	326	24.67
1131	23.65	220	3.04	267	66.9	0.61	338	24.63

Total volume purged	
Sample appearance	clear
Sample time	11:36
Sample date	8-16-24

Facility Name: Pickleey
 Sample by: Matt Hamilton

Sample Location ID: AD-32
 Depth to water date: 9-16-24

Depth to water, feet (TOC): 17.16
 Measured Total Depth, feet (TOC): 34.65

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)
10:05	17.16	220	4.57	236	258	1.30	421	24.76
10:10	17.85	220	4.73	244	114	0.77	271	24.67
10:15	17.91	220	4.74	246	79.5	0.64	190	24.05
10:20	17.94	220	4.82	245	76.1	0.62	147	24.65
10:25	17.96	220	4.83	244	77.5	0.60	202	24.03
10:30	17.97	220	4.84	244	77.6	0.59	204	24.02

Total volume purged: turbid
 Sample appearance: turbid
 Sample time: 10:32
 Sample date: 9-16-24

Facility Name: PIPH07 PP
 Sample by: K. M. P. (Downard)

Sample Location ID: 40-33

Depth to water, feet (TOC): 12.64
 Measured Total Depth, feet (TOC): 32.50

Depth to water date: 09/16/24

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)
1113	12.08	228	4.02	207	0.2	4.18	341	24.68
1118	12.69	228	3.97	206	0.0	4.07	341	24.62
1123	12.69	228	3.97	204	0.0	3.98	341	24.58
1128								

Total volume purged: 6400L
 Sample appearance: 1125
 Sample time: 09/16/24
 Sample date:

Facility Name	Packman PP
Sample by	Kenny M. DeAcad

Sample Location ID	AD-34
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Depth to water, feet (TOC)	TOC
Measured Total Depth, feet (TOC)	26.05

Depth to water date	09/18/24
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Purge Stabilization Data									
Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond (µS/cm)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature (°C)	
0858	0.81	122	3.95	1460	9.7	3.68	341	25.16	
0903	0.85	122	3.98	1480	7.6	3.51	334	25.52	
0908	0.90	122	3.98	1500	6.4	3.47	327	25.53	
0913	0.92	122	4.00	1520	6.4	3.39	324	25.51	

Total volume purged	
Sample appearance	CLM/A
Sample time	0915
Sample date	09/18/24

Facility Name	Pillory
Sample by	Moff Hamilton

Depth to water, feet (TOC)	5.83
Measured Total Depth, feet (TOC)	17.10

Sample Location ID	AD-36
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Depth to water date	9.18.24
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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)
8:48	6.16	200	4.15	51	1.7	8.27	442	25.38
8:53	6.17	200	3.57	87 85	13.1	0.77	462	26.51
8:58	6.18	200	3.55	87	11.0	0.58	455	26.67
9:03	6.18	200	3.35	87	6.0	0.56	451	27.06
9:08	6.15	200	3.60	87	6.1	0.53	446	26.58

Total volume purged	
Sample appearance	clear
Sample time	9:10
Sample date	9.18.24

Facility Name	Pillars
Sample by	M. M. Hernandez

Depth to water, feet (TOC)	26.30
Measured Total Depth, feet (TOC)	51.44

Sample Location ID	B-2
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Depth to water date	9-16-24
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Purge Stabilization Data										
Time	Water Depth (from TOC)	Flow Rate (mL/min)	pH (S.U.)	Spec Cond ($\mu\text{S/cm}$)	Turbidity (N.T.U)	D.O. (mg/L)	ORP (mV)	Temperature ($^{\circ}\text{C}$)		
816	26.71	300	3.75	239	7.1	2.55	355	22.19		
821	26.79	300	3.94	146	1.1	1.52	319	21.36		
826	26.84	300	3.93	121	2.1	0.99	278	21.16		
831	26.88	300	3.54	119	2.0	0.92	263	21.01		

Total volume purged	
Sample appearance	Clear
Sample time	833
Sample date	9-16-24

Duplicate 1217

Facility Name	Pinus Pl
Sample by	Kenny McDonald

Sample Location ID	B-3
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Depth to water, feet (TOC)	16.92
Measured Total Depth, feet (TOC)	37.49

Depth to water date	09/17/24
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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	18.01	100	5.21	216	4.8	3.30	326	22.19
1037	19.13	100	5.05	220	3.9	2.57	304	22.43

Total volume purged	Clean
Sample appearance	0816
Sample time	09/18/24
Sample date	

CCR Groundwater Monitoring Well Inspection Form

Facility: Prikey Sampling Period: 11-6-24

Sampling Contractor: Engl 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
AD-36	✓	✓	✓	✓	✓	✓	✓	
AD-23	✓	✓	✓	✓	✓	✓	✓	
AD-22	✓	✓	✓	✓	✓	✓	✓	
AD-7R	✓	✓	✓	✓	✓	✓	✓	No label
AD-21	✓	✓	✓	✓	✓	✓	✓	
AD-20	✓	✓	✓	✓	✓	✓	✓	
AD-10	✓	✓	✓	✓	✓	✓	✓	
AD-15	✓	✓	✓	✓	✓	✓	✓	

*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	Pilkoy
Sample by	M. Hoff / H. H. H. H.

Depth to water, feet (TOC)	29.49
Measured Total Depth, feet (TOC)	38.20

Sample Location ID: AD-23

Depth to water date: 11-6-24

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)
1004	29.77	220	3.45	67	90.7	16.30	371	23.51
1005	29.77	220	3.58	70	43.3	7.94	444	22.08
1014	29.77	220	3.65	72	36.6	4.72	454	21.91
1015	29.77	220	3.73	74	25.3	4.67	451	21.80
1024	29.77	220	3.75	75	17.5	4.61	443	21.78
1025	29.77	220	3.82	76	10	4.55	476	21.81
1034	29.77	220	3.84	76	9.9	4.51	485	21.82

Total volume purged	
Sample appearance	clear
Sample time	1036
Sample date	11-6-24

Chloride
+
Boron

AD-7R-9.35 AD-21-7.93

AD-10-22.51 AD-22-11.58

AD-19-18.28

AD-20-20.63

Facility Name	Pilcey
Sample by	Matt Hamilton

Sample Location ID AD-36

Depth to water, feet (TOC)	5.85
Measured Total Depth, feet (TOC)	17.10

Depth to water date 11-6-24

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)	
913	6.26	200	4.48	155	0	11.85	263	22.87	
917	6.22	200	4.17	95	2.8	4.65	3-2	23.50	
923	6.23	200	3.95	91	4.4	2.36	322	23.81	
927	6.23	200	3.95	90	4.8	1.78	328	24.05	
932	6.23	200	3.94	90	4.4	1.72	333	24.16	

Total volume purged	
Sample appearance	clear
Sample time	934
Sample date	11-6-24

Chloride
+
Boron

APPENDIX 5- Analytical Laboratory Reports



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-2

Customer Description:

Lab Number: 240666-001

Preparation:

Date Collected: 02/20/2024 11:42 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 13:17	EPA 200.8-1994, Rev. 5.4
Arsenic	1.19	µg/L	1	0.10	0.03		GES	03/04/2024 13:17	EPA 200.8-1994, Rev. 5.4
Barium	17.3	µg/L	1	0.20	0.05		GES	03/04/2024 13:17	EPA 200.8-1994, Rev. 5.4
Beryllium	1.06	µg/L	5	0.25	0.04		GES	03/04/2024 13:43	EPA 200.8-1994, Rev. 5.4
Boron	3.45	mg/L	1	0.050	0.007		GES	03/04/2024 13:17	EPA 200.8-1994, Rev. 5.4
Cadmium	0.133	µg/L	1	0.020	0.004		GES	03/04/2024 13:17	EPA 200.8-1994, Rev. 5.4
Calcium	4.37	mg/L	1	0.05	0.01		GES	03/04/2024 13:17	EPA 200.8-1994, Rev. 5.4
Chromium	0.47	µg/L	1	0.30	0.07		GES	03/04/2024 13:17	EPA 200.8-1994, Rev. 5.4
Cobalt	31.9	µg/L	1	0.020	0.005		GES	03/04/2024 13:17	EPA 200.8-1994, Rev. 5.4
Lead	0.73	µg/L	1	0.20	0.05		GES	03/04/2024 13:17	EPA 200.8-1994, Rev. 5.4
Lithium	0.0825	mg/L	5	0.0015	0.0004		GES	03/04/2024 13:43	EPA 200.8-1994, Rev. 5.4
Magnesium	9.04	mg/L	1	0.100	0.006		GES	03/04/2024 13:17	EPA 200.8-1994, Rev. 5.4
Mercury	48	ng/L	2	10	4		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 13:17	EPA 200.8-1994, Rev. 5.4
Potassium	1.58	mg/L	1	0.100	0.008		GES	03/04/2024 13:17	EPA 200.8-1994, Rev. 5.4
Selenium	4.61	µg/L	1	0.50	0.04		GES	03/04/2024 13:17	EPA 200.8-1994, Rev. 5.4
Sodium	126	mg/L	1	0.20	0.01		GES	03/04/2024 13:17	EPA 200.8-1994, Rev. 5.4
Strontium	0.0649	mg/L	1	0.00200	0.00005		GES	03/04/2024 13:17	EPA 200.8-1994, Rev. 5.4
Thallium	0.13	µg/L	1	0.20	0.02	J1	GES	03/04/2024 13:17	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	0.26		ST	02/29/2024 13:12	SW-846 9315-1986, Rev. 0
Carrier Recovery	95.0	%						
Radium-228	0.85	pCi/L	0.14	0.43		ST	03/01/2024 16:58	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	89.8	%						

* 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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-2

Customer Description:

Lab Number: 240666-001-01

Preparation: Dissolved

Date Collected: 02/20/2024 11:42 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 13:22	EPA 200.8-1994, Rev. 5.4
Arsenic	1.13	µg/L	1	0.10	0.03		GES	03/04/2024 13:22	EPA 200.8-1994, Rev. 5.4
Barium	17.3	µg/L	1	0.20	0.05		GES	03/04/2024 13:22	EPA 200.8-1994, Rev. 5.4
Beryllium	0.99	µg/L	5	0.25	0.04		GES	03/04/2024 13:53	EPA 200.8-1994, Rev. 5.4
Boron	3.50	mg/L	1	0.050	0.007		GES	03/04/2024 13:22	EPA 200.8-1994, Rev. 5.4
Cadmium	0.140	µg/L	1	0.020	0.004		GES	03/04/2024 13:22	EPA 200.8-1994, Rev. 5.4
Calcium	4.37	mg/L	1	0.05	0.01		GES	03/04/2024 13:22	EPA 200.8-1994, Rev. 5.4
Chromium	0.56	µg/L	1	0.30	0.07		GES	03/04/2024 13:22	EPA 200.8-1994, Rev. 5.4
Cobalt	32.0	µg/L	1	0.020	0.005		GES	03/04/2024 13:22	EPA 200.8-1994, Rev. 5.4
Iron	0.162	mg/L	1	0.020	0.003		GES	03/04/2024 13:22	EPA 200.8-1994, Rev. 5.4
Lead	0.77	µg/L	1	0.20	0.05		GES	03/04/2024 13:22	EPA 200.8-1994, Rev. 5.4
Lithium	0.0815	mg/L	5	0.0015	0.0004		GES	03/04/2024 13:53	EPA 200.8-1994, Rev. 5.4
Magnesium	9.07	mg/L	1	0.100	0.006		GES	03/04/2024 13:22	EPA 200.8-1994, Rev. 5.4
Manganese	0.111	mg/L	1	0.00100	0.00008		GES	03/04/2024 13:22	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 13:22	EPA 200.8-1994, Rev. 5.4
Potassium	1.59	mg/L	1	0.100	0.008		GES	03/04/2024 13:22	EPA 200.8-1994, Rev. 5.4
Selenium	4.19	µg/L	1	0.50	0.04		GES	03/04/2024 13:22	EPA 200.8-1994, Rev. 5.4
Sodium	128	mg/L	1	0.20	0.01		GES	03/04/2024 13:22	EPA 200.8-1994, Rev. 5.4
Strontium	0.0641	mg/L	1	0.00200	0.00005		GES	03/04/2024 13:22	EPA 200.8-1994, Rev. 5.4
Thallium	0.13	µg/L	1	0.20	0.02	J1	GES	03/04/2024 13:22	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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-3

Customer Description:

Lab Number: 240666-002

Preparation:

Date Collected: 02/20/2024 12:25 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 13:28	EPA 200.8-1994, Rev. 5.4
Arsenic	0.10	µg/L	1	0.10	0.03		GES	03/04/2024 13:28	EPA 200.8-1994, Rev. 5.4
Barium	57.7	µg/L	1	0.20	0.05		GES	03/04/2024 13:28	EPA 200.8-1994, Rev. 5.4
Beryllium	0.21	µg/L	5	0.25	0.04	J1	GES	03/04/2024 13:58	EPA 200.8-1994, Rev. 5.4
Boron	0.037	mg/L	1	0.050	0.007	J1	GES	03/04/2024 13:28	EPA 200.8-1994, Rev. 5.4
Cadmium	0.024	µg/L	1	0.020	0.004		GES	03/04/2024 13:28	EPA 200.8-1994, Rev. 5.4
Calcium	3.55	mg/L	1	0.05	0.01		GES	03/04/2024 13:28	EPA 200.8-1994, Rev. 5.4
Chromium	0.49	µg/L	1	0.30	0.07		GES	03/04/2024 13:28	EPA 200.8-1994, Rev. 5.4
Cobalt	3.07	µg/L	1	0.020	0.005		GES	03/04/2024 13:28	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	03/04/2024 13:28	EPA 200.8-1994, Rev. 5.4
Lithium	0.0511	mg/L	5	0.0015	0.0004		GES	03/04/2024 13:58	EPA 200.8-1994, Rev. 5.4
Magnesium	1.64	mg/L	1	0.100	0.006		GES	03/04/2024 13:28	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 13:28	EPA 200.8-1994, Rev. 5.4
Potassium	2.21	mg/L	1	0.100	0.008		GES	03/04/2024 13:28	EPA 200.8-1994, Rev. 5.4
Selenium	0.07	µg/L	1	0.50	0.04	J1	GES	03/04/2024 13:28	EPA 200.8-1994, Rev. 5.4
Sodium	8.79	mg/L	1	0.20	0.01		GES	03/04/2024 13:28	EPA 200.8-1994, Rev. 5.4
Strontium	0.0245	mg/L	1	0.00200	0.00005		GES	03/04/2024 13:28	EPA 200.8-1994, Rev. 5.4
Thallium	0.05	µg/L	1	0.20	0.02	J1	GES	03/04/2024 13:28	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	0.21	0.23		ST	02/29/2024 13:12	SW-846 9315-1986, Rev. 0
Carrier Recovery	93.0	%						
Radium-228	0.19	pCi/L	0.12	0.40		ST	03/01/2024 16:58	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.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-3

Customer Description:

Lab Number: 240666-002-01

Preparation: Dissolved

Date Collected: 02/20/2024 12:25 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 13:33	EPA 200.8-1994, Rev. 5.4
Arsenic	0.11	µg/L	1	0.10	0.03		GES	03/04/2024 13:33	EPA 200.8-1994, Rev. 5.4
Barium	55.2	µg/L	1	0.20	0.05		GES	03/04/2024 13:33	EPA 200.8-1994, Rev. 5.4
Beryllium	0.11	µg/L	5	0.25	0.04	J1	GES	03/04/2024 14:03	EPA 200.8-1994, Rev. 5.4
Boron	0.035	mg/L	1	0.050	0.007	J1	GES	03/04/2024 13:33	EPA 200.8-1994, Rev. 5.4
Cadmium	0.014	µg/L	1	0.020	0.004	J1	GES	03/04/2024 13:33	EPA 200.8-1994, Rev. 5.4
Calcium	3.52	mg/L	1	0.05	0.01		GES	03/04/2024 13:33	EPA 200.8-1994, Rev. 5.4
Chromium	0.36	µg/L	1	0.30	0.07		GES	03/04/2024 13:33	EPA 200.8-1994, Rev. 5.4
Cobalt	2.74	µg/L	1	0.020	0.005		GES	03/04/2024 13:33	EPA 200.8-1994, Rev. 5.4
Iron	0.582	mg/L	1	0.020	0.003		GES	03/04/2024 13:33	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	GES	03/04/2024 13:33	EPA 200.8-1994, Rev. 5.4
Lithium	0.0513	mg/L	5	0.0015	0.0004		GES	03/04/2024 14:03	EPA 200.8-1994, Rev. 5.4
Magnesium	1.48	mg/L	1	0.100	0.006		GES	03/04/2024 13:33	EPA 200.8-1994, Rev. 5.4
Manganese	0.0307	mg/L	1	0.00100	0.00008		GES	03/04/2024 13:33	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 13:33	EPA 200.8-1994, Rev. 5.4
Potassium	2.20	mg/L	1	0.100	0.008		GES	03/04/2024 13:33	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	03/04/2024 13:33	EPA 200.8-1994, Rev. 5.4
Sodium	8.71	mg/L	1	0.20	0.01		GES	03/04/2024 13:33	EPA 200.8-1994, Rev. 5.4
Strontium	0.0244	mg/L	1	0.00200	0.00005		GES	03/04/2024 13:33	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	03/04/2024 13:33	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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-4

Customer Description:

Lab Number: 240666-003

Preparation:

Date Collected: 02/20/2024 10:31 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 13:38	EPA 200.8-1994, Rev. 5.4
Arsenic	0.13	µg/L	1	0.10	0.03		GES	03/04/2024 13:38	EPA 200.8-1994, Rev. 5.4
Barium	148	µg/L	1	0.20	0.05		GES	03/04/2024 13:38	EPA 200.8-1994, Rev. 5.4
Beryllium	0.33	µg/L	5	0.25	0.04		GES	03/04/2024 14:09	EPA 200.8-1994, Rev. 5.4
Boron	0.018	mg/L	1	0.050	0.007	J1	GES	03/04/2024 13:38	EPA 200.8-1994, Rev. 5.4
Cadmium	0.027	µg/L	1	0.020	0.004		GES	03/04/2024 13:38	EPA 200.8-1994, Rev. 5.4
Calcium	3.23	mg/L	1	0.05	0.01		GES	03/04/2024 13:38	EPA 200.8-1994, Rev. 5.4
Chromium	0.34	µg/L	1	0.30	0.07		GES	03/04/2024 13:38	EPA 200.8-1994, Rev. 5.4
Cobalt	3.44	µg/L	1	0.020	0.005		GES	03/04/2024 13:38	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	03/04/2024 13:38	EPA 200.8-1994, Rev. 5.4
Lithium	0.0252	mg/L	5	0.0015	0.0004		GES	03/04/2024 14:09	EPA 200.8-1994, Rev. 5.4
Magnesium	0.694	mg/L	1	0.100	0.006		GES	03/04/2024 13:38	EPA 200.8-1994, Rev. 5.4
Mercury	6	ng/L	1	5	2		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 13:38	EPA 200.8-1994, Rev. 5.4
Potassium	2.35	mg/L	1	0.100	0.008		GES	03/04/2024 13:38	EPA 200.8-1994, Rev. 5.4
Selenium	0.06	µg/L	1	0.50	0.04	J1	GES	03/04/2024 13:38	EPA 200.8-1994, Rev. 5.4
Sodium	7.01	mg/L	1	0.20	0.01		GES	03/04/2024 13:38	EPA 200.8-1994, Rev. 5.4
Strontium	0.0263	mg/L	1	0.00200	0.00005		GES	03/04/2024 13:38	EPA 200.8-1994, Rev. 5.4
Thallium	0.10	µg/L	1	0.20	0.02	J1	GES	03/04/2024 13:38	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.86	pCi/L	0.19	0.29		ST	02/29/2024 13:12	SW-846 9315-1986, Rev. 0
Carrier Recovery	96.1	%						
Radium-228	0.92	pCi/L	0.12	0.38		ST	03/01/2024 16:58	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	92.4	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-4

Customer Description:

Lab Number: 240666-003-01

Preparation: Dissolved

Date Collected: 02/20/2024 10:31 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 13:48	EPA 200.8-1994, Rev. 5.4
Arsenic	0.04	µg/L	1	0.10	0.03	J1	GES	03/04/2024 13:48	EPA 200.8-1994, Rev. 5.4
Barium	120	µg/L	1	0.20	0.05		GES	03/04/2024 13:48	EPA 200.8-1994, Rev. 5.4
Beryllium	0.20	µg/L	5	0.25	0.04	J1	GES	03/04/2024 14:14	EPA 200.8-1994, Rev. 5.4
Boron	0.017	mg/L	1	0.050	0.007	J1	GES	03/04/2024 13:48	EPA 200.8-1994, Rev. 5.4
Cadmium	0.017	µg/L	1	0.020	0.004	J1	GES	03/04/2024 13:48	EPA 200.8-1994, Rev. 5.4
Calcium	2.54	mg/L	1	0.05	0.01		GES	03/04/2024 13:48	EPA 200.8-1994, Rev. 5.4
Chromium	0.27	µg/L	1	0.30	0.07	J1	GES	03/04/2024 13:48	EPA 200.8-1994, Rev. 5.4
Cobalt	3.09	µg/L	1	0.020	0.005		GES	03/04/2024 13:48	EPA 200.8-1994, Rev. 5.4
Iron	0.013	mg/L	1	0.020	0.003	J1	GES	03/04/2024 13:48	EPA 200.8-1994, Rev. 5.4
Lead	0.10	µg/L	1	0.20	0.05	J1	GES	03/04/2024 13:48	EPA 200.8-1994, Rev. 5.4
Lithium	0.0268	mg/L	5	0.0015	0.0004		GES	03/04/2024 14:14	EPA 200.8-1994, Rev. 5.4
Magnesium	0.548	mg/L	1	0.100	0.006		GES	03/04/2024 13:48	EPA 200.8-1994, Rev. 5.4
Manganese	0.0242	mg/L	1	0.00100	0.00008		GES	03/04/2024 13:48	EPA 200.8-1994, Rev. 5.4
Mercury	2	ng/L	1	5	2	J1	RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 13:48	EPA 200.8-1994, Rev. 5.4
Potassium	2.25	mg/L	1	0.100	0.008		GES	03/04/2024 13:48	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	03/04/2024 13:48	EPA 200.8-1994, Rev. 5.4
Sodium	6.73	mg/L	1	0.20	0.01		GES	03/04/2024 13:48	EPA 200.8-1994, Rev. 5.4
Strontium	0.0216	mg/L	1	0.00200	0.00005		GES	03/04/2024 13:48	EPA 200.8-1994, Rev. 5.4
Thallium	0.10	µg/L	1	0.20	0.02	J1	GES	03/04/2024 13:48	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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-7R

Customer Description:

Lab Number: 240666-004

Preparation:

Date Collected: 02/19/2024 12:28 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 14:19	EPA 200.8-1994, Rev. 5.4
Arsenic	0.29	µg/L	1	0.10	0.03		GES	03/04/2024 14:19	EPA 200.8-1994, Rev. 5.4
Barium	50.7	µg/L	1	0.20	0.05		GES	03/04/2024 14:19	EPA 200.8-1994, Rev. 5.4
Beryllium	1.93	µg/L	1	0.050	0.007		GES	03/04/2024 14:19	EPA 200.8-1994, Rev. 5.4
Boron	0.066	mg/L	1	0.050	0.007		GES	03/04/2024 14:19	EPA 200.8-1994, Rev. 5.4
Cadmium	0.330	µg/L	1	0.020	0.004		GES	03/04/2024 14:19	EPA 200.8-1994, Rev. 5.4
Calcium	3.32	mg/L	1	0.05	0.01		GES	03/04/2024 14:19	EPA 200.8-1994, Rev. 5.4
Chromium	0.23	µg/L	1	0.30	0.07	J1	GES	03/04/2024 14:19	EPA 200.8-1994, Rev. 5.4
Cobalt	19.4	µg/L	1	0.020	0.005		GES	03/04/2024 14:19	EPA 200.8-1994, Rev. 5.4
Lead	0.07	µg/L	1	0.20	0.05	J1	GES	03/04/2024 14:19	EPA 200.8-1994, Rev. 5.4
Lithium	0.0616	mg/L	1	0.00030	0.00007		GES	03/04/2024 14:19	EPA 200.8-1994, Rev. 5.4
Magnesium	5.22	mg/L	1	0.100	0.006		GES	03/04/2024 14:19	EPA 200.8-1994, Rev. 5.4
Mercury	126	ng/L	2	10	4		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 14:19	EPA 200.8-1994, Rev. 5.4
Potassium	2.12	mg/L	1	0.100	0.008		GES	03/04/2024 14:19	EPA 200.8-1994, Rev. 5.4
Selenium	0.73	µg/L	1	0.50	0.04		GES	03/04/2024 14:19	EPA 200.8-1994, Rev. 5.4
Sodium	26.3	mg/L	1	0.20	0.01		GES	03/04/2024 14:19	EPA 200.8-1994, Rev. 5.4
Strontium	0.0374	mg/L	1	0.00200	0.00005		GES	03/04/2024 14:19	EPA 200.8-1994, Rev. 5.4
Thallium	0.15	µg/L	1	0.20	0.02	J1	GES	03/04/2024 14:19	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	2.40	pCi/L	0.31	0.22		ST	02/29/2024 14:45	SW-846 9315-1986, Rev. 0
Carrier Recovery	84.9	%						
Radium-228	0.86	pCi/L	0.14	0.45		ST	03/01/2024 16:58	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	91.7	%						

* 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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-7R

Customer Description:

Lab Number: 240666-004-01

Preparation: Dissolved

Date Collected: 02/19/2024 12:28 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 14:29	EPA 200.8-1994, Rev. 5.4
Arsenic	0.08	µg/L	1	0.10	0.03	J1	GES	03/04/2024 14:29	EPA 200.8-1994, Rev. 5.4
Barium	49.4	µg/L	1	0.20	0.05		GES	03/04/2024 14:29	EPA 200.8-1994, Rev. 5.4
Beryllium	1.62	µg/L	1	0.050	0.007		GES	03/04/2024 14:29	EPA 200.8-1994, Rev. 5.4
Boron	0.063	mg/L	1	0.050	0.007		GES	03/04/2024 14:29	EPA 200.8-1994, Rev. 5.4
Cadmium	0.297	µg/L	1	0.020	0.004		GES	03/04/2024 14:29	EPA 200.8-1994, Rev. 5.4
Calcium	3.12	mg/L	1	0.05	0.01		GES	03/04/2024 14:29	EPA 200.8-1994, Rev. 5.4
Chromium	0.26	µg/L	1	0.30	0.07	J1	GES	03/04/2024 14:29	EPA 200.8-1994, Rev. 5.4
Cobalt	18.2	µg/L	1	0.020	0.005		GES	03/04/2024 14:29	EPA 200.8-1994, Rev. 5.4
Iron	2.11	mg/L	1	0.020	0.003		GES	03/04/2024 14:29	EPA 200.8-1994, Rev. 5.4
Lead	0.07	µg/L	1	0.20	0.05	J1	GES	03/04/2024 14:29	EPA 200.8-1994, Rev. 5.4
Lithium	0.0629	mg/L	1	0.00030	0.00007		GES	03/04/2024 14:29	EPA 200.8-1994, Rev. 5.4
Magnesium	4.88	mg/L	1	0.100	0.006		GES	03/04/2024 14:29	EPA 200.8-1994, Rev. 5.4
Manganese	0.0579	mg/L	1	0.00100	0.00008		GES	03/04/2024 14:29	EPA 200.8-1994, Rev. 5.4
Mercury	60	ng/L	1	5	2		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 14:29	EPA 200.8-1994, Rev. 5.4
Potassium	2.09	mg/L	1	0.100	0.008		GES	03/04/2024 14:29	EPA 200.8-1994, Rev. 5.4
Selenium	0.05	µg/L	1	0.50	0.04	J1	GES	03/04/2024 14:29	EPA 200.8-1994, Rev. 5.4
Sodium	25.3	mg/L	1	0.20	0.01		GES	03/04/2024 14:29	EPA 200.8-1994, Rev. 5.4
Strontium	0.0352	mg/L	1	0.00200	0.00005		GES	03/04/2024 14:29	EPA 200.8-1994, Rev. 5.4
Thallium	0.14	µg/L	1	0.20	0.02	J1	GES	03/04/2024 14:29	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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-12

Customer Description:

Lab Number: 240666-005

Preparation:

Date Collected: 02/19/2024 10:01 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 14:40	EPA 200.8-1994, Rev. 5.4
Arsenic	0.07	µg/L	1	0.10	0.03	J1	GES	03/04/2024 14:40	EPA 200.8-1994, Rev. 5.4
Barium	21.7	µg/L	1	0.20	0.05		GES	03/04/2024 14:40	EPA 200.8-1994, Rev. 5.4
Beryllium	0.127	µg/L	1	0.050	0.007		GES	03/04/2024 14:40	EPA 200.8-1994, Rev. 5.4
Boron	0.016	mg/L	1	0.050	0.007	J1	GES	03/04/2024 14:40	EPA 200.8-1994, Rev. 5.4
Cadmium	0.009	µg/L	1	0.020	0.004	J1	GES	03/04/2024 14:40	EPA 200.8-1994, Rev. 5.4
Calcium	0.27	mg/L	1	0.05	0.01		GES	03/04/2024 14:40	EPA 200.8-1994, Rev. 5.4
Chromium	0.50	µg/L	1	0.30	0.07		GES	03/04/2024 14:40	EPA 200.8-1994, Rev. 5.4
Cobalt	1.13	µg/L	1	0.020	0.005		GES	03/04/2024 14:40	EPA 200.8-1994, Rev. 5.4
Lead	0.06	µg/L	1	0.20	0.05	J1	GES	03/04/2024 14:40	EPA 200.8-1994, Rev. 5.4
Lithium	0.00547	mg/L	1	0.00030	0.00007		GES	03/04/2024 14:40	EPA 200.8-1994, Rev. 5.4
Magnesium	0.379	mg/L	1	0.100	0.006		GES	03/04/2024 14:40	EPA 200.8-1994, Rev. 5.4
Mercury	2	ng/L	1	5	2	J1	RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 14:40	EPA 200.8-1994, Rev. 5.4
Potassium	0.286	mg/L	1	0.100	0.008		GES	03/04/2024 14:40	EPA 200.8-1994, Rev. 5.4
Selenium	0.19	µg/L	1	0.50	0.04	J1	GES	03/04/2024 14:40	EPA 200.8-1994, Rev. 5.4
Sodium	4.34	mg/L	1	0.20	0.01		GES	03/04/2024 14:40	EPA 200.8-1994, Rev. 5.4
Strontium	0.00359	mg/L	1	0.00200	0.00005		GES	03/04/2024 14:40	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	03/04/2024 14:40	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.78	pCi/L	0.18	0.20		ST	02/29/2024 14:45	SW-846 9315-1986, Rev. 0
Carrier Recovery	95.2	%						
Radium-228	0.22	pCi/L	0.12	0.41		ST	03/01/2024 16:58	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	88.6	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-12

Customer Description:

Lab Number: 240666-005-01

Preparation: Dissolved

Date Collected: 02/19/2024 10:01 EST

Date Received: 02/23/2024 12:31 EST

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	03/04/2024 14:50	EPA 200.8-1994, Rev. 5.4
Arsenic	0.05	µg/L	1	0.10	0.03	J1	GES	03/04/2024 14:50	EPA 200.8-1994, Rev. 5.4
Barium	6.59	µg/L	1	0.20	0.05		GES	03/04/2024 14:50	EPA 200.8-1994, Rev. 5.4
Beryllium	0.026	µg/L	1	0.050	0.007	J1	GES	03/04/2024 14:50	EPA 200.8-1994, Rev. 5.4
Boron	0.016	mg/L	1	0.050	0.007	J1	GES	03/04/2024 14:50	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	03/04/2024 14:50	EPA 200.8-1994, Rev. 5.4
Calcium	0.09	mg/L	1	0.05	0.01		GES	03/04/2024 14:50	EPA 200.8-1994, Rev. 5.4
Chromium	0.31	µg/L	1	0.30	0.07		GES	03/04/2024 14:50	EPA 200.8-1994, Rev. 5.4
Cobalt	0.307	µg/L	1	0.020	0.005		GES	03/04/2024 14:50	EPA 200.8-1994, Rev. 5.4
Iron	0.012	mg/L	1	0.020	0.003	J1	GES	03/04/2024 14:50	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	03/04/2024 14:50	EPA 200.8-1994, Rev. 5.4
Lithium	0.00496	mg/L	1	0.00030	0.00007		GES	03/04/2024 14:50	EPA 200.8-1994, Rev. 5.4
Magnesium	0.113	mg/L	1	0.100	0.006		GES	03/04/2024 14:50	EPA 200.8-1994, Rev. 5.4
Manganese	0.00095	mg/L	1	0.00100	0.00008	J1	GES	03/04/2024 14:50	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 14:50	EPA 200.8-1994, Rev. 5.4
Potassium	0.279	mg/L	1	0.100	0.008		GES	03/04/2024 14:50	EPA 200.8-1994, Rev. 5.4
Selenium	0.14	µg/L	1	0.50	0.04	J1	GES	03/04/2024 14:50	EPA 200.8-1994, Rev. 5.4
Sodium	4.00	mg/L	1	0.20	0.01		GES	03/04/2024 14:50	EPA 200.8-1994, Rev. 5.4
Strontium	0.00113	mg/L	1	0.00200	0.00005	J1	GES	03/04/2024 14:50	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	03/04/2024 14:50	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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-13

Customer Description:

Lab Number: 240666-006

Preparation:

Date Collected: 02/19/2024 09:44 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 16:22	EPA 200.8-1994, Rev. 5.4
Arsenic	0.74	µg/L	1	0.10	0.03		GES	03/04/2024 16:22	EPA 200.8-1994, Rev. 5.4
Barium	45.1	µg/L	1	0.20	0.05		GES	03/04/2024 16:22	EPA 200.8-1994, Rev. 5.4
Beryllium	0.290	µg/L	1	0.050	0.007		GES	03/04/2024 16:22	EPA 200.8-1994, Rev. 5.4
Boron	0.068	mg/L	1	0.050	0.007		GES	03/04/2024 16:22	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	03/04/2024 16:22	EPA 200.8-1994, Rev. 5.4
Calcium	10.6	mg/L	1	0.05	0.01		GES	03/04/2024 16:22	EPA 200.8-1994, Rev. 5.4
Chromium	0.29	µg/L	1	0.30	0.07	J1	GES	03/04/2024 16:22	EPA 200.8-1994, Rev. 5.4
Cobalt	41.9	µg/L	1	0.020	0.005		GES	03/04/2024 16:22	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	03/04/2024 16:22	EPA 200.8-1994, Rev. 5.4
Lithium	0.134	mg/L	1	0.00030	0.00007		GES	03/04/2024 16:22	EPA 200.8-1994, Rev. 5.4
Magnesium	12.4	mg/L	1	0.100	0.006		GES	03/04/2024 16:22	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 16:22	EPA 200.8-1994, Rev. 5.4
Potassium	4.84	mg/L	1	0.100	0.008		GES	03/04/2024 16:22	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	03/04/2024 16:22	EPA 200.8-1994, Rev. 5.4
Sodium	20.5	mg/L	1	0.20	0.01		GES	03/04/2024 16:22	EPA 200.8-1994, Rev. 5.4
Strontium	0.0985	mg/L	1	0.00200	0.00005		GES	03/04/2024 16:22	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	GES	03/04/2024 16:22	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.22	pCi/L	0.23	0.25		ST	02/29/2024 14:45	SW-846 9315-1986, Rev. 0
Carrier Recovery	84.2	%						
Radium-228	0.75	pCi/L	0.13	0.41		TTP	03/07/2024 15:20	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	87.7	%						

* 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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-13

Customer Description:

Lab Number: 240666-006-01

Preparation: Dissolved

Date Collected: 02/19/2024 09:44 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 16:33	EPA 200.8-1994, Rev. 5.4
Arsenic	0.29	µg/L	1	0.10	0.03		GES	03/04/2024 16:33	EPA 200.8-1994, Rev. 5.4
Barium	43.5	µg/L	1	0.20	0.05		GES	03/04/2024 16:33	EPA 200.8-1994, Rev. 5.4
Beryllium	0.255	µg/L	1	0.050	0.007		GES	03/04/2024 16:33	EPA 200.8-1994, Rev. 5.4
Boron	0.067	mg/L	1	0.050	0.007		GES	03/04/2024 16:33	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	03/04/2024 16:33	EPA 200.8-1994, Rev. 5.4
Calcium	10.2	mg/L	1	0.05	0.01		GES	03/04/2024 16:33	EPA 200.8-1994, Rev. 5.4
Chromium	0.33	µg/L	1	0.30	0.07		GES	03/04/2024 16:33	EPA 200.8-1994, Rev. 5.4
Cobalt	41.1	µg/L	1	0.020	0.005		GES	03/04/2024 16:33	EPA 200.8-1994, Rev. 5.4
Iron	15.9	mg/L	1	0.020	0.003		GES	03/04/2024 16:33	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	03/04/2024 16:33	EPA 200.8-1994, Rev. 5.4
Lithium	0.134	mg/L	1	0.00030	0.00007		GES	03/04/2024 16:33	EPA 200.8-1994, Rev. 5.4
Magnesium	12.0	mg/L	1	0.100	0.006		GES	03/04/2024 16:33	EPA 200.8-1994, Rev. 5.4
Manganese	0.404	mg/L	1	0.00100	0.00008		GES	03/04/2024 16:33	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 16:33	EPA 200.8-1994, Rev. 5.4
Potassium	4.71	mg/L	1	0.100	0.008		GES	03/04/2024 16:33	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	03/04/2024 16:33	EPA 200.8-1994, Rev. 5.4
Sodium	20.3	mg/L	1	0.20	0.01		GES	03/04/2024 16:33	EPA 200.8-1994, Rev. 5.4
Strontium	0.0959	mg/L	1	0.00200	0.00005		GES	03/04/2024 16:33	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	03/04/2024 16:33	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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-17

Customer Description:

Lab Number: 240666-007

Preparation:

Date Collected: 02/20/2024 13:30 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 16:43	EPA 200.8-1994, Rev. 5.4
Arsenic	0.23	µg/L	1	0.10	0.03		GES	03/04/2024 16:43	EPA 200.8-1994, Rev. 5.4
Barium	85.2	µg/L	1	0.20	0.05		GES	03/04/2024 16:43	EPA 200.8-1994, Rev. 5.4
Beryllium	0.310	µg/L	1	0.050	0.007		GES	03/04/2024 16:43	EPA 200.8-1994, Rev. 5.4
Boron	0.034	mg/L	1	0.050	0.007	J1	GES	03/04/2024 16:43	EPA 200.8-1994, Rev. 5.4
Cadmium	0.020	µg/L	1	0.020	0.004		GES	03/04/2024 16:43	EPA 200.8-1994, Rev. 5.4
Calcium	0.14	mg/L	1	0.05	0.01		GES	03/04/2024 16:43	EPA 200.8-1994, Rev. 5.4
Chromium	0.57	µg/L	1	0.30	0.07		GES	03/04/2024 16:43	EPA 200.8-1994, Rev. 5.4
Cobalt	4.40	µg/L	1	0.020	0.005		GES	03/04/2024 16:43	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	GES	03/04/2024 16:43	EPA 200.8-1994, Rev. 5.4
Lithium	0.00998	mg/L	1	0.00030	0.00007		GES	03/04/2024 16:43	EPA 200.8-1994, Rev. 5.4
Magnesium	1.37	mg/L	1	0.100	0.006		GES	03/04/2024 16:43	EPA 200.8-1994, Rev. 5.4
Mercury	131	ng/L	4	20	7		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 16:43	EPA 200.8-1994, Rev. 5.4
Potassium	0.372	mg/L	1	0.100	0.008		GES	03/04/2024 16:43	EPA 200.8-1994, Rev. 5.4
Selenium	0.16	µg/L	1	0.50	0.04	J1	GES	03/04/2024 16:43	EPA 200.8-1994, Rev. 5.4
Sodium	6.11	mg/L	1	0.20	0.01		GES	03/04/2024 16:43	EPA 200.8-1994, Rev. 5.4
Strontium	0.00683	mg/L	1	0.00200	0.00005		GES	03/04/2024 16:43	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	03/04/2024 16:43	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	2.15	pCi/L	0.27	0.22		ST	02/29/2024 14:45	SW-846 9315-1986, Rev. 0
Carrier Recovery	103	%						
Radium-228	1	pCi/L	0.15	0.49		TTP	03/07/2024 15:20	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	93.6	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-17

Customer Description:

Lab Number: 240666-007-01

Preparation: Dissolved

Date Collected: 02/20/2024 13:30 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 16:53	EPA 200.8-1994, Rev. 5.4
Arsenic	0.04	µg/L	1	0.10	0.03	J1	GES	03/04/2024 16:53	EPA 200.8-1994, Rev. 5.4
Barium	77.6	µg/L	1	0.20	0.05		GES	03/04/2024 16:53	EPA 200.8-1994, Rev. 5.4
Beryllium	0.174	µg/L	1	0.050	0.007		GES	03/04/2024 16:53	EPA 200.8-1994, Rev. 5.4
Boron	0.036	mg/L	1	0.050	0.007	J1	GES	03/04/2024 16:53	EPA 200.8-1994, Rev. 5.4
Cadmium	0.015	µg/L	1	0.020	0.004	J1	GES	03/04/2024 16:53	EPA 200.8-1994, Rev. 5.4
Calcium	0.15	mg/L	1	0.05	0.01		GES	03/04/2024 16:53	EPA 200.8-1994, Rev. 5.4
Chromium	0.31	µg/L	1	0.30	0.07		GES	03/04/2024 16:53	EPA 200.8-1994, Rev. 5.4
Cobalt	3.98	µg/L	1	0.020	0.005		GES	03/04/2024 16:53	EPA 200.8-1994, Rev. 5.4
Iron	0.004	mg/L	1	0.020	0.003	J1	GES	03/04/2024 16:53	EPA 200.8-1994, Rev. 5.4
Lead	0.06	µg/L	1	0.20	0.05	J1	GES	03/04/2024 16:53	EPA 200.8-1994, Rev. 5.4
Lithium	0.0105	mg/L	1	0.00030	0.00007		GES	03/04/2024 16:53	EPA 200.8-1994, Rev. 5.4
Magnesium	1.24	mg/L	1	0.100	0.006		GES	03/04/2024 16:53	EPA 200.8-1994, Rev. 5.4
Manganese	0.00288	mg/L	1	0.00100	0.00008		GES	03/04/2024 16:53	EPA 200.8-1994, Rev. 5.4
Mercury	65	ng/L	1	5	2		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 16:53	EPA 200.8-1994, Rev. 5.4
Potassium	0.358	mg/L	1	0.100	0.008		GES	03/04/2024 16:53	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	03/04/2024 16:53	EPA 200.8-1994, Rev. 5.4
Sodium	6.20	mg/L	1	0.20	0.01		GES	03/04/2024 16:53	EPA 200.8-1994, Rev. 5.4
Strontium	0.00630	mg/L	1	0.00200	0.00005		GES	03/04/2024 16:53	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	03/04/2024 16:53	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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-18

Customer Description:

Lab Number: 240666-008

Preparation:

Date Collected: 02/20/2024 09:29 EST

Date Received: 02/23/2024 12:31 EST

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	03/04/2024 17:03	EPA 200.8-1994, Rev. 5.4
Arsenic	1.17	µg/L	1	0.10	0.03		GES	03/04/2024 17:03	EPA 200.8-1994, Rev. 5.4
Barium	83.1	µg/L	1	0.20	0.05		GES	03/04/2024 17:03	EPA 200.8-1994, Rev. 5.4
Beryllium	0.100	µg/L	1	0.050	0.007		GES	03/04/2024 17:03	EPA 200.8-1994, Rev. 5.4
Boron	0.013	mg/L	1	0.050	0.007	J1	GES	03/04/2024 17:03	EPA 200.8-1994, Rev. 5.4
Cadmium	0.013	µg/L	1	0.020	0.004	J1	GES	03/04/2024 17:03	EPA 200.8-1994, Rev. 5.4
Calcium	0.27	mg/L	1	0.05	0.01		GES	03/04/2024 17:03	EPA 200.8-1994, Rev. 5.4
Chromium	0.95	µg/L	1	0.30	0.07		GES	03/04/2024 17:03	EPA 200.8-1994, Rev. 5.4
Cobalt	1.05	µg/L	1	0.020	0.005		GES	03/04/2024 17:03	EPA 200.8-1994, Rev. 5.4
Lead	0.30	µg/L	1	0.20	0.05		GES	03/04/2024 17:03	EPA 200.8-1994, Rev. 5.4
Lithium	0.0151	mg/L	1	0.00030	0.00007		GES	03/04/2024 17:03	EPA 200.8-1994, Rev. 5.4
Magnesium	0.365	mg/L	1	0.100	0.006		GES	03/04/2024 17:03	EPA 200.8-1994, Rev. 5.4
Mercury	14	ng/L	1	5	2		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 17:03	EPA 200.8-1994, Rev. 5.4
Potassium	0.901	mg/L	1	0.100	0.008		GES	03/04/2024 17:03	EPA 200.8-1994, Rev. 5.4
Selenium	0.23	µg/L	1	0.50	0.04	J1	GES	03/04/2024 17:03	EPA 200.8-1994, Rev. 5.4
Sodium	5.80	mg/L	1	0.20	0.01		GES	03/04/2024 17:03	EPA 200.8-1994, Rev. 5.4
Strontium	0.00539	mg/L	1	0.00200	0.00005		GES	03/04/2024 17:03	EPA 200.8-1994, Rev. 5.4
Thallium	0.05	µg/L	1	0.20	0.02	J1	GES	03/04/2024 17:03	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.57	pCi/L	0.13	0.15		ST	02/29/2024 14:45	SW-846 9315-1986, Rev. 0
Carrier Recovery	111	%						
Radium-228	0.85	pCi/L	0.17	0.55		TTP	03/07/2024 15:20	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	91.2	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-18

Customer Description:

Lab Number: 240666-008-01

Preparation: Dissolved

Date Collected: 02/20/2024 09:29 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 17:14	EPA 200.8-1994, Rev. 5.4
Arsenic	0.07	µg/L	1	0.10	0.03	J1	GES	03/04/2024 17:14	EPA 200.8-1994, Rev. 5.4
Barium	32.4	µg/L	1	0.20	0.05		GES	03/04/2024 17:14	EPA 200.8-1994, Rev. 5.4
Beryllium	0.007	µg/L	1	0.050	0.007	J1	GES	03/04/2024 17:14	EPA 200.8-1994, Rev. 5.4
Boron	0.012	mg/L	1	0.050	0.007	J1	GES	03/04/2024 17:14	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	03/04/2024 17:14	EPA 200.8-1994, Rev. 5.4
Calcium	0.14	mg/L	1	0.05	0.01		GES	03/04/2024 17:14	EPA 200.8-1994, Rev. 5.4
Chromium	0.40	µg/L	1	0.30	0.07		GES	03/04/2024 17:14	EPA 200.8-1994, Rev. 5.4
Cobalt	0.506	µg/L	1	0.020	0.005		GES	03/04/2024 17:14	EPA 200.8-1994, Rev. 5.4
Iron	0.040	mg/L	1	0.020	0.003		GES	03/04/2024 17:14	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	03/04/2024 17:14	EPA 200.8-1994, Rev. 5.4
Lithium	0.0163	mg/L	1	0.00030	0.00007		GES	03/04/2024 17:14	EPA 200.8-1994, Rev. 5.4
Magnesium	0.131	mg/L	1	0.100	0.006		GES	03/04/2024 17:14	EPA 200.8-1994, Rev. 5.4
Manganese	0.00192	mg/L	1	0.00100	0.00008		GES	03/04/2024 17:14	EPA 200.8-1994, Rev. 5.4
Mercury	5	ng/L	1	5	2		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 17:14	EPA 200.8-1994, Rev. 5.4
Potassium	0.947	mg/L	1	0.100	0.008		GES	03/04/2024 17:14	EPA 200.8-1994, Rev. 5.4
Selenium	0.04	µg/L	1	0.50	0.04	J1	GES	03/04/2024 17:14	EPA 200.8-1994, Rev. 5.4
Sodium	5.84	mg/L	1	0.20	0.01		GES	03/04/2024 17:14	EPA 200.8-1994, Rev. 5.4
Strontium	0.00229	mg/L	1	0.00200	0.00005		GES	03/04/2024 17:14	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	03/04/2024 17:14	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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-22

Customer Description:

Lab Number: 240666-009

Preparation:

Date Collected: 02/19/2024 11:44 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 17:24	EPA 200.8-1994, Rev. 5.4
Arsenic	1.20	µg/L	1	0.10	0.03		GES	03/04/2024 17:24	EPA 200.8-1994, Rev. 5.4
Barium	20.1	µg/L	1	0.20	0.05		GES	03/04/2024 17:24	EPA 200.8-1994, Rev. 5.4
Beryllium	4.23	µg/L	1	0.050	0.007		GES	03/04/2024 17:24	EPA 200.8-1994, Rev. 5.4
Boron	0.050	mg/L	1	0.050	0.007		GES	03/04/2024 17:24	EPA 200.8-1994, Rev. 5.4
Cadmium	0.922	µg/L	1	0.020	0.004		GES	03/04/2024 17:24	EPA 200.8-1994, Rev. 5.4
Calcium	13.7	mg/L	1	0.05	0.01		GES	03/04/2024 17:24	EPA 200.8-1994, Rev. 5.4
Chromium	0.39	µg/L	1	0.30	0.07		GES	03/04/2024 17:24	EPA 200.8-1994, Rev. 5.4
Cobalt	86.9	µg/L	1	0.020	0.005		GES	03/04/2024 17:24	EPA 200.8-1994, Rev. 5.4
Lead	0.23	µg/L	1	0.20	0.05		GES	03/04/2024 17:24	EPA 200.8-1994, Rev. 5.4
Lithium	0.128	mg/L	1	0.00030	0.00007		GES	03/04/2024 17:24	EPA 200.8-1994, Rev. 5.4
Magnesium	19.8	mg/L	1	0.100	0.006		GES	03/04/2024 17:24	EPA 200.8-1994, Rev. 5.4
Mercury	262	ng/L	4	20	7		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 17:24	EPA 200.8-1994, Rev. 5.4
Potassium	3.91	mg/L	1	0.100	0.008		GES	03/04/2024 17:24	EPA 200.8-1994, Rev. 5.4
Selenium	4.57	µg/L	1	0.50	0.04		GES	03/04/2024 17:24	EPA 200.8-1994, Rev. 5.4
Sodium	94.8	mg/L	1	0.20	0.01		GES	03/04/2024 17:24	EPA 200.8-1994, Rev. 5.4
Strontium	0.125	mg/L	1	0.00200	0.00005		GES	03/04/2024 17:24	EPA 200.8-1994, Rev. 5.4
Thallium	0.18	µg/L	1	0.20	0.02	J1	GES	03/04/2024 17:24	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	0.25	0.31		ST	02/29/2024 14:45	SW-846 9315-1986, Rev. 0
Carrier Recovery	88.8	%						
Radium-228	1.83	pCi/L	0.16	0.48		TTP	03/07/2024 15:20	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.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-22

Customer Description:

Lab Number: 240666-009-01

Preparation: Dissolved

Date Collected: 02/19/2024 11:44 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 17:34	EPA 200.8-1994, Rev. 5.4
Arsenic	1.20	µg/L	1	0.10	0.03		GES	03/04/2024 17:34	EPA 200.8-1994, Rev. 5.4
Barium	20.2	µg/L	1	0.20	0.05		GES	03/04/2024 17:34	EPA 200.8-1994, Rev. 5.4
Beryllium	4.08	µg/L	1	0.050	0.007		GES	03/04/2024 17:34	EPA 200.8-1994, Rev. 5.4
Boron	0.052	mg/L	1	0.050	0.007		GES	03/04/2024 17:34	EPA 200.8-1994, Rev. 5.4
Cadmium	0.937	µg/L	1	0.020	0.004		GES	03/04/2024 17:34	EPA 200.8-1994, Rev. 5.4
Calcium	13.9	mg/L	1	0.05	0.01		GES	03/04/2024 17:34	EPA 200.8-1994, Rev. 5.4
Chromium	0.48	µg/L	1	0.30	0.07		GES	03/04/2024 17:34	EPA 200.8-1994, Rev. 5.4
Cobalt	88.2	µg/L	1	0.020	0.005		GES	03/04/2024 17:34	EPA 200.8-1994, Rev. 5.4
Iron	20.0	mg/L	1	0.020	0.003		GES	03/04/2024 17:34	EPA 200.8-1994, Rev. 5.4
Lead	0.25	µg/L	1	0.20	0.05		GES	03/04/2024 17:34	EPA 200.8-1994, Rev. 5.4
Lithium	0.127	mg/L	1	0.00030	0.00007		GES	03/04/2024 17:34	EPA 200.8-1994, Rev. 5.4
Magnesium	19.9	mg/L	1	0.100	0.006		GES	03/04/2024 17:34	EPA 200.8-1994, Rev. 5.4
Manganese	0.361	mg/L	1	0.00100	0.00008		GES	03/04/2024 17:34	EPA 200.8-1994, Rev. 5.4
Mercury	93	ng/L	1	5	2		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 17:34	EPA 200.8-1994, Rev. 5.4
Potassium	3.99	mg/L	1	0.100	0.008		GES	03/04/2024 17:34	EPA 200.8-1994, Rev. 5.4
Selenium	4.60	µg/L	1	0.50	0.04		GES	03/04/2024 17:34	EPA 200.8-1994, Rev. 5.4
Sodium	94.7	mg/L	1	0.20	0.01		GES	03/04/2024 17:34	EPA 200.8-1994, Rev. 5.4
Strontium	0.127	mg/L	1	0.00200	0.00005		GES	03/04/2024 17:34	EPA 200.8-1994, Rev. 5.4
Thallium	0.18	µg/L	1	0.20	0.02	J1	GES	03/04/2024 17:34	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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-28

Customer Description:

Lab Number: 240666-010

Preparation:

Date Collected: 02/20/2024 12:34 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 17:44	EPA 200.8-1994, Rev. 5.4
Arsenic	0.10	µg/L	1	0.10	0.03		GES	03/04/2024 17:44	EPA 200.8-1994, Rev. 5.4
Barium	124	µg/L	1	0.20	0.05		GES	03/04/2024 17:44	EPA 200.8-1994, Rev. 5.4
Beryllium	0.917	µg/L	1	0.050	0.007		GES	03/04/2024 17:44	EPA 200.8-1994, Rev. 5.4
Boron	0.333	mg/L	1	0.050	0.007		GES	03/04/2024 17:44	EPA 200.8-1994, Rev. 5.4
Cadmium	0.063	µg/L	1	0.020	0.004		GES	03/04/2024 17:44	EPA 200.8-1994, Rev. 5.4
Calcium	1.34	mg/L	1	0.05	0.01		GES	03/04/2024 17:44	EPA 200.8-1994, Rev. 5.4
Chromium	0.38	µg/L	1	0.30	0.07		GES	03/04/2024 17:44	EPA 200.8-1994, Rev. 5.4
Cobalt	14.4	µg/L	1	0.020	0.005		GES	03/04/2024 17:44	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	03/04/2024 17:44	EPA 200.8-1994, Rev. 5.4
Lithium	0.0207	mg/L	1	0.00030	0.00007		GES	03/04/2024 17:44	EPA 200.8-1994, Rev. 5.4
Magnesium	3.20	mg/L	1	0.100	0.006		GES	03/04/2024 17:44	EPA 200.8-1994, Rev. 5.4
Mercury	17	ng/L	1	5	2		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 17:44	EPA 200.8-1994, Rev. 5.4
Potassium	0.757	mg/L	1	0.100	0.008		GES	03/04/2024 17:44	EPA 200.8-1994, Rev. 5.4
Selenium	0.32	µg/L	1	0.50	0.04	J1	GES	03/04/2024 17:44	EPA 200.8-1994, Rev. 5.4
Sodium	7.87	mg/L	1	0.20	0.01		GES	03/04/2024 17:44	EPA 200.8-1994, Rev. 5.4
Strontium	0.0251	mg/L	1	0.00200	0.00005		GES	03/04/2024 17:44	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	GES	03/04/2024 17:44	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	3.97	pCi/L	0.46	0.29		ST	02/29/2024 14:45	SW-846 9315-1986, Rev. 0
Carrier Recovery	89.2	%						
Radium-228	1.87	pCi/L	0.17	0.51		TTP	03/07/2024 15:20	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	90.4	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-28

Customer Description:

Lab Number: 240666-010-01

Preparation: Dissolved

Date Collected: 02/20/2024 12:34 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4
Arsenic	0.04	µg/L	1	0.10	0.03	J1	GES	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4
Barium	117	µg/L	1	0.20	0.05		GES	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4
Beryllium	0.649	µg/L	1	0.050	0.007		GES	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4
Boron	0.339	mg/L	1	0.050	0.007		GES	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4
Cadmium	0.055	µg/L	1	0.020	0.004		GES	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4
Calcium	1.28	mg/L	1	0.05	0.01		GES	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4
Chromium	0.35	µg/L	1	0.30	0.07		GES	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4
Cobalt	13.3	µg/L	1	0.020	0.005		GES	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4
Iron	0.009	mg/L	1	0.020	0.003	J1	GES	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4
Lead	0.09	µg/L	1	0.20	0.05	J1	GES	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4
Lithium	0.0201	mg/L	1	0.00030	0.00007		GES	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4
Magnesium	2.93	mg/L	1	0.100	0.006		GES	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4
Manganese	0.0359	mg/L	1	0.00100	0.00008		GES	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4
Mercury	7	ng/L	1	5	2		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4
Potassium	0.778	mg/L	1	0.100	0.008		GES	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4
Selenium	0.13	µg/L	1	0.50	0.04	J1	GES	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4
Sodium	7.20	mg/L	1	0.20	0.01		GES	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4
Strontium	0.0230	mg/L	1	0.00200	0.00005		GES	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	GES	03/04/2024 17:55	EPA 200.8-1994, Rev. 5.4



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-30

Customer Description:

Lab Number: 240666-011

Preparation:

Date Collected: 02/19/2024 12:31 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 19:53	EPA 200.8-1994, Rev. 5.4
Arsenic	0.25	µg/L	1	0.10	0.03		GES	03/04/2024 19:53	EPA 200.8-1994, Rev. 5.4
Barium	61.3	µg/L	1	0.20	0.05		GES	03/04/2024 19:53	EPA 200.8-1994, Rev. 5.4
Beryllium	0.097	µg/L	1	0.050	0.007		GES	03/04/2024 19:53	EPA 200.8-1994, Rev. 5.4
Boron	1.50	mg/L	1	0.050	0.007		GES	03/04/2024 19:53	EPA 200.8-1994, Rev. 5.4
Cadmium	0.012	µg/L	1	0.020	0.004	J1	GES	03/04/2024 19:53	EPA 200.8-1994, Rev. 5.4
Calcium	0.44	mg/L	1	0.05	0.01		GES	03/04/2024 19:53	EPA 200.8-1994, Rev. 5.4
Chromium	0.53	µg/L	1	0.30	0.07		GES	03/04/2024 19:53	EPA 200.8-1994, Rev. 5.4
Cobalt	3.33	µg/L	1	0.020	0.005		GES	03/04/2024 19:53	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	03/04/2024 19:53	EPA 200.8-1994, Rev. 5.4
Lithium	0.00870	mg/L	1	0.00030	0.00007		GES	03/04/2024 19:53	EPA 200.8-1994, Rev. 5.4
Magnesium	1.75	mg/L	1	0.100	0.006		GES	03/04/2024 19:53	EPA 200.8-1994, Rev. 5.4
Mercury	22	ng/L	2	10	4		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 19:53	EPA 200.8-1994, Rev. 5.4
Potassium	0.742	mg/L	1	0.100	0.008		GES	03/04/2024 19:53	EPA 200.8-1994, Rev. 5.4
Selenium	0.31	µg/L	1	0.50	0.04	J1	GES	03/04/2024 19:53	EPA 200.8-1994, Rev. 5.4
Sodium	66.9	mg/L	1	0.20	0.01		GES	03/04/2024 19:53	EPA 200.8-1994, Rev. 5.4
Strontium	0.00776	mg/L	1	0.00200	0.00005		GES	03/04/2024 19:53	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	03/04/2024 19:53	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.27	pCi/L	0.23	0.26		ST	02/29/2024 14:45	SW-846 9315-1986, Rev. 0
Carrier Recovery	91.2	%						
Radium-228	0.99	pCi/L	0.13	0.40		TTP	03/07/2024 15:20	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	90.7	%						

* 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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-30

Customer Description:

Lab Number: 240666-011-01

Preparation: Dissolved

Date Collected: 02/19/2024 12:31 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 20:03	EPA 200.8-1994, Rev. 5.4
Arsenic	0.08	µg/L	1	0.10	0.03	J1	GES	03/04/2024 20:03	EPA 200.8-1994, Rev. 5.4
Barium	38.4	µg/L	1	0.20	0.05		GES	03/04/2024 20:03	EPA 200.8-1994, Rev. 5.4
Beryllium	0.037	µg/L	1	0.050	0.007	J1	GES	03/04/2024 20:03	EPA 200.8-1994, Rev. 5.4
Boron	1.52	mg/L	1	0.050	0.007		GES	03/04/2024 20:03	EPA 200.8-1994, Rev. 5.4
Cadmium	0.008	µg/L	1	0.020	0.004	J1	GES	03/04/2024 20:03	EPA 200.8-1994, Rev. 5.4
Calcium	0.34	mg/L	1	0.05	0.01		GES	03/04/2024 20:03	EPA 200.8-1994, Rev. 5.4
Chromium	0.40	µg/L	1	0.30	0.07		GES	03/04/2024 20:03	EPA 200.8-1994, Rev. 5.4
Cobalt	2.43	µg/L	1	0.020	0.005		GES	03/04/2024 20:03	EPA 200.8-1994, Rev. 5.4
Iron	0.006	mg/L	1	0.020	0.003	J1	GES	03/04/2024 20:03	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	03/04/2024 20:03	EPA 200.8-1994, Rev. 5.4
Lithium	0.00847	mg/L	1	0.00030	0.00007		GES	03/04/2024 20:03	EPA 200.8-1994, Rev. 5.4
Magnesium	1.34	mg/L	1	0.100	0.006		GES	03/04/2024 20:03	EPA 200.8-1994, Rev. 5.4
Manganese	0.00822	mg/L	1	0.00100	0.00008		GES	03/04/2024 20:03	EPA 200.8-1994, Rev. 5.4
Mercury	11	ng/L	1	5	2		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 20:03	EPA 200.8-1994, Rev. 5.4
Potassium	0.749	mg/L	1	0.100	0.008		GES	03/04/2024 20:03	EPA 200.8-1994, Rev. 5.4
Selenium	0.16	µg/L	1	0.50	0.04	J1	GES	03/04/2024 20:03	EPA 200.8-1994, Rev. 5.4
Sodium	66.8	mg/L	1	0.20	0.01		GES	03/04/2024 20:03	EPA 200.8-1994, Rev. 5.4
Strontium	0.00616	mg/L	1	0.00200	0.00005		GES	03/04/2024 20:03	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	03/04/2024 20:03	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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-31

Customer Description:

Lab Number: 240666-012

Preparation:

Date Collected: 02/19/2024 11:42 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 20:13	EPA 200.8-1994, Rev. 5.4
Arsenic	0.40	µg/L	1	0.10	0.03		GES	03/04/2024 20:13	EPA 200.8-1994, Rev. 5.4
Barium	33.3	µg/L	1	0.20	0.05		GES	03/04/2024 20:13	EPA 200.8-1994, Rev. 5.4
Beryllium	1.26	µg/L	5	0.25	0.04		GES	03/04/2024 20:18	EPA 200.8-1994, Rev. 5.4
Boron	0.022	mg/L	1	0.050	0.007	J1	GES	03/04/2024 20:13	EPA 200.8-1994, Rev. 5.4
Cadmium	0.069	µg/L	1	0.020	0.004		GES	03/04/2024 20:13	EPA 200.8-1994, Rev. 5.4
Calcium	2.54	mg/L	1	0.05	0.01		GES	03/04/2024 20:13	EPA 200.8-1994, Rev. 5.4
Chromium	0.56	µg/L	1	0.30	0.07		GES	03/04/2024 20:13	EPA 200.8-1994, Rev. 5.4
Cobalt	9.47	µg/L	1	0.020	0.005		GES	03/04/2024 20:13	EPA 200.8-1994, Rev. 5.4
Lead	0.30	µg/L	1	0.20	0.05		GES	03/04/2024 20:13	EPA 200.8-1994, Rev. 5.4
Lithium	0.0979	mg/L	5	0.0015	0.0004		GES	03/04/2024 20:18	EPA 200.8-1994, Rev. 5.4
Magnesium	3.42	mg/L	1	0.100	0.006		GES	03/04/2024 20:13	EPA 200.8-1994, Rev. 5.4
Mercury	120	ng/L	10	50	20		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 20:13	EPA 200.8-1994, Rev. 5.4
Potassium	1.63	mg/L	1	0.100	0.008		GES	03/04/2024 20:13	EPA 200.8-1994, Rev. 5.4
Selenium	0.39	µg/L	1	0.50	0.04	J1	GES	03/04/2024 20:13	EPA 200.8-1994, Rev. 5.4
Sodium	29.5	mg/L	1	0.20	0.01		GES	03/04/2024 20:13	EPA 200.8-1994, Rev. 5.4
Strontium	0.0364	mg/L	1	0.00200	0.00005		GES	03/04/2024 20:13	EPA 200.8-1994, Rev. 5.4
Thallium	0.09	µg/L	1	0.20	0.02	J1	GES	03/04/2024 20:13	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	2.93	pCi/L	0.34	0.23		ST	02/29/2024 14:45	SW-846 9315-1986, Rev. 0
Carrier Recovery	90.4	%						
Radium-228	2.80	pCi/L	0.18	0.52		TTP	03/07/2024 15:20	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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-31

Customer Description:

Lab Number: 240666-012-01

Preparation: Dissolved

Date Collected: 02/19/2024 11:42 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 20:24	EPA 200.8-1994, Rev. 5.4
Arsenic	0.24	µg/L	1	0.10	0.03		GES	03/04/2024 20:24	EPA 200.8-1994, Rev. 5.4
Barium	32.8	µg/L	1	0.20	0.05		GES	03/04/2024 20:24	EPA 200.8-1994, Rev. 5.4
Beryllium	0.92	µg/L	5	0.25	0.04		GES	03/04/2024 20:29	EPA 200.8-1994, Rev. 5.4
Boron	0.023	mg/L	1	0.050	0.007	J1	GES	03/04/2024 20:24	EPA 200.8-1994, Rev. 5.4
Cadmium	0.072	µg/L	1	0.020	0.004		GES	03/04/2024 20:24	EPA 200.8-1994, Rev. 5.4
Calcium	2.55	mg/L	1	0.05	0.01		GES	03/04/2024 20:24	EPA 200.8-1994, Rev. 5.4
Chromium	0.43	µg/L	1	0.30	0.07		GES	03/04/2024 20:24	EPA 200.8-1994, Rev. 5.4
Cobalt	9.67	µg/L	1	0.020	0.005		GES	03/04/2024 20:24	EPA 200.8-1994, Rev. 5.4
Iron	0.269	mg/L	1	0.020	0.003		GES	03/04/2024 20:24	EPA 200.8-1994, Rev. 5.4
Lead	0.35	µg/L	1	0.20	0.05		GES	03/04/2024 20:24	EPA 200.8-1994, Rev. 5.4
Lithium	0.0848	mg/L	5	0.0015	0.0004		GES	03/04/2024 20:29	EPA 200.8-1994, Rev. 5.4
Magnesium	3.33	mg/L	1	0.100	0.006		GES	03/04/2024 20:24	EPA 200.8-1994, Rev. 5.4
Manganese	0.0253	mg/L	1	0.00100	0.00008		GES	03/04/2024 20:24	EPA 200.8-1994, Rev. 5.4
Mercury	12	ng/L	1	5	2		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 20:24	EPA 200.8-1994, Rev. 5.4
Potassium	1.65	mg/L	1	0.100	0.008		GES	03/04/2024 20:24	EPA 200.8-1994, Rev. 5.4
Selenium	0.15	µg/L	1	0.50	0.04	J1	GES	03/04/2024 20:24	EPA 200.8-1994, Rev. 5.4
Sodium	29.6	mg/L	1	0.20	0.01		GES	03/04/2024 20:24	EPA 200.8-1994, Rev. 5.4
Strontium	0.0361	mg/L	1	0.00200	0.00005		GES	03/04/2024 20:24	EPA 200.8-1994, Rev. 5.4
Thallium	0.09	µg/L	1	0.20	0.02	J1	GES	03/04/2024 20:24	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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-32

Customer Description:

Lab Number: 240666-013

Preparation:

Date Collected: 02/19/2024 10:56 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 20:34	EPA 200.8-1994, Rev. 5.4
Arsenic	3.94	µg/L	1	0.10	0.03		GES	03/04/2024 20:34	EPA 200.8-1994, Rev. 5.4
Barium	26.2	µg/L	1	0.20	0.05		GES	03/04/2024 20:34	EPA 200.8-1994, Rev. 5.4
Beryllium	0.182	µg/L	1	0.050	0.007		GES	03/04/2024 20:34	EPA 200.8-1994, Rev. 5.4
Boron	0.161	mg/L	1	0.050	0.007		GES	03/04/2024 20:34	EPA 200.8-1994, Rev. 5.4
Cadmium	0.014	µg/L	1	0.020	0.004	J1	GES	03/04/2024 20:34	EPA 200.8-1994, Rev. 5.4
Calcium	4.08	mg/L	1	0.05	0.01		GES	03/04/2024 20:34	EPA 200.8-1994, Rev. 5.4
Chromium	0.45	µg/L	1	0.30	0.07		GES	03/04/2024 20:34	EPA 200.8-1994, Rev. 5.4
Cobalt	8.24	µg/L	1	0.020	0.005		GES	03/04/2024 20:34	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	GES	03/04/2024 20:34	EPA 200.8-1994, Rev. 5.4
Lithium	0.0542	mg/L	1	0.00030	0.00007		GES	03/04/2024 20:34	EPA 200.8-1994, Rev. 5.4
Magnesium	4.51	mg/L	1	0.100	0.006		GES	03/04/2024 20:34	EPA 200.8-1994, Rev. 5.4
Mercury	470	ng/L	20	100	40		RLP	03/05/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 20:34	EPA 200.8-1994, Rev. 5.4
Potassium	2.64	mg/L	1	0.100	0.008		GES	03/04/2024 20:34	EPA 200.8-1994, Rev. 5.4
Selenium	0.13	µg/L	1	0.50	0.04	J1	GES	03/04/2024 20:34	EPA 200.8-1994, Rev. 5.4
Silver	<0.007	µg/L	1	0.050	0.007	U1	GES	03/04/2024 20:34	EPA 200.8-1994, Rev. 5.4
Sodium	16.4	mg/L	1	0.20	0.01		GES	03/04/2024 20:34	EPA 200.8-1994, Rev. 5.4
Strontium	0.0606	mg/L	1	0.00200	0.00005		GES	03/04/2024 20:34	EPA 200.8-1994, Rev. 5.4
Thallium	0.07	µg/L	1	0.20	0.02	J1	GES	03/04/2024 20:34	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.28	pCi/L	0.23	0.31		ST	02/29/2024 14:45	SW-846 9315-1986, Rev. 0
Carrier Recovery	88.4	%						
Radium-228	1.75	pCi/L	0.15	0.45		TTP	03/07/2024 15:20	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	91.5	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-32

Customer Description:

Lab Number: 240666-013-01

Preparation: Dissolved

Date Collected: 02/19/2024 10:56 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Arsenic	2.91	µg/L	1	0.10	0.03		GES	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Barium	25.5	µg/L	1	0.20	0.05		GES	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Beryllium	0.155	µg/L	1	0.050	0.007		GES	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Boron	0.166	mg/L	1	0.050	0.007		GES	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Cadmium	0.012	µg/L	1	0.020	0.004	J1	GES	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Calcium	4.00	mg/L	1	0.05	0.01		GES	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Chromium	0.30	µg/L	1	0.30	0.07		GES	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Cobalt	7.97	µg/L	1	0.020	0.005		GES	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Iron	8.75	mg/L	1	0.020	0.003		GES	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Lithium	0.0538	mg/L	1	0.00030	0.00007		GES	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Magnesium	4.41	mg/L	1	0.100	0.006		GES	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Manganese	0.0651	mg/L	1	0.00100	0.00008		GES	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Mercury	2	ng/L	1	5	2	J1	RLP	03/05/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Potassium	2.72	mg/L	1	0.100	0.008		GES	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Selenium	0.04	µg/L	1	0.50	0.04	J1	GES	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Silver	<0.007	µg/L	1	0.050	0.007	U1	GES	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Sodium	16.8	mg/L	1	0.20	0.01		GES	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Strontium	0.0595	mg/L	1	0.00200	0.00005		GES	03/04/2024 20:44	EPA 200.8-1994, Rev. 5.4
Thallium	0.07	µg/L	1	0.20	0.02	J1	GES	03/04/2024 20:44	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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-33

Customer Description:

Lab Number: 240666-014

Preparation:

Date Collected: 02/19/2024 10:35 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 20:54	EPA 200.8-1994, Rev. 5.4
Arsenic	0.67	µg/L	1	0.10	0.03		GES	03/04/2024 20:54	EPA 200.8-1994, Rev. 5.4
Barium	46.5	µg/L	1	0.20	0.05		GES	03/04/2024 20:54	EPA 200.8-1994, Rev. 5.4
Beryllium	1.28	µg/L	1	0.050	0.007		GES	03/04/2024 20:54	EPA 200.8-1994, Rev. 5.4
Boron	0.158	mg/L	1	0.050	0.007		GES	03/04/2024 20:54	EPA 200.8-1994, Rev. 5.4
Cadmium	0.059	µg/L	1	0.020	0.004		GES	03/04/2024 20:54	EPA 200.8-1994, Rev. 5.4
Calcium	2.35	mg/L	1	0.05	0.01		GES	03/04/2024 20:54	EPA 200.8-1994, Rev. 5.4
Chromium	0.38	µg/L	1	0.30	0.07		GES	03/04/2024 20:54	EPA 200.8-1994, Rev. 5.4
Cobalt	11.1	µg/L	1	0.020	0.005		GES	03/04/2024 20:54	EPA 200.8-1994, Rev. 5.4
Lead	0.27	µg/L	1	0.20	0.05		GES	03/04/2024 20:54	EPA 200.8-1994, Rev. 5.4
Lithium	0.0205	mg/L	1	0.00030	0.00007		GES	03/04/2024 20:54	EPA 200.8-1994, Rev. 5.4
Magnesium	4.42	mg/L	1	0.100	0.006		GES	03/04/2024 20:54	EPA 200.8-1994, Rev. 5.4
Mercury	7100	ng/L	100	500	200		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 20:54	EPA 200.8-1994, Rev. 5.4
Potassium	0.305	mg/L	1	0.100	0.008		GES	03/04/2024 20:54	EPA 200.8-1994, Rev. 5.4
Selenium	2.65	µg/L	1	0.50	0.04		GES	03/04/2024 20:54	EPA 200.8-1994, Rev. 5.4
Sodium	17.6	mg/L	1	0.20	0.01		GES	03/04/2024 20:54	EPA 200.8-1994, Rev. 5.4
Strontium	0.0376	mg/L	1	0.00200	0.00005		GES	03/04/2024 20:54	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	03/04/2024 20:54	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	0.12	0.13	P1	ST	03/20/2024 11:53	SW-846 9315-1986, Rev. 0
Carrier Recovery	92.6	%						
Radium-228	2.43	pCi/L	0.16	0.47		TTP	03/07/2024 15:20	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	92.8	%						

* 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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: AD-33

Customer Description:

Lab Number: 240666-014-01

Preparation: Dissolved

Date Collected: 02/19/2024 10:35 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 21:05	EPA 200.8-1994, Rev. 5.4
Arsenic	0.63	µg/L	1	0.10	0.03		GES	03/04/2024 21:05	EPA 200.8-1994, Rev. 5.4
Barium	48.2	µg/L	1	0.20	0.05		GES	03/04/2024 21:05	EPA 200.8-1994, Rev. 5.4
Beryllium	1.27	µg/L	1	0.050	0.007		GES	03/04/2024 21:05	EPA 200.8-1994, Rev. 5.4
Boron	0.162	mg/L	1	0.050	0.007		GES	03/04/2024 21:05	EPA 200.8-1994, Rev. 5.4
Cadmium	0.063	µg/L	1	0.020	0.004		GES	03/04/2024 21:05	EPA 200.8-1994, Rev. 5.4
Calcium	2.75	mg/L	1	0.05	0.01		GES	03/04/2024 21:05	EPA 200.8-1994, Rev. 5.4
Chromium	0.42	µg/L	1	0.30	0.07		GES	03/04/2024 21:05	EPA 200.8-1994, Rev. 5.4
Cobalt	11.4	µg/L	1	0.020	0.005		GES	03/04/2024 21:05	EPA 200.8-1994, Rev. 5.4
Iron	0.019	mg/L	1	0.020	0.003	J1	GES	03/04/2024 21:05	EPA 200.8-1994, Rev. 5.4
Lead	0.30	µg/L	1	0.20	0.05		GES	03/04/2024 21:05	EPA 200.8-1994, Rev. 5.4
Lithium	0.0207	mg/L	1	0.00030	0.00007		GES	03/04/2024 21:05	EPA 200.8-1994, Rev. 5.4
Magnesium	4.47	mg/L	1	0.100	0.006		GES	03/04/2024 21:05	EPA 200.8-1994, Rev. 5.4
Manganese	0.00800	mg/L	1	0.00100	0.00008		GES	03/04/2024 21:05	EPA 200.8-1994, Rev. 5.4
Mercury	1090	ng/L	20	100	40		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 21:05	EPA 200.8-1994, Rev. 5.4
Potassium	0.309	mg/L	1	0.100	0.008		GES	03/04/2024 21:05	EPA 200.8-1994, Rev. 5.4
Selenium	2.25	µg/L	1	0.50	0.04		GES	03/04/2024 21:05	EPA 200.8-1994, Rev. 5.4
Sodium	18.2	mg/L	1	0.20	0.01		GES	03/04/2024 21:05	EPA 200.8-1994, Rev. 5.4
Strontium	0.0389	mg/L	1	0.00200	0.00005		GES	03/04/2024 21:05	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	03/04/2024 21:05	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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: Duplicate

Customer Description:

Lab Number: 240666-015

Preparation:

Date Collected: 02/19/2024 15:00 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 21:15	EPA 200.8-1994, Rev. 5.4
Arsenic	0.74	µg/L	1	0.10	0.03		GES	03/04/2024 21:15	EPA 200.8-1994, Rev. 5.4
Barium	47.6	µg/L	1	0.20	0.05		GES	03/04/2024 21:15	EPA 200.8-1994, Rev. 5.4
Beryllium	1.26	µg/L	1	0.050	0.007		GES	03/04/2024 21:15	EPA 200.8-1994, Rev. 5.4
Boron	0.160	mg/L	1	0.050	0.007		GES	03/04/2024 21:15	EPA 200.8-1994, Rev. 5.4
Cadmium	0.058	µg/L	1	0.020	0.004		GES	03/04/2024 21:15	EPA 200.8-1994, Rev. 5.4
Calcium	2.36	mg/L	1	0.05	0.01		GES	03/04/2024 21:15	EPA 200.8-1994, Rev. 5.4
Chromium	0.32	µg/L	1	0.30	0.07		GES	03/04/2024 21:15	EPA 200.8-1994, Rev. 5.4
Cobalt	11.3	µg/L	1	0.020	0.005		GES	03/04/2024 21:15	EPA 200.8-1994, Rev. 5.4
Lead	0.28	µg/L	1	0.20	0.05		GES	03/04/2024 21:15	EPA 200.8-1994, Rev. 5.4
Lithium	0.0200	mg/L	1	0.00030	0.00007		GES	03/04/2024 21:15	EPA 200.8-1994, Rev. 5.4
Magnesium	4.46	mg/L	1	0.100	0.006		GES	03/04/2024 21:15	EPA 200.8-1994, Rev. 5.4
Mercury	6800	ng/L	100	500	200		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 21:15	EPA 200.8-1994, Rev. 5.4
Potassium	0.303	mg/L	1	0.100	0.008		GES	03/04/2024 21:15	EPA 200.8-1994, Rev. 5.4
Selenium	2.61	µg/L	1	0.50	0.04		GES	03/04/2024 21:15	EPA 200.8-1994, Rev. 5.4
Sodium	18.1	mg/L	1	0.20	0.01		GES	03/04/2024 21:15	EPA 200.8-1994, Rev. 5.4
Strontium	0.0385	mg/L	1	0.00200	0.00005		GES	03/04/2024 21:15	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	03/04/2024 21:15	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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: Duplicate

Customer Description:

Lab Number: 240666-015-01

Preparation: Dissolved

Date Collected: 02/19/2024 15:00 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 21:25	EPA 200.8-1994, Rev. 5.4
Arsenic	0.62	µg/L	1	0.10	0.03		GES	03/04/2024 21:25	EPA 200.8-1994, Rev. 5.4
Barium	47.8	µg/L	1	0.20	0.05		GES	03/04/2024 21:25	EPA 200.8-1994, Rev. 5.4
Beryllium	1.31	µg/L	1	0.050	0.007		GES	03/04/2024 21:25	EPA 200.8-1994, Rev. 5.4
Boron	0.161	mg/L	1	0.050	0.007		GES	03/04/2024 21:25	EPA 200.8-1994, Rev. 5.4
Cadmium	0.064	µg/L	1	0.020	0.004		GES	03/04/2024 21:25	EPA 200.8-1994, Rev. 5.4
Calcium	2.37	mg/L	1	0.05	0.01		GES	03/04/2024 21:25	EPA 200.8-1994, Rev. 5.4
Chromium	0.37	µg/L	1	0.30	0.07		GES	03/04/2024 21:25	EPA 200.8-1994, Rev. 5.4
Cobalt	11.2	µg/L	1	0.020	0.005		GES	03/04/2024 21:25	EPA 200.8-1994, Rev. 5.4
Iron	0.019	mg/L	1	0.020	0.003	J1	GES	03/04/2024 21:25	EPA 200.8-1994, Rev. 5.4
Lead	0.30	µg/L	1	0.20	0.05		GES	03/04/2024 21:25	EPA 200.8-1994, Rev. 5.4
Lithium	0.0211	mg/L	1	0.00030	0.00007		GES	03/04/2024 21:25	EPA 200.8-1994, Rev. 5.4
Magnesium	4.41	mg/L	1	0.100	0.006		GES	03/04/2024 21:25	EPA 200.8-1994, Rev. 5.4
Manganese	0.00793	mg/L	1	0.00100	0.00008		GES	03/04/2024 21:25	EPA 200.8-1994, Rev. 5.4
Mercury	1080	ng/L	20	100	40		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 21:25	EPA 200.8-1994, Rev. 5.4
Potassium	0.304	mg/L	1	0.100	0.008		GES	03/04/2024 21:25	EPA 200.8-1994, Rev. 5.4
Selenium	2.27	µg/L	1	0.50	0.04		GES	03/04/2024 21:25	EPA 200.8-1994, Rev. 5.4
Sodium	17.9	mg/L	1	0.20	0.01		GES	03/04/2024 21:25	EPA 200.8-1994, Rev. 5.4
Strontium	0.0386	mg/L	1	0.00200	0.00005		GES	03/04/2024 21:25	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	03/04/2024 21:25	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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: Equipment Blank

Customer Description:

Lab Number: 240666-016

Preparation:

Date Collected: 02/19/2024 12:11 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 22:58	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	03/04/2024 22:58	EPA 200.8-1994, Rev. 5.4
Barium	<0.05	µg/L	1	0.20	0.05	U1	GES	03/04/2024 22:58	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	GES	03/04/2024 22:58	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	GES	03/04/2024 22:58	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	03/04/2024 22:58	EPA 200.8-1994, Rev. 5.4
Calcium	<0.01	mg/L	1	0.05	0.01	U1	GES	03/04/2024 22:58	EPA 200.8-1994, Rev. 5.4
Chromium	0.25	µg/L	1	0.30	0.07	J1	GES	03/04/2024 22:58	EPA 200.8-1994, Rev. 5.4
Cobalt	0.022	µg/L	1	0.020	0.005		GES	03/04/2024 22:58	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	03/04/2024 22:58	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00007	mg/L	1	0.00030	0.00007	U1	GES	03/04/2024 22:58	EPA 200.8-1994, Rev. 5.4
Magnesium	<0.006	mg/L	1	0.100	0.006	U1	GES	03/04/2024 22:58	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 22:58	EPA 200.8-1994, Rev. 5.4
Potassium	<0.008	mg/L	1	0.100	0.008	U1	GES	03/04/2024 22:58	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	03/04/2024 22:58	EPA 200.8-1994, Rev. 5.4
Sodium	<0.01	mg/L	1	0.20	0.01	U1	GES	03/04/2024 22:58	EPA 200.8-1994, Rev. 5.4
Strontium	0.00006	mg/L	1	0.00200	0.00005	J1	GES	03/04/2024 22:58	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	03/04/2024 22:58	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

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

Customer Sample ID: Field Blank

Customer Description:

Lab Number: 240666-017

Preparation:

Date Collected: 02/20/2024 12:32 EST

Date Received: 02/23/2024 12:31 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	03/04/2024 23:03	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	03/04/2024 23:03	EPA 200.8-1994, Rev. 5.4
Barium	<0.05	µg/L	1	0.20	0.05	U1	GES	03/04/2024 23:03	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	GES	03/04/2024 23:03	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	GES	03/04/2024 23:03	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	03/04/2024 23:03	EPA 200.8-1994, Rev. 5.4
Calcium	<0.01	mg/L	1	0.05	0.01	U1	GES	03/04/2024 23:03	EPA 200.8-1994, Rev. 5.4
Chromium	0.27	µg/L	1	0.30	0.07	J1	GES	03/04/2024 23:03	EPA 200.8-1994, Rev. 5.4
Cobalt	0.032	µg/L	1	0.020	0.005		GES	03/04/2024 23:03	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	03/04/2024 23:03	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00007	mg/L	1	0.00030	0.00007	U1	GES	03/04/2024 23:03	EPA 200.8-1994, Rev. 5.4
Magnesium	<0.006	mg/L	1	0.100	0.006	U1	GES	03/04/2024 23:03	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/04/2024 23:03	EPA 200.8-1994, Rev. 5.4
Potassium	<0.008	mg/L	1	0.100	0.008	U1	GES	03/04/2024 23:03	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	03/04/2024 23:03	EPA 200.8-1994, Rev. 5.4
Sodium	0.48	mg/L	1	0.20	0.01		GES	03/04/2024 23:03	EPA 200.8-1994, Rev. 5.4
Strontium	<0.00005	mg/L	1	0.00200	0.00005	U1	GES	03/04/2024 23:03	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	03/04/2024 23:03	EPA 200.8-1994, Rev. 5.4

240666

Job Comments:

Original report issued 4/1/24. Report reissued 8/12/24 with "Preparation" corrected on 24066-017.

240666-001

Comments:

TG-32



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

240666-001-01

Comments:

TG-32

240666-002

Comments:

TG-32

240666-002-01

Comments:

TG-32

240666-003

Comments:

TG-32

240666-003-01

Comments:

TG-32

240666-004

Comments:

TG-32



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

240666-004-01

Comments:

TG-32

240666-005

Comments:

TG-32

240666-005-01

Comments:

TG-32

240666-006

Comments:

TG-32

240666-006-01

Comments:

TG-32



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

240666-007

Comments:

TG-32

240666-007-01

Comments:

TG-32

240666-008

Comments:

TG-32

240666-008-01

Comments:

TG-32

240666-009

Comments:

TG-32

240666-009-01

Comments:

TG-32



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

240666-010

Comments:

TG-32

240666-010-01

Comments:

TG-32

240666-011

Comments:

TG-32

240666-011-01

Comments:

TG-32

240666-012

Comments:

TG-32



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

240666-012-01

Comments:

TG-32

240666-013

Comments:

TG-32

240666-013-01

Comments:

TG-32

240666-014

Comments:

TG-32

240666-014-01

Comments:

TG-32

240666-015

Comments:

TG-32



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

240666-015-01

Comments:

TG-32

240666-016

Comments:

TG-32

240666-017

Comments:

TG-32



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Reissued

Job ID: 240666

Customer: Pirkey Power Station

Date Reported: 08/12/2024

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 Qualifier 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.

P1 - The precision between duplicate results was above acceptance limits.

Dolan Chemical Laboratory (DCL)

4001 Bixby Road
 Groveport, Ohio 43125
 Jonathan Barnhill (318-673-3803)
 Michael Ohlinger (614-838-4184)

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Site Contact: *81*

Date: *02*

COC/Order #:

For Lab Use Only:

Project Name: Pirkey - CCR
 Contact Name: Leslie Fuerschbach
 Contact Phone: 318-423-3805

Analysis Turnaround Time (in Calendar Days)

Sampler(s): Matt Hamilton Kenny McDonald

Sample Identification	Sample Date	Sample Time	Sample Type (C-Comp, G-Grab)	Matrix	# of Cont.	Sampler(s) Initials				Sample Specific Notes	
						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	1 L bottle, Cool, 0-6°C	Three (six every 10th) L bottles, pH<2, HNO ₃		Field-Filter 250 mL PTFE lined bottle, HCL ⁺ , pH<2
AD-2	2/20/2024	1042	G	GW	7	X	X	X	X	X	
AD-3	2/20/2024	1125	G	GW	7	X	X	X	X	X	
AD-4	2/20/2024	931	G	GW	7	X	X	X	X	X	
AD-7R	2/19/2024	1128	G	GW	7	X	X	X	X	X	
AD-12	2/19/2024	901	G	GW	7	X	X	X	X	X	
AD-13	2/19/2024	844	G	GW	7	X	X	X	X	X	
AD-17	2/20/2024	1230	G	GW	7	X	X	X	X	X	
AD-18	2/20/2024	829	G	GW	7	X	X	X	X	X	
AD-22	2/19/2024	1044	G	GW	7	X	X	X	X	X	
AD-28	2/20/2024	1134	G	GW	7	X	X	X	X	X	
AD-30	2/19/2024	1131	G	GW	7	X	X	X	X	X	

* Six 1L Bottles must be collected for Radium for every 10th sample.

Special Instructions/QC Requirements & Comments:

TG-32

Relinquished by: <i>Matt Hamilton</i>	Company: <i>East</i>	Date/Time: <i>1/6/24</i>	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: <i>Michael Ohly</i>	Date/Time:
Relinquished by:	Company:	Date/Time:		Date/Time: <i>2/23/24</i>

Dolan Chemical Laboratory (DCL)

4001 Bixby Road
 Groveport, Ohio 43125
 Jonathan Bernhill (318-673-3803)
 Contacts: Michael Ohlinger (614-836-4184)

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Site Contact:

Date:

For Lab Use Only:

COC/Order #:

Project Name: Pirkey - CCR

Contact Name: Leslie Fuerschbach

Contact Phone: 318-423-3805

Sampler(s): Matt Hamilton Kenny McDonald

Analysis Turnaround Time (in Calendar Days)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	250 mL bottle, pH<2, HNO ₃		Field-filter 250 mL bottle, then pH<2, HNO ₃		1 L bottle, Cool, 0-6°C		Three (six every 100 th) L bottles, pH<2, HNO ₃		Field-Filter 250 mL PTFE lined bottle, HCL**, pH<2		250 mL PTFE lined bottle, HCL**, pH<2	
							B, Ca, Li, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, TL and Na, K, Mg, Sr	B, Ca, Li, Sb, As, Ba, Be, Cd, Cr, Co, Fe, Mn, Mo, Pb, Se, TL and Na, K, Mg, Sr	TDS, F, Cl, SO ₄ , and Br, Alkalinity	Ra-226, Ra-228	Hg	Hg						
AD-31	2/19/2024	1042	G	GW	7		X	X				X	X					
AD-32	2/19/2024	956	G	GW	7		X	X				X	X					
AD-33	2/19/2024	935	G	GW	10		X	X				X	X					
DUPLICATE	229/2024	1400	G	GW	4		X	X					X	X				
EQUIPMENT BLANK	2/19/2024	1111	G	GW	2		X	X					X	X				
FIELD BLANK	220/2024	1132	G	GW	2		X	X					X	X				

Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other _____; F= filter in field

* Six 1L Bottles must be collected for Radium for every 100th sample.

TG-32

Special Instructions/QC Requirements & Comments:

Relinquished by: <i>[Signature]</i>	Company: <i>ESK</i>	Date/Time: <i>2-21-24</i>	Received by: <i>[Signature]</i>	Date/Time: <i>2/23/24</i>
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Relinquished by: <i>[Signature]</i>	Company: <i>[Signature]</i>	Date/Time: <i>[Signature]</i>	Received in Laboratory by: <i>[Signature]</i>	Date/Time: <i>2/23/24</i>
-------------------------------------	-----------------------------	-------------------------------	---	---------------------------

AEP WATER & WASTE SAMPLE RECEIPT FORM

<u>Package Type</u> <input checked="" type="radio"/> Cooler <input type="radio"/> Box <input type="radio"/> Bag <input type="radio"/> Envelope		<u>Delivery Type</u> PONY <input checked="" type="radio"/> UPS <input checked="" type="radio"/> FedEx <input type="radio"/> USPS Other _____	
Plant/Customer <u>Pittkey</u>		Number of Plastic Containers: <u>77</u>	
Opened By <u>NLG / MSO / MKR</u>		Number of Glass Containers: <u>—</u>	
Date/Time <u>2/23/24 1000</u>		Number of Mercury Containers: <u>32</u>	
Were all temperatures within 0-6°C? Y / N or <input checked="" type="radio"/> N/A Initial: _____ on ice / no ice (IR Gun Ser# <u>2213689000</u> , Expir. <u>03/24/2024</u>) - If No, specify each deviation: _____			
Was container in good condition? <input checked="" type="radio"/> Y / <input type="radio"/> N Comments _____			
Was Chain of Custody received? <input checked="" type="radio"/> Y / <input type="radio"/> N Comments _____			
Requested turnaround: <u>Routine</u> If RUSH, who was notified? _____			
pH (15 min)	Cr ⁶ (pres) (24 hr)	NO ₂ or NO ₃ (48 hr)	ortho-PO ₄ (48 hr) Hg-diss (pres) (48 hr)

Was COC filled out properly? Y / N Comments _____

Were samples labeled properly? Y / N Comments _____

Were correct containers used? Y / N Comments _____

Was pH checked & Color Coding done? Y / N or N/A Initial & Date: MGR / WLG 2/23/24

pH paper (circle one): MQuant,PN1.09535.0001,LOT# _____ [OR] Lab Rat,PN4801,LOT# X000RWDG21 Exp 03/15/2025

- Was Add'l Preservative needed? Y / N If Yes: By whom & when: _____ (See Prep Book)

Is sample filtration requested? Y / N Comments _____ (See Prep Book)

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 240666 Initial & Date & Time : _____

Logged by MSO Comments: _____

Reviewed by MGR _____

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the "Notes" field in the LIMS to be included on the report to the customer.

Radium Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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
Name (printed)


Signature

Chemist Associate
Official Title

03/14/2024
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: 03/14/2024
Laboratory Job Number: 240666
Prep Batch Number(s): PB24031105

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?	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?	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	

Radium Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Station
Reviewer Name: Sunita Timsina
LRC Date: 03/14/2024
Laboratory Job Number: 240666
Prep Batch Number(s): PB24031105

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	

Radium Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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

Name (printed)



Signature

Chemical Technician, Principal

Official Title

03/05/2024

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: 03/05/2024

Laboratory Job Number: 240666

Prep Batch Number(s): PB24022311

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?	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	

Radium Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey Power Plant

Reviewer Name: Tamisha Palmer

LRC Date: 03/05/2024

Laboratory Job Number: 240666

Prep Batch Number(s): PB24022311

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	

Mercury Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

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 - (b) Dilution factors
 - (c) Preparation methods
 - (d) Cleanup methods
 - (e) If required for the project, tentatively identified compounds (TICs)
- NR R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

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Check, if applicable: This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Susann Sulzmann Susann Sulzmann Senior Chemist 03/26/24
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 Power Station
Reviewer Name: Susann Sulzmann
LRC Date: 03/26/24
Laboratory Job Number: 240666
Prep Batch Number(s): 24022702, 24022703, 24022704, 24022803, 24030501

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?	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	

Mercury Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Station
Reviewer Name: Susann Sulzmann
LRC Date: 03/26/24
Laboratory Job Number: 240666
Prep Batch Number(s): 24022702, 24022703, 24022704, 24022803, 24030501

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	

ICP-MS Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

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- 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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.

Jonathan Barnhill		Lab Supervisor	3/22/24
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: Jonathan Barnhill
LRC Date: 3/22/24
Laboratory Job Number: 240666
Prep Batch Number(s): PB24022905 PB24022909 QC2403028

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
R1	O, I	Chain-of-custody (COC)		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	Sample and quality control (QC) identification		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	Test reports		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	No	ER1
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	Surrogate recovery data		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	Test reports/summary forms for blank samples		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

ICP-MS Laboratory Review Checklist

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	Laboratory control samples (LCS):		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	Matrix spike (MS) and matrix spike duplicate (MSD) data		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	Analytical duplicate data		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	Method quantitation limits (MQLs):		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	Other problems/anomalies		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

ICP-MS Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey CCR
Reviewer Name: Jonathan Barnhill
LRC Date: 3/22/24
Laboratory Job Number: 240666
Prep Batch Number(s): PB24022905 PB24022909 QC2403028

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	

ICP-MS Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey CCR
Reviewer Name: Jonathan Barnhill
LRC Date: 3/22/24
Laboratory Job Number: 240666
Prep Batch Number(s): PB24022905 PB24022909 QC2403028

Exception Report No.	Description
ER1	Linear Dynamic Range (LDR) study used to determine upper limit of analyte calibration.
ER2	CCB acceptance criteria is $CCB < 2.2 * MDL$.

¹ Items identified by the letter “R” must be available as a hard copy or as a .pdf file. Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period.
² O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
³ NA - Not applicable; NR - Not reviewed.
⁴ Exception Report identification number; an Exception Report should be completed for an item if the result is “No” or “NR.”



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 240640

Customer: Pirkey Power Station

Date Reported: 03/08/2024

Customer Sample ID: AD-2

Customer Description:

Lab Number: 240640-001

Preparation:

Date Collected: 02/20/2024 11:42 EST

Date Received: 02/22/2024 09:50 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.44	mg/L	2	0.10	0.02		CRJ	03/04/2024 22:16	EPA 300.1 -1997, Rev. 1.0
Chloride	31.4	mg/L	2	0.04	0.01		CRJ	03/04/2024 22:16	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.29	mg/L	2	0.06	0.02		CRJ	03/04/2024 22:16	EPA 300.1 -1997, Rev. 1.0
Sulfate	292	mg/L	10	3.0	0.6		CRJ	03/04/2024 21:40	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	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	540	mg/L	1	50	20		ELT	02/23/2024 08:58	SM 2540C-2015

Customer Sample ID: AD-3

Customer Description:

Lab Number: 240640-002

Preparation:

Date Collected: 02/20/2024 12:25 EST

Date Received: 02/22/2024 09:50 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	03/04/2024 21:04	EPA 300.1 -1997, Rev. 1.0
Chloride	5.55	mg/L	2	0.04	0.01		CRJ	03/04/2024 21:04	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.03	mg/L	2	0.06	0.02	J1	CRJ	03/04/2024 21:04	EPA 300.1 -1997, Rev. 1.0
Sulfate	22.3	mg/L	2	0.6	0.1		CRJ	03/04/2024 21:04	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	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	140	mg/L	1	50	20		ELT	02/23/2024 09:05	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 240640

Customer: Pirkey Power Station

Date Reported: 03/08/2024

Customer Sample ID: AD-4

Customer Description:

Lab Number: 240640-003

Preparation:

Date Collected: 02/20/2024 10:31 EST

Date Received: 02/22/2024 09:50 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.18	mg/L	2	0.10	0.02		CRJ	03/04/2024 23:28	EPA 300.1 -1997, Rev. 1.0
Chloride	4.35	mg/L	2	0.04	0.01		CRJ	03/04/2024 23:28	EPA 300.1 -1997, Rev. 1.0
Fluoride	<0.02	mg/L	2	0.06	0.02	U1	CRJ	03/04/2024 23:28	EPA 300.1 -1997, Rev. 1.0
Sulfate	19.9	mg/L	2	0.6	0.1		CRJ	03/04/2024 23:28	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	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	180	mg/L	1	50	20		ELT	02/23/2024 09:05	SM 2540C-2015

Customer Sample ID: AD-7R

Customer Description:

Lab Number: 240640-004

Preparation:

Date Collected: 02/19/2024 12:28 EST

Date Received: 02/22/2024 09:50 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.77	mg/L	2	0.10	0.02		CRJ	03/05/2024 00:03	EPA 300.1 -1997, Rev. 1.0
Chloride	21.3	mg/L	2	0.04	0.01		CRJ	03/05/2024 00:03	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.15	mg/L	2	0.06	0.02		CRJ	03/05/2024 00:03	EPA 300.1 -1997, Rev. 1.0
Sulfate	57.8	mg/L	2	0.6	0.1		CRJ	03/05/2024 00:03	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	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	210	mg/L	1	50	20		ELT	02/23/2024 09:11	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 240640

Customer: Pirkey Power Station

Date Reported: 03/08/2024

Customer Sample ID: AD-12

Customer Description:

Lab Number: 240640-005

Preparation:

Date Collected: 02/19/2024 10:01 EST

Date Received: 02/22/2024 09:50 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	03/05/2024 00:39	EPA 300.1 -1997, Rev. 1.0
Chloride	5.87	mg/L	2	0.04	0.01		CRJ	03/05/2024 00:39	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.11	mg/L	2	0.06	0.02		CRJ	03/05/2024 00:39	EPA 300.1 -1997, Rev. 1.0
Sulfate	3.1	mg/L	2	0.6	0.1		CRJ	03/05/2024 00:39	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	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	60	mg/L	1	50	20		ELT	02/23/2024 09:11	SM 2540C-2015

Customer Sample ID: AD-13

Customer Description:

Lab Number: 240640-006

Preparation:

Date Collected: 02/19/2024 09:44 EST

Date Received: 02/22/2024 09:50 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	03/05/2024 03:03	EPA 300.1 -1997, Rev. 1.0
Chloride	35.5	mg/L	2	0.04	0.01		CRJ	03/05/2024 03:03	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.42	mg/L	2	0.06	0.02		CRJ	03/05/2024 03:03	EPA 300.1 -1997, Rev. 1.0
Sulfate	70.5	mg/L	2	0.6	0.1		CRJ	03/05/2024 03:03	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	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	210	mg/L	1	50	20		ELT	02/23/2024 09:41	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 240640

Customer: Pirkey Power Station

Date Reported: 03/08/2024

Customer Sample ID: AD-17

Customer Description:

Lab Number: 240640-007

Preparation:

Date Collected: 02/20/2024 13:30 EST

Date Received: 02/22/2024 09:50 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.14	mg/L	2	0.10	0.02		CRJ	03/05/2024 01:51	EPA 300.1 -1997, Rev. 1.0
Chloride	12.0	mg/L	2	0.04	0.01		CRJ	03/05/2024 01:51	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.15	mg/L	2	0.06	0.02		CRJ	03/05/2024 01:51	EPA 300.1 -1997, Rev. 1.0
Sulfate	3.4	mg/L	2	0.6	0.1		CRJ	03/05/2024 01:51	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	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	50	mg/L	1	50	20		ELT	02/23/2024 09:41	SM 2540C-2015

Customer Sample ID: AD-18

Customer Description:

Lab Number: 240640-008

Preparation:

Date Collected: 02/20/2024 09:29 EST

Date Received: 02/22/2024 09:50 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.03	mg/L	2	0.10	0.02	J1	CRJ	03/05/2024 04:50	EPA 300.1 -1997, Rev. 1.0
Chloride	4.67	mg/L	2	0.04	0.01		CRJ	03/05/2024 04:50	EPA 300.1 -1997, Rev. 1.0
Fluoride	<0.02	mg/L	2	0.06	0.02	U1	CRJ	03/05/2024 04:50	EPA 300.1 -1997, Rev. 1.0
Sulfate	8.1	mg/L	2	0.6	0.1		CRJ	03/05/2024 04:50	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	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	110	mg/L	1	50	20		ELT	02/23/2024 09:47	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 240640

Customer: Pirkey Power Station

Date Reported: 03/08/2024

Customer Sample ID: AD-22

Customer Description:

Lab Number: 240640-009

Preparation:

Date Collected: 02/19/2024 11:44 EST

Date Received: 02/22/2024 09:50 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.52	mg/L	2	0.10	0.02		CRJ	03/05/2024 08:32	EPA 300.1 -1997, Rev. 1.0
Chloride	87.7	mg/L	25	0.5	0.1		CRJ	03/05/2024 04:15	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.55	mg/L	2	0.06	0.02		CRJ	03/05/2024 08:32	EPA 300.1 -1997, Rev. 1.0
Sulfate	291	mg/L	25	8	2		CRJ	03/05/2024 04:15	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	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	620	mg/L	1	50	20		ELT	02/23/2024 09:47	SM 2540C-2015

Customer Sample ID: AD-28

Customer Description:

Lab Number: 240640-010

Preparation:

Date Collected: 02/20/2024 12:34 EST

Date Received: 02/22/2024 09:50 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	03/05/2024 10:19	EPA 300.1 -1997, Rev. 1.0
Chloride	4.54	mg/L	2	0.04	0.01		CRJ	03/05/2024 10:19	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.97	mg/L	2	0.06	0.02		CRJ	03/05/2024 10:19	EPA 300.1 -1997, Rev. 1.0
Sulfate	26.9	mg/L	2	0.6	0.1		CRJ	03/05/2024 10:19	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	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	90	mg/L	1	50	20		ELT	02/23/2024 09:53	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 240640

Customer: Pirkey Power Station

Date Reported: 03/08/2024

Customer Sample ID: AD-30

Customer Description:

Lab Number: 240640-011

Preparation:

Date Collected: 02/19/2024 12:31 EST

Date Received: 02/22/2024 09:50 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	03/07/2024 13:46	EPA 300.1 -1997, Rev. 1.0
Chloride	15.6	mg/L	2	0.04	0.01		CRJ	03/07/2024 13:46	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.03	mg/L	2	0.06	0.02	J1	CRJ	03/07/2024 13:46	EPA 300.1 -1997, Rev. 1.0
Sulfate	118	mg/L	10	3.0	0.6		CRJ	03/05/2024 10:55	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	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	250	mg/L	1	50	20		ELT	02/23/2024 09:53	SM 2540C-2015

Customer Sample ID: AD-31

Customer Description:

Lab Number: 240640-012

Preparation:

Date Collected: 02/19/2024 11:42 EST

Date Received: 02/22/2024 09:50 EST

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	03/05/2024 12:43	EPA 300.1 -1997, Rev. 1.0
Chloride	17.7	mg/L	2	0.04	0.01		CRJ	03/05/2024 12:43	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.09	mg/L	2	0.06	0.02		CRJ	03/05/2024 12:43	EPA 300.1 -1997, Rev. 1.0
Sulfate	70.9	mg/L	2	0.6	0.1		CRJ	03/05/2024 12:43	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	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	250	mg/L	1	50	20		ELT	02/23/2024 10:13	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 240640

Customer: Pirkey Power Station

Date Reported: 03/08/2024

Customer Sample ID: AD-32

Customer Description:

Lab Number: 240640-013

Preparation:

Date Collected: 02/19/2024 10:56 EST

Date Received: 02/22/2024 09:50 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.33	mg/L	2	0.10	0.02		CRJ	03/05/2024 09:08	EPA 300.1 -1997, Rev. 1.0
Chloride	9.68	mg/L	2	0.04	0.01		CRJ	03/05/2024 09:08	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.25	mg/L	2	0.06	0.02		CRJ	03/05/2024 09:08	EPA 300.1 -1997, Rev. 1.0
Sulfate	48.4	mg/L	2	0.6	0.1		CRJ	03/05/2024 09:08	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	14	mg/L	1	20	5	J1	MGK	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	150	mg/L	1	50	20		ELT	02/23/2024 10:13	SM 2540C-2015

Customer Sample ID: AD-33

Customer Description:

Lab Number: 240640-014

Preparation:

Date Collected: 02/19/2024 10:35 EST

Date Received: 02/22/2024 09:50 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	03/05/2024 15:42	EPA 300.1 -1997, Rev. 1.0
Chloride	9.41	mg/L	2	0.04	0.01		CRJ	03/05/2024 15:42	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.30	mg/L	2	0.06	0.02		CRJ	03/05/2024 15:42	EPA 300.1 -1997, Rev. 1.0
Sulfate	58.6	mg/L	2	0.6	0.1		CRJ	03/05/2024 15:42	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	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	160	mg/L	1	50	20		ELT	02/23/2024 10:25	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 240640

Customer: Pirkey Power Station

Date Reported: 03/08/2024

Customer Sample ID: Duplicate

Customer Description:

Lab Number: 240640-015

Preparation:

Date Collected: 02/19/2024 15:00 EST

Date Received: 02/22/2024 09:50 EST

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	03/07/2024 13:10	EPA 300.1 -1997, Rev. 1.0
Chloride	9.39	mg/L	2	0.04	0.01		CRJ	03/07/2024 13:10	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.30	mg/L	2	0.06	0.02		CRJ	03/07/2024 13:10	EPA 300.1 -1997, Rev. 1.0
Sulfate	58.6	mg/L	2	0.6	0.1		CRJ	03/07/2024 13:10	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	<5	mg/L	1	20	5	U1	MGK	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	170	mg/L	1	50	20		ELT	02/23/2024 10:36	SM 2540C-2015

Customer Sample ID: Field Blank

Customer Description:

Lab Number: 240640-016

Preparation:

Date Collected: 02/20/2024 12:32 EST

Date Received: 02/22/2024 09:50 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	03/05/2024 15:06	EPA 300.1 -1997, Rev. 1.0
Chloride	0.10	mg/L	2	0.04	0.01		CRJ	03/05/2024 15:06	EPA 300.1 -1997, Rev. 1.0
Fluoride	<0.02	mg/L	2	0.06	0.02	U1	CRJ	03/05/2024 15:06	EPA 300.1 -1997, Rev. 1.0
Sulfate	<0.1	mg/L	2	0.6	0.1	U1	CRJ	03/05/2024 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	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	40	mg/L	1	50	20	J1	ELT	02/23/2024 10:42	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 240640

Customer: Pirkey Power Station

Date Reported: 03/08/2024

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.

Dolan Chemical Laboratory (DCL)
 4001 Bixby Road
 Groveport, Ohio 43125
 Contacts: Jonathan Barnhill (318-673-3803)
 Michael Ohlinger (614-836-4164)

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

For Lab Use Only:
 COC/Order #: **240640**

Date: _____
 Site Contact: _____

Project Name: Pirkey - CCR

Contact Name: Leslie Fuerschbach

Contact Phone: 318-423-3805

Sampler(s): Matt Hamilton Kenny McDonald

Analysis Turnaround Time (in Calendar Days)

Sample Date	Sample Time	Sample Type (C-Comp, G-Grab)	Matrix	# of Cont.
2/20/2024	1042	G	GW	1
2/20/2024	1125	G	GW	1
2/20/2024	931	G	GW	1
2/19/2024	1128	G	GW	1
2/19/2024	901	G	GW	1
2/19/2024	844	G	GW	1
2/20/2024	1230	G	GW	1
2/20/2024	829	G	GW	1
2/19/2024	1044	G	GW	1
2/20/2024	1134	G	GW	1
2/19/2024	1131	G	GW	1

Sampler(s) Initials

B, Ca, Li, Sb, As, Ba, Mo, Se, Tl and Na, K, Mg, Sr
 B, Cd, Cr, Co, Pb, HNO₃, pH<2, 250 mL bottle, HNO₃

B, Ca, Li, Sb, As, Ba, Mn, Mo, Pb, Se, Tl and Na, K, Mg, Sr
 Field-filter 250 mL bottle, then pH<2, HNO₃, 1 L bottle, Cool, 0-5°C

TDS, F, Cl, SO₄, Br, and Alkalinity
 Ra-226, Ra-228
 Three (six every 10th) L bottles, pH<2, HNO₃

Hg
 40 mL Glass vial or 250 mL PTFE lined bottle, HCL, pH<2

Hg
 40 mL Glass vial or 250 mL PTFE lined bottle, HCL, pH<2

Sample Specific Notes

Preservation Used: 1= Ice, 2= HCl; 3= H₂SO₄; 4=HNO₃; 5=NaOH; 6= Other ; F= filter in field

* Six 1L Bottles must be collected for Radium for every 10th sample.

Special Instructions/COC Requirements & Comments:

TG-32

Relinquished by: <i>Matt Hamilton</i>	Company: <i>Fsgk</i>	Date/Time: <i>2-21-24 160</i>	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: <i>Mullum de</i>	Date/Time: <i>2/22/24 0956</i>

Doan Chemical Laboratory (DCL)
 4001 Bixby Road
 Groveport, Ohio 43125
Contacts: Jonathan Barnhill (318-673-3803)
Michael Ohlinger (614-838-4184)

Project Name: Pitkey - CCR
Contact Name: Leslie Fuerschbach
Contact Phone: 318-423-3805

Sampler(s): Matt Hamilton Kemy McDonald

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Date: _____

Site Contact: _____

For Lab Use Only:

COC/Order #: _____

240640

Analysis Turnaround Time (in Calendar Days)

Sample Date	Sample Time	Sample Type (C-Comp, G-Grab)	# of Cont.	Sampler(s) Inlets						Field-filter 250 mL bottle, then pH<2, HNO3	1 L bottle, Cool, 0-5°C	Three (six every 10th) L bottles, pH<2, HNO3	40 mL Glass vial or bottle, HCL*, pH<2	40 mL Glass vial or bottle, HCL*, pH<2	Sample Specific Notes:
				B, Ca, Li, Sb, As, Ba, Bi, Cd, Cr, Co, Pb, Mn, Mo, P, Se, Tl, and Na, K, Mg, Sr	B, Ca, Li, Sb, As, Ba, Bi, Cd, Cr, Co, Pb, Mn, Mo, P, Se, Tl, and Na, K, Mg, Sr	B, Ca, Li, Sb, As, Ba, Bi, Cd, Cr, Co, Pb, Mn, Mo, P, Se, Tl, and Na, K, Mg, Sr	B, Ca, Li, Sb, As, Ba, Bi, Cd, Cr, Co, Pb, Mn, Mo, P, Se, Tl, and Na, K, Mg, Sr	TDS, F, Cl, SO4, Br, and Alkalinity	Hg						
2/19/2024	1042	G	1								X				
2/19/2024	956	G	1								X				
2/19/2024	935	G	1								X				
2/20/2024	1400	G	1								X				
2/20/2024	1132	G	1								X				

Preservation Used: 1= Ice; 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____; F= filter in field

* 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: 2-21-24	Received by:	Date/Time: 2/22/24 09:50
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Date/Time:

AEP WATER & WASTE SAMPLE RECEIPT FORM

<u>Package Type</u>			<u>Delivery Type</u>				
<input checked="" type="radio"/> Cooler	<input type="radio"/> Box	<input type="radio"/> Bag	<input type="radio"/> Envelope	<input type="radio"/> PONY	<input type="radio"/> UPS	<input checked="" type="radio"/> FedEX	<input type="radio"/> USPS
				Other _____			
Plant/Customer <u>Pittkey Power Station</u>			Number of Plastic Containers: <u>16</u>				
Opened By <u>Missyha Williams</u>			Number of Glass Containers: _____				
Date/Time <u>02/22/24 9:50 AM</u>			Number of Mercury Containers: _____				
Were all temperatures within 0-6°C? <input checked="" type="radio"/> Y / <input type="radio"/> N or N/A Initial: <u>mbc</u> <input checked="" type="radio"/> on ice / <input type="radio"/> no ice (IR Gun Ser# <u>2213689000</u> , Expir. <u>03/24/2024</u>) - If No, specify each deviation: _____							
Was container in good condition? <input checked="" type="radio"/> Y / <input type="radio"/> N Comments _____							
Was Chain of Custody received? <input checked="" type="radio"/> Y / <input type="radio"/> N Comments _____							
Requested turnaround: <u>28 days</u> If RUSH, who was notified? _____							
pH (15 min)		Cr ⁶ (pres) (24 hr)		NO ₂ or NO ₃ (48 hr)		ortho-PO ₄ (48 hr)	Hg-diss (pres) (48 hr)

Was COC filled out properly? Y / N Comments _____

Were samples labeled properly? Y / N Comments _____

Were correct containers used? Y / N Comments _____

Was pH checked & Color Coding done? Y / N or N/A Initial & Date: mbc 02/22/24

pH paper (circle one): MQuant,PN1.09535.0001,LOT# _____ [OR] Lab Rat,PN4801,LOT# X000RWDG21 Exp 03/15/2025

- Was Add'l Preservative needed? Y / N If Yes: By whom & when: _____ (See Prep Book)

Is sample filtration requested? Y / N Comments _____ (See Prep Book)

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 240640 Initial & Date & Time : _____

Logged by WCG Comments: _____

Reviewed by _____

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the "Notes" field in the LIMS to be included on the report to the customer.

Ion Chromatography Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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

Name (printed)



Signature

Principle Chemist

Official Title

3/8/2024

Date

Ion Chromatography Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: CCR
Reviewer Name: Tim Arnold
LRC Date: 3/8/2024
Laboratory Job Number: 240640
Prep Batch Number(s): QC2403053

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: CCR
Reviewer Name: Tim Arnold
LRC Date: 3/8/2024
Laboratory Job Number: 240640
Prep Batch Number(s): QC2403053

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	

TDS Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

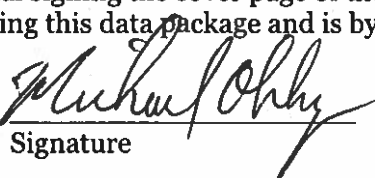
- This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
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- R2 Sample identification cross-reference
- 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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

Name (printed)



Signature

Chemist

Official Title

3/8/2024

Date

TDS Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey - CCR
Reviewer Name: Michael Ohlinger
LRC Date: 3/8/2024
Laboratory Job Number: 240640
Prep Batch Number(s): QC2402232

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	

TDS Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey - CCR
Reviewer Name: Michael Ohlinger
LRC Date: 3/8/2024
Laboratory Job Number: 240640
Prep Batch Number(s): QC2402232

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	

Alkalinity Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

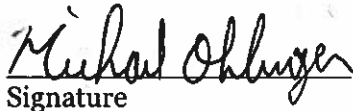
This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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
Name (printed)


Signature

Chemist
Official Title

3/8/2024
Date

Alkalinity Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey CCR
Reviewer Name: Michael Ohlinger
LRC Date: 3/8/2024
Laboratory Job Number: 240640
Prep Batch Number(s): QC2402191

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 CCR
Reviewer Name: Michael Ohlinger
LRC Date: 3/8/2024
Laboratory Job Number: 240640
Prep Batch Number(s): QC2402191

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	



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 240669

Customer: Pirkey Power Station

Date Reported: 03/19/2024

Customer Sample ID: B-2

Customer Description:

Lab Number: 240669-001

Preparation:

Date Collected: 02/19/2024 09:18 EST

Date Received: 02/23/2024 11:00 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	03/05/2024 01:06	EPA 200.8-1994, Rev. 5.4
Arsenic	0.87	µg/L	1	0.10	0.03		GES	03/05/2024 01:06	EPA 200.8-1994, Rev. 5.4
Barium	45.2	µg/L	1	0.20	0.05		GES	03/05/2024 01:06	EPA 200.8-1994, Rev. 5.4
Beryllium	0.273	µg/L	1	0.050	0.007	M1	GES	03/05/2024 01:06	EPA 200.8-1994, Rev. 5.4
Boron	0.026	mg/L	1	0.050	0.007	J1	GES	03/05/2024 01:06	EPA 200.8-1994, Rev. 5.4
Cadmium	0.006	µg/L	1	0.020	0.004	J1	GES	03/05/2024 01:06	EPA 200.8-1994, Rev. 5.4
Calcium	1.51	mg/L	1	0.05	0.01		GES	03/05/2024 01:06	EPA 200.8-1994, Rev. 5.4
Chromium	0.43	µg/L	1	0.30	0.07		GES	03/05/2024 01:06	EPA 200.8-1994, Rev. 5.4
Cobalt	6.28	µg/L	1	0.020	0.005		GES	03/05/2024 01:06	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	03/05/2024 01:06	EPA 200.8-1994, Rev. 5.4
Lithium	0.0481	mg/L	1	0.00030	0.00007	M1	GES	03/05/2024 01:06	EPA 200.8-1994, Rev. 5.4
Magnesium	1.78	mg/L	1	0.100	0.006		GES	03/05/2024 01:06	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/05/2024 01:06	EPA 200.8-1994, Rev. 5.4
Potassium	2.31	mg/L	1	0.100	0.008		GES	03/05/2024 01:06	EPA 200.8-1994, Rev. 5.4
Selenium	0.04	µg/L	1	0.50	0.04	J1	GES	03/05/2024 01:06	EPA 200.8-1994, Rev. 5.4
Sodium	10.9	mg/L	1	0.20	0.01		GES	03/05/2024 01:06	EPA 200.8-1994, Rev. 5.4
Strontium	0.0187	mg/L	1	0.00200	0.00005		GES	03/05/2024 01:06	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	03/05/2024 01:06	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: 240669

Customer: Pirkey Power Station

Date Reported: 03/19/2024

Customer Sample ID: B-2

Customer Description:

Lab Number: 240669-001-01

Preparation: Dissolved

Date Collected: 02/19/2024 09:18 EST

Date Received: 02/23/2024 11:00 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	03/05/2024 01:21	EPA 200.8-1994, Rev. 5.4
Arsenic	1.20	µg/L	1	0.10	0.03		GES	03/05/2024 01:21	EPA 200.8-1994, Rev. 5.4
Barium	42.7	µg/L	1	0.20	0.05		GES	03/05/2024 01:21	EPA 200.8-1994, Rev. 5.4
Beryllium	0.279	µg/L	1	0.050	0.007		GES	03/05/2024 01:21	EPA 200.8-1994, Rev. 5.4
Boron	0.028	mg/L	1	0.050	0.007	J1	GES	03/05/2024 01:21	EPA 200.8-1994, Rev. 5.4
Cadmium	0.007	µg/L	1	0.020	0.004	J1	GES	03/05/2024 01:21	EPA 200.8-1994, Rev. 5.4
Calcium	1.44	mg/L	1	0.05	0.01		GES	03/05/2024 01:21	EPA 200.8-1994, Rev. 5.4
Chromium	0.44	µg/L	1	0.30	0.07		GES	03/05/2024 01:21	EPA 200.8-1994, Rev. 5.4
Cobalt	6.34	µg/L	1	0.020	0.005		GES	03/05/2024 01:21	EPA 200.8-1994, Rev. 5.4
Iron	7.45	mg/L	1	0.020	0.003		GES	03/05/2024 01:21	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	GES	03/05/2024 01:21	EPA 200.8-1994, Rev. 5.4
Lithium	0.0499	mg/L	1	0.00030	0.00007		GES	03/05/2024 01:21	EPA 200.8-1994, Rev. 5.4
Magnesium	1.70	mg/L	1	0.100	0.006		GES	03/05/2024 01:21	EPA 200.8-1994, Rev. 5.4
Manganese	0.0625	mg/L	1	0.00100	0.00008		GES	03/05/2024 01:21	EPA 200.8-1994, Rev. 5.4
Molybdenum	0.1	µg/L	1	0.5	0.1	J1	GES	03/05/2024 01:21	EPA 200.8-1994, Rev. 5.4
Potassium	2.32	mg/L	1	0.100	0.008		GES	03/05/2024 01:21	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	03/05/2024 01:21	EPA 200.8-1994, Rev. 5.4
Sodium	11.0	mg/L	1	0.20	0.01		GES	03/05/2024 01:21	EPA 200.8-1994, Rev. 5.4
Strontium	0.0166	mg/L	1	0.00200	0.00005		GES	03/05/2024 01:21	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	03/05/2024 01:21	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: 240669

Customer: Pirkey Power Station

Date Reported: 03/19/2024

Customer Sample ID: B-3

Customer Description:

Lab Number: 240669-002

Preparation:

Date Collected: 02/20/2024 08:55 EST

Date Received: 02/23/2024 11:00 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	03/05/2024 01:27	EPA 200.8-1994, Rev. 5.4
Arsenic	0.33	µg/L	1	0.10	0.03		GES	03/05/2024 01:27	EPA 200.8-1994, Rev. 5.4
Barium	62.5	µg/L	1	0.20	0.05		GES	03/05/2024 01:27	EPA 200.8-1994, Rev. 5.4
Beryllium	1.72	µg/L	1	0.050	0.007		GES	03/05/2024 01:27	EPA 200.8-1994, Rev. 5.4
Boron	0.032	mg/L	1	0.050	0.007	J1	GES	03/05/2024 01:27	EPA 200.8-1994, Rev. 5.4
Cadmium	0.015	µg/L	1	0.020	0.004	J1	GES	03/05/2024 01:27	EPA 200.8-1994, Rev. 5.4
Calcium	1.33	mg/L	1	0.05	0.01		GES	03/05/2024 01:27	EPA 200.8-1994, Rev. 5.4
Chromium	0.36	µg/L	1	0.30	0.07		GES	03/05/2024 01:27	EPA 200.8-1994, Rev. 5.4
Cobalt	5.83	µg/L	1	0.020	0.005		GES	03/05/2024 01:27	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	03/05/2024 01:27	EPA 200.8-1994, Rev. 5.4
Lithium	0.0728	mg/L	1	0.00030	0.00007		GES	03/05/2024 01:27	EPA 200.8-1994, Rev. 5.4
Magnesium	1.38	mg/L	1	0.100	0.006		GES	03/05/2024 01:27	EPA 200.8-1994, Rev. 5.4
Mercury	9	ng/L	1	5	2		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/05/2024 01:27	EPA 200.8-1994, Rev. 5.4
Potassium	2.09	mg/L	1	0.100	0.008		GES	03/05/2024 01:27	EPA 200.8-1994, Rev. 5.4
Selenium	0.06	µg/L	1	0.50	0.04	J1	GES	03/05/2024 01:27	EPA 200.8-1994, Rev. 5.4
Sodium	25.0	mg/L	1	0.20	0.01	M1	GES	03/05/2024 01:27	EPA 200.8-1994, Rev. 5.4
Strontium	0.0339	mg/L	1	0.00200	0.00005		GES	03/05/2024 01:27	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	GES	03/05/2024 01:27	EPA 200.8-1994, Rev. 5.4



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 240669

Customer: Pirkey Power Station

Date Reported: 03/19/2024

Customer Sample ID: B-3

Customer Description:

Lab Number: 240669-002-01

Preparation: Dissolved

Date Collected: 02/20/2024 08:55 EST

Date Received: 02/23/2024 11:00 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	03/05/2024 01:42	EPA 200.8-1994, Rev. 5.4
Arsenic	0.05	µg/L	1	0.10	0.03	J1	GES	03/05/2024 01:42	EPA 200.8-1994, Rev. 5.4
Barium	52.3	µg/L	1	0.20	0.05		GES	03/05/2024 01:42	EPA 200.8-1994, Rev. 5.4
Beryllium	1.11	µg/L	1	0.050	0.007		GES	03/05/2024 01:42	EPA 200.8-1994, Rev. 5.4
Boron	0.034	mg/L	1	0.050	0.007	J1	GES	03/05/2024 01:42	EPA 200.8-1994, Rev. 5.4
Cadmium	0.013	µg/L	1	0.020	0.004	J1	GES	03/05/2024 01:42	EPA 200.8-1994, Rev. 5.4
Calcium	1.16	mg/L	1	0.05	0.01		GES	03/05/2024 01:42	EPA 200.8-1994, Rev. 5.4
Chromium	0.33	µg/L	1	0.30	0.07		GES	03/05/2024 01:42	EPA 200.8-1994, Rev. 5.4
Cobalt	5.20	µg/L	1	0.020	0.005		GES	03/05/2024 01:42	EPA 200.8-1994, Rev. 5.4
Iron	0.005	mg/L	1	0.020	0.003	J1	GES	03/05/2024 01:42	EPA 200.8-1994, Rev. 5.4
Lead	0.06	µg/L	1	0.20	0.05	J1	GES	03/05/2024 01:42	EPA 200.8-1994, Rev. 5.4
Lithium	0.0726	mg/L	1	0.00030	0.00007		GES	03/05/2024 01:42	EPA 200.8-1994, Rev. 5.4
Magnesium	1.13	mg/L	1	0.100	0.006		GES	03/05/2024 01:42	EPA 200.8-1994, Rev. 5.4
Manganese	0.0745	mg/L	1	0.00100	0.00008		GES	03/05/2024 01:42	EPA 200.8-1994, Rev. 5.4
Mercury	7	ng/L	1	5	2		RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/05/2024 01:42	EPA 200.8-1994, Rev. 5.4
Potassium	2.11	mg/L	1	0.100	0.008		GES	03/05/2024 01:42	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	03/05/2024 01:42	EPA 200.8-1994, Rev. 5.4
Sodium	25.0	mg/L	1	0.20	0.01		GES	03/05/2024 01:42	EPA 200.8-1994, Rev. 5.4
Strontium	0.0287	mg/L	1	0.00200	0.00005		GES	03/05/2024 01:42	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	03/05/2024 01:42	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: 240669

Customer: Pirkey Power Station

Date Reported: 03/19/2024

Customer Sample ID: AD-25

Customer Description:

Lab Number: 240669-003

Preparation:

Date Collected: 02/20/2024 10:23 EST

Date Received: 02/23/2024 11:00 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	03/05/2024 01:47	EPA 200.8-1994, Rev. 5.4
Arsenic	6.20	µg/L	1	0.10	0.03		GES	03/05/2024 01:47	EPA 200.8-1994, Rev. 5.4
Barium	13.4	µg/L	1	0.20	0.05		GES	03/05/2024 01:47	EPA 200.8-1994, Rev. 5.4
Beryllium	4.24	µg/L	1	0.050	0.007		GES	03/05/2024 01:47	EPA 200.8-1994, Rev. 5.4
Boron	0.070	mg/L	1	0.050	0.007		GES	03/05/2024 01:47	EPA 200.8-1994, Rev. 5.4
Cadmium	0.943	µg/L	1	0.020	0.004		GES	03/05/2024 01:47	EPA 200.8-1994, Rev. 5.4
Calcium	36.8	mg/L	1	0.05	0.01		GES	03/05/2024 01:47	EPA 200.8-1994, Rev. 5.4
Chromium	0.64	µg/L	1	0.30	0.07		GES	03/05/2024 01:47	EPA 200.8-1994, Rev. 5.4
Cobalt	213	µg/L	1	0.020	0.005		GES	03/05/2024 01:47	EPA 200.8-1994, Rev. 5.4
Lead	0.30	µg/L	1	0.20	0.05		GES	03/05/2024 01:47	EPA 200.8-1994, Rev. 5.4
Lithium	0.0722	mg/L	1	0.00030	0.00007		GES	03/05/2024 01:47	EPA 200.8-1994, Rev. 5.4
Magnesium	46.1	mg/L	1	0.100	0.006		GES	03/05/2024 01:47	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/05/2024 01:47	EPA 200.8-1994, Rev. 5.4
Potassium	2.38	mg/L	1	0.100	0.008		GES	03/05/2024 01:47	EPA 200.8-1994, Rev. 5.4
Selenium	26.8	µg/L	1	0.50	0.04		GES	03/05/2024 01:47	EPA 200.8-1994, Rev. 5.4
Sodium	7.89	mg/L	1	0.20	0.01		GES	03/05/2024 01:47	EPA 200.8-1994, Rev. 5.4
Strontium	0.279	mg/L	1	0.00200	0.00005		GES	03/05/2024 01:47	EPA 200.8-1994, Rev. 5.4
Thallium	0.18	µg/L	1	0.20	0.02	J1	GES	03/05/2024 01:47	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: 240669

Customer: Pirkey Power Station

Date Reported: 03/19/2024

Customer Sample ID: AD-25

Customer Description:

Lab Number: 240669-003-01

Preparation: Dissolved

Date Collected: 02/20/2024 10:23 EST

Date Received: 02/23/2024 11:00 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	03/05/2024 01:52	EPA 200.8-1994, Rev. 5.4
Arsenic	6.94	µg/L	1	0.10	0.03		GES	03/05/2024 01:52	EPA 200.8-1994, Rev. 5.4
Barium	13.0	µg/L	1	0.20	0.05		GES	03/05/2024 01:52	EPA 200.8-1994, Rev. 5.4
Beryllium	4.36	µg/L	1	0.050	0.007		GES	03/05/2024 01:52	EPA 200.8-1994, Rev. 5.4
Boron	0.071	mg/L	1	0.050	0.007		GES	03/05/2024 01:52	EPA 200.8-1994, Rev. 5.4
Cadmium	1.07	µg/L	1	0.020	0.004		GES	03/05/2024 01:52	EPA 200.8-1994, Rev. 5.4
Calcium	41.8	mg/L	1	0.05	0.01		GES	03/05/2024 01:52	EPA 200.8-1994, Rev. 5.4
Chromium	1.57	µg/L	1	0.30	0.07		GES	03/05/2024 01:52	EPA 200.8-1994, Rev. 5.4
Cobalt	242	µg/L	1	0.020	0.005		GES	03/05/2024 01:52	EPA 200.8-1994, Rev. 5.4
Iron	189	mg/L	10	0.20	0.03		GES	03/05/2024 10:51	EPA 200.8-1994, Rev. 5.4
Lead	0.38	µg/L	1	0.20	0.05		GES	03/05/2024 01:52	EPA 200.8-1994, Rev. 5.4
Lithium	0.0732	mg/L	1	0.00030	0.00007		GES	03/05/2024 01:52	EPA 200.8-1994, Rev. 5.4
Magnesium	52.0	mg/L	1	0.100	0.006		GES	03/05/2024 01:52	EPA 200.8-1994, Rev. 5.4
Manganese	1.54	mg/L	1	0.00100	0.00008		GES	03/05/2024 01:52	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/05/2024 01:52	EPA 200.8-1994, Rev. 5.4
Potassium	2.50	mg/L	1	0.100	0.008		GES	03/05/2024 01:52	EPA 200.8-1994, Rev. 5.4
Selenium	30.4	µg/L	1	0.50	0.04		GES	03/05/2024 01:52	EPA 200.8-1994, Rev. 5.4
Sodium	9.06	mg/L	1	0.20	0.01		GES	03/05/2024 01:52	EPA 200.8-1994, Rev. 5.4
Strontium	0.303	mg/L	1	0.00200	0.00005		GES	03/05/2024 01:52	EPA 200.8-1994, Rev. 5.4
Thallium	0.18	µg/L	1	0.20	0.02	J1	GES	03/05/2024 01:52	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: 240669

Customer: Pirkey Power Station

Date Reported: 03/19/2024

Customer Sample ID: AD-26

Customer Description:

Lab Number: 240669-004

Preparation:

Date Collected: 02/20/2024 11:24 EST

Date Received: 02/23/2024 11:00 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	03/05/2024 01:57	EPA 200.8-1994, Rev. 5.4
Arsenic	3.62	µg/L	1	0.10	0.03		GES	03/05/2024 01:57	EPA 200.8-1994, Rev. 5.4
Barium	6.33	µg/L	1	0.20	0.05		GES	03/05/2024 01:57	EPA 200.8-1994, Rev. 5.4
Beryllium	16.9	µg/L	50	2.5	0.4		GES	03/05/2024 02:03	EPA 200.8-1994, Rev. 5.4
Boron	0.134	mg/L	1	0.050	0.007		GES	03/05/2024 01:57	EPA 200.8-1994, Rev. 5.4
Cadmium	3.15	µg/L	1	0.020	0.004		GES	03/05/2024 01:57	EPA 200.8-1994, Rev. 5.4
Calcium	90.1	mg/L	1	0.05	0.01		GES	03/05/2024 01:57	EPA 200.8-1994, Rev. 5.4
Chromium	1.34	µg/L	1	0.30	0.07		GES	03/05/2024 01:57	EPA 200.8-1994, Rev. 5.4
Cobalt	185	µg/L	1	0.020	0.005		GES	03/05/2024 01:57	EPA 200.8-1994, Rev. 5.4
Lead	0.95	µg/L	1	0.20	0.05		GES	03/05/2024 01:57	EPA 200.8-1994, Rev. 5.4
Lithium	0.169	mg/L	50	0.015	0.004		GES	03/05/2024 02:03	EPA 200.8-1994, Rev. 5.4
Magnesium	79.1	mg/L	1	0.100	0.006		GES	03/05/2024 01:57	EPA 200.8-1994, Rev. 5.4
Mercury	3	ng/L	1	5	2	J1	RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/05/2024 01:57	EPA 200.8-1994, Rev. 5.4
Potassium	3.12	mg/L	1	0.100	0.008		GES	03/05/2024 01:57	EPA 200.8-1994, Rev. 5.4
Selenium	12.0	µg/L	1	0.50	0.04		GES	03/05/2024 01:57	EPA 200.8-1994, Rev. 5.4
Sodium	82.4	mg/L	1	0.20	0.01		GES	03/05/2024 01:57	EPA 200.8-1994, Rev. 5.4
Strontium	0.993	mg/L	1	0.00200	0.00005		GES	03/05/2024 01:57	EPA 200.8-1994, Rev. 5.4
Thallium	0.12	µg/L	1	0.20	0.02	J1	GES	03/05/2024 01:57	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: 240669

Customer: Pirkey Power Station

Date Reported: 03/19/2024

Customer Sample ID: AD-26

Customer Description:

Lab Number: 240669-004-01

Preparation: Dissolved

Date Collected: 02/20/2024 11:24 EST

Date Received: 02/23/2024 11:00 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	03/05/2024 02:08	EPA 200.8-1994, Rev. 5.4
Arsenic	3.47	µg/L	1	0.10	0.03		GES	03/05/2024 02:08	EPA 200.8-1994, Rev. 5.4
Barium	11.4	µg/L	1	0.20	0.05		GES	03/05/2024 02:08	EPA 200.8-1994, Rev. 5.4
Beryllium	17.3	µg/L	50	2.5	0.4		GES	03/05/2024 02:13	EPA 200.8-1994, Rev. 5.4
Boron	0.126	mg/L	1	0.050	0.007		GES	03/05/2024 02:08	EPA 200.8-1994, Rev. 5.4
Cadmium	2.92	µg/L	1	0.020	0.004		GES	03/05/2024 02:08	EPA 200.8-1994, Rev. 5.4
Calcium	88.0	mg/L	1	0.05	0.01		GES	03/05/2024 02:08	EPA 200.8-1994, Rev. 5.4
Chromium	1.32	µg/L	1	0.30	0.07		GES	03/05/2024 02:08	EPA 200.8-1994, Rev. 5.4
Cobalt	172	µg/L	1	0.020	0.005		GES	03/05/2024 02:08	EPA 200.8-1994, Rev. 5.4
Iron	2.89	mg/L	1	0.020	0.003		GES	03/05/2024 02:08	EPA 200.8-1994, Rev. 5.4
Lead	0.81	µg/L	1	0.20	0.05		GES	03/05/2024 02:08	EPA 200.8-1994, Rev. 5.4
Lithium	0.165	mg/L	50	0.015	0.004		GES	03/05/2024 02:13	EPA 200.8-1994, Rev. 5.4
Magnesium	76.3	mg/L	1	0.100	0.006		GES	03/05/2024 02:08	EPA 200.8-1994, Rev. 5.4
Manganese	2.20	mg/L	1	0.00100	0.00008		GES	03/05/2024 02:08	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/05/2024 02:08	EPA 200.8-1994, Rev. 5.4
Potassium	3.38	mg/L	1	0.100	0.008		GES	03/05/2024 02:08	EPA 200.8-1994, Rev. 5.4
Selenium	11.9	µg/L	1	0.50	0.04		GES	03/05/2024 02:08	EPA 200.8-1994, Rev. 5.4
Sodium	77.3	mg/L	1	0.20	0.01		GES	03/05/2024 02:08	EPA 200.8-1994, Rev. 5.4
Strontium	0.995	mg/L	1	0.00200	0.00005		GES	03/05/2024 02:08	EPA 200.8-1994, Rev. 5.4
Thallium	0.13	µg/L	1	0.20	0.02	J1	GES	03/05/2024 02:08	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: 240669

Customer: Pirkey Power Station

Date Reported: 03/19/2024

Customer Sample ID: Duplicate

Customer Description:

Lab Number: 240669-005

Preparation:

Date Collected: 02/19/2024 14:30 EST

Date Received: 02/23/2024 11:00 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	03/05/2024 03:25	EPA 200.8-1994, Rev. 5.4
Arsenic	0.87	µg/L	1	0.10	0.03		GES	03/05/2024 03:25	EPA 200.8-1994, Rev. 5.4
Barium	46.2	µg/L	1	0.20	0.05		GES	03/05/2024 03:25	EPA 200.8-1994, Rev. 5.4
Beryllium	0.283	µg/L	1	0.050	0.007		GES	03/05/2024 03:25	EPA 200.8-1994, Rev. 5.4
Boron	0.027	mg/L	1	0.050	0.007	J1	GES	03/05/2024 03:25	EPA 200.8-1994, Rev. 5.4
Cadmium	0.007	µg/L	1	0.020	0.004	J1	GES	03/05/2024 03:25	EPA 200.8-1994, Rev. 5.4
Calcium	1.53	mg/L	1	0.05	0.01		GES	03/05/2024 03:25	EPA 200.8-1994, Rev. 5.4
Chromium	0.43	µg/L	1	0.30	0.07		GES	03/05/2024 03:25	EPA 200.8-1994, Rev. 5.4
Cobalt	6.35	µg/L	1	0.020	0.005		GES	03/05/2024 03:25	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	03/05/2024 03:25	EPA 200.8-1994, Rev. 5.4
Lithium	0.0499	mg/L	1	0.00030	0.00007		GES	03/05/2024 03:25	EPA 200.8-1994, Rev. 5.4
Magnesium	1.79	mg/L	1	0.100	0.006		GES	03/05/2024 03:25	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/05/2024 03:25	EPA 200.8-1994, Rev. 5.4
Potassium	2.30	mg/L	1	0.100	0.008		GES	03/05/2024 03:25	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	03/05/2024 03:25	EPA 200.8-1994, Rev. 5.4
Sodium	11.0	mg/L	1	0.20	0.01		GES	03/05/2024 03:25	EPA 200.8-1994, Rev. 5.4
Strontium	0.0190	mg/L	1	0.00200	0.00005		GES	03/05/2024 03:25	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	03/05/2024 03:25	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: 240669

Customer: Pirkey Power Station

Date Reported: 03/19/2024

Customer Sample ID: Duplicate

Customer Description:

Lab Number: 240669-005-01

Preparation: Dissolved

Date Collected: 02/19/2024 14:30 EST

Date Received: 02/23/2024 11:00 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	03/05/2024 03:35	EPA 200.8-1994, Rev. 5.4
Arsenic	1.55	µg/L	1	0.10	0.03		GES	03/05/2024 03:35	EPA 200.8-1994, Rev. 5.4
Barium	47.0	µg/L	1	0.20	0.05		GES	03/05/2024 03:35	EPA 200.8-1994, Rev. 5.4
Beryllium	0.317	µg/L	1	0.050	0.007		GES	03/05/2024 03:35	EPA 200.8-1994, Rev. 5.4
Boron	0.027	mg/L	1	0.050	0.007	J1	GES	03/05/2024 03:35	EPA 200.8-1994, Rev. 5.4
Cadmium	0.005	µg/L	1	0.020	0.004	J1	GES	03/05/2024 03:35	EPA 200.8-1994, Rev. 5.4
Calcium	1.53	mg/L	1	0.05	0.01		GES	03/05/2024 03:35	EPA 200.8-1994, Rev. 5.4
Chromium	0.40	µg/L	1	0.30	0.07		GES	03/05/2024 03:35	EPA 200.8-1994, Rev. 5.4
Cobalt	6.66	µg/L	1	0.020	0.005		GES	03/05/2024 03:35	EPA 200.8-1994, Rev. 5.4
Iron	8.64	mg/L	1	0.020	0.003		GES	03/05/2024 03:35	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	03/05/2024 03:35	EPA 200.8-1994, Rev. 5.4
Lithium	0.0516	mg/L	1	0.00030	0.00007		GES	03/05/2024 03:35	EPA 200.8-1994, Rev. 5.4
Magnesium	1.87	mg/L	1	0.100	0.006		GES	03/05/2024 03:35	EPA 200.8-1994, Rev. 5.4
Manganese	0.0717	mg/L	1	0.00100	0.00008		GES	03/05/2024 03:35	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/05/2024 03:35	EPA 200.8-1994, Rev. 5.4
Potassium	2.30	mg/L	1	0.100	0.008		GES	03/05/2024 03:35	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	03/05/2024 03:35	EPA 200.8-1994, Rev. 5.4
Sodium	10.9	mg/L	1	0.20	0.01		GES	03/05/2024 03:35	EPA 200.8-1994, Rev. 5.4
Strontium	0.0182	mg/L	1	0.00200	0.00005		GES	03/05/2024 03:35	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	03/05/2024 03:35	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: 240669

Customer: Pirkey Power Station

Date Reported: 03/19/2024

Customer Sample ID: Equipment Blank

Customer Description:

Lab Number: 240669-006

Preparation:

Date Collected: 02/20/2024 10:56 EST

Date Received: 02/23/2024 11:00 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	03/05/2024 03:45	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	03/05/2024 03:45	EPA 200.8-1994, Rev. 5.4
Barium	<0.05	µg/L	1	0.20	0.05	U1	GES	03/05/2024 03:45	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	GES	03/05/2024 03:45	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	GES	03/05/2024 03:45	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	03/05/2024 03:45	EPA 200.8-1994, Rev. 5.4
Calcium	<0.01	mg/L	1	0.05	0.01	U1	GES	03/05/2024 03:45	EPA 200.8-1994, Rev. 5.4
Chromium	0.27	µg/L	1	0.30	0.07	J1	GES	03/05/2024 03:45	EPA 200.8-1994, Rev. 5.4
Cobalt	0.024	µg/L	1	0.020	0.005		GES	03/05/2024 03:45	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	03/05/2024 03:45	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00007	mg/L	1	0.00030	0.00007	U1	GES	03/05/2024 03:45	EPA 200.8-1994, Rev. 5.4
Magnesium	<0.006	mg/L	1	0.100	0.006	U1	GES	03/05/2024 03:45	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/05/2024 03:45	EPA 200.8-1994, Rev. 5.4
Potassium	<0.008	mg/L	1	0.100	0.008	U1	GES	03/05/2024 03:45	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	03/05/2024 03:45	EPA 200.8-1994, Rev. 5.4
Sodium	<0.01	mg/L	1	0.20	0.01	U1	GES	03/05/2024 03:45	EPA 200.8-1994, Rev. 5.4
Strontium	<0.00005	mg/L	1	0.00200	0.00005	U1	GES	03/05/2024 03:45	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	03/05/2024 03:45	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: 240669

Customer: Pirkey Power Station

Date Reported: 03/19/2024

Customer Sample ID: Field Blank

Customer Description:

Lab Number: 240669-007

Preparation:

Date Collected: 02/19/2024 09:47 EST

Date Received: 02/23/2024 11:00 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	03/05/2024 03:50	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	03/05/2024 03:50	EPA 200.8-1994, Rev. 5.4
Barium	<0.05	µg/L	1	0.20	0.05	U1	GES	03/05/2024 03:50	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	GES	03/05/2024 03:50	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	GES	03/05/2024 03:50	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	03/05/2024 03:50	EPA 200.8-1994, Rev. 5.4
Calcium	<0.01	mg/L	1	0.05	0.01	U1	GES	03/05/2024 03:50	EPA 200.8-1994, Rev. 5.4
Chromium	0.31	µg/L	1	0.30	0.07		GES	03/05/2024 03:50	EPA 200.8-1994, Rev. 5.4
Cobalt	0.022	µg/L	1	0.020	0.005		GES	03/05/2024 03:50	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	03/05/2024 03:50	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00007	mg/L	1	0.00030	0.00007	U1	GES	03/05/2024 03:50	EPA 200.8-1994, Rev. 5.4
Magnesium	<0.006	mg/L	1	0.100	0.006	U1	GES	03/05/2024 03:50	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	02/28/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	03/05/2024 03:50	EPA 200.8-1994, Rev. 5.4
Potassium	<0.008	mg/L	1	0.100	0.008	U1	GES	03/05/2024 03:50	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	03/05/2024 03:50	EPA 200.8-1994, Rev. 5.4
Sodium	<0.01	mg/L	1	0.20	0.01	U1	GES	03/05/2024 03:50	EPA 200.8-1994, Rev. 5.4
Strontium	0.00007	mg/L	1	0.00200	0.00005	J1	GES	03/05/2024 03:50	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	03/05/2024 03:50	EPA 200.8-1994, Rev. 5.4

Report Verification

This report and the above data have been confirmed by the following analyst.

Michael Ohlinger, Chemist

Email: msohlinger@aep.com

Phone: 614-836-4184

Audinet: 8-210-4184

THIS TEST REPORT RELATES ONLY TO THE ITEMS TESTED AND SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THE LABORATORY. ALL TEST RESULTS MEET ALL OF THE REQUIREMENTS OF THE ACCREDITING AUTHORITY, UNLESS OTHERWISE NOTED. ALL TIMES LISTED ARE IN THE EASTERN TIME ZONE.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 240669

Customer: Pirkey Power Station

Date Reported: 03/19/2024

Data Qualifier Legend

U1 - Not detected at or below method detection limit (MDL).

M1 - The associated matrix spike (MS) or matrix spike duplicate (MSD) recovery was outside acceptance limits.

J1 - Concentration estimated. Analyte was detected between the method detection limit and the reporting limit.

Chain of Custody Record

Dolan Chemical Laboratory (DCL)
 4001 Bixby Road
 Groveport, Ohio 43125
 Jonathan Barnhill (318-673-3803)
 Contacts: Michael Ohlinger (614-836-4184)

Program: Coal Combustion Residuals (CCR)

For Lab Use Only:

Project Name: ASD Wells Contact Name: Leslie Fuerschbach Contact Phone: 318-423-3805 Sampler(s): Matt Hamilton, Kenny McDonald	Analysis Turnaround Time (in Calendar Days) Site Contact: 19 Date: 20 COC/Order #: 240669
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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	Field-Filter 250 mL bottle, then pH<2, HNO ₃	1 L bottle, Cool, 0-6°C	Three (six every 10th) L bottles, pH<2, HNO ₃	Field-Filter 250 mL PTFE lined bottle, HCL**, pH<2	250 mL PTFE lined bottle, HCL**, pH<2	Sample Specific Notes
						B, Ca, Li, Sb, As, Ba, Be, Cd, Cr, Co, Pb, Mo, Se, TL and Na, K, Mg, Sr	B, Ca, Li, Sp, As, Ba, Be, Cd, Cr, Co, Fe, Mn, Mo, Pb, Se, TL and Na, K, Mg, Sr							
B-2	2/19/2024	818	G	GW	4		X	X				X	X	
B-3	2/20/2024	755	G	GW	4		X	X				X	X	
AD-25	2/20/2024	923	G	GW	4		X	X				X	X	
AD-26	2/20/2024	1024	G	GW	4		X	X				X	X	
DUPLICATE	2/19/2024	1330	G	GW	4		X	X				X	X	
EQUIPMENT BLANK	2/20/2024	956	G	GW	2		X	X				X	X	
FIELD BLANK	2/19/2024	847	G	GW	2		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:

Relinquished by: <i>Matt Hamilton</i>	Company: <i>Espe</i>	Date/Time: <i>2-21-24 1600</i>	Received by: <i>Michael Ohlinger</i>	Date/Time: <i>2/23/24 1100</i>
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:

Form COC-04, AEP Chain of Custody (COC) Record for Coal Combustion Residual (CCR) Sampling - Shreveport, Rev. 1, 1/10/17

AEP WATER & WASTE SAMPLE RECEIPT FORM

<u>Package Type</u> <input checked="" type="radio"/> Cooler <input type="radio"/> Box <input type="radio"/> Bag <input type="radio"/> Envelope			<u>Delivery Type</u> PONY UPS <input checked="" type="radio"/> FedEX USPS Other _____		
Plant/Customer <u>Pitkey</u>		Number of Plastic Containers: <u>12</u>			
Opened By <u>MGR/WCG</u>		Number of Glass Containers: <u>12</u>			
Date/Time <u>2/23/24 1100</u>		Number of Mercury Containers: <u>-</u>			
Were all temperatures within 0-6°C? Y / N or <input checked="" type="radio"/> N/A Initial: _____ on ice <input checked="" type="radio"/> no ice (IR Gun Ser# <u>2213689000</u> , Expir. <u>03/24/2024</u>) - If No, specify each deviation: _____					
Was container in good condition? <input checked="" type="radio"/> Y / N Comments _____					
Was Chain of Custody received? <input checked="" type="radio"/> Y / N Comments _____					
Requested turnaround: _____ If RUSH, who was notified? _____					
pH (15 min)		Cr ⁺⁶ (pres) (24 hr)	NO ₂ or NO ₃ (48 hr)	ortho-PO ₄ (48 hr)	Hg-diss (pres) (48 hr)

Was COC filled out properly? Y / N Comments _____

Were samples labeled properly? Y / N Comments _____

Were correct containers used? Y / N Comments _____

Was pH checked & Color Coding done? Y / N or N/A Initial & Date: MGR/WCG 2/23/24

pH paper (circle one): MQuant,PN1.09535.0001,LOT# _____ [OR] Lab Rat,PN4801,LOT# X000RWDG21 Exp 03/15/2025

- Was Add'l Preservative needed? Y / N If Yes: By whom & when: _____ (See Prep Book)

Is sample filtration requested? Y / N Comments _____ (See Prep Book)

Was the customer contacted? If Yes: Person Contacted: Leslie F.

Lab ID# 240669 Initial & Date & Time: MSD

Logged by MSD Comments: B-2 Hg broken in transit. dissolved. Removed from request.

Reviewed by MGR

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the "Notes" field in the LIMS to be included on the report to the customer.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 240642

Customer: Pirkey Power Station

Date Reported: 03/11/2024

Customer Sample ID: B-2

Customer Description:

Lab Number: 240642-001

Preparation:

Date Collected: 02/19/2024 09:18 EST

Date Received: 02/22/2024 09:50 EST

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	02/28/2024 21:46	EPA 300.1 -1997, Rev. 1.0
Chloride	5.72	mg/L	2	0.04	0.01		CRJ	02/28/2024 21:46	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.20	mg/L	2	0.06	0.02		CRJ	02/28/2024 21:46	EPA 300.1 -1997, Rev. 1.0
Sulfate	25.8	mg/L	2	0.6	0.1		CRJ	02/28/2024 21:46	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	11	mg/L	1	20	5	J1	MGK	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	150	mg/L	1	50	20		ELT	02/23/2024 10:42	SM 2540C-2015

Customer Sample ID: B-3

Customer Description:

Lab Number: 240642-002

Preparation:

Date Collected: 02/20/2024 08:55 EST

Date Received: 02/22/2024 09:50 EST

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	02/28/2024 22:22	EPA 300.1 -1997, Rev. 1.0
Chloride	11.1	mg/L	2	0.04	0.01		CRJ	02/28/2024 22:22	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.06	mg/L	2	0.06	0.02		CRJ	02/28/2024 22:22	EPA 300.1 -1997, Rev. 1.0
Sulfate	45.5	mg/L	2	0.6	0.1		CRJ	02/28/2024 22:22	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	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	170	mg/L	1	50	20		ELT	02/23/2024 10:48	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 240642

Customer: Pirkey Power Station

Date Reported: 03/11/2024

Customer Sample ID: AD-25

Customer Description:

Lab Number: 240642-003

Preparation:

Date Collected: 02/20/2024 10:23 EST

Date Received: 02/22/2024 09:50 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	02/28/2024 20:34	EPA 300.1 -1997, Rev. 1.0
Chloride	2.84	mg/L	2	0.04	0.01		CRJ	02/28/2024 20:34	EPA 300.1 -1997, Rev. 1.0
Fluoride	1.36	mg/L	2	0.06	0.02		CRJ	02/28/2024 20:34	EPA 300.1 -1997, Rev. 1.0
Sulfate	719	mg/L	25	8	2		CRJ	02/28/2024 19:58	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	U1	MGK	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	1120	mg/L	1	50	20		ELT	02/23/2024 10:48	SM 2540C-2015

Customer Sample ID: AD-26

Customer Description:

Lab Number: 240642-004

Preparation:

Date Collected: 02/20/2024 11:24 EST

Date Received: 02/22/2024 09:50 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.14	mg/L	5	0.25	0.05	J1	CRJ	02/28/2024 18:46	EPA 300.1 -1997, Rev. 1.0
Chloride	12.3	mg/L	5	0.10	0.03		CRJ	02/28/2024 18:46	EPA 300.1 -1997, Rev. 1.0
Fluoride	5.04	mg/L	5	0.15	0.05		CRJ	02/28/2024 18:46	EPA 300.1 -1997, Rev. 1.0
Sulfate	1260	mg/L	50	15	3		CRJ	02/28/2024 18:11	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	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	1570	mg/L	2	100	40		ELT	02/23/2024 10:53	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 240642

Customer: Pirkey Power Station

Date Reported: 03/11/2024

Customer Sample ID: DUPLICATE

Customer Description:

Lab Number: 240642-005

Preparation:

Date Collected: 02/19/2024 14:30 EST

Date Received: 02/22/2024 09:50 EST

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	02/28/2024 16:23	EPA 300.1 -1997, Rev. 1.0
Chloride	6.10	mg/L	2	0.04	0.01		CRJ	02/28/2024 16:23	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.22	mg/L	2	0.06	0.02		CRJ	02/28/2024 16:23	EPA 300.1 -1997, Rev. 1.0
Sulfate	25.6	mg/L	2	0.6	0.1		CRJ	02/28/2024 16:23	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	14	mg/L	1	20	5	J1	MGK	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	170	mg/L	2	100	40		ELT	02/23/2024 10:53	SM 2540C-2015

Customer Sample ID: FIELD BLANK

Customer Description:

Lab Number: 240642-006

Preparation:

Date Collected: 02/19/2024 09:47 EST

Date Received: 02/22/2024 09:50 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	02/28/2024 17:35	EPA 300.1 -1997, Rev. 1.0
Chloride	<0.01	mg/L	2	0.04	0.01	U1	CRJ	02/28/2024 17:35	EPA 300.1 -1997, Rev. 1.0
Fluoride	<0.02	mg/L	2	0.06	0.02	U1	CRJ	02/28/2024 17:35	EPA 300.1 -1997, Rev. 1.0
Sulfate	<0.1	mg/L	2	0.6	0.1	U1	CRJ	02/28/2024 17:35	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	02/22/2024 14:07	SM 2320B-2011
TDS, Filterable Residue	<20	mg/L	1	50	20	U1	ELT	02/23/2024 10:59	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 240642

Customer: Pirkey Power Station

Date Reported: 03/11/2024

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 Qualifier Legend

J1 - Concentration estimated. Analyte was detected between the method detection limit and the reporting limit.

U1 - Not detected at or below method detection limit (MDL).

Dolan Chemical Laboratory (DCL)
 4001 Bixby Road
 Groveport, Ohio 43125
 Jonathan Barnhill (318-673-3803)
 Contacts: Michael Ohlinger (614-838-4184)

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Project Name: Pirkey - ASD Wells
 Contact Name: Leslie Fuerschbach
 Contact Phone: 318-423-3805
 Sampler(s): Matt Hamilton, Kenny McDonald

Site Contact: _____ Date: _____

COC/Order #: 240642

For Lab Use Only: _____

Sample Identification	Analysis Turnaround Time (in Calendar Days)				Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	250 mL bottle, pH<2, HNO ₃	Field-filter 250 mL bottle, then pH<2, HNO ₃	1 L bottle, Cool, 0-5°C	Three (six every 10th) L bottles, pH<2, HNO ₃	40 mL Glass vial or 250 mL PTFE lined bottle, HCL, pH<2	40 mL Glass vial or 250 mL PTFE lined bottle, HCL, pH<2	Sample Specific Notes		
	250 mL bottle, pH<2, HNO ₃	Field-filter 250 mL bottle, then pH<2, HNO ₃	1 L bottle, Cool, 0-5°C	Three (six every 10th) L bottles, pH<2, HNO ₃													40 mL Glass vial or 250 mL PTFE lined bottle, HCL, pH<2	40 mL Glass vial or 250 mL PTFE lined bottle, HCL, pH<2
	250 mL bottle, pH<2, HNO ₃	Field-filter 250 mL bottle, then pH<2, HNO ₃	1 L bottle, Cool, 0-5°C	Three (six every 10th) L bottles, pH<2, HNO ₃													40 mL Glass vial or 250 mL PTFE lined bottle, HCL, pH<2	40 mL Glass vial or 250 mL PTFE lined bottle, HCL, pH<2
B-2	818	G	GW	1	2/19/2024													
B-3	755	G	GW	1	2/20/2024													
AD-25	923	G	GW	1	2/20/2024													
AD-26	1024	G	GW	1	2/20/2024													
DUPLICATE	1330	G	GW	1	2/19/2024													
FIELD BLANK	847	G	GW	1	2/19/2024													
Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other _____; F= filter in field * Six 1L Bottles must be collected for Radium for every 10th sample.																		
Special Instructions/QC Requirements & Comments: _____																		

Relinquished by: *Bob Hamilton* Date/Time: 2/21/24 Received by: _____ Date/Time: _____

Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____

Relinquished by: _____ Date/Time: _____ Received in Laboratory by: *Matthew J. J...* Date/Time: 2/22/24 0950

Form COC-04, AEP Chain of Custody (COC) Record for Coal Combustion Residual (CCR) Sampling - Shireport, Rev. 1, 1/10/17



WATER & WASTE SAMPLE RECEIPT FORM

<u>Package Type</u> <input checked="" type="radio"/> Cooler <input type="radio"/> Box <input type="radio"/> Bag <input type="radio"/> Envelope			<u>Delivery Type</u> <input type="radio"/> PONY <input type="radio"/> UPS <input checked="" type="radio"/> FedEX <input type="radio"/> USPS Other _____		
Plant/Customer <u>Pittker Power Station</u>		Number of Plastic Containers: <u>6</u>			
Opened By <u>Missyha Williams</u>		Number of Glass Containers: _____			
Date/Time <u>02/22/24 9:50 AM</u>		Number of Mercury Containers: _____			
Were all temperatures within 0-6°C? <input checked="" type="radio"/> Y / <input type="radio"/> N or N/A Initial: <u>mbk</u> <input checked="" type="radio"/> on ice / <input type="radio"/> no ice (IR Gun Ser# <u>2213689000</u> , Expir. <u>03/24/2024</u>) - If No, specify each deviation: _____					
Was container in good condition? <input checked="" type="radio"/> Y / <input type="radio"/> N Comments _____					
Was Chain of Custody received? <input checked="" type="radio"/> Y / <input type="radio"/> N Comments _____					
Requested turnaround: <u>28 days</u> If RUSH, who was notified? _____					
pH (15 min)	Cr ⁺⁶ (pres) (24 hr)	NO ₂ or NO ₃ (48 hr)	ortho-PO ₄ (48 hr)	Hg-diss (pres) (48 hr)	

Was COC filled out properly? Y / N Comments _____

Were samples labeled properly? Y / N Comments _____

Were correct containers used? Y / N Comments _____

Was pH checked & Color Coding done? Y / N or N/A Initial & Date: mbk 02/22/24

pH paper (circle one): MQuant,PN1.09535.0001,LOT# _____ [OR] Lab Rat,PN4801,LOT# X000RW0G21 Exp 03/15/2025

- Was Add'l Preservative needed? Y / N If Yes: By whom & when: _____ (See Prep Book)

Is sample filtration requested? Y / N Comments _____ (See Prep Book)

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 240642 Initial & Date & Time : _____

Logged by WCG Comments: _____

Reviewed by Mso _____

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the "Notes" field in the LIMS to be included on the report to the customer.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Reissued

Job ID: 240670

Customer: Pirkey Power Station

Date Reported: 05/28/2024

Customer Sample ID: AD-36

Customer Description:

Lab Number: 240670-001

Preparation:

Date Collected: 02/20/2024 09:36 EST

Date Received: 02/23/2024 11:00 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.055	mg/L	1	0.050	0.007		GES	05/21/2024 15:41	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: Equipment Blank

Customer Description:

Lab Number: 240670-002

Preparation:

Date Collected: 02/20/2024 09:45 EST

Date Received: 02/23/2024 11:00 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	<0.007	mg/L	1	0.050	0.007	U1	GES	05/21/2024 15:46	EPA 200.8-1994, Rev. 5.4

240670

Job Comments:

Original report issued 3/25/24. Report reissued 5/28/24 with ammendments for boron.

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.



Job ID: 240670

Water Analysis Report

Reissued

Customer: Pirkey Power Station

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Date Reported: 05/28/2024

Data Qualifier Legend

U1 - Not detected at or below method detection limit (MDL).

Dolan Chemical Laboratory (DCL)
 4001 Bixby Road
 Groveport, Ohio 43125
 Jonathan Barnhill (318-673-3803)
 Contacts: Michael Ohlinger (614-836-4184)

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Project Name: Pirkey - LF Resample Contact Name: Leslie Fuerschbach Contact Phone: 318-423-3805 Sampler(s): Matt Hamilton Kenny McDonald						Site Contact:			Date:			For Lab Use Only: COC/Order #: 240670		
Analysis Turnaround Time (in Calendar Days)						250 mL bottle, pH<2, HNO ₃	251 mL bottle, pH<2, HNO ₃	1 L bottle, Cool, 0-5°C	Three (six every 10th*) L bottles, pH<2, HNO ₃	40 mL Glass vial or 250 mL PTFE lined bottle, HCL **, pH<2	40 mL Glass vial or 250 mL PTFE lined bottle, HCL **, pH<2	Sample Specific Notes:		
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.								Samplers) Initials	B
AD-36	2/20/2024	836	G	GW	1		X							
EQUIPMENT BLANK	2/20/2024	845	G	GW	1		X							
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____; F= filter in field							4	4	1	4	2	2		
* Six 1L Bottles must be collected for Radium for every 10th sample.														
Special Instructions/QC Requirements & Comments:														
Relinquished by: <i>Matt Hamilton</i>			Company: <i>Eagle</i>			Date/Time: <i>2-21-24 1600</i>			Received by:			Date/Time:		
Relinquished by:			Company:			Date/Time:			Received by:			Date/Time:		
Relinquished by:			Company:			Date/Time:			Received in Laboratory by: <i>Michael Ohly</i>			Date/Time: <i>2/23/24 1100</i>		

AEP WATER & WASTE SAMPLE RECEIPT FORM

<u>Package Type</u> <input checked="" type="radio"/> Cooler <input type="radio"/> Box <input type="radio"/> Bag <input type="radio"/> Envelope		<u>Delivery Type</u> PONY UPS <input checked="" type="radio"/> FedEx USPS Other _____	
Plant/Customer <u>Pirkey</u>	Number of Plastic Containers: <u>2</u>		
Opened By <u>MGK/WCG</u>	Number of Glass Containers: <u>-</u>		
Date/Time <u>2/23/24 1100</u>	Number of Mercury Containers: <u>-</u>		
Were all temperatures within 0-6°C? Y / N or <input checked="" type="radio"/> N/A Initial: _____ on ice / <input checked="" type="radio"/> no ice (IR Gun Ser# <u>2213689000</u> , Expir. <u>03/24/2024</u>) - If No, specify each deviation: _____			
Was container in good condition? <input checked="" type="radio"/> Y <input type="radio"/> N Comments _____			
Was Chain of Custody received? <input checked="" type="radio"/> Y <input type="radio"/> N Comments _____			
Requested turnaround: _____ If RUSH, who was notified? _____			
pH (15 min)	Cr ⁺⁶ (pres) (24 hr)	NO ₂ or NO ₃ (48 hr)	ortho-PO ₄ (48 hr) Hg-diss (pres) (48 hr)

Was COC filled out properly? Y N Comments _____

Were samples labeled properly? Y N Comments _____

Were correct containers used? Y N Comments _____

Was pH checked & Color Coding done? Y / N or N/A Initial & Date: MGK/WCG 2/23/24

pH paper (circle one): MQuant,PN1.09535.0001,LOT# _____ (OR) Lab Rat,PN4801,LOT# X000RWDG21 Exp 03/15/2025

- Was Add'l Preservative needed? Y / N If Yes: By whom & when: _____ (See Prep Book)

Is sample filtration requested? Y / N Comments _____ (See Prep Book)

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 240670 Initial & Date & Time : _____

Comments: _____

Logged by MSO _____

Reviewed by MGK _____

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the "Notes" field in the LIMS to be included on the report to the customer.

ICP-MS Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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.

Jonathan Barnhill

Name (printed)

Signature of the Laboratory Supervisor
The Laboratory Supervisor must sign the report in which these data are used.
The Laboratory Supervisor must sign the report in which these data are used.
The Laboratory Supervisor must sign the report in which these data are used.

Signature

Lab Supervisor

Official Title

5/28/2024

Date

ICP-MS Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey CCR

Reviewer Name: Jonathan Barnhill

LRC Date: 5/28/2024

Laboratory Job Number: 240670

Prep Batch Number(s): PB24051609 QC2405183

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
R1	O, I	Chain-of-custody (COC)		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	Sample and quality control (QC) identification		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	Test reports		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	No	ER1
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	Surrogate recovery data		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	Test reports/summary forms for blank samples		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

ICP-MS Laboratory Review Checklist

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	Laboratory control samples (LCS):		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	Matrix spike (MS) and matrix spike duplicate (MSD) data		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	Analytical duplicate data		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	Method quantitation limits (MQLs):		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	Other problems/anomalies		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

ICP-MS Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey CCR
Reviewer Name: Jonathan Barnhill
LRC Date: 5/28/2024
Laboratory Job Number: 240670
Prep Batch Number(s): PB24051609 QC2405183

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	

ICP-MS Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey CCR
Reviewer Name: Jonathan Barnhill
LRC Date: 5/28/2024
Laboratory Job Number: 240670
Prep Batch Number(s): PB24051609 QC2405183

Exception Report No.	Description
ER1	Linear Dynamic Range (LDR) study used to determine upper limit of analyte calibration.
ER2	CCB acceptance criteria is $CCB < 2.2 * MDL$.

¹ Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

² O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).

³ NA - Not applicable; NR - Not reviewed.

⁴ Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 240643

Customer: Pirkey Power Station

Date Reported: 03/19/2024

Customer Sample ID: AD-36

Customer Description:

Lab Number: 240643-001

Preparation:

Date Collected: 02/20/2024 09:36 EST

Date Received: 02/22/2024 09:50 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	14.0	mg/L	2	0.04	0.01		CRJ	02/28/2024 15:48	EPA 300.1 -1997, Rev. 1.0

Report Verification

This report and the above data have been confirmed by the following analyst.

Michael Ohlinger, Chemist

Email: msohlinger@aep.com

Phone: 614-836-4184

Audinet: 8-210-4184

THIS TEST REPORT RELATES ONLY TO THE ITEMS TESTED AND SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THE LABORATORY. ALL TEST RESULTS MEET ALL OF THE REQUIREMENTS OF THE ACCREDITING AUTHORITY, UNLESS OTHERWISE NOTED. ALL TIMES LISTED ARE IN THE EASTERN TIME ZONE.

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Dolan Chemical Laboratory (DCL)
 4001 Bixby Road
 Groveport, Ohio 43125
Contacts: Jonathan Barnhill (318-673-3803)
Michael Ohlinger (614-836-4184)

Project Name: Pirkey - AD-34
 Contact Name: Leslie Fuerschbach
 Contact Phone: 318-423-3805

Sampler(s): Matt Hamilton Kenry McDonald

For Lab Use Only:
 COC/Order #: 240643

Sample Identification	Analysis Turnaround Time (in Calendar Days)				Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Date:					Sample Specific Notes										
	250 mL bottle, pH<2, HNO ₃	1 L bottle, Cool, 0-6°C	Three (six every 10th) L bottles, pH<2, HNO ₃	40 mL Glass vial or 250 mL PTFE lined bottle, HCL, pH<2						40 mL Glass vial or 250 mL PTFE lined bottle, HCL, pH<2	Site Contact:	Site Contact:	Site Contact:	Site Contact:		Site Contact:									
AD-36					2/20/2024	836	G	GW	1																

Preservation Used: 1= Ice, 2= HCl; 3= H₂SO₄; 4=HNO₃; 5=NaOH; 6= Other ; F= filter in field

* Six 1L Bottles must be collected for Radium for every 10th sample.

Special Instructions/QC Requirements & Comments:

Relinquished by: *[Signature]* Date/Time: 2/21/24 Received by: *[Signature]* Date/Time: 2/22/24 0950

Relinquished by: *[Signature]* Date/Time: *[Blank]* Received by: *[Signature]* Date/Time: *[Blank]*

Relinquished by: *[Signature]* Date/Time: *[Blank]* Received in Laboratory by: *[Signature]* Date/Time: 2/22/24 0950

Form COC-04, AEP Chain of Custody (COC) Record for Coal Combustion Residual (CCR) Sampling - Shreveport, Rev. 1, 1/10/17

AEP WATER & WASTE SAMPLE RECEIPT FORM

<u>Package Type</u>		<u>Delivery Type</u>	
<input checked="" type="radio"/> Cooler	<input type="radio"/> Box <input type="radio"/> Bag <input type="radio"/> Envelope	<input type="radio"/> PONY <input type="radio"/> UPS	<input checked="" type="radio"/> FedEX <input type="radio"/> USPS
Plant/Customer <u>Pittkey Power Station</u>		Number of Plastic Containers: <u>1</u>	
Opened By <u>Missina Williams</u>		Number of Glass Containers: _____	
Date/Time <u>02/22/24 9:50 AM</u>		Number of Mercury Containers: _____	
Were all temperatures within 0-6°C? <input checked="" type="radio"/> Y / <input type="radio"/> N or N/A Initial: <u>mbc</u> <input checked="" type="radio"/> on ice / <input type="radio"/> no ice (IR Gun Ser# <u>2213689000</u> , Expir. <u>03/24/2024</u>) - If No, specify each deviation: _____			
Was container in good condition? <input checked="" type="radio"/> Y / <input type="radio"/> N Comments _____			
Was Chain of Custody received? <input checked="" type="radio"/> Y / <input type="radio"/> N Comments _____			
Requested turnaround: <u>28 days</u> If RUSH, who was notified? _____			
pH (15 min)	Cr ⁺⁶ (pres) (24 hr)	NO ₂ or NO ₃ (48 hr)	ortho-PO ₄ (48 hr) Hg-diss (pres) (48 hr)

Was COC filled out properly? Y / N Comments _____

Were samples labeled properly? Y / N Comments _____

Were correct containers used? Y / N Comments _____

Was pH checked & Color Coding done? Y / N or N/A Initial & Date: mbc 02/22/24

pH paper (circle one): MQuant,PN1.09535.0001,LOT# _____ [OR] Lab Rat,PN4801,LOT# X000RWDG21 Exp 03/15/2025

- Was Add'l Preservative needed? Y / N If Yes: By whom & when: _____ (See Prep Book)

Is sample filtration requested? Y / N Comments _____ (See Prep Book)

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 2406.43 Initial & Date & Time : _____

Logged by WCG Comments: _____

Reviewed by MUSO _____

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the "Notes" field in the LIMS to be included on the report to the customer.

Ion Chromatography Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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	3/12/2024
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-AD-34
Reviewer Name: Tim Arnold
LRC Date: 3/12/2024
Laboratory Job Number: 240643
Prep Batch Number(s): QC2402235

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-AD-34
Reviewer Name: Tim Arnold
LRC Date: 3/12/2024
Laboratory Job Number: 240643
Prep Batch Number(s): QC2402235

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
S1	O, I	Initial calibration (ICAL)		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	Mass spectral tuning:		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	Internal standards (IS):		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	Raw data (NELAC section 1 appendix A glossary, and section 5.)		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Ion Chromatography Laboratory Review Checklist

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
S6	O	Dual column confirmation		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	Tentatively identified compounds (TICs):		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	Interference Check Sample (ICS) results:		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	Serial dilutions, post digestion spikes, and method of standard additions		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	Method detection limit (MDL) studies		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	Proficiency test reports:		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	Standards documentation		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	Compound/analyte identification procedures		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	Demonstration of analyst competency (DOC)		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	Verification/validation documentation for methods (NELAC Chap 5n 5)		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	Laboratory standard operating procedures (SOPs):		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Ion Chromatography Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey-AD-34
Reviewer Name: Tim Arnold
LRC Date: 3/12/2024
Laboratory Job Number: 240643
Prep Batch Number(s): QC2402235

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.”



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-2

Customer Description:

Lab Number: 241410-001

Preparation:

Date Collected: 04/23/2024 09:21 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Arsenic	2.05	µg/L	1	0.10	0.03		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Barium	14.8	µg/L	1	0.20	0.05		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Beryllium	1.03	µg/L	5	0.25	0.04		GES	05/08/2024 08:29	EPA 200.8-1994, Rev. 5.4
Boron	3.18	mg/L	1	0.050	0.007		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Cadmium	0.135	µg/L	1	0.020	0.004		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Calcium	4.51	mg/L	1	0.05	0.02		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Chromium	0.54	µg/L	1	0.30	0.07		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Cobalt	33.0	µg/L	1	0.020	0.005		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Lead	0.65	µg/L	1	0.20	0.05		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Lithium	0.0739	mg/L	5	0.0015	0.0003		GES	05/08/2024 08:29	EPA 200.8-1994, Rev. 5.4
Magnesium	9.21	mg/L	1	0.100	0.009		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Mercury	56	ng/L	1	5	2		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Potassium	1.43	mg/L	1	0.10	0.01		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Selenium	6.51	µg/L	1	0.50	0.04		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Sodium	111	mg/L	1	0.20	0.02		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Strontium	0.0635	mg/L	1	0.00200	0.00005		GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4
Thallium	0.13	µg/L	1	0.20	0.02	J1	GES	05/07/2024 19:31	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.55	pCi/L	0.13	0.16		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	91.9	%						
Radium-228	1.63	pCi/L	0.17	0.50		TTP	05/24/2024 13:03	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	83.4	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-2

Customer Description:

Lab Number: 241410-001-01

Preparation: Dissolved

Date Collected: 04/23/2024 09:21 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.023	µg/L	1	0.100	0.008	J1	GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Arsenic	2.06	µg/L	1	0.10	0.03		GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Barium	15.5	µg/L	1	0.20	0.05		GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Beryllium	1.10	µg/L	5	0.25	0.04		GES	05/08/2024 08:34	EPA 200.8-1994, Rev. 5.4
Cadmium	0.138	µg/L	1	0.020	0.004		GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Chromium	0.54	µg/L	1	0.30	0.07		GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Cobalt	34.1	µg/L	1	0.020	0.005		GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Iron	0.198	mg/L	1	0.020	0.003		GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Lead	0.73	µg/L	1	0.20	0.05		GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Lithium	0.0784	mg/L	5	0.0015	0.0003		GES	05/08/2024 08:34	EPA 200.8-1994, Rev. 5.4
Manganese	0.112	mg/L	1	0.00100	0.00007		GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Selenium	6.84	µg/L	1	0.50	0.04		GES	05/07/2024 19:36	EPA 200.8-1994, Rev. 5.4
Thallium	0.13	µg/L	1	0.20	0.02	J1	GES	05/07/2024 19:36	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-3

Customer Description:

Lab Number: 241410-002

Preparation:

Date Collected: 04/23/2024 12:04 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Arsenic	0.25	µg/L	1	0.10	0.03		GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Barium	65.2	µg/L	1	0.20	0.05		GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Beryllium	0.24	µg/L	5	0.25	0.04	J1	GES	05/08/2024 08:39	EPA 200.8-1994, Rev. 5.4
Boron	0.038	mg/L	1	0.050	0.007	J1	GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Cadmium	0.017	µg/L	1	0.020	0.004	J1	GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Calcium	4.32	mg/L	1	0.05	0.02		GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Chromium	0.24	µg/L	1	0.30	0.07	J1	GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Cobalt	3.57	µg/L	1	0.020	0.005		GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Lead	0.05	µg/L	1	0.20	0.05	J1	GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Lithium	0.0599	mg/L	5	0.0015	0.0003		GES	05/08/2024 08:39	EPA 200.8-1994, Rev. 5.4
Magnesium	1.93	mg/L	1	0.100	0.009		GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Potassium	2.28	mg/L	1	0.10	0.01		GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Selenium	0.06	µg/L	1	0.50	0.04	J1	GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Sodium	8.66	mg/L	1	0.20	0.02		GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Strontium	0.0298	mg/L	1	0.00200	0.00005		GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4
Thallium	0.05	µg/L	1	0.20	0.02	J1	GES	05/07/2024 19:41	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.66	pCi/L	0.13	0.15		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	100	%						
Radium-228	1.15	pCi/L	0.15	0.46		TTP	05/24/2024 13:03	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	87.3	%						

* 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.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-3

Customer Description:

Lab Number: 241410-002-01

Preparation: Dissolved

Date Collected: 04/23/2024 12:04 EDT

Date Received: 04/29/2024 10:00 EDT

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	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Arsenic	0.22	µg/L	1	0.10	0.03		GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Barium	67.0	µg/L	1	0.20	0.05		GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Beryllium	0.26	µg/L	5	0.25	0.04		GES	05/08/2024 08:45	EPA 200.8-1994, Rev. 5.4
Cadmium	0.017	µg/L	1	0.020	0.004	J1	GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Chromium	0.28	µg/L	1	0.30	0.07	J1	GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Cobalt	3.78	µg/L	1	0.020	0.005		GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Iron	1.21	mg/L	1	0.020	0.003		GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Lead	0.11	µg/L	1	0.20	0.05	J1	GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Lithium	0.0633	mg/L	5	0.0015	0.0003		GES	05/08/2024 08:45	EPA 200.8-1994, Rev. 5.4
Manganese	0.0427	mg/L	1	0.00100	0.00007		GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/07/2024 19:47	EPA 200.8-1994, Rev. 5.4
Thallium	0.05	µg/L	1	0.20	0.02	J1	GES	05/07/2024 19:47	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-4

Customer Description:

Lab Number: 241410-003

Preparation:

Date Collected: 04/24/2024 10:31 EDT

Date Received: 04/29/2024 10:00 EDT

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	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Arsenic	0.44	µg/L	1	0.10	0.03		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Barium	97.2	µg/L	1	0.20	0.05		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Beryllium	0.64	µg/L	5	0.25	0.04		GES	05/08/2024 08:50	EPA 200.8-1994, Rev. 5.4
Boron	0.017	mg/L	1	0.050	0.007	J1	GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Cadmium	0.020	µg/L	1	0.020	0.004		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Calcium	2.26	mg/L	1	0.05	0.02		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Chromium	0.31	µg/L	1	0.30	0.07		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Cobalt	5.95	µg/L	1	0.020	0.005		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Lead	0.06	µg/L	1	0.20	0.05	J1	GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Lithium	0.0395	mg/L	5	0.0015	0.0003		GES	05/08/2024 08:50	EPA 200.8-1994, Rev. 5.4
Magnesium	1.18	mg/L	1	0.100	0.009		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Potassium	2.36	mg/L	1	0.10	0.01		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Sodium	8.05	mg/L	1	0.20	0.02		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Strontium	0.0189	mg/L	1	0.00200	0.00005		GES	05/07/2024 19:52	EPA 200.8-1994, Rev. 5.4
Thallium	0.07	µg/L	1	0.20	0.02	J1	GES	05/07/2024 19:52	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	0.13	0.18		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	106	%						
Radium-228	1.12	pCi/L	0.19	0.60		TTP	05/24/2024 13:03	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	79.0	%						

* 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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-4

Customer Description:

Lab Number: 241410-003-01

Preparation: Dissolved

Date Collected: 04/24/2024 10:31 EDT

Date Received: 04/29/2024 10:00 EDT

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	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Barium	96.5	µg/L	1	0.20	0.05		GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Beryllium	0.66	µg/L	5	0.25	0.04		GES	05/08/2024 08:55	EPA 200.8-1994, Rev. 5.4
Cadmium	0.011	µg/L	1	0.020	0.004	J1	GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Chromium	0.28	µg/L	1	0.30	0.07	J1	GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Cobalt	5.86	µg/L	1	0.020	0.005		GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Iron	0.025	mg/L	1	0.020	0.003		GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Lithium	0.0411	mg/L	5	0.0015	0.0003		GES	05/08/2024 08:55	EPA 200.8-1994, Rev. 5.4
Manganese	0.0497	mg/L	1	0.00100	0.00007		GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Selenium	0.05	µg/L	1	0.50	0.04	J1	GES	05/07/2024 19:57	EPA 200.8-1994, Rev. 5.4
Thallium	0.07	µg/L	1	0.20	0.02	J1	GES	05/07/2024 19:57	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-7R

Customer Description:

Lab Number: 241410-004

Preparation:

Date Collected: 04/22/2024 10:25 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Arsenic	0.38	µg/L	1	0.10	0.03		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Barium	41.3	µg/L	1	0.20	0.05		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Beryllium	2.37	µg/L	5	0.25	0.04		GES	05/08/2024 09:00	EPA 200.8-1994, Rev. 5.4
Boron	0.049	mg/L	1	0.050	0.007	J1	GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Cadmium	0.310	µg/L	1	0.020	0.004		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Calcium	3.37	mg/L	1	0.05	0.02		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Chromium	0.23	µg/L	1	0.30	0.07	J1	GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Cobalt	20.9	µg/L	1	0.020	0.005		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Lithium	0.0790	mg/L	5	0.0015	0.0003		GES	05/08/2024 09:00	EPA 200.8-1994, Rev. 5.4
Magnesium	5.03	mg/L	1	0.100	0.009		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Mercury	<4	ng/L	2	10	4	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Potassium	1.99	mg/L	1	0.10	0.01		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Selenium	1.00	µg/L	1	0.50	0.04		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Sodium	23.4	mg/L	1	0.20	0.02		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Strontium	0.0366	mg/L	1	0.00200	0.00005		GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4
Thallium	0.14	µg/L	1	0.20	0.02	J1	GES	05/07/2024 20:02	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.16	pCi/L	0.18	0.16		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	99.8	%						
Radium-228	1.46	pCi/L	0.18	0.55		TTP	05/24/2024 13:03	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	87.3	%						

* 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.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-7R

Customer Description:

Lab Number: 241410-004-01

Preparation: Dissolved

Date Collected: 04/22/2024 10:25 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Arsenic	0.37	µg/L	1	0.10	0.03		GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Barium	41.7	µg/L	1	0.20	0.05		GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Beryllium	1.96	µg/L	1	0.050	0.007		GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Cadmium	0.318	µg/L	1	0.020	0.004		GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Chromium	0.25	µg/L	1	0.30	0.07	J1	GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Cobalt	21.0	µg/L	1	0.020	0.005		GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Iron	5.21	mg/L	1	0.020	0.003		GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Lead	0.06	µg/L	1	0.20	0.05	J1	GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Lithium	0.0678	mg/L	1	0.00030	0.00006		GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Manganese	0.0649	mg/L	1	0.00100	0.00007		GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Selenium	1.03	µg/L	1	0.50	0.04		GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4
Thallium	0.14	µg/L	1	0.20	0.02	J1	GES	05/07/2024 20:07	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-8

Customer Description:

Lab Number: 241410-005

Preparation:

Date Collected: 04/23/2024 11:11 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.999	mg/L	1	0.050	0.007		GES	05/07/2024 20:12	EPA 200.8-1994, Rev. 5.4
Calcium	87.7	mg/L	1	0.05	0.02		GES	05/07/2024 20:12	EPA 200.8-1994, Rev. 5.4
Magnesium	6.27	mg/L	1	0.100	0.009		GES	05/07/2024 20:12	EPA 200.8-1994, Rev. 5.4
Potassium	1.19	mg/L	1	0.10	0.01		GES	05/07/2024 20:12	EPA 200.8-1994, Rev. 5.4
Sodium	11.5	mg/L	1	0.20	0.02		GES	05/07/2024 20:12	EPA 200.8-1994, Rev. 5.4
Strontium	0.526	mg/L	1	0.00200	0.00005		GES	05/07/2024 20:12	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-12

Customer Description:

Lab Number: 241410-006

Preparation:

Date Collected: 04/22/2024 10:44 EDT

Date Received: 04/29/2024 10:00 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	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Arsenic	0.09	µg/L	1	0.10	0.03	J1	GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Barium	19.3	µg/L	1	0.20	0.05		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Beryllium	0.121	µg/L	1	0.050	0.007		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Boron	0.015	mg/L	1	0.050	0.007	J1	GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Cadmium	0.007	µg/L	1	0.020	0.004	J1	GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Calcium	0.18	mg/L	1	0.05	0.02		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Chromium	0.34	µg/L	1	0.30	0.07		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Cobalt	1.08	µg/L	1	0.020	0.005		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Lithium	0.00462	mg/L	1	0.00030	0.00006		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Magnesium	0.342	mg/L	1	0.100	0.009		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Potassium	0.20	mg/L	1	0.10	0.01		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Selenium	0.31	µg/L	1	0.50	0.04	J1	GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Sodium	3.75	mg/L	1	0.20	0.02		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Strontium	0.00203	mg/L	1	0.00200	0.00005		GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/07/2024 20:17	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.83	pCi/L	0.15	0.14		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	106	%						
Radium-228	1.79	pCi/L	0.21	0.64		TTP	05/24/2024 13:03	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	74.6	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-12

Customer Description:

Lab Number: 241410-006-01

Preparation: Dissolved

Date Collected: 04/22/2024 10:44 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.037	µg/L	1	0.100	0.008	J1	GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Arsenic	0.07	µg/L	1	0.10	0.03	J1	GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Barium	19.5	µg/L	1	0.20	0.05		GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Beryllium	0.129	µg/L	1	0.050	0.007		GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Cadmium	0.007	µg/L	1	0.020	0.004	J1	GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Chromium	0.25	µg/L	1	0.30	0.07	J1	GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Cobalt	1.07	µg/L	1	0.020	0.005		GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Iron	0.020	mg/L	1	0.020	0.003		GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Lead	0.12	µg/L	1	0.20	0.05	J1	GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Lithium	0.00490	mg/L	1	0.00030	0.00006		GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Manganese	0.00313	mg/L	1	0.00100	0.00007		GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Selenium	0.26	µg/L	1	0.50	0.04	J1	GES	05/07/2024 21:34	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	GES	05/07/2024 21:34	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-13

Customer Description:

Lab Number: 241410-007

Preparation:

Date Collected: 04/22/2024 09:20 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Arsenic	0.54	µg/L	1	0.10	0.03		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Barium	34.9	µg/L	1	0.20	0.05		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Beryllium	0.163	µg/L	1	0.050	0.007		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Boron	0.066	mg/L	1	0.050	0.007		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Calcium	10.6	mg/L	1	0.05	0.02		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Chromium	0.22	µg/L	1	0.30	0.07	J1	GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Cobalt	46.2	µg/L	1	0.020	0.005		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Lithium	0.135	mg/L	1	0.00030	0.00006		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Magnesium	13.2	mg/L	1	0.100	0.009		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Potassium	4.83	mg/L	1	0.10	0.01		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Sodium	19.9	mg/L	1	0.20	0.02		GES	05/08/2024 10:01	EPA 200.8-1994, Rev. 5.4
Strontium	0.0787	mg/L	1	0.00200	0.00005		GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	05/07/2024 21:39	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.65	pCi/L	0.15	0.23		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	92.6	%						
Radium-228	2.02	pCi/L	0.20	0.59		TTP	05/24/2024 13:03	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	86.1	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-13

Customer Description:

Lab Number: 241410-007-01

Preparation: Dissolved

Date Collected: 04/22/2024 09:20 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Arsenic	0.32	µg/L	1	0.10	0.03		GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Barium	33.9	µg/L	1	0.20	0.05		GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Beryllium	0.151	µg/L	1	0.050	0.007		GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Chromium	0.19	µg/L	1	0.30	0.07	J1	GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Cobalt	44.9	µg/L	1	0.020	0.005		GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Iron	33.8	mg/L	1	0.020	0.003		GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Lithium	0.133	mg/L	1	0.00030	0.00006		GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Manganese	0.447	mg/L	1	0.00100	0.00007		GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	05/07/2024 21:45	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-16

Customer Description:

Lab Number: 241410-008

Preparation:

Date Collected: 04/24/2024 12:04 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.013	mg/L	1	0.050	0.007	J1	GES	05/07/2024 21:50	EPA 200.8-1994, Rev. 5.4
Calcium	1.13	mg/L	1	0.05	0.02		GES	05/07/2024 21:50	EPA 200.8-1994, Rev. 5.4
Magnesium	2.37	mg/L	1	0.100	0.009		GES	05/07/2024 21:50	EPA 200.8-1994, Rev. 5.4
Potassium	1.53	mg/L	1	0.10	0.01		GES	05/07/2024 21:50	EPA 200.8-1994, Rev. 5.4
Sodium	13.5	mg/L	1	0.20	0.02		GES	05/08/2024 10:12	EPA 200.8-1994, Rev. 5.4
Strontium	0.0135	mg/L	1	0.00200	0.00005		GES	05/07/2024 21:50	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-17

Customer Description:

Lab Number: 241410-009

Preparation:

Date Collected: 04/23/2024 12:16 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Arsenic	0.09	µg/L	1	0.10	0.03	J1	GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Barium	47.6	µg/L	1	0.20	0.05		GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Beryllium	0.221	µg/L	1	0.050	0.007		GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Boron	0.020	mg/L	1	0.050	0.007	J1	GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Cadmium	0.011	µg/L	1	0.020	0.004	J1	GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Calcium	0.04	mg/L	1	0.05	0.02	J1	GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Chromium	0.37	µg/L	1	0.30	0.07		GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Cobalt	1.99	µg/L	1	0.020	0.005		GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Lithium	0.00705	mg/L	1	0.00030	0.00006		GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Magnesium	0.899	mg/L	1	0.100	0.009		GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Mercury	51	ng/L	4	20	8		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Potassium	0.15	mg/L	1	0.10	0.01		GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Selenium	0.11	µg/L	1	0.50	0.04	J1	GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Sodium	3.85	mg/L	1	0.20	0.02		GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Strontium	0.00224	mg/L	1	0.00200	0.00005		GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/07/2024 21:55	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.45	pCi/L	0.11	0.15		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	101	%						
Radium-228	1.35	pCi/L	0.15	0.44		TTP	05/24/2024 13:02	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	83.0	%						

* 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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-17

Customer Description:

Lab Number: 241410-009-01

Preparation: Dissolved

Date Collected: 04/23/2024 11:16 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Arsenic	0.05	µg/L	1	0.10	0.03	J1	GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Barium	46.3	µg/L	1	0.20	0.05		GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Beryllium	0.196	µg/L	1	0.050	0.007		GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Cadmium	0.010	µg/L	1	0.020	0.004	J1	GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Chromium	0.38	µg/L	1	0.30	0.07		GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Cobalt	1.95	µg/L	1	0.020	0.005		GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Iron	0.004	mg/L	1	0.020	0.003	J1	GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Lithium	0.00647	mg/L	1	0.00030	0.00006		GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Manganese	0.00240	mg/L	1	0.00100	0.00007		GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Selenium	0.09	µg/L	1	0.50	0.04	J1	GES	05/07/2024 22:00	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/07/2024 22:00	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-18

Customer Description:

Lab Number: 241410-010

Preparation:

Date Collected: 04/23/2024 11:58 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Arsenic	0.19	µg/L	1	0.10	0.03		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Barium	76.6	µg/L	1	0.20	0.05		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Beryllium	0.083	µg/L	1	0.050	0.007		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Boron	0.008	mg/L	1	0.050	0.007	J1	GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Cadmium	0.010	µg/L	1	0.020	0.004	J1	GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Calcium	0.19	mg/L	1	0.05	0.02		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Chromium	0.32	µg/L	1	0.30	0.07		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Cobalt	0.851	µg/L	1	0.020	0.005		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Lead	0.06	µg/L	1	0.20	0.05	J1	GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Lithium	0.0130	mg/L	1	0.00030	0.00006		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Magnesium	0.294	mg/L	1	0.100	0.009		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Mercury	8	ng/L	1	5	2		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Potassium	0.74	mg/L	1	0.10	0.01		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Selenium	0.11	µg/L	1	0.50	0.04	J1	GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Sodium	5.64	mg/L	1	0.20	0.02		GES	05/08/2024 10:27	EPA 200.8-1994, Rev. 5.4
Strontium	0.00415	mg/L	1	0.00200	0.00005		GES	05/07/2024 22:05	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	05/07/2024 22:05	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	0.11	0.18		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	104	%						
Radium-228	0.57	pCi/L	0.13	0.42		TTP	05/24/2024 13:02	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	85.9	%						

* 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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-18

Customer Description:

Lab Number: 241410-010-01

Preparation: Dissolved

Date Collected: 04/23/2024 11:58 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.020	µg/L	1	0.100	0.008	J1	GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Arsenic	0.07	µg/L	1	0.10	0.03	J1	GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Barium	80.5	µg/L	1	0.20	0.05		GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Beryllium	0.084	µg/L	1	0.050	0.007		GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Cadmium	0.011	µg/L	1	0.020	0.004	J1	GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Chromium	0.41	µg/L	1	0.30	0.07		GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Cobalt	0.921	µg/L	1	0.020	0.005		GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Iron	0.031	mg/L	1	0.020	0.003		GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Lead	0.07	µg/L	1	0.20	0.05	J1	GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Lithium	0.0135	mg/L	1	0.00030	0.00006		GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Manganese	0.00407	mg/L	1	0.00100	0.00007		GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Selenium	0.08	µg/L	1	0.50	0.04	J1	GES	05/07/2024 22:10	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	05/07/2024 22:10	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-22

Customer Description:

Lab Number: 241410-011

Preparation:

Date Collected: 04/22/2024 11:22 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Arsenic	3.54	µg/L	1	0.10	0.03		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Barium	16.2	µg/L	1	0.20	0.05		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Beryllium	7.53	µg/L	1	0.050	0.007	M1	GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Boron	0.064	mg/L	1	0.050	0.007		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Cadmium	1.22	µg/L	1	0.020	0.004		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Calcium	13.5	mg/L	1	0.05	0.02		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Chromium	0.43	µg/L	1	0.30	0.07		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Cobalt	99.3	µg/L	1	0.020	0.005	M1	GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Lead	0.23	µg/L	1	0.20	0.05		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Lithium	0.146	mg/L	1	0.00030	0.00006	M1	GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Magnesium	19.9	mg/L	1	0.100	0.009		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Mercury	66	ng/L	4	20	8		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Potassium	3.81	mg/L	1	0.10	0.01		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Selenium	11.9	µg/L	1	0.50	0.04		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Sodium	90.3	mg/L	5	1.0	0.1		GES	05/08/2024 10:37	EPA 200.8-1994, Rev. 5.4
Strontium	0.129	mg/L	1	0.00200	0.00005		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4
Thallium	0.20	µg/L	1	0.20	0.02		GES	05/07/2024 22:15	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.78	pCi/L	0.23	0.17		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	95.0	%						
Radium-228	1.24	pCi/L	0.14	0.40	O2, P2	TTP	06/05/2024 13:38	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	56.2	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-22

Customer Description:

Lab Number: 241410-011-01

Preparation: Dissolved

Date Collected: 04/22/2024 11:22 EDT

Date Received: 04/29/2024 10:00 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	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Arsenic	3.76	µg/L	1	0.10	0.03		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Barium	16.7	µg/L	1	0.20	0.05		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Beryllium	7.18	µg/L	1	0.050	0.007		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Cadmium	1.30	µg/L	1	0.020	0.004		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Chromium	0.44	µg/L	1	0.30	0.07		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Cobalt	106	µg/L	1	0.020	0.005		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Iron	17.8	mg/L	1	0.020	0.003		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Lead	0.23	µg/L	1	0.20	0.05		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Lithium	0.141	mg/L	1	0.00030	0.00006		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Manganese	0.347	mg/L	1	0.00100	0.00007		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Mercury	9	ng/L	1	5	2		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Selenium	12.1	µg/L	1	0.50	0.04		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4
Thallium	0.24	µg/L	1	0.20	0.02		GES	05/07/2024 22:31	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-23

Customer Description:

Lab Number: 241410-012

Preparation:

Date Collected: 04/24/2024 12:05 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.207	mg/L	1	0.050	0.007		GES	05/08/2024 00:14	EPA 200.8-1994, Rev. 5.4
Calcium	0.22	mg/L	1	0.05	0.02		GES	05/08/2024 00:14	EPA 200.8-1994, Rev. 5.4
Magnesium	0.197	mg/L	1	0.100	0.009		GES	05/08/2024 00:14	EPA 200.8-1994, Rev. 5.4
Potassium	2.51	mg/L	1	0.10	0.01		GES	05/08/2024 00:14	EPA 200.8-1994, Rev. 5.4
Sodium	3.54	mg/L	1	0.20	0.02		GES	05/08/2024 12:25	EPA 200.8-1994, Rev. 5.4
Strontium	0.00254	mg/L	1	0.00200	0.00005		GES	05/08/2024 00:14	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-27

Customer Description:

Lab Number: 241410-013

Preparation:

Date Collected: 04/24/2024 09:30 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.037	mg/L	1	0.050	0.007	J1	GES	05/08/2024 00:19	EPA 200.8-1994, Rev. 5.4
Calcium	3.89	mg/L	1	0.05	0.02		GES	05/08/2024 00:19	EPA 200.8-1994, Rev. 5.4
Magnesium	4.97	mg/L	1	0.100	0.009		GES	05/08/2024 00:19	EPA 200.8-1994, Rev. 5.4
Potassium	1.87	mg/L	1	0.10	0.01		GES	05/08/2024 00:19	EPA 200.8-1994, Rev. 5.4
Sodium	8.79	mg/L	1	0.20	0.02		GES	05/08/2024 12:30	EPA 200.8-1994, Rev. 5.4
Strontium	0.0560	mg/L	1	0.00200	0.00005		GES	05/08/2024 00:19	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-28

Customer Description:

Lab Number: 241410-014

Preparation:

Date Collected: 04/23/2024 10:28 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Arsenic	0.12	µg/L	1	0.10	0.03		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Barium	121	µg/L	1	0.20	0.05		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Beryllium	0.770	µg/L	1	0.050	0.007		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Boron	0.290	mg/L	1	0.050	0.007		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Cadmium	0.055	µg/L	1	0.020	0.004		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Calcium	1.19	mg/L	1	0.05	0.02		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Chromium	0.38	µg/L	1	0.30	0.07		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Cobalt	13.0	µg/L	1	0.020	0.005		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Lead	0.07	µg/L	1	0.20	0.05	J1	GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Lithium	0.0179	mg/L	1	0.00030	0.00006		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Magnesium	2.81	mg/L	1	0.100	0.009		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Mercury	13	ng/L	1	5	2		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Potassium	0.61	mg/L	1	0.10	0.01		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Selenium	0.33	µg/L	1	0.50	0.04	J1	GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Sodium	5.13	mg/L	1	0.20	0.02		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Strontium	0.0209	mg/L	1	0.00200	0.00005		GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	05/08/2024 00:24	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.56	pCi/L	0.13	0.22		ST	05/21/2024 09:02	SW-846 9315-1986, Rev. 0
Carrier Recovery	98.4	%						
Radium-228	0.99	pCi/L	0.19	0.60	02, P2	TTP	06/05/2024 13:38	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	75.8	%						

* 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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-28

Customer Description:

Lab Number: 241410-014-01

Preparation: Dissolved

Date Collected: 04/23/2024 10:28 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Arsenic	0.10	µg/L	1	0.10	0.03		GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Barium	124	µg/L	1	0.20	0.05		GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Beryllium	0.755	µg/L	1	0.050	0.007		GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Cadmium	0.052	µg/L	1	0.020	0.004		GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Chromium	0.22	µg/L	1	0.30	0.07	J1	GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Cobalt	13.0	µg/L	1	0.020	0.005		GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Iron	0.008	mg/L	1	0.020	0.003	J1	GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Lead	0.05	µg/L	1	0.20	0.05	J1	GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Lithium	0.0186	mg/L	1	0.00030	0.00006		GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Manganese	0.0382	mg/L	1	0.00100	0.00007		GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Mercury	5	ng/L	1	5	2		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Selenium	0.27	µg/L	1	0.50	0.04	J1	GES	05/08/2024 00:29	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	GES	05/08/2024 00:29	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-30

Customer Description:

Lab Number: 241410-015

Preparation:

Date Collected: 04/23/2024 09:43 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Arsenic	0.15	µg/L	1	0.10	0.03		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Barium	49.9	µg/L	1	0.20	0.05		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Beryllium	0.122	µg/L	1	0.050	0.007		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Boron	1.13	mg/L	1	0.050	0.007		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Cadmium	0.012	µg/L	1	0.020	0.004	J1	GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Calcium	0.38	mg/L	1	0.05	0.02		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Chromium	0.42	µg/L	1	0.30	0.07		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Cobalt	3.30	µg/L	1	0.020	0.005		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Lithium	0.00736	mg/L	1	0.00030	0.00006		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Magnesium	1.72	mg/L	1	0.100	0.009		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Mercury	23	ng/L	1	5	2		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Potassium	0.70	mg/L	1	0.10	0.01		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Selenium	0.30	µg/L	1	0.50	0.04	J1	GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Sodium	56.1	mg/L	1	0.20	0.02		GES	05/08/2024 12:45	EPA 200.8-1994, Rev. 5.4
Strontium	0.00645	mg/L	1	0.00200	0.00005		GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	05/08/2024 00:34	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.21	pCi/L	0.08	0.16		ST	05/21/2024 11:31	SW-846 9315-1986, Rev. 0
Carrier Recovery	92.4	%						
Radium-228	0.68	pCi/L	0.17	0.54	02, P2	TTP	06/05/2024 13:38	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	83.0	%						

* 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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-30

Customer Description:

Lab Number: 241410-015-01

Preparation: Dissolved

Date Collected: 04/23/2024 09:43 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Arsenic	0.11	µg/L	1	0.10	0.03		GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Barium	48.3	µg/L	1	0.20	0.05		GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Beryllium	0.124	µg/L	1	0.050	0.007		GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Cadmium	0.010	µg/L	1	0.020	0.004	J1	GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Chromium	0.32	µg/L	1	0.30	0.07		GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Cobalt	3.34	µg/L	1	0.020	0.005		GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Iron	0.005	mg/L	1	0.020	0.003	J1	GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Lithium	0.00741	mg/L	1	0.00030	0.00006		GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Manganese	0.0147	mg/L	1	0.00100	0.00007		GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Selenium	0.30	µg/L	1	0.50	0.04	J1	GES	05/08/2024 00:39	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	GES	05/08/2024 00:39	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-31

Customer Description:

Lab Number: 241410-016

Preparation:

Date Collected: 04/22/2024 12:20 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Arsenic	0.44	µg/L	1	0.10	0.03		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Barium	33.3	µg/L	1	0.20	0.05		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Beryllium	1.04	µg/L	5	0.25	0.04		GES	05/08/2024 12:56	EPA 200.8-1994, Rev. 5.4
Boron	0.022	mg/L	1	0.050	0.007	J1	GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Cadmium	0.064	µg/L	1	0.020	0.004		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Calcium	2.45	mg/L	1	0.05	0.02		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Chromium	0.55	µg/L	1	0.30	0.07		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Cobalt	9.38	µg/L	1	0.020	0.005		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Lead	0.31	µg/L	1	0.20	0.05		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Lithium	0.0792	mg/L	5	0.0015	0.0003		GES	05/08/2024 12:56	EPA 200.8-1994, Rev. 5.4
Magnesium	3.62	mg/L	1	0.100	0.009		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Mercury	430	ng/L	10	50	20		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Potassium	1.52	mg/L	1	0.10	0.01		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Selenium	0.51	µg/L	1	0.50	0.04		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Sodium	31.0	mg/L	5	1.0	0.1		GES	05/08/2024 12:56	EPA 200.8-1994, Rev. 5.4
Strontium	0.0357	mg/L	1	0.00200	0.00005		GES	05/08/2024 00:44	EPA 200.8-1994, Rev. 5.4
Thallium	0.09	µg/L	1	0.20	0.02	J1	GES	05/08/2024 00:44	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	0.11	0.16		ST	05/21/2024 11:31	SW-846 9315-1986, Rev. 0
Carrier Recovery	93.2	%						
Radium-228	2.12	pCi/L	0.17	0.48	02, P2	TTP	06/05/2024 13:38	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	84.1	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-31

Customer Description:

Lab Number: 241410-016-01

Preparation: Dissolved

Date Collected: 04/22/2024 12:20 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.027	µg/L	1	0.100	0.008	J1	GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Arsenic	0.29	µg/L	1	0.10	0.03		GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Barium	32.4	µg/L	1	0.20	0.05		GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Beryllium	1.02	µg/L	5	0.25	0.04		GES	05/08/2024 13:01	EPA 200.8-1994, Rev. 5.4
Cadmium	0.063	µg/L	1	0.020	0.004		GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Chromium	0.38	µg/L	1	0.30	0.07		GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Cobalt	9.05	µg/L	1	0.020	0.005		GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Iron	0.125	mg/L	1	0.020	0.003		GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Lead	0.31	µg/L	1	0.20	0.05		GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Lithium	0.0780	mg/L	5	0.0015	0.0003		GES	05/08/2024 13:01	EPA 200.8-1994, Rev. 5.4
Manganese	0.0230	mg/L	1	0.00100	0.00007		GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Mercury	17	ng/L	1	5	2		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Selenium	0.44	µg/L	1	0.50	0.04	J1	GES	05/08/2024 00:49	EPA 200.8-1994, Rev. 5.4
Thallium	0.09	µg/L	1	0.20	0.02	J1	GES	05/08/2024 00:49	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-32

Customer Description:

Lab Number: 241410-017

Preparation:

Date Collected: 04/22/2024 11:33 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Arsenic	3.46	µg/L	1	0.10	0.03		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Barium	40.3	µg/L	1	0.20	0.05		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Beryllium	0.449	µg/L	1	0.050	0.007		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Boron	0.231	mg/L	1	0.050	0.007		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Cadmium	0.035	µg/L	1	0.020	0.004		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Calcium	5.63	mg/L	1	0.05	0.02		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Chromium	0.34	µg/L	1	0.30	0.07		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Cobalt	13.2	µg/L	1	0.020	0.005		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Lithium	0.0567	mg/L	1	0.00030	0.00006		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Magnesium	6.18	mg/L	1	0.100	0.009		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Mercury	180	ng/L	20	100	40		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Potassium	2.65	mg/L	1	0.10	0.01		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Selenium	0.48	µg/L	1	0.50	0.04	J1	GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Sodium	19.6	mg/L	1	0.20	0.02		GES	05/08/2024 13:06	EPA 200.8-1994, Rev. 5.4
Strontium	0.0806	mg/L	1	0.00200	0.00005		GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4
Thallium	0.07	µg/L	1	0.20	0.02	J1	GES	05/08/2024 00:55	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.48	pCi/L	0.12	0.21		ST	05/21/2024 11:31	SW-846 9315-1986, Rev. 0
Carrier Recovery	92.3	%						
Radium-228	1.16	pCi/L	0.17	0.51	02, P2	TTP	06/05/2024 13:38	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	83.0	%						

* 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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-32

Customer Description:

Lab Number: 241410-017-01

Preparation: Dissolved

Date Collected: 04/22/2024 11:33 EDT

Date Received: 04/29/2024 10:00 EDT

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	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Arsenic	2.44	µg/L	1	0.10	0.03		GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Barium	40.1	µg/L	1	0.20	0.05		GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Beryllium	0.472	µg/L	1	0.050	0.007		GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Cadmium	0.037	µg/L	1	0.020	0.004		GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Chromium	0.21	µg/L	1	0.30	0.07	J1	GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Cobalt	13.1	µg/L	1	0.020	0.005		GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Iron	10.9	mg/L	1	0.020	0.003	M1	GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Lead	0.07	µg/L	1	0.20	0.05	J1	GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Lithium	0.0569	mg/L	1	0.00030	0.00006	M1	GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Manganese	0.0827	mg/L	1	0.00100	0.00007		GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Selenium	0.47	µg/L	1	0.50	0.04	J1	GES	05/08/2024 01:00	EPA 200.8-1994, Rev. 5.4
Thallium	0.07	µg/L	1	0.20	0.02	J1	GES	05/08/2024 01:00	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-33

Customer Description:

Lab Number: 241410-018

Preparation:

Date Collected: 04/22/2024 12:13 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Arsenic	1.00	µg/L	1	0.10	0.03		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Barium	42.2	µg/L	1	0.20	0.05		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Beryllium	1.31	µg/L	1	0.050	0.007		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Boron	0.141	mg/L	1	0.050	0.007		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Cadmium	0.058	µg/L	1	0.020	0.004		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Calcium	2.08	mg/L	1	0.05	0.02		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Chromium	0.23	µg/L	1	0.30	0.07	J1	GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Cobalt	11.0	µg/L	1	0.020	0.005		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Lead	0.27	µg/L	1	0.20	0.05		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Lithium	0.0199	mg/L	1	0.00030	0.00006		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Magnesium	4.36	mg/L	1	0.100	0.009		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Mercury	6600	ng/L	100	500	200		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Potassium	0.26	mg/L	1	0.10	0.01		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Selenium	3.18	µg/L	1	0.50	0.04		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Sodium	17.7	mg/L	1	0.20	0.02		GES	05/08/2024 14:23	EPA 200.8-1994, Rev. 5.4
Strontium	0.0350	mg/L	1	0.00200	0.00005		GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	05/08/2024 02:17	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.73	pCi/L	0.15	0.18		ST	05/21/2024 11:31	SW-846 9315-1986, Rev. 0
Carrier Recovery	87.2	%						
Radium-228	0.88	pCi/L	0.12	0.38	02, P2	TTP	06/05/2024 13:38	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	89.1	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-33

Customer Description:

Lab Number: 241410-018-01

Preparation: Dissolved

Date Collected: 04/22/2024 12:13 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.030	µg/L	1	0.100	0.008	J1	GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Arsenic	1.04	µg/L	1	0.10	0.03		GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Barium	42.7	µg/L	1	0.20	0.05		GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Beryllium	1.28	µg/L	1	0.050	0.007		GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Cadmium	0.058	µg/L	1	0.020	0.004		GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Chromium	0.23	µg/L	1	0.30	0.07	J1	GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Cobalt	11.3	µg/L	1	0.020	0.005		GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Iron	0.015	mg/L	1	0.020	0.003	J1	GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Lead	0.29	µg/L	1	0.20	0.05		GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Lithium	0.0194	mg/L	1	0.00030	0.00006		GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Manganese	0.00682	mg/L	1	0.00100	0.00007		GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Mercury	890	ng/L	20	100	40		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Selenium	3.36	µg/L	1	0.50	0.04		GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	GES	05/08/2024 02:22	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-34

Customer Description:

Lab Number: 241410-019

Preparation:

Date Collected: 04/24/2024 11:11 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.057	mg/L	1	0.050	0.007		GES	05/08/2024 02:27	EPA 200.8-1994, Rev. 5.4
Calcium	40.5	mg/L	1	0.05	0.02		GES	05/08/2024 02:27	EPA 200.8-1994, Rev. 5.4
Magnesium	34.9	mg/L	1	0.100	0.009		GES	05/08/2024 02:27	EPA 200.8-1994, Rev. 5.4
Potassium	6.93	mg/L	1	0.10	0.01		GES	05/08/2024 02:27	EPA 200.8-1994, Rev. 5.4
Sodium	15.8	mg/L	1	0.20	0.02		GES	05/08/2024 14:33	EPA 200.8-1994, Rev. 5.4
Strontium	0.437	mg/L	1	0.00200	0.00005		GES	05/08/2024 02:27	EPA 200.8-1994, Rev. 5.4



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: AD-36

Customer Description:

Lab Number: 241410-020

Preparation:

Date Collected: 04/23/2024 10:20 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.053	mg/L	1	0.050	0.007		GES	05/08/2024 02:32	EPA 200.8-1994, Rev. 5.4
Calcium	0.75	mg/L	1	0.05	0.02		GES	05/08/2024 02:32	EPA 200.8-1994, Rev. 5.4
Magnesium	2.28	mg/L	1	0.100	0.009		GES	05/08/2024 02:32	EPA 200.8-1994, Rev. 5.4
Potassium	1.56	mg/L	1	0.10	0.01		GES	05/08/2024 02:32	EPA 200.8-1994, Rev. 5.4
Sodium	6.51	mg/L	1	0.20	0.02		GES	05/08/2024 14:38	EPA 200.8-1994, Rev. 5.4
Strontium	0.0113	mg/L	1	0.00200	0.00005		GES	05/08/2024 02:32	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: Duplicate 1

Customer Description:

Lab Number: 241410-021

Preparation:

Date Collected: 04/22/2024 15:00 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Arsenic	0.37	µg/L	1	0.10	0.03		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Barium	41.0	µg/L	1	0.20	0.05		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Beryllium	1.93	µg/L	1	0.050	0.007		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Boron	0.048	mg/L	1	0.050	0.007	J1	GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Cadmium	0.311	µg/L	1	0.020	0.004		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Calcium	3.32	mg/L	1	0.05	0.02		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Chromium	0.27	µg/L	1	0.30	0.07	J1	GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Cobalt	20.6	µg/L	1	0.020	0.005		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Lithium	0.0639	mg/L	1	0.00030	0.00006		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Magnesium	4.93	mg/L	1	0.100	0.009		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/06/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Potassium	1.99	mg/L	1	0.10	0.01		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Selenium	1.06	µg/L	1	0.50	0.04		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Sodium	25.9	mg/L	1	0.20	0.02		GES	05/08/2024 14:43	EPA 200.8-1994, Rev. 5.4
Strontium	0.0360	mg/L	1	0.00200	0.00005		GES	05/08/2024 02:37	EPA 200.8-1994, Rev. 5.4
Thallium	0.14	µg/L	1	0.20	0.02	J1	GES	05/08/2024 02:37	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: Duplicate 1

Customer Description:

Lab Number: 241410-021-01

Preparation: Dissolved

Date Collected: 04/22/2024 15:00 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Arsenic	0.37	µg/L	1	0.10	0.03		GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Barium	40.1	µg/L	1	0.20	0.05		GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Beryllium	1.99	µg/L	1	0.050	0.007		GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Cadmium	0.313	µg/L	1	0.020	0.004		GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Chromium	0.25	µg/L	1	0.30	0.07	J1	GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Cobalt	20.6	µg/L	1	0.020	0.005		GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Iron	5.10	mg/L	1	0.020	0.003		GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Lithium	0.0655	mg/L	1	0.00030	0.00006		GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Manganese	0.0630	mg/L	1	0.00100	0.00007		GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/06/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Selenium	1.00	µg/L	1	0.50	0.04		GES	05/08/2024 02:42	EPA 200.8-1994, Rev. 5.4
Thallium	0.14	µg/L	1	0.20	0.02	J1	GES	05/08/2024 02:42	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: Equipment Blank

Customer Description:

Lab Number: 241410-022

Preparation:

Date Collected: 04/23/2024 10:53 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Barium	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Calcium	<0.02	mg/L	1	0.05	0.02	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Chromium	0.23	µg/L	1	0.30	0.07	J1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Cobalt	0.007	µg/L	1	0.020	0.005	J1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00006	mg/L	1	0.00030	0.00006	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Magnesium	<0.009	mg/L	1	0.100	0.009	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Potassium	<0.01	mg/L	1	0.10	0.01	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Sodium	<0.02	mg/L	1	0.20	0.02	U1	GES	05/08/2024 14:54	EPA 200.8-1994, Rev. 5.4
Strontium	<0.00005	mg/L	1	0.00200	0.00005	U1	GES	05/08/2024 02:48	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/08/2024 02:48	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

Customer Sample ID: Field Blank

Customer Description:

Lab Number: 241410-023

Preparation:

Date Collected: 04/23/2024 10:56 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Barium	0.10	µg/L	1	0.20	0.05	J1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Calcium	<0.02	mg/L	1	0.05	0.02	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Chromium	0.26	µg/L	1	0.30	0.07	J1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Cobalt	0.025	µg/L	1	0.020	0.005		GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00006	mg/L	1	0.00030	0.00006	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Magnesium	<0.009	mg/L	1	0.100	0.009	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Potassium	<0.01	mg/L	1	0.10	0.01	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Sodium	<0.02	mg/L	1	0.20	0.02	U1	GES	05/08/2024 14:59	EPA 200.8-1994, Rev. 5.4
Strontium	<0.00005	mg/L	1	0.00200	0.00005	U1	GES	05/08/2024 02:53	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/08/2024 02:53	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: 241410

Customer: Pirkey Power Station

Date Reported: 06/11/2024

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 Qualifier 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.

O2 - Client did not provide additional bottles; therefore, the MS and duplicate are missing in this batch.

P2 - The precision on the laboratory control sample duplicate (LCSD) was above acceptance limits.

Chain of Custody Record

Dolan Chemical Laboratory (DCL)
 4001 Bixby Road
 Groveport, Ohio 43125
 Michael Ohlinger (614-936-4184)
 Contacts: Dave Conover (614-936-4219)

Program: Coal Combustion Residuals (CCR)

Site Contact:

Date:

For Lab Use Only:

COC/Order #:

291410

Project Name: **Pinkey PP CCR**
 Contact Name: **Leslie Fuerschbach**
 Contact Phone: **318-673-2744**

Analysis Turnaround Time (in Calendar Days)
 (C Routine (28 days for Monitoring Wells))

Sampler(s): **Matt Hamilton Kenny McDonald**

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials					Sample Specific Notes								
						Sb, As, B, Ba, Be, Ca, Cd, Cr, Co, K, Li, Mg, Mo, Na, Pb, Se, Sr, Ti	Field-filter 250 mL bottle, then pH<2, HNO ₃	Three (six every 10th) 1 L bottles, pH<2, HNO ₃	Mercury	Dissolved Mercury		250 mL bottle, pH<2, HNO ₃							
AD-27	4/24/2024	830	G	GW	1														
AD-28	4/23/2024	928	G	GW	7	X	X	X	X										
AD-30	4/23/2024	843	G	GW	7	X	X	X	X										
AD-31	4/22/2024	1120	G	GW	7	X	X	X	X										
AD-32	4/22/2024	1033	G	GW	7	X	X	X	X										
AD-33	4/22/2024	1113	G	GW	7	X	X	X	X										
AD-34	4/24/2024	1011	G	GW	1														
AD-36	4/23/2024	920	G	GW	1														
Duplicate 1	4/22/2024	1400	G	GW	4	X	X	X	X										
Equipment Blank	4/23/2024	953	G	GW	2	X	X	X	X										
Field Blank	4/23/2024	956	G	GW	2	X	X	X	X										

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ; F= filter in field

* Six 1L Bottles must be collected for Radium for every 10th sample.

Special Instructions/QC Requirements & Comments:

TG-32 needed

Relinquished by: <i>John Tendon</i>	Company: <i>E-51s</i>	Date/Time: <i>4-25-24 15:00</i>	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in laboratory by: <i>John Tendon</i>	Date/Time: <i>4/29/24</i>
Relinquished by:	Company:	Date/Time:	Received by: <i>John Tendon</i>	Date/Time:

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Site Contact:

Date:

For Lab Use Only:

COC/Order #

241410

Dolan Chemical Laboratory (DCL)

4001 Bixby Road
Groveport, Ohio 43125

Michael Ohlinger (614-836-4184)

Contacts: Dave Conover (614-836-4219)

Project Name: Pirkey PP CCR

Contact Name: Leslie Fuerschbach

Contact Phone: 318-673-2744

Sampler(s): Matt Hamilton Kenny McDonald

Analysis Turnaround Time (in Calendar Days)
☑ Routine (28 days for Monitoring Wells)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	Analytes				Sample Specific Notes	
							Sb, As, B, Ba, Be, Ca, Cd, Cr, Co, K, Li, Mg, Mo, Na, Pb, Se, Sr, Ti	Field-filter 250 mL bottle, then pH<2, HNO ₃	Three (six every 10hr ⁺) 1 L bottles, pH<2, HNO ₃	Mercury		Dissolved Mercury
AD-2	4/23/2024	821	G	GW	7		X	X	X	X		
AD-3	4/23/2024	1104	G	GW	7		X	X	X	X		
AD-4	4/24/2024	931	G	GW	7		X	X	X	X		
AD-7R	4/22/2024	925	G	GW	10		X	X	X	X		
AD-8	4/23/2024	1011	G	GW	1						X	
AD-12	4/22/2024	944	G	GW	7		X	X	X	X		
AD-13	4/22/2024	820	G	GW	7		X	X	X	X		
AD-16	4/24/2024	1104	G	GW	1						X	
AD-17	4/23/2024	1016	G	GW	7		X	X	X	X		
AD-18	4/23/2024	1058	G	GW	7		X	X	X	X		
AD-22	4/22/2024	1022	G	GW	7		X	X	X	X		
AD-23	4/24/2023	1105	G	GW	1						X	

* Six 1L Bottles must be collected for Radium for every 10th sample.

Special Instructions/QC Requirements & Comments:

TG-32 needed

Relinquished by: *[Signature]* Company: *Esjk* Date/Time: *4-25-24* 15% Received By: *[Signature]* Date/Time:

Relinquished by: *[Signature]* Company: *Esjk* Date/Time: *4-25-24* Received By: *[Signature]* Date/Time:

Relinquished by: *[Signature]* Company: *Esjk* Date/Time: *4-25-24* Received By: *[Signature]* Date/Time:

AEP WATER & WASTE SAMPLE RECEIPT FORM

<u>Package Type</u>				<u>Delivery Type</u>			
<input checked="" type="radio"/> Cooler	<input type="radio"/> Box	<input type="radio"/> Bag	<input type="radio"/> Envelope	<input type="radio"/> PONY	<input type="radio"/> UPS	<input checked="" type="radio"/> FedEx	<input type="radio"/> USPS
Other _____				Other _____			
Plant/Customer <u>Pitkey</u>				Number of Plastic Containers: <u>9A 24 4/29</u> ^{M50}			
Opened By <u>MGR/M50</u>				Number of Glass Containers: _____			
Date/Time <u>4/29/24</u>				Number of Mercury Containers: <u>32</u>			
Were all temperatures within 0-6°C? Y / N or <input checked="" type="radio"/> N/A Initial: _____ on ice / <input checked="" type="radio"/> no ice (IR Gun Ser# <u>240009843</u> , Expir. <u>01/03/2026</u>) - If No, specify each deviation: _____							
Was container in good condition? <input checked="" type="radio"/> Y / N Comments _____							
Was Chain of Custody received? <input checked="" type="radio"/> Y / N Comments _____							
Requested turnaround: <u>Routine</u> If RUSH, who was notified? _____							
pH (15 min)	Cr ⁶ (pres) (24 hr)	NO ₂ or NO ₃ (48 hr)	ortho-PO ₄ (48 hr)	Hg-diss (pres) (48 hr)			

Was COC filled out properly? Y / N Comments _____

Were samples labeled properly? Y / N Comments _____

Were correct containers used? Y / N Comments _____

Was pH checked & Color Coding done? Y / N or N/A Initial & Date: MGR 4/29/24 ^{SS 4-30-24}

pH paper (circle one): MQuant,PN1.09535.0001,LOT# _____ [OR] Lab Rat,PN4801,LOT# X000RW0G21 Exp 11/15/2024

- Was Add'l Preservative needed? Y / N If Yes: By whom & when: _____ (See Prep Book)

Is sample filtration requested? Y / N Comments _____ (See Prep Book)

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 241416 Initial & Date & Time : _____

Logged by M50 Comments: _____

Reviewed by BPedro
5/1/24

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the "Notes" field in the LIMS to be included on the report to the customer.

Radium Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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

Name (printed)



Signature

Chemical Technician , Principal

Official Title

06/10/2024

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: 06/10/2024
Laboratory Job Number: 241410
Prep Batch Number(s): PB24051607, PB24051608

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, No	ER1
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes, No	ER1
	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	

Radium Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Plant
Reviewer Name: Tamisha Palmer
LRC Date: 06/10/2024
Laboratory Job Number: 241410
Prep Batch Number(s): PB24051607, PB24051608

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	

Radium Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Plant
Reviewer Name: Tamisha Palmer
LRC Date: 06/10/2024
Laboratory Job Number: 241410
Prep Batch Number(s): PB24051607, PB24051608

Exception Report No.	Description
ER1	No duplicate was available for sample 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.”

Radium Laboratory Review Checklist


Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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  Chemical Technician, Principal 06/05/2024
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: 0528/2024, 06/05/2024
Laboratory Job Number: 241410
Prep Batch Number(s): PB24050221, PB24050222

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, No	ER1
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, No	ER2
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes, No	ER2
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes, No	ER2
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes, No	ER2
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	

Radium Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Plant
Reviewer Name: Tamisha Palmer
LRC Date: 0528/2024, 06/05/2024
Laboratory Job Number: 241410
Prep Batch Number(s): PB24050221, PB24050222

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	

Radium Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Plant
Reviewer Name: Tamisha Palmer
LRC Date: 0528/2024, 06/05/2024
Laboratory Job Number: 241410
Prep Batch Number(s): PB24050221, PB24050222

Exception Report No.	Description
ER1	The RPD between the LCS and LCSD were outside the 25% criteria for PB24050222
ER2	Sample was repped and there was not enough sample available for MS,MSD

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.”

ICP-MS Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

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- R2 Sample identification cross-reference
- 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
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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.

Jonathan Barnhill	<small>Signature of the Laboratory Supervisor The use of a stamp is not a substitute for a signature. Date: 05/29/2024</small>	Lab Supervisor	05/29/2024
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: Jonathan Barnhill
LRC Date: 05/29/2024
Laboratory Job Number: 241410
Prep Batch Number(s): PB24050205 PB24050207 QC2405069 QC2405077

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: Jonathan Barnhill
LRC Date: 05/29/2024
Laboratory Job Number: 241410
Prep Batch Number(s): PB24050205 PB24050207 QC2405069 QC2405077

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	

ICP-MS Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey CCR
Reviewer Name: Jonathan Barnhill
LRC Date: 05/29/2024
Laboratory Job Number: 241410
Prep Batch Number(s): PB24050205 PB24050207 QC2405069 QC2405077

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 Be, Co & Li on sample 241410-011
ER3	Matrix Spike failed for Fe & Li on sample 241410-017-01

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."

Mercury Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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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- R3 Test reports (analytical data sheets) for each environmental sample that includes:
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 - (b) Dilution factors
 - (c) Preparation methods
 - (d) Cleanup methods
 - (e) If required for the project, tentatively identified compounds (TICs)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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.

Susann Sulzmann Susann Sulzmann Senior Chemist 6-10-2024
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 Power Station
Reviewer Name: Susann Sulzmann
LRC Date: 06-10-2024
Laboratory Job Number: 241410
Prep Batch Number(s): PB24050201, PB24050202, PB24050301

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?	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	

Mercury Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Station
Reviewer Name: Susann Sulzmann
LRC Date: 06-10-2024
Laboratory Job Number: 241410
Prep Batch Number(s): PB24050201, PB24050202, PB24050301

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	



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-2

Customer Description:

Lab Number: 241393-001

Preparation:

Date Collected: 04/23/2024 09:21 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.44	mg/L	2	0.10	0.02		CRJ	05/09/2024 18:59	EPA 300.1 -1997, Rev. 1.0
Chloride	31.2	mg/L	2	0.06	0.02		CRJ	05/09/2024 18:59	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.27	mg/L	2	0.06	0.02		CRJ	05/09/2024 18:59	EPA 300.1 -1997, Rev. 1.0
Sulfate	309	mg/L	10	3.0	0.6		CRJ	05/09/2024 15:09	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	570	mg/L	1	50	20		ELT	04/29/2024 06:46	SM 2540C-2015

Customer Sample ID: AD-3

Customer Description:

Lab Number: 241393-002

Preparation:

Date Collected: 04/23/2024 12:04 EDT

Date Received: 04/26/2024 10:00 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	05/09/2024 15:41	EPA 300.1 -1997, Rev. 1.0
Chloride	5.83	mg/L	2	0.06	0.02		CRJ	05/09/2024 15:41	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.05	mg/L	2	0.06	0.02	J1	CRJ	05/09/2024 15:41	EPA 300.1 -1997, Rev. 1.0
Sulfate	28.5	mg/L	2	0.6	0.1		CRJ	05/09/2024 15:41	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	160	mg/L	1	50	20		ELT	04/29/2024 06:54	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-4

Customer Description:

Lab Number: 241393-003

Preparation:

Date Collected: 04/24/2024 10:31 EDT

Date Received: 04/26/2024 10:00 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	05/09/2024 16:14	EPA 300.1 -1997, Rev. 1.0
Chloride	3.97	mg/L	2	0.06	0.02		CRJ	05/09/2024 16:14	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.07	mg/L	2	0.06	0.02		CRJ	05/09/2024 16:14	EPA 300.1 -1997, Rev. 1.0
Sulfate	20.3	mg/L	2	0.6	0.1		CRJ	05/09/2024 16:14	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	140	mg/L	1	50	20		ELT	04/29/2024 06:54	SM 2540C-2015

Customer Sample ID: AD-7R

Customer Description:

Lab Number: 241393-004

Preparation:

Date Collected: 04/22/2024 10:25 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.61	mg/L	2	0.10	0.02		CRJ	05/09/2024 16:47	EPA 300.1 -1997, Rev. 1.0
Chloride	20.6	mg/L	2	0.06	0.02		CRJ	05/09/2024 16:47	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.16	mg/L	2	0.06	0.02		CRJ	05/09/2024 16:47	EPA 300.1 -1997, Rev. 1.0
Sulfate	73.6	mg/L	2	0.6	0.1		CRJ	05/09/2024 16:47	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	220	mg/L	1	50	20		ELT	04/29/2024 06:54	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-8

Customer Description:

Lab Number: 241393-005

Preparation:

Date Collected: 04/23/2024 11:11 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.60	mg/L	2	0.10	0.02		CRJ	05/09/2024 18:26	EPA 300.1 -1997, Rev. 1.0
Chloride	4.81	mg/L	2	0.06	0.02		CRJ	05/09/2024 18:26	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.28	mg/L	2	0.06	0.02		CRJ	05/09/2024 18:26	EPA 300.1 -1997, Rev. 1.0
Sulfate	168	mg/L	10	3.0	0.6		CRJ	05/09/2024 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	126	mg/L	1	20	5		MGK	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	390	mg/L	1	50	20		ELT	04/29/2024 06:54	SM 2540C-2015

Customer Sample ID: AD-12

Customer Description:

Lab Number: 241393-006

Preparation:

Date Collected: 04/22/2024 10:44 EDT

Date Received: 04/26/2024 10:00 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	05/09/2024 21:44	EPA 300.1 -1997, Rev. 1.0
Chloride	4.86	mg/L	2	0.06	0.02		CRJ	05/09/2024 21:44	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.08	mg/L	2	0.06	0.02		CRJ	05/09/2024 21:44	EPA 300.1 -1997, Rev. 1.0
Sulfate	4.2	mg/L	2	0.6	0.1		CRJ	05/09/2024 21:44	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	60	mg/L	1	50	20		ELT	04/29/2024 07:00	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-13

Customer Description:

Lab Number: 241393-007

Preparation:

Date Collected: 04/22/2024 09:20 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.27	mg/L	2	0.10	0.02		CRJ	05/09/2024 20:38	EPA 300.1 -1997, Rev. 1.0
Chloride	42.2	mg/L	10	0.3	0.1		CRJ	05/09/2024 20:05	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.34	mg/L	2	0.06	0.02		CRJ	05/09/2024 20:38	EPA 300.1 -1997, Rev. 1.0
Sulfate	84.9	mg/L	2	0.6	0.1		CRJ	05/09/2024 20:38	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	220	mg/L	1	50	20		ELT	04/29/2024 07:00	SM 2540C-2015

Customer Sample ID: AD-16

Customer Description:

Lab Number: 241393-008

Preparation:

Date Collected: 04/24/2024 12:04 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.18	mg/L	2	0.10	0.02		CRJ	05/10/2024 01:01	EPA 300.1 -1997, Rev. 1.0
Chloride	26.1	mg/L	2	0.06	0.02		CRJ	05/10/2024 01:01	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.09	mg/L	2	0.06	0.02		CRJ	05/10/2024 01:01	EPA 300.1 -1997, Rev. 1.0
Sulfate	14.8	mg/L	2	0.6	0.1		CRJ	05/10/2024 01:01	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	120	mg/L	1	50	20		ELT	04/29/2024 07:00	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-17

Customer Description:

Lab Number: 241393-009

Preparation:

Date Collected: 04/23/2024 11:16 EDT

Date Received: 04/26/2024 10:00 EDT

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	05/10/2024 01:34	EPA 300.1 -1997, Rev. 1.0
Chloride	6.44	mg/L	2	0.06	0.02		CRJ	05/10/2024 01:34	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.09	mg/L	2	0.06	0.02		CRJ	05/10/2024 01:34	EPA 300.1 -1997, Rev. 1.0
Sulfate	2.1	mg/L	2	0.6	0.1		CRJ	05/10/2024 01:34	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	40	mg/L	1	50	20	J1	ELT	04/29/2024 07:00	SM 2540C-2015

Customer Sample ID: AD-18

Customer Description:

Lab Number: 241393-010

Preparation:

Date Collected: 04/23/2024 11:58 EDT

Date Received: 04/26/2024 10:00 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	05/10/2024 02:07	EPA 300.1 -1997, Rev. 1.0
Chloride	5.39	mg/L	2	0.06	0.02		CRJ	05/10/2024 02:07	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.02	mg/L	2	0.06	0.02	J1	CRJ	05/10/2024 02:07	EPA 300.1 -1997, Rev. 1.0
Sulfate	7.2	mg/L	2	0.6	0.1		CRJ	05/10/2024 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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	90	mg/L	1	50	20		ELT	04/29/2024 07:08	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-22

Customer Description:

Lab Number: 241393-011

Preparation:

Date Collected: 04/22/2024 11:22 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.40	mg/L	2	0.10	0.02		CRJ	05/10/2024 04:19	EPA 300.1 -1997, Rev. 1.0
Chloride	70.5	mg/L	25	0.8	0.3		CRJ	05/10/2024 03:46	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.75	mg/L	2	0.06	0.02		CRJ	05/10/2024 04:19	EPA 300.1 -1997, Rev. 1.0
Sulfate	360	mg/L	25	8	2		CRJ	05/10/2024 03:46	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	610	mg/L	1	50	20		ELT	04/29/2024 07:08	SM 2540C-2015

Customer Sample ID: AD-23

Customer Description:

Lab Number: 241393-012

Preparation:

Date Collected: 04/24/2024 12:05 EDT

Date Received: 04/26/2024 10:00 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	05/10/2024 02:40	EPA 300.1 -1997, Rev. 1.0
Chloride	8.65	mg/L	2	0.06	0.02		CRJ	05/10/2024 02:40	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.06	mg/L	2	0.06	0.02		CRJ	05/10/2024 02:40	EPA 300.1 -1997, Rev. 1.0
Sulfate	7.1	mg/L	2	0.6	0.1		CRJ	05/10/2024 02:40	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	70	mg/L	1	50	20		ELT	04/29/2024 07:08	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-27

Customer Description:

Lab Number: 241393-013

Preparation:

Date Collected: 04/24/2024 09:30 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.39	mg/L	2	0.10	0.02		CRJ	05/10/2024 05:25	EPA 300.1 -1997, Rev. 1.0
Chloride	14.4	mg/L	2	0.06	0.02		CRJ	05/10/2024 05:25	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.16	mg/L	2	0.06	0.02		CRJ	05/10/2024 05:25	EPA 300.1 -1997, Rev. 1.0
Sulfate	60.4	mg/L	2	0.6	0.1		CRJ	05/10/2024 05:25	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	200	mg/L	1	50	20		ELT	04/29/2024 07:08	SM 2540C-2015

Customer Sample ID: AD-28

Customer Description:

Lab Number: 241393-014

Preparation:

Date Collected: 04/23/2024 10:28 EDT

Date Received: 04/26/2024 10:00 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	CRJ	05/10/2024 07:36	EPA 300.1 -1997, Rev. 1.0
Chloride	3.90	mg/L	2	0.06	0.02		CRJ	05/10/2024 07:36	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.79	mg/L	2	0.06	0.02		CRJ	05/10/2024 07:36	EPA 300.1 -1997, Rev. 1.0
Sulfate	24.7	mg/L	2	0.6	0.1		CRJ	05/10/2024 07:36	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	100	mg/L	1	50	20		ELT	04/29/2024 07:17	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-30

Customer Description:

Lab Number: 241393-015

Preparation:

Date Collected: 04/23/2024 09:43 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.16	mg/L	2	0.10	0.02		CRJ	05/10/2024 06:30	EPA 300.1 -1997, Rev. 1.0
Chloride	12.2	mg/L	2	0.06	0.02		CRJ	05/10/2024 06:30	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.05	mg/L	2	0.06	0.02	J1	CRJ	05/10/2024 06:30	EPA 300.1 -1997, Rev. 1.0
Sulfate	104	mg/L	10	3.0	0.6		CRJ	05/10/2024 05:58	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	U1	MGK	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	220	mg/L	1	50	20		ELT	04/29/2024 07:17	SM 2540C-2015

Customer Sample ID: AD-31

Customer Description:

Lab Number: 241393-016

Preparation:

Date Collected: 04/22/2024 12:20 EDT

Date Received: 04/26/2024 10:00 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	05/10/2024 13:57	EPA 300.1 -1997, Rev. 1.0
Chloride	16.8	mg/L	2	0.06	0.02		CRJ	05/10/2024 13:57	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.10	mg/L	2	0.06	0.02		CRJ	05/10/2024 13:57	EPA 300.1 -1997, Rev. 1.0
Sulfate	79.8	mg/L	2	0.6	0.1		CRJ	05/10/2024 13:57	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	U1	MGK	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	250	mg/L	1	50	20		ELT	04/29/2024 07:17	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-32

Customer Description:

Lab Number: 241393-017

Preparation:

Date Collected: 04/22/2024 11:33 EDT

Date Received: 04/26/2024 10:00 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	05/10/2024 15:03	EPA 300.1 -1997, Rev. 1.0
Chloride	10.6	mg/L	2	0.06	0.02		CRJ	05/10/2024 15:03	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.32	mg/L	2	0.06	0.02		CRJ	05/10/2024 15:03	EPA 300.1 -1997, Rev. 1.0
Sulfate	67.0	mg/L	2	0.6	0.1		CRJ	05/10/2024 15:03	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	190	mg/L	1	50	20		ELT	04/29/2024 07:17	SM 2540C-2015

Customer Sample ID: AD-33

Customer Description:

Lab Number: 241393-018

Preparation:

Date Collected: 04/22/2024 12:13 EDT

Date Received: 04/26/2024 10:00 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		CRJ	05/10/2024 19:26	EPA 300.1 -1997, Rev. 1.0
Chloride	9.97	mg/L	2	0.06	0.02		CRJ	05/10/2024 19:26	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.27	mg/L	2	0.06	0.02		CRJ	05/10/2024 19:26	EPA 300.1 -1997, Rev. 1.0
Sulfate	65.7	mg/L	2	0.6	0.1		CRJ	05/10/2024 19:26	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	180	mg/L	1	50	20		ELT	04/29/2024 07:24	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-34

Customer Description:

Lab Number: 241393-019

Preparation:

Date Collected: 04/24/2024 11:11 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.21	mg/L	5	0.25	0.05	J1	CRJ	05/10/2024 16:42	EPA 300.1 -1997, Rev. 1.0
Chloride	7.32	mg/L	5	0.15	0.05		CRJ	05/10/2024 16:42	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.69	mg/L	5	0.15	0.05		CRJ	05/10/2024 16:42	EPA 300.1 -1997, Rev. 1.0
Sulfate	1150	mg/L	50	15	3		CRJ	05/10/2024 16:09	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	1650	mg/L	1	50	20		ELT	04/29/2024 07:24	SM 2540C-2015

Customer Sample ID: AD-36

Customer Description:

Lab Number: 241393-020

Preparation:

Date Collected: 04/23/2024 10:20 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.59	mg/L	2	0.10	0.02		CRJ	05/10/2024 19:59	EPA 300.1 -1997, Rev. 1.0
Chloride	14.8	mg/L	2	0.06	0.02		CRJ	05/10/2024 19:59	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.08	mg/L	2	0.06	0.02		CRJ	05/10/2024 19:59	EPA 300.1 -1997, Rev. 1.0
Sulfate	2.9	mg/L	2	0.6	0.1		CRJ	05/10/2024 19:59	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	60	mg/L	1	50	20		ELT	04/29/2024 07:24	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241393

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: Duplicate 1

Customer Description:

Lab Number: 241393-021

Preparation:

Date Collected: 04/22/2024 15:00 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.61	mg/L	2	0.10	0.02		CRJ	05/10/2024 18:20	EPA 300.1 -1997, Rev. 1.0
Chloride	20.8	mg/L	2	0.06	0.02		CRJ	05/10/2024 18:20	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.15	mg/L	2	0.06	0.02		CRJ	05/10/2024 18:20	EPA 300.1 -1997, Rev. 1.0
Sulfate	76.5	mg/L	2	0.6	0.1		CRJ	05/10/2024 18:20	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	<5	mg/L	1	20	5	U1	MGK	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	230	mg/L	1	50	20		ELT	04/29/2024 07:37	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 Qualifier Legend

U1 - Not detected at or below method detection limit (MDL).

J1 - Concentration estimated. Analyte was detected between the method detection limit and the reporting limit.

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Site Contact:

Date:

COC/Order #

For Lab Use Only:

Dolan Chemical Laboratory (DCL)
 4001 Bixby Road
 Groveport, Ohio 43125
 Michael Ohlinger (614-836-4184)
 Contacts: Dave Conover (614-836-4219)

Project Name: Pirkey PP Semi-Annual CCR
 Contact Name: Leslie Fuerschbach
 Contact Phone: 318-673-2744

Analysis Turnaround Time (in Calendar Days)
 ☑ Routine (28 days for Monitoring Wells)

250 mL bottle, pH<2, HNO3
 Field-filter 250 mL bottle, then pH<2, HNO3
 1 L bottle, Cool, 0-6C
 Three (six every 10th)
 L bottles, pH<2, HNO3

241393

Sampler(s): Matt Hamilton Kenny McDonald

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) initials	Mercury	Dissolved Mercury	F, Cl, SO4, Br, TDS, Alkalinity	Ra-226, Ra-228	Sample Specific Notes
AD-2	4/23/2024	821	G	GW	1				X		
AD-3	4/23/2024	1104	G	GW	1				X		
AD-4	4/24/2024	931	G	GW	1				X		
AD-7R	4/22/2024	925	G	GW	1				X		
AD-8	4/23/2024	1011	G	GW	1				X		
AD-12	4/22/2024	944	G	GW	1				X		
AD-13	4/22/2024	820	G	GW	1				X		
AD-16	4/24/2024	1104	G	GW	1				X		
AD-17	4/23/2024	1016	G	GW	1				X		
AD-18	4/23/2024	1058	G	GW	1				X		
AD-22	4/22/2024	1022	G	GW	1				X		
AD-23	4/24/2023	1105	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:	Received in Laboratory by:	Date/Time:					
<i>John Tomlinson</i>	Esx	4/25/24		15:00	<i>Shirley</i>						
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:	Received in Laboratory by:	Date/Time:					
					<i>Shirley</i>	4/26/24					

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Dolan Chemical Laboratory (DCL)
 4001 Bixby Road
 Groveport, Ohio 43125
 Michael Chillingier (614-836-4184)
 Dave Conover (614-836-4219)

For Lab Use Only:

Project Name: Pirkey PP CCR
Contact Name: Leslie Fuerschbach
Contact Phone: 318-673-2744

Analysis Turnaround Time (in Calendar Days)
 Routine (28 days for Monitoring Wells)

Site Contact: _____
Date: _____

COC/Order #:

Sampler(s): Matt Hamilton Kenny McDonald

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	Mercury			Dissolved Mercury			F, Cl, SO ₄ , Br, TDS, Alkalinity			Ra-226, Ra-228			Sample Specific Notes
							250 mL bottle, pH<2, HNO ₃	Field-filter 250 mL bottle, then pH<2, HNO ₃	1 L bottle, Cool, 0-6C	Three (six every 10th) L bottles, pH<2, HNO ₃									
AD-27	4/24/2024	830	G	GW	1					X									
AD-28	4/23/2024	928	G	GW	1					X									
AD-30	4/23/2024	843	G	GW	1					X									
AD-31	4/22/2024	1120	G	GW	1					X									
AD-32	4/22/2024	1033	G	GW	1					X									
AD-33	4/22/2024	1113	G	GW	1					X									
AD-34	4/24/2024	1011	G	GW	1					X									
AD-36	4/23/2024	920	G	GW	1					X									
Duplicate 1	4/22/2024	1400	G	GW	1					X									

Preservation Used: 1= Ice, 2= HCl; 3= H₂SO₄; 4=HNO₃; 5=NaOH; 6= Other _____; F= filter in field

* Six 1L Bottles must be collected for Radium for every 10th sample.

Special Instructions/QC Requirements & Comments:

TG-32 needed

Relinquished by: <i>[Signature]</i>	Company: <i>Exx</i>	Date/Time: 4/25/24	Received by: <i>[Signature]</i>	Date/Time: 4/25/24
Relinquished by: <i>[Signature]</i>	Company: <i>Exx</i>	Date/Time: 4/25/24	Received by: <i>[Signature]</i>	Date/Time: 4/25/24
Relinquished by: _____	Company: _____	Date/Time: _____	Received by: _____	Date/Time: _____

AEP WATER & WASTE SAMPLE RECEIPT FORM

<u>Package Type</u>		<u>Delivery Type</u>	
<input checked="" type="radio"/> Cooler	Box Bag Envelope	PONY UPS <input checked="" type="radio"/> FedEx USPS	Other _____
Plant/Customer <u>Pittkey</u>		Number of Plastic Containers: <u>21</u>	
Opened By <u>MBK/MSO</u>		Number of Glass Containers: <u>-</u>	
Date/Time <u>4/26/24 1000</u>		Number of Mercury Containers: <u>-</u>	
Were all temperatures within 0-6°C? <input checked="" type="radio"/> Y / N or N/A Initial: <u>MBK</u> <input checked="" type="radio"/> on ice / no ice (IR Gun Ser# <u>240009843</u> , Expir. <u>01/03/2026</u>) - If No, specify each deviation: _____			
Was container in good condition? <input checked="" type="radio"/> Y / N Comments _____			
Was Chain of Custody received? <input checked="" type="radio"/> Y / N Comments _____			
Requested turnaround: <u>Routine</u> If RUSH, who was notified? _____			
pH (15 min)	Cr ⁺⁶ (pres) (24 hr)	NO ₂ or NO ₃ (48 hr)	ortho-PO ₄ (48 hr) Hg-diss (pres) (48 hr)

Was COC filled out properly? Y / N Comments _____

Were samples labeled properly? Y / N Comments _____

Were correct containers used? Y / N Comments _____

Was pH checked & Color Coding done? Y / N or N/A Initial & Date: MSO 4/26/24

pH paper (circle one): MQuant.PN1.09535.0001.LOT# _____ [OR] Lab Rat.PN4801 LOT# X000RWDG21 Exp 11/15/2024

- Was Add'l Preservative needed? Y / N If Yes: By whom & when: _____ (See Prep Book)

Is sample filtration requested? Y / N Comments _____ (See Prep Book)

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 241393 Initial & Date & Time : _____

Logged by MSO Comments: _____

Reviewed by WCG _____

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the "Notes" field in the LIMS to be included on the report to the customer.

Ion Chromatography Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

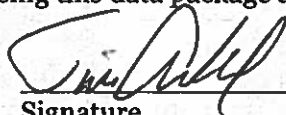
- This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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

Name (printed)



Signature

Principle Chemist

Official Title

05/13/2024

Date

Ion Chromatography Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Wells
Reviewer Name: Tim Arnold
LRC Date: 05/13/2024
Laboratory Job Number: 241393
Prep Batch Number(s): QC2405096

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 Wells
Reviewer Name: Tim Arnold
LRC Date: 05/13/2024
Laboratory Job Number: 241393
Prep Batch Number(s): QC2405096

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	

TDS Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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	<i>Sandra D. Williams</i>	Chemist	06/04/2024
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: 06/04/2024
Laboratory Job Number: 241393
Prep Batch Number(s): QC2405010

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	

TDS Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Station
Reviewer Name: Sandra Williams
LRC Date: 05/06/2024
Laboratory Job Number: 241393
Prep Batch Number(s): QC2405010

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	

Alkalinity Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

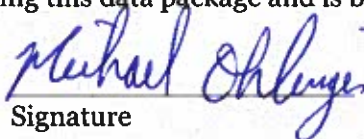
- This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
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 - (b) Dilution factors
 - (c) Preparation methods
 - (d) Cleanup methods
 - (e) If required for the project, tentatively identified compounds (TICs)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

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Check, if applicable: This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Michael Ohlinger

Name (printed)



Signature

Chemist

Official Title

06/05/2024

Date

Alkalinity Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey Plant Semi-Annual CCR

Reviewer Name: Michael Ohlinger

LRC Date: 06/05/2024

Laboratory Job Number: 241393

Prep Batch Number(s): QC2404238

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 Semi-Annual CCR
Reviewer Name: Michael Ohlinger
LRC Date: 06/05/2024
Laboratory Job Number: 241393
Prep Batch Number(s): QC2404238

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	



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241411

Customer: Pirkey Power Station

Date Reported: 06/12/2024

Customer Sample ID: B-2

Customer Description:

Lab Number: 241411-001

Preparation:

Date Collected: 04/22/2024 09:47 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 02:58	EPA 200.8-1994, Rev. 5.4
Arsenic	2.33	µg/L	1	0.10	0.03		GES	05/08/2024 02:58	EPA 200.8-1994, Rev. 5.4
Barium	46.6	µg/L	1	0.20	0.05		GES	05/08/2024 02:58	EPA 200.8-1994, Rev. 5.4
Beryllium	0.391	µg/L	1	0.050	0.007		GES	05/08/2024 02:58	EPA 200.8-1994, Rev. 5.4
Boron	0.024	mg/L	1	0.050	0.007	J1	GES	05/08/2024 02:58	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	05/08/2024 02:58	EPA 200.8-1994, Rev. 5.4
Calcium	1.43	mg/L	1	0.05	0.02		GES	05/08/2024 02:58	EPA 200.8-1994, Rev. 5.4
Chromium	0.39	µg/L	1	0.30	0.07		GES	05/08/2024 02:58	EPA 200.8-1994, Rev. 5.4
Cobalt	6.73	µg/L	1	0.020	0.005		GES	05/08/2024 02:58	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 02:58	EPA 200.8-1994, Rev. 5.4
Lithium	0.0484	mg/L	1	0.00030	0.00006		GES	05/08/2024 02:58	EPA 200.8-1994, Rev. 5.4
Magnesium	1.88	mg/L	1	0.100	0.009		GES	05/08/2024 02:58	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 02:58	EPA 200.8-1994, Rev. 5.4
Potassium	2.13	mg/L	1	0.10	0.01		GES	05/08/2024 02:58	EPA 200.8-1994, Rev. 5.4
Selenium	0.05	µg/L	1	0.50	0.04	J1	GES	05/08/2024 02:58	EPA 200.8-1994, Rev. 5.4
Sodium	11.0	mg/L	1	0.20	0.02		GES	05/08/2024 15:04	EPA 200.8-1994, Rev. 5.4
Strontium	0.0136	mg/L	1	0.00200	0.00005		GES	05/08/2024 02:58	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/08/2024 02:58	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.32	pCi/L	0.10	0.15		ST	05/21/2024 11:31	SW-846 9315-1986, Rev. 0
Carrier Recovery	93.7	%						
Radium-228	0.20	pCi/L	0.15	0.50	02, P2	TTP	06/05/2024 13:38	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	88.8	%						

* 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: 241411

Customer: Pirkey Power Station

Date Reported: 06/12/2024

Customer Sample ID: B-2

Customer Description:

Lab Number: 241411-001-01

Preparation: Dissolved

Date Collected: 04/22/2024 09:47 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 03:03	EPA 200.8-1994, Rev. 5.4
Arsenic	2.25	µg/L	1	0.10	0.03		GES	05/08/2024 03:03	EPA 200.8-1994, Rev. 5.4
Barium	45.9	µg/L	1	0.20	0.05		GES	05/08/2024 03:03	EPA 200.8-1994, Rev. 5.4
Beryllium	0.382	µg/L	1	0.050	0.007		GES	05/08/2024 03:03	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	05/08/2024 03:03	EPA 200.8-1994, Rev. 5.4
Chromium	0.27	µg/L	1	0.30	0.07	J1	GES	05/08/2024 03:03	EPA 200.8-1994, Rev. 5.4
Cobalt	6.42	µg/L	1	0.020	0.005		GES	05/08/2024 03:03	EPA 200.8-1994, Rev. 5.4
Iron	8.88	mg/L	1	0.020	0.003		GES	05/08/2024 03:03	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 03:03	EPA 200.8-1994, Rev. 5.4
Lithium	0.0478	mg/L	1	0.00030	0.00006	M1	GES	05/08/2024 03:03	EPA 200.8-1994, Rev. 5.4
Manganese	0.0637	mg/L	1	0.00100	0.00007		GES	05/08/2024 03:03	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/06/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 03:03	EPA 200.8-1994, Rev. 5.4
Selenium	0.04	µg/L	1	0.50	0.04	J1	GES	05/08/2024 03:03	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/08/2024 03:03	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: 241411

Customer: Pirkey Power Station

Date Reported: 06/12/2024

Customer Sample ID: B-3

Customer Description:

Lab Number: 241411-002

Preparation:

Date Collected: 04/24/2024 11:00 EDT

Date Received: 04/29/2024 10:00 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	05/08/2024 16:57	EPA 200.8-1994, Rev. 5.4
Arsenic	0.21	µg/L	1	0.10	0.03		GES	05/08/2024 16:57	EPA 200.8-1994, Rev. 5.4
Barium	59.1	µg/L	1	0.20	0.05		GES	05/08/2024 16:57	EPA 200.8-1994, Rev. 5.4
Beryllium	1.12	µg/L	1	0.050	0.007		GES	05/08/2024 16:57	EPA 200.8-1994, Rev. 5.4
Boron	0.037	mg/L	1	0.050	0.007	J1	GES	05/08/2024 16:57	EPA 200.8-1994, Rev. 5.4
Cadmium	0.014	µg/L	1	0.020	0.004	J1	GES	05/08/2024 16:57	EPA 200.8-1994, Rev. 5.4
Calcium	2.23	mg/L	1	0.05	0.02		GES	05/08/2024 16:57	EPA 200.8-1994, Rev. 5.4
Chromium	0.24	µg/L	1	0.30	0.07	J1	GES	05/08/2024 16:57	EPA 200.8-1994, Rev. 5.4
Cobalt	4.86	µg/L	1	0.020	0.005		GES	05/08/2024 16:57	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 16:57	EPA 200.8-1994, Rev. 5.4
Lithium	0.0658	mg/L	1	0.00030	0.00006		GES	05/08/2024 16:57	EPA 200.8-1994, Rev. 5.4
Magnesium	1.45	mg/L	1	0.100	0.009		GES	05/08/2024 16:57	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 16:57	EPA 200.8-1994, Rev. 5.4
Potassium	2.20	mg/L	1	0.10	0.01		GES	05/08/2024 16:57	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/08/2024 16:57	EPA 200.8-1994, Rev. 5.4
Sodium	37.7	mg/L	1	0.20	0.02		GES	05/08/2024 16:57	EPA 200.8-1994, Rev. 5.4
Strontium	0.0639	mg/L	1	0.00200	0.00005		GES	05/08/2024 16:57	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	GES	05/08/2024 16:57	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.23	pCi/L	0.10	0.24		ST	05/21/2024 11:31	SW-846 9315-1986, Rev. 0
Carrier Recovery	90.1	%						
Radium-228	1.25	pCi/L	0.18	0.54	02, P2	TTP	06/05/2024 13:38	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	77.0	%						

* 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: 241411

Customer: Pirkey Power Station

Date Reported: 06/12/2024

Customer Sample ID: B-3

Customer Description:

Lab Number: 241411-002-01

Preparation: Dissolved

Date Collected: 04/24/2024 11:00 EDT

Date Received: 04/29/2024 10:00 EDT

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	05/08/2024 17:02	EPA 200.8-1994, Rev. 5.4
Arsenic	0.09	µg/L	1	0.10	0.03	J1	GES	05/08/2024 17:02	EPA 200.8-1994, Rev. 5.4
Barium	50.2	µg/L	1	0.20	0.05		GES	05/08/2024 17:02	EPA 200.8-1994, Rev. 5.4
Beryllium	0.778	µg/L	1	0.050	0.007		GES	05/08/2024 17:02	EPA 200.8-1994, Rev. 5.4
Cadmium	0.010	µg/L	1	0.020	0.004	J1	GES	05/08/2024 17:02	EPA 200.8-1994, Rev. 5.4
Chromium	0.47	µg/L	1	0.30	0.07		GES	05/08/2024 17:02	EPA 200.8-1994, Rev. 5.4
Cobalt	3.91	µg/L	1	0.020	0.005		GES	05/08/2024 17:02	EPA 200.8-1994, Rev. 5.4
Iron	0.012	mg/L	1	0.020	0.003	J1	GES	05/08/2024 17:02	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 17:02	EPA 200.8-1994, Rev. 5.4
Lithium	0.0633	mg/L	1	0.00030	0.00006		GES	05/08/2024 17:02	EPA 200.8-1994, Rev. 5.4
Manganese	0.0770	mg/L	1	0.00100	0.00007		GES	05/08/2024 17:02	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/06/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 17:02	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/08/2024 17:02	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/08/2024 17:02	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: 241411

Customer: Pirkey Power Station

Date Reported: 06/12/2024

Customer Sample ID: AD-25

Customer Description:

Lab Number: 241411-003

Preparation:

Date Collected: 04/24/2024 10:33 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 17:07	EPA 200.8-1994, Rev. 5.4
Arsenic	14.8	µg/L	1	0.10	0.03		GES	05/08/2024 17:07	EPA 200.8-1994, Rev. 5.4
Barium	11.5	µg/L	1	0.20	0.05		GES	05/08/2024 17:07	EPA 200.8-1994, Rev. 5.4
Beryllium	4.92	µg/L	1	0.050	0.007		GES	05/08/2024 17:07	EPA 200.8-1994, Rev. 5.4
Boron	0.057	mg/L	1	0.050	0.007		GES	05/08/2024 17:07	EPA 200.8-1994, Rev. 5.4
Cadmium	1.32	µg/L	1	0.020	0.004		GES	05/08/2024 17:07	EPA 200.8-1994, Rev. 5.4
Calcium	48.6	mg/L	1	0.05	0.02		GES	05/08/2024 17:07	EPA 200.8-1994, Rev. 5.4
Chromium	0.75	µg/L	1	0.30	0.07		GES	05/08/2024 17:07	EPA 200.8-1994, Rev. 5.4
Cobalt	290	µg/L	1	0.020	0.005		GES	05/08/2024 17:07	EPA 200.8-1994, Rev. 5.4
Lead	0.35	µg/L	1	0.20	0.05		GES	05/08/2024 17:07	EPA 200.8-1994, Rev. 5.4
Lithium	0.0687	mg/L	1	0.00030	0.00006		GES	05/08/2024 17:07	EPA 200.8-1994, Rev. 5.4
Magnesium	61.5	mg/L	1	0.100	0.009		GES	05/08/2024 17:07	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 17:07	EPA 200.8-1994, Rev. 5.4
Potassium	2.31	mg/L	1	0.10	0.01		GES	05/08/2024 17:07	EPA 200.8-1994, Rev. 5.4
Selenium	56.2	µg/L	1	0.50	0.04		GES	05/08/2024 17:07	EPA 200.8-1994, Rev. 5.4
Sodium	7.89	mg/L	1	0.20	0.02		GES	05/08/2024 17:07	EPA 200.8-1994, Rev. 5.4
Strontium	0.315	mg/L	1	0.00200	0.00005		GES	05/08/2024 17:07	EPA 200.8-1994, Rev. 5.4
Thallium	0.18	µg/L	1	0.20	0.02	J1	GES	05/08/2024 17:07	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.76	pCi/L	0.15	0.16		ST	05/21/2024 11:31	SW-846 9315-1986, Rev. 0
Carrier Recovery	96.4	%						
Radium-228	0.92	pCi/L	0.16	0.49	O2, P2	TTP	06/05/2024 13:38	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	77.4	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241411

Customer: Pirkey Power Station

Date Reported: 06/12/2024

Customer Sample ID: AD-25

Customer Description:

Lab Number: 241411-003-01

Preparation: Dissolved

Date Collected: 04/24/2024 10:33 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 17:12	EPA 200.8-1994, Rev. 5.4
Arsenic	15.7	µg/L	1	0.10	0.03		GES	05/08/2024 17:12	EPA 200.8-1994, Rev. 5.4
Barium	11.7	µg/L	1	0.20	0.05		GES	05/08/2024 17:12	EPA 200.8-1994, Rev. 5.4
Beryllium	4.93	µg/L	1	0.050	0.007		GES	05/08/2024 17:12	EPA 200.8-1994, Rev. 5.4
Cadmium	1.40	µg/L	1	0.020	0.004		GES	05/08/2024 17:12	EPA 200.8-1994, Rev. 5.4
Chromium	0.71	µg/L	1	0.30	0.07		GES	05/08/2024 17:12	EPA 200.8-1994, Rev. 5.4
Cobalt	321	µg/L	1	0.020	0.005		GES	05/08/2024 17:12	EPA 200.8-1994, Rev. 5.4
Iron	205	mg/L	10	0.20	0.03		GES	05/09/2024 13:50	EPA 200.8-1994, Rev. 5.4
Lead	0.35	µg/L	1	0.20	0.05		GES	05/08/2024 17:12	EPA 200.8-1994, Rev. 5.4
Lithium	0.0683	mg/L	1	0.00030	0.00006		GES	05/08/2024 17:12	EPA 200.8-1994, Rev. 5.4
Manganese	2.01	mg/L	1	0.00100	0.00007		GES	05/08/2024 17:12	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/06/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 17:12	EPA 200.8-1994, Rev. 5.4
Selenium	58.6	µg/L	1	0.50	0.04		GES	05/08/2024 17:12	EPA 200.8-1994, Rev. 5.4
Thallium	0.18	µg/L	1	0.20	0.02	J1	GES	05/08/2024 17:12	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: 241411

Customer: Pirkey Power Station

Date Reported: 06/12/2024

Customer Sample ID: AD-26

Customer Description:

Lab Number: 241411-004

Preparation:

Date Collected: 04/24/2024 09:44 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 17:17	EPA 200.8-1994, Rev. 5.4
Arsenic	7.84	µg/L	1	0.10	0.03		GES	05/08/2024 17:17	EPA 200.8-1994, Rev. 5.4
Barium	11.0	µg/L	1	0.20	0.05		GES	05/08/2024 17:17	EPA 200.8-1994, Rev. 5.4
Beryllium	10.7	µg/L	5	0.25	0.04		GES	05/09/2024 11:30	EPA 200.8-1994, Rev. 5.4
Boron	0.129	mg/L	1	0.050	0.007		GES	05/08/2024 17:17	EPA 200.8-1994, Rev. 5.4
Cadmium	3.90	µg/L	1	0.020	0.004		GES	05/08/2024 17:17	EPA 200.8-1994, Rev. 5.4
Calcium	95.3	mg/L	1	0.05	0.02		GES	05/08/2024 17:17	EPA 200.8-1994, Rev. 5.4
Chromium	1.71	µg/L	1	0.30	0.07		GES	05/08/2024 17:17	EPA 200.8-1994, Rev. 5.4
Cobalt	223	µg/L	1	0.020	0.005		GES	05/08/2024 17:17	EPA 200.8-1994, Rev. 5.4
Lead	0.91	µg/L	1	0.20	0.05		GES	05/08/2024 17:17	EPA 200.8-1994, Rev. 5.4
Lithium	0.126	mg/L	5	0.0015	0.0003		GES	05/09/2024 11:30	EPA 200.8-1994, Rev. 5.4
Magnesium	91.5	mg/L	1	0.100	0.009		GES	05/08/2024 17:17	EPA 200.8-1994, Rev. 5.4
Mercury	7	ng/L	1	5	2		RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 17:17	EPA 200.8-1994, Rev. 5.4
Potassium	6.38	mg/L	1	0.10	0.01		GES	05/08/2024 17:17	EPA 200.8-1994, Rev. 5.4
Selenium	24.7	µg/L	1	0.50	0.04		GES	05/08/2024 17:17	EPA 200.8-1994, Rev. 5.4
Sodium	68.7	mg/L	1	0.20	0.02		GES	05/08/2024 17:17	EPA 200.8-1994, Rev. 5.4
Strontium	1.09	mg/L	1	0.00200	0.00005		GES	05/08/2024 17:17	EPA 200.8-1994, Rev. 5.4
Thallium	0.29	µg/L	1	0.20	0.02		GES	05/08/2024 17:17	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.18	pCi/L	0.19	0.20		ST	05/21/2024 11:31	SW-846 9315-1986, Rev. 0
Carrier Recovery	94.1	%						
Radium-228	-0.30	pCi/L	0.20	0.69	02, P2	TTP	06/05/2024 13:38	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	64.4	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241411

Customer: Pirkey Power Station

Date Reported: 06/12/2024

Customer Sample ID: AD-26

Customer Description:

Lab Number: 241411-004-01

Preparation: Dissolved

Date Collected: 04/24/2024 09:44 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 17:23	EPA 200.8-1994, Rev. 5.4
Arsenic	7.99	µg/L	1	0.10	0.03		GES	05/08/2024 17:23	EPA 200.8-1994, Rev. 5.4
Barium	11.2	µg/L	1	0.20	0.05		GES	05/08/2024 17:23	EPA 200.8-1994, Rev. 5.4
Beryllium	6.99	µg/L	1	0.050	0.007		GES	05/08/2024 17:23	EPA 200.8-1994, Rev. 5.4
Cadmium	4.02	µg/L	1	0.020	0.004		GES	05/08/2024 17:23	EPA 200.8-1994, Rev. 5.4
Chromium	1.80	µg/L	1	0.30	0.07		GES	05/08/2024 17:23	EPA 200.8-1994, Rev. 5.4
Cobalt	228	µg/L	1	0.020	0.005		GES	05/08/2024 17:23	EPA 200.8-1994, Rev. 5.4
Iron	92.3	mg/L	10	0.20	0.03		GES	05/09/2024 13:55	EPA 200.8-1994, Rev. 5.4
Lead	0.89	µg/L	1	0.20	0.05		GES	05/08/2024 17:23	EPA 200.8-1994, Rev. 5.4
Lithium	0.0820	mg/L	1	0.00030	0.00006		GES	05/08/2024 17:23	EPA 200.8-1994, Rev. 5.4
Manganese	2.38	mg/L	1	0.00100	0.00007		GES	05/08/2024 17:23	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/06/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 17:23	EPA 200.8-1994, Rev. 5.4
Selenium	25.8	µg/L	1	0.50	0.04		GES	05/08/2024 17:23	EPA 200.8-1994, Rev. 5.4
Thallium	0.28	µg/L	1	0.20	0.02		GES	05/08/2024 17:23	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: 241411

Customer: Pirkey Power Station

Date Reported: 06/12/2024

Customer Sample ID: Duplicate

Customer Description:

Lab Number: 241411-005

Preparation:

Date Collected: 04/22/2024 13:15 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 17:28	EPA 200.8-1994, Rev. 5.4
Arsenic	2.40	µg/L	1	0.10	0.03		GES	05/08/2024 17:28	EPA 200.8-1994, Rev. 5.4
Barium	47.2	µg/L	1	0.20	0.05		GES	05/08/2024 17:28	EPA 200.8-1994, Rev. 5.4
Beryllium	0.399	µg/L	1	0.050	0.007		GES	05/08/2024 17:28	EPA 200.8-1994, Rev. 5.4
Boron	0.026	mg/L	1	0.050	0.007	J1	GES	05/08/2024 17:28	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	05/08/2024 17:28	EPA 200.8-1994, Rev. 5.4
Calcium	1.51	mg/L	1	0.05	0.02		GES	05/08/2024 17:28	EPA 200.8-1994, Rev. 5.4
Chromium	0.35	µg/L	1	0.30	0.07		GES	05/08/2024 17:28	EPA 200.8-1994, Rev. 5.4
Cobalt	7.09	µg/L	1	0.020	0.005		GES	05/08/2024 17:28	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 17:28	EPA 200.8-1994, Rev. 5.4
Lithium	0.0458	mg/L	1	0.00030	0.00006		GES	05/08/2024 17:28	EPA 200.8-1994, Rev. 5.4
Magnesium	1.99	mg/L	1	0.100	0.009		GES	05/08/2024 17:28	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 17:28	EPA 200.8-1994, Rev. 5.4
Potassium	2.36	mg/L	1	0.10	0.01		GES	05/08/2024 17:28	EPA 200.8-1994, Rev. 5.4
Selenium	0.07	µg/L	1	0.50	0.04	J1	GES	05/08/2024 17:28	EPA 200.8-1994, Rev. 5.4
Sodium	11.2	mg/L	1	0.20	0.02		GES	05/08/2024 17:28	EPA 200.8-1994, Rev. 5.4
Strontium	0.0142	mg/L	1	0.00200	0.00005		GES	05/08/2024 17:28	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/08/2024 17:28	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: 241411

Customer: Pirkey Power Station

Date Reported: 06/12/2024

Customer Sample ID: Duplicate

Customer Description:

Lab Number: 241411-005-01

Preparation: Dissolved

Date Collected: 04/22/2024 13:15 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 17:33	EPA 200.8-1994, Rev. 5.4
Arsenic	2.33	µg/L	1	0.10	0.03		GES	05/08/2024 17:33	EPA 200.8-1994, Rev. 5.4
Barium	44.1	µg/L	1	0.20	0.05		GES	05/08/2024 17:33	EPA 200.8-1994, Rev. 5.4
Beryllium	0.368	µg/L	1	0.050	0.007		GES	05/08/2024 17:33	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	05/08/2024 17:33	EPA 200.8-1994, Rev. 5.4
Chromium	0.38	µg/L	1	0.30	0.07		GES	05/08/2024 17:33	EPA 200.8-1994, Rev. 5.4
Cobalt	6.26	µg/L	1	0.020	0.005		GES	05/08/2024 17:33	EPA 200.8-1994, Rev. 5.4
Iron	8.60	mg/L	1	0.020	0.003		GES	05/08/2024 17:33	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 17:33	EPA 200.8-1994, Rev. 5.4
Lithium	0.0463	mg/L	1	0.00030	0.00006		GES	05/08/2024 17:33	EPA 200.8-1994, Rev. 5.4
Manganese	0.0604	mg/L	1	0.00100	0.00007		GES	05/08/2024 17:33	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/06/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 17:33	EPA 200.8-1994, Rev. 5.4
Selenium	0.04	µg/L	1	0.50	0.04	J1	GES	05/08/2024 17:33	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/08/2024 17:33	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: 241411

Customer: Pirkey Power Station

Date Reported: 06/12/2024

Customer Sample ID: Equipment Blank

Customer Description:

Lab Number: 241411-006

Preparation:

Date Collected: 04/24/2024 10:10 EDT

Date Received: 04/29/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	GES	05/08/2024 17:38	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	GES	05/08/2024 17:38	EPA 200.8-1994, Rev. 5.4
Barium	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 17:38	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	GES	05/08/2024 17:38	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	GES	05/08/2024 17:38	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	GES	05/08/2024 17:38	EPA 200.8-1994, Rev. 5.4
Calcium	<0.02	mg/L	1	0.05	0.02	U1	GES	05/08/2024 17:38	EPA 200.8-1994, Rev. 5.4
Chromium	0.28	µg/L	1	0.30	0.07	J1	GES	05/08/2024 17:38	EPA 200.8-1994, Rev. 5.4
Cobalt	0.013	µg/L	1	0.020	0.005	J1	GES	05/08/2024 17:38	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	GES	05/08/2024 17:38	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00006	mg/L	1	0.00030	0.00006	U1	GES	05/08/2024 17:38	EPA 200.8-1994, Rev. 5.4
Magnesium	<0.009	mg/L	1	0.100	0.009	U1	GES	05/08/2024 17:38	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	05/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	GES	05/08/2024 17:38	EPA 200.8-1994, Rev. 5.4
Potassium	<0.01	mg/L	1	0.10	0.01	U1	GES	05/08/2024 17:38	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	GES	05/08/2024 17:38	EPA 200.8-1994, Rev. 5.4
Sodium	<0.02	mg/L	1	0.20	0.02	U1	GES	05/08/2024 17:38	EPA 200.8-1994, Rev. 5.4
Strontium	<0.00005	mg/L	1	0.00200	0.00005	U1	GES	05/08/2024 17:38	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	GES	05/08/2024 17:38	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: 241411

Customer: Pirkey Power Station

Date Reported: 06/12/2024

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 Qualifier 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.

O2 - Client did not provide additional bottles; therefore, the MS and duplicate are missing in this batch.

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.

Dolan Chemical Laboratory (DCL)

4001 Bixby Road

Groveport, Ohio 43125

Michael Ollinger (614-836-4184)

Contacts: Dave Conover (614-836-4219)

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Site Contact:

Date:

For Lab Use Only:

COC/Order #:

29/411

Project Name: Pitkey PP ASD
 Contact Name: Leslie Fuentschbach
 Contact Phone: 318-673-2744

Analysis Turnaround Time (in Calendar Days)
 Routine (28 days for Monitoring Wells)

Sampler(s): Matt Hamilton Kenny McDonald

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	Analytes				Sample Specific Notes
							Sb, As, B, Ba, Be, Ca, Cd, Cr, Co, K, Li, Mg, Mo, Na, Pb, Se, Sr, Ti	Field-filter 250 mL bottle, then HNO ₃	Three (six every 10hr) 1 L bottles, HNO ₃	Mercury	
B-2	4/22/2024	847	G	GW	10		X	X	X	X	
B-3	4/24/2024	1002	G	GW	7		X	X	X	X	
AD-25	4/24/2024	933	G	GW	7		X	X	X	X	
AD-26	4/24/2024	844	G	GW	7		X	X	X	X	
Duplicate	4/22/2024	1215	G	GW	7		X	X	X	X	
Equipment Blank	4/24/2024	910	G	GW	2		X		X		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____; F= filter in field

* Six 1L Bottles must be collected for Radium for every 10th sample.

Special Instructions/QC Requirements & Comments:

TG-32 needed

Relinquished by: <i>[Signature]</i>	Company: <i>ELK</i>	Date/Time: <i>4/25/24</i>	Received by: <i>[Signature]</i>	Date/Time: <i>4/29/24</i>
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Date/Time:

AEP WATER & WASTE SAMPLE RECEIPT FORM

<u>Package Type</u>				<u>Delivery Type</u>			
<input checked="" type="radio"/> Cooler	<input type="radio"/> Box	<input type="radio"/> Bag	<input type="radio"/> Envelope	<input type="radio"/> PONY	<input type="radio"/> UPS	<input checked="" type="radio"/> FedEx	<input type="radio"/> USPS
Other _____				Other _____			
Plant/Customer <u>P. Hrey</u>				Number of Plastic Containers: <u>28</u>			
Opened By <u>MSO/MBH</u>				Number of Glass Containers: <u>1</u>			
Date/Time <u>4/29/24</u>				Number of Mercury Containers: <u>11</u>			
Were all temperatures within 0-6°C? Y / N or <input checked="" type="radio"/> N/A Initial: _____ on ice <input checked="" type="radio"/> no ice (IR Gun Ser# <u>240009843</u> , Expir. <u>01/03/2026</u>) - If No, specify each deviation: _____							
Was container in good condition? <input checked="" type="radio"/> Y / N Comments _____							
Was Chain of Custody received? <input checked="" type="radio"/> Y / N Comments _____							
Requested turnaround: <u>Rather</u> If RUSH, who was notified? _____							
pH (15 min)	Cr ⁶ (pres) (24 hr)	NO ₂ or NO ₃ (48 hr)	ortho-PO ₄ (48 hr)	Hg-diss (pres) (48 hr)			

Was COC filled out properly? Y / N Comments _____

Were samples labeled properly? Y / N Comments _____

Were correct containers used? Y / N Comments _____

Was pH checked & Color Coding done? Y / N or N/A Initial & Date: MBH 4/29/24 SS 4-30-24

pH paper (circle one): MQuant.PN1.09535.0001,LOT# _____ [OR] Lab Rat,PN4801,LOT# X000RWDG21 Exp 11/15/2024

- Was Add'l Preservative needed? Y / N - If Yes: By whom & when: _____ (See Prep Book)

Is sample filtration requested? Y / N Comments _____ (See Prep Book)

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 241411 Initial & Date & Time : _____

Comments: _____

Logged by MSO _____

Reviewed by Becky Peddit
5/1/24 _____

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the "Notes" field in the LIMS to be included on the report to the customer.

Radium Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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
Name (printed)


Signature

Chemical Technician, Principal
Official Title

06/10/2024
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: 06/10/2024
Laboratory Job Number: 241411
Prep Batch Number(s): PB24051607

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?	No	ER1
	I	Were analytical duplicates analyzed at the appropriate frequency?	No	ER1
	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	

Radium Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Plant
Reviewer Name: Tamisha Palmer
LRC Date: 06/10/2024
Laboratory Job Number: 241411
Prep Batch Number(s): PB24051607

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	

Radium Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Plant
Reviewer Name: Tamisha Palmer
LRC Date: 06/10/2024
Laboratory Job Number: 241411
Prep Batch Number(s): PB24051607

Exception Report No.	Description
ER1	No duplicate was available for sample 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."

Radium Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

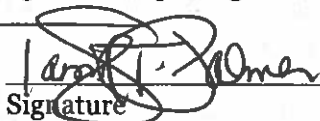
- This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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

Name (printed)



Signature

Chemical Technician, Principal

Official Title

06/05/2024

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: 0528/2024, 06/05/2024
Laboratory Job Number: 241410, 241411
Prep Batch Number(s): PB24050221, PB24050222

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, No	ER1
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, No	ER2
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes, No	ER2
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes, No	ER2
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes, No	ER2
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	

Radium Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Plant
Reviewer Name: Tamisha Palmer
LRC Date: 0528/2024, 06/05/2024
Laboratory Job Number: 241410, 241411
Prep Batch Number(s): PB24050221, PB24050222

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	

Radium Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Plant
Reviewer Name: Tamisha Palmer
LRC Date: 0528/2024, 06/05/2024
Laboratory Job Number: 241410, 241411
Prep Batch Number(s): PB24050221, PB24050222

Exception Report No.	Description
ER1	The RPD between the LCS and LCSD were outside the 25% criteria for PB24050222
ER2	Sample was reprepped and there was not enough sample available for MS,MSD

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."

ICP-MS Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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.

Jonathan Barnhill

Name (printed)

Signature of 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.

Signature

Lab Supervisor

Official Title

5/29/2024

Date

ICP-MS Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey CCR
Reviewer Name: Jonathan Barnhill
LRC Date: 5/29/2024
Laboratory Job Number: 241411
Prep Batch Number(s): PB24050207 PB24050213 QC2405069 QC2405077 QC2405087

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: Jonathan Barnhill
LRC Date: 5/29/2024
Laboratory Job Number: 241411
Prep Batch Number(s): PB24050207 PB24050213 QC2405069 QC2405077 QC2405087

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	

ICP-MS Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey CCR
Reviewer Name: Jonathan Barnhill
LRC Date: 5/29/2024
Laboratory Job Number: 241411
Prep Batch Number(s): PB24050207 PB24050213 QC2405069 QC2405077 QC2405087

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 on sample 241411-001-01.

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."

Mercury Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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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 - (b) Dilution factors
 - (c) Preparation methods
 - (d) Cleanup methods
 - (e) If required for the project, tentatively identified compounds (TICs)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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.

<u>Susann Sulzmann</u>	<u>Susann Sulzmann</u>	<u>Senior Chemist</u>	<u>6-10-2024</u>
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 Power Station
Reviewer Name: Susann Sulzmann
LRC Date: 06-10-2024
Laboratory Job Number: 241411
Prep Batch Number(s): PB24050201, PB24050202, PB24050301

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?	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	

Mercury Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Station
Reviewer Name: Susann Sulzmann
LRC Date: 06-10-2024
Laboratory Job Number: 241411
Prep Batch Number(s): PB24050201, PB24050202, PB24050301

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
S1	O, I	Initial calibration (ICAL)		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	Mass spectral tuning:		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	Internal standards (IS):		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	Raw data (NELAC section 1 appendix A glossary, and section 5.)		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Mercury Laboratory Review Checklist

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
S6	O	Dual column confirmation		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	Tentatively identified compounds (TICs):		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	Interference Check Sample (ICS) results:		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	Serial dilutions, post digestion spikes, and method of standard additions		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	Method detection limit (MDL) studies		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	Proficiency test reports:		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	Standards documentation		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	Compound/analyte identification procedures		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	Demonstration of analyst competency (DOC)		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	Verification/validation documentation for methods (NELAC Chap 5n 5)		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	Laboratory standard operating procedures (SOPs):		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Mercury Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Station
Reviewer Name: Susann Sulzmann
LRC Date: 06-10-2024
Laboratory Job Number: 241411
Prep Batch Number(s): PB24050201, PB24050202, PB24050301

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."



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241394

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: B-2

Customer Description:

Lab Number: 241394-001

Preparation:

Date Collected: 04/22/2024 09:47 EDT

Date Received: 04/26/2024 10:00 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	05/14/2024 03:57	EPA 300.1 -1997, Rev. 1.0
Chloride	6.50	mg/L	2	0.06	0.02		CRJ	05/14/2024 03:57	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.19	mg/L	2	0.06	0.02		CRJ	05/14/2024 03:57	EPA 300.1 -1997, Rev. 1.0
Sulfate	24.6	mg/L	2	0.6	0.1		CRJ	05/14/2024 03:57	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	U1	MGK	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	150	mg/L	1	50	20		ELT	04/29/2024 07:37	SM 2540C-2015

Customer Sample ID: B-3

Customer Description:

Lab Number: 241394-002

Preparation:

Date Collected: 04/24/2024 11:02 EDT

Date Received: 04/26/2024 10:00 EDT

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	05/14/2024 03:25	EPA 300.1 -1997, Rev. 1.0
Chloride	11.3	mg/L	2	0.06	0.02		CRJ	05/14/2024 03:25	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.07	mg/L	2	0.06	0.02		CRJ	05/14/2024 03:25	EPA 300.1 -1997, Rev. 1.0
Sulfate	54.1	mg/L	2	0.6	0.1		CRJ	05/14/2024 03:25	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	23	mg/L	1	20	5		MGK	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	170	mg/L	1	50	20		ELT	04/29/2024 07:45	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241394

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: AD-25

Customer Description:

Lab Number: 241394-003

Preparation:

Date Collected: 04/24/2024 10:33 EDT

Date Received: 04/26/2024 10:00 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	05/14/2024 02:19	EPA 300.1 -1997, Rev. 1.0
Chloride	3.24	mg/L	2	0.06	0.02		CRJ	05/14/2024 02:19	EPA 300.1 -1997, Rev. 1.0
Fluoride	1.44	mg/L	2	0.06	0.02		CRJ	05/14/2024 02:19	EPA 300.1 -1997, Rev. 1.0
Sulfate	962	mg/L	25	8	2		CRJ	05/14/2024 01:46	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	1470	mg/L	1	50	20		ELT	04/29/2024 07:45	SM 2540C-2015

Customer Sample ID: AD-26

Customer Description:

Lab Number: 241394-004

Preparation:

Date Collected: 04/24/2024 09:44 EDT

Date Received: 04/26/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.29	mg/L	5	0.25	0.05		CRJ	05/14/2024 00:40	EPA 300.1 -1997, Rev. 1.0
Chloride	16.5	mg/L	5	0.15	0.05		CRJ	05/14/2024 00:40	EPA 300.1 -1997, Rev. 1.0
Fluoride	3.71	mg/L	5	0.15	0.05		CRJ	05/14/2024 00:40	EPA 300.1 -1997, Rev. 1.0
Sulfate	1490	mg/L	50	15	3		CRJ	05/14/2024 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	<5	mg/L	1	20	5	U1	MGK	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	1900	mg/L	2	100	40		ELT	04/29/2024 07:45	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241394

Customer: Pirkey Power Station

Date Reported: 06/05/2024

Customer Sample ID: Duplicate

Customer Description:

Lab Number: 241394-005

Preparation:

Date Collected: 04/22/2024 13:15 EDT

Date Received: 04/26/2024 10:00 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	05/13/2024 23:01	EPA 300.1 -1997, Rev. 1.0
Chloride	6.51	mg/L	2	0.06	0.02		CRJ	05/13/2024 23:01	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.21	mg/L	2	0.06	0.02		CRJ	05/13/2024 23:01	EPA 300.1 -1997, Rev. 1.0
Sulfate	24.9	mg/L	2	0.6	0.1		CRJ	05/13/2024 23:01	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	04/29/2024 15:40	SM 2320B-2011
TDS, Filterable Residue	120	mg/L	2	100	40		ELT	04/29/2024 07:56	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 Qualifier Legend

J1 - Concentration estimated. Analyte was detected between the method detection limit and the reporting limit.

U1 - Not detected at or below method detection limit (MDL).

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Dolan Chemical Laboratory (DCL)
 4001 Bixby Road
 Groveport, Ohio 43125
 Michael Ohlinger (614-836-4184)
 Dave Conover (614-836-4219)

Project Name: Pikey PP ASD
 Contact Name: Leslie Fuenschbach
 Contact Phone: 318-673-2744

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 #: **241394**

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	Mercury			Dissolved Mercury			F, Cl, SO4, Br, TDS, Alkalinity			Ra-226, Ra-228			Sample Specific Notes	
							250 mL bottle, pH<2, HNO3	Field-filter 250 mL bottle, then pH<2, HNO3	1 L bottle, Cool, 0-6C	Three (six every 10hr) L bottles, pH<2, HNO3	4	F4	1	4	4					
B-2	4/22/2024	847	G	GW	1							X								
B-3	4/24/2024	1002	G	GW	1							X								
AD-25	4/24/2024	933	G	GW	1							X								
AD-26	4/24/2024	844	G	GW	1							X								
Duplicate	4/22/2024	1215	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: <i>[Signature]</i>	Company: <i>Enk</i>	Date/Time: <i>4-25-24 152</i>	Received by: _____	Date/Time: _____
Relinquished by: _____	Company: _____	Date/Time: _____	Received by: _____	Date/Time: _____
Relinquished by: _____	Company: _____	Date/Time: _____	Received in Laboratory by: <i>[Signature]</i>	Date/Time: <i>4/26/24 1000</i>

AEP WATER & WASTE SAMPLE RECEIPT FORM

<u>Package Type</u>			<u>Delivery Type</u>				
<input checked="" type="radio"/> Cooler	<input type="radio"/> Box	<input type="radio"/> Bag	<input type="radio"/> Envelope	PONY	<input checked="" type="radio"/> UPS	<input checked="" type="radio"/> FedEx	<input type="radio"/> USPS
				Other	_____		
Plant/Customer <u>Pickney</u>			Number of Plastic Containers: <u>5</u>				
Opened By <u>Mso/Mgh</u>			Number of Glass Containers: <u>-</u>				
Date/Time <u>4/26/24 1000</u>			Number of Mercury Containers: <u>-</u>				
Were all temperatures within 0-6°C? <input checked="" type="radio"/> Y / N or N/A Initial: <u>Mgh</u> <input checked="" type="radio"/> on ice / no ice (IR Gun Ser# <u>240009843</u> , Expir. <u>01/03/2026</u>) - If No, specify each deviation: _____							
Was container in good condition? <input checked="" type="radio"/> Y / N Comments _____							
Was Chain of Custody received? <input checked="" type="radio"/> Y / N Comments _____							
Requested turnaround: <u>Routine</u> If RUSH, who was notified? _____							
pH (15 min)	Cr ⁶ (pres) (24 hr)	NO ₂ or NO ₃ (48 hr)	ortho-PO ₄ (48 hr)	Hg-diss (pres) (48 hr)			

Was COC filled out properly? Y / N Comments _____

Were samples labeled properly? Y / N Comments _____

Were correct containers used? Y / N Comments _____

Was pH checked & Color Coding done? Y / N or N/A Initial & Date: Mgh 4/26/24

pH paper (circle one): MQuant,PN1.09535.0001,LOT# _____ ORJ Lab Rat,PN4801,LOT# X000RWDG21 Exp 11/15/2024

- Was Add'l Preservative needed? Y / N If Yes: By whom & when: _____ (See Prep Book)

Is sample filtration requested? Y / N Comments _____ (See Prep Book)

Was the customer contacted? If Yes: Person Contacted: _____

Lab ID# 241394 Initial & Date & Time : _____

Logged by Mso Comments: _____

Reviewed by WCG _____

REMINDER: Document the pertinent sample integrity information and deviations in sample receipt (as noted above) in the "Notes" field in the LIMS to be included on the report to the customer.

Ion Chromatography Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:


- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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

Name (printed)



Signature

Principle Chemist

Official Title

05/15/2024

Date

Ion Chromatography Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Wells
Reviewer Name: Tim Arnold
LRC Date: 05/15/2024
Laboratory Job Number: 241394
Prep Batch Number(s): QC2405103

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 Wells
Reviewer Name: Tim Arnold
LRC Date: 05/15/2024
Laboratory Job Number: 241394
Prep Batch Number(s): QC2405103

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
S1	O, I	Initial calibration (ICAL)		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	Mass spectral tuning:		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	Internal standards (IS):		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	Raw data (NELAC section 1 appendix A glossary, and section 5.)		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Ion Chromatography Laboratory Review Checklist

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
S6	O	Dual column confirmation		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	Tentatively identified compounds (TICs):		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	Interference Check Sample (ICS) results:		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	Serial dilutions, post digestion spikes, and method of standard additions		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	Method detection limit (MDL) studies		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	Proficiency test reports:		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	Standards documentation		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	Compound/analyte identification procedures		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	Demonstration of analyst competency (DOC)		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	Verification/validation documentation for methods (NELAC Chap 5n 5)		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	Laboratory standard operating procedures (SOPs):		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Ion Chromatography Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Wells
Reviewer Name: Tim Arnold
LRC Date: 05/15/2024
Laboratory Job Number: 241394
Prep Batch Number(s): QC2405103

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."

TDS Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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.

<u>Sandra Williams</u>	<u>Sandra D. Williams</u>	<u>Chemist</u>	<u>06/04/2024</u>
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: 06/04/2024
Laboratory Job Number: 241394
Prep Batch Number(s): QC2405010

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	

TDS Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Station
Reviewer Name: Sandra Williams
LRC Date: 05/06/2024
Laboratory Job Number: 241394
Prep Batch Number(s): QC2405010

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	

TDS Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Station
Reviewer Name: Sandra Williams
LRC Date: 06/04/2024
Laboratory Job Number: 241394
Prep Batch Number(s): QC2405010

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.”

Alkalinity Laboratory Review Checklist

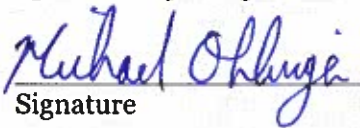
Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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 06/05/2024
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 ASD
Reviewer Name: Michael Ohlinger
LRC Date: 06/05/2024
Laboratory Job Number: 241394
Prep Batch Number(s): QC2404238

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 ASD
Reviewer Name: Michael Ohlinger
LRC Date: 06/05/2024
Laboratory Job Number: 241394
Prep Batch Number(s): QC2404238

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	



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 241961

Customer: Pirkey Power Station

Date Reported: 07/26/2024

Customer Sample ID: AD-23	Customer Description:
Lab Number: 241961-001	Preparation:
Date Collected: 06/26/2024 09:42 EDT	Date Received: 06/27/2024 10:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.242	mg/L	1	0.050	0.007		GES	07/03/2024 10:09	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-36	Customer Description:
Lab Number: 241961-002	Preparation:
Date Collected: 06/26/2024 10:04 EDT	Date Received: 06/27/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	14.2	mg/L	2	0.06	0.02		CRJ	07/09/2024 11:46	EPA 300.1 -1997, Rev. 1.0

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.

Ion Chromatography Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

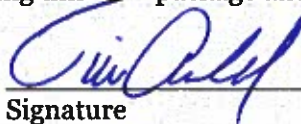
- This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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

Name (printed)



Signature

Principle Chemist

Official Title

07/10/2024

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: Tim Arnold

LRC Date: 7/10/2024

Laboratory Job Number: 241961

Prep Batch Number(s): QC2407065

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 PP CCR
Reviewer Name: Tim Arnold
LRC Date: 7/10/2024
Laboratory Job Number: 241961
Prep Batch Number(s): QC2407065

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
S1	O, I	Initial calibration (ICAL)		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	Mass spectral tuning:		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	Internal standards (IS):		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	Raw data (NELAC section 1 appendix A glossary, and section 5.)		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Ion Chromatography Laboratory Review Checklist

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
S6	O	Dual column confirmation		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	Tentatively identified compounds (TICs):		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	Interference Check Sample (ICS) results:		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	Serial dilutions, post digestion spikes, and method of standard additions		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	Method detection limit (MDL) studies		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	Proficiency test reports:		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	Standards documentation		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	Compound/analyte identification procedures		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	Demonstration of analyst competency (DOC)		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	Verification/validation documentation for methods (NELAC Chap 5n 5)		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	Laboratory standard operating procedures (SOPs):		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Ion Chromatography Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey PP CCR

Reviewer Name: Tim Arnold

LRC Date: 7/10/2024

Laboratory Job Number: 241961

Prep Batch Number(s): QC2407065

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."

ICP-MS Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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.

Jonathan Barnhill

Name (printed)

Signature of the Laboratory Supervisor
The Signature of the Laboratory Supervisor is required on the cover page of the report in which these data are used.

Signature

Lab Supervisor

Official Title

07/26/2024

Date

ICP-MS Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey CCR
Reviewer Name: Jonathan Barnhill
LRC Date: 7/26/2024
Laboratory Job Number: 241961
Prep Batch Number(s): PB24070201 QC2407033

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
R1	O, I	Chain-of-custody (COC)		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	Sample and quality control (QC) identification		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	Test reports		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	No	ER1
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	Surrogate recovery data		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	Test reports/summary forms for blank samples		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

ICP-MS Laboratory Review Checklist

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	Laboratory control samples (LCS):		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	Matrix spike (MS) and matrix spike duplicate (MSD) data		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	Analytical duplicate data		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	Method quantitation limits (MQLs):		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	Other problems/anomalies		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

ICP-MS Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey CCR
Reviewer Name: Jonathan Barnhill
LRC Date: 7/26/2024
Laboratory Job Number: 241961
Prep Batch Number(s): PB24070201 QC2407033

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	

ICP-MS Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey CCR
Reviewer Name: Jonathan Barnhill
LRC Date: 7/26/2024
Laboratory Job Number: 241961
Prep Batch Number(s): PB24070201 QC2407033

Exception Report No.	Description
ER1	Linear Dynamic Range (LDR) study used to determine upper limit of analyte calibration.
ER2	CCB acceptance criteria is $CCB < 2.2 * MDL$.

¹ Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

² O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).

³ NA - Not applicable; NR - Not reviewed.

⁴ Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-2

Customer Description:

Lab Number: 242840-001

Preparation:

Date Collected: 09/17/2024 08:58 EDT

Date Received: 09/23/2024 15:00 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	ELT	09/26/2024 12:39	EPA 200.8-1994, Rev. 5.4
Arsenic	0.9	µg/L	5	0.5	0.2		ELT	09/26/2024 12:39	EPA 200.8-1994, Rev. 5.4
Barium	14.8	µg/L	5	1.0	0.3		ELT	09/26/2024 12:39	EPA 200.8-1994, Rev. 5.4
Beryllium	1.03	µg/L	5	0.25	0.04		ELT	09/26/2024 12:39	EPA 200.8-1994, Rev. 5.4
Boron	3.09	mg/L	5	0.25	0.04		ELT	09/26/2024 12:39	EPA 200.8-1994, Rev. 5.4
Cadmium	0.12	µg/L	5	0.10	0.02		ELT	09/26/2024 12:39	EPA 200.8-1994, Rev. 5.4
Calcium	3.9	mg/L	5	0.3	0.1		ELT	09/26/2024 12:39	EPA 200.8-1994, Rev. 5.4
Chromium	0.9	µg/L	5	1.5	0.4	J1	ELT	09/26/2024 12:39	EPA 200.8-1994, Rev. 5.4
Cobalt	29.6	µg/L	5	0.10	0.03		ELT	09/26/2024 12:39	EPA 200.8-1994, Rev. 5.4
Lead	0.8	µg/L	5	1.0	0.3	J1	ELT	09/26/2024 12:39	EPA 200.8-1994, Rev. 5.4
Lithium	0.0851	mg/L	5	0.0015	0.0003		ELT	09/26/2024 12:39	EPA 200.8-1994, Rev. 5.4
Magnesium	7.87	mg/L	5	0.50	0.05		ELT	09/26/2024 12:39	EPA 200.8-1994, Rev. 5.4
Mercury	41	ng/L	2	10	4		RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	2.0	µg/L	5	2.5	0.5	J1	ELT	09/26/2024 12:39	EPA 200.8-1994, Rev. 5.4
Potassium	1.56	mg/L	5	0.50	0.05		ELT	09/26/2024 12:39	EPA 200.8-1994, Rev. 5.4
Selenium	3.5	µg/L	5	2.5	0.2		ELT	09/26/2024 12:39	EPA 200.8-1994, Rev. 5.4
Sodium	113	mg/L	5	1.0	0.1		ELT	09/26/2024 12:39	EPA 200.8-1994, Rev. 5.4
Strontium	0.0557	mg/L	5	0.0100	0.0003		ELT	09/26/2024 12:39	EPA 200.8-1994, Rev. 5.4
Thallium	0.1	µg/L	5	1.0	0.1	J1	ELT	09/26/2024 12:39	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	0.14	0.23		ST	10/09/2024 10:42	SW-846 9315-1986, Rev. 0
Carrier Recovery	81.6	%						
Radium-228	2.18	pCi/L	0.15	0.43	B1	TTP	10/02/2024 16:34	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	79.3	%						

* 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.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-2

Customer Description:

Lab Number: 242840-001-01

Preparation: Dissolved

Date Collected: 09/17/2024 08:58 EDT

Date Received: 09/23/2024 15:00 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	ELT	10/01/2024 22:59	EPA 200.8-1994, Rev. 5.4
Arsenic	1.2	µg/L	5	0.5	0.2		ELT	10/01/2024 22:59	EPA 200.8-1994, Rev. 5.4
Barium	15.7	µg/L	5	1.0	0.3		ELT	10/01/2024 22:59	EPA 200.8-1994, Rev. 5.4
Beryllium	0.87	µg/L	10	0.50	0.07		ELT	10/04/2024 20:55	EPA 200.8-1994, Rev. 5.4
Cadmium	0.16	µg/L	5	0.10	0.02		ELT	10/01/2024 22:59	EPA 200.8-1994, Rev. 5.4
Chromium	<0.4	µg/L	5	1.5	0.4	U1	ELT	10/01/2024 22:59	EPA 200.8-1994, Rev. 5.4
Cobalt	33.1	µg/L	5	0.10	0.03		ELT	10/01/2024 22:59	EPA 200.8-1994, Rev. 5.4
Iron	0.84	mg/L	5	0.10	0.02		ELT	10/01/2024 22:59	EPA 200.8-1994, Rev. 5.4
Lead	0.7	µg/L	5	1.0	0.3	J1	ELT	10/01/2024 22:59	EPA 200.8-1994, Rev. 5.4
Lithium	0.0772	mg/L	10	0.0030	0.0006		ELT	10/04/2024 20:55	EPA 200.8-1994, Rev. 5.4
Manganese	0.122	mg/L	5	0.0050	0.0004		ELT	10/01/2024 22:59	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RPL	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.5	µg/L	5	2.5	0.5	U1	ELT	10/01/2024 22:59	EPA 200.8-1994, Rev. 5.4
Selenium	4.3	µg/L	5	2.5	0.2		ELT	10/01/2024 22:59	EPA 200.8-1994, Rev. 5.4
Thallium	0.1	µg/L	5	1.0	0.1	J1	ELT	10/01/2024 22:59	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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-3

Customer Description:

Lab Number: 242840-002

Preparation:

Date Collected: 09/17/2024 12:01 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	09/25/2024 18:26	EPA 200.8-1994, Rev. 5.4
Arsenic	0.57	µg/L	1	0.10	0.03		ELT	09/25/2024 18:26	EPA 200.8-1994, Rev. 5.4
Barium	60.5	µg/L	1	0.20	0.05		ELT	09/25/2024 18:26	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.4	µg/L	50	2.5	0.4	U1	ELT	09/26/2024 13:46	EPA 200.8-1994, Rev. 5.4
Boron	0.052	mg/L	1	0.050	0.007		ELT	09/25/2024 18:26	EPA 200.8-1994, Rev. 5.4
Cadmium	0.014	µg/L	1	0.020	0.004	J1	ELT	09/25/2024 18:26	EPA 200.8-1994, Rev. 5.4
Calcium	4.67	mg/L	1	0.05	0.02		ELT	09/25/2024 18:26	EPA 200.8-1994, Rev. 5.4
Chromium	0.40	µg/L	1	0.30	0.07		ELT	09/25/2024 18:26	EPA 200.8-1994, Rev. 5.4
Cobalt	4.77	µg/L	1	0.020	0.005		ELT	09/25/2024 18:26	EPA 200.8-1994, Rev. 5.4
Lead	0.10	µg/L	1	0.20	0.05	J1	ELT	09/25/2024 18:26	EPA 200.8-1994, Rev. 5.4
Lithium	0.082	mg/L	50	0.015	0.003		ELT	09/26/2024 13:46	EPA 200.8-1994, Rev. 5.4
Magnesium	2.42	mg/L	1	0.100	0.009		ELT	09/25/2024 18:26	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/25/2024 18:26	EPA 200.8-1994, Rev. 5.4
Potassium	2.52	mg/L	1	0.10	0.01		ELT	09/25/2024 18:26	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	ELT	09/25/2024 18:26	EPA 200.8-1994, Rev. 5.4
Sodium	9.68	mg/L	1	0.20	0.02		ELT	09/25/2024 18:26	EPA 200.8-1994, Rev. 5.4
Strontium	0.0304	mg/L	1	0.00200	0.00005		ELT	09/25/2024 18:26	EPA 200.8-1994, Rev. 5.4
Thallium	0.05	µg/L	1	0.20	0.02	J1	ELT	09/25/2024 18:26	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.49	pCi/L	0.10	0.14		ST	10/09/2024 10:42	SW-846 9315-1986, Rev. 0
Carrier Recovery	94.7	%						
Radium-228	2.14	pCi/L	0.17	0.52	B1	TTP	10/02/2024 16:34	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	71.7	%						

* 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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-3

Customer Description:

Lab Number: 242840-002-01

Preparation: Dissolved

Date Collected: 09/17/2024 12:01 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	09/25/2024 18:32	EPA 200.8-1994, Rev. 5.4
Arsenic	0.28	µg/L	1	0.10	0.03		ELT	09/25/2024 18:32	EPA 200.8-1994, Rev. 5.4
Barium	55.7	µg/L	1	0.20	0.05		ELT	09/25/2024 18:32	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.4	µg/L	50	2.5	0.4	U1	ELT	09/26/2024 13:51	EPA 200.8-1994, Rev. 5.4
Cadmium	0.015	µg/L	1	0.020	0.004	J1	ELT	09/25/2024 18:32	EPA 200.8-1994, Rev. 5.4
Chromium	0.29	µg/L	1	0.30	0.07	J1	ELT	09/25/2024 18:32	EPA 200.8-1994, Rev. 5.4
Cobalt	4.37	µg/L	1	0.020	0.005		ELT	09/25/2024 18:32	EPA 200.8-1994, Rev. 5.4
Iron	3.13	mg/L	1	0.020	0.003		ELT	09/25/2024 18:32	EPA 200.8-1994, Rev. 5.4
Lead	0.06	µg/L	1	0.20	0.05	J1	ELT	09/25/2024 18:32	EPA 200.8-1994, Rev. 5.4
Lithium	0.080	mg/L	50	0.015	0.003		ELT	09/26/2024 13:51	EPA 200.8-1994, Rev. 5.4
Manganese	0.0554	mg/L	1	0.00100	0.00007		ELT	09/25/2024 18:32	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/25/2024 18:32	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	ELT	09/25/2024 18:32	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	ELT	09/25/2024 18:32	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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-4

Customer Description:

Lab Number: 242840-003

Preparation:

Date Collected: 09/17/2024 10:35 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	09/25/2024 18:37	EPA 200.8-1994, Rev. 5.4
Arsenic	0.46	µg/L	1	0.10	0.03		ELT	09/25/2024 18:37	EPA 200.8-1994, Rev. 5.4
Barium	120	µg/L	1	0.20	0.05		ELT	09/25/2024 18:37	EPA 200.8-1994, Rev. 5.4
Beryllium	0.4	µg/L	50	2.5	0.4	J1	ELT	09/26/2024 13:56	EPA 200.8-1994, Rev. 5.4
Boron	0.016	mg/L	1	0.050	0.007	J1	ELT	09/25/2024 18:37	EPA 200.8-1994, Rev. 5.4
Cadmium	0.022	µg/L	1	0.020	0.004		ELT	09/25/2024 18:37	EPA 200.8-1994, Rev. 5.4
Calcium	2.58	mg/L	1	0.05	0.02		ELT	09/25/2024 18:37	EPA 200.8-1994, Rev. 5.4
Chromium	0.57	µg/L	1	0.30	0.07		ELT	09/25/2024 18:37	EPA 200.8-1994, Rev. 5.4
Cobalt	3.52	µg/L	1	0.020	0.005		ELT	09/25/2024 18:37	EPA 200.8-1994, Rev. 5.4
Lead	0.07	µg/L	1	0.20	0.05	J1	ELT	09/25/2024 18:37	EPA 200.8-1994, Rev. 5.4
Lithium	0.030	mg/L	50	0.015	0.003		ELT	09/26/2024 13:56	EPA 200.8-1994, Rev. 5.4
Magnesium	0.635	mg/L	1	0.100	0.009		ELT	09/25/2024 18:37	EPA 200.8-1994, Rev. 5.4
Mercury	4	ng/L	1	5	2	J1	RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/25/2024 18:37	EPA 200.8-1994, Rev. 5.4
Potassium	2.22	mg/L	1	0.10	0.01		ELT	09/25/2024 18:37	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	ELT	09/25/2024 18:37	EPA 200.8-1994, Rev. 5.4
Sodium	6.50	mg/L	1	0.20	0.02		ELT	09/25/2024 18:37	EPA 200.8-1994, Rev. 5.4
Strontium	0.0190	mg/L	1	0.00200	0.00005		ELT	09/25/2024 18:37	EPA 200.8-1994, Rev. 5.4
Thallium	0.10	µg/L	1	0.20	0.02	J1	ELT	09/25/2024 18:37	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.68	pCi/L	0.12	0.16		ST	10/09/2024 10:42	SW-846 9315-1986, Rev. 0
Carrier Recovery	90.5	%						
Radium-228	2.78	pCi/L	0.16	0.46	B1	TTP	10/02/2024 16:34	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	76.9	%						

* 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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-4

Customer Description:

Lab Number: 242840-003-01

Preparation: Dissolved

Date Collected: 09/17/2024 10:35 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	09/25/2024 18:42	EPA 200.8-1994, Rev. 5.4
Arsenic	0.13	µg/L	1	0.10	0.03		ELT	09/25/2024 18:42	EPA 200.8-1994, Rev. 5.4
Barium	99.3	µg/L	1	0.20	0.05		ELT	09/25/2024 18:42	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.4	µg/L	50	2.5	0.4	U1	ELT	09/26/2024 14:01	EPA 200.8-1994, Rev. 5.4
Cadmium	0.016	µg/L	1	0.020	0.004	J1	ELT	09/25/2024 18:42	EPA 200.8-1994, Rev. 5.4
Chromium	0.41	µg/L	1	0.30	0.07		ELT	09/25/2024 18:42	EPA 200.8-1994, Rev. 5.4
Cobalt	2.63	µg/L	1	0.020	0.005		ELT	09/25/2024 18:42	EPA 200.8-1994, Rev. 5.4
Iron	1.77	mg/L	1	0.020	0.003		ELT	09/25/2024 18:42	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	ELT	09/25/2024 18:42	EPA 200.8-1994, Rev. 5.4
Lithium	0.029	mg/L	50	0.015	0.003		ELT	09/26/2024 14:01	EPA 200.8-1994, Rev. 5.4
Manganese	0.0222	mg/L	1	0.00100	0.00007		ELT	09/25/2024 18:42	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/25/2024 18:42	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	ELT	09/25/2024 18:42	EPA 200.8-1994, Rev. 5.4
Thallium	0.10	µg/L	1	0.20	0.02	J1	ELT	09/25/2024 18:42	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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-7R

Customer Description:

Lab Number: 242840-004

Preparation:

Date Collected: 09/16/2024 10:05 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	09/25/2024 18:47	EPA 200.8-1994, Rev. 5.4
Arsenic	0.66	µg/L	1	0.10	0.03		ELT	09/25/2024 18:47	EPA 200.8-1994, Rev. 5.4
Barium	57.9	µg/L	1	0.20	0.05		ELT	09/25/2024 18:47	EPA 200.8-1994, Rev. 5.4
Beryllium	2.0	µg/L	50	2.5	0.4	J1	ELT	09/26/2024 14:06	EPA 200.8-1994, Rev. 5.4
Boron	0.241	mg/L	1	0.050	0.007		ELT	09/25/2024 18:47	EPA 200.8-1994, Rev. 5.4
Cadmium	0.336	µg/L	1	0.020	0.004		ELT	09/25/2024 18:47	EPA 200.8-1994, Rev. 5.4
Calcium	2.68	mg/L	1	0.05	0.02		ELT	09/25/2024 18:47	EPA 200.8-1994, Rev. 5.4
Chromium	0.30	µg/L	1	0.30	0.07		ELT	09/25/2024 18:47	EPA 200.8-1994, Rev. 5.4
Cobalt	16.0	µg/L	1	0.020	0.005		ELT	09/25/2024 18:47	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	ELT	09/25/2024 18:47	EPA 200.8-1994, Rev. 5.4
Lithium	0.053	mg/L	50	0.015	0.003		ELT	09/26/2024 14:06	EPA 200.8-1994, Rev. 5.4
Magnesium	4.42	mg/L	1	0.100	0.009		ELT	09/25/2024 18:47	EPA 200.8-1994, Rev. 5.4
Mercury	23	ng/L	1	5	2		RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/25/2024 18:47	EPA 200.8-1994, Rev. 5.4
Potassium	1.52	mg/L	1	0.10	0.01		ELT	09/25/2024 18:47	EPA 200.8-1994, Rev. 5.4
Selenium	0.64	µg/L	1	0.50	0.04		ELT	09/25/2024 18:47	EPA 200.8-1994, Rev. 5.4
Sodium	19.7	mg/L	1	0.20	0.02		ELT	09/25/2024 18:47	EPA 200.8-1994, Rev. 5.4
Strontium	0.0298	mg/L	1	0.00200	0.00005		ELT	09/25/2024 18:47	EPA 200.8-1994, Rev. 5.4
Thallium	0.11	µg/L	1	0.20	0.02	J1	ELT	09/25/2024 18:47	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	0.18	0.20		ST	10/09/2024 10:42	SW-846 9315-1986, Rev. 0
Carrier Recovery	87.8	%						
Radium-228	3.43	pCi/L	0.16	0.43	B1	TTP	10/02/2024 16:34	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	76.6	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-7R

Customer Description:

Lab Number: 242840-004-01

Preparation: Dissolved

Date Collected: 09/16/2024 10:05 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	09/25/2024 18:52	EPA 200.8-1994, Rev. 5.4
Arsenic	0.21	µg/L	1	0.10	0.03		ELT	09/25/2024 18:52	EPA 200.8-1994, Rev. 5.4
Barium	59.9	µg/L	1	0.20	0.05		ELT	09/25/2024 18:52	EPA 200.8-1994, Rev. 5.4
Beryllium	1.6	µg/L	50	2.5	0.4	J1	ELT	09/26/2024 14:11	EPA 200.8-1994, Rev. 5.4
Cadmium	0.312	µg/L	1	0.020	0.004		ELT	09/25/2024 18:52	EPA 200.8-1994, Rev. 5.4
Chromium	0.27	µg/L	1	0.30	0.07	J1	ELT	09/25/2024 18:52	EPA 200.8-1994, Rev. 5.4
Cobalt	16.4	µg/L	1	0.020	0.005		ELT	09/25/2024 18:52	EPA 200.8-1994, Rev. 5.4
Iron	3.31	mg/L	1	0.020	0.003		ELT	09/25/2024 18:52	EPA 200.8-1994, Rev. 5.4
Lead	0.09	µg/L	1	0.20	0.05	J1	ELT	09/25/2024 18:52	EPA 200.8-1994, Rev. 5.4
Lithium	0.053	mg/L	50	0.015	0.003		ELT	09/26/2024 14:11	EPA 200.8-1994, Rev. 5.4
Manganese	0.0483	mg/L	1	0.00100	0.00007		ELT	09/25/2024 18:52	EPA 200.8-1994, Rev. 5.4
Mercury	12	ng/L	1	5	2		RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/25/2024 18:52	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	ELT	09/25/2024 18:52	EPA 200.8-1994, Rev. 5.4
Thallium	0.10	µg/L	1	0.20	0.02	J1	ELT	09/25/2024 18:52	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-8

Customer Description:

Lab Number: 242840-005

Preparation:

Date Collected: 09/18/2024 11:07 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	1.61	mg/L	1	0.050	0.007		ELT	09/25/2024 18:57	EPA 200.8-1994, Rev. 5.4
Calcium	61.6	mg/L	1	0.05	0.02		ELT	09/25/2024 18:57	EPA 200.8-1994, Rev. 5.4
Magnesium	4.79	mg/L	1	0.100	0.009		ELT	09/25/2024 18:57	EPA 200.8-1994, Rev. 5.4
Potassium	1.34	mg/L	1	0.10	0.01		ELT	09/25/2024 18:57	EPA 200.8-1994, Rev. 5.4
Sodium	16.3	mg/L	1	0.20	0.02		ELT	09/25/2024 18:57	EPA 200.8-1994, Rev. 5.4
Strontium	0.366	mg/L	1	0.00200	0.00005		ELT	09/25/2024 18:57	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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-12

Customer Description:

Lab Number: 242840-006

Preparation:

Date Collected: 09/16/2024 10:34 EDT

Date Received: 09/23/2024 15:00 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	ELT	09/25/2024 20:04	EPA 200.8-1994, Rev. 5.4
Arsenic	0.09	µg/L	1	0.10	0.03	J1	ELT	09/25/2024 20:04	EPA 200.8-1994, Rev. 5.4
Barium	16.6	µg/L	1	0.20	0.05		ELT	09/25/2024 20:04	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.4	µg/L	50	2.5	0.4	U1	ELT	09/26/2024 14:16	EPA 200.8-1994, Rev. 5.4
Boron	0.018	mg/L	1	0.050	0.007	J1	ELT	09/25/2024 20:04	EPA 200.8-1994, Rev. 5.4
Cadmium	0.007	µg/L	1	0.020	0.004	J1	ELT	09/25/2024 20:04	EPA 200.8-1994, Rev. 5.4
Calcium	0.23	mg/L	1	0.05	0.02		ELT	09/25/2024 20:04	EPA 200.8-1994, Rev. 5.4
Chromium	0.43	µg/L	1	0.30	0.07		ELT	09/25/2024 20:04	EPA 200.8-1994, Rev. 5.4
Cobalt	1.06	µg/L	1	0.020	0.005		ELT	09/25/2024 20:04	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	ELT	09/25/2024 20:04	EPA 200.8-1994, Rev. 5.4
Lithium	0.006	mg/L	50	0.015	0.003	J1	ELT	09/26/2024 14:16	EPA 200.8-1994, Rev. 5.4
Magnesium	0.326	mg/L	1	0.100	0.009		ELT	09/25/2024 20:04	EPA 200.8-1994, Rev. 5.4
Mercury	2	ng/L	1	5	2	J1	RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/25/2024 20:04	EPA 200.8-1994, Rev. 5.4
Potassium	0.19	mg/L	1	0.10	0.01		ELT	09/25/2024 20:04	EPA 200.8-1994, Rev. 5.4
Selenium	0.19	µg/L	1	0.50	0.04	J1	ELT	09/25/2024 20:04	EPA 200.8-1994, Rev. 5.4
Sodium	3.66	mg/L	1	0.20	0.02		ELT	09/25/2024 20:04	EPA 200.8-1994, Rev. 5.4
Strontium	0.00189	mg/L	1	0.00200	0.00005	J1	ELT	09/25/2024 20:04	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	ELT	09/25/2024 20:04	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.78	pCi/L	0.12	0.12		ST	10/09/2024 10:42	SW-846 9315-1986, Rev. 0
Carrier Recovery	102	%						
Radium-228	2.06	pCi/L	0.15	0.44	B1	TTP	10/02/2024 16:34	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	75.7	%						

* 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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-12

Customer Description:

Lab Number: 242840-006-01

Preparation: Dissolved

Date Collected: 09/16/2024 10:34 EDT

Date Received: 09/23/2024 15:00 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	ELT	09/25/2024 20:09	EPA 200.8-1994, Rev. 5.4
Arsenic	0.05	µg/L	1	0.10	0.03	J1	ELT	09/25/2024 20:09	EPA 200.8-1994, Rev. 5.4
Barium	5.36	µg/L	1	0.20	0.05		ELT	09/25/2024 20:09	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.4	µg/L	50	2.5	0.4	U1	ELT	09/26/2024 14:21	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	ELT	09/25/2024 20:09	EPA 200.8-1994, Rev. 5.4
Chromium	0.34	µg/L	1	0.30	0.07		ELT	09/25/2024 20:09	EPA 200.8-1994, Rev. 5.4
Cobalt	0.279	µg/L	1	0.020	0.005		ELT	09/25/2024 20:09	EPA 200.8-1994, Rev. 5.4
Iron	0.018	mg/L	1	0.020	0.003	J1	ELT	09/25/2024 20:09	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	ELT	09/25/2024 20:09	EPA 200.8-1994, Rev. 5.4
Lithium	0.005	mg/L	50	0.015	0.003	J1	ELT	09/26/2024 14:21	EPA 200.8-1994, Rev. 5.4
Manganese	0.00064	mg/L	1	0.00100	0.00007	J1	ELT	09/25/2024 20:09	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/25/2024 20:09	EPA 200.8-1994, Rev. 5.4
Selenium	0.14	µg/L	1	0.50	0.04	J1	ELT	09/25/2024 20:09	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	ELT	09/25/2024 20:09	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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-13

Customer Description:

Lab Number: 242840-007

Preparation:

Date Collected: 09/16/2024 09:13 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	09/25/2024 20:14	EPA 200.8-1994, Rev. 5.4
Arsenic	1.53	µg/L	1	0.10	0.03		ELT	09/25/2024 20:14	EPA 200.8-1994, Rev. 5.4
Barium	34.0	µg/L	1	0.20	0.05		ELT	09/25/2024 20:14	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.4	µg/L	50	2.5	0.4	U1	ELT	09/26/2024 14:26	EPA 200.8-1994, Rev. 5.4
Boron	0.052	mg/L	1	0.050	0.007		ELT	09/25/2024 20:14	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	ELT	09/25/2024 20:14	EPA 200.8-1994, Rev. 5.4
Calcium	8.21	mg/L	1	0.05	0.02		ELT	09/25/2024 20:14	EPA 200.8-1994, Rev. 5.4
Chromium	0.28	µg/L	1	0.30	0.07	J1	ELT	09/25/2024 20:14	EPA 200.8-1994, Rev. 5.4
Cobalt	35.6	µg/L	1	0.020	0.005		ELT	09/25/2024 20:14	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	ELT	09/25/2024 20:14	EPA 200.8-1994, Rev. 5.4
Lithium	0.155	mg/L	50	0.015	0.003		ELT	09/26/2024 14:26	EPA 200.8-1994, Rev. 5.4
Magnesium	9.26	mg/L	1	0.100	0.009		ELT	09/25/2024 20:14	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/25/2024 20:14	EPA 200.8-1994, Rev. 5.4
Potassium	4.36	mg/L	1	0.10	0.01		ELT	09/25/2024 20:14	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	ELT	09/25/2024 20:14	EPA 200.8-1994, Rev. 5.4
Sodium	14.5	mg/L	1	0.20	0.02		ELT	09/25/2024 20:14	EPA 200.8-1994, Rev. 5.4
Strontium	0.0794	mg/L	1	0.00200	0.00005		ELT	09/25/2024 20:14	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	ELT	09/25/2024 20:14	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.77	pCi/L	0.13	0.15		ST	10/09/2024 10:42	SW-846 9315-1986, Rev. 0
Carrier Recovery	91.1	%						
Radium-228	1.36	pCi/L	0.13	0.40	B1	TTP	10/02/2024 16:34	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	77.9	%						

* 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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-13

Customer Description:

Lab Number: 242840-007-01

Preparation: Dissolved

Date Collected: 09/16/2024 09:13 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	09/25/2024 20:19	EPA 200.8-1994, Rev. 5.4
Arsenic	1.41	µg/L	1	0.10	0.03		ELT	09/25/2024 20:19	EPA 200.8-1994, Rev. 5.4
Barium	35.6	µg/L	1	0.20	0.05		ELT	09/25/2024 20:19	EPA 200.8-1994, Rev. 5.4
Beryllium	0.117	µg/L	1	0.050	0.007		ELT	09/25/2024 20:19	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	ELT	09/25/2024 20:19	EPA 200.8-1994, Rev. 5.4
Chromium	0.25	µg/L	1	0.30	0.07	J1	ELT	09/25/2024 20:19	EPA 200.8-1994, Rev. 5.4
Cobalt	38.1	µg/L	1	0.020	0.005		ELT	09/25/2024 20:19	EPA 200.8-1994, Rev. 5.4
Iron	32.6	mg/L	1	0.020	0.003		ELT	09/25/2024 20:19	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	ELT	09/25/2024 20:19	EPA 200.8-1994, Rev. 5.4
Lithium	0.113	mg/L	1	0.00030	0.00006		ELT	09/25/2024 20:19	EPA 200.8-1994, Rev. 5.4
Manganese	0.319	mg/L	1	0.00100	0.00007		ELT	09/25/2024 20:19	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/25/2024 20:19	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	ELT	09/25/2024 20:19	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	ELT	09/25/2024 20:19	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-16

Customer Description:

Lab Number: 242840-008

Preparation:

Date Collected: 09/17/2024 12:19 EDT

Date Received: 09/23/2024 15:00 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	ELT	09/25/2024 20:24	EPA 200.8-1994, Rev. 5.4
Calcium	0.95	mg/L	1	0.05	0.02		ELT	09/25/2024 20:24	EPA 200.8-1994, Rev. 5.4
Magnesium	1.88	mg/L	1	0.100	0.009		ELT	09/25/2024 20:24	EPA 200.8-1994, Rev. 5.4
Potassium	1.07	mg/L	1	0.10	0.01		ELT	09/25/2024 20:24	EPA 200.8-1994, Rev. 5.4
Sodium	17.9	mg/L	1	0.20	0.02		ELT	09/25/2024 20:24	EPA 200.8-1994, Rev. 5.4
Strontium	0.0121	mg/L	1	0.00200	0.00005		ELT	09/25/2024 20:24	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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-17

Customer Description:

Lab Number: 242840-009

Preparation:

Date Collected: 09/17/2024 10:55 EDT

Date Received: 09/23/2024 15:00 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	ELT	09/25/2024 20:29	EPA 200.8-1994, Rev. 5.4
Arsenic	0.22	µg/L	1	0.10	0.03		ELT	09/25/2024 20:29	EPA 200.8-1994, Rev. 5.4
Barium	158	µg/L	1	0.20	0.05		ELT	09/25/2024 20:29	EPA 200.8-1994, Rev. 5.4
Beryllium	0.501	µg/L	1	0.050	0.007		ELT	09/25/2024 20:29	EPA 200.8-1994, Rev. 5.4
Boron	0.029	mg/L	1	0.050	0.007	J1	ELT	09/25/2024 20:29	EPA 200.8-1994, Rev. 5.4
Cadmium	0.038	µg/L	1	0.020	0.004		ELT	09/25/2024 20:29	EPA 200.8-1994, Rev. 5.4
Calcium	0.41	mg/L	1	0.05	0.02		ELT	09/25/2024 20:29	EPA 200.8-1994, Rev. 5.4
Chromium	0.35	µg/L	1	0.30	0.07		ELT	09/25/2024 20:29	EPA 200.8-1994, Rev. 5.4
Cobalt	7.63	µg/L	1	0.020	0.005		ELT	09/25/2024 20:29	EPA 200.8-1994, Rev. 5.4
Lead	0.11	µg/L	1	0.20	0.05	J1	ELT	09/25/2024 20:29	EPA 200.8-1994, Rev. 5.4
Lithium	0.0167	mg/L	1	0.00030	0.00006		ELT	09/25/2024 20:29	EPA 200.8-1994, Rev. 5.4
Magnesium	2.65	mg/L	1	0.100	0.009		ELT	09/25/2024 20:29	EPA 200.8-1994, Rev. 5.4
Mercury	135	ng/L	4	20	8		RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/25/2024 20:29	EPA 200.8-1994, Rev. 5.4
Potassium	0.56	mg/L	1	0.10	0.01		ELT	09/25/2024 20:29	EPA 200.8-1994, Rev. 5.4
Selenium	0.20	µg/L	1	0.50	0.04	J1	ELT	09/25/2024 20:29	EPA 200.8-1994, Rev. 5.4
Sodium	7.43	mg/L	1	0.20	0.02		ELT	09/25/2024 20:29	EPA 200.8-1994, Rev. 5.4
Strontium	0.0102	mg/L	1	0.00200	0.00005		ELT	09/25/2024 20:29	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	ELT	09/25/2024 20:29	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.10	pCi/L	0.15	0.13		ST	10/09/2024 10:42	SW-846 9315-1986, Rev. 0
Carrier Recovery	99.3	%						
Radium-228	2.26	pCi/L	0.14	0.41	B1	TTP	10/02/2024 16:34	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	85.2	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-17

Customer Description:

Lab Number: 242840-009-01

Preparation: Dissolved

Date Collected: 09/17/2024 10:55 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	09/25/2024 20:35	EPA 200.8-1994, Rev. 5.4
Arsenic	0.04	µg/L	1	0.10	0.03	J1	ELT	09/25/2024 20:35	EPA 200.8-1994, Rev. 5.4
Barium	133	µg/L	1	0.20	0.05		ELT	09/25/2024 20:35	EPA 200.8-1994, Rev. 5.4
Beryllium	0.296	µg/L	1	0.050	0.007		ELT	09/25/2024 20:35	EPA 200.8-1994, Rev. 5.4
Cadmium	0.028	µg/L	1	0.020	0.004		ELT	09/25/2024 20:35	EPA 200.8-1994, Rev. 5.4
Chromium	0.44	µg/L	1	0.30	0.07		ELT	09/25/2024 20:35	EPA 200.8-1994, Rev. 5.4
Cobalt	6.22	µg/L	1	0.020	0.005		ELT	09/25/2024 20:35	EPA 200.8-1994, Rev. 5.4
Iron	0.008	mg/L	1	0.020	0.003	J1	ELT	09/25/2024 20:35	EPA 200.8-1994, Rev. 5.4
Lead	0.07	µg/L	1	0.20	0.05	J1	ELT	09/25/2024 20:35	EPA 200.8-1994, Rev. 5.4
Lithium	0.0160	mg/L	1	0.00030	0.00006		ELT	09/25/2024 20:35	EPA 200.8-1994, Rev. 5.4
Manganese	0.0147	mg/L	1	0.00100	0.00007		ELT	09/25/2024 20:35	EPA 200.8-1994, Rev. 5.4
Mercury	63	ng/L	1	5	2		RPL	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/25/2024 20:35	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	ELT	09/25/2024 20:35	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	ELT	09/25/2024 20:35	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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-18

Customer Description:

Lab Number: 242840-010

Preparation:

Date Collected: 09/18/2024 08:44 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.016	µg/L	1	0.100	0.008	J1	ELT	09/25/2024 20:40	EPA 200.8-1994, Rev. 5.4
Arsenic	1.58	µg/L	1	0.10	0.03		ELT	09/25/2024 20:40	EPA 200.8-1994, Rev. 5.4
Barium	78.2	µg/L	1	0.20	0.05		ELT	09/25/2024 20:40	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.4	µg/L	50	2.5	0.4	U1	ELT	09/26/2024 14:32	EPA 200.8-1994, Rev. 5.4
Boron	0.010	mg/L	1	0.050	0.007	J1	ELT	09/25/2024 20:40	EPA 200.8-1994, Rev. 5.4
Cadmium	0.013	µg/L	1	0.020	0.004	J1	ELT	09/25/2024 20:40	EPA 200.8-1994, Rev. 5.4
Calcium	0.32	mg/L	1	0.05	0.02		ELT	09/25/2024 20:40	EPA 200.8-1994, Rev. 5.4
Chromium	1.02	µg/L	1	0.30	0.07		ELT	09/25/2024 20:40	EPA 200.8-1994, Rev. 5.4
Cobalt	1.28	µg/L	1	0.020	0.005		ELT	09/25/2024 20:40	EPA 200.8-1994, Rev. 5.4
Lead	0.37	µg/L	1	0.20	0.05		ELT	09/25/2024 20:40	EPA 200.8-1994, Rev. 5.4
Lithium	0.021	mg/L	50	0.015	0.003		ELT	09/26/2024 14:32	EPA 200.8-1994, Rev. 5.4
Magnesium	0.401	mg/L	1	0.100	0.009		ELT	09/25/2024 20:40	EPA 200.8-1994, Rev. 5.4
Mercury	13	ng/L	1	5	2		RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/25/2024 20:40	EPA 200.8-1994, Rev. 5.4
Potassium	0.93	mg/L	1	0.10	0.01		ELT	09/25/2024 20:40	EPA 200.8-1994, Rev. 5.4
Selenium	0.19	µg/L	1	0.50	0.04	J1	ELT	09/25/2024 20:40	EPA 200.8-1994, Rev. 5.4
Sodium	5.74	mg/L	1	0.20	0.02		ELT	09/25/2024 20:40	EPA 200.8-1994, Rev. 5.4
Strontium	0.00557	mg/L	1	0.00200	0.00005		ELT	09/25/2024 20:40	EPA 200.8-1994, Rev. 5.4
Thallium	0.05	µg/L	1	0.20	0.02	J1	ELT	09/25/2024 20:40	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.54	pCi/L	0.10	0.17		ST	10/09/2024 10:42	SW-846 9315-1986, Rev. 0
Carrier Recovery	110	%						
Radium-228	1.46	pCi/L	0.15	0.47	B1	TTP	10/02/2024 16:34	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	77.4	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-18

Customer Description:

Lab Number: 242840-010-01

Preparation: Dissolved

Date Collected: 09/18/2024 08:44 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.008	µg/L	1	0.100	0.008	J1	ELT	09/25/2024 20:55	EPA 200.8-1994, Rev. 5.4
Arsenic	0.08	µg/L	1	0.10	0.03	J1	ELT	09/25/2024 20:55	EPA 200.8-1994, Rev. 5.4
Barium	20.4	µg/L	1	0.20	0.05		ELT	09/25/2024 20:55	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.4	µg/L	50	2.5	0.4	U1	ELT	09/26/2024 12:49	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	ELT	09/25/2024 20:55	EPA 200.8-1994, Rev. 5.4
Chromium	0.28	µg/L	1	0.30	0.07	J1	ELT	09/25/2024 20:55	EPA 200.8-1994, Rev. 5.4
Cobalt	0.281	µg/L	1	0.020	0.005		ELT	09/25/2024 20:55	EPA 200.8-1994, Rev. 5.4
Iron	0.043	mg/L	1	0.020	0.003		ELT	09/25/2024 20:55	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	ELT	09/25/2024 20:55	EPA 200.8-1994, Rev. 5.4
Lithium	<0.003	mg/L	50	0.015	0.003	U1	ELT	09/26/2024 12:49	EPA 200.8-1994, Rev. 5.4
Manganese	0.00124	mg/L	1	0.00100	0.00007		ELT	09/25/2024 20:55	EPA 200.8-1994, Rev. 5.4
Mercury	2	ng/L	1	5	2	J1	RPL	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/25/2024 20:55	EPA 200.8-1994, Rev. 5.4
Selenium	0.04	µg/L	1	0.50	0.04	J1	ELT	09/25/2024 20:55	EPA 200.8-1994, Rev. 5.4
Thallium	0.07	µg/L	1	0.20	0.02	J1	ELT	09/25/2024 20:55	EPA 200.8-1994, Rev. 5.4



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-22

Customer Description:

Lab Number: 242840-011

Preparation:

Date Collected: 09/16/2024 10:59 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	09/26/2024 16:20	EPA 200.8-1994, Rev. 5.4
Arsenic	1.11	µg/L	1	0.10	0.03		ELT	09/26/2024 16:20	EPA 200.8-1994, Rev. 5.4
Barium	17.0	µg/L	1	0.20	0.05		ELT	09/26/2024 16:20	EPA 200.8-1994, Rev. 5.4
Beryllium	2.56	µg/L	1	0.050	0.007		ELT	09/26/2024 16:20	EPA 200.8-1994, Rev. 5.4
Boron	0.028	mg/L	1	0.050	0.007	J1	ELT	09/26/2024 16:20	EPA 200.8-1994, Rev. 5.4
Cadmium	0.531	µg/L	1	0.020	0.004		ELT	09/26/2024 16:20	EPA 200.8-1994, Rev. 5.4
Calcium	12.3	mg/L	1	0.05	0.02	M1	ELT	09/26/2024 16:20	EPA 200.8-1994, Rev. 5.4
Chromium	0.40	µg/L	1	0.30	0.07		ELT	09/26/2024 16:20	EPA 200.8-1994, Rev. 5.4
Cobalt	74.3	µg/L	1	0.020	0.005	M1	ELT	09/26/2024 16:20	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	ELT	09/26/2024 16:20	EPA 200.8-1994, Rev. 5.4
Lithium	0.125	mg/L	1	0.00030	0.00006	M1	ELT	09/26/2024 16:20	EPA 200.8-1994, Rev. 5.4
Magnesium	16.7	mg/L	1	0.100	0.009	M1	ELT	09/26/2024 16:20	EPA 200.8-1994, Rev. 5.4
Mercury	93	ng/L	4	20	8		RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/26/2024 16:20	EPA 200.8-1994, Rev. 5.4
Potassium	3.68	mg/L	1	0.10	0.01		ELT	09/26/2024 16:20	EPA 200.8-1994, Rev. 5.4
Selenium	2.37	µg/L	1	0.50	0.04		ELT	09/26/2024 16:20	EPA 200.8-1994, Rev. 5.4
Sodium	97.4	mg/L	1	0.20	0.02	M1	ELT	09/26/2024 16:20	EPA 200.8-1994, Rev. 5.4
Strontium	0.0950	mg/L	1	0.00200	0.00005		ELT	09/26/2024 16:20	EPA 200.8-1994, Rev. 5.4
Thallium	0.16	µg/L	1	0.20	0.02	J1	ELT	09/26/2024 16:20	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.57	pCi/L	0.11	0.12		ST	10/09/2024 10:42	SW-846 9315-1986, Rev. 0
Carrier Recovery	87.2	%						
Radium-228	2.19	pCi/L	0.17	0.52	B1	TTP	10/02/2024 16:34	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	65.3	%						

* 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.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-22

Customer Description:

Lab Number: 242840-011-01

Preparation: Dissolved

Date Collected: 09/16/2024 10:59 EDT

Date Received: 09/23/2024 15:00 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	ELT	09/26/2024 16:35	EPA 200.8-1994, Rev. 5.4
Arsenic	1.16	µg/L	1	0.10	0.03		ELT	09/26/2024 16:35	EPA 200.8-1994, Rev. 5.4
Barium	16.8	µg/L	1	0.20	0.05		ELT	09/26/2024 16:35	EPA 200.8-1994, Rev. 5.4
Beryllium	2.36	µg/L	1	0.050	0.007		ELT	09/26/2024 16:35	EPA 200.8-1994, Rev. 5.4
Cadmium	0.528	µg/L	1	0.020	0.004		ELT	09/26/2024 16:35	EPA 200.8-1994, Rev. 5.4
Chromium	0.39	µg/L	1	0.30	0.07		ELT	09/26/2024 16:35	EPA 200.8-1994, Rev. 5.4
Cobalt	75.7	µg/L	1	0.020	0.005		ELT	09/26/2024 16:35	EPA 200.8-1994, Rev. 5.4
Iron	42.5	mg/L	50	1.0	0.2		ELT	10/01/2024 23:10	EPA 200.8-1994, Rev. 5.4
Lead	0.10	µg/L	1	0.20	0.05	J1	ELT	09/26/2024 16:35	EPA 200.8-1994, Rev. 5.4
Lithium	0.124	mg/L	1	0.00030	0.00006		ELT	09/26/2024 16:35	EPA 200.8-1994, Rev. 5.4
Manganese	0.361	mg/L	1	0.00100	0.00007		ELT	09/26/2024 16:35	EPA 200.8-1994, Rev. 5.4
Mercury	58	ng/L	1	5	2		RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/26/2024 16:35	EPA 200.8-1994, Rev. 5.4
Selenium	2.24	µg/L	1	0.50	0.04		ELT	09/26/2024 16:35	EPA 200.8-1994, Rev. 5.4
Thallium	0.16	µg/L	1	0.20	0.02	J1	ELT	09/26/2024 16:35	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-23

Customer Description:

Lab Number: 242840-012

Preparation:

Date Collected: 09/18/2024 10:48 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.229	mg/L	1	0.050	0.007		ELT	09/26/2024 16:40	EPA 200.8-1994, Rev. 5.4
Calcium	0.20	mg/L	1	0.05	0.02		ELT	09/26/2024 16:40	EPA 200.8-1994, Rev. 5.4
Magnesium	0.195	mg/L	1	0.100	0.009		ELT	09/26/2024 16:40	EPA 200.8-1994, Rev. 5.4
Potassium	3.06	mg/L	1	0.10	0.01		ELT	09/26/2024 16:40	EPA 200.8-1994, Rev. 5.4
Sodium	3.76	mg/L	1	0.20	0.02		ELT	09/26/2024 16:40	EPA 200.8-1994, Rev. 5.4
Strontium	0.00221	mg/L	1	0.00200	0.00005		ELT	09/26/2024 16:40	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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-27

Customer Description:

Lab Number: 242840-013

Preparation:

Date Collected: 09/18/2024 11:58 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.052	mg/L	1	0.050	0.007		ELT	09/26/2024 16:45	EPA 200.8-1994, Rev. 5.4
Calcium	3.80	mg/L	1	0.05	0.02		ELT	09/26/2024 16:45	EPA 200.8-1994, Rev. 5.4
Magnesium	5.04	mg/L	1	0.100	0.009		ELT	09/26/2024 16:45	EPA 200.8-1994, Rev. 5.4
Potassium	2.13	mg/L	1	0.10	0.01		ELT	09/26/2024 16:45	EPA 200.8-1994, Rev. 5.4
Sodium	9.63	mg/L	1	0.20	0.02		ELT	09/26/2024 16:45	EPA 200.8-1994, Rev. 5.4
Strontium	0.0580	mg/L	1	0.00200	0.00005		ELT	09/26/2024 16:45	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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-28

Customer Description:

Lab Number: 242840-014

Preparation:

Date Collected: 09/17/2024 10:06 EDT

Date Received: 09/23/2024 15:00 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	ELT	09/26/2024 16:50	EPA 200.8-1994, Rev. 5.4
Arsenic	0.15	µg/L	1	0.10	0.03		ELT	09/26/2024 16:50	EPA 200.8-1994, Rev. 5.4
Barium	124	µg/L	1	0.20	0.05		ELT	09/26/2024 16:50	EPA 200.8-1994, Rev. 5.4
Beryllium	0.617	µg/L	1	0.050	0.007		ELT	09/26/2024 16:50	EPA 200.8-1994, Rev. 5.4
Boron	0.375	mg/L	1	0.050	0.007		ELT	09/26/2024 16:50	EPA 200.8-1994, Rev. 5.4
Cadmium	0.057	µg/L	1	0.020	0.004		ELT	09/26/2024 16:50	EPA 200.8-1994, Rev. 5.4
Calcium	1.39	mg/L	1	0.05	0.02		ELT	09/26/2024 16:50	EPA 200.8-1994, Rev. 5.4
Chromium	0.38	µg/L	1	0.30	0.07		ELT	09/26/2024 16:50	EPA 200.8-1994, Rev. 5.4
Cobalt	13.8	µg/L	1	0.020	0.005		ELT	09/26/2024 16:50	EPA 200.8-1994, Rev. 5.4
Lead	0.10	µg/L	1	0.20	0.05	J1	ELT	09/26/2024 16:50	EPA 200.8-1994, Rev. 5.4
Lithium	0.0267	mg/L	1	0.00030	0.00006		ELT	09/26/2024 16:50	EPA 200.8-1994, Rev. 5.4
Magnesium	3.01	mg/L	1	0.100	0.009		ELT	09/26/2024 16:50	EPA 200.8-1994, Rev. 5.4
Mercury	16	ng/L	1	5	2		RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/26/2024 16:50	EPA 200.8-1994, Rev. 5.4
Potassium	0.82	mg/L	1	0.10	0.01		ELT	09/26/2024 16:50	EPA 200.8-1994, Rev. 5.4
Selenium	0.22	µg/L	1	0.50	0.04	J1	ELT	09/26/2024 16:50	EPA 200.8-1994, Rev. 5.4
Sodium	7.09	mg/L	1	0.20	0.02		ELT	09/26/2024 16:50	EPA 200.8-1994, Rev. 5.4
Strontium	0.0204	mg/L	1	0.00200	0.00005		ELT	09/26/2024 16:50	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	ELT	09/26/2024 16:50	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.32	pCi/L	0.18	0.18		ST	10/04/2024 08:52	SW-846 9315-1986, Rev. 0
Carrier Recovery	92.9	%						
Radium-228	1.68	pCi/L	0.15	0.47	B1	TTP	10/02/2024 16:34	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	79.6	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-28

Customer Description:

Lab Number: 242840-014-01

Preparation: Dissolved

Date Collected: 09/17/2024 10:06 EDT

Date Received: 09/23/2024 15:00 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	ELT	09/26/2024 16:55	EPA 200.8-1994, Rev. 5.4
Arsenic	0.03	µg/L	1	0.10	0.03	J1	ELT	09/26/2024 16:55	EPA 200.8-1994, Rev. 5.4
Barium	108	µg/L	1	0.20	0.05		ELT	09/26/2024 16:55	EPA 200.8-1994, Rev. 5.4
Beryllium	0.361	µg/L	1	0.050	0.007		ELT	09/26/2024 16:55	EPA 200.8-1994, Rev. 5.4
Cadmium	0.045	µg/L	1	0.020	0.004		ELT	09/26/2024 16:55	EPA 200.8-1994, Rev. 5.4
Chromium	0.36	µg/L	1	0.30	0.07		ELT	09/26/2024 16:55	EPA 200.8-1994, Rev. 5.4
Cobalt	11.5	µg/L	1	0.020	0.005		ELT	09/26/2024 16:55	EPA 200.8-1994, Rev. 5.4
Iron	0.039	mg/L	1	0.020	0.003		ELT	09/26/2024 16:55	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	ELT	09/26/2024 16:55	EPA 200.8-1994, Rev. 5.4
Lithium	0.0257	mg/L	1	0.00030	0.00006		ELT	09/26/2024 16:55	EPA 200.8-1994, Rev. 5.4
Manganese	0.0440	mg/L	1	0.00100	0.00007		ELT	09/26/2024 16:55	EPA 200.8-1994, Rev. 5.4
Mercury	8	ng/L	1	5	2		RPL	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/26/2024 16:55	EPA 200.8-1994, Rev. 5.4
Selenium	0.05	µg/L	1	0.50	0.04	J1	ELT	09/26/2024 16:55	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	ELT	09/26/2024 16:55	EPA 200.8-1994, Rev. 5.4



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-30

Customer Description:

Lab Number: 242840-015

Preparation:

Date Collected: 09/17/2024 10:25 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	09/26/2024 17:00	EPA 200.8-1994, Rev. 5.4
Arsenic	0.14	µg/L	1	0.10	0.03		ELT	09/26/2024 17:00	EPA 200.8-1994, Rev. 5.4
Barium	57.8	µg/L	1	0.20	0.05		ELT	09/26/2024 17:00	EPA 200.8-1994, Rev. 5.4
Beryllium	0.078	µg/L	1	0.050	0.007		ELT	09/26/2024 17:00	EPA 200.8-1994, Rev. 5.4
Boron	1.35	mg/L	1	0.050	0.007		ELT	09/26/2024 17:00	EPA 200.8-1994, Rev. 5.4
Cadmium	0.009	µg/L	1	0.020	0.004	J1	ELT	09/26/2024 17:00	EPA 200.8-1994, Rev. 5.4
Calcium	0.49	mg/L	1	0.05	0.02		ELT	09/26/2024 17:00	EPA 200.8-1994, Rev. 5.4
Chromium	0.50	µg/L	1	0.30	0.07		ELT	09/26/2024 17:00	EPA 200.8-1994, Rev. 5.4
Cobalt	3.26	µg/L	1	0.020	0.005		ELT	09/26/2024 17:00	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	ELT	09/26/2024 17:00	EPA 200.8-1994, Rev. 5.4
Lithium	0.0103	mg/L	1	0.00030	0.00006		ELT	09/26/2024 17:00	EPA 200.8-1994, Rev. 5.4
Magnesium	1.64	mg/L	1	0.100	0.009		ELT	09/26/2024 17:00	EPA 200.8-1994, Rev. 5.4
Mercury	19	ng/L	1	5	2		RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/26/2024 17:00	EPA 200.8-1994, Rev. 5.4
Potassium	0.77	mg/L	1	0.10	0.01		ELT	09/26/2024 17:00	EPA 200.8-1994, Rev. 5.4
Selenium	0.22	µg/L	1	0.50	0.04	J1	ELT	09/26/2024 17:00	EPA 200.8-1994, Rev. 5.4
Sodium	59.7	mg/L	1	0.20	0.02		ELT	09/26/2024 17:00	EPA 200.8-1994, Rev. 5.4
Strontium	0.00725	mg/L	1	0.00200	0.00005		ELT	09/26/2024 17:00	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	ELT	09/26/2024 17:00	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	0.12	0.23		ST	10/04/2024 08:52	SW-846 9315-1986, Rev. 0
Carrier Recovery	88.5	%						
Radium-228	0.60	pCi/L	0.15	0.50	B1	TTP	10/02/2024 16:34	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	76.7	%						

* 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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-30

Customer Description:

Lab Number: 242840-015-01

Preparation: Dissolved

Date Collected: 09/17/2024 09:25 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	09/26/2024 17:06	EPA 200.8-1994, Rev. 5.4
Arsenic	0.08	µg/L	1	0.10	0.03	J1	ELT	09/26/2024 17:06	EPA 200.8-1994, Rev. 5.4
Barium	39.6	µg/L	1	0.20	0.05		ELT	09/26/2024 17:06	EPA 200.8-1994, Rev. 5.4
Beryllium	0.038	µg/L	1	0.050	0.007	J1	ELT	09/26/2024 17:06	EPA 200.8-1994, Rev. 5.4
Cadmium	0.018	µg/L	1	0.020	0.004	J1	ELT	09/26/2024 17:06	EPA 200.8-1994, Rev. 5.4
Chromium	0.50	µg/L	1	0.30	0.07		ELT	09/26/2024 17:06	EPA 200.8-1994, Rev. 5.4
Cobalt	2.40	µg/L	1	0.020	0.005		ELT	09/26/2024 17:06	EPA 200.8-1994, Rev. 5.4
Iron	0.007	mg/L	1	0.020	0.003	J1	ELT	09/26/2024 17:06	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	ELT	09/26/2024 17:06	EPA 200.8-1994, Rev. 5.4
Lithium	0.0104	mg/L	1	0.00030	0.00006		ELT	09/26/2024 17:06	EPA 200.8-1994, Rev. 5.4
Manganese	0.00991	mg/L	1	0.00100	0.00007		ELT	09/26/2024 17:06	EPA 200.8-1994, Rev. 5.4
Mercury	10	ng/L	1	5	2		RPL	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/26/2024 17:06	EPA 200.8-1994, Rev. 5.4
Selenium	0.16	µg/L	1	0.50	0.04	J1	ELT	09/26/2024 17:06	EPA 200.8-1994, Rev. 5.4
Thallium	0.04	µg/L	1	0.20	0.02	J1	ELT	09/26/2024 17:06	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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-31

Customer Description:

Lab Number: 242840-016

Preparation:

Date Collected: 09/16/2024 12:36 EDT

Date Received: 09/23/2024 15:00 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	ELT	09/26/2024 17:11	EPA 200.8-1994, Rev. 5.4
Arsenic	0.61	µg/L	1	0.10	0.03		ELT	09/26/2024 17:11	EPA 200.8-1994, Rev. 5.4
Barium	36.2	µg/L	1	0.20	0.05		ELT	09/26/2024 17:11	EPA 200.8-1994, Rev. 5.4
Beryllium	1.00	µg/L	10	0.50	0.07		ELT	10/04/2024 21:00	EPA 200.8-1994, Rev. 5.4
Boron	0.026	mg/L	1	0.050	0.007	J1	ELT	09/26/2024 17:11	EPA 200.8-1994, Rev. 5.4
Cadmium	0.065	µg/L	1	0.020	0.004		ELT	09/26/2024 17:11	EPA 200.8-1994, Rev. 5.4
Calcium	2.38	mg/L	1	0.05	0.02		ELT	09/26/2024 17:11	EPA 200.8-1994, Rev. 5.4
Chromium	1.18	µg/L	1	0.30	0.07		ELT	09/26/2024 17:11	EPA 200.8-1994, Rev. 5.4
Cobalt	9.20	µg/L	1	0.020	0.005		ELT	09/26/2024 17:11	EPA 200.8-1994, Rev. 5.4
Lead	0.54	µg/L	1	0.20	0.05		ELT	09/26/2024 17:11	EPA 200.8-1994, Rev. 5.4
Lithium	0.0857	mg/L	10	0.0030	0.0006		ELT	10/04/2024 21:00	EPA 200.8-1994, Rev. 5.4
Magnesium	3.43	mg/L	1	0.100	0.009		ELT	09/26/2024 17:11	EPA 200.8-1994, Rev. 5.4
Mercury	740	ng/L	10	50	20		RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/26/2024 17:11	EPA 200.8-1994, Rev. 5.4
Potassium	1.67	mg/L	1	0.10	0.01		ELT	09/26/2024 17:11	EPA 200.8-1994, Rev. 5.4
Selenium	0.37	µg/L	1	0.50	0.04	J1	ELT	09/26/2024 17:11	EPA 200.8-1994, Rev. 5.4
Sodium	28.6	mg/L	1	0.20	0.02		ELT	09/26/2024 17:11	EPA 200.8-1994, Rev. 5.4
Strontium	0.0344	mg/L	1	0.00200	0.00005		ELT	09/26/2024 17:11	EPA 200.8-1994, Rev. 5.4
Thallium	0.10	µg/L	1	0.20	0.02	J1	ELT	09/26/2024 17:11	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.81	pCi/L	0.13	0.14		ST	10/04/2024 08:52	SW-846 9315-1986, Rev. 0
Carrier Recovery	105	%						
Radium-228	3.14	pCi/L	0.19	0.52	B1, L1, O2	TTP	10/16/2024 16:22	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	87.5	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-31

Customer Description:

Lab Number: 242840-016-01

Preparation: Dissolved

Date Collected: 09/16/2024 12:36 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	09/26/2024 17:16	EPA 200.8-1994, Rev. 5.4
Arsenic	0.14	µg/L	1	0.10	0.03		ELT	09/26/2024 17:16	EPA 200.8-1994, Rev. 5.4
Barium	30.2	µg/L	1	0.20	0.05		ELT	09/26/2024 17:16	EPA 200.8-1994, Rev. 5.4
Beryllium	0.556	µg/L	1	0.050	0.007		ELT	09/26/2024 17:16	EPA 200.8-1994, Rev. 5.4
Cadmium	0.054	µg/L	1	0.020	0.004		ELT	09/26/2024 17:16	EPA 200.8-1994, Rev. 5.4
Chromium	0.30	µg/L	1	0.30	0.07		ELT	09/26/2024 17:16	EPA 200.8-1994, Rev. 5.4
Cobalt	8.17	µg/L	1	0.020	0.005		ELT	09/26/2024 17:16	EPA 200.8-1994, Rev. 5.4
Iron	0.207	mg/L	1	0.020	0.003		ELT	09/26/2024 17:16	EPA 200.8-1994, Rev. 5.4
Lead	0.24	µg/L	1	0.20	0.05		ELT	09/26/2024 17:16	EPA 200.8-1994, Rev. 5.4
Lithium	0.0700	mg/L	1	0.00030	0.00006		ELT	09/26/2024 17:16	EPA 200.8-1994, Rev. 5.4
Manganese	0.0221	mg/L	1	0.00100	0.00007		ELT	09/26/2024 17:16	EPA 200.8-1994, Rev. 5.4
Mercury	53	ng/L	1	5	2		RPL	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/26/2024 17:16	EPA 200.8-1994, Rev. 5.4
Selenium	0.08	µg/L	1	0.50	0.04	J1	ELT	09/26/2024 17:16	EPA 200.8-1994, Rev. 5.4
Thallium	0.08	µg/L	1	0.20	0.02	J1	ELT	09/26/2024 17:16	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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-32

Customer Description:

Lab Number: 242840-017

Preparation:

Date Collected: 09/16/2024 11:32 EDT

Date Received: 09/23/2024 15:00 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	ELT	09/26/2024 18:12	EPA 200.8-1994, Rev. 5.4
Arsenic	6.08	µg/L	1	0.10	0.03		ELT	09/26/2024 18:12	EPA 200.8-1994, Rev. 5.4
Barium	35.5	µg/L	1	0.20	0.05		ELT	09/26/2024 18:12	EPA 200.8-1994, Rev. 5.4
Beryllium	0.191	µg/L	1	0.050	0.007		ELT	09/26/2024 18:12	EPA 200.8-1994, Rev. 5.4
Boron	0.175	mg/L	1	0.050	0.007		ELT	09/26/2024 18:12	EPA 200.8-1994, Rev. 5.4
Cadmium	0.013	µg/L	1	0.020	0.004	J1	ELT	09/26/2024 18:12	EPA 200.8-1994, Rev. 5.4
Calcium	6.10	mg/L	1	0.05	0.02		ELT	09/26/2024 18:12	EPA 200.8-1994, Rev. 5.4
Chromium	0.40	µg/L	1	0.30	0.07		ELT	09/26/2024 18:12	EPA 200.8-1994, Rev. 5.4
Cobalt	14.3	µg/L	1	0.020	0.005		ELT	09/26/2024 18:12	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	ELT	09/26/2024 18:12	EPA 200.8-1994, Rev. 5.4
Lithium	0.0693	mg/L	1	0.00030	0.00006		ELT	09/26/2024 18:12	EPA 200.8-1994, Rev. 5.4
Magnesium	6.86	mg/L	1	0.100	0.009		ELT	09/26/2024 18:12	EPA 200.8-1994, Rev. 5.4
Mercury	380	ng/L	20	100	40		RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/26/2024 18:12	EPA 200.8-1994, Rev. 5.4
Potassium	3.05	mg/L	1	0.10	0.01		ELT	09/26/2024 18:12	EPA 200.8-1994, Rev. 5.4
Selenium	0.28	µg/L	1	0.50	0.04	J1	ELT	09/26/2024 18:12	EPA 200.8-1994, Rev. 5.4
Sodium	17.9	mg/L	1	0.20	0.02		ELT	09/26/2024 18:12	EPA 200.8-1994, Rev. 5.4
Strontium	0.0811	mg/L	1	0.00200	0.00005		ELT	09/26/2024 18:12	EPA 200.8-1994, Rev. 5.4
Thallium	0.06	µg/L	1	0.20	0.02	J1	ELT	09/26/2024 18:12	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	1.02	pCi/L	0.17	0.20		ST	10/04/2024 08:52	SW-846 9315-1986, Rev. 0
Carrier Recovery	78.7	%						
Radium-228	0.16	pCi/L	0.14	0.48	B1	TTP	10/02/2024 16:34	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	77.8	%						

* 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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-32

Customer Description:

Lab Number: 242840-017-01

Preparation: Dissolved

Date Collected: 09/16/2024 11:32 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	09/26/2024 18:28	EPA 200.8-1994, Rev. 5.4
Arsenic	2.48	µg/L	1	0.10	0.03		ELT	09/26/2024 18:28	EPA 200.8-1994, Rev. 5.4
Barium	33.6	µg/L	1	0.20	0.05		ELT	09/26/2024 18:28	EPA 200.8-1994, Rev. 5.4
Beryllium	0.153	µg/L	1	0.050	0.007		ELT	09/26/2024 18:28	EPA 200.8-1994, Rev. 5.4
Cadmium	0.013	µg/L	1	0.020	0.004	J1	ELT	09/26/2024 18:28	EPA 200.8-1994, Rev. 5.4
Chromium	0.23	µg/L	1	0.30	0.07	J1	ELT	09/26/2024 18:28	EPA 200.8-1994, Rev. 5.4
Cobalt	13.2	µg/L	1	0.020	0.005		ELT	09/26/2024 18:28	EPA 200.8-1994, Rev. 5.4
Iron	13.5	mg/L	1	0.020	0.003		ELT	09/26/2024 18:28	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	ELT	09/26/2024 18:28	EPA 200.8-1994, Rev. 5.4
Lithium	0.0697	mg/L	1	0.00030	0.00006		ELT	09/26/2024 18:28	EPA 200.8-1994, Rev. 5.4
Manganese	0.108	mg/L	1	0.00100	0.00007		ELT	09/26/2024 18:28	EPA 200.8-1994, Rev. 5.4
Mercury	4	ng/L	1	5	2	J1	RPL	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/26/2024 18:28	EPA 200.8-1994, Rev. 5.4
Selenium	0.05	µg/L	1	0.50	0.04	J1	ELT	09/26/2024 18:28	EPA 200.8-1994, Rev. 5.4
Thallium	0.09	µg/L	1	0.20	0.02	J1	ELT	09/26/2024 18:28	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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-33

Customer Description:

Lab Number: 242840-018

Preparation:

Date Collected: 09/16/2024 12:25 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	09/26/2024 18:33	EPA 200.8-1994, Rev. 5.4
Arsenic	0.54	µg/L	1	0.10	0.03		ELT	09/26/2024 18:33	EPA 200.8-1994, Rev. 5.4
Barium	43.2	µg/L	1	0.20	0.05		ELT	09/26/2024 18:33	EPA 200.8-1994, Rev. 5.4
Beryllium	1.30	µg/L	1	0.050	0.007		ELT	09/26/2024 18:33	EPA 200.8-1994, Rev. 5.4
Boron	0.122	mg/L	1	0.050	0.007		ELT	09/26/2024 18:33	EPA 200.8-1994, Rev. 5.4
Cadmium	0.049	µg/L	1	0.020	0.004		ELT	09/26/2024 18:33	EPA 200.8-1994, Rev. 5.4
Calcium	1.54	mg/L	1	0.05	0.02		ELT	09/26/2024 18:33	EPA 200.8-1994, Rev. 5.4
Chromium	0.39	µg/L	1	0.30	0.07		ELT	09/26/2024 18:33	EPA 200.8-1994, Rev. 5.4
Cobalt	9.82	µg/L	1	0.020	0.005		ELT	09/26/2024 18:33	EPA 200.8-1994, Rev. 5.4
Lead	0.28	µg/L	1	0.20	0.05		ELT	09/26/2024 18:33	EPA 200.8-1994, Rev. 5.4
Lithium	0.0224	mg/L	1	0.00030	0.00006		ELT	09/26/2024 18:33	EPA 200.8-1994, Rev. 5.4
Magnesium	3.75	mg/L	1	0.100	0.009		ELT	09/26/2024 18:33	EPA 200.8-1994, Rev. 5.4
Mercury	6500	ng/L	100	500	200		RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/26/2024 18:33	EPA 200.8-1994, Rev. 5.4
Potassium	0.28	mg/L	1	0.10	0.01		ELT	09/26/2024 18:33	EPA 200.8-1994, Rev. 5.4
Selenium	1.73	µg/L	1	0.50	0.04		ELT	09/26/2024 18:33	EPA 200.8-1994, Rev. 5.4
Sodium	16.5	mg/L	1	0.20	0.02		ELT	09/26/2024 18:33	EPA 200.8-1994, Rev. 5.4
Strontium	0.0288	mg/L	1	0.00200	0.00005		ELT	09/26/2024 18:33	EPA 200.8-1994, Rev. 5.4
Thallium	0.06	µg/L	1	0.20	0.02	J1	ELT	09/26/2024 18:33	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.82	pCi/L	0.16	0.25		ST	10/04/2024 08:52	SW-846 9315-1986, Rev. 0
Carrier Recovery	81.2	%						
Radium-228	1.52	pCi/L	0.18	0.58	B1	TTP	10/02/2024 16:34	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.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-33

Customer Description:

Lab Number: 242840-018-01

Preparation: Dissolved

Date Collected: 09/16/2024 12:25 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	0.013	µg/L	1	0.100	0.008	J1	ELT	09/26/2024 18:38	EPA 200.8-1994, Rev. 5.4
Arsenic	0.26	µg/L	1	0.10	0.03		ELT	09/26/2024 18:38	EPA 200.8-1994, Rev. 5.4
Barium	47.3	µg/L	1	0.20	0.05		ELT	09/26/2024 18:38	EPA 200.8-1994, Rev. 5.4
Beryllium	1.19	µg/L	1	0.050	0.007		ELT	09/26/2024 18:38	EPA 200.8-1994, Rev. 5.4
Cadmium	0.055	µg/L	1	0.020	0.004		ELT	09/26/2024 18:38	EPA 200.8-1994, Rev. 5.4
Chromium	0.36	µg/L	1	0.30	0.07		ELT	09/26/2024 18:38	EPA 200.8-1994, Rev. 5.4
Cobalt	10.4	µg/L	1	0.020	0.005		ELT	09/26/2024 18:38	EPA 200.8-1994, Rev. 5.4
Iron	0.022	mg/L	1	0.020	0.003		ELT	09/26/2024 18:38	EPA 200.8-1994, Rev. 5.4
Lead	0.31	µg/L	1	0.20	0.05		ELT	09/26/2024 18:38	EPA 200.8-1994, Rev. 5.4
Lithium	0.0226	mg/L	1	0.00030	0.00006		ELT	09/26/2024 18:38	EPA 200.8-1994, Rev. 5.4
Manganese	0.00636	mg/L	1	0.00100	0.00007		ELT	09/26/2024 18:38	EPA 200.8-1994, Rev. 5.4
Mercury	760	ng/L	20	100	40		RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/26/2024 18:38	EPA 200.8-1994, Rev. 5.4
Selenium	0.81	µg/L	1	0.50	0.04		ELT	09/26/2024 18:38	EPA 200.8-1994, Rev. 5.4
Thallium	0.05	µg/L	1	0.20	0.02	J1	ELT	09/26/2024 18:38	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-34

Customer Description:

Lab Number: 242840-019

Preparation:

Date Collected: 09/18/2024 10:15 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	<0.07	mg/L	10	0.50	0.07	U1	ELT	10/02/2024 00:32	EPA 200.8-1994, Rev. 5.4
Calcium	43.0	mg/L	10	0.5	0.2		ELT	10/02/2024 00:32	EPA 200.8-1994, Rev. 5.4
Magnesium	39.9	mg/L	10	1.00	0.09		ELT	10/02/2024 00:32	EPA 200.8-1994, Rev. 5.4
Potassium	7.9	mg/L	10	1.0	0.1		ELT	10/02/2024 00:32	EPA 200.8-1994, Rev. 5.4
Sodium	16.1	mg/L	10	2.0	0.2		ELT	10/02/2024 00:32	EPA 200.8-1994, Rev. 5.4
Strontium	0.441	mg/L	10	0.0200	0.0005		ELT	10/02/2024 00:32	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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-36

Customer Description:

Lab Number: 242840-020

Preparation:

Date Collected: 09/18/2024 10:10 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.082	mg/L	1	0.050	0.007		ELT	09/26/2024 18:48	EPA 200.8-1994, Rev. 5.4
Calcium	0.77	mg/L	1	0.05	0.02		ELT	09/26/2024 18:48	EPA 200.8-1994, Rev. 5.4
Magnesium	2.33	mg/L	1	0.100	0.009		ELT	09/26/2024 18:48	EPA 200.8-1994, Rev. 5.4
Potassium	1.87	mg/L	1	0.10	0.01		ELT	09/26/2024 18:48	EPA 200.8-1994, Rev. 5.4
Sodium	6.68	mg/L	1	0.20	0.02		ELT	09/26/2024 18:48	EPA 200.8-1994, Rev. 5.4
Strontium	0.0114	mg/L	1	0.00200	0.00005		ELT	09/26/2024 18:48	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: Duplicate 1

Customer Description:

Lab Number: 242840-021

Preparation:

Date Collected: 09/16/2024 12:00 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	09/26/2024 18:53	EPA 200.8-1994, Rev. 5.4
Arsenic	1.17	µg/L	1	0.10	0.03		ELT	09/26/2024 18:53	EPA 200.8-1994, Rev. 5.4
Barium	17.3	µg/L	1	0.20	0.05		ELT	09/26/2024 18:53	EPA 200.8-1994, Rev. 5.4
Beryllium	2.48	µg/L	1	0.050	0.007		ELT	09/26/2024 18:53	EPA 200.8-1994, Rev. 5.4
Boron	0.028	mg/L	1	0.050	0.007	J1	ELT	09/26/2024 18:53	EPA 200.8-1994, Rev. 5.4
Cadmium	0.552	µg/L	1	0.020	0.004		ELT	09/26/2024 18:53	EPA 200.8-1994, Rev. 5.4
Calcium	12.5	mg/L	1	0.05	0.02		ELT	09/26/2024 18:53	EPA 200.8-1994, Rev. 5.4
Chromium	0.32	µg/L	1	0.30	0.07		ELT	09/26/2024 18:53	EPA 200.8-1994, Rev. 5.4
Cobalt	76.5	µg/L	1	0.020	0.005		ELT	09/26/2024 18:53	EPA 200.8-1994, Rev. 5.4
Lead	0.11	µg/L	1	0.20	0.05	J1	ELT	09/26/2024 18:53	EPA 200.8-1994, Rev. 5.4
Lithium	0.117	mg/L	1	0.00030	0.00006		ELT	09/26/2024 18:53	EPA 200.8-1994, Rev. 5.4
Magnesium	17.0	mg/L	1	0.100	0.009		ELT	09/26/2024 18:53	EPA 200.8-1994, Rev. 5.4
Mercury	84	ng/L	1	5	2		RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/26/2024 18:53	EPA 200.8-1994, Rev. 5.4
Potassium	3.78	mg/L	1	0.10	0.01		ELT	09/26/2024 18:53	EPA 200.8-1994, Rev. 5.4
Selenium	2.63	µg/L	1	0.50	0.04		ELT	09/26/2024 18:53	EPA 200.8-1994, Rev. 5.4
Sodium	101	mg/L	1	0.20	0.02		ELT	09/26/2024 18:53	EPA 200.8-1994, Rev. 5.4
Strontium	0.0950	mg/L	1	0.00200	0.00005		ELT	09/26/2024 18:53	EPA 200.8-1994, Rev. 5.4
Thallium	0.16	µg/L	1	0.20	0.02	J1	ELT	09/26/2024 18:53	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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: Duplicate 1

Customer Description:

Lab Number: 242840-021-01

Preparation: Dissolved

Date Collected: 09/16/2024 12:00 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	09/26/2024 18:58	EPA 200.8-1994, Rev. 5.4
Arsenic	1.25	µg/L	1	0.10	0.03		ELT	09/26/2024 18:58	EPA 200.8-1994, Rev. 5.4
Barium	17.4	µg/L	1	0.20	0.05		ELT	09/26/2024 18:58	EPA 200.8-1994, Rev. 5.4
Beryllium	2.46	µg/L	1	0.050	0.007		ELT	09/26/2024 18:58	EPA 200.8-1994, Rev. 5.4
Cadmium	0.550	µg/L	1	0.020	0.004		ELT	09/26/2024 18:58	EPA 200.8-1994, Rev. 5.4
Chromium	0.33	µg/L	1	0.30	0.07		ELT	09/26/2024 18:58	EPA 200.8-1994, Rev. 5.4
Cobalt	80.2	µg/L	1	0.020	0.005		ELT	09/26/2024 18:58	EPA 200.8-1994, Rev. 5.4
Iron	41.1	mg/L	50	1.0	0.2		ELT	10/01/2024 23:20	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	ELT	09/26/2024 18:58	EPA 200.8-1994, Rev. 5.4
Lithium	0.126	mg/L	1	0.00030	0.00006		ELT	09/26/2024 18:58	EPA 200.8-1994, Rev. 5.4
Manganese	0.376	mg/L	1	0.00100	0.00007		ELT	09/26/2024 18:58	EPA 200.8-1994, Rev. 5.4
Mercury	61	ng/L	1	5	2		RPL	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/26/2024 18:58	EPA 200.8-1994, Rev. 5.4
Selenium	2.43	µg/L	1	0.50	0.04		ELT	09/26/2024 18:58	EPA 200.8-1994, Rev. 5.4
Thallium	0.16	µg/L	1	0.20	0.02	J1	ELT	09/26/2024 18:58	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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: Equipment Blank

Customer Description:

Lab Number: 242840-022

Preparation:

Date Collected: 09/17/2024 09:50 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	09/26/2024 19:03	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	ELT	09/26/2024 19:03	EPA 200.8-1994, Rev. 5.4
Barium	<0.05	µg/L	1	0.20	0.05	U1	ELT	09/26/2024 19:03	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	ELT	09/26/2024 19:03	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	ELT	09/26/2024 19:03	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	ELT	09/26/2024 19:03	EPA 200.8-1994, Rev. 5.4
Calcium	<0.02	mg/L	1	0.05	0.02	U1	ELT	09/26/2024 19:03	EPA 200.8-1994, Rev. 5.4
Chromium	0.22	µg/L	1	0.30	0.07	J1	ELT	09/26/2024 19:03	EPA 200.8-1994, Rev. 5.4
Cobalt	<0.005	µg/L	1	0.020	0.005	U1	ELT	09/26/2024 19:03	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	ELT	09/26/2024 19:03	EPA 200.8-1994, Rev. 5.4
Lithium	0.00037	mg/L	1	0.00030	0.00006		ELT	09/26/2024 19:03	EPA 200.8-1994, Rev. 5.4
Magnesium	<0.009	mg/L	1	0.100	0.009	U1	ELT	09/26/2024 19:03	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/26/2024 19:03	EPA 200.8-1994, Rev. 5.4
Potassium	<0.01	mg/L	1	0.10	0.01	U1	ELT	09/26/2024 19:03	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	ELT	09/26/2024 19:03	EPA 200.8-1994, Rev. 5.4
Sodium	<0.02	mg/L	1	0.20	0.02	U1	ELT	09/26/2024 19:03	EPA 200.8-1994, Rev. 5.4
Strontium	<0.00005	mg/L	1	0.00200	0.00005	U1	ELT	09/26/2024 19:03	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	ELT	09/26/2024 19:03	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: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: Field Blank

Customer Description:

Lab Number: 242840-023

Preparation:

Date Collected: 09/17/2024 09:51 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	09/26/2024 19:09	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	ELT	09/26/2024 19:09	EPA 200.8-1994, Rev. 5.4
Barium	<0.05	µg/L	1	0.20	0.05	U1	ELT	09/26/2024 19:09	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	ELT	09/26/2024 19:09	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	ELT	09/26/2024 19:09	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	ELT	09/26/2024 19:09	EPA 200.8-1994, Rev. 5.4
Calcium	<0.02	mg/L	1	0.05	0.02	U1	ELT	09/26/2024 19:09	EPA 200.8-1994, Rev. 5.4
Chromium	0.23	µg/L	1	0.30	0.07	J1	ELT	09/26/2024 19:09	EPA 200.8-1994, Rev. 5.4
Cobalt	<0.005	µg/L	1	0.020	0.005	U1	ELT	09/26/2024 19:09	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	ELT	09/26/2024 19:09	EPA 200.8-1994, Rev. 5.4
Lithium	0.00011	mg/L	1	0.00030	0.00006	J1	ELT	09/26/2024 19:09	EPA 200.8-1994, Rev. 5.4
Magnesium	<0.009	mg/L	1	0.100	0.009	U1	ELT	09/26/2024 19:09	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	09/26/2024 19:09	EPA 200.8-1994, Rev. 5.4
Potassium	<0.01	mg/L	1	0.10	0.01	U1	ELT	09/26/2024 19:09	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	ELT	09/26/2024 19:09	EPA 200.8-1994, Rev. 5.4
Sodium	<0.02	mg/L	1	0.20	0.02	U1	ELT	09/26/2024 19:09	EPA 200.8-1994, Rev. 5.4
Strontium	<0.00005	mg/L	1	0.00200	0.00005	U1	ELT	09/26/2024 19:09	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	ELT	09/26/2024 19:09	EPA 200.8-1994, Rev. 5.4

242840-015

Comments:

Third Radium bottle, label wore off.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242840

Customer: Pirkey Power Station

Date Reported: 11/07/2024

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 Qualifier 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.

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.

O2 - Insufficient sample was received to perform the MS and duplicate analyses with this sample batch.

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: Leslie Fuerschbach
 Contact Phone: 318-673-2744

Sampler(s): Matt Hamilton Kenny McDonald

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	# of Cont.	Matrix	Sampler(s) Initials	Analysis Turnaround Time (in Calendar Days) (* Routine (28 days for Monitoring Wells))						Sample Specific Notes
							250 mL bottle, pH<2, HNO ₃	Field-filter 250 mL bottle, then pH<2, HNO ₃	Three (six every 10th*) 1 L bottles, pH<2, HNO ₃	250 mL Glass bottle, HCl **, pH<2	250 mL Glass bottle, HCl **, pH<2	250 mL bottle, pH>2, HNO ₃	
AD-2	9/17/2024	758	G	7	GW		X	X	X	X	X	2428010	
AD-3	9/17/2024	1101	G	7	GW		X	X	X	X	X		
AD-4	9/17/2024	935	G	7	GW		X	X	X	X	X		
AD-7R	9/16/2024	905	G	7	GW		X	X	X	X	X		
AD-8	9/18/2024	1007	G	1	GW		X	X	X	X	X		
AD-12	9/16/2024	934	G	7	GW		X	X	X	X	X		
AD-13	9/16/2024	813	G	7	GW		X	X	X	X	X		
AD-16	9/17/2024	1119	G	1	GW		X	X	X	X	X		
AD-17	9/17/2024	955	G	7	GW		X	X	X	X	X		
AD-18	9/18/2024	744	G	7	GW		X	X	X	X	X		
AD-22	9/18/2024	959	G	10	GW		X	X	X	X	X		
AD-23	9/18/2024	948	G	1	GW		X	X	X	X	X		
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other							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: <i>Tom Lombor</i>	Company:	Date/Time: 9-18-24	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: <i>Michael Ohly</i>	Date/Time: 9/13/24 1500

2 of 2

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Dolan Chemical Laboratory (DCL)
 4001 Bixby Road
 Groveport, Ohio 43125
 Michael Ohlinger (614-836-4184)
 Contacts: Dave Conover (614-836-4219)

For Lab Use Only:
 COC/Order #: 242840

Site Contact: 18 14 2 1 6
 Date: 1 6

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Analysis Turnaround Time (in Calendar Days) ☉ Routine (28 days for Monitoring Wells)						Sample Specific Notes
						250 mL bottle, pH<2, HNO ₃	Field-filter 250 mL bottle, then pH<2, HNO ₃	Three (six every 10hr) 1 L bottles, pH<2, HNO ₃	250 mL Glass bottle, HCL ⁺ , pH<2	250 mL Glass bottle, pH<2, HNO ₃	250 mL bottle, pH<2, HNO ₃	
AD-27	9/18/2024	1058	G	GW	1	Sb, As, B, Ba, Be, Ca, Cd, Cr, Co, K, Li, Mg, Mo, Na, Pb, Se, Sr, Ti	Disolved Sb, As, Ba, Be, Cd, Cr, Co, K, Li, Mg, Mn, Mo, Pb, Se, Sr, Ti	Ra-226, Ra-228	Mercury	Disolved Mercury	B, Ca, K, Mg, Na, Sr	
AD-28	9/17/2024	906	G	GW	7	X	X	X	X	X	X	
AD-30	9/17/2024	825	G	GW	7	X	X	X	X	X		
AD-31	9/16/2024	1136	G	GW	7	X	X	X	X	X		
AD-32	9/16/2024	1032	G	GW	7	X	X	X	X	X		
AD-33	9/16/2024	1125	G	GW	7	X	X	X	X	X		
AD-34	9/18/2024	915	G	GW	1						X	
AD-36	9/18/2024	910	G	GW	1						X	
Duplicate 1	9/18/2024	1100	G	GW	4	X	X		X	X		
Equipment Blank	9/17/2024	850	G	GW	2	X			X			
Field Blank	9/17/2024	851	G	GW	2	X			X			
						4	F4	4	2	F2	4	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other
 * Six 1L Bottles must be collected for Radium for every 10th sample.

Special Instructions/QC Requirements & Comments:

TG-32 needed

Relinquished by: <i>John Tomlinson</i>	Company:	Date/Time: 9-15-24	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: <i>Michael O'Neil</i>	Date/Time: 9/23/24 1500



WATER & WASTE SAMPLE RECEIPT FORM

Form SOP-7102

Sample Receipt Form Rev. 8.08.23.24

<u>Package Type</u>			<u>Delivery Type</u>			
<input checked="" type="radio"/> Cooler	<input type="radio"/> Box	<input type="radio"/> Bag	<input type="radio"/> Envelope	UPS	<input checked="" type="radio"/> FedEX	<input type="radio"/> USPS
Other _____						
Plant/Customer <u>PirKey PPCCR</u>			Total # of Containers RECEIVED in Job: <u>115</u>			
Opened By <u>BLB</u>						
Date/Time <u>9.23.24 3:30pm</u>						
Were all temperatures within 0-6°C? Y / N or <input checked="" type="radio"/> N/A (Temps) Initial. <u>BLB</u> on ice <input checked="" type="radio"/> no ice						
If No, specify each deviation(s) on back of form. (IR Gun Ser# 240009843, Expir. 01-03-2026)						
Was container in good condition? Y / <input checked="" type="radio"/> N Comments <u>Suspect AD-30 label is unreadable</u>						
Was Chain of Custody received? <input checked="" type="radio"/> Y / <input type="radio"/> N Comments _____						
Requested turnaround: <u>Routine</u> If RUSH, who was notified? _____						
pH (15 min)	Cr ⁶ (pres) (24 hr)	NO ₂ or NO ₃ (48 hr)	ortho-PO ₄ (48 hr)	Hg-diss (pres) (48 hr)		

Was pH checked & Color Coding done? Y / N or N/A (pH) Initial & Date: JLD/MGK 9.23.24
TTP

****pH paper** mfr: LabRat, PN 4801 LOT#X000RWDG21 exp 11-30-25 **** 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?	<input checked="" type="radio"/> Y / <input type="radio"/> N	Comments _____
Were samples labeled properly?	<input checked="" type="radio"/> Y / <input type="radio"/> N	Comments _____
Were correct containers used?	<input checked="" type="radio"/> Y / <input type="radio"/> N	Comments _____
Was the customer contacted?	If Yes: Person Contacted _____	
	Initial & Date & Time : _____	
Lab ID# <u>242845</u>	Comments _____	
Logged by <u>MSJ</u>	_____	
(Record Test Count on back of form)	_____	

Total # of Containers LISTED on COC: <u>115</u>		

WATER & WASTE SAMPLE RECEIPT FORM (CONT)

Form SOP-7102

Sample Receipt Form Rev 8, 08 23 24

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 #: 242840

Initial/ Date: MSD 9/23/24

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
21	242840 -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

Ⓟ 9/24/24

WATER & WASTE SAMPLE RECEIPT FORM (CONT)

Form SOP-7102

Sample Receipt Form Rev 8 08 23 24

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 #: 242840

Initial/ Date: MSD 9/23/24

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments / Nonconformities	Peer Review Test Count from COC
21	242840 - 015	3rd Rad bottle lable unreadable	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

JTB 9/24/24

See previous page

2 of 2



WATER & WASTE SAMPLE RECEIPT FORM

Form SOP-7102

Sample Receipt Form Rev.8.05.23.24

Package Type			Delivery Type		
Cooler	Box	Bag Envelope	UPS	FedEX	USPS
			Other _____		
Plant/Customer _____			Total # of Containers RECEIVED in Job: _____		
Opened By _____					
Date/Time _____					
Were all temperatures within 0-6°C? Y / N or N/A (Temps) Initial: _____ on ice / no ice					
If No, specify each deviation(s) on back of form. (IR Gun Ser# 240009843, Expir. 01-03-2026)					
Was container in good condition? Y / N Comments _____					
Was Chain of Custody received? Y / N Comments _____					
Requested turnaround: _____ If RUSH, who was notified?					
pH (15 min)	Cr ⁶ (pres) (24 hr)	NO ₂ or NO ₃ (48 hr)	ortho-PO ₄ (48 hr)	Hg-diss (pres) (48 hr)	

Was pH checked & Color Coding done? Y / N or N/A (pH) Initial & Date: _____

****pH paper** mfr: LabRat,PN 4801,LOT#X000RWDG21 exp 11-30-25 **** 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: _____	
	Initial & Date & Time : _____	
Lab ID# _____	Comments: _____	
Logged by _____	_____	
(Record Test Count on back of form)	_____	

Total # of Containers	_____	
LISTED on COC: _____		

Radium Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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  Chemical Tech. Principal 10/16/2024
Name (printed) Signature Official Title Date

Radium Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: ~~Welsh Power~~ (P) 10/17/24 ~~Perkey Power~~
Reviewer Name: Tamisha Palmer
LRC Date: 10/16/2024
Laboratory Job Number: 242840
Prep Batch Number(s): PB24092408, PB24092409

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?	Yes, 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	

Radium Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: ~~Welsh Power~~ B10117/24 Pirkey Power
Reviewer Name: Tamisha Palmer
LRC Date: 10/16/2024
Laboratory Job Number: 242840
Prep Batch Number(s): PB24092408, PB24092409

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	

Radium Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: ~~Welsh Power~~ Bid 17/24 Pirkey Power
Reviewer Name: Tamisha Palmer
LRC Date: 10/16/2024
Laboratory Job Number: 242840
Prep Batch Number(s): PB24092408, PB24092409

Exception Report No.	Description
ER1	RPD greater than 25%; Both the sample and duplicate were below report limit for batch PB24092409

- 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."

Radium Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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

Name (printed)


Signature

Chemist Associate

Official Title

10/16/2024

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: 10/16/2024
Laboratory Job Number: 242840
Prep Batch Number(s): PB24092407

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?	No	ER1
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?	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	

Radium Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Station
Reviewer Name: Sunita Timsina
LRC Date: 10/16/2024
Laboratory Job Number: 242840
Prep Batch Number(s): PB24092407

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	

Radium Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Station
Reviewer Name: Sunita Timsina
LRC Date: 10/16/2024
Laboratory Job Number: 242840
Prep Batch Number(s): PB24092407

Exception Report No.	Description
ER1	Analyte detected in method blank (MB) at or above the method criteria.

¹ Items identified by the letter “R” must be available as a hard copy or as a .pdf file. Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period.

² O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).

³ NA - Not applicable; NR - Not reviewed.

⁴ Exception Report identification number; an Exception Report should be completed for an item if the result is “No” or “NR.”

Radium Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

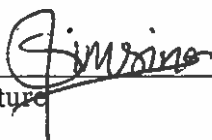
- This signature page, and the laboratory review checklist consisting of Table 1, Reportable Data (which includes the reportable data identified on this page), Table 2, Supporting Data, and Table 3, Exception Reports.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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

Name (printed)


Signature

Chemist Associate

Official Title

10/23/2024

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: 10/23/2024
Laboratory Job Number: 242840-016
Prep Batch Number(s): PB24100412

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?	No	ER1
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?	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	

Radium Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Station
Reviewer Name: Sunita Timsina
LRC Date: 10/23/2024
Laboratory Job Number: 242840-016
Prep Batch Number(s): PB24100412

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	

Radium Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Station
Reviewer Name: Sunita Timsina
LRC Date: 10/23/2024
Laboratory Job Number: 242840-016
Prep Batch Number(s): PB24100412

Exception Report No.	Description
ER1	Analyte detected in method blank (MB) at or above the method criteria.

¹ Items identified by the letter “R” must be available as a hard copy or as a .pdf file. Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period.
² O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
³ NA - Not applicable; NR - Not reviewed.
⁴ Exception Report identification number; an Exception Report should be completed for an item if the result is “No” or “NR.”

ICP-MS Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

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 - (b) Dilution factors
 - (c) Preparation methods
 - (d) Cleanup methods
 - (e) If required for the project, tentatively identified compounds (TICs)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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 L. Tinapple	Elizabeth L. Tinapple	<small>Digitally signed by Elizabeth L. Tinapple Date: 2024.10.14 09:02:09 -0400</small>	Chemist	10/14/2024
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 L. Tinapple
LRC Date: 10/14/2024
Laboratory Job Number: 242840
Prep Batch Number(s): PB24092405 PB24092502 QC2409160 QC2409174 QC2410020 QC2410051

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 L. Tinapple
LRC Date: 10/14/2024
Laboratory Job Number: 242840
Prep Batch Number(s): PB24092405 PB24092502 QC2409160 QC2409174 QC2410020 QC2410051

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	

ICP-MS Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey CCR
Reviewer Name: Elizabeth L. Tinapple
LRC Date: 10/14/2024
Laboratory Job Number: 242840
Prep Batch Number(s): PB24092405 PB24092502 QC2409160 QC2409174 QC2410020 QC2410051

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 Ca, Co, Li, Mg, and Na on sample 242840-011

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."

Mercury Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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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 - (b) Dilution factors
 - (c) Preparation methods
 - (d) Cleanup methods
 - (e) If required for the project, tentatively identified compounds (TICs)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

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Check, if applicable: This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Susann Sulzmann S. Sulzmann Senior Chemist 10-14-24
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 Power Station
Reviewer Name: Susann Sulzmann
LRC Date: 10-14-2024
Laboratory Job Number: 242840
Prep Batch Number(s): PB24093003,-004,-005,-102

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?	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	

Mercury Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Station
Reviewer Name: Susann Sulzmann
LRC Date: 10-14-2024
Laboratory Job Number: 242840
Prep Batch Number(s): PB24093003,-004,-005,-102

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?		
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	Mass spectral tuning:		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	Internal standards (IS):		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	Raw data (NELAC section 1 appendix A glossary, and section 5.)		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Mercury Laboratory Review Checklist

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
S6	O	Dual column confirmation		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	Tentatively identified compounds (TICs):		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	Interference Check Sample (ICS) results:		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	Serial dilutions, post digestion spikes, and method of standard additions		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	Method detection limit (MDL) studies		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	Proficiency test reports:		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	Standards documentation		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	Compound/analyte identification procedures		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	Demonstration of analyst competency (DOC)		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	Verification/validation documentation for methods (NELAC Chap 5n 5)		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	Laboratory standard operating procedures (SOPs):		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Mercury Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Station
Reviewer Name: Susann Sulzmann
LRC Date: 10-14-2024
Laboratory Job Number: 242840
Prep Batch Number(s): PB24093003,-004,-005,-102

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.”



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242807

Customer: Pirkey Power Station

Date Reported: 10/23/2024

Customer Sample ID: AD-2

Customer Description:

Lab Number: 242807-001

Preparation:

Date Collected: 09/17/2024 08:58 EDT

Date Received: 09/20/2024 10:00 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	09/24/2024 19:28	EPA 300.1 -1997, Rev. 1.0
Chloride	29.4	mg/L	2	0.06	0.02		CRJ	09/24/2024 19:28	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.18	mg/L	2	0.06	0.02		CRJ	09/24/2024 19:28	EPA 300.1 -1997, Rev. 1.0
Sulfate	281	mg/L	10	3.0	0.6		CRJ	09/24/2024 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	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	510	mg/L	1	50	20		BHB	09/20/2024 12:17	SM 2540C-2015

Customer Sample ID: AD-3

Customer Description:

Lab Number: 242807-002

Preparation:

Date Collected: 09/17/2024 12:01 EDT

Date Received: 09/20/2024 10:00 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	09/24/2024 18:22	EPA 300.1 -1997, Rev. 1.0
Chloride	6.36	mg/L	2	0.06	0.02		CRJ	09/24/2024 18:22	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.07	mg/L	2	0.06	0.02		CRJ	09/24/2024 18:22	EPA 300.1 -1997, Rev. 1.0
Sulfate	30.2	mg/L	2	0.6	0.1		CRJ	09/24/2024 18:22	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	6	mg/L	1	20	5	J1	MGK	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	140	mg/L	1	50	20		BHB	09/20/2024 12:24	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242807

Customer: Pirkey Power Station

Date Reported: 10/23/2024

Customer Sample ID: AD-4

Customer Description:

Lab Number: 242807-003

Preparation:

Date Collected: 09/17/2024 10:35 EDT

Date Received: 09/20/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.19	mg/L	2	0.10	0.02		CRJ	09/24/2024 22:46	EPA 300.1 -1997, Rev. 1.0
Chloride	3.95	mg/L	2	0.06	0.02		CRJ	09/24/2024 22:46	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.02	mg/L	2	0.06	0.02	J1	CRJ	09/24/2024 22:46	EPA 300.1 -1997, Rev. 1.0
Sulfate	18.4	mg/L	2	0.6	0.1		CRJ	09/24/2024 22:46	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	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	130	mg/L	1	50	20		BHB	09/20/2024 12:30	SM 2540C-2015

Customer Sample ID: AD-7R

Customer Description:

Lab Number: 242807-004

Preparation:

Date Collected: 09/16/2024 10:05 EDT

Date Received: 09/20/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	1.21	mg/L	2	0.10	0.02		CRJ	09/24/2024 20:34	EPA 300.1 -1997, Rev. 1.0
Chloride	24.5	mg/L	2	0.06	0.02		CRJ	09/24/2024 20:34	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.12	mg/L	2	0.06	0.02		CRJ	09/24/2024 20:34	EPA 300.1 -1997, Rev. 1.0
Sulfate	43.3	mg/L	2	0.6	0.1		CRJ	09/24/2024 20:34	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	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	190	mg/L	1	50	20		BHB	09/20/2024 12:37	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242807

Customer: Pirkey Power Station

Date Reported: 10/23/2024

Customer Sample ID: AD-8

Customer Description:

Lab Number: 242807-005

Preparation:

Date Collected: 09/18/2024 11:07 EDT

Date Received: 09/20/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	1.01	mg/L	2	0.10	0.02		CRJ	09/24/2024 21:40	EPA 300.1 -1997, Rev. 1.0
Chloride	17.5	mg/L	2	0.06	0.02		CRJ	09/24/2024 21:40	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.40	mg/L	2	0.06	0.02		CRJ	09/24/2024 21:40	EPA 300.1 -1997, Rev. 1.0
Sulfate	116	mg/L	10	3.0	0.6		CRJ	09/24/2024 21:07	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	63	mg/L	1	20	5		MGK	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	290	mg/L	1	50	20		BHB	09/20/2024 12:37	SM 2540C-2015

Customer Sample ID: AD-12

Customer Description:

Lab Number: 242807-006

Preparation:

Date Collected: 09/16/2024 10:34 EDT

Date Received: 09/20/2024 10:00 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	09/25/2024 00:57	EPA 300.1 -1997, Rev. 1.0
Chloride	4.45	mg/L	2	0.06	0.02		CRJ	09/25/2024 00:57	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.07	mg/L	2	0.06	0.02		CRJ	09/25/2024 00:57	EPA 300.1 -1997, Rev. 1.0
Sulfate	3.1	mg/L	2	0.6	0.1		CRJ	09/25/2024 00:57	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	U1	MGK	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	60	mg/L	1	50	20		BHB	09/20/2024 12:43	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242807

Customer: Pirkey Power Station

Date Reported: 10/23/2024

Customer Sample ID: AD-13

Customer Description:

Lab Number: 242807-007

Preparation:

Date Collected: 09/16/2024 09:13 EDT

Date Received: 09/20/2024 10:00 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	09/24/2024 23:52	EPA 300.1 -1997, Rev. 1.0
Chloride	29.0	mg/L	2	0.06	0.02		CRJ	09/24/2024 23:52	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.35	mg/L	2	0.06	0.02		CRJ	09/24/2024 23:52	EPA 300.1 -1997, Rev. 1.0
Sulfate	54.1	mg/L	2	0.6	0.1		CRJ	09/24/2024 23:52	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	38	mg/L	1	20	5		MGK	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	210	mg/L	1	50	20		BHB	09/20/2024 12:43	SM 2540C-2015

Customer Sample ID: AD-16

Customer Description:

Lab Number: 242807-008

Preparation:

Date Collected: 09/17/2024 12:19 EDT

Date Received: 09/20/2024 10:00 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		CRJ	09/25/2024 04:15	EPA 300.1 -1997, Rev. 1.0
Chloride	32.5	mg/L	2	0.06	0.02		CRJ	09/25/2024 04:15	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.08	mg/L	2	0.06	0.02		CRJ	09/25/2024 04:15	EPA 300.1 -1997, Rev. 1.0
Sulfate	11.0	mg/L	2	0.6	0.1		CRJ	09/25/2024 04:15	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	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	120	mg/L	1	50	20		BHB	09/20/2024 12:50	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242807

Customer: Pirkey Power Station

Date Reported: 10/23/2024

Customer Sample ID: AD-17

Customer Description:

Lab Number: 242807-009

Preparation:

Date Collected: 09/17/2024 10:55 EDT

Date Received: 09/20/2024 10:00 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	09/25/2024 04:48	EPA 300.1 -1997, Rev. 1.0
Chloride	22.2	mg/L	2	0.06	0.02		CRJ	09/25/2024 04:48	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.20	mg/L	2	0.06	0.02		CRJ	09/25/2024 04:48	EPA 300.1 -1997, Rev. 1.0
Sulfate	3.4	mg/L	2	0.6	0.1		CRJ	09/25/2024 04:48	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	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	60	mg/L	1	50	20		BHB	09/20/2024 12:50	SM 2540C-2015

Customer Sample ID: AD-18

Customer Description:

Lab Number: 242807-010

Preparation:

Date Collected: 09/18/2024 08:44 EDT

Date Received: 09/20/2024 10:00 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	09/25/2024 05:21	EPA 300.1 -1997, Rev. 1.0
Chloride	5.92	mg/L	2	0.06	0.02		CRJ	09/25/2024 05:21	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.02	mg/L	2	0.06	0.02	J1	CRJ	09/25/2024 05:21	EPA 300.1 -1997, Rev. 1.0
Sulfate	10.2	mg/L	2	0.6	0.1		CRJ	09/25/2024 05:21	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	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	130	mg/L	1	50	20		BHB	09/20/2024 12:50	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242807

Customer: Pirkey Power Station

Date Reported: 10/23/2024

Customer Sample ID: AD-22

Customer Description:

Lab Number: 242807-011

Preparation:

Date Collected: 09/16/2024 10:59 EDT

Date Received: 09/20/2024 10:00 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		CRJ	09/25/2024 07:32	EPA 300.1 -1997, Rev. 1.0
Chloride	108	mg/L	25	0.8	0.3		CRJ	09/25/2024 07:00	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.22	mg/L	2	0.06	0.02		CRJ	09/25/2024 07:32	EPA 300.1 -1997, Rev. 1.0
Sulfate	276	mg/L	25	8	2		CRJ	09/25/2024 07:00	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	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	620	mg/L	1	50	20		BHB	09/20/2024 12:56	SM 2540C-2015

Customer Sample ID: AD-23

Customer Description:

Lab Number: 242807-012

Preparation:

Date Collected: 09/18/2024 10:48 EDT

Date Received: 09/20/2024 10:00 EDT

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	09/25/2024 05:54	EPA 300.1 -1997, Rev. 1.0
Chloride	9.03	mg/L	2	0.06	0.02		CRJ	09/25/2024 05:54	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.05	mg/L	2	0.06	0.02	J1	CRJ	09/25/2024 05:54	EPA 300.1 -1997, Rev. 1.0
Sulfate	7.1	mg/L	2	0.6	0.1		CRJ	09/25/2024 05:54	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	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	60	mg/L	1	50	20		BHB	09/20/2024 12:56	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242807

Customer: Pirkey Power Station

Date Reported: 10/23/2024

Customer Sample ID: AD-27

Customer Description:

Lab Number: 242807-013

Preparation:

Date Collected: 09/18/2024 11:58 EDT

Date Received: 09/20/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.33	mg/L	2	0.10	0.02		CRJ	09/25/2024 08:38	EPA 300.1 -1997, Rev. 1.0
Chloride	12.7	mg/L	2	0.06	0.02		CRJ	09/25/2024 08:38	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.15	mg/L	2	0.06	0.02		CRJ	09/25/2024 08:38	EPA 300.1 -1997, Rev. 1.0
Sulfate	60.6	mg/L	2	0.6	0.1		CRJ	09/25/2024 08:38	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	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	200	mg/L	1	50	20		BHB	09/20/2024 12:56	SM 2540C-2015

Customer Sample ID: AD-28

Customer Description:

Lab Number: 242807-014

Preparation:

Date Collected: 09/17/2024 10:06 EDT

Date Received: 09/20/2024 10:00 EDT

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	09/25/2024 10:50	EPA 300.1 -1997, Rev. 1.0
Chloride	5.15	mg/L	2	0.06	0.02		CRJ	09/25/2024 10:50	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.54	mg/L	2	0.06	0.02		CRJ	09/25/2024 10:50	EPA 300.1 -1997, Rev. 1.0
Sulfate	26.8	mg/L	2	0.6	0.1		CRJ	09/25/2024 10:50	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	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	120	mg/L	1	50	20		BHB	09/20/2024 13:04	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242807

Customer: Pirkey Power Station

Date Reported: 10/23/2024

Customer Sample ID: AD-30

Customer Description:

Lab Number: 242807-015

Preparation:

Date Collected: 09/17/2024 09:25 EDT

Date Received: 09/20/2024 10:00 EDT

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	09/25/2024 09:44	EPA 300.1 -1997, Rev. 1.0
Chloride	16.8	mg/L	2	0.06	0.02		CRJ	09/25/2024 09:44	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.04	mg/L	2	0.06	0.02	J1	CRJ	09/25/2024 09:44	EPA 300.1 -1997, Rev. 1.0
Sulfate	110	mg/L	10	3.0	0.6		CRJ	09/25/2024 09:11	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	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	250	mg/L	1	50	20		BHB	09/20/2024 13:04	SM 2540C-2015

Customer Sample ID: AD-31

Customer Description:

Lab Number: 242807-016

Preparation:

Date Collected: 09/16/2024 12:36 EDT

Date Received: 09/20/2024 10:00 EDT

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	09/25/2024 16:56	EPA 300.1 -1997, Rev. 1.0
Chloride	17.7	mg/L	2	0.06	0.02		CRJ	09/25/2024 16:56	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.09	mg/L	2	0.06	0.02		CRJ	09/25/2024 16:56	EPA 300.1 -1997, Rev. 1.0
Sulfate	73.2	mg/L	2	0.6	0.1		CRJ	09/25/2024 16:56	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	<5	mg/L	1	20	5	U1	MGK	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	260	mg/L	1	50	20		BHB	09/20/2024 13:04	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242807

Customer: Pirkey Power Station

Date Reported: 10/23/2024

Customer Sample ID: AD-32

Customer Description:

Lab Number: 242807-017

Preparation:

Date Collected: 09/16/2024 11:32 EDT

Date Received: 09/20/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.33	mg/L	2	0.10	0.02		CRJ	09/25/2024 18:02	EPA 300.1 -1997, Rev. 1.0
Chloride	11.6	mg/L	2	0.06	0.02		CRJ	09/25/2024 18:02	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.30	mg/L	2	0.06	0.02		CRJ	09/25/2024 18:02	EPA 300.1 -1997, Rev. 1.0
Sulfate	59.7	mg/L	2	0.6	0.1		CRJ	09/25/2024 18:02	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	9	mg/L	1	20	5	J1	MGK	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	190	mg/L	1	50	20		BHB	09/20/2024 13:10	SM 2540C-2015

Customer Sample ID: AD-33

Customer Description:

Lab Number: 242807-018

Preparation:

Date Collected: 09/16/2024 12:25 EDT

Date Received: 09/20/2024 10:00 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	09/25/2024 22:25	EPA 300.1 -1997, Rev. 1.0
Chloride	10.1	mg/L	2	0.06	0.02		CRJ	09/25/2024 22:25	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.20	mg/L	2	0.06	0.02		CRJ	09/25/2024 22:25	EPA 300.1 -1997, Rev. 1.0
Sulfate	54.4	mg/L	2	0.6	0.1		CRJ	09/25/2024 22:25	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	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	170	mg/L	1	50	20		BHB	09/20/2024 13:10	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242807

Customer: Pirkey Power Station

Date Reported: 10/23/2024

Customer Sample ID: AD-34

Customer Description:

Lab Number: 242807-019

Preparation:

Date Collected: 09/18/2024 10:15 EDT

Date Received: 09/20/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.20	mg/L	5	0.25	0.05	J1	CRJ	09/25/2024 19:41	EPA 300.1 -1997, Rev. 1.0
Chloride	7.20	mg/L	5	0.15	0.05		CRJ	09/25/2024 19:41	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.54	mg/L	5	0.15	0.05		CRJ	09/25/2024 19:41	EPA 300.1 -1997, Rev. 1.0
Sulfate	1160	mg/L	50	15	3		CRJ	09/25/2024 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	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	1620	mg/L	1	50	20		BHB	09/20/2024 13:10	SM 2540C-2015

Customer Sample ID: AD-36

Customer Description:

Lab Number: 242807-020

Preparation:

Date Collected: 09/18/2024 10:10 EDT

Date Received: 09/20/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.64	mg/L	2	0.10	0.02		CRJ	09/25/2024 22:58	EPA 300.1 -1997, Rev. 1.0
Chloride	15.7	mg/L	2	0.06	0.02		CRJ	09/25/2024 22:58	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.08	mg/L	2	0.06	0.02		CRJ	09/25/2024 22:58	EPA 300.1 -1997, Rev. 1.0
Sulfate	2.8	mg/L	2	0.6	0.1		CRJ	09/25/2024 22:58	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	U1	MGK	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	50	mg/L	1	50	20		BHB	09/20/2024 13:16	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242807

Customer: Pirkey Power Station

Date Reported: 10/23/2024

Customer Sample ID: Duplicate 1

Customer Description:

Lab Number: 242807-021

Preparation:

Date Collected: 09/16/2024 12:00 EDT

Date Received: 09/20/2024 10:00 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		CRJ	09/25/2024 21:19	EPA 300.1 -1997, Rev. 1.0
Chloride	106	mg/L	25	0.8	0.3		CRJ	09/25/2024 20:46	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.21	mg/L	2	0.06	0.02		CRJ	09/25/2024 21:19	EPA 300.1 -1997, Rev. 1.0
Sulfate	273	mg/L	25	8	2		CRJ	09/25/2024 20:46	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	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	630	mg/L	1	50	20		BHB	09/20/2024 13:35	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 Qualifier 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.

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: Leslie Fuerschbach
 Contact Phone: 318-673-2744

Sampler(s): Matt Hamilton Kenny McDonald

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Site Contact: *9*

Date: *9/20/24*

COC/Order #: *242807*

Analysis Turnaround Time (in Calendar Days)
 ☉ Routine (28 days for Monitoring Wells)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials				Field-filter 250 mL bottle, then pH<2, HNO3	250 mL bottle, pH<2, HNO3	1 L bottle, Cool, 0-6C	Three (six every 10hr) L bottles, pH<2, HNO3	Date	COC/Order #	For Lab Use Only:
						Mercury										
AD-2	9/17/2024	758	G	GW	1											
AD-3	9/17/2024	1101	G	GW	1											
AD-4	9/17/2024	935	G	GW	1											
AD-7R	9/18/2024	905	G	GW	1											
AD-8	9/18/2024	1007	G	GW	1											
AD-12	9/18/2024	934	G	GW	1											
AD-13	9/18/2024	813	G	GW	1											
AD-16	9/17/2024	1119	G	GW	1											
AD-17	9/17/2024	955	G	GW	1											
AD-18	9/18/2024	744	G	GW	1											
AD-22	9/18/2024	959	G	GW	1											
AD-23	9/19/2024	948	G	GW	1											
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other						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: <i>Pat Conover</i>	Company: <i>Es&K</i>	Date/Time: <i>9-15-24</i>	Received by: <i>Michael Ohlinger</i>	Date/Time: <i>9/20/24</i>
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: <i>Michael Ohlinger</i>	Date/Time: <i>9/20/24 10:00</i>

Chain of Custody Record

Dolan Chemical Laboratory (DCL)
 4001 Bixby Road
 Groveport, Ohio 43125
 Michael Ohlinger (614-836-4184)
 Contacts: Dave Conover (614-836-4219)

Program : Coal Combustion Residuals (CCR)

Site Contact: _____ Date: _____

For Lab Use Only:
 COC/Order #: _____

Project Name: Pitkey PP CCR
 Contact Name: Leslie Fuerschbach
 Contact Phone: 318-673-2744

Analysis Turnaround Time (in Calendar Days)
 ☐ Routine (28 days for Monitoring Wells)

250 mL bottle, pH<2, HNO3
 Field-filter 250 mL bottle, then pH<2, HNO3
 1 L bottle, Cool, 0-6C (six every 10th)
 L bottles, pH<2, HNO3
 Three (six every 10th)
 L bottles, pH<2, HNO3

Sampler(s): Matt Hamilton Kerry McDonald

Sampler(s) Initials: _____

Sample Identification	Sample Date	Sample Time	Sample Type (C-Comp, G-Grab)	Matrix	# of Cnt.	Mercury	Dissolved Mercury	F, Cl, SO4, Br, TDS, Alkalinity	Ra-226, Ra-228	Sample Specific Notes:
AD-27	9/18/2024	1058	G	GW	1			X		
AD-28	9/17/2024	906	G	GW	1			X		
AD-30	9/17/2024	825	G	GW	1			X		
AD-31	9/18/2024	1136	G	GW	1			X		
AD-32	9/18/2024	1032	G	GW	1			X		
AD-33	9/18/2024	1125	G	GW	1			X		
AD-34	9/18/2024	915	G	GW	1			X		
AD-36	9/18/2024	910	G	GW	1			X		
Duplicate 1	9/18/2024	1100	G	GW	1			X		
Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other _____ ; F= filter in field * Six 1L Bottles must be collected for Radium for every 10th sample.										
Special Instructions/QC Requirements & Comments: TG-32 needed										
Relinquished by: <i>John Smith</i>	Company: <i>ESV</i>	Date/Time: <i>9-14-24 1400</i>	Received by: _____	Date/Time: _____	Received by: _____	Date/Time: _____	Received by: _____	Date/Time: _____	Received by: _____	Date/Time: _____
Relinquished by: _____	Company: _____	Date/Time: _____	Received by: _____	Date/Time: _____	Received by: _____	Date/Time: _____	Received by: _____	Date/Time: _____	Received by: _____	Date/Time: _____
Relinquished by: _____	Company: _____	Date/Time: _____	Received by: _____	Date/Time: _____	Received by: _____	Date/Time: _____	Received by: _____	Date/Time: _____	Received by: _____	Date/Time: _____

Alkalinity Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

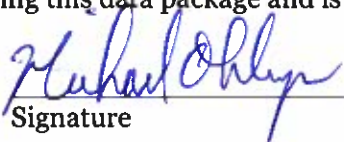
This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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
Name (printed)


Signature

Chemist
Official Title

10/23/2024
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: 10/23/2024
Laboratory Job Number: 242807
Prep Batch Number(s): QC2409144

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: 10/23/2024
Laboratory Job Number: 242807
Prep Batch Number(s): QC2409144

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: 10/23/2024
Laboratory Job Number: 242807
Prep Batch Number(s): QC2409144

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.”

Ion Chromatography Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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

Name (printed)



Signature

Prin. Chemist

Official Title

10/23/2024

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: 10/23/2024
Laboratory Job Number: 242807
Prep Batch Number(s): QC2409161

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 PP Semi-annual CCR
Reviewer Name: Tim Arnold
LRC Date: 10/23/2024
Laboratory Job Number: 242807
Prep Batch Number(s): QC2409161

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
S1	O, I	Initial calibration (ICAL)		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	Mass spectral tuning:		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	Internal standards (IS):		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	Raw data (NELAC section 1 appendix A glossary, and section 5.)		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Ion Chromatography Laboratory Review Checklist

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
S6	O	Dual column confirmation		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	Tentatively identified compounds (TICs):		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	Interference Check Sample (ICS) results:		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	Serial dilutions, post digestion spikes, and method of standard additions		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	Method detection limit (MDL) studies		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	Proficiency test reports:		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	Standards documentation		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	Compound/analyte identification procedures		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	Demonstration of analyst competency (DOC)		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	Verification/validation documentation for methods (NELAC Chap 5n 5)		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	Laboratory standard operating procedures (SOPs):		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Ion Chromatography Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory

Project Name: Pirkey PP Semi-annual CCR

Reviewer Name: Tim Arnold

LRC Date: 10/23/2024

Laboratory Job Number: 242807

Prep Batch Number(s): QC2409161

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."

TDS Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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	<i>Sandra D. Williams</i>	Chemist	10-23-2024
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 PS
Reviewer Name: Sandra Williams
LRC Date: 10-23-2024
Laboratory Job Number: 242807
Prep Batch Number(s): QC2409152

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	

TDS Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey PS
Reviewer Name: Sandra Williams
LRC Date: 10-23-20204
Laboratory Job Number: 242807
Prep Batch Number(s): QC2409152

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	

TDS Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey PS
Reviewer Name: Sandra Williams
LRC Date: 10-23-2024
Laboratory Job Number: 242807
Prep Batch Number(s): QC2409152

Exception Report No.	Description

¹ Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
² O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
³ NA - Not applicable; NR - Not reviewed.
⁴ Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242842

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: B-2

Customer Description:

Lab Number: 242842-001

Preparation:

Date Collected: 09/16/2024 09:33 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	10/01/2024 20:21	EPA 200.8-1994, Rev. 5.4
Arsenic	2.30	µg/L	1	0.10	0.03		ELT	10/01/2024 20:21	EPA 200.8-1994, Rev. 5.4
Barium	50.0	µg/L	1	0.20	0.05		ELT	10/01/2024 20:21	EPA 200.8-1994, Rev. 5.4
Beryllium	0.46	µg/L	10	0.50	0.07	J1	ELT	10/03/2024 15:25	EPA 200.8-1994, Rev. 5.4
Boron	0.023	mg/L	1	0.050	0.007	J1	ELT	10/01/2024 20:21	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	ELT	10/01/2024 20:21	EPA 200.8-1994, Rev. 5.4
Calcium	1.29	mg/L	1	0.05	0.02		ELT	10/01/2024 20:21	EPA 200.8-1994, Rev. 5.4
Chromium	0.33	µg/L	1	0.30	0.07		ELT	10/01/2024 20:21	EPA 200.8-1994, Rev. 5.4
Cobalt	6.09	µg/L	1	0.020	0.005		ELT	10/01/2024 20:21	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	ELT	10/01/2024 20:21	EPA 200.8-1994, Rev. 5.4
Lithium	0.0557	mg/L	10	0.0030	0.0006		ELT	10/03/2024 15:25	EPA 200.8-1994, Rev. 5.4
Magnesium	1.66	mg/L	1	0.100	0.009		ELT	10/01/2024 20:21	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	10/01/2024 20:21	EPA 200.8-1994, Rev. 5.4
Potassium	2.06	mg/L	1	0.10	0.01		ELT	10/01/2024 20:21	EPA 200.8-1994, Rev. 5.4
Selenium	0.04	µg/L	1	0.50	0.04	J1	ELT	10/01/2024 20:21	EPA 200.8-1994, Rev. 5.4
Sodium	10.1	mg/L	1	0.20	0.02		ELT	10/01/2024 20:21	EPA 200.8-1994, Rev. 5.4
Strontium	0.0127	mg/L	1	0.00200	0.00005		ELT	10/01/2024 20:21	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	ELT	10/01/2024 20:21	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.82	pCi/L	0.14	0.15	P1	ST	10/04/2024 08:52	SW-846 9315-1986, Rev. 0
Carrier Recovery	94.4	%						
Radium-228	0.99	pCi/L	0.11	0.36	B1	TTP	10/02/2024 16:34	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	88.6	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242842

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: B-2

Customer Description:

Lab Number: 242842-001-01

Preparation: Dissolved

Date Collected: 09/16/2024 09:33 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	10/01/2024 20:36	EPA 200.8-1994, Rev. 5.4
Arsenic	2.17	µg/L	1	0.10	0.03		ELT	10/01/2024 20:36	EPA 200.8-1994, Rev. 5.4
Barium	48.2	µg/L	1	0.20	0.05		ELT	10/01/2024 20:36	EPA 200.8-1994, Rev. 5.4
Beryllium	0.47	µg/L	10	0.50	0.07	J1	ELT	10/03/2024 15:20	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	ELT	10/01/2024 20:36	EPA 200.8-1994, Rev. 5.4
Chromium	0.23	µg/L	1	0.30	0.07	J1	ELT	10/01/2024 20:36	EPA 200.8-1994, Rev. 5.4
Cobalt	6.02	µg/L	1	0.020	0.005		ELT	10/01/2024 20:36	EPA 200.8-1994, Rev. 5.4
Iron	7.66	mg/L	1	0.020	0.003		ELT	10/01/2024 20:36	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	ELT	10/01/2024 20:36	EPA 200.8-1994, Rev. 5.4
Lithium	0.0547	mg/L	10	0.0030	0.0006		ELT	10/03/2024 15:20	EPA 200.8-1994, Rev. 5.4
Manganese	0.0574	mg/L	1	0.00100	0.00007		ELT	10/01/2024 20:36	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	10/01/2024 20:36	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	ELT	10/01/2024 20:36	EPA 200.8-1994, Rev. 5.4
Thallium	0.05	µg/L	1	0.20	0.02	J1	ELT	10/01/2024 20:36	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: 242842

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: B-3

Customer Description:

Lab Number: 242842-002

Preparation:

Date Collected: 09/18/2024 09:16 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	10/01/2024 20:41	EPA 200.8-1994, Rev. 5.4
Arsenic	2.04	µg/L	1	0.10	0.03		ELT	10/01/2024 20:41	EPA 200.8-1994, Rev. 5.4
Barium	58.0	µg/L	1	0.20	0.05		ELT	10/01/2024 20:41	EPA 200.8-1994, Rev. 5.4
Beryllium	1.01	µg/L	10	0.50	0.07		ELT	10/03/2024 15:41	EPA 200.8-1994, Rev. 5.4
Boron	0.036	mg/L	1	0.050	0.007	J1	ELT	10/01/2024 20:41	EPA 200.8-1994, Rev. 5.4
Cadmium	0.008	µg/L	1	0.020	0.004	J1	ELT	10/01/2024 20:41	EPA 200.8-1994, Rev. 5.4
Calcium	2.35	mg/L	1	0.05	0.02		ELT	10/01/2024 20:41	EPA 200.8-1994, Rev. 5.4
Chromium	0.20	µg/L	1	0.30	0.07	J1	ELT	10/01/2024 20:41	EPA 200.8-1994, Rev. 5.4
Cobalt	5.28	µg/L	1	0.020	0.005		ELT	10/01/2024 20:41	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	ELT	10/01/2024 20:41	EPA 200.8-1994, Rev. 5.4
Lithium	0.0839	mg/L	10	0.0030	0.0006		ELT	10/03/2024 15:41	EPA 200.8-1994, Rev. 5.4
Magnesium	1.45	mg/L	1	0.100	0.009		ELT	10/01/2024 20:41	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	10/01/2024 20:41	EPA 200.8-1994, Rev. 5.4
Potassium	2.07	mg/L	1	0.10	0.01		ELT	10/01/2024 20:41	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	ELT	10/01/2024 20:41	EPA 200.8-1994, Rev. 5.4
Sodium	32.4	mg/L	1	0.20	0.02		ELT	10/01/2024 20:41	EPA 200.8-1994, Rev. 5.4
Strontium	0.0705	mg/L	1	0.00200	0.00005		ELT	10/01/2024 20:41	EPA 200.8-1994, Rev. 5.4
Thallium	0.03	µg/L	1	0.20	0.02	J1	ELT	10/01/2024 20:41	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.61	pCi/L	0.13	0.20		ST	10/04/2024 08:52	SW-846 9315-1986, Rev. 0
Carrier Recovery	77.4	%						
Radium-228	1.30	pCi/L	0.12	0.34		TTP	10/03/2024 16:33	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.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242842

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: B-3

Customer Description:

Lab Number: 242842-002-01

Preparation: Dissolved

Date Collected: 09/18/2024 09:16 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	10/01/2024 20:46	EPA 200.8-1994, Rev. 5.4
Arsenic	1.98	µg/L	1	0.10	0.03		ELT	10/01/2024 20:46	EPA 200.8-1994, Rev. 5.4
Barium	58.3	µg/L	1	0.20	0.05		ELT	10/01/2024 20:46	EPA 200.8-1994, Rev. 5.4
Beryllium	0.95	µg/L	10	0.50	0.07		ELT	10/03/2024 15:46	EPA 200.8-1994, Rev. 5.4
Cadmium	0.008	µg/L	1	0.020	0.004	J1	ELT	10/01/2024 20:46	EPA 200.8-1994, Rev. 5.4
Chromium	0.15	µg/L	1	0.30	0.07	J1	ELT	10/01/2024 20:46	EPA 200.8-1994, Rev. 5.4
Cobalt	5.34	µg/L	1	0.020	0.005		ELT	10/01/2024 20:46	EPA 200.8-1994, Rev. 5.4
Iron	9.98	mg/L	1	0.020	0.003		ELT	10/01/2024 20:46	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	ELT	10/01/2024 20:46	EPA 200.8-1994, Rev. 5.4
Lithium	0.0797	mg/L	10	0.0030	0.0006		ELT	10/03/2024 15:46	EPA 200.8-1994, Rev. 5.4
Manganese	0.106	mg/L	1	0.00100	0.00007		ELT	10/01/2024 20:46	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RPL	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	10/01/2024 20:46	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	ELT	10/01/2024 20:46	EPA 200.8-1994, Rev. 5.4
Thallium	0.02	µg/L	1	0.20	0.02	J1	ELT	10/01/2024 20:46	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: 242842

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-25

Customer Description:

Lab Number: 242842-003

Preparation:

Date Collected: 09/18/2024 12:20 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.08	µg/L	10	1.00	0.08	U1	ELT	10/03/2024 15:51	EPA 200.8-1994, Rev. 5.4
Arsenic	4.8	µg/L	10	1.0	0.3		ELT	10/03/2024 15:51	EPA 200.8-1994, Rev. 5.4
Barium	13.4	µg/L	10	2.0	0.5		ELT	10/03/2024 15:51	EPA 200.8-1994, Rev. 5.4
Beryllium	6.81	µg/L	10	0.50	0.07		ELT	10/03/2024 15:51	EPA 200.8-1994, Rev. 5.4
Boron	0.08	mg/L	10	0.50	0.07	J1	ELT	10/03/2024 15:51	EPA 200.8-1994, Rev. 5.4
Cadmium	0.62	µg/L	10	0.20	0.04		ELT	10/03/2024 15:51	EPA 200.8-1994, Rev. 5.4
Calcium	20.8	mg/L	10	0.5	0.2		ELT	10/03/2024 15:51	EPA 200.8-1994, Rev. 5.4
Chromium	<0.7	µg/L	10	3.0	0.7	U1	ELT	10/03/2024 15:51	EPA 200.8-1994, Rev. 5.4
Cobalt	127	µg/L	10	0.20	0.05		ELT	10/03/2024 15:51	EPA 200.8-1994, Rev. 5.4
Lead	2.0	µg/L	10	2.0	0.5		ELT	10/03/2024 15:51	EPA 200.8-1994, Rev. 5.4
Lithium	0.0861	mg/L	10	0.0030	0.0006		ELT	10/03/2024 15:51	EPA 200.8-1994, Rev. 5.4
Magnesium	28.2	mg/L	10	1.00	0.09		ELT	10/03/2024 15:51	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<1	µg/L	10	5	1	U1	ELT	10/03/2024 15:51	EPA 200.8-1994, Rev. 5.4
Potassium	2.3	mg/L	10	1.0	0.1		ELT	10/03/2024 15:51	EPA 200.8-1994, Rev. 5.4
Selenium	22.3	µg/L	10	5.0	0.4		ELT	10/03/2024 15:51	EPA 200.8-1994, Rev. 5.4
Sodium	5.5	mg/L	10	2.0	0.2		ELT	10/03/2024 15:51	EPA 200.8-1994, Rev. 5.4
Strontium	0.176	mg/L	10	0.0200	0.0005		ELT	10/03/2024 15:51	EPA 200.8-1994, Rev. 5.4
Thallium	<0.2	µg/L	10	2.0	0.2	U1	ELT	10/03/2024 15:51	EPA 200.8-1994, Rev. 5.4

Radiochemistry

Parameter	Result	Units	UNC*(+/-)	MDA*	Data Qualifiers	Analyst	Analysis Date	Method
Radium-226	0.93	pCi/L	0.14	0.14		ST	10/04/2024 08:52	SW-846 9315-1986, Rev. 0
Carrier Recovery	101	%						
Radium-228	1.55	pCi/L	0.26	0.84		TTP	10/03/2024 16:33	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	44.6	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242842

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-25

Customer Description:

Lab Number: 242842-003-01

Preparation: Dissolved

Date Collected: 09/18/2024 12:20 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.08	µg/L	10	1.00	0.08	U1	ELT	10/03/2024 15:56	EPA 200.8-1994, Rev. 5.4
Arsenic	3.2	µg/L	10	1.0	0.3		ELT	10/03/2024 15:56	EPA 200.8-1994, Rev. 5.4
Barium	13.5	µg/L	10	2.0	0.5		ELT	10/03/2024 15:56	EPA 200.8-1994, Rev. 5.4
Beryllium	3.58	µg/L	10	0.50	0.07		ELT	10/03/2024 15:56	EPA 200.8-1994, Rev. 5.4
Cadmium	0.49	µg/L	10	0.20	0.04		ELT	10/03/2024 15:56	EPA 200.8-1994, Rev. 5.4
Chromium	<0.7	µg/L	10	3.0	0.7	U1	ELT	10/03/2024 15:56	EPA 200.8-1994, Rev. 5.4
Cobalt	104	µg/L	10	0.20	0.05		ELT	10/03/2024 15:56	EPA 200.8-1994, Rev. 5.4
Iron	113	mg/L	10	0.20	0.03		ELT	10/03/2024 15:56	EPA 200.8-1994, Rev. 5.4
Lead	<0.5	µg/L	10	2.0	0.5	U1	ELT	10/03/2024 15:56	EPA 200.8-1994, Rev. 5.4
Lithium	0.0831	mg/L	10	0.0030	0.0006		ELT	10/03/2024 15:56	EPA 200.8-1994, Rev. 5.4
Manganese	0.689	mg/L	10	0.0100	0.0007		ELT	10/03/2024 15:56	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<1	µg/L	10	5	1	U1	ELT	10/03/2024 15:56	EPA 200.8-1994, Rev. 5.4
Selenium	13.1	µg/L	10	5.0	0.4		ELT	10/03/2024 15:56	EPA 200.8-1994, Rev. 5.4
Thallium	<0.2	µg/L	10	2.0	0.2	U1	ELT	10/03/2024 15:56	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: 242842

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-26

Customer Description:

Lab Number: 242842-004

Preparation:

Date Collected: 09/18/2024 12:33 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.08	µg/L	10	1.00	0.08	U1	ELT	10/03/2024 16:01	EPA 200.8-1994, Rev. 5.4
Arsenic	8.0	µg/L	10	1.0	0.3		ELT	10/03/2024 16:01	EPA 200.8-1994, Rev. 5.4
Barium	11.4	µg/L	10	2.0	0.5		ELT	10/03/2024 16:01	EPA 200.8-1994, Rev. 5.4
Beryllium	12.2	µg/L	10	0.50	0.07		ELT	10/03/2024 16:01	EPA 200.8-1994, Rev. 5.4
Boron	0.22	mg/L	10	0.50	0.07	J1	ELT	10/03/2024 16:01	EPA 200.8-1994, Rev. 5.4
Cadmium	2.50	µg/L	10	0.20	0.04		ELT	10/03/2024 16:01	EPA 200.8-1994, Rev. 5.4
Calcium	109	mg/L	10	0.5	0.2		ELT	10/03/2024 16:01	EPA 200.8-1994, Rev. 5.4
Chromium	4.7	µg/L	10	3.0	0.7		ELT	10/03/2024 16:01	EPA 200.8-1994, Rev. 5.4
Cobalt	200	µg/L	10	0.20	0.05		ELT	10/03/2024 16:01	EPA 200.8-1994, Rev. 5.4
Lead	0.7	µg/L	10	2.0	0.5	J1	ELT	10/03/2024 16:01	EPA 200.8-1994, Rev. 5.4
Lithium	0.100	mg/L	10	0.0030	0.0006		ELT	10/03/2024 16:01	EPA 200.8-1994, Rev. 5.4
Magnesium	112	mg/L	10	1.00	0.09		ELT	10/03/2024 16:01	EPA 200.8-1994, Rev. 5.4
Mercury	2	ng/L	1	5	2	J1	RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<1	µg/L	10	5	1	U1	ELT	10/03/2024 16:01	EPA 200.8-1994, Rev. 5.4
Potassium	5.7	mg/L	10	1.0	0.1		ELT	10/03/2024 16:01	EPA 200.8-1994, Rev. 5.4
Selenium	26.5	µg/L	10	5.0	0.4		ELT	10/03/2024 16:01	EPA 200.8-1994, Rev. 5.4
Sodium	72.8	mg/L	10	2.0	0.2		ELT	10/03/2024 16:01	EPA 200.8-1994, Rev. 5.4
Strontium	1.15	mg/L	10	0.0200	0.0005		ELT	10/03/2024 16:01	EPA 200.8-1994, Rev. 5.4
Thallium	<0.2	µg/L	10	2.0	0.2	U1	ELT	10/03/2024 16:01	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	0.22	0.22		ST	10/04/2024 08:52	SW-846 9315-1986, Rev. 0
Carrier Recovery	93.8	%						
Radium-228	2.19	pCi/L	0.15	0.41		TTP	10/03/2024 16:33	SW-846 9320-2014, Rev. 1.0
Carrier Recovery	85.4	%						

* The Required Detection Limit (RDL) is equivalent to the RL and for Radium-226 and Radium-228, the RDL is calculated to be 1.0 pCi/L. The Minimal Detectable Activity (MDA) listed with these results is sample specific and empirical. The combined standard uncertainty (UNC) is a counting uncertainty representing "one-sigma" which has the same units of measurement as the result.



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242842

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: AD-26

Customer Description:

Lab Number: 242842-004-01

Preparation: Dissolved

Date Collected: 09/18/2024 12:33 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.08	µg/L	10	1.00	0.08	U1	ELT	10/03/2024 16:06	EPA 200.8-1994, Rev. 5.4
Arsenic	6.8	µg/L	10	1.0	0.3		ELT	10/03/2024 16:06	EPA 200.8-1994, Rev. 5.4
Barium	10.0	µg/L	10	2.0	0.5		ELT	10/03/2024 16:06	EPA 200.8-1994, Rev. 5.4
Beryllium	7.94	µg/L	10	0.50	0.07		ELT	10/03/2024 16:06	EPA 200.8-1994, Rev. 5.4
Cadmium	5.25	µg/L	10	0.20	0.04		ELT	10/03/2024 16:06	EPA 200.8-1994, Rev. 5.4
Chromium	<0.7	µg/L	10	3.0	0.7	U1	ELT	10/03/2024 16:06	EPA 200.8-1994, Rev. 5.4
Cobalt	296	µg/L	10	0.20	0.05		ELT	10/03/2024 16:06	EPA 200.8-1994, Rev. 5.4
Iron	148	mg/L	10	0.20	0.03		ELT	10/03/2024 16:06	EPA 200.8-1994, Rev. 5.4
Lead	<0.5	µg/L	10	2.0	0.5	U1	ELT	10/03/2024 16:06	EPA 200.8-1994, Rev. 5.4
Lithium	0.160	mg/L	10	0.0030	0.0006		ELT	10/03/2024 16:06	EPA 200.8-1994, Rev. 5.4
Manganese	2.26	mg/L	10	0.0100	0.0007		ELT	10/03/2024 16:06	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RPL	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<1	µg/L	10	5	1	U1	ELT	10/03/2024 16:06	EPA 200.8-1994, Rev. 5.4
Selenium	30.2	µg/L	10	5.0	0.4		ELT	10/03/2024 16:06	EPA 200.8-1994, Rev. 5.4
Thallium	0.3	µg/L	10	2.0	0.2	J1	ELT	10/03/2024 16:06	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: 242842

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: Duplicate

Customer Description:

Lab Number: 242842-005

Preparation:

Date Collected: 09/16/2024 13:17 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	10/01/2024 22:24	EPA 200.8-1994, Rev. 5.4
Arsenic	2.42	µg/L	1	0.10	0.03		ELT	10/01/2024 22:24	EPA 200.8-1994, Rev. 5.4
Barium	50.4	µg/L	1	0.20	0.05		ELT	10/01/2024 22:24	EPA 200.8-1994, Rev. 5.4
Beryllium	0.47	µg/L	10	0.50	0.07	J1	ELT	10/03/2024 17:34	EPA 200.8-1994, Rev. 5.4
Boron	0.022	mg/L	1	0.050	0.007	J1	ELT	10/01/2024 22:24	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	ELT	10/01/2024 22:24	EPA 200.8-1994, Rev. 5.4
Calcium	1.31	mg/L	1	0.05	0.02		ELT	10/01/2024 22:24	EPA 200.8-1994, Rev. 5.4
Chromium	0.31	µg/L	1	0.30	0.07		ELT	10/01/2024 22:24	EPA 200.8-1994, Rev. 5.4
Cobalt	6.28	µg/L	1	0.020	0.005		ELT	10/01/2024 22:24	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	ELT	10/01/2024 22:24	EPA 200.8-1994, Rev. 5.4
Lithium	0.0557	mg/L	10	0.0030	0.0006		ELT	10/03/2024 17:34	EPA 200.8-1994, Rev. 5.4
Magnesium	1.72	mg/L	1	0.100	0.009		ELT	10/01/2024 22:24	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	10/01/2024 22:24	EPA 200.8-1994, Rev. 5.4
Potassium	2.15	mg/L	1	0.10	0.01		ELT	10/01/2024 22:24	EPA 200.8-1994, Rev. 5.4
Selenium	0.07	µg/L	1	0.50	0.04	J1	ELT	10/01/2024 22:24	EPA 200.8-1994, Rev. 5.4
Sodium	10.6	mg/L	1	0.20	0.02		ELT	10/01/2024 22:24	EPA 200.8-1994, Rev. 5.4
Strontium	0.0126	mg/L	1	0.00200	0.00005		ELT	10/01/2024 22:24	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	ELT	10/01/2024 22:24	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: 242842

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: Duplicate

Customer Description:

Lab Number: 242842-005-01

Preparation: Dissolved

Date Collected: 09/16/2024 13:17 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	10/01/2024 22:39	EPA 200.8-1994, Rev. 5.4
Arsenic	2.28	µg/L	1	0.10	0.03		ELT	10/01/2024 22:39	EPA 200.8-1994, Rev. 5.4
Barium	45.5	µg/L	1	0.20	0.05		ELT	10/01/2024 22:39	EPA 200.8-1994, Rev. 5.4
Beryllium	0.42	µg/L	10	0.50	0.07	J1	ELT	10/03/2024 17:49	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	ELT	10/01/2024 22:39	EPA 200.8-1994, Rev. 5.4
Chromium	0.35	µg/L	1	0.30	0.07		ELT	10/01/2024 22:39	EPA 200.8-1994, Rev. 5.4
Cobalt	5.91	µg/L	1	0.020	0.005		ELT	10/01/2024 22:39	EPA 200.8-1994, Rev. 5.4
Iron	7.11	mg/L	1	0.020	0.003		ELT	10/01/2024 22:39	EPA 200.8-1994, Rev. 5.4
Lead	0.08	µg/L	1	0.20	0.05	J1	ELT	10/01/2024 22:39	EPA 200.8-1994, Rev. 5.4
Lithium	0.0557	mg/L	10	0.0030	0.0006		ELT	10/03/2024 17:49	EPA 200.8-1994, Rev. 5.4
Manganese	0.0514	mg/L	1	0.00100	0.00007		ELT	10/01/2024 22:39	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	0.2	µg/L	1	0.5	0.1	J1	ELT	10/01/2024 22:39	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	ELT	10/01/2024 22:39	EPA 200.8-1994, Rev. 5.4
Thallium	0.06	µg/L	1	0.20	0.02	J1	ELT	10/01/2024 22:39	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: 242842

Customer: Pirkey Power Station

Date Reported: 11/07/2024

Customer Sample ID: Equipment Blank

Customer Description:

Lab Number: 242842-006

Preparation:

Date Collected: 09/16/2024 09:26 EDT

Date Received: 09/23/2024 15:00 EDT

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Antimony	<0.008	µg/L	1	0.100	0.008	U1	ELT	10/01/2024 22:44	EPA 200.8-1994, Rev. 5.4
Arsenic	<0.03	µg/L	1	0.10	0.03	U1	ELT	10/01/2024 22:44	EPA 200.8-1994, Rev. 5.4
Barium	<0.05	µg/L	1	0.20	0.05	U1	ELT	10/01/2024 22:44	EPA 200.8-1994, Rev. 5.4
Beryllium	<0.007	µg/L	1	0.050	0.007	U1	ELT	10/03/2024 17:54	EPA 200.8-1994, Rev. 5.4
Boron	<0.007	mg/L	1	0.050	0.007	U1	ELT	10/01/2024 22:44	EPA 200.8-1994, Rev. 5.4
Cadmium	<0.004	µg/L	1	0.020	0.004	U1	ELT	10/01/2024 22:44	EPA 200.8-1994, Rev. 5.4
Calcium	<0.02	mg/L	1	0.05	0.02	U1	ELT	10/01/2024 22:44	EPA 200.8-1994, Rev. 5.4
Chromium	0.21	µg/L	1	0.30	0.07	J1	ELT	10/01/2024 22:44	EPA 200.8-1994, Rev. 5.4
Cobalt	<0.005	µg/L	1	0.020	0.005	U1	ELT	10/01/2024 22:44	EPA 200.8-1994, Rev. 5.4
Lead	<0.05	µg/L	1	0.20	0.05	U1	ELT	10/01/2024 22:44	EPA 200.8-1994, Rev. 5.4
Lithium	<0.00006	mg/L	1	0.00030	0.00006	U1	ELT	10/03/2024 17:54	EPA 200.8-1994, Rev. 5.4
Magnesium	<0.009	mg/L	1	0.100	0.009	U1	ELT	10/01/2024 22:44	EPA 200.8-1994, Rev. 5.4
Mercury	<2	ng/L	1	5	2	U1	RLP	10/01/2024 00:00	EPA 245.7-2005, Rev. 2.0
Molybdenum	<0.1	µg/L	1	0.5	0.1	U1	ELT	10/01/2024 22:44	EPA 200.8-1994, Rev. 5.4
Potassium	<0.01	mg/L	1	0.10	0.01	U1	ELT	10/01/2024 22:44	EPA 200.8-1994, Rev. 5.4
Selenium	<0.04	µg/L	1	0.50	0.04	U1	ELT	10/01/2024 22:44	EPA 200.8-1994, Rev. 5.4
Sodium	<0.02	mg/L	1	0.20	0.02	U1	ELT	10/01/2024 22:44	EPA 200.8-1994, Rev. 5.4
Strontium	<0.00005	mg/L	1	0.00200	0.00005	U1	ELT	10/01/2024 22:44	EPA 200.8-1994, Rev. 5.4
Thallium	<0.02	µg/L	1	0.20	0.02	U1	ELT	10/01/2024 22:44	EPA 200.8-1994, Rev. 5.4

242842-005

Comments:

No radium received (on COC)



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242842

Customer: Pirkey Power Station

Date Reported: 11/07/2024

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 Qualifier 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.

P1 - The precision between duplicate results was above acceptance limits.

B1 - Analyte detected in method blank (MB) at or above the method criteria.

Dolan Chemical Laboratory (DCL)
 4001 Bixby Road
 Groveport, Ohio 43125
 Michael Ohlinger (614-836-4184)
 Contacts: Dave Conover (614-836-4218)

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Site Contact: 18 W 2	Date: 1	COC/Order #:	For Lab Use Only:							
Analysis Turnaround Time (in Calendar Days)										
☑ Routine (28 days for Monitoring Wells)										
Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Inlets				Sample Specific Notes	
					250 mL bottle, pH<2, HNO ₃	Field-filter 250 mL bottle, then pH<2, HNO ₃	Three (six every 10th) 1 L bottles, pH<2, HNO ₃	250 mL Glass bottle, HCL**, pH<2		250 mL Glass bottle, HCL**, pH<2
9/16/2024	833	G	GW	10	Sb, As, B, Ba, Be, Ca, Cd, Cr, Co, K, Li, Mg, Mo, Na, Pb, Se, Sr, Ti	Disolved Sb, As, Ba, Be, Cd, Cr, Co, Fe, Li, Mn, Mo, Pb, Se, Ti	Ra-226, Ra-228	Mercury	Disolved Mercury	242842
9/19/2024	816	G	GW	7						
9/18/2024	1120	G	GW	7						
9/19/2024	1133	G	GW	7						
9/19/2024	1217	G	GW	7						
9/19/2024	826	G	GW	2						
					4	F4	4	2	F2	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ; F= filter in field

* Six 1L Bottles must be collected for Radium for every 10th sample.

Special Instructions/QC Requirements & Comments:

TG-32 needed

Relinquished by: <i>John Hamilton</i>	Company: Esk	Date/Time: 9-15-24	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: <i>Michael Ohlinger</i>	Date/Time: 9/23/27 1900



WATER & WASTE SAMPLE RECEIPT FORM

Form SOP-7102

Sample Receipt Form Rev 8.0S 23 24

<u>Package Type</u>		<u>Delivery Type</u>	
<input checked="" type="radio"/> Cooler	<input type="radio"/> Box <input type="radio"/> Bag <input type="radio"/> Envelope	<input type="radio"/> UPS	<input checked="" type="radio"/> FedEX <input type="radio"/> USPS
Other _____		Other _____	
Plant/Customer <u>Pirkey PPASD</u>		Total # of Containers RECEIVED in Job: <u>37</u>	
Opened By <u>BLB</u>		<u>missing radium duplicate bottles</u> BLB	
Date/Time <u>9.23.24 3:30pm</u>			
Were all temperatures within 0-6°C? Y / N or <input checked="" type="radio"/> N/A (Temps) Initial: <u>BLB</u> on ice / <input checked="" type="radio"/> no ice			
If No, specify each deviation(s) on back of form. (IR Gun Ser# 240009843, Expir. 01-03-2026)			
Was container in good condition? <input checked="" type="radio"/> Y / <input type="radio"/> N Comments _____			
Was Chain of Custody received? <input checked="" type="radio"/> Y / <input type="radio"/> N Comments _____			
Requested turnaround: <u>Routine</u> If RUSH, who was notified? _____			
pH (15 min)	Cr ⁶ (pres) (24 hr)	NO ₂ or NO ₃ (48 hr)	ortho-PO ₄ (48 hr) Hg-diss (pres) (48 hr)

Was pH checked & Color Coding done? Y / N or N/A (pH) Initial & Date: JLD/TIP/MGK 9.23.24

****pH paper:** mfr:LabRat,PN 4801,LOT#X000RWDG21 exp 11-30-25 **** 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?	<input checked="" type="radio"/> Y / <input type="radio"/> N	Comments _____
Were samples labeled properly?	<input checked="" type="radio"/> Y / <input type="radio"/> N	Comments _____
Were correct containers used?	<input checked="" type="radio"/> Y / <input type="radio"/> N	Comments _____
Was the customer contacted?	If Yes: Person Contacted: _____	
	Initial & Date & Time : _____	
Lab ID# <u>242842</u>	Comments: _____	
Logged by <u>Moo</u>	_____	
(Record Test Count on back of form)	_____	

Total # of Containers LISTED on COC: <u>40 (-3 ed bottles missing)</u>		

WATER & WASTE SAMPLE RECEIPT FORM (CONT)

Form SOP-7102

Sample Receipt Form - Rev 8.08.23.24

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 # : 242842

Initial/ Date: MSO 9/23/24

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
21	242842 -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
21 - 2 Rad = 19	-005		21
15 = 15 MSO 9/23/24	-005-01		15
19	-006		19
			MSO 9/24/24

Radium Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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  Chemical Tech. Principal 10/16/2024
Name (printed) Signature Official Title Date

Radium Laboratory Review Checklist

Table 1. Reportable Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: ~~Welsh Power~~ (P) 10/17/24 Pirkey Power
Reviewer Name: Tamisha Palmer
LRC Date: 10/16/2024
Laboratory Job Number: 242840
Prep Batch Number(s): PB24092408, PB24092409

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?	Yes, 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	

Radium Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: ~~Welsh Power~~ B10117/24 Pirkey Power
Reviewer Name: Tamisha Palmer
LRC Date: 10/16/2024
Laboratory Job Number: 242840
Prep Batch Number(s): PB24092408, PB24092409

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	

Radium Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: ~~Welsh Power~~ TB1017/24 Pirkey Power
Reviewer Name: Tamisha Palmer
LRC Date: 10/16/2024
Laboratory Job Number: 242840
Prep Batch Number(s): PB24092408, PB24092409

Exception Report No.	Description
ER1	RPD greater than 25%; Both the sample and duplicate were below report limit for batch PB24092409

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."

Radium Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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 Sunita Timsina Chemist Associate 11/05/24
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: 11/05/2024
Laboratory Job Number: 242842
Prep Batch Number(s): PB2092407, PB24092607

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?	No	ER1
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?	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	

Radium Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Station
Reviewer Name: Sunita Timsina
LRC Date: 11/05/2024
Laboratory Job Number: 242842
Prep Batch Number(s): PB2092407, PB24092607

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	

Radium Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey Power Station
Reviewer Name: Sunita Timsina
LRC Date: 11/05/2024
Laboratory Job Number: 242842
Prep Batch Number(s): PB2092407, PB24092607

Exception Report No.	Description
ER1	Analyte detected in method blank (MB) at or above the method criteria.

¹ Items identified by the letter “R” must be available as a hard copy or as a .pdf file. Items identified by the letter “S” should be retained and made available upon request for the appropriate retention period.
² O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
³ NA - Not applicable; NR - Not reviewed.
⁴ Exception Report identification number; an Exception Report should be completed for an item if the result is “No” or “NR.”

ICP-MS Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

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 - (b) Dilution factors
 - (c) Preparation methods
 - (d) Cleanup methods
 - (e) If required for the project, tentatively identified compounds (TICs)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- The Exception Report for every item for which the result is "No" or "NR" (Not Reviewed)

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Check, if applicable: This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Elizabeth L. Tinapple	Elizabeth L Tinapple	<small>Digitally signed by Elizabeth L Tinapple Date: 2024.10.14 09:25:20 -0400</small>	Chemist	10/14/2024
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 L. Tinapple
LRC Date: 10/14/2024
Laboratory Job Number: 242842
Prep Batch Number(s): PB24092605 QC2410020 QC2410038

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
R1	O, I	Chain-of-custody (COC)		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	Sample and quality control (QC) identification		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	Test reports		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	No	ER1
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	Surrogate recovery data		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	Test reports/summary forms for blank samples		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

ICP-MS Laboratory Review Checklist

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	Laboratory control samples (LCS):		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	Matrix spike (MS) and matrix spike duplicate (MSD) data		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	Analytical duplicate data		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	Method quantitation limits (MQLs):		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	Other problems/anomalies		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

ICP-MS Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey CCR
Reviewer Name: Elizabeth L. Tinapple
LRC Date: 10/14/2024
Laboratory Job Number: 242842
Prep Batch Number(s): PB24092605 QC2410020 QC2410038

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	

ICP-MS Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey CCR
Reviewer Name: Elizabeth L. Tinapple
LRC Date: 10/14/2024
Laboratory Job Number: 242842
Prep Batch Number(s): PB24092605 QC2410020 QC2410038

Exception Report No.	Description
ER1	Linear Dynamic Range (LDR) study used to determine upper limit of analyte calibration.
ER2	CCB acceptance criteria is $CCB < 2.2 * MDL$.

¹ Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
² O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
³ NA - Not applicable; NR - Not reviewed.
⁴ Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."

Mercury Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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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 - (b) Dilution factors
 - (c) Preparation methods
 - (d) Cleanup methods
 - (e) If required for the project, tentatively identified compounds (TICs)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
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 - (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
- 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
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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.

Susann Sulzmann *S. Sulzmann* Senior Chemist 10-21-24
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: Susann Sulzmann
LRC Date: 10-21-24
Laboratory Job Number: 243842
Prep Batch Number(s): PB24093005

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?	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	

Mercury Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey
Reviewer Name: Susann Sulzmann
LRC Date: 10-21-24
Laboratory Job Number: 243842
Prep Batch Number(s): PB24093005

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
S1	O, I	Initial calibration (ICAL)		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	Mass spectral tuning:		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	Internal standards (IS):		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	Raw data (NELAC section 1 appendix A glossary, and section 5.)		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Mercury Laboratory Review Checklist

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
S6	O	Dual column confirmation		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	Tentatively identified compounds (TICs):		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	Interference Check Sample (ICS) results:		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	Serial dilutions, post digestion spikes, and method of standard additions		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	Method detection limit (MDL) studies		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	Proficiency test reports:		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	Standards documentation		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	Compound/analyte identification procedures		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	Demonstration of analyst competency (DOC)		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	Verification/validation documentation for methods (NELAC Chap 5n 5)		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	Laboratory standard operating procedures (SOPs):		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Mercury Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey
Reviewer Name: Susann Sulzmann
LRC Date: 10-21-24
Laboratory Job Number: 243842
Prep Batch Number(s): PB24093005

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."



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242808

Customer: Pirkey Power Station

Date Reported: 10/23/2024

Customer Sample ID: B-2

Customer Description:

Lab Number: 242808-001

Preparation:

Date Collected: 09/16/2024 09:33 EDT

Date Received: 09/20/2024 10:00 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	09/24/2024 01:08	EPA 300.1 -1997, Rev. 1.0
Chloride	6.43	mg/L	2	0.06	0.02		CRJ	09/24/2024 01:08	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.18	mg/L	2	0.06	0.02		CRJ	09/24/2024 01:08	EPA 300.1 -1997, Rev. 1.0
Sulfate	21.8	mg/L	2	0.6	0.1		CRJ	09/24/2024 01:08	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	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	170	mg/L	1	50	20	S7	BHB	09/20/2024 13:35	SM 2540C-2015

Customer Sample ID: B-3

Customer Description:

Lab Number: 242808-002

Preparation:

Date Collected: 09/18/2024 09:16 EDT

Date Received: 09/20/2024 10:00 EDT

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	09/24/2024 00:35	EPA 300.1 -1997, Rev. 1.0
Chloride	11.3	mg/L	2	0.06	0.02		CRJ	09/24/2024 00:35	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.06	mg/L	2	0.06	0.02		CRJ	09/24/2024 00:35	EPA 300.1 -1997, Rev. 1.0
Sulfate	51.7	mg/L	2	0.6	0.1		CRJ	09/24/2024 00:35	EPA 300.1 -1997, Rev. 1.0

Wet Chemistry

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Alkalinity, as CaCO3	31	mg/L	1	20	5		MGK	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	200	mg/L	1	50	20	S7	BHB	09/20/2024 13:35	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242808

Customer: Pirkey Power Station

Date Reported: 10/23/2024

Customer Sample ID: AD-25

Customer Description:

Lab Number: 242808-003

Preparation:

Date Collected: 09/18/2024 12:20 EDT

Date Received: 09/20/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.12	mg/L	2	0.10	0.02		CRJ	09/23/2024 23:29	EPA 300.1 -1997, Rev. 1.0
Chloride	2.56	mg/L	2	0.06	0.02		CRJ	09/23/2024 23:29	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.71	mg/L	2	0.06	0.02		CRJ	09/23/2024 23:29	EPA 300.1 -1997, Rev. 1.0
Sulfate	479	mg/L	25	8	2		CRJ	09/23/2024 21:50	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	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	740	mg/L	1	50	20		BHB	09/20/2024 13:42	SM 2540C-2015

Customer Sample ID: AD-26

Customer Description:

Lab Number: 242808-004

Preparation:

Date Collected: 09/18/2024 12:33 EDT

Date Received: 09/20/2024 10:00 EDT

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Bromide	0.30	mg/L	5	0.25	0.05		CRJ	09/23/2024 22:56	EPA 300.1 -1997, Rev. 1.0
Chloride	21.0	mg/L	5	0.15	0.05		CRJ	09/23/2024 22:56	EPA 300.1 -1997, Rev. 1.0
Fluoride	4.86	mg/L	5	0.15	0.05		CRJ	09/23/2024 22:56	EPA 300.1 -1997, Rev. 1.0
Sulfate	1300	mg/L	50	15	3		CRJ	09/23/2024 21:17	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	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	1860	mg/L	2	100	40		BHB	09/20/2024 13:42	SM 2540C-2015



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Audinet: 210-4221

Job ID: 242808

Customer: Pirkey Power Station

Date Reported: 10/23/2024

Customer Sample ID: Duplicate

Customer Description:

Lab Number: 242808-005

Preparation:

Date Collected: 09/16/2024 13:17 EDT

Date Received: 09/20/2024 10:00 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	09/23/2024 20:44	EPA 300.1 -1997, Rev. 1.0
Chloride	6.35	mg/L	2	0.06	0.02		CRJ	09/23/2024 20:44	EPA 300.1 -1997, Rev. 1.0
Fluoride	0.18	mg/L	2	0.06	0.02		CRJ	09/23/2024 20:44	EPA 300.1 -1997, Rev. 1.0
Sulfate	22.0	mg/L	2	0.6	0.1		CRJ	09/23/2024 20:44	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	09/23/2024 19:17	SM 2320B-2011
TDS, Filterable Residue	160	mg/L	1	50	20		BHB	09/20/2024 13:42	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 Qualifier Legend

J1 - Concentration estimated. Analyte was detected between the method detection limit and the reporting limit.

U1 - Not detected at or below method detection limit (MDL).

S7 - Sample did not achieve constant weight.

Dolan Chemical Laboratory (DCL)
 4001 Bixby Road
 Groveport, Ohio 43125
 Michael Ohlinger (614-836-4184)
 Contacts: Dave Conover (614-836-4219)

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Site Contact:

Date:

For Lab Use Only:

COC/Order #

Project Name: Pirkey PP ASD

Contact Name: Leslie Fuerschbach

Contact Phone: 318-673-2744

Sampler(s): Matt Hamilton Kenny McDonald

Analysis Turnaround Time (in Calendar Days)

Ⓞ Routine (28 days for Monitoring Wells)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials				Field-filter 250 mL bottle, then pH<2, HNO3	250 mL bottle, pH<2, HNO3	Dissolved Mercury	F, Cl, SO4, Br, TDS, Alkalinity	Three (six every 10th) L bottles, pH<2, HNO3	Date	COC/Order #	Sample Specific Notes
						1	2	3	4								
B-2	9/18/2024	833	G	GW	1												
B-3	9/18/2024	816	G	GW	1												
AD-25	9/18/2024	1120	G	GW	1												
AD-26	9/18/2024	1133	G	GW	1												
Duplicate	9/18/2024	1217	G	GW	1												

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ; F= filter in field
 * Six 1L Bottles must be collected for Radium for every 10th sample.

Special Instructions/QC Requirements & Comments:

TG-32 needed

Relinquished by: <i>Matt Hamilton</i>	Company: <i>East</i>	Date/Time: 9.18.24	Received by: <i>Mike</i>	Date/Time: 9/20/24
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: <i>Mike</i>	Date/Time: 9/20/24



WATER & WASTE SAMPLE RECEIPT FORM

Form SOP-7102

Sample Receipt Form Rev. 8.05.23.24

<u>Package Type</u>			<u>Delivery Type</u>			
<input checked="" type="radio"/> Cooler	<input type="radio"/> Box	<input type="radio"/> Bag	<input type="radio"/> Envelope	UPS	<input checked="" type="radio"/> FedEX	<input type="radio"/> USPS
Other _____						
Plant/Customer <u>PirKey PP Semi-Annual CCR</u>			Total # of Containers RECEIVED in Job: <u>215</u>			
Opened By <u>BLB</u>						
Date/Time <u>9.20.24 10:10 am</u>						
Were all temperatures within 0-6°C? <input checked="" type="radio"/> Y / <input type="radio"/> N or N/A (Temps) Initial: <u>BLB</u>			<input checked="" type="radio"/> on ice / <input type="radio"/> no ice			
If No, specify each deviation(s) on back of form.			(IR Gun Ser# <u>240009849</u> , Expir. <u>01-03-2026</u>)			
Was container in good condition? <input checked="" type="radio"/> Y / <input type="radio"/> N Comments			<u>221821056</u> <u>10/12/24</u>			
Was Chain of Custody received? <input checked="" type="radio"/> Y / <input type="radio"/> N Comments			<u>MJD</u> <u>9/16/24</u>			
Requested turnaround: <u>Routine</u>			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)		

MJD 9/20/24

Was pH checked & Color Coding done? Y / N or N/A (pH) Initial & Date: ELT/MGK 9.20.24

****pH paper:** mfr: LabRat, PN 4801, LOT#X000RWDG21 exp. 11-30-25 **** Note changes to pH paper in comments below**

Was Add'l Preservative needed? Y / N / Yes: By whom & when: _____ (See Prep Book)

(Dissolved) Is sample filtration requested? Y / N Comments _____ (See Prep Book)

Was COC filled out properly?	<input checked="" type="radio"/> Y / <input type="radio"/> N	Comments _____
Were samples labeled properly?	<input checked="" type="radio"/> Y / <input type="radio"/> N	Comments _____
Were correct containers used?	<input checked="" type="radio"/> Y / <input type="radio"/> N	Comments _____
Was the customer contacted?	If Yes: Person Contacted: _____	
	Initial & Date & Time: _____	
Lab ID# <u>242808</u>	Comments: _____	
Logged by <u>MJD</u>	_____	
(Record Test Count on back of form)	_____	

Total # of Containers LISTED on COC: <u>5</u>	_____	

Alkalinity Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

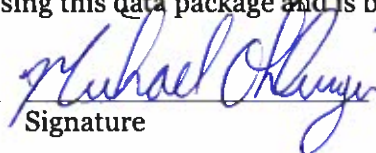
This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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
Name (printed)


Signature

Chemist
Official Title

10/23/2024
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: 10/23/2024
Laboratory Job Number: 242808
Prep Batch Number(s): QC2409144

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: 10/23/2024
Laboratory Job Number: 242808
Prep Batch Number(s): QC2409144

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: 10/23/2024
Laboratory Job Number: 242808
Prep Batch Number(s): QC2409144

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.”

Ion Chromatography Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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		Prin. Chemist	10/23/2024
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: 10/23/2024
Laboratory Job Number: 242808
Prep Batch Number(s): QC2409149

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 PP Semi-annual CCR

Reviewer Name: Tim Arnold

LRC Date: 10/23/2024

Laboratory Job Number: 242808

Prep Batch Number(s): QC2409149

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
S1	O, I	Initial calibration (ICAL)		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	Mass spectral tuning:		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	Internal standards (IS):		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	Raw data (NELAC section 1 appendix A glossary, and section 5.)		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Ion Chromatography Laboratory Review Checklist

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
S6	O	Dual column confirmation		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	Tentatively identified compounds (TICs):		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	Interference Check Sample (ICS) results:		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	Serial dilutions, post digestion spikes, and method of standard additions		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	Method detection limit (MDL) studies		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	Proficiency test reports:		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	Standards documentation		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	Compound/analyte identification procedures		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	Demonstration of analyst competency (DOC)		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	Verification/validation documentation for methods (NELAC Chap 5n 5)		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	Laboratory standard operating procedures (SOPs):		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Ion Chromatography Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey PP Semi-annual CCR
Reviewer Name: Tim Arnold
LRC Date: 10/23/2024
Laboratory Job Number: 242808
Prep Batch Number(s): QC2409149

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.”

TDS Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

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- 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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 S. Williams

Chemist

10-23-2024

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 PS
Reviewer Name: Sandra Williams
LRC Date: 10-23-2024
Laboratory Job Number: 242808
Prep Batch Number(s): QC2409152

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	

TDS Laboratory Review Checklist

Table 2. Supporting Data.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey PS
Reviewer Name: Sandra Williams
LRC Date: 10-23-20204
Laboratory Job Number: 242808
Prep Batch Number(s): QC2409152

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	

TDS Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey PS
Reviewer Name: Sandra Williams
LRC Date: 10-23-2024
Laboratory Job Number: 242808
Prep Batch Number(s): QC2409152

Exception Report No.	Description

¹ Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
² O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
³ NA - Not applicable; NR - Not reviewed.
⁴ Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."



Water Analysis Report

Dolan Chemical Laboratory
4001 Bixby Road
Groveport, OH 43125
Phone: 614-836-4221
Aduinet: 210-4221

Job ID: 243294

Customer: Pirkey Power Station

Date Reported: 12/10/2024

Customer Sample ID: AD-23

Customer Description: TG-32

Lab Number: 243294-001

Preparation:

Date Collected: 11/06/2024 11:36 EST

Date Received: 11/08/2024 09:45 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	9.44	mg/L	2	0.06	0.02		CRJ	11/11/2024 22:07	EPA 300.1 -1997, Rev. 1.0

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.279	mg/L	1	0.050	0.007		ELH	11/19/2024 16:30	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-23

Customer Description: TG-32

Lab Number: 243294-001-01

Preparation: Dissolved

Date Collected: 11/06/2024 11:36 EST

Date Received: 11/08/2024 09:45 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.263	mg/L	1	0.050	0.007		ELH	11/19/2024 16:36	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-36

Customer Description: TG-32

Lab Number: 243294-002

Preparation:

Date Collected: 11/06/2024 10:34 EST

Date Received: 11/08/2024 09:45 EST

Ion Chromatography

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Chloride	16.3	mg/L	2	0.06	0.02		CRJ	11/11/2024 22:40	EPA 300.1 -1997, Rev. 1.0

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.085	mg/L	1	0.050	0.007		ELH	11/19/2024 16:41	EPA 200.8-1994, Rev. 5.4

Customer Sample ID: AD-36

Customer Description: TG-32

Lab Number: 243294-002-01

Preparation: Dissolved

Date Collected: 11/06/2024 10:34 EST

Date Received: 11/08/2024 09:45 EST

Metals

Parameter	Result	Units	Dilution	RL	MDL	Data Qualifiers	Analyst	Analysis Date	Method
Boron	0.080	mg/L	1	0.050	0.007		ELH	11/19/2024 17:52	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: 243294

Customer: Pirkey Power Station

Date Reported: 12/10/2024

Report Verification

This report and the above data have been confirmed by the following analyst.

A handwritten signature in black ink that reads "Michael S. Ohlinger". The signature is written in a cursive style and is positioned above a horizontal line.

Michael Ohlinger, Chemist

Email: msohlinger@aep.com

Phone: 614-836-4184

Audinet: 8-210-4184

THIS TEST REPORT RELATES ONLY TO THE ITEMS TESTED AND SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF THE LABORATORY. ALL TEST RESULTS MEET ALL OF THE REQUIREMENTS OF THE ACCREDITING AUTHORITY, UNLESS OTHERWISE NOTED. ALL TIMES LISTED ARE IN THE EASTERN TIME ZONE.

Chain of Custody Record

Program: Coal Combustion Residuals (CCR)

Dolan Chemical Laboratory (DCL)
 4001 Bixby Road
 Groveport, Ohio 43125
 Michael Ohlinger (614-836-4184)
 Contacts: Dave Conover (614-836-4219)

For Lab Use Only:

Project Name: Pitkey PP Semi-Annual CCR
 Contact Name: Leslie Fuerschbach
 Contact Phone: 318-673-2744

Analysis Turnaround Time (in Calendar Days)
 Routine (28 days for Monitoring Wells)

Site Contact:	Date:
250 mL bottle, pH<2, HNO3	Field-filter 250 mL bottle, then pH<2, HNO3
250 mL bottle, Cool, 0-6C	Three (six every 10th*) L bottles, pH<2, HNO3

COC/Order #: **243294**

Sampler(s): Matt Hamilton

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sampler(s) Initials	Analysis Parameters			
							Boron	Dissolved Boron	Chloride	Ra-226, Ra-228
AD-23	11/6/2024	1036	G	GW	3		X	X	X	
AD-36	11/6/2024	934	G	GW	3		X	X	X	

* 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:
<i>Matt Hamilton</i>	<i>Esyle</i>	<i>11-7-24 1500</i>	Received in Laboratory by:	
Relinquished by:	Company:	Date/Time:	Received by:	Date/Time:
			<i>Matt Hamilton</i>	<i>11/08/24 9:15 AM</i>



WATER & WASTE SAMPLE RECEIPT FORM

Form SOP-7102

Sample Receipt Form Rev. 9.10.07/24

<u>Package Type</u>		<u>Delivery Type</u>	
<input checked="" type="radio"/> Cooler	<input type="radio"/> Box <input type="radio"/> Bag <input type="radio"/> Envelope	<input checked="" type="radio"/> UPS	<input type="radio"/> FedEx <input type="radio"/> USPS
		Other _____	
Plant/Customer <u>Pirkey</u>		Total # of Containers RECEIVED in Job: <u>6</u>	
Opened By <u>MBK</u>			
Date/Time <u>11/08/24 9:45</u>			
Were all temperatures within 0-6°C? <input checked="" type="radio"/> Y / <input type="radio"/> N or <u>N/A</u> (Temps) Initial: <u>mbk</u> <input checked="" type="radio"/> on ice / <input type="radio"/> no ice		<u>4-08-24 mbk</u>	
If No, specify each deviation(s) on back of form.		(IR Gun Ser# <u>240093386</u> , Expir. <u>01/31/2026</u>)	
Was container in good condition? <input checked="" type="radio"/> Y / <input type="radio"/> N		Comments _____	
Was Chain of Custody received? <input checked="" type="radio"/> Y / <input type="radio"/> N		Comments _____	
Requested turnaround: <u>routine 28 days</u>		If RUSH, who was notified? _____	
pH (15 min)	Cr ⁶⁺ (pres) (24 hr)	<u>NO₂</u> or NO ₃ (48 hr)	ortho-PO ₄ (48 hr) Hg-diss (pres) (48 hr)

Was pH checked & Color Coding done? Y / N or N/A (pH) Initial & Date: MBK 11/08/24

**pH paper: mfr LabRat, 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?	<input checked="" type="radio"/> Y / <input type="radio"/> N	Comments _____
Were samples labeled properly?	<input checked="" type="radio"/> Y / <input type="radio"/> N	Comments _____
Were correct containers used?	<input checked="" type="radio"/> Y / <input type="radio"/> N	Comments _____
Was the customer contacted?	If Yes: Person Contacted: _____	Initial & Date & Time: _____
Lab ID# <u>243294</u>	Comments <u>TG-32 needed</u>	
Logged by <u>MBK</u>	_____	
(Record Test Count on back of form)	_____	
Total # of Containers LISTED on COC: <u>6</u>	_____	

WATER & WASTE SAMPLE RECEIPT FORM (CONT)

Form SOP-7102

Sample Receipt Form Rev 9.10.07.24

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 #: 243294 Initial/ Date: MLC 11/08/24 Peer Review Initial/ Date: MLC 11/11/24

Login Test Count from COC	LIMS Sample ID (or COC Sample Name)	Comments /Nonconformities	Peer Review Test Count from COC
2	243294-001		2
1	243294-001-01		1
2	243294-002		2
1	243294-002-01		1

Ion Chromatography Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

- 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.
- R1 Field chain-of-custody documentation
- R2 Sample identification cross-reference
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - (a) Items 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)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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 Prin.	11/12/2024
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 Arnold
LRC Date: 11/12/2024
Laboratory Job Number: 243294
Prep Batch Number(s): QC2411081

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 Arnold
LRC Date: 11/12/2024
Laboratory Job Number: 243294
Prep Batch Number(s): QC2411081

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
S1	O, I	Initial calibration (ICAL)		
	I	Were response factors and/or relative response factors for each analyte within QC limits?	NA	
	I	Were percent RSDs or correlation coefficient criteria met?	Yes	
	I	Was the number of standards recommended in the method used for all analytes?	Yes	
	I	Were all points generated between the lowest and highest standard used to calculate the curve?	Yes	
	I	Are ICAL data available for all instruments used?	Yes	
	I	Has the initial calibration curve been verified using an appropriate second source standard?	Yes	
S2	O, I	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):		
	I	Was the CCV analyzed at the method-required frequency?	Yes	
	I	Were percent differences for each analyte within the method-required QC limits?	Yes	
	I	Was the ICAL curve verified for each analyte?	Yes	
	I	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	No	ER1
S3	O	Mass spectral tuning:		
	I	Was the appropriate compound for the method used for tuning?	NA	
	I	Were ion abundance data within the method-required QC limits?	NA	
S4	O	Internal standards (IS):		
	I	Were IS area counts and retention times within the method-required QC limits?	NA	
S5	O, I	Raw data (NELAC section 1 appendix A glossary, and section 5.)		
	I	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	Yes	
	I	Were data associated with manual integrations flagged on the raw data?	NA	

Ion Chromatography Laboratory Review Checklist

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
S6	O	Dual column confirmation		
	I	Did dual column confirmation results meet the method-required QC?	NA	
S7	O	Tentatively identified compounds (TICs):		
	I	If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?	NA	
S8	I	Interference Check Sample (ICS) results:		
	I	Were percent recoveries within method QC limits?	NA	
S9	I	Serial dilutions, post digestion spikes, and method of standard additions		
	I	Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	NA	
S10	O, I	Method detection limit (MDL) studies		
	I	Was a MDL study performed for each reported analyte?	Yes	
	I	Is the MDL either adjusted or supported by the analysis of DCSs?	Yes	
S11	O, I	Proficiency test reports:		
	I	Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	Yes	
S12	O, I	Standards documentation		
	I	Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	Yes	
S13	O, I	Compound/analyte identification procedures		
	I	Are the procedures for compound/analyte identification documented?	Yes	
S14	O, I	Demonstration of analyst competency (DOC)		
	I	Was DOC conducted consistent with NELAC Chapter 5C?	Yes	
	I	Is documentation of the analyst's competency up-to-date and on file?	Yes	
S15	O, I	Verification/validation documentation for methods (NELAC Chap 5n 5)		
	I	Are all the methods used to generate the data documented, verified, and validated, where applicable?	Yes	
S16	O, I	Laboratory standard operating procedures (SOPs):		
	I	Are laboratory SOPs current and on file for each method performed?	Yes	

Ion Chromatography Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey CCR
Reviewer Name: Tim Arnold
LRC Date: 11/12/2024
Laboratory Job Number: 243294
Prep Batch Number(s): QC2411081

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."

ICP-MS Laboratory Review Checklist

Municipal Solid Waste Laboratory Review Checklist

This data package consists of:

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 - (b) Dilution factors
 - (c) Preparation methods
 - (d) Cleanup methods
 - (e) If required for the project, tentatively identified compounds (TICs)
- R4 Surrogate recovery data including:
 - (a) Calculated recovery (%R)
 - (b) The laboratory's surrogate QC limits
- R5 Test reports/summary forms for blank samples
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - (a) LCS spiking amounts
 - (b) Calculated %R for each analyte
 - (c) The laboratory's LCS QC limits
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - (a) Samples associated with the MS/MSD clearly identified
 - (b) MS/MSD spiking amounts
 - (c) Concentration of each MS/MSD analyte measured in the parent and spiked samples
 - (d) Calculated %Rs and relative percent differences (RPDs)
 - (e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - (a) The amount of analyte measured in the duplicate
 - (b) The calculated RPD
 - (c) The laboratory's QC limits for analytical duplicates
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix
- R10 Other problems or anomalies
- 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

Name (printed)

Elizabeth L. Hoitink

Signature

Digitally signed by Elizabeth L. Hoitink
Date: 2024.12.04 12:38:43 -0500

Chemist

Official Title

12/04/2024

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: 12/04/2024
Laboratory Job Number: 243294
Prep Batch Number(s): PB24111201 QC2411173

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
R1	O, I	Chain-of-custody (COC)		
	I	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	Yes	
	I	Were all departures from standard conditions described in an exception report?	Yes	
R2	O, I	Sample and quality control (QC) identification		
	I	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	Yes	
	I	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	Yes	
R3	O, I	Test reports		
	I	Were all samples prepared and analyzed within holding times?	Yes	
	I	Other than those results < MQL, were all other raw values bracketed by calibration standards?	No	ER1
	I	Were calculations checked by a peer or supervisor?	Yes	
	I	Were all analyte identifications checked by a peer or supervisor?	Yes	
	I	Were sample quantitation limits reported for all analytes not detected?	Yes	
	I	Were all results for soil and sediment samples reported on a dry weight basis?	NA	
	I	Was % moisture (or solids) reported for all soil and sediment samples?	NA	
	I	If required for the project, TICs reported?	NA	
R4	O	Surrogate recovery data		
	I	Were surrogates added prior to extraction?	NA	
	I	Were surrogate percent recoveries in all samples within the laboratory QC limits?	NA	
R5	O, I	Test reports/summary forms for blank samples		
	I	Were appropriate type(s) of blanks analyzed?	Yes	
	I	Were blanks analyzed at the appropriate frequency?	Yes	

ICP-MS Laboratory Review Checklist

Item ¹	Analytes ²	Description	Result (Yes, No, NA, NR) ³	Exception Report No. ⁴
	I	Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	Yes	
	I	Were blank concentrations < MQL?	Yes	
R6	O, I	Laboratory control samples (LCS):		
	I	Were all COCs included in the LCS?	Yes	
	I	Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	Yes	
	I	Were LCSs analyzed at the required frequency?	Yes	
	I	Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	Yes	
	I	Was the LCSD RPD within QC limits?	Yes	
R7	O, I	Matrix spike (MS) and matrix spike duplicate (MSD) data		
	I	Were the project/method specified analytes included in the MS and MSD?	Yes	
	I	Were MS/MSD analyzed at the appropriate frequency?	Yes	
	I	Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	Yes	
	I	Were MS/MSD RPDs within laboratory QC limits?	Yes	
R8	O, I	Analytical duplicate data		
	I	Were appropriate analytical duplicates analyzed for each matrix?	Yes	
	I	Were analytical duplicates analyzed at the appropriate frequency?	Yes	
	I	Were RPDs or relative standard deviations within the laboratory QC limits?	Yes	
R9	O, I	Method quantitation limits (MQLs):		
	I	Are the MQLs for each method analyte included in the laboratory data package?	Yes	
	I	Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	Yes	
	I	Are unadjusted MQLs included in the laboratory data package?	Yes	
R10	O, I	Other problems/anomalies		
	I	Are all known problems/anomalies/special conditions noted in this LRC and ER?	Yes	
	I	Were all necessary corrective actions performed for the reported data?	Yes	
	I	Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	Yes	

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: 12/04/2024

Laboratory Job Number: 243294

Prep Batch Number(s): PB24111201 QC2411173

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	

ICP-MS Laboratory Review Checklist

Table 3. Exception Reports.

Laboratory Name: American Electric Power Dolan Chemical Laboratory
Project Name: Pirkey CCR
Reviewer Name: Elizabeth Hoitink
LRC Date: 12/04/2024
Laboratory Job Number: 243294
Prep Batch Number(s): PB24111201 QC2411173

Exception Report No.	Description
ER1	Linear Dynamic Range (LDR) study used to determine upper limit of analyte calibration.
ER2	CCB acceptance criteria is $CCB < 2.2 * MDL$.

¹ Items identified by the letter "R" must be available as a hard copy or as a .pdf file. Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
² O - organic analyses; I - inorganic analyses (including general chemistry constituents, when applicable).
³ NA - Not applicable; NR - Not reviewed.
⁴ Exception Report identification number; an Exception Report should be completed for an item if the result is "No" or "NR."