Annual Groundwater Monitoring and Corrective Action Report

Appalachian Power Company

Clinch River Plant

Pond 1 Surface Impoundment

Cleveland, Virginia

January 31, 2025

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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

I. Overview

This *Annual Groundwater Monitoring and Corrective Action Report* (Report) has been prepared to report the status of activities for the preceding year for an inactive surface impoundment CCR unit at Appalachian Power Company's, a wholly-owned subsidiary of American Electric Power Company (AEP) Clinch River Power Plant. The USEPA's CCR rules require that the first Annual Groundwater Monitoring and Corrective Action Report be posted to the operating record by August 1, 2019 and annually by January 31 thereafter for inactive surface impoundments. This report is being prepared by January 31, 2025 to cover groundwater monitoring activities during this monitoring period.

In general, the following activities were completed:

- At the start of the current annual monitoring period, Pond 1 was operating under the assessment monitoring program.
- At the end of the current annual reporting period, Pond 1 was operating under the assessment monitoring program.
- An assessment monitoring program was established for Pond 1 on July 15, 2019.
- On October 13, 2019, an Assessment of Corrective Measures (ACM) for Pond 1 was initiated. The ACM was completed on December 11, 2019, and a public meeting to discuss the proposed remedies was held on December 19, 2019.
- Two semi-annual progress report on selecting a remedy pursuant to §257.97 were completed on January 16, 2024 (revised February 19, 2024) and July 25, 2024. A remedy has not yet been selected.
- Data and statistical analysis not available from the previous reporting period indicates that during the October 2023 sampling event:
    - The following Appendix IV parameters exceeded the groundwater protection standards:
        - Barium at wells MWs 1603, 1604, 1605, and 1612
        - Cobalt in well MW-1607
        - Lithium at wells MWs 1605, 1606, 1607, and 1610
        - Molybdenum at wells MWs 1607 and 1610
    - The following Appendix III parameters exceeded background concentrations:
        - Calcium at wells MWs 1603, 1604, 1605, and 1612
        - Chloride at wells MWs 1603, 1605, 1606, and 1607
        - Sulfate at wells MWs 1606 and 1607

        - pH at well MW-1603

- During the April 2024 semi-annual sampling event
    - The following Appendix IV parameters exceeded established groundwater protection standards:
        - Barium at wells MWs 1603, 1604, 1605, and 1612
        - Cobalt in well MW-1607
        - Lithium at wells MWs 1605, 1606, and 1607
        - Molybdenum at well MW-1607
    - The following Appendix III parameters exceeded background:
        - Calcium in wells MWs 1603, 1604, 1605, and 1612
        - Chloride in wells MWs 1603, 1605, 1606, and 1607
        - Sulfate in wells MWs 1606 and 1607
- The October 2024 data are still undergoing statistical analysis.

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

- A map, aerial photograph or a drawing showing the CCR management unit(s), all groundwater monitoring wells and monitoring well identification numbers (Attached as **Appendix 1**);
- All of the monitoring data collected, including the rate and direction of groundwater flow, plus a summary showing the number of samples collected per monitoring well, the dates the samples were collected and whether the sample was collected as part of background, detection monitoring, or assessment monitoring programs (Attached as **Appendix 1**);
- Statistical comparison of monitoring data to determine if there has been significant increase over background concentrations (Attached as **Appendix 2**, where applicable);
- A discussion of whether any alternate source demonstrations were performed, and the conclusions (Attached as **Appendix 3**, where applicable);
- A summary of any transition between monitoring programs, for example the date and circumstances for transitioning from detection monitoring to assessment monitoring, in addition to identifying the constituents detected at a statistically significant increase over background concentrations (Notices Attached as **Appendix 4**, where applicable);
- Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a statement as to why that happened (Attached as **Appendix 5**, where applicable); and

- Other information required to be included in the annual report, if applicable.

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

There are three hydrogeological formations monitored at the facility: the Rome, Chattanooga, and Dumps Fault. The following is a list of wells (S = Shallow zone, D = Deep zone):

Rome Formation

Upgradient wells: MW-1609

Downgradient wells: MW-1606 and MW-1607

Nature and Extent wells: W-1906(S, D); W-1907(S, D), W-1913(S, D)

Chattanooga Formation

Upgradient wells: MW-1601; MW1602; and MW-1608

Downgradient wells: MW-1603; MW-1604; MW-1605; and MW-1612

Nature and Extent wells: W-1903(S, D); W-1904(S, D); W-1905(S, D); W-2012(S, D); W-2201(S, D); W-2202(S, D); and W-2203(S, D)

Dumps Fault Formation

Upgradient wells: MW-1611 and W-2204

Downgradient wells: MW-1610

Nature and Extent wells: W-1910S

A figure that depicts the PE-certified groundwater monitoring network, the monitoring well locations and their corresponding identification numbers is provided in **Appendix 1**.

III. Monitoring Wells Installed or Decommissioned

The network design, as summarized in the *Groundwater Monitoring Network Design Report* (2019) and as posted at the CCR website for Clinch River Plant, did not change. That design report discusses the facility location, the hydrogeological setting, the hydrostratigraphic units, the uppermost aquifer, downgradient monitoring well locations and the upgradient monitoring well locations.

Since the facility entered assessment monitoring and no alternative source was identified, 13 monitoring wells were installed after initiating the assessment of corrective measures in 2019 to define the horizontal and vertical extent of constituents exceeding the groundwater protections

standards at statistically significant levels. Six clusters of shallow and deep wells, and one shallow well were installed near Dumps Creek and the Clinch River downgradient of the ash pond. The monitoring wells installed at the end of 2019 and were documented in the 2019 annual report.

In 2020, two additional monitoring wells were installed to help define the extent of the plume. The monitoring well installation reports for those two wells were included in the 2020 annual report.

In 2022, seven additional monitoring wells were installed. Six of the monitoring wells were nature and extent wells installed in the Chattanooga Shale. One monitoring well was installed upgradient in the Dumps Fault. The boring logs and well construction certifications were included in the 2022 annual report.

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

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

The sampling event conducted in February 2023 satisfies the requirement of 257.95(b).

V. Groundwater Quality Data Statistical Analysis

Appendix 2 contains the statistical analysis report(s).

- Data and statistical analysis not available from the previous reporting period indicates that during the October 2023 sampling event:
    - The following Appendix IV parameters exceeded the groundwater protection standards:
        - Barium at wells MWs 1603, 1604, 1605, and 1612
        - Cobalt in well MW-1607
        - Lithium at wells MWs 1605, 1606, 1607, and 1610
        - Molybdenum at wells MWs 1607 and 1610
    - The following Appendix III parameters exceeded background concentrations:
        - Calcium at wells MWs 1603, 1604, 1605, and 1612
        - Chloride at wells MWs 1603, 1605, 1606, and 1607
        - Sulfate at wells MWs 1606 and 1607
        - pH at well MW-1603

- During the April 2024 semi-annual sampling event
    - The following Appendix IV parameters exceeded established groundwater protection standards:
        - Barium at wells MWs 1603, 1604, 1605, and 1612
        - Cobalt in well MW-1607
        - Lithium at wells MWs 1605, 1606, and 1607
        - Molybdenum at well MW-1607
    - The following Appendix III parameters exceeded background:
        - Calcium in wells MWs 1603, 1604, 1605, and 1612
        - Chloride in wells MWs 1603, 1605, 1606, and 1607
        - Sulfate in wells MWs 1606 and 1607
- The October 2024 sampling event's data are still undergoing statistical analysis.

VI. Alternative Source Demonstrations Completed

No alternative source for the groundwater protection standard, or background concentration exceedances has been found at Pond 1, and the CCR unit remains in assessment monitoring and remedies are being evaluated for selection as corrective measures.

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

A notification that Pond 1 established an assessment monitoring program was placed in the Operating Record on August 1, 2019, in accordance with the requirement of 257.94(e)(3). Pond 1 also initiated and completed an Assessment of Corrective Measures by December 11, 2019. A public meeting was held on December 19, 2019, to discuss the proposed remedies.

As of the date of this report, there has been no remedy selected pursuant to § 257.97. Two semi-annual reports discussing the progress towards selecting a remedy were prepared during this monitoring period. The CCR Unit will continue to sample according to the assessment monitoring program.

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

Pond 1 has progressed from detection monitoring to its status in assessment and corrective action monitoring. As required by the CCR assessment monitoring rules in 40 CFR 257.95 (b) and (d)(1), sampling all CCR wells for Appendix III and IV parameters was completed in 2024.

IX. Description of Any Problems Encountered and Actions Taken

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

X. A Projection of Key Activities for the Upcoming Year

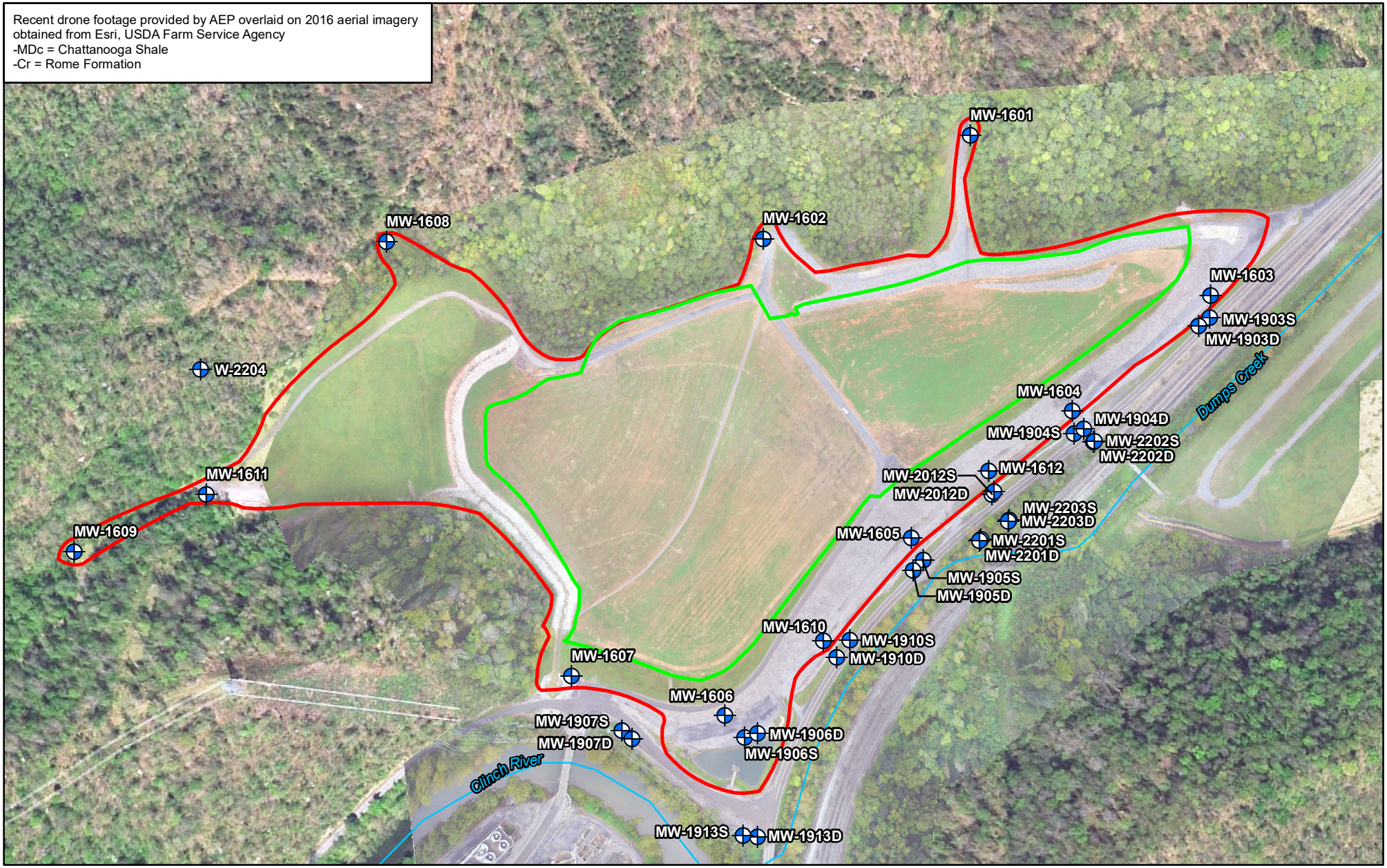
- Complete the statistical evaluation of the second semi-annual groundwater monitoring event that took place in October 2024.
- Conduct the annual groundwater sampling event for all constituents listed in Appendix III and IV as required by 40 CFR 257.95(b).
- Perform statistical analysis on the sampling results for the Appendix III and Appendix IV parameters as required by 40 CFR 257.95(d)(1).
- Determine applicable GWPSs for the Appendix IV parameters and compare the results of Appendix IV concentrations in downgradient wells to the GWPSs.
- Semi-annual progress report on selecting and designing remedial corrective action.
- Responding to any new data received considering 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 network, data collected and the rate and direction of groundwater flow. The dates that the samples were collected, and it also is shown whether the data were collected under background, detection, or assessment monitoring.

Groundwater Monitoring Network Figure

Recent drone footage provided by AEP overlaid on 2016 aerial imagery obtained from Esri, USDA Farm Service Agency
-MDc = Chattanooga Shale
-Cr = Rome Formation



SYMBOL KEY

- Monitoring Well
- Pond 1 VA Permit SWP620 Boundary
- Pond 1 CCR Unit Boundary
- Stream/Surface Water

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wood.

N

0 50 100 200 300 Meters

0 150 300 600 900 1,200 Feet

FIGURE 1
Pond 1 Groundwater Monitoring Network
American Electric Power, Clinch River Plant Carbo, Virginia

08/29/2022	AEP_Pond1	
PROJ: 3050190394	Drawn: BF	

Groundwater Flow Direction Maps

Legend

- Groundwater Monitoring Well; Background
- Nature and Extent Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Groundwater Flow Direction

Notes

- Monitoring well coordinates and water level data (collected on February 19, 2024) provided by AEP.
- Site features based on information available in Groundwater Monitoring Network Evaluation (Amec 2015) provided by AEP.
- Groundwater elevation units and Post-Closure Pond Topographic units are feet above mean sea level (ft amsl).
- Nature and extent wells will no longer be sampled during the annual 95b events.
- Wells W-2201S, W-2201D, W-2201S, W-2202D, W-2203S, W-2203D, and W-2204 were installed in May and June 2022.
- Wells MW-1606 (1493.15 ft amsl), MW-1607 (1518.26 ft amsl), and MW-1609 (1656.40 ft amsl) were not included in the contouring as they were screened in the Rome Formation.
- Wells MW-1610 (1504.19 ft amsl), MW-1611 (1544.44 ft amsl) and W-2204 (1701.06 ft amsl) were not included in the contouring as they are screened across the Dumps Fault to monitor potential lateral migration of groundwater.
- Aerial basemap provided by Google Earth Pro, dated November 2, 2023.

300 150 0 300
Feet

Potentiometric Surface Map
Pond 1 - Uppermost Aquifer
February 2024
AEP Clinch River Plant - Bottom Ash Pond
Carbo, Virginia

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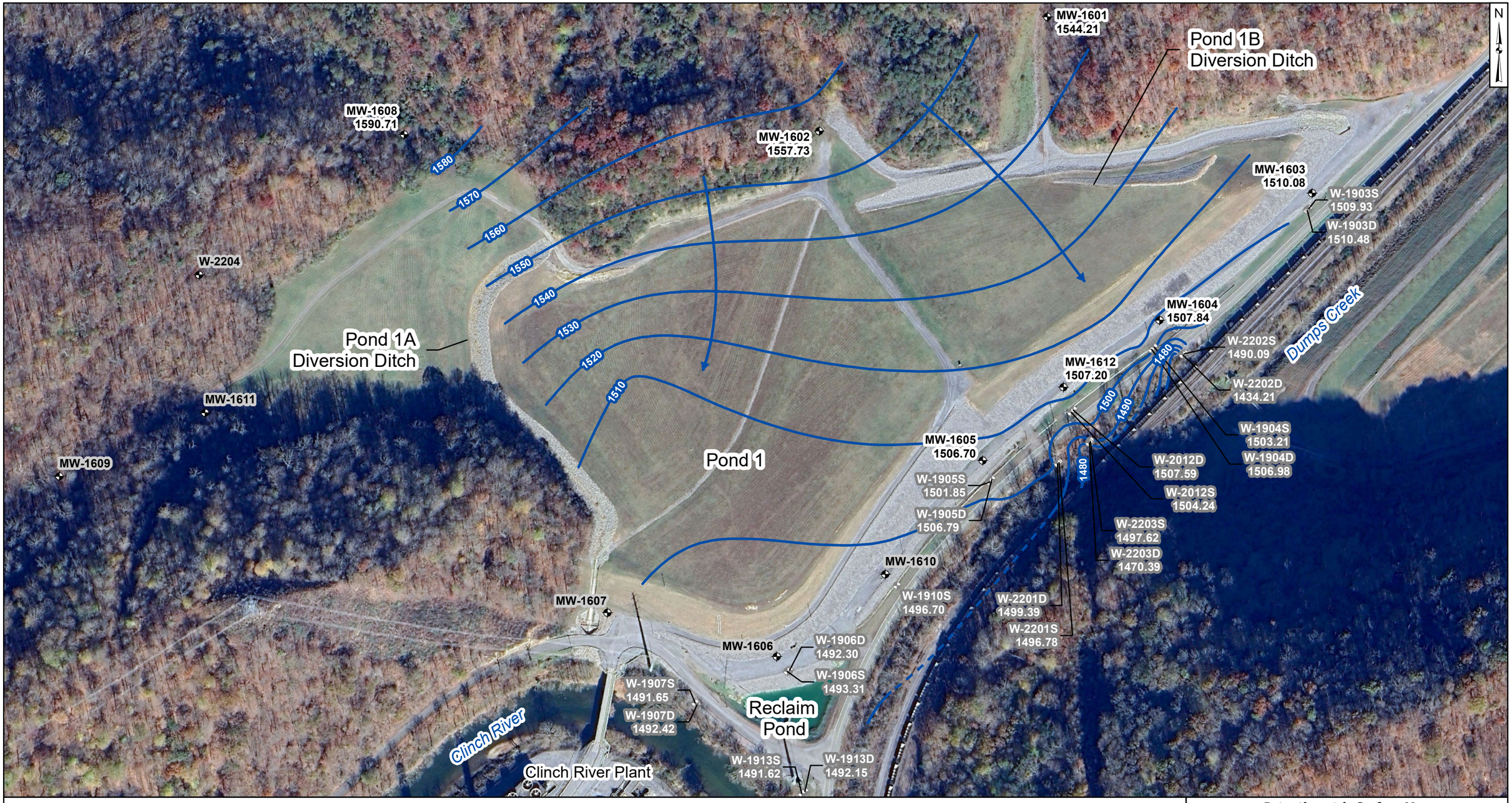
Figure 2

A:\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Clinch River\2024\AEP-ClinchRiver_Pond 1_GW_2024-02_Feb.mxd. Okiemute.Commander. 7/8/2024. CHA8423.



Legend

- Groundwater Monitoring Well; Background
- Nature and Extent Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Groundwater Flow Direction

Notes

1. Monitoring well coordinates and water level data (collected on April 1, 2024) provided by AEP.
2. Site features based on information available in Groundwater Monitoring Network Evaluation (Amec 2015) provided by AEP.
3. Groundwater elevation units and Post-Closure Pond Topographic units are feet above mean sea level (ft amsl).
4. Wells W-2201S, W-2201D, W-2201S, W-2202D, W-2203S, W-2203D, and W-2204 were installed in May and June 2022.
5. Wells MW-1606 (1492.65 ft amsl), MW-1607 (1514.80 ft amsl), and MW-1609 (1658.32 ft amsl) were not included in the contouring as they were screened in the Rome Formation.
6. Wells MW-1610 (1504.20 ft amsl), MW-1611 (1530.88 ft amsl) and W-2204 (1700.82 ft amsl) were not included in the contouring as they are screened across the Dumps Fault to monitor potential lateral migration of groundwater.
7. Aerial basemap provided by Google Earth Pro, dated November 2, 2023.

250 125 0 250 Feet

Potentiometric Surface Map
Pond 1 - Uppermost Aquifer
April 2024
AEP Clinch River Plant - Bottom Ash Pond
Carbo, Virginia

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Figure 3

A:\Projects\AEP\Groundwater Statistical Evaluation - CHA8423\Groundwater Mapping\GIS Files\MXD\Clinch River\2024\AEP-ClinchRiver_Pond 1_GW_2024-04_Apr.mxd. Okiemute.Commander. 7/8/2024. CHA8423.

Legend

- Groundwater Monitoring Well; Background
- Nature and Extent Well
- Groundwater Elevation Contour
- Groundwater Elevation Contour (Inferred)
- Groundwater Flow Direction

Notes

1. Monitoring well coordinates and water level data (collected on October 7, 2024) provided by AEP.
2. Site features based on information available in Groundwater Monitoring Network Evaluation (Amec 2015) provided by AEP.
3. Groundwater elevation units and Post-Closure Pond Topographic units are feet above mean sea level (ft amsl).
4. Wells MW-1606 (1492.52 ft amsl), MW-1607 (1506.23 ft amsl), and MW-1609 (1655.29 ft amsl) were not included in the contouring as they are screened in the Rome Formation.
5. Wells MW-1610 (1504.01 ft amsl), MW-1611 (1547.64 ft amsl) and W-2204 (1699.90 ft amsl) were not included in the contouring as they are screened across the Dumps Fault to monitor potential lateral migration of groundwater.
6. Aerial basemap provided by Google Earth Pro, dated November 2, 2023.

250 125 0 250 Feet

Potentiometric Surface Map
Pond 1 - Uppermost Aquifer
October 2024
AEP Clinch River Plant - Bottom Ash Pond
Carbo, Virginia

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Figure 4

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Groundwater Data Tables

Table 1. Groundwater Data Summary: MW-1601
Clinch River - Pond 1
Appendix III Constituents

Geosyntec Consultants, Inc.

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
10/19/2017	Background	0.447	5.58	23.8	1.86	7.8	166	1,180
12/12/2017	Background	0.473	5.88	31.9	1.82	8.3	250	1,340
2/13/2018	Background	0.496	5.99	30.8	2.13	8.4	248	1,380
4/11/2018	Background	0.514	7.49	41.0	2.10	8.3	319	1,620
6/7/2018	Background	0.576	6.34	31.4	2.22	8.4	245	1,440
8/20/2018	Background	0.517	8.42	45.8	2.10	8.3	358	1,730
10/17/2018	Background	0.542	6.84	34.3	2.20	8.5	258	1,500
12/6/2018	Background	0.593	5.65	28.1	2.22	8.5	210	1,410
2/7/2019	Detection	0.526	5.50	24.0	2.32	8.4	184	1,370
4/8/2019	Assessment	0.577	5.90	25.2	2.18	8.4	173	1,390
5/28/2019	Assessment	0.541	5.21	24.3	1.89	8.7	181	1,390
10/1/2019	Assessment	0.609	6.90	33.2	2.09	8.3	250	1,480
2/10/2020	Assessment	0.563	4.94	20.5	1.75	8.7	168	1,350
4/20/2020	Assessment	0.523	4.95	18.9	2.35	8.2	162	1,320
10/6/2020	Assessment	0.589	5.60	27.1	2.10	8.2	214	1,460
2/8/2021	Assessment	0.549	4.83	23.1	2.40	8.2	185	1,360
4/12/2021	Assessment	0.527	5.68	22.5	2.42	8.5	188	1,480
10/11/2021	Assessment	0.550	5.4	18.9	2.30	8.6	156	1,360
2/22/2022	Assessment	0.531	5.14 M1	24.6	2.29	8.8	302	1,580
4/12/2022	Assessment	0.549	4.72	16.8	2.37	8.2	154	1,340
10/3/2022	Assessment	0.591	6.96	21.1	2.31	8.2	231	1,610
2/13/2023	Assessment	0.534	5.11	23.7	2.32	8.2	270	1,560
4/3/2023	Assessment	0.538	5.20	17.0	2.39	6.7	168	1,360
10/9/2023	Assessment	0.489	4.30	20.7	2.17	8.3	244	1,430
2/19/2024	Assessment	0.480	5.16	15.3	2.18	8.3	164	1,340
4/1/2024	Assessment	0.550	5.15	14.5	2.29	8.3	142	1,240
10/7/2024	Assessment	0.51	5.2	12.5	2.44	8.3	121	1,380

Table 1. Groundwater Data Summary: MW-1601
Clinch River - Pond 1
Appendix IV Constituents

Geosyntec Consultants, Inc.

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
10/19/2017	Background	0.18	9.18	238	< 0.004 U1	< 0.005 U1	0.221	0.112	1.204	1.86	0.070	0.095	< 0.05 U1	25.7	0.04 J1	0.02 J1
12/12/2017	Background	0.19	8.39	306	0.007 J1	0.009 J1	0.281	0.149	2.077	1.82	0.153	0.092	0.08 J1	21.9	0.06 J1	< 0.01 U1
2/13/2018	Background	0.11	7.06	280	0.007 J1	< 0.005 U1	0.155	0.091	1.010	2.13	0.125	0.098	< 0.05 U1	12.0	0.05 J1	0.04 J1
4/11/2018	Background	0.12	14.9	293	0.007 J1	< 0.005 U1	0.544	0.092	0.862	2.10	0.096	0.110	0.05 J1	6.60	0.07 J1	0.01 J1
6/7/2018	Background	0.16	17.0	262	0.005 J1	0.006 J1	0.279	0.062	1.146	2.22	0.072	0.118	< 0.05 U1	3.77	< 0.03 U1	0.01 J1
8/20/2018	Background	0.25	25.8	296	0.005 J1	< 0.005 U1	0.402	0.099	0.711	2.10	0.047	0.108	< 0.05 U1	3.79	0.06 J1	0.01 J1
10/17/2018	Background	0.20	24.7	222	< 0.02 U1	< 0.01 U1	0.217	0.074	3.229	2.20	0.03 J1	0.098	< 0.05 U1	3.00	0.04 J1	< 0.1 U1
12/6/2018	Background	0.15	17.8	191	< 0.02 U1	< 0.01 U1	0.235	0.061	0.871	2.22	0.06 J1	0.092	< 0.05 U1	3.34	< 0.03 U1	< 0.1 U1
2/7/2019	Detection	0.17	17.8	176	< 0.02 U1	0.01 J1	0.292	0.072	0.157	2.32	0.08 J1	0.099	< 0.05 U1	2.85	< 0.03 U1	< 0.1 U1
4/8/2019	Assessment	0.15	21.7	184	< 0.02 U1	0.02 J1	0.258	0.072	0.337	2.18	0.07 J1	0.111	0.05 J1	1 J1	0.04 J1	< 0.1 U1
5/28/2019	Assessment	0.11	18.4	179	< 0.02 U1	< 0.01 U1	0.288	0.064	0.939	1.89	0.02 J1	0.090	0.1 J1	1 J1	< 0.03 U1	< 0.1 U1
10/1/2019	Assessment	0.11	21.1	239	< 0.02 U1	< 0.01 U1	0.291	0.088	0.481	2.09	< 0.05 U1	0.108	< 0.2 U1	1 J1	0.05 J1	< 0.1 U1
2/10/2020	Assessment	0.07 J1	10.1	156	< 0.02 U1	< 0.01 U1	0.231	0.073	2.076	1.75	< 0.05 U1	0.0901	< 0.2 U1	1 J1	0.04 J1	< 0.1 U1
4/20/2020	Assessment	0.09 J1	11.5	152	< 0.02 U1	< 0.01 U1	0.242	0.093	2.257	2.35	0.05 J1	0.0904	< 0.2 U1	1 J1	0.06 J1	< 0.1 U1
10/6/2020	Assessment	0.06 J1	11.4	172	< 0.02 U1	< 0.01 U1	0.2 J1	0.080	0.618	2.10	0.1 J1	0.0939	< 0.2 U1	2.10	0.06 J1	< 0.1 U1
2/8/2021	Assessment	0.06 J1	7.91	152	< 0.02 U1	< 0.01 U1	0.263	0.078	0.645	2.40	< 0.05 U1	0.0938	< 0.2 U1	1 J1	0.09 J1	< 0.1 U1
4/12/2021	Assessment	0.05 J1	8.77	176	< 0.007 U1	< 0.004 U1	0.1 J1	0.057	0.727	2.42	0.08 J1	0.0975	< 0.2 U1	0.9 J1	< 0.09 U1	< 0.04 U1
10/11/2021	Assessment	0.05 J1	7.00	161	< 0.007 U1	< 0.004 U1	0.14 J1	0.066	0.27	2.30	< 0.1 U1	0.0921	< 0.2 U1	0.9	< 0.09 U1	< 0.08 U1
2/22/2022	Assessment	0.02 J1	5.93	171	< 0.007 U1	< 0.004 U1	0.15 J1	0.058	1.03	2.29	< 0.05 U1	0.108 M1, P3	< 0.2 U1	0.9	< 0.09 U1	< 0.04 U1
4/12/2022	Assessment	0.02 J1	4.69	134	< 0.007 U1	< 0.004 U1	0.07 J1	0.052	0.79	2.37	< 0.05 U1	0.0897	< 0.2 U1	0.8	< 0.09 U1	< 0.04 U1
10/3/2022	Assessment	0.02 J1	6.01	175	< 0.007 U1	< 0.004 U1	0.10 J1	0.066	1.19	2.31	< 0.05 U1	0.0964	< 0.2 U1	1.0	< 0.09 U1	< 0.04 U1
2/13/2023	Assessment	0.03 J1	4.47	139	< 0.007 U1	0.004 J1	0.22	0.077	1.62	2.32	0.09 J1	0.0846	< 0.2 U1	0.8	< 0.09 U1	< 0.04 U1
4/3/2023	Assessment	0.023 J1	4.08	127	< 0.007 U1	< 0.004 U1	0.18 J1	0.057	2.47	2.39	0.06 J1	0.106 M1	< 0.2 U1	0.8	< 0.04 U1	< 0.02 U1
10/9/2023	Assessment	0.024 J1	4.22	141	< 0.007 U1	< 0.004 U1	0.28 J1	0.058	1.09	2.17	0.06 J1	0.0926	< 0.2 U1	0.8	< 0.04 U1	< 0.02 U1
2/19/2024	Assessment	0.016 J1	4.03	135	< 0.007 U1	< 0.004 U1	0.19 J1	0.044	0.82	2.18	0.05 J1	0.0898	< 0.2 U1	0.8	0.07 J1	< 0.02 U1
4/1/2024	Assessment	0.021 J1	4.26	137	< 0.007 U1	< 0.004 U1	0.25 J1	0.050	0.63	2.29	0.06 J1	0.101	< 0.2 U1	0.9	< 0.04 U1	< 0.02 U1
10/7/2024	Assessment	< 0.06 U1	3.3	121	< 0.06 U1	0.03 J1	< 0.6 U1	0.05 J1	0.69	2.44	< 0.4 U1	0.0876	< 0.2 U1	1.0 J1	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1602
Clinch River - Pond 1
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
10/19/2017	Background	0.654	3.09	4.2	1.45	8.0	32.8	525
12/12/2017	Background	0.584	2.64	4.2	1.57	8.7	29.2	516
2/13/2018	Background	0.621	2.93	4.9	1.61	8.5	32.2	528
4/11/2018	Background	0.614	2.78	5.6	1.63	8.7	32.4	500
6/7/2018	Background	0.672	2.74	5.2	1.64	8.6	29.1	525
8/20/2018	Background	0.547	2.84	6.5	1.57	8.5	37.5	567
10/15/2018	Background	0.664	2.94	5.6	1.61	8.6	29.0	544
12/6/2018	Background	0.637	2.78	3.8	1.64	8.7	16.7	500
2/7/2019	Detection	0.590	3.72	4.4	1.69	8.7	20.5	521
4/8/2019	Assessment	0.620	4.00	5.5	1.56	8.6	25.0	571
5/28/2019	Assessment	0.579	3.39	4.4	1.66	8.8	20.4	517
10/1/2019	Assessment	0.640	4.62	5.7	1.54	8.6	29.5	530
2/10/2020	Assessment	0.617	3.07	3.7	1.56	9.2	15.7	504
4/20/2020	Assessment	0.605	3.83	3.9	1.70	8.6	17.4	510
10/6/2020	Assessment	0.633	3.78	5.3	1.57	8.5	24.5	527
2/8/2021	Assessment	0.610	3.70	3.9	1.76	8.4	16.1	539
4/12/2021	Assessment	0.600	3.73	4.6	1.77	8.6	20.3	522
10/11/2021	Assessment	0.578	4.3	4.56	1.65	8.5	20.2	520
2/22/2022	Assessment	0.590	3.25	4.94	1.73	8.8	25.1	530
4/12/2022	Assessment	0.629	3.22	3.54	1.74	8.1	15.2	510
10/3/2022	Assessment	0.632	4.66	4.94	1.70	7.3	25.1	510
2/13/2023	Assessment	0.597	3.53	4.09	1.76	8.5	17.1	510
4/3/2023	Assessment	0.591	3.24	3.94	1.76	7.2	15.2	510
10/9/2023	Assessment	0.526	3.17	4.91	1.62	8.5	22.0	520
2/19/2024	Assessment	0.547	3.38	4.06	1.61	8.5	14.5	500 S7
4/1/2024	Assessment	0.601	3.61	3.67	1.67	8.4	12.1	480
10/7/2024	Assessment	0.58	3.7	3.66	1.78	8.4	11.7	510

Table 1. Groundwater Data Summary: MW-1602
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
10/19/2017	Background	0.22	2.69	104	0.01 J1	< 0.005 U1	0.472	0.151	0.600	1.45	0.185	0.051	< 0.05 U1	9.80	0.04 J1	0.02 J1
12/12/2017	Background	0.12	2.15	111	0.01 J1	< 0.005 U1	0.291	0.100	0.6097	1.57	0.114	0.043	< 0.05 U1	7.77	< 0.03 U1	< 0.01 U1
2/13/2018	Background	0.07	3.54	111	0.008 J1	< 0.005 U1	0.153	0.060	0.748	1.61	0.093	0.043	< 0.05 U1	8.70	< 0.03 U1	0.03 J1
4/11/2018	Background	0.07	2.90	109	0.006 J1	< 0.005 U1	0.268	0.047	0.18727	1.63	0.140	0.040	< 0.05 U1	6.41	< 0.03 U1	< 0.01 U1
6/7/2018	Background	0.07	2.16	109	0.007 J1	< 0.005 U1	0.262	0.041	0.8588	1.64	0.062	0.045	< 0.05 U1	3.99	< 0.03 U1	< 0.01 U1
8/20/2018	Background	0.13	3.69	114	< 0.004 U1	0.03	0.245	0.042	0.4565	1.57	0.126	0.034	< 0.05 U1	4.84	< 0.03 U1	0.01 J1
10/15/2018	Background	0.06 J1	2.95	101	< 0.02 U1	< 0.01 U1	0.251	0.03 J1	0.2328	1.61	0.06 J1	0.032	< 0.05 U1	3.27	< 0.03 U1	< 0.1 U1
12/6/2018	Background	0.05 J1	1.49	106	< 0.02 U1	< 0.01 U1	0.246	0.04 J1	1.247	1.64	0.05 J1	0.048	< 0.05 U1	2.87	< 0.03 U1	< 0.1 U1
2/7/2019	Detection	0.08 J1	1.88	106	< 0.02 U1	< 0.01 U1	0.231	0.04 J1	0.2875	1.69	0.04 J1	0.045	< 0.05 U1	4.66	0.04 J1	< 0.1 U1
4/8/2019	Assessment	0.09 J1	2.02	103	< 0.02 U1	< 0.01 U1	0.2 J1	0.03 J1	0.135	1.56	0.05 J1	0.043	< 0.05 U1	4.76	< 0.03 U1	< 0.1 U1
5/28/2019	Assessment	0.07 J1	1.67	106	< 0.02 U1	< 0.01 U1	0.2 J1	0.02 J1	0.0613	1.66	0.03 J1	0.036	0.1 J1	3.70	< 0.03 U1	< 0.1 U1
10/1/2019	Assessment	0.09 J1	1.92	109	< 0.02 U1	< 0.01 U1	0.2 J1	0.02 J1	0.701	1.54	< 0.05 U1	0.0419	< 0.2 U1	4.21	< 0.03 U1	< 0.1 U1
2/10/2020	Assessment	0.04 J1	1.52	99.6	< 0.02 U1	< 0.01 U1	0.2 J1	0.060	1.37	1.56	< 0.05 U1	0.0386	< 0.2 U1	2 J1	< 0.03 U1	< 0.1 U1
4/20/2020	Assessment	0.05 J1	1.21	102	< 0.02 U1	< 0.01 U1	0.1 J1	0.02 J1	0.673	1.70	< 0.05 U1	0.0382	< 0.2 U1	2.52	0.06 J1	< 0.1 U1
10/6/2020	Assessment	0.23	2.03	107	< 0.02 U1	< 0.01 U1	0.329	0.04 J1	0.6456	1.57	0.08 J1	0.0373	< 0.2 U1	2.41	0.05 J1	< 0.1 U1
2/8/2021	Assessment	0.53	1.39	103	< 0.02 U1	< 0.01 U1	0.2 J1	0.03 J1	0.419	1.76	< 0.05 U1	0.0378	< 0.2 U1	2 J1	0.04 J1	< 0.1 U1
4/12/2021	Assessment	0.54	1.69	98.7	< 0.01 U1	< 0.004 U1	0.06 J1	0.02 J1	0.892	1.77	< 0.05 U1	0.0476	< 0.2 U1	2 J1	< 0.09 U1	< 0.04 U1
10/11/2021	Assessment	0.35	1.61	100	< 0.007 U1	< 0.004 U1	0.07 J1	0.023	0.51	1.65	< 0.05 U1	0.0350	< 0.2 U1	1.4	< 0.09 U1	< 0.04 U1
2/22/2022	Assessment	0.14	1.63	97.2	< 0.007 U1	< 0.004 U1	0.12 J1	0.018 J1	1.00	1.73	< 0.05 U1	0.0367	< 0.2 U1	1	< 0.09 U1	< 0.04 U1
4/12/2022	Assessment	0.13	1.27	97.3	< 0.007 U1	< 0.004 U1	< 0.04 U1	0.018 J1	0.72	1.74	< 0.05 U1	0.0375	< 0.2 U1	1	< 0.09 U1	< 0.04 U1
10/3/2022	Assessment	0.13	1.81	98.7	< 0.07 U1	< 0.004 U1	0.11 J1	0.019 J1	0.56	1.70	< 0.05 U1	0.0395	< 0.2 U1	0.9	< 0.09 U1	< 0.04 U1
2/13/2023	Assessment	0.06 J1	1.66	98.4	< 0.007 U1	< 0.004 U1	0.18 J1	0.019 J1	15.74	1.76	< 0.05 U1	0.0347	< 0.2 U1	0.7	< 0.09 U1	< 0.04 U1
4/3/2023	Assessment	0.058 J1	1.47	93.5	< 0.007 U1	< 0.004 U1	0.15 J1	0.021	2.05	1.76	< 0.05 U1	0.0362	< 0.2 U1	0.7	< 0.04 U1	< 0.02 U1
10/9/2023	Assessment	0.049 J1	1.58	83.1	< 0.007 U1	< 0.004 U1	0.18 J1	0.014 J1	0.55	1.62	< 0.05 U1	0.0348	< 0.2 U1	0.6	< 0.04 U1	< 0.02 U1
2/19/2024	Assessment	0.043 J1	1.84	88.6	< 0.007 U1	< 0.004 U1	0.14 J1	0.013 J1	1.17	1.61	< 0.05 U1	0.0349	< 0.2 U1	0.5	< 0.04 U1	< 0.02 U1
4/1/2024	Assessment	0.043 J1	1.64	85.0	< 0.007 U1	< 0.004 U1	0.19 J1	0.012 J1	0.69	1.67	< 0.05 U1	0.0367	< 0.2 U1	0.6	< 0.04 U1	< 0.02 U1
10/7/2024	Assessment	< 0.06 U1	1.6	94.5	< 0.06 U1	< 0.03 U1	< 0.6 U1	< 0.04 U1	8.42	1.78	< 0.4 U1	0.0373	< 0.2 U1	< 0.8 U1	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1603
Clinch River - Pond 1
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
10/17/2017	Background	0.202	23.3	182	0.17	7.3	45.1	678
12/11/2017	Background	0.193	22.1	121	0.1 J1	7.0	47.3	577
2/14/2018	Background	0.199	22.8	58.3	0.11	6.7	23.0	378
4/12/2018	Background	0.379	24.8	168	0.19	7.8	28.3	599
6/12/2018	Background	0.285	22.8	59.0	0.13	7.6	23.0	408
8/22/2018	Background	0.525	24.4	72.6	0.14	7.8	23.2	448
10/16/2018	Background	0.339	21.6	94.7	0.14	7.8	23.4	472
12/12/2018	Background	0.219	20.6	47.4	0.11	7.0	11.5	339
2/12/2019	Detection	0.177	19.8	59.5	0.11	6.8	8.1	374
4/10/2019	Assessment	0.211	21.7	69.5	0.10	7.2	16.2	434
5/30/2019	Assessment	0.197	20.0	77.0	0.13	7.7	6.2	401
10/2/2019	Assessment	0.313	26.7	124	0.10	7.7	8.7	480
2/11/2020	Assessment	0.362	26.6	162	0.12	8.0	1.9	515
4/21/2020	Assessment	0.256	24.6	128	0.10	6.8	2.3	528
10/7/2020	Assessment	0.300	25.7	171	0.15	7.7	0.6	624
2/9/2021	Assessment	0.345	30.9	184	0.12	7.1	1.9	734
4/13/2021	Assessment	0.374	33.1	263	0.17	7.3	1.6	848
10/12/2021	Assessment	0.252	24.1	127	0.12	7.2	0.63	450
2/23/2022	Assessment	0.279	27.5	169	0.11	7.5	0.80	640
4/13/2022	Assessment	0.244	26.9	109	0.1	7.3	0.75	490
10/5/2022	Assessment	0.269	28.6	122	0.11	7.0	0.46	520
2/14/2023	Assessment	0.233	27.1	137	0.10	6.8	0.41	510
4/4/2023	Assessment	0.199	23.2	106	0.09	6.7	0.3 J1	440
10/10/2023	Assessment	0.166	21.6	93.9	0.1	6.6	0.3 J1	390
2/20/2024	Assessment	0.194	26.1	129	0.07	6.9	< 0.1 U1	500
4/2/2024	Assessment	0.204	26.5 M1	129	0.11	6.7	< 0.1 U1	460
10/8/2024	Assessment	0.32 J1	35.5	407	0.19	6.8	< 0.1 U1	1,020

Table 1. Groundwater Data Summary: MW-1603
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
10/17/2017	Background	0.04 J1	1.82	2,160	< 0.004 U1	< 0.005 U1	0.214	0.691	3.233	0.17	0.038	0.054	< 0.05 U1	4.71	0.1	0.02 J1
12/11/2017	Background	0.05 J1	1.70	1,950	0.01 J1	< 0.005 U1	0.190	0.541	0.901	0.1 J1	0.021	0.048	0.06 J1	2.55	0.07 J1	0.01 J1
2/14/2018	Background	0.04 J1	1.68	2,070	0.01 J1	< 0.005 U1	0.157	0.451	0.6982	0.11	0.008 J1	0.048	< 0.05 U1	2.12	0.1	0.01 J1
4/12/2018	Background	0.04 J1	1.98	2,250	< 0.004 U1	< 0.005 U1	0.187	0.616	1.091	0.19	0.01 J1	0.093	< 0.05 U1	1.79	0.04 J1	< 0.01 U1
6/12/2018	Background	0.06	2.20	2,140	0.008 J1	< 0.005 U1	0.231	0.795	0.888	0.13	0.009 J1	0.073	< 0.05 U1	1.24	0.06 J1	0.01 J1
8/22/2018	Background	0.07	2.98	2,280	< 0.004 U1	< 0.005 U1	0.324	0.776	1.103	0.14	0.02 J1	0.095	< 0.05 U1	1.51	0.05 J1	0.01 J1
10/16/2018	Background	< 0.02 U1	2.89	1,980	< 0.02 U1	< 0.01 U1	0.226	0.684	0.383	0.14	< 0.02 U1	0.064	< 0.05 U1	1 J1	0.08 J1	< 0.1 U1
12/12/2018	Background	< 0.02 U1	1.75	1,780	< 0.02 U1	< 0.01 U1	0.237	0.511	0.632	0.11	< 0.02 U1	0.042	< 0.05 U1	0.6 J1	0.1 J1	< 0.1 U1
2/12/2019	Detection	0.02 J1	1.63	1,860	< 0.02 U1	< 0.01 U1	0.222	0.486	0.3849	0.11	< 0.02 U1	0.049	< 0.05 U1	0.6 J1	0.08 J1	< 0.1 U1
4/10/2019	Assessment	0.02 J1	2.43	2,000	< 0.02 U1	< 0.01 U1	0.2 J1	0.477	1.643	0.10	< 0.02 U1	0.052	< 0.05 U1	0.5 J1	0.09 J1	< 0.1 U1
5/30/2019	Assessment	< 0.02 U1	2.44	2,100	< 0.02 U1	< 0.01 U1	0.233	0.432	1.050	0.13	< 0.02 U1	0.055	< 0.05 U1	0.5 J1	0.09 J1	< 0.1 U1
10/2/2019	Assessment	< 0.02 U1	2.84	2,380	< 0.02 U1	< 0.01 U1	0.208	0.318	1.399	0.10	< 0.05 U1	0.0767	< 0.2 U1	0.6 J1	0.08 J1	< 0.1 U1
2/11/2020	Assessment	0.03 J1	2.32	2,840	< 0.02 U1	< 0.01 U1	0.2 J1	0.172	2.02	0.12	< 0.05 U1	0.0873	< 0.2 U1	0.5 J1	< 0.03 U1	< 0.1 U1
4/21/2020	Assessment	0.03 J1	2.00	2,570	< 0.02 U1	< 0.01 U1	0.234	0.282	1.013	0.10	< 0.05 U1	0.0661	< 0.2 U1	0.9 J1	0.08 J1	< 0.1 U1
10/7/2020	Assessment	0.06 J1	2.09	2,770	< 0.02 U1	< 0.01 U1	0.08 J1	0.189	0.5813	0.15	< 0.05 U1	0.0716	< 0.2 U1	0.4 J1	0.04 J1	< 0.1 U1
2/9/2021	Assessment	0.08 J1	3.36	3,810	< 0.02 U1	< 0.01 U1	0.1 J1	0.153	1.392	0.12	< 0.05 U1	0.0977	< 0.2 U1	0.4 J1	0.08 J1	< 0.1 U1
4/13/2021	Assessment	0.08 J1	3.94	3,540	< 0.007 U1	< 0.004 U1	0.2 J1	0.118	1.565	0.17	< 0.05 U1	0.103	< 0.2 U1	0.5 J1	< 0.09 U1	< 0.04 U1
10/12/2021	Assessment	0.08 J1	2.81	2,740	< 0.007 U1	< 0.004 U1	0.24	0.206	1.85	0.12	< 0.05 U1	0.0613	< 0.2 U1	0.5	< 0.09 U1	< 0.04 U1
2/23/2022	Assessment	0.09 J1	2.84	3,190	< 0.007 U1	< 0.004 U1	0.12 J1	0.167 B1	1.97	0.11	< 0.05 U1	0.0777	< 0.2 U1	0.4 J1	< 0.09 U1	< 0.04 U1
4/13/2022	Assessment	0.09 J1	2.62	2,750	< 0.007 U1	< 0.004 U1	0.10 J1	0.203	0.68	0.1	< 0.05 U1	0.0617	< 0.2 U1	0.4 J1	0.1 J1	< 0.04 U1
10/5/2022	Assessment	0.05 J1	2.96	2,980	0.007 J1	< 0.004 U1	0.52	0.219	1.83	0.11	< 0.05 U1	0.080	< 0.2 U1	0.4 J1	0.11 J1	< 0.04 U1
2/14/2023	Assessment	0.07 J1	2.74	2,850	0.008 J1	< 0.004 U1	0.21	0.219	1.66	0.10	< 0.05 U1	0.0557	< 0.2 U1	1.9	0.09 J1	< 0.04 U1
4/4/2023	Assessment	0.123	2.34	2,320	0.01 J1	< 0.004 U1	0.18 J1	0.199	1.70	0.09	< 0.05 U1	0.0522	< 0.2 U1	0.3 J1	0.09 J1	< 0.02 U1
10/10/2023	Assessment	0.026 J1	1.77	2,150	0.010 J1	< 0.004 U1	0.22 J1	0.217	2.52	0.1	< 0.05 U1	0.0418	< 0.2 U1	0.2 J1	0.05 J1	< 0.02 U1
2/20/2024	Assessment	0.029 J1	2.28	2,680	0.008 J1	< 0.004 U1	0.18 J1	0.202	1.04	0.07	< 0.05 U1	0.0508	< 0.2 U1	0.2 J1	0.11 J1	< 0.02 U1
4/2/2024	Assessment	0.046 J1	2.26	2,810 M1	0.009 J1	< 0.004 U1	0.18 J1	0.199	1.36	0.11	< 0.05 U1	0.0560	< 0.2 U1	0.2 J1	0.08 J1	< 0.02 U1
10/8/2024	Assessment	0.07 J1	3.1	3,550	< 0.06 U1	< 0.03 U1	< 0.6 U1	0.09 J1	0.81	0.19	< 0.4 U1	0.103	< 0.2 U1	< 0.8 U1	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1604
Clinch River - Pond 1
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
10/17/2017	Background	0.428	27.7	29.9	0.27	6.9	8.2	404
12/11/2017	Background	0.476	29.3	22.5	0.22	6.7	6.3	395
2/14/2018	Background	0.396	26.3	22.6	0.23	7.1	6.7	378
4/12/2018	Background	0.399	27.2	22.5	0.27	7.2	5.6	410
6/12/2018	Background	0.406	26.2	21.0	0.25	7.1	4.2	374
8/22/2018	Background	0.471	27.3	20.3	0.26	7.1	4.1	390
10/16/2018	Background	0.444	27.2	17.8	0.22	7.1	3.4	390
12/12/2018	Background	0.468	28.9	19.4	0.22	7.1	2.8	375
2/12/2019	Detection	0.350	28.0	20.4	0.21	7.2	1.7	386
4/10/2019	Assessment	0.384	28.5	21.1	0.21	7.2	1.4	399
5/30/2019	Assessment	0.348	26.0	19.0	0.26	7.3	1.9	384
10/2/2019	Assessment	0.413	30.9	24.3	0.20	7.1	2.4	407
2/11/2020	Assessment	0.404	27.8	21.9	0.24	7.3	1.3	393
4/21/2020	Assessment	0.392	29.3	24.7	0.25	6.5	0.8	401
10/7/2020	Assessment	0.400	27.3	17.4	0.34	7.0	0.5	384
2/9/2021	Assessment	0.462	22.4	15.7	0.37	7.3	0.9	441
4/13/2021	Assessment	0.403	25.8	16.9	0.30	7.3	0.9	396
10/12/2021	Assessment	0.444	22.9	16.6	0.31	7.6	< 0.06 U1	390
2/23/2022	Assessment	0.413	25.6	16.9	0.30	7.6	0.29 J1	420
4/13/2022	Assessment	0.439	26.5	16.2	0.28	6.8	0.13 J1	390
10/5/2022	Assessment	0.452	25.9	17.3	0.30	6.9	< 0.06 U1	410
2/14/2023	Assessment	0.432	28.6	18.5	0.29	7.2	< 0.06 U1	410
4/4/2023	Assessment	0.436	26.1	17.1	0.28	7.3	< 0.1 U1	360
10/10/2023	Assessment	0.379	23.0	17.1	0.30	7.3	< 0.1 U1	410
2/20/2024	Assessment	0.338	30.6	15.7	0.24	7.2	< 0.1 U1	400
4/2/2024	Assessment	0.405	26.8	16.8	0.27	7.3	< 0.1 U1	370
10/8/2024	Assessment	0.34 J1	30.9	16.4	0.32	7.2	< 0.1 U1	410

Table 1. Groundwater Data Summary: MW-1604
Clinch River - Pond 1
Appendix IV Constituents

Geosyntec Consultants, Inc.

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
10/17/2017	Background	0.05	1.64	3,330	< 0.004 U1	< 0.005 U1	0.331	0.585	2.503	0.27	0.060	0.078	< 0.05 U1	1.57	0.04 J1	0.01 J1
12/11/2017	Background	0.04 J1	1.39	3,160	< 0.004 U1	< 0.005 U1	0.113	0.347	0.46499	0.22	0.02 J1	0.090	0.06 J1	0.83	< 0.03 U1	0.01 J1
2/14/2018	Background	0.05 J1	1.61	3,320	< 0.004 U1	< 0.005 U1	0.116	0.487	1.265	0.23	0.01 J1	0.080	< 0.05 U1	0.92	0.05 J1	< 0.01 U1
4/12/2018	Background	0.18	3.10	2,880	0.007 J1	< 0.005 U1	0.255	0.427	1.117	0.27	0.068	0.078	< 0.05 U1	0.50	0.07 J1	< 0.01 U1
6/12/2018	Background	0.08	1.58	3,210	0.005 J1	< 0.005 U1	0.248	0.687	1.762	0.25	0.047	0.087	< 0.05 U1	0.47	0.05 J1	0.01 J1
8/22/2018	Background	0.07	1.71	3,260	< 0.004 U1	< 0.005 U1	0.244	1.03	1.185	0.26	0.01 J1	0.085	< 0.05 U1	0.54	0.05 J1	0.02 J1
10/16/2018	Background	< 0.02 U1	1.89	3,040	< 0.02 U1	< 0.01 U1	0.207	1.12	0.776	0.22	< 0.02 U1	0.080	< 0.05 U1	0.6 J1	0.06 J1	< 0.1 U1
12/12/2018	Background	0.04 J1	1.36	3,150	< 0.02 U1	< 0.01 U1	0.2 J1	0.634	1.019	0.22	0.02 J1	0.077	< 0.05 U1	0.5 J1	0.03 J1	< 0.1 U1
2/12/2019	Detection	< 0.02 U1	1.50	3,010	< 0.02 U1	< 0.01 U1	0.2 J1	0.590	0.6812	0.21	< 0.02 U1	0.076	< 0.05 U1	< 0.4 U1	< 0.03 U1	< 0.1 U1
4/10/2019	Assessment	0.03 J1	2.26	3,280	< 0.02 U1	< 0.01 U1	0.1 J1	0.701	1.561	0.21	< 0.02 U1	0.083	< 0.05 U1	0.4 J1	0.05 J1	< 0.1 U1
5/30/2019	Assessment	0.02 J1	2.44	3,280	< 0.02 U1	< 0.01 U1	0.262	0.766	0.653	0.26	< 0.02 U1	0.077	< 0.05 U1	0.4 J1	0.05 J1	< 0.1 U1
10/2/2019	Assessment	< 0.02 U1	2.98	3,320	< 0.02 U1	< 0.01 U1	0.213	0.672	1.521	0.20	< 0.05 U1	0.0887	< 0.2 U1	< 0.4 U1	0.05 J1	< 0.1 U1
2/11/2020	Assessment	0.05 J1	2.40	3,200	< 0.02 U1	< 0.01 U1	0.2 J1	0.574	1.596	0.24	< 0.05 U1	0.0636	< 0.2 U1	< 0.4 U1	< 0.03 U1	< 0.1 U1
4/21/2020	Assessment	0.03 J1	2.03	3,470	< 0.02 U1	< 0.01 U1	0.1 J1	0.580	2.091	0.25	< 0.05 U1	0.0759	< 0.2 U1	0.9 J1	0.03 J1	< 0.1 U1
10/7/2020	Assessment	0.42	2.99	2,940	< 0.02 U1	< 0.01 U1	0.286	0.463	0.6107	0.34	< 0.05 U1	0.0661	< 0.2 U1	2 J1	< 0.03 U1	< 0.1 U1
2/9/2021	Assessment	0.12	1.88	3,170	< 0.02 U1	< 0.01 U1	0.05 J1	0.329	1.288	0.37	< 0.05 U1	0.0710	< 0.2 U1	< 0.4 U1	0.07 J1	< 0.1 U1
4/13/2021	Assessment	0.05 J1	1.28	3,000	< 0.007 U1	< 0.004 U1	0.2 J1	0.299	1.096	0.30	< 0.05 U1	0.0713	< 0.2 U1	0.2 J1	< 0.09 U1	< 0.04 U1
10/12/2021	Assessment	0.06 J1	4.58	3,130	< 0.007 U1	< 0.004 U1	0.19 J1	0.210	1.37	0.31	< 0.05 U1	0.0739	< 0.2 U1	0.2 J1	< 0.09 U1	< 0.04 U1
2/23/2022	Assessment	0.12	4.49	3,230	< 0.007 U1	< 0.004 U1	0.13 J1	0.186 B1	1.47	0.30	< 0.05 U1	0.0860	< 0.2 U1	0.3 J1	< 0.09 U1	< 0.04 U1
4/13/2022	Assessment	0.04 J1	2.82	3,280	< 0.007 U1	< 0.004 U1	0.04 J1	0.190	1.23	0.28	< 0.05 U1	0.0754	< 0.2 U1	0.2 J1	< 0.09 U1	< 0.04 U1
10/5/2022	Assessment	0.03 J1	3.72	3,160	< 0.007 U1	< 0.004 U1	1.71	0.160	1.28	0.30	< 0.05 U1	0.088	< 0.2 U1	0.3 J1	< 0.09 U1	< 0.04 U1
2/14/2023	Assessment	0.05 J1	3.89	3,480	< 0.007 U1	< 0.004 U1	0.19 J1	0.154	0.78	0.29	< 0.05 U1	0.0701	< 0.2 U1	0.3 J1	< 0.09 U1	< 0.04 U1
4/4/2023	Assessment	0.023 J1	2.36	2,990	< 0.007 U1	< 0.004 U1	0.16 J1	0.144	2.11	0.28	< 0.05 U1	0.0781	< 0.2 U1	0.2 J1	0.04 J1	< 0.02 U1
10/10/2023	Assessment	0.020 J1	2.98	2,890	< 0.007 U1	< 0.004 U1	0.45	0.099	1.82	0.30	< 0.05 U1	0.0699	< 0.2 U1	0.3 J1	< 0.04 U1	< 0.02 U1
2/20/2024	Assessment	0.018 J1	4.57	2,870	< 0.007 U1	< 0.004 U1	0.22 J1	0.178	2.00	0.24	< 0.05 U1	0.0604	< 0.2 U1	0.3 J1	0.05 J1	< 0.02 U1
4/2/2024	Assessment	0.023 J1	2.13	3,080	< 0.007 U1	< 0.004 U1	0.18 J1	0.123	1.42	0.27	< 0.05 U1	0.0709	< 0.2 U1	0.2 J1	< 0.04 U1	< 0.02 U1
10/8/2024	Assessment	< 0.06 U1	4.6	2,820	< 0.06 U1	< 0.03 U1	< 0.6 U1	0.13 J1	1.16	0.32	< 0.4 U1	0.0677	< 0.2 U1	< 0.8 U1	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1605
Clinch River - Pond 1
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
10/17/2017	Background	0.540	44.2	184	0.34	7.4	97.8	808
12/12/2017	Background	0.522	44.0	342	0.32	7.7	91.1	807
2/15/2018	Background	0.589	50.8	180	0.35	7.8	101	793
4/11/2018	Background	0.543	48.1	184	0.40	7.8	105	1,700
6/12/2018	Background	0.569	48.2	184	0.40	7.7	109	842
8/22/2018	Background	0.699	48.9	186	0.41	7.7	104	857
10/16/2018	Background	0.586	47.9	181	0.37	7.8	85.2	838
12/11/2018	Background	0.589	46.9	177	0.37	7.9	70.5	798
2/12/2019	Detection	0.582	45.1	174	0.35	7.9	61.8	808
4/10/2019	Assessment	0.583	42.9	173	0.33	7.9	46.5	777
5/30/2019	Assessment	0.523	39.5	180	0.39	7.9	47.4	772
10/2/2019	Assessment	0.613	47.6	179	0.31	7.8	35.1	768
2/11/2020	Assessment	0.571	38.7	160	0.36	8.0	11.2	699
4/21/2020	Assessment	0.535	42.3	163	0.33	7.0	5.0	678
10/7/2020	Assessment	0.545	43.4	154	0.38	7.6	< 0.06 U1	682
2/9/2021	Assessment	0.549	42.7	159	0.38	7.8	< 0.06 U1	705
4/13/2021	Assessment	0.529	43.0	161	0.30	7.9	< 0.06 U1	653
10/12/2021	Assessment	0.548	41.6	164	0.36	8.0	< 0.06 U1	660
2/23/2022	Assessment	0.552	45.4	157	0.32	8.1	< 0.06 U1	670
4/13/2022	Assessment	0.571	48.2	154	0.31	7.4	< 0.06 U1	640
10/4/2022	Assessment	0.570	46.6	159	0.30	7.6	< 0.06 U1	650
2/14/2023	Assessment	0.558	47.5	156	0.31	7.7	< 0.06 U1	650
4/4/2023	Assessment	0.535	44.1	146	0.28	7.5	< 0.1 U1	630
10/10/2023	Assessment	0.528	42.1	148	0.28	7.7	< 0.1 U1	630
2/20/2024	Assessment	0.514	44.9	158	0.27	7.8	< 0.1 U1	670
4/2/2024	Assessment	0.537	45.6	145	0.29	7.7	< 0.1 U1	620
10/8/2024	Assessment	0.50	49.7	154	0.35	7.7	< 0.1 U1	660

Table 1. Groundwater Data Summary: MW-1605
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
10/17/2017	Background	0.28	5.81	1,670	< 0.004 U1	< 0.005 U1	0.163	0.403	2.122	0.34	0.029	0.191	< 0.05 U1	8.54	0.05 J1	< 0.01 U1
12/12/2017	Background	0.21	7.25	1,570	0.005 J1	< 0.005 U1	0.158	0.354	2.159	0.32	0.026	0.183	< 0.05 U1	7.42	0.08 J1	0.01 J1
2/15/2018	Background	0.10	4.59	1,560	< 0.004 U1	< 0.005 U1	0.136	0.306	1.134	0.35	0.051	0.220	< 0.05 U1	6.62	0.07 J1	0.02 J1
4/11/2018	Background	0.07	4.58	1,250	< 0.004 U1	< 0.005 U1	0.219	0.316	1.240	0.40	0.036	0.196	< 0.05 U1	4.35	0.05 J1	< 0.01 U1
6/12/2018	Background	0.14	4.50	1,290	0.004 J1	< 0.005 U1	0.230	0.357	1.132	0.40	0.085	0.207	< 0.05 U1	4.19	< 0.03 U1	0.01 J1
8/22/2018	Background	0.11	3.35	1,330	0.01 J1	< 0.005 U1	0.291	0.407	0.349	0.41	0.040	0.206	< 0.05 U1	3.38	0.05 J1	0.02 J1
10/16/2018	Background	0.04 J1	3.11	1,130	< 0.02 U1	< 0.01 U1	0.215	0.321	0.641	0.37	< 0.02 U1	0.198	< 0.05 U1	2.78	< 0.03 U1	< 0.1 U1
12/11/2018	Background	0.04 J1	3.83	1,170	< 0.02 U1	< 0.01 U1	0.2 J1	0.309	2.717	0.37	< 0.02 U1	0.199	< 0.05 U1	2.65	< 0.03 U1	< 0.1 U1
2/12/2019	Detection	0.07 J1	5.22	1,110	< 0.02 U1	0.02 J1	0.246	0.264	0.644	0.35	0.05 J1	0.206	< 0.05 U1	2.10	0.04 J1	< 0.1 U1
4/10/2019	Assessment	0.06 J1	4.11	1,100	< 0.02 U1	0.01 J1	0.288	0.200	1.137	0.33	0.05 J1	0.199	< 0.05 U1	2.34	0.05 J1	< 0.1 U1
5/30/2019	Assessment	0.04 J1	3.81	1,050	< 0.02 U1	< 0.01 U1	0.221	0.176	1.360	0.39	< 0.02 U1	0.178	< 0.05 U1	1 J1	< 0.03 U1	< 0.1 U1
10/2/2019	Assessment	0.03 J1	2.75	1,160	< 0.02 U1	< 0.01 U1	0.2 J1	0.125	0.868	0.31	< 0.05 U1	0.204	< 0.2 U1	1 J1	0.07 J1	< 0.1 U1
2/11/2020	Assessment	0.09 J1	3.14	1,390	< 0.02 U1	< 0.01 U1	0.455	0.068	0.6629	0.36	< 0.05 U1	0.174	< 0.2 U1	0.7 J1	< 0.03 U1	< 0.1 U1
4/21/2020	Assessment	0.06 J1	1.95	1,730	< 0.02 U1	< 0.01 U1	0.335	0.115	1.388	0.33	0.06 J1	0.191	< 0.2 U1	2.68	< 0.03 U1	< 0.1 U1
10/7/2020	Assessment	0.03 J1	2.07	1,890	< 0.02 U1	< 0.01 U1	0.300	0.060	6.63	0.38	< 0.05 U1	0.173	< 0.2 U1	0.7 J1	< 0.03 U1	< 0.1 U1
2/9/2021	Assessment	0.03 J1	1.54	2,160	< 0.02 U1	< 0.01 U1	0.06 J1	0.04 J1	1.713	0.38	< 0.05 U1	0.190	< 0.2 U1	0.6 J1	0.05 J1	< 0.1 U1
4/13/2021	Assessment	0.04 J1	1.78	2,150	< 0.007 U1	< 0.004 U1	0.256	0.04 J1	1.163	0.30	< 0.05 U1	0.182	< 0.2 U1	0.6 J1	< 0.09 U1	< 0.04 U1
10/12/2021	Assessment	0.02 J1	1.29	2,390	< 0.007 U1	< 0.004 U1	0.24	0.038	1.65	0.36	0.06 J1	0.191	< 0.2 U1	0.5	< 0.09 U1	< 0.04 U1
2/23/2022	Assessment	< 0.02 U1	0.97	2,400	< 0.007 U1	< 0.004 U1	0.26	0.045 B1	1.35	0.32	< 0.05 U1	0.205	< 0.2 U1	0.8	< 0.09 U1	< 0.04 U1
4/13/2022	Assessment	< 0.02 U1	1.24	2,330	< 0.007 U1	< 0.004 U1	0.06 J1	0.037	1.47	0.31	< 0.05 U1	0.201	< 0.2 U1	0.6	< 0.09 U1	< 0.04 U1
10/4/2022	Assessment	0.03 J1	1.28	2,360	< 0.007 U1	< 0.004 U1	0.13 J1	0.035	3.33	0.30	< 0.05 U1	0.208	< 0.2 U1	0.2 J1	< 0.09 U1	< 0.04 U1
2/14/2023	Assessment	< 0.02 U1	1.00	2,560	< 0.007 U1	< 0.004 U1	0.14 J1	0.046	2.46	0.31	< 0.05 U1	0.177	< 0.2 U1	0.6	< 0.09 U1	< 0.04 U1
4/4/2023	Assessment	0.012 J1	0.74	2,200	< 0.007 U1	< 0.004 U1	0.16 J1	0.039	2.25	0.28	< 0.05 U1	0.189	< 0.2 U1	0.2 J1	< 0.04 U1	< 0.02 U1
10/10/2023	Assessment	0.018 J1	1.02	2,310	< 0.007 U1	< 0.004 U1	0.24 J1	0.038	1.89	0.28	< 0.05 U1	0.201	< 0.2 U1	0.4 J1	< 0.04 U1	< 0.02 U1
2/20/2024	Assessment	0.011 J1	0.78	2,200	< 0.007 U1	< 0.004 U1	0.21 J1	0.051	1.81	0.27	0.07 J1	0.190	< 0.2 U1	0.2 J1	< 0.04 U1	< 0.02 U1
4/2/2024	Assessment	0.047 J1	1.08	2,240	< 0.007 U1	< 0.004 U1	0.19 J1	0.042	1.40	0.29	< 0.05 U1	0.185	< 0.2 U1	0.3 J1	< 0.04 U1	< 0.02 U1
10/8/2024	Assessment	< 0.06 U1	1.2	2,300	< 0.06 U1	< 0.03 U1	< 0.6 U1	0.04 J1	1.68	0.35	< 0.4 U1	0.189	< 0.2 U1	< 0.8 U1	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1606
Clinch River - Pond 1
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
10/18/2017	Background	0.078	50.9	14.3	0.20	6.8	57.9	374
12/12/2017	Background	0.194	55.3	14.4	0.17	7.1	66.8	348
2/14/2018	Background	0.175	56.8	14.9	0.18	7.1	68.3	336
4/10/2018	Background	0.148	44.8	12.9	0.26	7.2	42.4	302
6/11/2018	Background	0.144	55.0	14.0	0.27	7.0	45.4	316
8/21/2018	Background	0.168	64.4	15.7	0.23	7.0	54.9	377
10/15/2018	Background	0.136	60.0	14.3	0.24	7.1	47.8	344
12/11/2018	Background	0.126	58.6	13.9	0.25	7.2	42.1	329
2/12/2019	Detection	0.110	56.8	14.1	0.24	7.2	39.7	341
4/9/2019	Assessment	0.07 J1	62.2	13.0	0.16	7.2	32.5	352
5/29/2019	Assessment	0.05 J1	55.9	11.5	0.16	7.3	27.6	336
10/1/2019	Assessment	0.084	58.9	13.6	0.19	7.0	32.4	350
2/10/2020	Assessment	0.084	54.5	11.8	0.19	7.3	35.4	321
4/20/2020	Assessment	0.04 J1	59.2	7.0	0.12	6.6	25.4	287
10/7/2020	Assessment	0.067	59.3	12.9	0.18	7.1	35.7	321
2/9/2021	Assessment	0.079	57.8	13.0	0.22	7.1	26.5	368
4/12/2021	Assessment	0.083	57.2	13.4	0.22	7.1	26.8	333
10/12/2021	Assessment	0.139	57.7	13.4	0.22	7.3	44.8	330
2/22/2022	Assessment	0.130	57.0	13.6	0.19	7.4	46.4	350
4/13/2022	Assessment	0.137	56.3	12.8	0.19	6.9	44.3	330
10/4/2022	Assessment	0.163	60.4	13.8	0.20	6.9	56.6	360
2/14/2023	Assessment	0.142	58.8	13.2	0.19	7.1	50.7	350
4/4/2023	Assessment	0.136	51.1	12.4	0.20	7.1	45.7	320
10/10/2023	Assessment	0.137	53.1	13.0	0.20	7.1	56.4	340 S7
2/19/2024	Assessment	0.143	54.4	13.2	0.17	7.1	59.4	330
4/2/2024	Assessment	0.150	57.8	13.7	0.20	7.1	62.1	320
10/8/2024	Assessment	0.15 J1	56.8	13.3	0.22	7.1	58.0	350

Table 1. Groundwater Data Summary: MW-1606
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
10/18/2017	Background	0.02 J1	7.03	117	< 0.004 U1	0.01 J1	0.139	6.00	2.331	0.20	0.628	0.089	< 0.05 U1	84.2	0.06 J1	0.04 J1
12/12/2017	Background	0.02 J1	6.77	117	0.005 J1	0.01 J1	0.216	6.33	0.7252	0.17	0.573	0.086	0.06 J1	82.4	0.1 J1	0.04 J1
2/14/2018	Background	0.03 J1	6.76	116	0.006 J1	< 0.005 U1	0.140	5.66	1.459	0.18	0.388	0.067	< 0.05 U1	65.1	0.1 J1	0.04 J1
4/10/2018	Background	0.02 J1	6.72	104	0.007 J1	0.01 J1	0.225	5.53	1.156	0.26	0.549	0.095	< 0.05 U1	89.6	0.1	0.04 J1
6/11/2018	Background	0.04 J1	6.89	114	0.006 J1	< 0.005 U1	0.205	4.98	1.154	0.27	0.451	0.099	< 0.05 U1	91.5	0.08 J1	0.05
8/21/2018	Background	0.04 J1	7.19	124	0.006 J1	0.006 J1	0.218	6.13	1.269	0.23	0.515	0.081	< 0.05 U1	66.1	0.08 J1	0.05
10/15/2018	Background	0.03 J1	7.13	116	< 0.02 U1	< 0.01 U1	0.211	5.34	1.148	0.24	0.391	0.087	< 0.05 U1	71.9	0.07 J1	< 0.1 U1
12/11/2018	Background	< 0.02 U1	7.71	117	< 0.02 U1	< 0.01 U1	0.2 J1	5.58	2.743	0.25	0.445	0.091	< 0.05 U1	80.7	0.05 J1	< 0.1 U1
2/12/2019	Detection	< 0.02 U1	7.90	117	< 0.02 U1	< 0.01 U1	0.2 J1	5.79	1.189	0.24	0.343	0.100	< 0.05 U1	87.4	0.04 J1	< 0.1 U1
4/9/2019	Assessment	< 0.02 U1	11.0	107	< 0.02 U1	< 0.01 U1	0.1 J1	4.99	1.491	0.16	0.225	0.044	< 0.05 U1	44.8	0.08 J1	< 0.1 U1
5/29/2019	Assessment	< 0.02 U1	11.6	106	< 0.02 U1	< 0.01 U1	0.2 J1	4.86	1.4097	0.16	0.255	0.038	< 0.05 U1	39.1	< 0.03 U1	< 0.1 U1
10/1/2019	Assessment	< 0.02 U1	8.33	120	< 0.02 U1	< 0.01 U1	0.2 J1	4.66	0.962	0.19	0.358	0.0717	< 0.2 U1	57.8	0.05 J1	< 0.1 U1
2/10/2020	Assessment	0.02 J1	8.09	105	< 0.02 U1	0.02 J1	0.380	5.03	2.82	0.19	0.713	0.0645	< 0.2 U1	61.4	0.1 J1	< 0.1 U1
4/20/2020	Assessment	0.03 J1	2.80	83.1	< 0.02 U1	0.02 J1	0.2 J1	2.15	2.82	0.12	0.253	0.0267	< 0.2 U1	29.3	0.2	0.1 J1
10/7/2020	Assessment	0.04 J1	15.0	106	< 0.02 U1	0.02 J1	0.2 J1	3.52	2.816	0.18	0.731	0.0220	< 0.2 U1	34.6	0.1 J1	< 0.1 U1
2/9/2021	Assessment	0.03 J1	10.5	124	< 0.02 U1	0.04 J1	0.572	4.68	1.630	0.22	1.03	0.0561	< 0.2 U1	56.7	0.1 J1	< 0.1 U1
4/12/2021	Assessment	< 0.02 U1	8.32	113	0.01 J1	0.02 J1	0.234	4.13	1.507	0.22	0.538	0.0558	< 0.2 U1	53.5	< 0.09 U1	< 0.04 U1
10/12/2021	Assessment	0.02 J1	8.37	127 M1	0.019 J1	0.032	0.48	4.19	6.15	0.22	0.98	0.0979 M1, P3	< 0.2 U1	69.4	0.13 J1	< 0.04 U1
2/22/2022	Assessment	< 0.02 U1	7.01	108	0.009 J1	0.018 J1	0.16 J1	3.64	2.07	0.19	0.44	0.0822	< 0.2 U1	58.2	< 0.09 U1	< 0.04 U1
4/13/2022	Assessment	< 0.02 U1	7.19	111	0.008 J1	0.009 J1	0.15 J1	3.90	1.62	0.19	0.52	0.0915	< 0.2 U1	67.7	0.1 J1	< 0.04 U1
10/4/2022	Assessment	< 0.02 U1	7.25	112	< 0.007 U1	0.007 J1	0.32	4.47	2.43	0.20	0.53	0.091	< 0.2 U1	60.3	< 0.09 U1	< 0.04 U1
2/14/2023	Assessment	0.02 J1	8.06	113	0.011 J1	0.026	0.25	4.65	2.55	0.19	0.86	0.0703	< 0.2 U1	55.0	< 0.09 U1	0.04 J1
4/4/2023	Assessment	< 0.008 U1	6.87	102	< 0.04 U1	< 0.004 U1	0.24 J1	3.55	2.38	0.20	0.32	0.10	< 0.2 U1	62.1	0.06 J1	0.02 J1
10/10/2023	Assessment	0.010 J1	5.10	90.6	< 0.007 U1	0.007 J1	0.17 J1	5.39	1.38	0.20	0.51	0.0840	< 0.2 U1	45.3	0.06 J1	0.04 J1
2/19/2024	Assessment	< 0.008 U1	5.51	95.8	< 0.007 U1	0.005 J1	0.14 J1	5.14	2.59	0.17	0.46	0.0694	< 0.2 U1	42.6	0.07 J1	< 0.02 U1
4/2/2024	Assessment	0.384	5.39	99.7	< 0.007 U1	0.020	0.16 J1	5.51	1.14	0.20	0.58	0.0772	< 0.2 U1	44.3	0.06 J1	< 0.02 U1
10/8/2024	Assessment	< 0.06 U1	5.0	105	< 0.06 U1	< 0.03 U1	0.7 J1	6.19	1.61	0.22	0.6 J1	0.0894	< 0.2 U1	43.6	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1607
Clinch River - Pond 1
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
10/18/2017	Background	0.139	54.9	16.7	0.25	7.6	197	468
12/12/2017	Background	0.212	50.1	16.3	0.22	7.4	206	417
2/14/2018	Background	0.121	48.7	10.7	0.20	7.9	149	284
4/11/2018	Background	0.143	49.1	11.0	0.22	8.0	153	306
6/11/2018	Background	0.143	49.5	11.1	0.23	7.8	156	278
8/21/2018	Background	0.151	46.4	12.0	0.26	8.0	162	315
10/15/2018	Background	0.122	45.8	11.7	0.26	8.1	159	302
12/11/2018	Background	0.111	44.8	10.0	0.25	7.7	150	280
2/12/2019	Detection	0.1 J1	46.3	9.5	0.23	7.9	151	298
4/9/2019	Assessment	0.134	47.2	8.2	0.20	8.0	130	296
5/29/2019	Assessment	0.1 J1	44.5	8.4	0.23	7.9	146	293
10/2/2019	Assessment	0.112	49.4	8.5	0.18	7.8	147	290
2/11/2020	Assessment	0.106	47.3	6.6	0.21	8.1	124	279
4/21/2020	Assessment	0.108	48.5	6.7	0.19	7.0	125	275
10/6/2020	Assessment	0.111	42.7	7.4	0.24	7.7	136	270
2/9/2021	Assessment	0.113	41.5	7.0	0.26	7.5	128	303
4/13/2021	Assessment	0.099	43.9	6.3	0.23	7.9	120	275
10/11/2021	Assessment	0.108	44.1	6.74	0.24	8.0	128	260
2/23/2022	Assessment	0.109	43.6 M1, P3	6.82	0.20	8.2	137	270
4/12/2022	Assessment	0.113	44.7	6.20	0.20	7.4	134	280
10/4/2022	Assessment	0.123	43.9 M1, P3	6.76	0.20	7.7	139	280
2/14/2023	Assessment	0.122	42.7	6.97	0.22	7.8	140	290
4/4/2023	Assessment	0.114	42.0 M1	6.14	0.20	8.0	135	260
10/10/2023	Assessment	0.128	42.8 M1	6.99	0.25	7.6	128	300
2/20/2024	Assessment	0.120	38.9 M1	6.74	0.20	8.1	139	280
4/2/2024	Assessment	0.124	42.1	6.82	0.21	7.7	141	260
10/8/2024	Assessment	0.12 J1	43.5 M1	7.04	0.22	8.0	143	280

Table 1. Groundwater Data Summary: MW-1607
Clinch River - Pond 1
Appendix IV Constituents

Geosyntec Consultants, Inc.

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
10/18/2017	Background	0.05	4.38	141	< 0.004 U1	0.02 J1	0.273	4.06	2.733	0.25	0.228	0.110	< 0.05 U1	89.7	0.09 J1	< 0.01 U1
12/12/2017	Background	0.08	5.28	92.5	0.005 J1	0.12	0.194	8.94	1.062	0.22	0.614	0.119	0.08 J1	126	0.09 J1	0.01 J1
2/14/2018	Background	0.05 J1	0.96	71.5	< 0.004 U1	0.18	0.100	11.2	0.743	0.20	0.727	0.110	< 0.05 U1	160	0.1	0.01 J1
4/11/2018	Background	0.04 J1	1.05	71.1	< 0.004 U1	0.17	0.206	11.4	0.436	0.22	0.585	0.125	< 0.05 U1	144	0.1	0.03 J1
6/11/2018	Background	0.05	0.98	74.7	< 0.004 U1	0.09	0.208	11.3	0.975	0.23	0.524	0.133	< 0.05 U1	153	0.2	0.05 J1
8/21/2018	Background	0.06	1.29	75.7	< 0.004 U1	0.11	0.216	10.1	0.511	0.26	0.525	0.129	< 0.05 U1	165	0.2	0.03 J1
10/15/2018	Background	0.09 J1	1.46	71.9	< 0.02 U1	0.11	0.224	10.9	0.999	0.26	0.524	0.132	< 0.05 U1	164	0.04 J1	< 0.1 U1
12/11/2018	Background	0.03 J1	1.01	70.4	< 0.02 U1	0.25	0.2 J1	12.1	0.660	0.25	0.701	0.126	< 0.05 U1	168	0.1 J1	< 0.1 U1
2/12/2019	Detection	0.04 J1	0.86	73.1	< 0.02 U1	0.18	0.2 J1	12.7	0.885	0.23	0.586	0.139	< 0.05 U1	175	0.2 J1	< 0.1 U1
4/9/2019	Assessment	0.03 J1	1.59	75.3	< 0.02 U1	0.11	0.2 J1	8.87	0.701	0.20	0.423	0.127	< 0.05 U1	138	0.2 J1	< 0.1 U1
5/29/2019	Assessment	0.03 J1	1.08	74.2	< 0.02 U1	0.18	0.212	10.2	0.744	0.23	0.366	0.123	< 0.05 U1	154	0.2 J1	< 0.1 U1
10/2/2019	Assessment	< 0.02 U1	1.64	72.4	< 0.02 U1	0.18	0.2 J1	6.74	1.028	0.18	0.228	0.132	< 0.2 U1	148	0.1 J1	< 0.1 U1
2/11/2020	Assessment	0.03 J1	0.83	69.8	< 0.02 U1	0.17	0.1 J1	9.61	1.659	0.21	0.684	0.112	< 0.2 U1	131	0.4	< 0.1 U1
4/21/2020	Assessment	0.04 J1	0.96	72.4	< 0.02 U1	0.17	0.209	10.1	0.978	0.19	0.667	0.120	< 0.2 U1	134	0.7	0.1 J1
10/6/2020	Assessment	0.08 J1	1.27	68.2	< 0.02 U1	0.10	0.05 J1	7.82	0.315	0.24	0.323	0.125	< 0.2 U1	134	0.2	< 0.1 U1
2/9/2021	Assessment	0.04 J1	1.13	68.5	< 0.02 U1	0.07	0.842	8.45	1.624	0.26	0.394	0.126	< 0.2 U1	141	0.1 J1	< 0.1 U1
4/13/2021	Assessment	0.04 J1	1.00	62.0	< 0.007 U1	0.15	0.2 J1	8.87	0.807	0.23	0.626	0.112	< 0.2 U1	128	0.3 J1	0.05 J1
10/11/2021	Assessment	0.03 J1	1.42	66.8	< 0.007 U1	0.064	< 0.04 U1	6.25	1.63	0.24	0.22	0.108 M1	< 0.2 U1	122	0.12 J1	< 0.04 U1
2/23/2022	Assessment	0.02 J1	1.11	64.3	< 0.007 U1	0.113	0.07 J1	10.6 B1	1.01	0.20	0.53	0.134	< 0.2 U1	137 M1	< 0.09 U1	< 0.04 U1
4/12/2022	Assessment	0.03 J1	1.16	65.0	< 0.007 U1	0.098	< 0.04 U1	9.76	1.40	0.20	0.50	0.128	< 0.2 U1	129	0.19 J1	< 0.04 U1
10/4/2022	Assessment	0.02 J1	1.50	67.9	< 0.007 U1	0.058	0.29	9.31	1.12	0.20	0.37	0.133	< 0.2 U1	132	< 0.09 U1	< 0.04 U1
2/14/2023	Assessment	0.03 J1	1.56	70.2	< 0.007 U1	0.054	0.29	8.54	2.02	0.22	0.33	0.123	< 0.2 U1	135	< 0.09 U1	< 0.04 U1
4/4/2023	Assessment	0.021 J1	1.32	63.2	< 0.007 U1	0.078	0.16 J1	10.2	1.81	0.20	0.53	0.130	< 0.2 U1	131 M1	0.06 J1	< 0.02 U1
10/10/2023	Assessment	0.030 J1	1.21	67.8 M1	< 0.007 U1	0.051	0.19 J1	7.39 M1	1.66	0.25	0.17 J1	0.144 M1	< 0.2 U1	127 M1	0.13 J1	< 0.02 U1
2/20/2024	Assessment	0.015 J1	1.40	66.3	< 0.007 U1	0.052	0.15 J1	7.78	1.90	0.20	0.33	0.127 M1	< 0.2 U1	121	0.05 J1	< 0.02 U1
4/2/2024	Assessment	0.019 J1	1.16	68.9	< 0.007 U1	0.073	0.14 J1	8.62	0.84	0.21	0.32	0.131	< 0.2 U1	131	0.05 J1	< 0.02 U1
10/8/2024	Assessment	< 0.06 U1	1.2	66.2	< 0.06 U1	0.10 J1	0.8 J1	11.7	1.28	0.22	0.5 J1	0.146 M1	< 0.2 U1	135	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1608
Clinch River - Pond 1
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
10/19/2017	Background	0.359	1.92	7.6	0.45	8.1	179	484
12/11/2017	Background	0.375	1.31	7.3	0.40	8.0	176	468
2/13/2018	Background	0.349	1.09	8.7	0.45	8.7	182	466
4/10/2018	Background	0.334	0.779	8.0	0.48	8.8	178	466
6/7/2018	Background	0.389	0.708	7.2	0.44	8.7	171	437
8/20/2018	Background	0.315	1.31	7.4	0.43	8.7	173	441
10/17/2018	Background	0.344	1.37	6.8	0.43	0.1	167	439
12/6/2018	Background	0.365	1.24	6.1	0.42	8.7	166	423
2/7/2019	Detection	0.332	1.35	6.2	0.42	8.6	171	445
4/8/2019	Assessment	0.352	1.32	6.7	0.39	8.7	162	454
5/28/2019	Assessment	0.310	1.11	5.4	0.44	8.7	174	443
10/1/2019	Assessment	0.351	1.19	6.6	0.39	8.7	176	457
2/10/2020	Assessment	0.353	0.748	5.2	0.41	9.2	164	422
4/20/2020	Assessment	0.344	0.959	4.6	0.42	8.2	167	418
10/6/2020	Assessment	0.360	1.01	6.6	0.40	8.5	182	445
2/8/2021	Assessment	0.347	0.968	5.8	0.46	8.3	167	442
4/12/2021	Assessment	0.343	0.744	5.8	0.45	8.6	166	434
10/11/2021	Assessment	0.332	0.8	5.68	0.42	8.5	163	420
2/22/2022	Assessment	0.351	0.78	5.89	0.43	8.6	172	440
4/12/2022	Assessment	0.361	0.59	4.37	0.40	8.1	159	410
10/3/2022	Assessment	0.392	0.65	5.24	0.40	7.5	165	450
2/13/2023	Assessment	0.363	0.57	6.38	0.43	8.2	173	450
4/3/2023	Assessment	0.346	0.45	4.04	0.42	7.4	149	400
10/9/2023	Assessment	0.354	0.42	5.09	0.42	8.1	161	430
2/19/2024	Assessment	0.346	0.42	3.87	0.40	8.5	146	410
4/1/2024	Assessment	0.353	0.39	3.78	0.43	8.5	142	390
10/7/2024	Assessment	0.33 J1	0.4	4.36	0.50	8.4	147	440

Table 1. Groundwater Data Summary: MW-1608
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
10/19/2017	Background	0.06	1.69	42.7	0.042	< 0.005 U1	0.956	0.442	0.661	0.45	0.405	0.027	< 0.05 U1	9.04	0.1	0.02 J1
12/11/2017	Background	0.06	1.96	42.9	0.066	< 0.005 U1	1.26	0.425	0.498	0.40	0.526	0.032	0.07 J1	7.35	0.1	0.02 J1
2/13/2018	Background	0.05 J1	2.00	43.8	0.062	< 0.005 U1	1.08	0.401	0.939	0.45	0.656	0.024	< 0.05 U1	6.43	0.09 J1	0.03 J1
4/10/2018	Background	0.05 J1	1.86	41.9	0.056	< 0.005 U1	1.11	0.372	0.484	0.48	0.675	0.023	< 0.05 U1	3.52	0.1	0.02 J1
6/7/2018	Background	0.06	2.99	44.3	0.041	0.006 J1	0.912	0.330	0.894	0.44	0.721	0.028	< 0.05 U1	2.49	0.09 J1	0.02 J1
8/20/2018	Background	0.06	1.88	38.4	0.031	0.02 J1	0.938	0.284	2.988	0.43	0.438	0.018	< 0.05 U1	3.20	0.07 J1	0.02 J1
10/17/2018	Background	0.03 J1	1.70	34.2	0.03 J1	< 0.01 U1	0.647	0.217	3.565	0.43	0.273	0.02 J1	< 0.05 U1	2.89	0.06 J1	< 0.1 U1
12/6/2018	Background	0.04 J1	1.36	33.1	0.03 J1	< 0.01 U1	0.639	0.229	0.518	0.42	0.284	0.01 J1	< 0.05 U1	2.67	0.04 J1	< 0.1 U1
2/7/2019	Detection	0.04 J1	1.64	35.3	0.02 J1	< 0.01 U1	0.633	0.233	0.1256	0.42	0.256	0.03 J1	< 0.05 U1	2.66	0.07 J1	< 0.1 U1
4/8/2019	Assessment	0.03 J1	1.46	32.9	< 0.02 U1	< 0.01 U1	0.696	0.227	0.4948	0.39	0.255	0.02 J1	< 0.05 U1	2.32	0.06 J1	< 0.1 U1
5/28/2019	Assessment	0.08 J1	1.35	34.4	0.03 J1	0.02 J1	0.722	0.262	0.163	0.44	0.418	< 0.009 U1	0.1 J1	2.11	< 0.03 U1	< 0.1 U1
10/1/2019	Assessment	0.03 J1	1.46	35.0	< 0.02 U1	< 0.01 U1	0.359	0.159	0.462	0.39	0.214	0.0211	< 0.2 U1	2 J1	0.04 J1	< 0.1 U1
2/10/2020	Assessment	0.03 J1	1.22	29.8	< 0.02 U1	< 0.01 U1	0.618	0.280	0.594	0.41	0.250	0.0197	< 0.2 U1	2 J1	0.04 J1	< 0.1 U1
4/20/2020	Assessment	0.02 J1	0.89	28.9	< 0.02 U1	< 0.01 U1	0.413	0.203	1.497	0.42	0.2 J1	0.0185	< 0.2 U1	1 J1	0.05 J1	< 0.1 U1
10/6/2020	Assessment	0.02 J1	1.25	32.0	< 0.02 U1	< 0.01 U1	0.302	0.200	0.790	0.40	0.1 J1	0.0196	< 0.2 U1	2 J1	0.03 J1	< 0.1 U1
2/8/2021	Assessment	< 0.02 U1	1.15	30.3	< 0.02 U1	< 0.01 U1	0.408	0.175	0.715	0.46	0.1 J1	0.0194	< 0.2 U1	1 J1	0.07 J1	< 0.1 U1
4/12/2021	Assessment	0.02 J1	1.06	28.1	0.008 J1	< 0.004 U1	0.207	0.120	0.646	0.45	0.1 J1	0.0183	< 0.2 U1	1 J1	< 0.09 U1	< 0.04 U1
10/11/2021	Assessment	0.03 J1	0.98	27.7	< 0.007 U1	< 0.004 U1	0.23	0.122	0.68	0.42	0.10 J1	0.0189	< 0.2 U1	1.0	< 0.09 U1	< 0.04 U1
2/22/2022	Assessment	< 0.02 U1	0.97	26.5	< 0.007 U1	< 0.004 U1	0.20	0.109	1.09	0.43	0.07 J1	0.0193	< 0.2 U1	1.2	< 0.09 U1	< 0.04 U1
4/12/2022	Assessment	0.02 J1	0.73	24.8	0.008 J1	< 0.004 U1	0.20	0.126	0.70	0.40	0.11 J1	0.0192	< 0.2 U1	1.0	< 0.09 U1	< 0.04 U1
10/3/2022	Assessment	0.02 J1	1.21	27.0	< 0.007 U1	0.004 J1	0.18 J1	0.144	1.73	0.40	0.11 J1	0.0188	< 0.2 U1	1	< 0.09 U1	< 0.04 U1
2/13/2023	Assessment	< 0.02 U1	1.23	26.4	< 0.007 U1	0.005 J1	0.27	0.117	2.05	0.43	0.09 J1	0.0169	< 0.2 U1	0.8	< 0.09 U1	< 0.04 U1
4/3/2023	Assessment	0.018 J1	0.77	21.6	< 0.007 U1	0.008 J1	0.80	0.093	1.31	0.42	0.09 J1	0.0179	< 0.2 U1	0.7	< 0.04 U1	< 0.02 U1
10/9/2023	Assessment	0.197	1.02	23.5	< 0.007 U1	0.007 J1	0.24 J1	0.092	0.58	0.42	0.06 J1	0.0188	< 0.2 U1	0.6	< 0.04 U1	< 0.02 U1
2/19/2024	Assessment	0.011 J1	0.79	21.7	< 0.007 U1	0.006 J1	0.20 J1	0.078	1.36	0.40	0.07 J1	0.0163	< 0.2 U1	0.5	< 0.04 U1	< 0.02 U1
4/1/2024	Assessment	0.009 J1	0.79	21.1	< 0.007 U1	< 0.004 U1	0.15 J1	0.078	0.98	0.43	0.06 J1	0.0182	< 0.2 U1	0.5	< 0.04 U1	< 0.02 U1
10/7/2024	Assessment	< 0.06 U1	0.9	20.4	< 0.06 U1	< 0.03 U1	< 0.6 U1	0.08 J1	0.51	0.50	< 0.4 U1	0.0181	< 0.2 U1	< 0.8 U1	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1609
Clinch River - Pond 1
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
10/18/2017	Background	0.017	66.6	4.1	0.32	6.7	13.6	358
12/11/2017	Background	0.084	67.9	3.1	0.32	6.6	12.6	326
2/13/2018	Background	0.084	60.7	3.2	0.31	7.6	21.8	262
4/10/2018	Background	0.041	59.9	1.7	0.27	7.4	15.8	292
6/11/2018	Background	0.077	75.5	1.9	0.28	7.3	21.0	312
8/21/2018	Background	0.117	72.6	1.5	0.29	7.3	13.7	311
10/15/2018	Background	0.05 J1	70.0	1.6	0.27	7.5	16.8	276
12/6/2018	Background	0.04 J1	66.1	1.5	0.26	7.5	14.9	281
2/7/2019	Detection	< 0.02 U1	72.3	1.3	0.21	7.4	13.7	305
4/8/2019	Assessment	< 0.02 U1	82.5	1.2	0.20	7.5	13.6	323
5/28/2019	Assessment	< 0.02 U1	74.8	1.3	0.25	7.6	17.4	322
10/1/2019	Assessment	< 0.02 U1	69.0	1.3	0.25	7.4	13.2	282
2/10/2020	Assessment	< 0.02 U1	65.6	1.1	0.22	7.8	12.9	287
4/20/2020	Assessment	< 0.02 U1	66.0	1.1	0.21	7.0	12.4	276
10/6/2020	Assessment	< 0.02 U1	70.1	1.4	0.23	7.3	17.3	271
2/8/2021	Assessment	< 0.02 U1	66.4	1.5	0.26	7.4	19.6	284
4/12/2021	Assessment	< 0.009 U1	66.2	1.0	0.24	7.5	11.7	282
10/11/2021	Assessment	< 0.009 U1	71.1	1.40	0.24	7.7	17.0	260
2/22/2022	Assessment	< 0.009 U1	65.3	1.36	0.24	7.8	18.4	290
4/12/2022	Assessment	0.010 J1	72.7	0.97	0.23	7.1	16.9	290
10/3/2022	Assessment	0.014 J1	79.0	1.13	0.24	7.0	11.8	270
2/13/2023	Assessment	0.013 J1	79.1	1.25	0.26	7.4	15.0	260
4/3/2023	Assessment	0.01 J1	74.5	0.90	0.23	6.8	14.7	300
10/9/2023	Assessment	0.012 J1	61.2	1.11	0.26	7.5	14.7	260
2/19/2024	Assessment	0.011 J1	77.5	1.21	0.23	7.5	16.0	270
4/1/2024	Assessment	0.012 J1	83.5	1.35	0.25	7.5	17.6	250
10/7/2024	Assessment	< 0.06 U1	70.1	1.53	0.26	7.5	20.9	270

Table 1. Groundwater Data Summary: MW-1609
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
10/18/2017	Background	0.06	0.97	476	< 0.004 U1	< 0.005 U1	0.126	0.338	3.258	0.32	0.142	< 0.0002 U1	< 0.05 U1	2.22	0.03 J1	< 0.01 U1
12/11/2017	Background	0.05	0.95	507	0.004 J1	< 0.005 U1	0.112	0.258	1.423	0.32	0.033	0.010	< 0.05 U1	1.78	< 0.03 U1	0.03 J1
2/13/2018	Background	0.05 J1	0.43	333	< 0.004 U1	< 0.005 U1	0.151	0.522	1.661	0.31	0.326	< 0.0002 U1	< 0.05 U1	1.55	0.1 J1	0.03 J1
4/10/2018	Background	0.03 J1	0.18	359	< 0.004 U1	0.02 J1	0.164	0.168	1.544	0.27	0.426	0.0009 J1	< 0.05 U1	1.34	0.2	0.01 J1
6/11/2018	Background	0.07	0.19	397	< 0.004 U1	0.04	0.154	0.082	1.893	0.28	0.524	0.005	< 0.05 U1	0.79	0.1	0.01 J1
8/21/2018	Background	0.13	0.28	435	< 0.004 U1	0.03	0.232	1.38	1.161	0.29	0.548	0.004	< 0.05 U1	0.46	0.03 J1	0.09
10/15/2018	Background	0.05 J1	0.19	345	< 0.02 U1	< 0.01 U1	0.319	0.558	0.8423	0.27	0.506	< 0.009 U1	< 0.05 U1	0.6 J1	< 0.03 U1	< 0.1 U1
12/6/2018	Background	0.02 J1	0.14	356	< 0.02 U1	0.01 J1	0.2 J1	0.114	1.794	0.26	0.350	0.01 J1	< 0.05 U1	0.6 J1	0.1 J1	< 0.1 U1
2/7/2019	Detection	0.03 J1	0.10	365	< 0.02 U1	0.02 J1	0.239	< 0.02 U1	1.569	0.21	0.362	< 0.009 U1	< 0.05 U1	0.4 J1	0.2 J1	< 0.1 U1
4/8/2019	Assessment	0.03 J1	0.10	443	< 0.02 U1	0.01 J1	0.1 J1	0.206	1.519	0.20	0.528	< 0.009 U1	< 0.05 U1	< 0.4 U1	0.06 J1	< 0.1 U1
5/28/2019	Assessment	0.02 J1	0.10	466	< 0.02 U1	0.01 J1	0.234	< 0.02 U1	1.387	0.25	0.337	< 0.009 U1	0.1 J1	< 0.4 U1	0.7	< 0.1 U1
10/1/2019	Assessment	0.02 J1	0.19	412	< 0.02 U1	0.02 J1	0.1 J1	0.634	2.24	0.25	0.935	0.00107	< 0.2 U1	< 0.4 U1	< 0.03 U1	< 0.1 U1
2/10/2020	Assessment	< 0.02 U1	0.13	355	< 0.02 U1	0.01 J1	0.1 J1	0.226	2.79	0.22	1.25	0.000755	< 0.2 U1	0.6 J1	0.1 J1	< 0.1 U1
4/20/2020	Assessment	< 0.02 U1	0.08 J1	337	< 0.02 U1	0.01 J1	0.2 J1	< 0.02 U1	5.26	0.21	0.323	0.000559	< 0.2 U1	< 0.4 U1	0.2	< 0.1 U1
10/6/2020	Assessment	0.03 J1	0.1 J1	424	< 0.02 U1	0.01 J1	0.203	0.212	1.938	0.23	0.324	0.000975	< 0.2 U1	1 J1	0.03 J1	< 0.1 U1
2/8/2021	Assessment	0.03 J1	0.1 J1	399	< 0.02 U1	0.01 J1	0.233	0.207	1.224	0.26	0.298	0.00101	< 0.2 U1	< 0.4 U1	0.1 J1	< 0.1 U1
4/12/2021	Assessment	0.02 J1	0.08 J1	340	< 0.007 U1	0.01 J1	0.08 J1	0.005 J1	4.39	0.24	0.242	0.000654	< 0.2 U1	0.3 J1	0.2 J1	< 0.04 U1
10/11/2021	Assessment	0.04 J1	0.09 J1	387	< 0.007 U1	0.015 J1	0.07 J1	0.241	1.3	0.24	0.57	0.00095	< 0.2 U1	0.3 J1	< 0.09 U1	< 0.04 U1
2/22/2022	Assessment	0.02 J1	0.08 J1	366	< 0.007 U1	0.011 J1	0.07 J1	0.022	2.14	0.24	0.15 J1	0.00093	< 0.2 U1	0.3 J1	< 0.09 U1	< 0.04 U1
4/12/2022	Assessment	0.02 J1	0.06 J1	410	< 0.007 U1	0.011 J1	< 0.04 U1	0.005 J1	1.36	0.23	0.19 J1	0.00097	< 0.2 U1	0.3 J1	0.17 J1	< 0.04 U1
10/3/2022	Assessment	0.02 J1	0.14	385	< 0.007 U1	0.007 J1	< 0.04 U1	0.433	3.34	0.24	0.23	0.00092	< 0.2 U1	0.3 J1	< 0.09 U1	< 0.04 U1
2/13/2023	Assessment	< 0.02 U1	0.10	423	< 0.007 U1	0.009 J1	0.19 J1	0.220	2.33	0.26	0.23	0.00085	< 0.2 U1	0.3 J1	< 0.09 U1	< 0.04 U1
4/3/2023	Assessment	0.017 J1	0.05 J1	388	< 0.007 U1	0.012 J1	0.22 J1	0.014 J1	2.39	0.23	0.21	0.0009	< 0.2 U1	0.3 J1	0.32 J1	< 0.02 U1
10/9/2023	Assessment	0.018 J1	0.12	364	< 0.007 U1	0.008 J1	0.22 J1	0.178	1.51	0.26	0.20	0.00100	< 0.2 U1	0.3 J1	< 0.04 U1	< 0.02 U1
2/19/2024	Assessment	0.016 J1	0.10	366	< 0.007 U1	0.009 J1	0.14 J1	0.162	2.19	0.23	0.23	0.00107	< 0.2 U1	0.3 J1	< 0.04 U1	< 0.02 U1
4/1/2024	Assessment	0.017 J1	0.10	406	< 0.007 U1	0.007 J1	0.16 J1	0.168	0.98	0.25	0.18 J1	0.00100	< 0.2 U1	0.3 J1	< 0.04 U1	< 0.02 U1
10/7/2024	Assessment	< 0.06 U1	< 0.2 U1	328	< 0.06 U1	< 0.03 U1	< 0.6 U1	0.20	1.08	0.26	< 0.4 U1	0.0012 J1	< 0.2 U1	< 0.8 U1	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1610
Clinch River - Pond 1
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
10/17/2017	Background	0.097	35.5	11.9	0.18	7.3	47.7	260
12/12/2017	Background	0.092	35.0	11.1	0.17	7.1	46.2	241
2/15/2018	Background	0.105	37.3	11.8	0.20	7.5	49.1	247
4/11/2018	Background	0.060	36.1	11.7	0.21	7.6	46.4	254
6/12/2018	Background	0.053	35.8	13.4	0.21	7.5	53.2	258
8/21/2018	Background	0.139	35.2	11.7	0.22	7.6	48.7	258
10/16/2018	Background	0.07 J1	35.0	10.4	0.21	7.7	41.1	245
12/11/2018	Background	0.05 J1	33.6	10.5	0.22	7.7	43.3	233
2/12/2019	Detection	0.03 J1	35.4	10.8	0.21	7.7	41.2	257
4/9/2019	Assessment	0.05 J1	38.5	10.9	0.17	7.7	41.6	263
5/29/2019	Assessment	0.04 J1	35.6	10.5	0.18	7.8	44.1	263
10/1/2019	Assessment	0.04 J1	37.8	10.7	0.18	7.5	40.8	258
2/11/2020	Assessment	0.03 J1	36.8	10.5	0.19	7.8	36.4	245
4/20/2020	Assessment	0.04 J1	39.2	10.6	0.20	6.9	37.7	254
10/7/2020	Assessment	0.068	14.2	10.1	0.35	8.3	47.1	229
2/9/2021	Assessment	0.04 J1	31.2	10.0	0.26	7.7	38.7	251
4/12/2021	Assessment	0.04 J1	29.5	10.3	0.26	7.6	34.2	235
10/12/2021	Assessment	0.035 J1	30.9	9.84	0.20	8.0	14.5	210
2/23/2022	Assessment	0.028 J1	33.6	9.99	0.19	8.0	13.4	230
4/13/2022	Assessment	0.030 J1	36.2	9.37	0.18	7.2	14.7	230
10/4/2022	Assessment	0.032 J1	35.2	9.84	0.19	7.0	17.7	230
2/13/2023	Assessment	0.028 J1	34.4	9.58	0.19	7.5	15.9	230
4/3/2023	Assessment	0.026 J1	33.5	9.34	0.20	7.3	13.8	220
10/9/2023	Assessment	0.029 J1	32.9	9.69	0.19	7.5	20.1	220
2/20/2024	Assessment	0.028 J1	31.1	9.36	0.18	7.5	11.6	240
4/1/2024	Assessment	0.027 J1	31.0 M1	9.54	0.21	7.6	10.2	200
10/7/2024	Assessment	< 0.06 U1	30.4	10.1	0.21	7.5	16.9	230

Table 1. Groundwater Data Summary: MW-1610
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
10/17/2017	Background	0.22	1.67	212	< 0.004 U1	0.03	0.167	9.90	0.839	0.18	12.6	0.141	< 0.05 U1	139	0.4	0.03 J1
12/12/2017	Background	0.07	1.18	227	0.004 J1	0.01 J1	0.174	12.1	1.132	0.17	15.2	0.146	0.06 J1	152	0.3	0.01 J1
2/15/2018	Background	0.05 J1	1.56	203	0.007 J1	< 0.005 U1	0.159	11.7	0.688	0.20	11.1	0.180	< 0.05 U1	161	0.2	0.02 J1
4/11/2018	Background	0.09	1.37	193	0.004 J1	0.03	0.192	10.2	0.192	0.21	15.0	0.171	< 0.05 U1	135	0.4	0.02 J1
6/12/2018	Background	0.08	1.24	202	0.004 J1	< 0.005 U1	0.210	10.6	1.788	0.21	8.48	0.188	< 0.05 U1	132	0.3	0.02 J1
8/21/2018	Background	0.06	1.08	200	< 0.004 U1	< 0.005 U1	0.248	10.1	1.039	0.22	3.61	0.206	< 0.05 U1	172	0.1	0.02 J1
10/16/2018	Background	< 0.02 U1	1.28	203	< 0.02 U1	< 0.01 U1	0.262	8.25	0.938	0.21	4.33	0.207	< 0.05 U1	160	0.1 J1	< 0.1 U1
12/11/2018	Background	0.03 J1	1.69	200	< 0.02 U1	< 0.01 U1	0.208	8.97	1.759	0.22	7.18	0.219	< 0.05 U1	182	0.2	< 0.1 U1
2/12/2019	Detection	0.08 J1	1.59	253	< 0.02 U1	0.02 J1	0.2 J1	7.43	0.517	0.21	6.94	0.183	< 0.05 U1	159	0.5	< 0.1 U1
4/9/2019	Assessment	0.12	1.61	247	< 0.02 U1	0.03 J1	0.267	6.28	1.338	0.17	9.60	0.197	< 0.05 U1	156	0.5	< 0.1 U1
5/29/2019	Assessment	0.07 J1	1.29	241	< 0.02 U1	0.04 J1	0.243	7.92	0.331	0.18	6.54	0.191	< 0.05 U1	167	0.3	< 0.1 U1
10/1/2019	Assessment	0.02 J1	1.28	235	< 0.02 U1	< 0.01 U1	0.2 J1	6.35	0.883	0.18	3.28	0.192	< 0.2 U1	135	0.3	< 0.1 U1
2/11/2020	Assessment	0.35	1.00	272	< 0.02 U1	0.03 J1	0.209	6.77	1.182	0.19	4.96	0.173	< 0.2 U1	144	0.3	< 0.1 U1
4/20/2020	Assessment	1.46	1.39	261	< 0.02 U1	0.06	0.800	7.43	1.835	0.20	4.04	0.180	< 0.2 U1	143	0.3	< 0.1 U1
10/7/2020	Assessment	0.69	5.92	151	< 0.02 U1	< 0.01 U1	0.278	4.30	1.734	0.35	1.47	0.348	< 0.2 U1	345	0.3	< 0.1 U1
2/9/2021	Assessment	0.06 J1	1.67	311	< 0.02 U1	0.02 J1	0.248	5.31	0.944	0.26	0.551	0.215	< 0.2 U1	183	0.07 J1	< 0.1 U1
4/12/2021	Assessment	1.44	2.26	251	< 0.007 U1	0.01 J1	0.204	5.26	0.725	0.26	3.09	0.219	< 0.2 U1	185	0.5 J1	< 0.04 U1
10/12/2021	Assessment	0.08 J1	1.41	285	< 0.007 U1	0.007 J1	0.49	4.97	0.48	0.20	0.94	0.150	< 0.2 U1	83.0	0.13 J1	< 0.04 U1
2/23/2022	Assessment	0.06 J1	1.14	303	< 0.007 U1	0.008 J1	0.14 J1	5.94 B1	1.49	0.19	1.11	0.146	< 0.2 U1	75.8	< 0.09 U1	< 0.04 U1
4/13/2022	Assessment	0.46	1.67	345	< 0.007 U1	0.006 J1	0.12 J1	4.81	0.83	0.18	1.65	0.132	< 0.2 U1	85.6	0.22 J1	< 0.04 U1
10/4/2022	Assessment	0.21	1.07	299	< 0.007 U1	0.031	0.20	5.87	1.80	0.19	1.17	0.171	< 0.2 U1	110	0.14 J1	< 0.04 U1
2/13/2023	Assessment	0.06 J1	0.95	292	< 0.007 U1	< 0.004 U1	0.18 J1	7.60	1.71	0.19	2.53	0.143	< 0.2 U1	107	< 0.09 U1	< 0.04 U1
4/3/2023	Assessment	0.210	1.26	275	< 0.007 U1	0.009 J1	0.19 J1	6.21	2.92	0.20	1.29	0.144	< 0.2 U1	94.5	0.09 J1	< 0.02 U1
10/9/2023	Assessment	0.057 J1	0.71	268	< 0.007 U1	0.009 J1	0.26 J1	5.08	1.29	0.19	1.19	0.176	< 0.2 U1	98.8	0.05 J1	< 0.02 U1
2/20/2024	Assessment	0.073 J1	0.86	265	< 0.007 U1	0.010 J1	0.28 J1	4.54	0.70	0.18	1.16	0.173	< 0.2 U1	82.5	0.08 J1	0.03 J1
4/1/2024	Assessment	0.112	1.19	267 M1	< 0.007 U1	0.010 J1	0.17 J1	5.21	0.76	0.21	0.74	0.147 M1	< 0.2 U1	80.9	0.06 J1	< 0.02 U1
10/7/2024	Assessment	< 0.06 U1	1.3	292	< 0.06 U1	< 0.03 U1	< 0.6 U1	5.28	0.84	0.21	0.7 J1	0.142	< 0.2 U1	87.0	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1611
Clinch River - Pond 1
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
10/19/2017	Background	0.423	115	131	0.48	7.4	1,600	2,940
12/11/2017	Background	0.551	124	138	0.68	7.5	1,690	3,420
2/13/2018	Background	0.663	143	101	0.66	7.7	1,330	2,720
4/10/2018	Background	0.669	96.2	91.3	0.85	7.8	1,400	2,520
6/11/2018	Background	0.701	68.6	61.5	0.90	7.7	777	1,750
8/21/2018	Background	0.650	46.7	48.9	0.98	7.7	552	1,450
10/15/2018	Background	0.634	42.5	38.5	0.92	7.8	389	1,200
12/6/2018	Background	0.681	36.3	36.2	0.96	7.9	318	1,060
2/12/2019	Detection	0.559	31.9	31.3	0.98	7.8	259	989
4/9/2019	Assessment	0.622	32.8	26.9	0.92	7.9	222	939
5/29/2019	Assessment	0.536	27.7	24.2	0.99	8.0	201	852
10/1/2019	Assessment	0.617	28.2	21.7	1.06	7.8	166	771
2/11/2020	Assessment	0.586	25.8	17.9	1.00	8.0	139	697
4/20/2020	Assessment	0.569	26.0	17.0	1.07	7.1	125	662
10/6/2020	Assessment	0.556	24.0	16.0	1.02	7.7	98.1	622
2/8/2021	Assessment	0.558	22.6	14.7	1.15	7.7	82.9	619
4/12/2021	Assessment	0.546	22.7	14.8	1.18	7.9	71.8	580
10/11/2021	Assessment	0.549	22.6	13.5	0.91	8.1	48.3	540
2/22/2022	Assessment	0.535	18.8	13.7	1.15	8.2	45.1	540
4/12/2022	Assessment	0.546	20.6	13.3	1.11	7.5	42.9	540
10/3/2022	Assessment	0.552	33.8	12.9	1.13	7.4	33.3	520
2/13/2023	Assessment	0.523	24.2	12.5	1.17	7.7	27.4	500
4/3/2023	Assessment	0.511	24.6	12.0	1.15	7.1	24.3	510
10/9/2023	Assessment	0.492	16.7	11.3	1.13	7.8	19.3	470
2/19/2024	Assessment	0.521	27.7	11.0	1.08	7.8	16.7	460
4/1/2024	Assessment	0.526	27.7	11.2	1.13	7.8	15.9	440
10/7/2024	Assessment	0.53	31.5 M1	10.6	1.24	7.9	14.7	480

Table 1. Groundwater Data Summary: MW-1611
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
10/19/2017	Background	0.33	7.16	91.8	< 0.004 U1	0.01 J1	0.656	0.311	1.295	0.48	1.05	0.109	< 0.05 U1	38.0	0.09 J1	< 0.01 U1
12/11/2017	Background	0.18	11.5	63.7	0.01 J1	< 0.01 U1	0.555	0.080	0.278	0.68	0.04 J1	0.130	0.08 J1	6.76	0.1 J1	0.04 J1
2/13/2018	Background	0.54	36.5	53.3	0.01 J1	< 0.005 U1	0.836	0.131	0.748	0.66	0.146	0.161	< 0.05 U1	2.19	0.1	0.11
4/10/2018	Background	0.50	39.5	51.0	0.009 J1	< 0.005 U1	0.864	0.122	0.257	0.85	0.142	0.130	< 0.05 U1	2.54	0.1	< 0.01 U1
6/11/2018	Background	0.23	27.5	57.2	0.008 J1	< 0.005 U1	0.640	0.092	0.766	0.90	0.169	0.110	< 0.05 U1	2.10	0.09 J1	< 0.01 U1
8/21/2018	Background	0.15	20.1	60.6	0.007 J1	< 0.005 U1	0.572	0.076	0.360	0.98	0.144	0.090	< 0.05 U1	1.85	0.08 J1	0.04 J1
10/15/2018	Background	0.10	19.2	63.3	< 0.02 U1	< 0.01 U1	0.454	0.062	0.467	0.92	0.133	0.079	< 0.05 U1	2 J1	0.05 J1	< 0.1 U1
12/6/2018	Background	0.06 J1	16.4	68.8	< 0.02 U1	< 0.01 U1	0.355	0.055	0.384	0.96	0.120	0.080	< 0.05 U1	2.41	0.04 J1	< 0.1 U1
2/12/2019	Detection	0.05 J1	13.2	75.7	< 0.02 U1	< 0.01 U1	0.326	0.056	0.3448	0.98	0.109	0.071	< 0.05 U1	2.52	0.04 J1	< 0.1 U1
4/9/2019	Assessment	0.05 J1	11.9	80.8	< 0.02 U1	< 0.01 U1	0.415	0.062	0.512	0.92	0.09 J1	0.087	< 0.05 U1	2.36	0.05 J1	< 0.1 U1
5/29/2019	Assessment	0.05 J1	9.20	85.3	< 0.02 U1	< 0.01 U1	0.343	0.03 J1	0.457	0.99	< 0.02 U1	0.073	< 0.05 U1	2.12	0.05 J1	< 0.1 U1
10/1/2019	Assessment	0.03 J1	9.46	100	< 0.02 U1	< 0.01 U1	0.295	0.055	0.524	1.06	0.08 J1	0.0699	< 0.2 U1	2.84	0.08 J1	< 0.1 U1
2/11/2020	Assessment	0.03 J1	8.01	112	< 0.02 U1	< 0.01 U1	0.221	0.03 J1	0.34769	1.00	0.06 J1	0.0629	< 0.2 U1	3.89	0.04 J1	< 0.1 U1
4/20/2020	Assessment	0.02 J1	7.30	113	< 0.02 U1	< 0.01 U1	0.2 J1	0.02 J1	1.935	1.07	< 0.05 U1	0.0646	< 0.2 U1	2.08	0.04 J1	< 0.1 U1
10/6/2020	Assessment	0.04 J1	6.69	130	< 0.02 U1	< 0.01 U1	0.293	0.03 J1	0.763	1.02	0.07 J1	0.0630	< 0.2 U1	2.21	0.06 J1	< 0.1 U1
2/8/2021	Assessment	0.02 J1	6.62	151	< 0.02 U1	< 0.01 U1	0.261	0.02 J1	0.915	1.15	< 0.05 U1	0.0620	< 0.2 U1	2 J1	0.03 J1	< 0.1 U1
4/12/2021	Assessment	0.02 J1	6.19	157	< 0.007 U1	< 0.004 U1	0.2 J1	0.02 J1	0.753	1.18	< 0.05 U1	0.0613	< 0.2 U1	1 J1	< 0.09 U1	< 0.04 U1
10/11/2021	Assessment	0.03 J1	6.64	208	< 0.007 U1	< 0.004 U1	0.11 J1	0.016 J1	0.36	0.91	< 0.05 U1	0.0604	< 0.2 U1	1.5	< 0.09 U1	< 0.04 U1
2/22/2022	Assessment	< 0.02 U1	6.04	218	< 0.007 U1	< 0.004 U1	0.14 J1	0.013 J1	0.72	1.15	< 0.05 U1	0.0622	< 0.2 U1	1.5	< 0.09 U1	< 0.04 U1
4/12/2022	Assessment	< 0.02 U1	5.82	213	< 0.007 U1	< 0.004 U1	0.05 J1	0.011 J1	0.66	1.11	< 0.05 U1	0.0639	< 0.2 U1	1.5	< 0.09 U1	< 0.04 U1
10/3/2022	Assessment	< 0.02 U1	5.91	245	< 0.07 U1	< 0.004 U1	0.27	0.015 J1	1.32	1.13	< 0.05 U1	0.0656	< 0.2 U1	1.6	< 0.09 U1	< 0.04 U1
2/13/2023	Assessment	< 0.02 U1	5.97	280	< 0.007 U1	< 0.004 U1	0.15 J1	0.012 J1	2.13	1.17	< 0.05 U1	0.0542	< 0.2 U1	1.7	< 0.09 U1	< 0.04 U1
4/3/2023	Assessment	0.013 J1	5.76	287	< 0.04 U1	< 0.004 U1	0.17 J1	0.012 J1	2.62	1.15	< 0.05 U1	0.063	< 0.2 U1	1.7	< 0.04 U1	< 0.02 U1
10/9/2023	Assessment	0.012 J1	4.68	273	< 0.007 U1	< 0.004 U1	0.21 J1	0.01 J1	0.78	1.13	< 0.05 U1	0.0566	< 0.2 U1	1.7	< 0.04 U1	< 0.02 U1
2/19/2024	Assessment	0.012 J1	5.00	301	< 0.007 U1	< 0.004 U1	0.19 J1	0.011 J1	1.00	1.08	< 0.05 U1	0.0601	< 0.2 U1	1.9	< 0.04 U1	< 0.02 U1
4/1/2024	Assessment	0.015 J1	4.82	319	< 0.007 U1	< 0.004 U1	0.13 J1	0.010 J1	0.50	1.13	< 0.05 U1	0.0614	< 0.2 U1	1.8	< 0.04 U1	< 0.02 U1
10/7/2024	Assessment	< 0.06 U1	4.5	312 M1	< 0.06 U1	< 0.03 U1	< 0.6 U1	< 0.04 U1	0.36	1.24	< 0.4 U1	0.0641 M1	< 0.2 U1	1.9 J1	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1612
Clinch River - Pond 1
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
12/13/2017	Background	0.453	38.7	13.3	0.12	7.1	6.0	384
2/14/2018	Background	0.532	43.0	14.5	0.12	6.9	9.3	506
4/12/2018	Background	0.476	44.9	21.6	0.17	7.1	13.9	546
6/12/2018	Background	0.452	42.4	22.7	0.17	7.0	16.9	524
8/22/2018	Background	0.543	42.0	20.9	0.19	7.1	15.6	550
10/16/2018	Background	0.5 J1	38.1	37.1	0.21	7.3	10.8	528
12/11/2018	Background	0.439	37.9	35.3	0.20	7.4	7.8	522
2/12/2019	Detection	0.393	36.4	32.8	0.19	7.3	5.4	537
4/10/2019	Assessment	0.527	41.0	27.5	0.18	7.4	4.6	551
5/30/2019	Assessment	0.355	34.9	32.8	0.22	7.4	3.3	537
10/2/2019	Assessment	0.423	45.9	30.7	0.14	7.1	1.9	533
2/11/2020	Assessment	0.367	40.1	33.3	0.17	7.3	1.2	520
4/21/2020	Assessment	0.381	54.4	9.9	0.08	6.2	0.2 J1	495
10/7/2020	Assessment	0.399	50.7	20.0	0.16	6.8	< 0.06 U1	526
2/9/2021	Assessment	0.369	41.4	26.8	0.19	7.2	0.3 J1	555
4/13/2021	Assessment	0.339	41.6	29.6	0.19	7.3	0.4	524
10/12/2021	Assessment	0.400	42.3	27.5	0.18	7.4	< 0.06 U1	520
2/23/2022	Assessment	0.371	42.8	22.7	0.15	7.6	< 0.06 U1	520
4/13/2022	Assessment	0.394	49.9	15.2	0.13	6.7	< 0.06 U1	520
10/5/2022	Assessment	0.407	45.9 M1, P3	20.8	0.16	6.7	< 0.06 U1	510
2/14/2023	Assessment	0.388	46.0	20.3	0.14	7.1	< 0.06 U1	520
4/4/2023	Assessment	0.417	52.3	13.1	0.11	6.9	< 0.1 U1	500
10/10/2023	Assessment	0.404	45.7	12.3	0.12	7.0	< 0.1 U1	480
2/20/2024	Assessment	0.351	44.1	15.8	0.11	7.1	< 0.1 U1	500
4/2/2024	Assessment	0.372	45.6	19.2	0.13	7.1	< 0.1 U1	490
10/8/2024	Assessment	0.37 J1	43.0	21.9	0.17	7.2	0.2 J1	510

Table 1. Groundwater Data Summary: MW-1612
Clinch River - Pond 1
Appendix IV Constituents

Geosyntec Consultants, Inc.

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
12/13/2017	Background	0.30	3.86	2,020	0.045	< 0.005 U1	0.437	0.274	2.942	0.12	0.331	0.109	0.06 J1	3.60	0.1	0.01 J1
2/14/2018	Background	0.08	2.61	2,560	0.01 J1	< 0.005 U1	0.190	0.149	1.358	0.12	0.083	0.121	< 0.05 U1	1.59	0.06 J1	0.03 J1
4/12/2018	Background	0.11	2.26	2,170	0.005 J1	< 0.005 U1	0.196	0.115	2.209	0.17	0.040	0.128	< 0.05 U1	1.13	0.03 J1	< 0.01 U1
6/12/2018	Background	0.07	1.82	2,170	0.006 J1	< 0.005 U1	0.206	0.094	1.580	0.17	0.038	0.132	< 0.05 U1	0.83	0.04 J1	0.01 J1
8/22/2018	Background	0.05	1.56	2,090	< 0.004 U1	< 0.005 U1	0.251	0.124	2.76	0.19	0.025	0.136	< 0.05 U1	0.67	0.03 J1	0.01 J1
10/16/2018	Background	0.02 J1	1.17	1,640	< 0.02 U1	< 0.01 U1	0.2 J1	0.242	1.051	0.21	0.02 J1	< 0.09 U1	< 0.05 U1	0.8 J1	0.04 J1	< 0.1 U1
12/11/2018	Background	0.03 J1	0.92	1,880	< 0.02 U1	< 0.01 U1	0.2 J1	0.304	3.009	0.20	< 0.02 U1	0.134	< 0.05 U1	0.7 J1	< 0.03 U1	< 0.1 U1
2/12/2019	Detection	0.02 J1	0.71	1,880	< 0.02 U1	< 0.01 U1	0.204	0.320	0.574	0.19	< 0.02 U1	0.123	< 0.05 U1	0.50 J1	< 0.03 U1	< 0.1 U1
4/10/2019	Assessment	0.03 J1	0.74	2,060	< 0.02 U1	< 0.01 U1	0.1 J1	0.339	1.25	0.18	< 0.02 U1	0.133	< 0.05 U1	0.7 J1	< 0.03 U1	< 0.1 U1
5/30/2019	Assessment	0.02 J1	0.76	1,930	< 0.02 U1	< 0.01 U1	0.257	0.228	0.621	0.22	< 0.02 U1	0.113	< 0.05 U1	0.7 J1	< 0.03 U1	< 0.1 U1
10/2/2019	Assessment	< 0.02 U1	0.56	2,150	< 0.02 U1	< 0.01 U1	0.218	0.182	1.137	0.14	< 0.05 U1	0.128	< 0.2 U1	2.01	0.05 J1	< 0.1 U1
2/11/2020	Assessment	0.05 J1	0.45	2,050	< 0.02 U1	< 0.01 U1	0.2 J1	0.121	1.888	0.17	< 0.05 U1	0.106	< 0.2 U1	2 J1	0.03 J1	< 0.1 U1
4/21/2020	Assessment	0.15	0.39	2,600	< 0.02 U1	< 0.01 U1	0.216	0.176	2.65	0.08	0.07 J1	0.107	< 0.2 U1	0.8 J1	0.03 J1	< 0.1 U1
10/7/2020	Assessment	0.03 J1	0.76	2,450	< 0.02 U1	< 0.01 U1	0.1 J1	0.183	1.765	0.16	< 0.05 U1	0.103	< 0.2 U1	< 0.4 U1	< 0.03 U1	< 0.1 U1
2/9/2021	Assessment	0.03 J1	0.50	2,400	< 0.02 U1	< 0.01 U1	0.1 J1	0.097	2.053	0.19	< 0.05 U1	0.113	< 0.2 U1	0.6 J1	< 0.03 U1	< 0.1 U1
4/13/2021	Assessment	0.04 J1	0.37	2,120	< 0.007 U1	< 0.004 U1	0.2 J1	0.125	1.572	0.19	< 0.05 U1	0.113	< 0.2 U1	0.7 J1	< 0.09 U1	< 0.04 U1
10/12/2021	Assessment	0.03 J1	0.48	2,470	< 0.007 U1	< 0.004 U1	0.18 J1	0.116	1.90	0.18	< 0.05 U1	0.115	< 0.2 U1	0.3 J1	< 0.09 U1	< 0.04 U1
2/23/2022	Assessment	< 0.04 U1	0.38	2,440	< 0.007 U1	< 0.004 U1	0.15 J1	0.091 B1	1.62	0.15	< 0.05 U1	0.129	< 0.2 U1	0.3 J1	< 0.09 U1	< 0.04 U1
4/13/2022	Assessment	< 0.02 U1	0.31	2,550	< 0.007 U1	< 0.004 U1	0.10 J1	0.115	1.75	0.13	< 0.05 U1	0.131	< 0.2 U1	0.1 J1	< 0.09 U1	< 0.04 U1
10/5/2022	Assessment	< 0.02 U1	0.33	2,390 M1, P3	< 0.007 U1	< 0.004 U1	0.39	0.096	3.01	0.16	< 0.05 U1	0.147	< 0.2 U1	0.1 J1	< 0.09 U1	< 0.04 U1
2/14/2023	Assessment	< 0.02 U1	0.34	2,620	< 0.007 U1	< 0.004 U1	0.23	0.085	1.92	0.14	< 0.05 U1	0.112	< 0.2 U1	0.2 J1	< 0.09 U1	< 0.04 U1
4/4/2023	Assessment	0.023 J1	0.32	2,520	< 0.007 U1	< 0.004 U1	0.21 J1	0.103	2.23	0.11	< 0.05 U1	0.125	< 0.2 U1	0.1 J1	< 0.04 U1	< 0.02 U1
10/10/2023	Assessment	0.026 J1	0.31	2,410	< 0.007 U1	< 0.004 U1	0.23 J1	0.075	1.91	0.12	< 0.05 U1	0.137	< 0.2 U1	0.2 J1	< 0.04 U1	< 0.02 U1
2/20/2024	Assessment	0.042 J1	0.31	2,310	< 0.007 U1	< 0.004 U1	0.19 J1	0.068	1.70	0.11	< 0.05 U1	0.129	< 0.2 U1	< 0.1 U1	< 0.04 U1	< 0.02 U1
4/2/2024	Assessment	0.030 J1	0.21	2,320	< 0.007 U1	< 0.004 U1	0.21 J1	0.077	1.95	0.13	< 0.05 U1	0.112	< 0.2 U1	0.1 J1	< 0.04 U1	< 0.02 U1
10/8/2024	Assessment	< 0.06 U1	0.3 J1	2,240	< 0.06 U1	< 0.03 U1	< 0.6 U1	0.06 J1	2.11	0.17	< 0.4 U1	0.121	< 0.2 U1	< 0.8 U1	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1903D
Clinch River - Pond 1
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
4/22/2020	Assessment	0.302	196	4,170	< 0.4 U1	7.0	< 2 U1	7,060
11/9/2020	Assessment	0.270	231	4,780	0.4 J1	8.0	< 0.8 U1	8,000
2/16/2021	Assessment	< 0.4 U1	169	4,940	0.5 J1	8.1	< 0.8 U1	7,440
4/14/2021	Assessment	0.275	177	4,790	0.6 J1	8.2	< 0.8 U1	7,060
10/13/2021	Assessment	0.25 J1	145	4,020	0.6 J1	8.3	< 0.8 U1	6,400
2/24/2022	Assessment	0.22 J1	136	4,130	0.5 J1	8.5	< 0.8 U1	6,400
4/14/2022	Assessment	0.28	137	3,760	0.5 J1	7.8	< 0.8 U1	6,000
10/5/2022	Assessment	0.4 J1	139	3,410	0.5 J1	7.6	2.4 J1	5,500
2/15/2023	Assessment	0.3 J1	124	3,700	0.5 J1	8.1	< 0.8 U1	6,020 S7, S1
4/5/2023	Assessment	0.3 J1	117	3,410	0.4 J1	8.0	< 2 U1	5,200
10/11/2023	Assessment	0.3 J1	106	3,340	0.6 J1	8.0	< 2 U1	5,680
4/3/2024	Assessment	0.263	134	3,870	0.6 J1	8.2	< 2 U1	6,100
10/9/2024	Assessment	< 0.4 U1	146	3,940	0.4 J1	8.2	< 2 U1	6,500

Table 1. Groundwater Data Summary: MW-1903D
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
4/22/2020	Assessment	0.22	8.73	15,000	< 0.04 U1	< 0.02 U1	0.2 J1	0.471	7.24	< 0.4 U1	0.1 J1	0.425	< 0.2 U1	13.7	0.1 J1	< 0.2 U1
11/9/2020	Assessment	< 0.1 U1	6.47	24,700	< 0.1 U1	< 0.05 U1	< 0.2 U1	< 0.1 U1	8.28	0.4 J1	< 0.2 U1	0.459	< 0.2 U1	20.9	< 0.2 U1	< 0.5 U1
2/16/2021	Assessment	< 0.4 U1	7.88	23,200	< 0.4 U1	< 0.2 U1	< 0.8 U1	< 0.4 U1	10.34	0.5 J1	< 1 U1	0.442	< 0.2 U1	20 J1	< 0.6 U1	< 2 U1
4/14/2021	Assessment	0.1 J1	7.27	20,300	< 0.04 U1	< 0.02 U1	< 0.2 U1	0.06 J1	6.54	0.6 J1	< 0.2 U1	0.430	< 0.2 U1	21.9	< 0.4 U1	< 0.2 U1
10/13/2021	Assessment	0.3 J1	6.8	15,100	< 0.07 U1	< 0.04 U1	< 0.4 U1	0.07 J1	7.57	0.6 J1	< 0.5 U1	0.402	< 0.2 U1	25	< 0.9 U1	< 0.4 U1
2/24/2022	Assessment	< 0.2 U1	6.3	16,200	< 0.07 U1	< 0.04 U1	0.5 J1	0.05 J1	7.27	0.5 J1	< 0.5 U1	0.395	< 0.2 U1	24	< 0.9 U1	< 0.4 U1
4/14/2022	Assessment	0.6	6.7	12,500	< 0.04 U1	< 0.02 U1	< 0.2 U1	0.05 J1	6.24	0.5 J1	< 0.3 U1	0.351	< 0.2 U1	21.6	< 0.5 U1	< 0.2 U1
10/5/2022	Assessment	2.7	7.5	9,820	< 0.1 U1	< 0.08 U1	3.1 J1	0.11 J1	7.23	0.5 J1	< 1 U1	0.355	< 0.2 U1	18	< 2 U1	< 0.2 U1
2/15/2023	Assessment	1.0 J1	7.1	13,500	< 0.1 U1	< 0.08 U1	< 0.8 U1	< 0.06 U1	5.68	0.5 J1	< 1 U1	0.326	< 0.2 U1	22	< 2 U1	< 0.2 U1
4/5/2023	Assessment	1.2 J1	4.4	9,630 M1	< 0.1 U1	< 0.08 U1	1 J1	< 0.1 U1	7.44	0.4 J1	< 1 U1	0.38 M1	< 0.2 U1	18	< 0.8 U1	< 0.2 U1
10/11/2023	Assessment	1 J1	5.3	9,810	< 0.1 U1	< 0.08 U1	2 J1	< 0.1 U1	7.35	0.6 J1	< 1 U1	0.366	< 0.2 U1	18	< 0.8 U1	< 0.1 U1
4/3/2024	Assessment	0.501	6.02	14,800	< 0.007 U1	< 0.004 U1	0.14 J1	0.025	5.99	0.6 J1	0.08 J1	0.357	< 0.2 U1	16.0	< 0.04 U1	< 0.02 U1
10/9/2024	Assessment	< 0.4 U1	7	14,700	< 0.4 U1	< 0.2 U1	< 4 U1	< 0.3 U1	6.02	0.4 J1	< 3 U1	0.376	< 0.2 U1	15 J1	< 2 U1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1903S
Clinch River - Pond 1
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
4/22/2020	Assessment	0.350	95.4	1,190	0.11	6.3	< 0.06 U1	2,320
11/9/2020	Assessment	0.383	80.0	937	0.1 J1	7.0	< 0.2 U1	2,020
2/16/2021	Assessment	0.355	70.2	879	0.15	7.2	< 0.2 U1	1,520
4/14/2021	Assessment	0.355	83.6	1,050	0.15	7.3	< 0.2 U1	1,780
10/13/2021	Assessment	0.381	83.4	989	0.13 J1	7.4	< 0.2 U1	2,000
2/24/2022	Assessment	0.361	81.4 P3	1,030	0.09 J1	7.5	< 0.2 U1	2,000
4/14/2022	Assessment	0.380	87.2 M1, P3	1,000	0.12 J1	6.8	< 0.2 U1	1,700
10/5/2022	Assessment	0.407	91.7	1,040	0.12 J1	6.6	< 0.2 U1	1,900
2/15/2023	Assessment	0.375	95.5	1,070	0.1 J1	6.8	< 0.2 U1	1,990
4/5/2023	Assessment	0.41	92.9	1,060	0.1 J1	7.0	< 0.3 U1	2,000
10/11/2023	Assessment	0.37	77.0	1,010	0.13 J1	6.9	< 0.3 U1	1,940
4/3/2024	Assessment	0.350	83.9	1,020	0.13 J1	7.0	< 0.3 U1	1,700
10/9/2024	Assessment	0.371	78	1,030	0.09 J1	7.0	< 0.3 U1	1,800

Table 1. Groundwater Data Summary: MW-1903S
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
4/22/2020	Assessment	0.06 J1	2.99	9,280	0.03 J1	< 0.01 U1	0.362	0.208	4.55	0.11	0.713	0.194	< 0.2 U1	1 J1	0.06 J1	< 0.1 U1
11/9/2020	Assessment	0.13	1.76	7,420	< 0.02 U1	< 0.01 U1	0.1 J1	0.120	3.71	0.1 J1	< 0.05 U1	0.169	< 0.2 U1	0.9 J1	< 0.03 U1	< 0.1 U1
2/16/2021	Assessment	0.04 J1	1.51	7,610	< 0.02 U1	< 0.01 U1	0.2 J1	0.097	6.772	0.15	0.1 J1	0.158	< 0.2 U1	0.6 J1	< 0.03 U1	< 0.1 U1
4/14/2021	Assessment	0.07 J1	1.44	8,020	0.01 J1	< 0.004 U1	0.08 J1	0.079	3.68	0.15	0.08 J1	0.164	< 0.2 U1	0.5 J1	< 0.09 U1	< 0.04 U1
10/13/2021	Assessment	0.06 J1	1.18	7,790 M1, P3	< 0.07 U1	< 0.004 U1	0.19 J1	0.081	3.88	0.13 J1	< 0.05 U1	0.186	< 0.2 U1	0.5	< 0.09 U1	< 0.04 U1
2/24/2022	Assessment	0.08 J1	1.02	7,910	0.012 J1	< 0.004 U1	0.15 J1	0.091	3.62	0.09 J1	0.08 J1	0.199 M1, P3	< 0.2 U1	0.4 J1	< 0.09 U1	< 0.04 U1
4/14/2022	Assessment	0.19	0.95	7,600 M1, P3	0.008 J1	< 0.004 U1	0.11 J1	0.090	3.90	0.12 J1	0.08 J1	0.189 P3	< 0.2 U1	0.4 J1	< 0.09 U1	< 0.04 U1
10/5/2022	Assessment	0.07 J1	0.97	8,430	0.010 J1	< 0.004 U1	0.15 J1	0.099	6.90	0.12 J1	0.08 J1	0.191	< 0.2 U1	0.4 J1	< 0.09 U1	< 0.04 U1
2/15/2023	Assessment	0.07 J1	0.92	8,840	0.011 J1	< 0.004 U1	0.14 J1	0.085	4.62	0.1 J1	0.08 J1	0.160	< 0.2 U1	0.5	< 0.09 U1	< 0.04 U1
4/5/2023	Assessment	0.04 J1	0.9	8,220	< 0.04 U1	< 0.02 U1	0.8 J1	0.08 J1	6.01	0.1 J1	< 0.3 U1	0.196	< 0.2 U1	0.6 J1	< 0.2 U1	< 0.1 U1
10/11/2023	Assessment	0.07 J1	0.8	7,880	< 0.04 U1	< 0.02 U1	0.8 J1	0.09 J1	4.19	0.13 J1	< 0.3 U1	0.182	< 0.2 U1	< 0.5 U1	< 0.2 U1	< 0.1 U1
4/3/2024	Assessment	0.069 J1	0.70	8,040	0.012 J1	< 0.004 U1	0.19 J1	0.078	3.96	0.13 J1	0.09 J1	0.166	< 0.2 U1	0.2 J1	0.06 J1	< 0.02 U1
10/9/2024	Assessment	0.062 J1	0.67	6,620	0.009 J1	< 0.004 U1	0.17 J1	0.089	2.88	0.09 J1	0.06 J1	0.168	< 0.2 U1	0.4 J1	< 0.04 U1	< 0.02 U1

Table 1. Groundwater Data Summary: MW-1904D
Clinch River - Pond 1
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
4/22/2020	Assessment	0.504	8.82	84.3	1.17	7.3	8.0	795
11/9/2020	Assessment	0.472	8.68	92.3	1.18	8.0	< 0.06 U1	802
2/15/2021	Assessment	0.500	8.24	91.5	1.17	8.2	< 0.06 U1	829
4/14/2021	Assessment	0.505	8.52	93.9	1.16	8.3	< 0.06 U1	809
10/13/2021	Assessment	0.489	8.3	93.4	1.09	8.5	< 0.3 U1	830
2/24/2022	Assessment	0.491	8.30	99.9	1.13	8.6	< 0.06 U1	840
4/14/2022	Assessment	0.550	8.85	95.6	1.06	7.9	< 0.06 U1	850
10/5/2022	Assessment	0.560	8.60	97.0	1.06	8.0	< 0.06 U1	850
2/15/2023	Assessment	0.409	19.4	98.7	1.09	8.1	< 0.06 U1	850
4/5/2023	Assessment	0.553	8.81	96.9	1.06	8.2	< 0.1 U1	830
10/11/2023	Assessment	0.522	8.44	98.8	1.05	8.1	< 0.1 U1	850
4/3/2024	Assessment	0.511	8.83	102	1.05	8.2	< 0.1 U1	860
10/9/2024	Assessment	0.52	8.6	101	1.12	8.1	< 0.1 U1	860

Table 1. Groundwater Data Summary: MW-1904D
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
4/22/2020	Assessment	0.26	2.76	712	< 0.02 U1	< 0.01 U1	0.229	0.162	2.18	1.17	0.06 J1	0.154	< 0.2 U1	4.60	< 0.03 U1	< 0.1 U1
11/9/2020	Assessment	3.23	2.48	850	< 0.02 U1	< 0.01 U1	0.1 J1	0.05 J1	3.103	1.18	< 0.05 U1	0.168	< 0.2 U1	4.32	0.08 J1	< 0.1 U1
2/15/2021	Assessment	0.91	2.78	848	< 0.1 U1	< 0.05 U1	0.3 J1	< 0.1 U1	1.402	1.17	< 0.05 U1	0.165	< 0.2 U1	6 J1	< 0.2 U1	< 0.1 U1
4/14/2021	Assessment	0.59	2.51	841	< 0.007 U1	< 0.004 U1	0.08 J1	0.03 J1	1.186	1.16	< 0.05 U1	0.160	< 0.2 U1	5.07	< 0.09 U1	< 0.04 U1
10/13/2021	Assessment	0.59	2.47	881	< 0.007 U1	< 0.004 U1	0.27	0.027	0.99	1.09	< 0.05 U1	0.157	< 0.2 U1	6.0	< 0.09 U1	< 0.04 U1
2/24/2022	Assessment	0.25	2.40	981	< 0.007 U1	< 0.004 U1	0.21	0.043	1.93	1.13	< 0.05 U1	0.172	< 0.2 U1	7.3	< 0.09 U1	< 0.04 U1
4/14/2022	Assessment	0.22	1.96	980	< 0.007 U1	< 0.004 U1	0.05 J1	0.041	1.60	1.06	< 0.05 U1	0.177	< 0.2 U1	6.1	< 0.09 U1	< 0.04 U1
10/5/2022	Assessment	0.25	1.76	949	< 0.007 U1	< 0.004 U1	0.15 J1	0.117	1.53	1.06	< 0.05 U1	0.183	< 0.2 U1	4.9	< 0.09 U1	< 0.04 U1
2/15/2023	Assessment	0.17	2.74	1,370	0.013 J1	< 0.004 U1	0.17 J1	0.197	2.78	1.09	< 0.05 U1	0.0892	< 0.2 U1	2.1	< 0.09 U1	< 0.04 U1
4/5/2023	Assessment	0.117	1.30	925	< 0.007 U1	< 0.004 U1	0.17 J1	0.086	2.21	1.06	< 0.05 U1	0.170	< 0.2 U1	3.4	< 0.04 U1	< 0.02 U1
10/11/2023	Assessment	0.140	1.36	1,050	< 0.007 U1	< 0.004 U1	0.19 J1	0.186	0.74	1.05	< 0.05 U1	0.188	< 0.2 U1	3.6	< 0.04 U1	< 0.02 U1
4/3/2024	Assessment	0.095 J1	1.51	1,000	< 0.007 U1	< 0.004 U1	0.15 J1	0.140	1.81	1.05	< 0.05 U1	0.164	< 0.2 U1	4.4	< 0.04 U1	< 0.02 U1
10/9/2024	Assessment	0.10 J1	1.4	929	< 0.06 U1	< 0.03 U1	< 0.6 U1	0.23	1.77	1.12	< 0.4 U1	0.180	< 0.2 U1	4.2	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1904S
Clinch River - Pond 1
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
4/22/2020	Assessment	0.541	11.5	10.9	0.42	7.3	0.2 J1	411
11/9/2020	Assessment	0.452	18.5	10.1	0.29	7.3	< 0.06 U1	384
2/15/2021	Assessment	0.451	18.4	9.8	0.30	7.4	< 0.06 U1	405
4/14/2021	Assessment	0.457	21.1	10.0	0.28	7.3	< 0.06 U1	366
10/13/2021	Assessment	0.405	20.1	10.2	0.25	7.5	< 0.06 U1	380
2/24/2022	Assessment	0.406	19.4	10.4	0.23	7.5	< 0.06 U1	390
4/14/2022	Assessment	0.424	22.1	10.1	0.21	6.7	< 0.06 U1	360
10/5/2022	Assessment	0.436	19.5	10.7	0.23	6.4	< 0.06 U1	350
2/15/2023	Assessment	0.524	8.86	10.8	0.23	7.1	< 0.06 U1	380
4/5/2023	Assessment	0.386	19.7	10.5	0.21	7.1	< 0.1 U1	350
10/11/2023	Assessment	0.345	20.7	10.3	0.18	7.0	< 0.1 U1	350
4/3/2024	Assessment	0.368	21.2	10.8	0.20	7.0	< 0.1 U1	340
10/9/2024	Assessment	0.364	21	10.6	0.23	7.1	< 0.1 U1	350

Table 1. Groundwater Data Summary: MW-1904S
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
4/22/2020	Assessment	0.18	3.13	866	< 0.02 U1	< 0.01 U1	0.2 J1	0.218	1.471	0.42	0.1 J1	0.115	< 0.2 U1	3.52	< 0.03 U1	< 0.1 U1
11/9/2020	Assessment	0.16	2.64	1,230	< 0.02 U1	< 0.01 U1	0.1 J1	0.118	4.591	0.29	< 0.05 U1	0.113	< 0.2 U1	2 J1	0.07 J1	< 0.1 U1
2/15/2021	Assessment	0.08 J1	2.97	1,260	< 0.02 U1	< 0.01 U1	0.2 J1	0.123	3.355	0.30	< 0.05 U1	0.0966	< 0.2 U1	2.30	< 0.03 U1	< 0.1 U1
4/14/2021	Assessment	0.07 J1	2.63	1,300	0.009 J1	< 0.004 U1	0.06 J1	0.141	1.438	0.28	< 0.05 U1	0.0990	< 0.2 U1	1 J1	< 0.09 U1	< 0.04 U1
10/13/2021	Assessment	0.05 J1	2.08	1,290	0.008 J1	< 0.004 U1	0.44	0.116	2.42	0.25	< 0.05 U1	0.0940	< 0.2 U1	1.3	< 0.09 U1	< 0.04 U1
2/24/2022	Assessment	0.28	3.26	1,300	0.013 J1	< 0.004 U1	0.13 J1	0.142	1.65	0.23	0.10 J1	0.0955	< 0.2 U1	1.2	< 0.09 U1	< 0.04 U1
4/14/2022	Assessment	0.13	2.51	1,400	0.008 J1	< 0.004 U1	0.22	0.178	1.80	0.21	< 0.05 U1	0.0880	< 0.2 U1	1.4	< 0.09 U1	< 0.04 U1
10/5/2022	Assessment	0.08 J1	2.88	1,300	0.011 J1	0.010 J1	0.15 J1	0.162	2.70	0.23	< 0.05 U1	0.108	< 0.2 U1	1.6	< 0.09 U1	< 0.04 U1
2/15/2023	Assessment	0.15	1.68	1,080	< 0.007 U1	< 0.004 U1	0.11 J1	0.076	2.12	0.23	0.07 J1	0.161	< 0.2 U1	4.6	< 0.09 U1	< 0.04 U1
4/5/2023	Assessment	0.062 J1	2.27	1,190	0.014 J1	< 0.004 U1	0.16 J1	0.221	3.32	0.21	< 0.05 U1	0.0917	< 0.2 U1	1.0	0.06 J1	< 0.02 U1
10/11/2023	Assessment	0.037 J1	2.02	1,460	0.014 J1	< 0.004 U1	0.21 J1	0.249	1.71	0.18	< 0.05 U1	0.0864	< 0.2 U1	0.6	< 0.04 U1	< 0.02 U1
4/3/2024	Assessment	0.035 J1	2.43	1,380	0.014 J1	< 0.004 U1	0.39	0.270	1.99	0.20	< 0.05 U1	0.0784	< 0.2 U1	0.6	< 0.04 U1	< 0.02 U1
10/9/2024	Assessment	0.023 J1	2.53	1,250	0.009 J1	< 0.004 U1	0.16 J1	0.202	1.04	0.23	< 0.05 U1	0.0744	< 0.2 U1	0.5	0.06 J1	< 0.02 U1

Table 1. Groundwater Data Summary: MW-1905D
Clinch River - Pond 1
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
4/22/2020	Assessment	0.515	155	3,220	< 0.4 U1	7.0	8.1	5,180
11/9/2020	Assessment	0.519	181	3,140	0.3 J1	7.7	< 0.3 U1	5,240
2/16/2021	Assessment	< 0.2 U1	156	3,260	0.32	7.8	< 0.3 U1	5,580
4/14/2021	Assessment	0.534	172	3,350	0.43	7.9	< 0.3 U1	5,380
10/13/2021	Assessment	0.407	171	3,350	0.4	8.1	< 0.3 U1	5,600
2/24/2022	Assessment	0.5 J1	185	3,400	0.4	8.3	< 0.3 U1	5,200 P1
4/14/2022	Assessment	0.61	199	3,450	0.4 J1	7.5	< 0.8 U1	5,600
10/6/2022	Assessment	0.64	193	3,640	0.4 J1	7.3	< 0.8 U1	5,900
2/15/2023	Assessment	0.6 J1	169	3,360	< 0.3 U1	7.6	< 8 U1	5,300
4/5/2023	Assessment	0.6 J1	177	3,280	< 0.3 U1	7.7	< 2 U1	5,700
10/11/2023	Assessment	0.6 J1	181	3,350	0.4 J1	7.6	< 2 U1	5,760
4/3/2024	Assessment	0.6 J1	197	3,380	0.3 J1	7.7	< 2 U1	5,800
10/9/2024	Assessment	0.59	187	3,310	< 0.3 U1	7.7	< 2 U1	5,600

Table 1. Groundwater Data Summary: MW-1905D
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
4/22/2020	Assessment	0.31	5.40	5,080	< 0.04 U1	< 0.02 U1	0.3 J1	0.163	7.36	< 0.4 U1	< 0.1 U1	0.991	< 0.2 U1	7.17	< 0.06 U1	< 0.1 U1
11/9/2020	Assessment	< 0.1 U1	5.21	12,600	< 0.1 U1	< 0.05 U1	< 0.2 U1	< 0.1 U1	10.38	0.3 J1	< 0.2 U1	0.935	< 0.2 U1	4 J1	< 0.2 U1	< 0.5 U1
2/16/2021	Assessment	< 0.2 U1	3.03	5,320	< 0.2 U1	< 0.1 U1	< 0.4 U1	< 0.2 U1	11.05	0.32	1 J1	0.501	< 0.2 U1	< 4 U1	< 0.3 U1	< 1 U1
4/14/2021	Assessment	< 0.2 U1	4.92	10,800	< 0.07 U1	< 0.04 U1	< 0.4 U1	0.04 J1	8.19	0.43	< 0.05 U1	1.05	< 0.4 U1	4 J1	< 0.9 U1	< 0.04 U1
10/13/2021	Assessment	0.04 J1	3.42	10,200	< 0.07 U1	0.005 J1	0.21	0.016 J1	11.77	0.4	< 0.5 U1	1.05	< 0.2 U1	4.2	< 0.09 U1	< 0.4 U1
2/24/2022	Assessment	< 0.4 U1	3.2	9,380	< 0.1 U1	< 0.08 U1	1.4 J1	< 0.06 U1	9.89	0.4	< 1 U1	1.17	< 0.2 U1	7 J1	< 2 U1	< 0.4 U1
4/14/2022	Assessment	< 0.1 U1	2.9	8,970	< 0.04 U1	< 0.02 U1	< 0.2 U1	0.03 J1	8.45	0.4 J1	< 0.3 U1	0.963	< 0.4 U1	5.9	< 0.5 U1	< 0.2 U1
10/6/2022	Assessment	< 0.1 U1	2.3	9,040	< 0.04 U1	< 0.02 U1	0.2 J1	0.03 J1	9.66	0.4 J1	< 0.3 U1	1.20	< 0.4 U1	4.7	< 0.5 U1	< 0.2 U1
2/15/2023	Assessment	< 0.4 U1	2.1	9,170	0.008 J1	< 0.08 U1	44.6	0.07 J1	9.15	< 0.3 U1	< 1 U1	1.12	< 0.2 U1	7 J1	< 2 U1	< 0.2 U1
4/5/2023	Assessment	< 0.2 U1	1.9 J1	8,550	< 0.1 U1	< 0.08 U1	2 J1	< 0.1 U1	12.87	< 0.3 U1	< 1 U1	1.14	< 0.2 U1	3 J1	< 0.8 U1	< 0.2 U1
10/11/2023	Assessment	< 0.2 U1	1.8 J1	9,130	< 0.1 U1	< 0.08 U1	2 J1	< 0.1 U1	8.00	0.4 J1	< 1 U1	1.19	< 0.2 U1	3 J1	< 0.8 U1	< 0.1 U1
4/3/2024	Assessment	< 0.2 U1	2.1	9,850	< 0.1 U1	< 0.08 U1	< 1 U1	< 0.1 U1	7.68	0.3 J1	< 1 U1	1.15	< 0.2 U1	2 J1	< 0.8 U1	0.7 J1
10/9/2024	Assessment	< 0.06 U1	1.9	9,680	< 0.06 U1	< 0.03 U1	< 0.6 U1	< 0.04 U1	7.60	< 0.3 U1	< 0.4 U1	0.617	< 0.2 U1	2.2 J1	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1905S
Clinch River - Pond 1
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
4/22/2020	Assessment	0.184	83.5	334	0.33	6.7	69.3	810
11/9/2020	Assessment	0.236	66.8	177	0.36	7.5	72.5	598
2/16/2021	Assessment	0.230	81.8	1,660	0.32	7.8	6.4	2,930
4/14/2021	Assessment	0.551	234	1,740	0.35	7.7	4.0	2,840
10/13/2021	Assessment	0.500	242	1,730	0.33	7.9	2.6	3,400
2/24/2022	Assessment	0.486	231	1,730	0.30	8.5	2.7	3,300
4/14/2022	Assessment	0.594	263	1,750	0.26	7.3	1.5	3,000
10/6/2022	Assessment	0.58	249 M1, P3	1,870	0.28	7.2	1.4	3,400
2/15/2023	Assessment	0.522	250	1,780	0.2 J1	7.4	1.7 J1	2,970 S7
4/5/2023	Assessment	0.560	239	1,740	0.2 J1	7.5	1.5 J1	3,100
10/11/2023	Assessment	0.511	233	1,780	0.3	7.4	1.6 J1	3,780
4/3/2024	Assessment	0.516	246	1,760	0.3	7.6	1.8 J1	3,200
10/9/2024	Assessment	0.562	240 M1	1,730	0.3	7.6	1.7 J1	3,000 S7

Table 1. Groundwater Data Summary: MW-1905S
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
4/22/2020	Assessment	0.12	2.39	166	< 0.02 U1	< 0.01 U1	0.348	1.22	1.886	0.33	0.1 J1	0.110	< 0.2 U1	97.0	0.7	< 0.1 U1
11/9/2020	Assessment	1.62	6.25	285	< 0.02 U1	< 0.01 U1	0.285	0.642	2.515	0.36	0.1 J1	0.113	< 0.2 U1	93.6	0.6	< 0.1 U1
2/16/2021	Assessment	5.15	2.12	519	< 0.02 U1	0.02 J1	0.210	0.462	5.84	0.32	0.218	0.137	< 0.2 U1	82.6	0.5	< 0.1 U1
4/14/2021	Assessment	0.08 J1	7.06	3,490	0.01 J1	< 0.004 U1	0.05 J1	0.120	4.36	0.35	< 0.05 U1	0.517	< 0.2 U1	8.42	< 0.09 U1	< 0.04 U1
10/13/2021	Assessment	0.05 J1	2.66	3,960	< 0.04 U1	< 0.004 U1	0.41	0.118	7.03	0.33	< 0.05 U1	0.530	< 0.2 U1	7.9	< 0.09 U1	< 0.04 U1
2/24/2022	Assessment	0.06 J1	4.66	5,750	< 0.007 U1	0.024	0.39	0.090	5.47	0.30	0.06 J1	0.587	< 0.2 U1	8.1	< 0.09 U1	< 0.04 U1
4/14/2022	Assessment	0.03 J1	3.06	5,420	< 0.007 U1	< 0.004 U1	0.11 J1	0.075	4.61	0.26	< 0.05 U1	0.530	< 0.2 U1	5.5	< 0.09 U1	< 0.04 U1
10/6/2022	Assessment	< 0.1 U1	2.3	5,440 M1, P3	< 0.04 U1	< 0.02 U1	0.4 J1	0.08 J1	6.09	0.28	< 0.3 U1	0.581 M1	< 0.2 U1	5.1	< 0.5 U1	< 0.2 U1
2/15/2023	Assessment	0.03 J1	1.38	6,040	< 0.007 U1	< 0.004 U1	0.17 J1	0.065	4.70	0.2 J1	< 0.05 U1	0.542	< 0.2 U1	4.6	< 0.09 U1	< 0.04 U1
4/5/2023	Assessment	0.026 J1	1.93	5,130	< 0.007 U1	< 0.004 U1	0.30	0.060	7.92	0.2 J1	< 0.05 U1	0.504	< 0.2 U1	4.3	< 0.04 U1	< 0.02 U1
10/11/2023	Assessment	0.026 J1	1.26	6,160	< 0.007 U1	< 0.004 U1	0.19 J1	0.052	4.76	0.3	0.14 J1	0.562	< 0.2 U1	4.1	< 0.04 U1	< 0.02 U1
4/3/2024	Assessment	0.130	1.48	5,830	< 0.007 U1	< 0.004 U1	0.16 J1	0.047	5.37	0.3	< 0.05 U1	0.551	< 0.2 U1	5.1	0.09 J1	< 0.02 U1
10/9/2024	Assessment	0.055 J1	2.32	5,850	< 0.007 U1	< 0.004 U1	0.17 J1	0.044	5.07	0.3	< 3 U1	0.537 M1	< 0.2 U1	4.8	0.04 J1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1906D
Clinch River - Pond 1
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
4/22/2020	Assessment	< 0.02 U1	11.7	14.7	0.21	8.6	30.5	116
11/10/2020	Assessment	< 0.02 U1	19.0	13.1	0.14	8.6	26.5	132
2/15/2021	Assessment	< 0.02 U1	23.0	3.6	0.24	8.3	6.2	135
4/13/2021	Assessment	0.009 J1	22.6	11.5	0.14	8.4	23.9	146
10/12/2021	Assessment	0.011 J1	27.4	10.8	0.12	8.5	24.2	170
2/22/2022	Assessment	< 0.009 U1	27.0	11.9	0.11	8.5	51.4	230
4/13/2022	Assessment	0.020 J1	30.3	13.5	0.12	8.0	93.3	290
10/4/2022	Assessment	0.022 J1	29.7	14.2	0.11	7.2	92.9	300
2/14/2023	Assessment	0.021 J1	32.1	13.9	0.11	7.9	92.1	330
4/4/2023	Assessment	0.023 J1	35.4	13.3	0.1	8.0	91.0	330
10/10/2023	Assessment	0.024 J1	37.0	14.5	0.1	7.9	108	400
4/2/2024	Assessment	0.028 J1	51.0	16.6	0.09	7.8	130	440
10/8/2024	Assessment	< 0.06 U1	48.3	15.6	0.10	7.7	118	460

Table 1. Groundwater Data Summary: MW-1906D
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
4/22/2020	Assessment	0.77	6.47	18.4	< 0.02 U1	0.01 J1	0.2 J1	0.623	2.814	0.21	0.09 J1	0.0139	< 0.2 U1	39.9	0.3	< 0.1 U1
11/10/2020	Assessment	1.03	4.63	23.5	< 0.02 U1	0.02 J1	0.09 J1	0.500	1.845	0.14	0.2 J1	0.0141	< 0.2 U1	34.8	0.3	< 0.1 U1
2/15/2021	Assessment	0.15	2.37	27.2	< 0.02 U1	< 0.01 U1	0.1 J1	0.572	1.015	0.24	0.05 J1	0.0104	< 0.2 U1	12.5	0.09 J1	< 0.1 U1
4/13/2021	Assessment	0.54	3.44	24.6	< 0.007 U1	0.01 J1	0.2 J1	0.486	1.034	0.14	0.08 J1	0.0141	< 0.2 U1	21.1	0.2 J1	< 0.04 U1
10/12/2021	Assessment	0.25	3.34	27.9	< 0.007 U1	0.005 J1	0.23	0.433	2.03	0.12	< 0.05 U1	0.0139	< 0.2 U1	17.2	0.12 J1	< 0.04 U1
2/22/2022	Assessment	0.04 J1	2.74	30.8	< 0.007 U1	< 0.004 U1	0.17 J1	0.474	2.00	0.11	< 0.05 U1	0.0130	< 0.2 U1	10.8	< 0.09 U1	< 0.04 U1
4/13/2022	Assessment	0.09 J1	3.53	39.2	< 0.007 U1	< 0.004 U1	< 0.04 U1	0.760	1.97	0.12	< 0.05 U1	0.0144	< 0.2 U1	10.1	< 0.09 U1	< 0.04 U1
10/4/2022	Assessment	0.06 J1	3.08	36.6	< 0.007 U1	< 0.004 U1	0.16 J1	0.783	2.12	0.11	< 0.05 U1	0.015	< 0.2 U1	8.8	< 0.09 U1	< 0.04 U1
2/14/2023	Assessment	0.07 J1	2.88	37.5	< 0.007 U1	< 0.004 U1	0.23	0.880	3.04	0.11	0.11 J1	0.0119	< 0.2 U1	7.0	< 0.09 U1	< 0.04 U1
4/4/2023	Assessment	0.061 J1	2.92	40.7	< 0.007 U1	< 0.004 U1	0.15 J1	0.906	1.84	0.1	< 0.05 U1	0.0127	< 0.2 U1	4.8	0.05 J1	< 0.02 U1
10/10/2023	Assessment	0.102	2.40	38.6	< 0.007 U1	0.004 J1	0.24 J1	0.754	0.69	0.1	0.08 J1	0.0121	< 0.2 U1	5.2	< 0.04 U1	< 0.02 U1
4/2/2024	Assessment	0.036 J1	3.71	47.6	< 0.007 U1	< 0.004 U1	0.21 J1	0.420	2.60	0.09	< 0.05 U1	0.00996	< 0.2 U1	2.2	< 0.04 U1	< 0.02 U1
10/8/2024	Assessment	< 0.06 U1	4.7	45.7	< 0.06 U1	< 0.03 U1	< 0.6 U1	0.40	1.95	0.10	< 0.4 U1	0.0104	< 0.2 U1	1.8 J1	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1906S
Clinch River - Pond 1
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
4/22/2020	Assessment	0.375	39.3	19.7	0.51	6.4	147	297
11/10/2020	Assessment	0.407	45.6	15.4	0.45	8.7	124	294
2/15/2021	Assessment	0.415	41.3	14.6	0.52	8.3	133	297
4/13/2021	Assessment	0.404	43.0	15.0	0.49	7.8	131	283
10/12/2021	Assessment	0.431	47.5	13.4	0.50	9.0	133	290
2/22/2022	Assessment	0.408	48.5	14.5	0.50	9.0	152	300
4/13/2022	Assessment	0.449	53.7	14.4	0.48	8.5	144	310
10/4/2022	Assessment	0.410	48.6	13.5	0.45	8.5	131	280
2/14/2023	Assessment	0.340	47.9	14.6	0.42	8.9	131	300
4/4/2023	Assessment	0.339	45.1	13.8	0.42	8.8	128	280
10/10/2023	Assessment	0.334	40.3	12.9	0.42	9.0	122	270
4/2/2024	Assessment	0.315	47.5	14.5	0.38	7.3	141	280
10/8/2024	Assessment	0.20 J1	40.4	14.3	0.35	9.0	98.3	260

Table 1. Groundwater Data Summary: MW-1906S
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
4/22/2020	Assessment	0.16	3.61	62.4	< 0.02 U1	< 0.01 U1	0.2 J1	1.31	2.366	0.51	0.2 J1	0.121	< 0.2 U1	451	0.5	< 0.1 U1
11/10/2020	Assessment	0.29	4.15	57.6	< 0.02 U1	< 0.01 U1	0.07 J1	0.457	5.343	0.45	< 0.05 U1	0.150	< 0.2 U1	389	0.4	< 0.1 U1
2/15/2021	Assessment	0.15	3.79	58.4	< 0.02 U1	0.03 J1	0.07 J1	0.443	1.7664	0.52	< 0.05 U1	0.151	< 0.2 U1	337	0.4	< 0.1 U1
4/13/2021	Assessment	0.20	3.67	59.4	< 0.007 U1	< 0.004 U1	0.2 J1	0.485	1.169	0.49	< 0.05 U1	0.146	< 0.2 U1	380	0.5 J1	< 0.04 U1
10/12/2021	Assessment	0.25	5.39	61.7	< 0.007 U1	0.005 J1	0.24	0.320	2.11	0.50	< 0.05 U1	0.172	< 0.2 U1	413	0.43 J1	< 0.04 U1
2/22/2022	Assessment	0.15	5.05	60.8	< 0.007 U1	0.007 J1	0.13 J1	0.298	1.04	0.50	< 0.05 U1	0.173	< 0.2 U1	517	0.38 J1	< 0.04 U1
4/13/2022	Assessment	0.17	5.91	60.6	< 0.007 U1	< 0.004 U1	0.06 J1	0.336	2.14	0.48	0.13 J1	0.165	< 0.2 U1	467 M1	0.41 J1	< 0.04 U1
10/4/2022	Assessment	0.14	5.90	52.7	< 0.007 U1	< 0.004 U1	0.14 J1	0.318	1.94	0.45	< 0.05 U1	0.170	< 0.2 U1	374	0.41 J1	< 0.04 U1
2/14/2023	Assessment	0.16	8.06	54.1	< 0.007 U1	< 0.004 U1	0.23	0.381	3.72	0.42	< 0.05 U1	0.141	< 0.2 U1	410	0.37 J1	< 0.04 U1
4/4/2023	Assessment	0.146	7.26	50.6	< 0.007 U1	< 0.004 U1	0.18 J1	0.300	2.02	0.42	< 0.05 U1	0.160	< 0.2 U1	399	0.45 J1	< 0.02 U1
10/10/2023	Assessment	0.173	8.11	44.3	< 0.007 U1	< 0.004 U1	0.21 J1	0.278	1.09	0.42	< 0.05 U1	0.157	< 0.2 U1	310	0.37 J1	< 0.02 U1
4/2/2024	Assessment	0.219	7.33	55.3	0.011 J1	0.032	0.35	0.423	1.21	0.38	0.10 J1	0.156	< 0.2 U1	429	0.37 J1	< 0.02 U1
10/8/2024	Assessment	0.19 J1	13.3	38.1	< 0.06 U1	< 0.03 U1	< 0.6 U1	0.30	2.59	0.35	< 0.4 U1	0.0921	< 0.2 U1	262	0.3 J1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1907D
Clinch River - Pond 1
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
4/23/2020	Assessment	< 0.02 U1	53.1	5.1	0.13	6.8	61.2	360
11/10/2020	Assessment	< 0.02 U1	59.9	3.6	0.14	7.4	37.1	300
2/16/2021	Assessment	< 0.02 U1	53.7	3.6	0.15	7.6	34.9	325
4/15/2021	Assessment	0.01 J1	57.1	3.5	0.16	7.6	33.5	299
10/14/2021	Assessment	0.01 J1	53.1	3.38	0.12	7.9	30.4	300
2/25/2022	Assessment	0.024 J1	55.7	3.52	0.1	8.0	33.0	310
4/14/2022	Assessment	0.010 J1	53.7	3.11	0.10	7.2	32.2	310
10/6/2022	Assessment	0.009 J1	51.0	3.45	0.10	7.2	32.2	290
2/16/2023	Assessment	0.011 J1	54.8	3.21	0.09	7.5	30.9	290
4/6/2023	Assessment	0.011 J1	55.0	3.15	0.09	7.5	30.9	290
10/12/2023	Assessment	0.009 J1	50.8	3.12	0.09	7.5	30.2	290
4/4/2024	Assessment	0.013 J1	53.4	3.12	0.10	7.6	29.6	300
10/10/2024	Assessment	< 0.06 U1	51.8	3.18	0.12	7.6	29.2	290

Table 1. Groundwater Data Summary: MW-1907D
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
4/23/2020	Assessment	0.25	2.19	43.0	< 0.02 U1	< 0.01 U1	0.432	1.55	1.12	0.13	0.09 J1	0.00423	< 0.2 U1	7.64	0.04 J1	< 0.1 U1
11/10/2020	Assessment	0.08 J1	2.11	37.7	< 0.02 U1	< 0.01 U1	0.07 J1	1.01	2.074	0.14	< 0.05 U1	0.00399	< 0.2 U1	2.09	< 0.03 U1	< 0.1 U1
2/16/2021	Assessment	0.07 J1	1.88	38.4	< 0.02 U1	< 0.01 U1	0.210	0.633	1.718	0.15	< 0.05 U1	0.00376	< 0.2 U1	2.36	0.1 J1	< 0.1 U1
4/15/2021	Assessment	0.06 J1	1.60	36.8	0.009 J1	< 0.004 U1	0.05 J1	0.387	1.282	0.16	< 0.05 U1	0.00380	< 0.2 U1	2.33	< 0.09 U1	< 0.04 U1
10/14/2021	Assessment	0.05 J1	0.98	34.9	< 0.007 U1	< 0.004 U1	0.25	0.206	1.83	0.12	0.06 J1	0.00383	< 0.2 U1	1.6	< 0.09 U1	< 0.04 U1
2/25/2022	Assessment	0.05 J1	1.34	38.4	0.01 J1	< 0.004 U1	0.29	0.318	1.94	0.1	< 0.05 U1	0.00452	< 0.2 U1	2.6	< 0.09 U1	< 0.04 U1
4/14/2022	Assessment	0.04 J1	1.32	35.5	< 0.007 U1	< 0.004 U1	0.06 J1	0.280	1.88	0.10	< 0.05 U1	0.00402	< 0.2 U1	2.1	< 0.09 U1	< 0.04 U1
10/6/2022	Assessment	0.05 J1	1.15	33.7	0.008 J1	< 0.004 U1	0.16 J1	0.207	1.30	0.10	< 0.05 U1	0.00390	< 0.2 U1	1.6	< 0.09 U1	< 0.04 U1
2/16/2023	Assessment	0.04 J1	1.29	36.0	< 0.007 U1	< 0.004 U1	0.07 J1	0.261	1.41	0.09	< 0.05 U1	0.00355	< 0.2 U1	1.8	< 0.09 U1	< 0.04 U1
4/6/2023	Assessment	0.017 J1	1.34	36.8	0.009 J1	< 0.004 U1	0.15 J1	0.259	1.31	0.09	< 0.05 U1	0.00392	< 0.2 U1	1.9	< 0.04 U1	< 0.02 U1
10/12/2023	Assessment	0.018 J1	1.07	34.7	0.008 J1	< 0.004 U1	0.34	0.160	1.44	0.09	< 0.05 U1	0.00381	< 0.2 U1	1.8	< 0.04 U1	< 0.02 U1
4/4/2024	Assessment	0.022 J1	1.04	36.0	0.011 P2, J1	< 0.004 U1	0.22 J1	0.155	2.75	0.10	< 0.05 U1	0.00410	< 0.2 U1	1.9	< 0.04 U1	< 0.02 U1
10/10/2024	Assessment	< 0.06 U1	1.0	34.9	< 0.06 U1	< 0.03 U1	< 0.6 U1	0.16	2.01	0.12	< 0.4 U1	0.0042	< 0.2 U1	2.3 J1	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1907S
Clinch River - Pond 1
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
4/23/2020	Assessment	< 0.02 U1	69.3	12.9	0.06 J1	7.0	30.9	433
11/10/2020	Assessment	< 0.02 U1	73.8	11.9	0.06 J1	7.3	20.5	399
2/16/2021	Assessment	< 0.02 U1	66.4	11.9	0.06	7.5	18.4	403
4/15/2021	Assessment	0.01 J1	70.7	12.1	0.07	7.6	17.7	383
10/14/2021	Assessment	0.01 J1	64.0	11.7	0.06	8.0	15.4	400
2/25/2022	Assessment	0.040 J1	68.0	12.0	0.04 J1	7.9	16.5	380
4/14/2022	Assessment	0.013 J1	66.8	11.3	0.04 J1	7.2	16.3	370
10/6/2022	Assessment	0.01 J1	67.4	12.2	0.04 J1	7.3	15.2	390
2/16/2023	Assessment	0.011 J1	68.9	11.7	0.05 J1	7.3	14.8	380 S7
4/6/2023	Assessment	0.009 J1	66.3 M1	11.7	0.05 J1	7.5	15.0	380
10/12/2023	Assessment	0.009 J1	62.0	11.5	0.06	7.4	14.9	380
4/4/2024	Assessment	0.015 J1	66.4	11.7	0.05 J1	7.4	14.0	370
10/10/2024	Assessment	< 0.06 U1	63.2	11.7	0.05 J1	7.4	14.4	370

Table 1. Groundwater Data Summary: MW-1907S
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
4/23/2020	Assessment	1.62	0.79	55.6	< 0.02 U1	0.01 J1	0.242	13.3	2.091	0.06 J1	0.07 J1	0.00691	8.87	7.40	0.3	< 0.1 U1
11/10/2020	Assessment	0.34	0.50	49.9	< 0.02 U1	< 0.01 U1	0.1 J1	12.8	2.158	0.06 J1	0.07 J1	0.00701	8.01	1 J1	0.2 J1	< 0.1 U1
2/16/2021	Assessment	0.09 J1	0.59	55.2	< 0.02 U1	< 0.01 U1	0.221	14.0	2.061	0.06	< 0.05 U1	0.00689	9.68	1 J1	0.2 J1	< 0.1 U1
4/15/2021	Assessment	0.12	0.48	54.9	< 0.007 U1	0.009 J1	< 0.04 U1	13.2	0.921	0.07	< 0.05 U1	0.00701	10.4	1 J1	0.2 J1	< 0.04 U1
10/14/2021	Assessment	0.06 J1	0.45	51.0	< 0.007 U1	0.005 J1	0.24	11.3	1.91	0.06	< 0.05 U1	0.00708	13.4 H2	1.1	0.18 J1	< 0.04 U1
2/25/2022	Assessment	0.02 J1	0.39	54.4	< 0.007 U1	< 0.004 U1	0.26	12.2	1.51	0.04 J1	< 0.05 U1	0.00656	23	2.6	0.31 J1	< 0.04 U1
4/14/2022	Assessment	0.04 J1	0.46	50.3	< 0.007 U1	0.005 J1	0.09 J1	10.8	1.78	0.04 J1	< 0.05 U1	0.00724	17.8	2.4	0.27 J1	< 0.04 U1
10/6/2022	Assessment	0.03 J1	0.50	51.7	< 0.007 U1	< 0.004 U1	0.16 J1	9.23	1.10	0.04 J1	< 0.05 U1	0.00664	14.4	0.7	0.23 J1	< 0.04 U1
2/16/2023	Assessment	0.03 J1	0.39	53.4	< 0.007 U1	< 0.004 U1	0.12 J1	10.5	1.65	0.05 J1	< 0.05 U1	0.00628	21	0.8	0.29 J1	< 0.04 U1
4/6/2023	Assessment	0.054 J1	0.47	52.4	< 0.007 U1	0.019 J1	0.18 J1	8.72	1.58	0.05 J1	0.08 J1	0.00695	15	0.7	0.27 J1	< 0.02 U1
10/12/2023	Assessment	0.022 J1	0.44	50.4	< 0.007 U1	0.005 J1	0.19 J1	8.00	0.81	0.06	< 0.05 U1	0.00688	12.6	0.6	0.26 J1	< 0.02 U1
4/4/2024	Assessment	0.016 J1	0.31	52.0	< 0.007 P2, U1	< 0.004 U1	0.20 J1	9.49	0.59	0.05 J1	< 0.05 U1	0.00678	21	0.9	0.22 J1	< 0.02 U1
10/10/2024	Assessment	< 0.06 U1	0.4 J1	50.7	< 0.06 U1	< 0.03 U1	< 0.6 U1	8.57	0.98	0.05 J1	< 0.4 U1	0.0075	17	< 0.8 U1	0.4 J1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1910S
Clinch River - Pond 1
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
4/21/2020	Assessment	0.055	27.1	13.7	0.20	7.0	2.7	246
11/9/2020	Assessment	0.053	28.0	12.5	0.18	7.1	0.9	240
2/15/2021	Assessment	0.05 J1	24.1	13.6	0.22	7.8	0.7	256
4/15/2021	Assessment	0.057	25.8	13.3	0.21	7.8	0.9	247
10/13/2021	Assessment	0.062	20.1	15.3	0.22	8.1	0.67	250
2/23/2022	Assessment	0.058	22.6	15.3	0.20	8.0	1.20	250
4/12/2022	Assessment	0.057	23.7	14.0	0.17	7.4	1.22	240
10/4/2022	Assessment	0.073	20.8	16.4	0.20	7.4	0.95	250
2/15/2023	Assessment	0.062	21.3	15.8	0.19	7.8	1.18	250
4/5/2023	Assessment	0.07 J1	25.0	14.5	0.17	7.8	1.1	230
10/12/2023	Assessment	0.06 J1	20.5	16.2	0.18	7.8	0.9	250
4/4/2024	Assessment	0.068	22.2	16.4	0.18	7.8	1.1	260
10/10/2024	Assessment	0.06 J1	20.9	16.6	0.23	7.8	0.6	250

Table 1. Groundwater Data Summary: MW-1910S
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
4/21/2020	Assessment	0.17	2.32	283	< 0.02 U1	< 0.01 U1	0.397	0.619	1.635	0.20	0.466	0.0136	< 0.2 U1	17.1	0.2 J1	< 0.1 U1
11/9/2020	Assessment	0.17	1.88	268	< 0.02 U1	< 0.01 U1	0.1 J1	0.388	2.39	0.18	0.310	0.0124	< 0.2 U1	4.37	0.4	< 0.1 U1
2/15/2021	Assessment	0.1 J1	2.32	281	< 0.02 U1	< 0.01 U1	0.211	0.469	2.033	0.22	0.487	0.0128	< 0.2 U1	5.17	0.2	< 0.1 U1
4/15/2021	Assessment	0.08 J1	1.94	313	< 0.007 U1	< 0.004 U1	< 0.04 U1	0.408	1.009	0.21	0.732	0.0134	< 0.2 U1	4.54	0.3 J1	< 0.04 U1
10/13/2021	Assessment	0.03 J1	2.05	249	< 0.007 U1	< 0.004 U1	0.28	0.614	1.50	0.22	0.35	0.0161	< 0.2 U1	4.1	0.21 J1	< 0.04 U1
2/23/2022	Assessment	0.03 J1	1.86	285	< 0.007 U1	< 0.004 U1	0.09 J1	0.626 B1	2.46	0.20	0.24	0.0158	< 0.2 U1	3.9	0.19 J1	< 0.04 U1
4/12/2022	Assessment	0.04 J1	1.48	316	< 0.007 U1	< 0.004 U1	< 0.04 U1	0.460	2.01	0.17	0.40	0.0160	< 0.2 U1	3.3	0.26 J1	< 0.04 U1
10/4/2022	Assessment	< 0.02 U1	1.68	261	< 0.007 U1	< 0.004 U1	0.16 J1	0.467	2.27	0.20	0.22	0.020	< 0.2 U1	3.8	0.34 J1	< 0.04 U1
2/15/2023	Assessment	0.02 J1	1.42	261	< 0.007 U1	< 0.004 U1	0.15 J1	0.341	1.52	0.19	0.25	0.0144	< 0.2 U1	2.6	0.28 J1	< 0.04 U1
4/5/2023	Assessment	< 0.04 U1	1.3	327	< 0.04 U1	< 0.02 U1	< 0.4 U1	0.27	1.58	0.17	0.3 J1	0.018	< 0.2 U1	2.2 J1	0.4 J1	< 0.1 U1
10/12/2023	Assessment	< 0.04 U1	1.1	251	< 0.04 U1	< 0.02 U1	0.4 J1	0.28	1.20	0.18	< 0.3 U1	0.0185	< 0.2 U1	3.8	0.6 J1	< 0.1 U1
4/4/2024	Assessment	0.030 J1	1.07	321	< 0.007 P2, U1	< 0.004 U1	0.19 J1	0.299	2.28	0.18	0.22	0.0193	< 0.2 U1	3.2	0.35 J1	< 0.02 U1
10/10/2024	Assessment	< 0.06 U1	1.3	360	< 0.06 U1	< 0.03 U1	< 0.6 U1	0.25	1.77	0.23	< 0.4 U1	0.0188	< 0.2 U1	2.2 J1	0.7 J1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1913D
Clinch River - Pond 1
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
4/23/2020	Assessment	0.727	56.8	21.9	0.18	9.9	132	326
11/10/2020	Assessment	0.816	55.6	15.2	0.33	11.0	131	295
2/17/2021	Assessment	0.791	51.5	14.1	0.38	11.0	137	315
4/15/2021	Assessment	0.714	43.1	16.3	0.31	10.7	127	290
10/14/2021	Assessment	0.747	49.1	12.9	0.34	10.8	131	300
2/24/2022	Assessment	0.698	49.1	13.6	0.31	11.0	143	310
4/15/2022	Assessment	0.681	50.3 M1, P3	13.1	0.29	10.3	146	300
10/6/2022	Assessment	0.668	47.9	13.7	0.31	10.5	135	290
2/16/2023	Assessment	0.692	49.4	12.4	0.34	10.5	141	280
4/6/2023	Assessment	0.666	50.6	13.1	0.28	10.6	138	300
10/12/2023	Assessment	0.607	46.4	12.1	0.32	10.4	133	290
4/4/2024	Assessment	0.603	51.0	13.3	0.30	10.5	152	330
10/10/2024	Assessment	0.57	50.5	12.8	0.35	10.2	136	300 S7

Table 1. Groundwater Data Summary: MW-1913D
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
4/23/2020	Assessment	0.22	10.8	50.6	< 0.02 U1	< 0.01 U1	0.253	0.280	0.931	0.18	0.2 J1	0.0597	< 0.2 U1	362	0.4	< 0.1 U1
11/10/2020	Assessment	0.29	9.69	45.9	< 0.02 U1	< 0.01 U1	0.09 J1	0.161	0.853	0.33	0.1 J1	0.139	< 0.2 U1	403	0.5	< 0.1 U1
2/17/2021	Assessment	0.31	9.16	47.1	< 0.02 U1	0.02 J1	0.2 J1	0.135	1.684	0.38	0.07 J1	0.154	< 0.2 U1	402	0.5	< 0.1 U1
4/15/2021	Assessment	0.24	9.86	43.2	< 0.007 U1	< 0.004 U1	0.06 J1	0.154	1.49	0.31	0.06 J1	0.115	< 0.2 U1	387	0.4 J1	< 0.04 U1
10/14/2021	Assessment	0.26	9.63	44.7	< 0.007 U1	< 0.004 U1	0.26	0.137	0.93	0.34	0.08 J1	0.152	< 0.2 U1	437	0.49 J1	< 0.04 U1
2/24/2022	Assessment	0.24	9.22	46.3	< 0.007 U1	0.015 J1	0.26	0.279	1.25	0.31	< 0.05 U1	0.157	< 0.2 U1	457	0.42 J1	< 0.04 U1
4/15/2022	Assessment	0.24	8.69	46.0	< 0.007 U1	< 0.004 U1	< 0.04 U1	0.125	1.58	0.29	0.06 J1	0.157 M1	< 0.2 U1	526 M1, P3	0.36 J1	< 0.04 U1
10/6/2022	Assessment	0.25	9.67	44.4	< 0.007 U1	0.005 J1	0.12 J1	0.128	0.40	0.31	0.05 J1	0.154	< 0.2 U1	485	0.41 J1	< 0.04 U1
2/16/2023	Assessment	0.25	8.49	47.9	< 0.007 U1	< 0.004 U1	0.06 J1	0.116	1.22	0.34	0.08 J1	0.175	< 0.2 U1	508	0.42 J1	< 0.04 U1
4/6/2023	Assessment	0.231	8.96	48.2	< 0.007 U1	< 0.004 U1	0.14 J1	0.117	0.30	0.28	0.05 J1	0.153	< 0.2 U1	479	0.43 J1	< 0.02 U1
10/12/2023	Assessment	0.218	7.65	43.5	< 0.007 U1	< 0.004 U1	0.20 J1	0.112	1.16	0.32	< 0.05 U1	0.163	< 0.2 U1	430	0.31 J1	< 0.02 U1
4/4/2024	Assessment	0.208	6.95	50.4	< 0.007 P2, U1	0.033	0.15 J1	0.099	1.19	0.30	< 0.05 U1	0.204	< 0.2 U1	476	0.39 J1	< 0.02 U1
10/10/2024	Assessment	0.20 J1	7.5	46.9	< 0.06 U1	< 0.03 U1	< 0.6 U1	0.11 J1	1.67	0.35	< 0.4 U1	0.177	< 0.2 U1	444	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: MW-1913S
Clinch River - Pond 1
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
4/22/2020	Assessment	0.059	59.6	32.5	0.1 J1	7.0	139	373
11/10/2020	Assessment	0.057	62.5	32.6	0.13	7.7	134	357
2/16/2021	Assessment	0.05 J1	52.8	32.3	0.17	7.9	135	370
4/15/2021	Assessment	0.058	59.3	33.7	0.19	7.6	132	375
10/14/2021	Assessment	0.071	54.6	30.3	0.17	8.0	132	350
2/24/2022	Assessment	0.067	56.7 M1, P3	31.4	0.13	8.2	135	360
4/15/2022	Assessment	0.079	60.4 M1, P3	21.7	0.09	7.4	96.8	260
10/6/2022	Assessment	0.083	55.8	31.4	0.11	7.6	129	370
2/16/2023	Assessment	0.084	57.1	29.3	0.12	7.7	124	340
4/6/2023	Assessment	0.088	57.7	29.5	0.11	7.6	119	340
10/12/2023	Assessment	0.089	52.9	26.2	0.13	7.7	124	330
4/4/2024	Assessment	0.095	51.5	26.4	0.15	7.8	116	310
10/10/2024	Assessment	0.09 J1	52.8	24.7	0.16	7.8	113	320

Table 1. Groundwater Data Summary: MW-1913S
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
4/22/2020	Assessment	0.07 J1	1.33	111	< 0.02 U1	< 0.01 U1	0.2 J1	29.7	2.94	0.1 J1	4.54	0.00221	< 0.2 U1	63.3	0.1 J1	0.1 J1
11/10/2020	Assessment	0.33	1.14	94.0	< 0.02 U1	< 0.01 U1	0.05 J1	32.9	2.934	0.13	5.36	0.00161	< 0.2 U1	57.5	0.03 J1	0.2 J1
2/16/2021	Assessment	0.04 J1	1.32	93.7	< 0.02 U1	< 0.01 U1	0.2 J1	31.8	7.833	0.17	3.87	0.00140	< 0.2 U1	58.2	0.08 J1	0.1 J1
4/15/2021	Assessment	0.29	0.93	95.5	< 0.007 U1	0.007 J1	< 0.04 U1	29.3	2.177	0.19	5.33	0.00135	< 0.2 U1	59.7	< 0.09 U1	0.2 J1
10/14/2021	Assessment	< 0.02 U1	0.89	90.2	< 0.007 U1	0.006 J1	0.25	27.5	2.25	0.17	5.71	0.00092	< 0.2 U1	72.3	< 0.09 U1	0.29
2/24/2022	Assessment	< 0.02 U1	1.01	97.2 M1	< 0.007 U1	0.008 J1	0.30	29.2 M1	4.00	0.13	5.15	0.00105	< 0.2 U1	71.8	< 0.09 U1	0.23
4/15/2022	Assessment	0.06 J1	1.01	91.7	< 0.1 U1	< 0.004 U1	0.07 J1	27.9	3.59	0.09	5.09	0.001 J1	< 0.2 U1	69.1	< 0.09 U1	0.34
10/6/2022	Assessment	< 0.02 U1	0.71	90.6	< 0.007 U1	0.006 J1	0.13 J1	26.3	1.52	0.11	6.40	0.00090	< 0.2 U1	76.7	0.11 J1	0.31
2/16/2023	Assessment	0.02 J1	0.88	93.3	< 0.007 U1	< 0.004 U1	0.05 J1	28.3	3.40	0.12	6.00	0.00086	< 0.2 U1	77.8	< 0.09 U1	0.35
4/6/2023	Assessment	0.025 J1	0.91	93.6	< 0.007 U1	< 0.004 U1	0.14 J1	25.6	1.58	0.11	5.44	0.00089	< 0.2 U1	76.5	0.07 J1	0.29
10/12/2023	Assessment	0.01 J1	0.46	86.3	< 0.007 U1	< 0.004 U1	0.20 J1	23.7	1.38	0.13	6.17	0.00079	< 0.2 U1	82.2	0.11 J1	0.32
4/4/2024	Assessment	0.012 J1	0.45	84.8	< 0.007 P2, U1	0.009 J1	0.14 J1	22.5	1.75	0.15	5.57	0.00081	< 0.2 U1	78.6	0.07 J1	0.31
10/10/2024	Assessment	< 0.06 U1	0.5 J1	84.5	< 0.06 U1	< 0.03 U1	< 0.6 U1	24.1	1.64	0.16	6.4	0.0013 J1	< 0.2 U1	83.2	< 0.3 U1	0.3 J1

Table 1. Groundwater Data Summary: MW-2012D
Clinch River - Pond 1
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
2/17/2021	Assessment	0.511	12.1	456	1.06	8.2	44.8	1,230
4/14/2021	Assessment	0.513	11.9	407	1.03	8.3	12.0	1,080
10/13/2021	Assessment	0.447	11.5	379	0.98	8.5	11.9	1,190
2/24/2022	Assessment	0.467	11.5	410	0.95	8.6	8.2	1,170
4/14/2022	Assessment	0.492	12.6	398	0.94	8.0	6.3	1,100
10/5/2022	Assessment	0.487	12.0 P3	428	0.89	7.9	2.7	1,160
2/15/2023	Assessment	0.445	12.0	432	0.93	8.0	2.0	1,180
4/5/2023	Assessment	0.491	12.1	415	0.91	8.3	1.6	1,150
10/11/2023	Assessment	0.449	11.5	446	0.89	8.2	1.3 J1	1,230
4/3/2024	Assessment	0.422	12.4	448	0.90	8.2	0.8 J1	1,120
10/9/2024	Assessment	0.481	15	457	0.98	8.2	0.6 J1	1,260

Table 1. Groundwater Data Summary: MW-2012D
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
2/17/2021	Assessment	0.2 J1	7.62	749	0.4 J1	< 0.05 U1	10.1	5.09	0.7405	1.06	17.7	0.245	< 0.2 U1	8 J1	0.3 J1	< 0.5 U1
4/14/2021	Assessment	0.08 J1	2.55	934	0.05 J1	< 0.004 U1	1.01	0.884	1.363	1.03	3.21	0.258	< 0.2 U1	2 J1	0.09 J1	< 0.04 U1
10/13/2021	Assessment	0.04 J1	1.55	604	0.01 J1	< 0.004 U1	0.68	0.298	2.77	0.98	1.14	0.172	< 0.2 U1	1	< 0.09 U1	< 0.04 U1
2/24/2022	Assessment	0.02 J1	1.25	1,060	0.009 J1	< 0.004 U1	0.39	0.136	1.42	0.95	0.57	0.276	< 0.2 U1	0.6	< 0.09 U1	< 0.04 U1
4/14/2022	Assessment	0.04 J1	1.16	974	< 0.007 U1	< 0.004 U1	0.18 J1	0.109	0.61	0.94	0.34	0.270	< 0.2 U1	0.6	< 0.09 U1	< 0.04 U1
10/5/2022	Assessment	0.04 J1	1.07	1,030 M1, P3	0.010 J1	< 0.004 U1	0.35	0.194	1.26	0.89	0.64	0.287 M1, P3	< 0.2 U1	0.4 J1	< 0.09 U1	< 0.04 U1
2/15/2023	Assessment	0.02 J1	0.85	1,150	0.008 J1	< 0.004 U1	0.40	0.125	1.33	0.93	0.46	0.248	< 0.2 U1	0.3 J1	< 0.09 U1	< 0.04 U1
4/5/2023	Assessment	0.023 J1	0.85	991	< 0.007 U1	< 0.004 U1	0.22 J1	0.124	1.63	0.91	0.43	0.254	< 0.2 U1	0.3 J1	< 0.04 U1	< 0.02 U1
10/11/2023	Assessment	0.018 J1	0.90	1,150	< 0.007 U1	< 0.004 U1	0.26 J1	0.066	1.53	0.89	0.25	0.288	< 0.2 U1	0.3 J1	< 0.04 U1	< 0.02 U1
4/3/2024	Assessment	0.015 J1	1.30	1,120	< 0.007 U1	< 0.004 U1	0.17 J1	0.047	0.95	0.90	0.12 J1	0.264	< 0.2 U1	0.5	< 0.04 U1	< 0.02 U1
10/9/2024	Assessment	0.017 J1	1.00	1,070	< 0.007 U1	< 0.004 U1	0.26 J1	0.097	1.58	0.98	0.24	0.266	< 0.2 U1	0.4 J1	0.05 J1	< 0.02 U1

Table 1. Groundwater Data Summary: MW-2012S
Clinch River - Pond 1
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
2/17/2021	Assessment	0.360	30.3	81.6	0.37	7.9	4.8	567
4/14/2021	Assessment	0.376	33.1	78.7	0.37	7.9	5.0	512
10/13/2021	Assessment	0.353	34.6	94.9	0.35	8.1	0.88	590
2/24/2022	Assessment	0.225	40.5	69.7	0.28	8.0	49.6	550
4/14/2022	Assessment	0.328	36.7	83.5	0.33	7.4	18.4	520
10/5/2022	Assessment	0.357	38.4	89.9	0.33	7.4	11.9	520
2/15/2023	Assessment	0.311	38.3	80.0	0.34	7.7	17.4	530
4/5/2023	Assessment	0.321	34.0	74.4	0.33	7.8	12.5	500
10/11/2023	Assessment	0.359	29.5	106	0.36	7.8	0.7 J1	580
4/3/2024	Assessment	0.364	30.5	86.6	0.37	7.9	< 0.1 U1	460
10/9/2024	Assessment	0.341	35	85.2	0.39	7.8	8.3	560

Table 1. Groundwater Data Summary: MW-2012S
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
2/17/2021	Assessment	0.17	2.03	1,960	< 0.02 U1	< 0.01 U1	0.2 J1	0.412	2.169	0.37	0.1 J1	0.134	< 0.2 U1	8.78	< 0.03 U1	< 0.1 U1
4/14/2021	Assessment	0.15	3.08	1,870	< 0.007 U1	< 0.004 U1	0.08 J1	0.561	1.029	0.37	< 0.05 U1	0.135	< 0.2 U1	6.12	< 0.09 U1	< 0.04 U1
10/13/2021	Assessment	0.09 J1	2.69	1,500	< 0.01 U1	< 0.004 U1	0.32	0.786	3.62	0.35	0.08 J1	0.101	< 0.2 U1	5.5	< 0.09 U1	< 0.04 U1
2/24/2022	Assessment	0.08 J1	12.6	1,250	0.019 J1	< 0.004 U1	0.28	1.41	1.33	0.28	0.19 J1	0.0677	< 0.2 U1	10.9	< 0.09 U1	< 0.04 U1
4/14/2022	Assessment	0.07 J1	6.67	1,680	0.023 J1	< 0.004 U1	0.21	0.978	1.25	0.33	0.21	0.128	< 0.2 U1	5.3	< 0.09 U1	< 0.04 U1
10/5/2022	Assessment	0.04 J1	5.56	1,660	0.007 J1	< 0.004 U1	0.71	0.676	0.87	0.33	0.14 J1	0.143	< 0.2 U1	5.9	< 0.09 U1	< 0.04 U1
2/15/2023	Assessment	0.04 J1	6.58	1,680	< 0.007 U1	< 0.004 U1	0.18 J1	0.613	1.93	0.34	0.06 J1	0.106	< 0.2 U1	6.2	< 0.09 U1	< 0.04 U1
4/5/2023	Assessment	0.039 J1	4.19	1,450	0.009 J1	< 0.004 U1	0.14 J1	0.347	1.82	0.33	0.12 J1	0.126	< 0.2 U1	3.8	< 0.04 U1	< 0.02 U1
10/11/2023	Assessment	0.021 J1	2.08	2,040	< 0.007 U1	< 0.004 U1	0.19 J1	0.149	1.67	0.36	< 0.05 U1	0.162	< 0.2 U1	1.1	< 0.04 U1	< 0.02 U1
4/3/2024	Assessment	0.020 J1	2.29	1,970	< 0.007 U1	< 0.004 U1	0.16 J1	0.168	1.58	0.37	< 0.05 U1	0.143	< 0.2 U1	1.1	< 0.04 U1	< 0.02 U1
10/9/2024	Assessment	0.034 J1	4.68	1,640	< 0.007 U1	< 0.004 U1	0.13 J1	0.316	1.33	0.39	< 0.05 U1	0.134	< 0.2 U1	3.3	< 0.04 U1	< 0.02 U1

Table 1. Groundwater Data Summary: W-2201D
Clinch River - Pond 1
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
10/7/2022	Assessment	0.643	75.5	1,370	0.6	7.6	788	3,600
2/16/2023	Assessment	0.631	125	1,400	0.4	7.3	1,150	4,600
4/6/2023	Assessment	0.718	129	1,410	0.4	7.5	1,170	4,520
10/16/2023	Assessment	0.589	95.0	1,540	0.5	7.5	689	3,700
4/15/2024	Assessment	0.559	91.9	1,570	0.5	7.5	662	4,000
10/21/2024	Assessment	0.61	84	1,620	0.5	10.4	339	3,600

Table 1. Groundwater Data Summary: W-2201D
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
10/7/2022	Assessment	0.15	6.58	246	< 0.4 U1	< 0.004 U1	0.80	0.254	0.54	0.6	0.27	0.591	< 0.2 U1	1.6	0.39 J1	< 0.04 U1
2/16/2023	Assessment	0.18	9.51	26.3	< 0.007 U1	0.005 J1	0.33	0.132	1.20	0.4	0.31	0.517	< 0.2 U1	1.6	0.34 J1	< 0.04 U1
4/6/2023	Assessment	0.140	12.8	26.2	0.007 J1	< 0.004 U1	0.47	0.128	0.84	0.4	< 1 U1	0.531	< 0.2 U1	1.4	0.36 J1	< 0.2 U1
10/16/2023	Assessment	0.145	6.80	45.5	< 0.007 U1	< 0.004 U1	0.33	0.055	1.12	0.5	0.19 J1	0.593	< 0.2 U1	1	0.21 J1	< 0.02 U1
4/15/2024	Assessment	0.085 J1	5.30	99.4	< 0.007 U1	< 0.004 U1	0.32	0.035	0.54	0.5	0.12 J1	0.583	< 0.2 U1	2.1	0.22 J1	< 0.02 U1
10/21/2024	Assessment	0.09 J1	4.5	65.4	< 0.06 U1	< 0.03 U1	< 0.6 U1	< 0.04 U1	0.38	0.5	< 0.4 U1	0.565	< 0.2 U1	3.1 J1	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: W-2201S
Clinch River - Pond 1
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
10/6/2022	Assessment	0.383	29.5	131	0.36	6.7	42.0	510
2/16/2023	Assessment	0.359	28.9	137	0.38	7.5	37.1	530
4/6/2023	Assessment	0.391	28.5	128	0.39	7.6	29.3	520
10/16/2023	Assessment	0.394	25.1	137	0.41	7.5	24.2	510
4/15/2024	Assessment	0.413	28.3	154	0.44	7.7	18.7	560
10/21/2024	Assessment	0.49	30.9	178	0.60	10.5	10.3	590

Table 1. Groundwater Data Summary: W-2201S
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
10/6/2022	Assessment	0.12	4.03	465	< 0.007 U1	< 0.004 U1	0.13 J1	2.44	1.81	0.36	0.12 J1	0.120	< 0.2 U1	4.5	< 0.09 U1	< 0.04 U1
2/16/2023	Assessment	0.17	2.98	432	< 0.007 U1	0.01 J1	< 0.04 U1	1.24	1.36	0.38	0.18 J1	0.106	< 0.2 U1	6.3	< 0.09 U1	< 0.04 U1
4/6/2023	Assessment	0.045 J1	2.45	370	< 0.007 U1	< 0.004 U1	0.14 J1	1.33	1.15	0.39	0.12 J1	0.112	< 0.2 U1	4.5	< 0.04 U1	0.03 J1
10/16/2023	Assessment	0.026 J1	2.21	336	< 0.007 U1	< 0.004 U1	0.14 J1	0.881	0.83	0.41	0.15 J1	0.116	< 0.2 U1	4.4	< 0.04 U1	< 0.02 U1
4/15/2024	Assessment	0.010 J1	3.54	428	< 0.007 U1	< 0.004 U1	0.19 J1	0.597	0.95	0.44	0.30	0.135	< 0.2 U1	5.3	< 0.04 U1	< 0.02 U1
10/21/2024	Assessment	< 0.06 U1	7.4	603	< 0.06 U1	< 0.03 U1	< 0.6 U1	0.20	1.84	0.60	< 0.4 U1	0.157	< 0.2 U1	10.4	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: W-2202D
Clinch River - Pond 1
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
10/6/2022	Assessment	--	--	--	--	7.1	--	--
2/17/2023	Assessment	0.672	34.4	241	0.36	7.2	873	2,740
10/16/2023	Assessment	0.736	53.5	296	0.34	7.2	1,180	3,600
4/15/2024	Assessment	0.658	53.6	312	0.36	7.4	1,130	3,770
10/21/2024	Assessment	0.74	52.0	299	0.43	9.9	811	3,570

Table 1. Groundwater Data Summary: W-2202D
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
2/17/2023	Assessment	0.08 J1	12.0	65.7	0.010 J1	< 0.004 U1	0.71	7.11	--	0.36	0.92	0.398	1.9	47.4	0.58	< 0.04 U1
10/16/2023	Assessment	0.117	18.9	43.1	0.009 J1	0.01 J1	1.20	4.18	0.40	0.34	0.18 J1	0.622	< 0.2 U1	34.2	0.58	< 0.02 U1
4/15/2024	Assessment	0.108	18.6	40.4	0.008 J1	0.004 J1	1.26	1.55	1.45	0.36	0.14 J1	0.622	< 0.2 U1	11.3	0.65	< 0.02 U1
10/21/2024	Assessment	0.13 J1	22.1	40.2	< 0.06 U1	< 0.03 U1	1.2 J1	0.92	0.88	0.43	< 0.4 U1	0.317	< 0.2 U1	2.7 J1	0.7 J1	< 0.2 U1

Table 1. Groundwater Data Summary: W-2202S
Clinch River - Pond 1
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
10/6/2022	Assessment	0.798	63.8	71.5	0.25	7.0	919	1,880
2/17/2023	Assessment	0.748	58.5	53.1	0.34	7.0	746	1,750 S7
4/6/2023	Assessment	0.772	55.8	49.7	0.34	7.0	689	1,700
10/16/2023	Assessment	0.738	41.5	16.9	0.17	7.1	480	1,420
4/15/2024	Assessment	0.642	35.9	35.1	0.59	7.4	318	1,230
10/21/2024	Assessment	0.68	28.7	32.8	0.74	10.3	236	1,080

Table 1. Groundwater Data Summary: W-2202S
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
10/6/2022	Assessment	1.73	0.99	33.6	< 0.007 U1	0.019 J1	0.51	2.22	0.95	0.25	0.07 J1	0.257	< 0.2 U1	17.4	0.50	0.13 J1
2/17/2023	Assessment	1.86	0.75	33.2	< 0.007 U1	0.027	0.08 J1	3.39	1.25	0.34	< 0.05 U1	0.195	< 0.2 U1	22.8	0.42 J1	0.1 J1
4/6/2023	Assessment	1.88	0.63	32.6	< 0.04 U1	0.017 J1	0.16 J1	2.57	1.20	0.34	0.09 J1	0.247	< 0.2 U1	22.0	0.44 J1	0.07 J1
10/16/2023	Assessment	0.202	5.45	69.7	< 0.007 U1	< 0.004 U1	0.27 J1	6.83	1.58	0.17	0.16 J1	0.234	< 0.2 U1	22.5	0.23 J1	0.06 J1
4/15/2024	Assessment	0.056 J1	3.82	67.8	< 0.007 U1	0.005 J1	0.24 J1	3.70	0.65	0.59	0.08 J1	0.189	< 0.2 U1	31.8	0.25 J1	< 0.02 U1
10/21/2024	Assessment	< 0.06 U1	9.3	71.0	< 0.06 U1	< 0.03 U1	< 0.6 U1	3.13	0.55	0.74	< 0.4 U1	0.230	< 0.2 U1	29.7	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: W-2203D
Clinch River - Pond 1
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
10/7/2022	Assessment	0.810	167	2,050	0.4 J1	7.1	1,620	6,580 S1, H2
2/16/2023	Assessment	0.57	130	2,270	0.4 J1	7.1	1,130	6,000 S7
4/6/2023	Assessment	0.62	143	2,380	0.3 J1	7.2	975	5,440
10/16/2023	Assessment	0.60	128	2,640	0.5 J1	7.2	618	5,740
4/15/2024	Assessment	0.488	130	2,720	0.5 J1	7.3	513	5,600
10/21/2024	Assessment	0.60	155	2,750	< 0.3 U1	10.1	430	5,500

Table 1. Groundwater Data Summary: W-2203D
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
10/7/2022	Assessment	0.22	15.2	40.0	< 0.4 U1	< 0.004 U1	0.52	4.05	1.29	0.4 J1	0.24	0.847	< 0.2 U1	43.0	0.59	< 0.04 U1
2/16/2023	Assessment	< 0.1 U1	10.1	42.7	< 0.04 U1	< 0.02 U1	0.5 J1	0.74	1.39	0.4 J1	3.5	0.756	< 0.2 U1	10.6	< 0.5 U1	< 0.2 U1
4/6/2023	Assessment	0.06 J1	9.4	50.5	< 0.04 U1	< 0.02 U1	< 0.4 U1	0.51	0.31	0.3 J1	< 0.3 U1	0.845	< 0.2 U1	6.2	< 0.2 U1	< 0.1 U1
10/16/2023	Assessment	< 0.04 U1	7.0	65.3	< 0.04 U1	< 0.02 U1	0.7 J1	0.25	1.43	0.5 J1	< 0.3 U1	1.00	< 0.2 U1	2.6	< 0.2 U1	< 0.1 U1
4/15/2024	Assessment	0.016 J1	5.38	74.0	< 0.007 U1	< 0.004 U1	0.35	0.145	0.45	0.5 J1	0.41	0.845	< 0.2 U1	1.0	0.18 J1	< 0.02 U1
10/21/2024	Assessment	< 0.06 U1	5.1	79.6	< 0.06 U1	< 0.03 U1	< 0.6 U1	0.10 J1	0.80	< 0.3 U1	< 0.4 U1	0.470	< 0.2 U1	< 0.8 U1	0.3 J1	< 0.2 U1

Table 1. Groundwater Data Summary: W-2203S
Clinch River - Pond 1
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
10/7/2022	Assessment	0.793	36.7	169	0.98	7.7	721	1,870
2/16/2023	Assessment	0.601	26.7	153	1.06	7.8	499	760
4/6/2023	Assessment	0.631	25.8	146	1.06	7.9	419	1,240
10/16/2023	Assessment	0.612	20.8	138	1.07	7.9	325	1,240
4/15/2024	Assessment	0.613	20.4 M1	133	1.07	8.0	253	1,160
10/21/2024	Assessment	0.63	17.9	129	1.20	11.0	176	1,030

Table 1. Groundwater Data Summary: W-2203S
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
10/7/2022	Assessment	0.11	13.9	39.3	< 0.4 U1	< 0.004 U1	0.13 J1	0.083	3.88	0.98	0.22	0.236	< 0.2 U1	16.9	0.41 J1	< 0.04 U1
2/16/2023	Assessment	0.09 J1	11.4	41.6	< 0.007 U1	< 0.004 U1	0.13 J1	0.038	1.44	1.06	0.07 J1	0.172	< 0.2 U1	12.5	0.24 J1	< 0.04 U1
4/6/2023	Assessment	0.055 J1	9.95	52.5	< 0.04 U1	< 0.004 U1	0.16 J1	0.043	0.64	1.06	0.09 J1	0.206	< 0.2 U1	10.2	0.16 J1	< 0.02 U1
10/16/2023	Assessment	0.105	7.11	55.8	< 0.007 U1	< 0.004 U1	0.18 J1	0.076	1.53	1.07	0.27	0.214	< 0.2 U1	7.2	0.12 J1	< 0.02 U1
4/15/2024	Assessment	0.026 J1	6.52	66.7	< 0.007 U1	< 0.004 U1	0.17 J1	0.022	0.58	1.07	0.28	0.206 M1	< 0.2 U1	6.9	0.10 J1	< 0.02 U1
10/21/2024	Assessment	< 0.06 U1	5.6	74.2	< 0.06 U1	< 0.03 U1	< 0.6 U1	< 0.04 U1	0.54	1.20	< 0.4 U1	0.202	< 0.2 U1	1.4 J1	< 0.3 U1	< 0.2 U1

Table 1. Groundwater Data Summary: W-2204
Clinch River - Pond 1
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
10/3/2022	Assessment	0.050	116	15.2	0.14	6.4	211	870
2/13/2023	Assessment	0.038 J1	115	9.12	0.12	7.0	186	780
4/3/2023	Assessment	0.031 J1	95.2	4.91	0.13	6.5	95	610
10/9/2023	Assessment	0.032 J1	97.8	2.23	0.13	7.0	77	600
2/19/2024	Assessment	0.029 J1	94.7	2.22	0.10	7.0	89	610
4/1/2024	Assessment	0.032 J1	103	2.21	0.12	7.0	75	560
10/7/2024	Assessment	< 0.06 U1	98	1.89	0.12	7.0	68.4	560

Table 1. Groundwater Data Summary: W-2204
Clinch River - Pond 1
Appendix IV Constituents

Collection Date	Monitoring Program	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Combined Radium	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	pCi/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L
10/3/2022	Assessment	0.05 J1	14.7	73.9	< 0.007 U1	< 0.004 U1	0.10 J1	2.34	1.00	0.14	0.06 J1	0.0153	< 0.2 U1	13.4	0.32 J1	< 0.04 U1
2/13/2023	Assessment	0.06 J1	8.50	79.6	< 0.007 U1	< 0.004 U1	0.22	4.13	1.83	0.12	0.06 J1	0.00908	< 0.2 U1	4.9	0.11 J1	< 0.04 U1
4/3/2023	Assessment	0.040 J1	9.08	65.6	< 0.007 U1	< 0.004 U1	0.16 J1	0.960	1.52	0.13	0.08 J1	0.0075	< 0.2 U1	2.6	0.08 J1	< 0.02 U1
10/9/2023	Assessment	0.065 J1	10.5	67.8	< 0.007 U1	< 0.004 U1	0.27 J1	1.43	1.49	0.13	0.24	0.00678	< 0.2 U1	2.7	0.04 J1	< 0.02 U1
2/19/2024	Assessment	0.070 J1	3.74	67.8	< 0.007 U1	< 0.004 U1	0.13 J1	1.42	1.78	0.10	0.12 J1	0.00619	< 0.2 U1	3.8	0.05 J1	< 0.02 U1
4/1/2024	Assessment	0.063 J1	4.18	67.7	< 0.007 U1	< 0.004 U1	0.28 J1	1.81	0.70	0.12	0.05 J1	0.00591	< 0.2 U1	3.6	0.09 J1	< 0.02 U1
10/7/2024	Assessment	0.12 J1	2.8	75.1	< 0.06 U1	< 0.03 U1	< 0.6 U1	0.72	1.10	0.12	< 0.4 U1	0.0061	< 0.2 U1	5.0	< 0.3 U1	< 0.2 U1

Notes:
1. Combined radium values were calculated from the sum of the reported radium-226 and radium-228 results.
Radium data quality flags were not included. Reported negative radium-226 or radium-228 results were replaced with zero.
--: 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.
B1: Analyte detected in method blank (MB) at or above the method criteria.
H2: Sample analysis performed past holding time.
J1: Concentration estimated. Analyte was detected between the method detection limit and the reporting limit.
In analytical data prior to 5/18/2021, J1 flags were reported as J in the analytical report.
M1: The associated matrix spike (MS) or matrix spike duplicate (MSD) recovery was outside acceptance limits.
mg/L: milligrams per liter
P1: The precision between duplicate results was above acceptance limits.
P2: The precision on the laboratory control sample duplicate (LCSD) was above acceptance limits.
P3: The precision on the matrix spike duplicate (MSD) was above acceptance limits.
pCi/L: picocuries per liter
S1: Residue weight is above or below the method criteria and needs to be re-analyzed at a different dilution.
S7: Sample did not achieve constant weight.
SU: standard unit
µg/L: micrograms per liter

Groundwater Flow Velocity Calculations

Table 1: Residence Time Calculation Summary
SWP-620 Clinch River Pond 1A/1B

Geosyntec Consultants, Inc.

			2024-02		2024-04		2024-10	
CCR Management Unit	Monitoring Well	Well Diameter (inches)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)	Groundwater Velocity (ft/year)	Groundwater Residence Time (days)
Pond 1A/1B	MW-1601[1,4]	2.0	186	0.3	123	0.5	129	0.5
	MW-1602[1,4]	2.0	105	0.6	106	0.6	116	0.5
	MW-1603[2,4]	2.0	156	0.4	207	0.3	211	0.3
	MW-1604[2,4]	2.0	156	0.4	445	0.1	445	0.1
	MW-1605[2,4]	2.0	118	0.5	220	0.3	213	0.3
	MW-1606[2,3]	2.0	127	0.5	110	0.6	NC	NC
	MW-1607[2,3]	2.0	61	1.0	113	0.5	NC	NC
	MW-1608[1,4]	2.0	332	0.2	345	0.2	341	0.2
	MW-1609[1,3]	2.0	NC	NC	NC	NC	NC	NC
	MW-1610[2,5]	2.0	NC	NC	NC	NC	NC	NC
	MW-1611[1,5]	2.0	NC	NC	NC	NC	NC	NC
	MW-1612[2,4]	2.0	256	0.2	369	0.2	230	0.3

Notes:
[1] - Upgradient Well
[2] - Downgradient Well
[3] - Rome Formation
[4] - Chattanooga Formation
[5] - Dumps Fault Formation
NC - Not calculated
Hydraulic conductivity was updated in 2021 to reflect current data

APPENDIX 2 – Statistical Analyses

The reports summarizing the statistical evaluations.

Geosyntec consultants

engineers | scientists | innovators

STATISTICAL ANALYSIS SUMMARY, ASH POND 1

Clinch River Plant

Carbo, Virginia

Prepared for

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Project Number: CHA8500B

February 20, 2024

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ACRONYMS AND ABBREVIATIONS

CCR	coal combustion residuals
CFR	code of federal regulations
GWPS	groundwater protection standard
LCL	lower confidence limit
LPL	lower prediction limit
mg/L	milligrams per liter
PQL	practical quantitation limit
QA/QC	quality assurance/quality control
SSI	statistically significant increase
SSL	statistically significant level
SU	standard units
TDS	total dissolved solids
UPL	upper prediction limit

1. INTRODUCTION

In accordance with United States Environmental Protection Agency regulations regarding the disposal of coal combustion residuals (CCR) in landfills and surface impoundments (Code of Federal Regulations [CFR] Title 40, Section 257, Subpart D), groundwater monitoring has been conducted at Ash Pond 1, an existing CCR unit at the Clinch River Plant in Carbo, Virginia. Recent groundwater monitoring results were used to identify concentrations of Appendix IV constituents that are above the groundwater protection standards (GWPSs).

Eight monitoring events were completed from December 2017 to December 2018 to establish background concentrations for Appendix III and Appendix IV parameters under the CCR rule. Data collected through April 2019 were compared to the background concentrations to evaluate for any statistically significant increases (SSIs) or statistically significant levels (SSLs) of Appendix III or Appendix IV constituents. SSLs and SSIs were identified for several constituents in groundwater. Because an alternative source of these constituents was not identified, an assessment of corrective measures was initiated for Ash Pond 1 in accordance with 40 CFR 257.96. The assessment of corrective measures has been conducted and the selection of a remedy is ongoing. Ash Pond 1 continues to undergo assessment monitoring in the interim.

A semiannual sampling event for Appendix III parameters and Appendix IV parameters, as required by 40 CFR 257.95(d)(1), was completed in October 2023. The results of the October 2023 assessment sampling event are documented in this report.

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

Groundwater data were submitted to Groundwater Stats Consulting, LLC for statistical analysis. The statistics were completed in three separate groups that correspond to differences in the underlying geology at the monitoring locations. GWPSs were reestablished for the Appendix IV parameters following calculation of site-specific background values. Confidence intervals were calculated from the Appendix IV parameter data at the compliance wells to assess whether any were present at SSLs above the corresponding GWPS. SSLs were identified for barium, cobalt, lithium, and molybdenum. Therefore, the selection of remedy will continue, and the groundwater monitoring will continue in accordance with the assessment monitoring program as required by 40 CFR 257.96(b). Certification of the selected statistical methods by a qualified professional engineer is documented in Attachment A.

2. ASH POND 1 EVALUATION

2.1 Data Validation and QA/QC

One set of samples was collected in October 2023 for analysis from each background and compliance well throughout the three geologically distinct monitoring well networks to meet the requirements of 40 CFR 257.95(d)(1). The three geological units are the Chattanooga Shale, the Rome Limestone, and the Dumps Fault water-bearing unit. Samples from the October 2023 sample event were analyzed for all Appendix III and Appendix IV parameters. A summary of data collected during this assessment monitoring event is presented in Table 1.

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

The analytical data were imported into a Microsoft Access database, where checks were completed to assess the accuracy of sample location identification and analyte identification. Where necessary, unit conversions were applied to standardize reported units across all sampling events. Exported data files were created for use with the Sanitas™ v.10.0.15 statistics software. The export file was checked against the analytical data for transcription errors and completeness. No QA/QC issues that would impact data usability were noted.

2.2 Statistical Analysis

Statistical analyses for Ash Pond 1 were conducted in accordance with the October 2020 *Statistical Analysis Plan* (Geosyntec 2020). Time series plots and results for all completed statistical tests are provided in Attachment B.

The data obtained in October 2023 were screened for potential outliers. No potential outliers were identified for this event.

2.2.1 Establishment of GWPSs

A GWPS was established for each Appendix IV parameter in accordance with 40 CFR 257.95(h) and the Statistical Analysis Plan (Geosyntec 2020). The established GWPS was determined to be the greater value of the background concentration and either the maximum contaminant level or risk-based level specified in 40 CFR 257.95(h)(2) for each Appendix IV parameter. To determine background concentrations, an upper tolerance limit was calculated using pooled data from the background wells collected during the background monitoring and assessment monitoring events. Separate tolerance limits were calculated for each of the three geologic units.

Tolerance limits for Chattanooga Shale wells were calculated parametrically with 95% coverage and 95% confidence for antimony, chromium, cobalt, combined radium, and lead. Nonparametric tolerance limits for Chattanooga Shale wells were calculated for arsenic, barium, fluoride, lithium, and molybdenum due to apparent nonnormal distributions and for beryllium, cadmium, mercury, selenium, and thallium because greater than 50% of the data was composed of nondetect results.

Tolerance limits for Rome Limestone wells were calculated parametrically with 95% coverage and 95% confidence for antimony, barium, chromium, cobalt, combined radium, fluoride, lead, and selenium. Nonparametric tolerance limits for Rome Limestone wells were calculated for arsenic, cadmium, lithium, and molybdenum due to apparent nonnormal distributions and for beryllium, mercury, and thallium because greater than 50% of the data was composed of nondetect results.

Tolerance limits for Dumps Fault wells were calculated parametrically with 95% coverage and 95% confidence for antimony, arsenic, barium, chromium, cobalt, fluoride, and molybdenum. Nonparametric tolerance limits for Dumps Fault wells were calculated for combined radium, lead, lithium, and selenium due to apparent nonnormal distributions and for beryllium, cadmium, mercury, and thallium because greater than 50% of the data was composed of nondetect results. Upper tolerance limits and the final GWPSs are summarized in Table 2.

2.2.2 Evaluation of Potential Appendix IV SSLs

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

The following SSLs were identified at Clinch River Ash Pond 1 (Table 3):

- Chattanooga Shale
    - LCLs for barium at MW-1603 (2.21 milligrams per liter [mg/L]), MW-1604 (3.09 mg/L), MW-1605 (2.20 mg/L), and MW-1612 (2.10 mg/L) were above the GWPS of 2.00 mg/L.
    - The LCL for lithium at MW-1605 (0.188 mg/L) was above the GWPS of 0.118 mg/L.
- Rome Limestone
    - The LCL for cobalt at MW-1607 (0.00839 mg/L) was above the GWPS of 0.00600 mg/L.
    - LCLs for lithium at MW-1606 (0.0627 mg/L) and MW-1607 (0.120 mg/L) were above the GWPS of 0.0400 mg/L.
    - The LCL for molybdenum at MW-1607 (0.131 mg/L) was above the GWPS of 0.100 mg/L.
- Dumps Fault
    - The LCL for lithium at MW-1610 (0.162 mg/L) was above the GWPS of 0.161 mg/L.
    - The LCL for molybdenum at MW-1610 (0.118 mg/L) was above the GWPS of 0.100 mg/L.

While the LCL for cobalt at MW-1610 (0.00630 mg/L) was above the GWPS of 0.00600 mg/L when using the entire dataset, a statistically significant decreasing trend was observed. Therefore, the confidence interval for cobalt at MW-1610 was generated using only the most recent eight data points to better represent groundwater quality at present. The LCL for cobalt at MW-1610, when calculated using only eight most recent data points, was 0.00475 mg/L, and an SSL was not identified.

As a result of the identified SSLs, the selection of remedy will continue, and groundwater monitoring will continue in accordance with the assessment monitoring program per 40 CFR 257.96(b).

2.2.3 Updating Appendix III Prediction Limits

Upper prediction limits (UPLs) were originally established for all Appendix III parameters following the background monitoring period. As described in the March 2023 Statistical Analysis Summary report (Geosyntec 2023b):

- In the Chattanooga Shale formation, intrawell tests were used to evaluate potential SSIs for boron, fluoride, sulfate, and total dissolved solids (TDS), and interwell tests were used for calcium, chloride, and pH.
- In the Rome Limestone formation, intrawell tests were used to evaluate potential SSIs for boron, calcium, fluoride, pH, and TDS, and interwell tests were used for chloride and sulfate.
- In the Dumps Fault water-bearing unit, intrawell tests were used to evaluate potential SSIs for all Appendix III parameters.

Prediction limits have been updated periodically during the assessment monitoring period as sufficient data became available.

For intrawell tests, insufficient data was available to compare against the existing background dataset, and so the prediction limits were not updated for the intrawell tests at this time. The intrawell prediction limits were previously calculated using historical data through April 2022 (Geosyntec 2023b).

Prediction limits for the interwell tests were recalculated using data collected during the 2023 assessment monitoring events. New upgradient well data were tested for outliers prior to being added to the background dataset. Upgradient well data were also evaluated for statistically significant trends using the Sen's Slope/Mann-Kendall trend test, and the results are included in Attachment B.

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

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

The updated interwell prediction limits and the previously established intrawell prediction limits are summarized in Table 4. The UPLs were calculated for a one-of-two retesting procedure; i.e., if at least one sample in a series of two does not exceed the UPL, or in the case of pH, is neither less than the lower prediction limit (LPL) nor greater than the UPL, then it can be concluded that an SSI has not occurred. In practice, where the initial result does not exceed the UPL, or in the case of pH, is neither less than the LPL nor greater than the UPL, a second sample will not be collected. The retesting procedures allow achieving an acceptably high statistical power to detect changes at downgradient wells for constituents evaluated using intrawell prediction limits.

2.2.4 Evaluation of Potential Appendix III SSIs

While SSLs were identified, a review of the Appendix III results was also completed to assess whether concentrations of Appendix III parameters at the compliance wells were above background concentrations. Data collected during the October 2023 assessment monitoring event from each compliance well were compared to updated prediction limits to assess whether the results were statistically above background values. The results from these events and the prediction limits are summarized in Table 4. The following SSIs above the UPLs were noted:

- Calcium concentrations were above the Chattanooga Shale interwell UPL of 7.08 mg/L at MW-1603 (21.6 mg/L), MW-1604 (23.0 mg/L), MW-1605 (42.1 mg/L), and MW-1612 (45.7 mg/L).

- Chloride concentrations were above the Chattanooga Shale interwell UPL of 34.3 mg/L at MW-1603 (93.9 mg/L) and MW-1605 (148 mg/L). Chloride concentrations were above the Rome Limestone interwell UPL of 4.10 mg/L at MW-1606 (13.0 mg/L) and MW-1607 (6.99 mg/L).

- Sulfate concentrations were above the Rome Limestone interwell UPL of 20.3 mg/L at MW-1606 (56.4 mg/L) and MW-1607 (128 mg/L).

Additionally, the following statistically significant decreases below the LPL for pH were noted:

- pH values were below the Chattanooga Shale interwell LPL of 6.7 standard units (SU) at MW-1603 (6.6 SU).

While the prediction limits were calculated for a one-of-two retesting procedure, SSIs were conservatively assumed if the October 2023 sample was above the UPL or, in the case of pH, below the LPL.

2.3 Conclusions

A semiannual assessment monitoring event was conducted in October 2023 in accordance with the CCR Rule. The laboratory and field data were reviewed prior to statistical analysis, with no QA/QC issues identified that prevented data usage. No potential outliers were identified in the October 2023 data. GWPSs were reestablished for the Appendix IV parameters. A confidence interval was constructed at each compliance well for each Appendix IV parameter; SSLs were concluded if the entire confidence interval was above the GWPSs. SSLs were identified for barium, cobalt, lithium, and molybdenum.

Appendix III parameters were compared to updated prediction limits; concentrations of calcium, chloride, pH, and sulfate were identified above or, in the case of pH, below the prediction limits.

Based on this evaluation, the selection of remedy for the Clinch River Ash Pond 1 CCR unit will continue, and groundwater monitoring will continue in accordance with the assessment monitoring program per 40 CFR 257.96(b).

3. REFERENCES

Geosyntec. 2020. Statistical Analysis Plan – Clinch River Plant. Geosyntec Consultants, Inc. October.

Geosyntec. 2023a. Statistical Analysis Summary – Ash Pond 1, Clinch River Plant, Carbo, Virginia. Geosyntec Consultants, Inc. September.

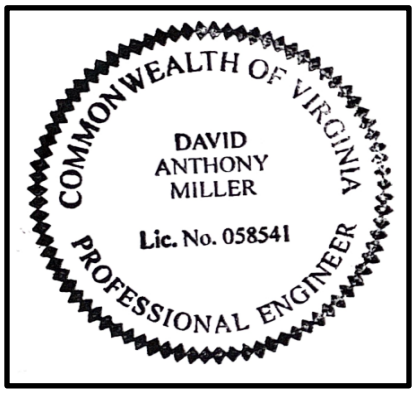
Geosyntec. 2023b. Statistical Analysis Summary – Ash Pond 1, Clinch River Plant, Carbo, Virginia. Geosyntec Consultants, Inc. March.

TABLES

ATTACHMENT A
Certification by Qualified Professional Engineer

Certification by Qualified Professional Engineer

I certify that selected and above described statistical method is appropriate for evaluating the groundwater monitoring data for the Clinch River Ash Pond 1 CCR management area and that the requirements of 40 CFR 257.93(f) have been met.



David Anthony Miller

Printed Name of Licensed Professional Engineer

David Anthony Miller

Signature

058541	Virginia	02.22.2024
License Number	Licensing State	Date

ATTACHMENT B
Statistical Analysis Output

GROUNDWATER STATS CONSULTING

February 20, 2024

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

RE: Clinch River Pond 1 – Assessment Monitoring Report & Background Update – 2023

Dear Ms. Kreinberg,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the background update of statistical limits and the statistical evaluation of groundwater data for the October 2023 sample event at American Electric Power Company's Clinch River Pond 1. The analysis complies with the federal rule for the Disposal of Coal Combustion Residuals from Electric Utilities (CCR Rule, 2015) as well as with the United States Environmental Protection Agency (USEPA) Unified Guidance (2009).

Sampling began at the Clinch River Pond 1 for the Coal Combustion Residuals (CCR) program in 2017 at each of the groundwater monitoring wells. The monitoring well network, as provided by Geosyntec Consultants, consists of the following three formations:

Chattanooga Shale:
Upgradient Wells: MW-1601, MW-1602, MW-1608
Downgradient Wells: MW-1603, MW-1604, MW-1605, MW-1612

Rome Limestone:
Cross-gradient (background) Well: MW-1609
Downgradient Wells: MW-1606, MW-1607

Dumps Fault:
Upgradient Well: MW-1611
Downgradient Well: MW-1610

Data were sent electronically to Groundwater Stats Consulting, and the statistical analysis was reviewed by Kristina Rayner, Founder and Senior Statistician for Groundwater Stats Consulting.

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

- **Appendix III** (Detection Monitoring) **-** boron, calcium, chloride, fluoride, pH, sulfate, and TDS
- **Appendix IV** (Assessment Monitoring) **–** antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226 + 228, fluoride, lead, lithium, mercury, molybdenum, selenium, and thallium

For all constituents, a substitution of the most recent reporting limit is used for non-detect data. Note that when there are no detections present in downgradient wells for a given constituent, statistical analyses are not required. A summary of well/constituent pairs with 100% non-detects follows this letter.

A separate section is provided for each formation and includes time series plots for Appendix III and IV parameters at all wells within the same formation, for the purpose of screening data (Figure A for each formation). Additionally, box plots are included for all constituents at upgradient and downgradient wells (Figure B for each formation). The time series plots are used to initially screen for suspected outliers and trends, while the box plots provide visual representation of variation within individual wells and between all wells.

Data at all wells were evaluated for the following: 1) outliers; 2) trends; 3) most appropriate statistical method for Appendix III parameters based on site characteristics of groundwater data upgradient of the facility; and 4) eligibility of downgradient wells when intrawell statistical methods are recommended. Power curves were provided with the background update conducted in February 2021 and demonstrated that the selected statistical methods for Appendix III parameters comply with the USEPA Unified Guidance recommendations as discussed below.

Summary of Statistical Methods:

Based on the original background screening described in the 2017 screening report, the following statistical methods were used for analyzing Appendix III parameters:

Chattanooga Shale:

1) Interwell parametric prediction limits, combined with a 1-of-2 resample plan for calcium, chloride, and pH
2) Intrawell parametric prediction limits, combined with a 1-of-2 resample plan for boron, fluoride, sulfate, and TDS

Rome Limestone:

1) Interwell prediction limits, combined with a 1-of-2 resample plan for chloride and sulfate
2) Intrawell parametric prediction limits, combined with a 1-of-2 resample plan for boron, calcium, fluoride, pH, and TDS

Dumps Fault:

1) Intrawell parametric prediction limits, combined with a 1-of-2 resample plan, for boron, calcium, chloride, fluoride, pH, sulfate and TDS

Appendix III Constituents

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

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

- Nonparametric tolerance limits are used on data containing greater than 50% non-detects.

Natural systems continuously evolve due to physical changes made to the environment. Examples include capping a landfill, paving areas near a well, or lining a drainage channel to prevent erosion. Periodic updating of background statistical limits is necessary to accommodate these types of changes. In the intrawell case, data for all wells and constituents may be re-evaluated when a minimum of 4 new data points are available to determine whether earlier concentrations are representative of present-day groundwater quality. In the interwell case, prediction limits are updated with upgradient well data following each sampling event after careful screening for any new outliers. In some cases, deselecting the earlier portion of data may be necessary prior to construction of limits so that resulting statistical limits are conservative (i.e., lower) from a regulatory perspective and capable of rapidly detecting changes in groundwater quality. Even though the data are excluded from the calculation, the values will continue to be reported and shown in tables and graphs.

Summary of Original Background Screening – June 2019

Outlier Evaluation

Time series plots were used to identify suspected outliers, or extreme values that would result in limits that are not conservative from a regulatory perspective, in proposed background data. Suspected outliers at all wells for Appendix III and Appendix IV parameters were formally tested using Tukey's box plot method and, when identified, flagged in the computer database with "o" and deselected prior to construction of statistical limits.

Seasonality

No distinct seasonal patterns were observed on the time series plots for any of the detected data; therefore, no deseasonalizing adjustments were made. When seasonal patterns are observed, data may be deseasonalized so that the resulting limits will correctly account for the seasonality as a predictable pattern rather than random variation or a release.

Trend Test Evaluation

While a trend may be visually apparent, a quantification of the trend and its significance is needed. The Sen's Slope/Mann Kendall trend test was used to evaluate all data at each

well to identify statistically significant increasing or decreasing trends. In the absence of suspected contamination, significant trending data are typically not included as part of the background data used for construction of prediction limits. This step serves to eliminate the trend and, thus, reduce variation in background. When statistically significant decreasing trends are present, earlier data are evaluated to determine whether earlier concentration levels are significantly different than current reported concentrations and will be deselected as necessary. When the historical records of data are truncated for the reasons above, a summary report will be provided to show the date ranges used in construction of the statistical limits. No adjustments were required at the time, and results of the trend tests were included with the 2019 screening.

Appendix III – Determination of Spatial Variation

The Analysis of Variance (ANOVA) is used when 2 or more upgradient wells are available to statistically evaluate whether there are significant differences in average concentrations among the wells, and assists in identifying the most appropriate statistical approach. Interwell tests, which compare downgradient well data to statistical limits constructed from pooled upgradient well data, are appropriate when average concentrations are similar across upgradient wells. Intrawell tests, which compare compliance data from a single well to screened historical data within the same well, are appropriate when upgradient wells exhibit spatial variation; when statistical limits constructed from upgradient wells would not be conservative from a regulatory perspective; and when downgradient water quality is unimpacted compared to upgradient water quality for the same parameter.

The application of Analysis of Variance, upgradient tolerance limits, and downgradient confidence intervals for evaluation of these criteria is described in the 2019 screening study report and resulted in the recommended method for each Appendix III parameter at each respective formation.

Appendix III Background Update Summary – February 2024

Upgradient well data through October 2023 were re-screened for the purpose of updating the interwell prediction limits at each of the formations. Intrawell prediction limits were updated during the April 2022 sample event, and a summary was provided at that time. The intrawell prediction limits will be updated when a minimum of 4 compliance samples are available. The majority of well/constituent pairs utilize background data through April 2022 except for a few cases where historical measurements were truncated due to elevated concentrations which no longer represent present-day groundwater quality

conditions. This step results in conservative (i.e., lower) statistical limits from a regulatory perspective. A summary of truncated records follows this narrative.

Outlier Analysis

Prior to updating background data during this analysis, Tukey's outlier test and visual screening were used to re-evaluate data through October 2023 for outliers at all upgradient wells for parameters utilizing interwell prediction limits. Several low values exist in the data sets and appear on the graphs as possible low outliers relative to the laboratory's Practical Quantitation Limit. However, these values are observed trace values (i.e., measurements reported by the laboratory between the Method Detection Limit and the Practical Quantitation Limit); therefore, these measurements were not flagged as outliers.

Any values flagged as outliers ("o") are plotted in a disconnected symbol and lighter font on the time series graph. A substitution of the most recent reporting limit was applied when varying detection limits existed in data.

Tukey's outlier test on pooled upgradient well data did not identify any potential outliers for Appendix III parameters. Although not identified by Tukey's, the two highest values for chloride in upgradient well MW-1601 were flagged in order to construct statistical limits that are more conservative and representative of present-day groundwater quality conditions. Tukey's outlier test results and outlier summaries are provided in Figure C for each formation Note that outlier analysis results are combined for Appendix III constituents using interwell prediction limits and all Appendix IV constituents.

Intrawell Parameters—Prediction Limits

All available background data through April 2022, except in cases where historical measurements were truncated, were used to establish intrawell background limits, combined with a 1-of-2 resample plan, that will be used for future comparisons (Figure D). As discussed earlier, a summary of truncated records follows this narrative.

Note that a slight change in the statistical limits for sulfate at downgradient wells MW-1604 and MW-1612 occurred during this event (compared to those constructed in April 2022) on behalf of the substitution method for reported non-detects which had no impact on the statistical analysis. The intrawell prediction limits will be updated when a minimum of 4 compliance samples are available. No comparison of the October 2023 compliance data was performed in this analysis.

Interwell Parameters—Trend Testing

For parameters tested using interwell analyses (calcium, chloride, and pH at Chattanooga Shale; and chloride and sulfate at Rome Limestone), the Sen's Slope/Mann-Kendall trend test was used to evaluate data at upgradient wells and determine whether concentrations are statistically increasing, decreasing or stable at the 99% confidence level (Figure E). Statistically significant trends were identified for the following upgradient well/constituent pairs:

Increasing
None

Decreasing
Chattanooga Shale

- Calcium: MW-1601 and MW-1608
- Chloride: MW-1601 and MW-1608

Rome Limestone

- Chloride: MW-1609

The magnitudes of the trends above are either low relative to average concentrations within each well or would not greatly affect the resulting interwell prediction limits. With limited background samples collected to date, all data from upgradient wells were used to construct interwell prediction limits. As more data are collected, all upgradient well data will be re-evaluated for possible deselection of earlier measurements if they no longer represent present-day groundwater quality conditions.

Interwell Parameters—Prediction Limits

Interwell prediction limits using data through October 2023 for parameters mentioned above, combined with a 1-of-2 resample plan, were constructed from pooled upgradient well data for the Chattanooga Shale and Rome Limestone formations (Figure F). Downgradient measurements will be compared to these background limits during each subsequent semi-annual sampling event. No comparison of the October 2023 compliance data was performed in this analysis.

Evaluation of Appendix IV Parameters – Fall 2023

Groundwater Protections Standards (GWPS) are updated annually and are updated in the current analysis. The GWPS will be updated again during the Fall 2024 semi-annual statistical analysis. The methodology used to establish these GWPS is described below.

Outlier Analysis

Background data were originally screened in June 2019 and all data were re-screened during the October 2021 and October 2022 sample events. The results were submitted with each respective report. During this analysis, data at all wells were re-evaluated through October 2023 using time series plots and Tukey's outlier test to confirm previously identified outliers as well as identify new outliers and extreme trending patterns that would lead to artificially elevated statistical limits. Note that for the downgradient well data that are evaluated with confidence intervals, a regulatory conservative approach is taken in that values that are marginally high relative to the rest of the data are retained unless there is particular justification for excluding them. Any flagged values, as further discussed below, may be seen on the Outlier Summary table for each formation following this letter.

Tukey's outlier test on pooled upgradient well data for Chattanooga Shale, Rome Limestone, and Dumps Fault identified values for cadmium, combined radium 226 + 228, and molybdenum. Tukey's outlier test and visual screening confirmed previously flagged measurements. Any values identified by Tukey's test but not flagged in the database were either similar to concentrations among other upgradient wells or were below the respective Maximum Containment Level or CCR-Rule Specified levels. Although not identified by Tukey's test, the highest values for arsenic at upgradient well MW-1602 and upgradient well MW-1611 were flagged during this analysis in order to generate statistical limits that are more conservative and representative of present-day groundwater quality conditions. Values identified as outliers are flagged with "o" and displayed in a lighter font and disconnected symbol on the time series graphs. Summaries of all flagged outliers are included in Figure C for each of the three formations.

Interwell Upper Tolerance Limits

Interwell upper tolerance limits were calculated to create background limits for the Appendix IV constituents from all available pooled upgradient well data through October 2023 at each of the formations (Figures G). Parametric limits use a target of 95% confidence and 95% coverage. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples. The background

limit for lithium was reported to three significant figures where applicable, as requested by Geosyntec Consultants. The upper tolerance limits are updated annually and will be updated again during the 2024 2nd semi-annual analysis.

Groundwater Protection Standards

Interwell upper tolerance limits were compared to the MCLs and CCR-Rule specified levels, as shown in the Groundwater Protection Standards (GWPS) table following this letter (Figures H), to determine the highest limit for use as the GWPS in the Confidence Interval comparisons.

Confidence Intervals

Confidence intervals were then constructed for each Appendix IV constituent and each downgradient well using data through October 2023 (Figures I). These intervals were constructed as either parametric or nonparametric confidence intervals depending on the data distribution and percentage of non-detects. When data followed a normal or transformed-normal distribution, parametric confidence intervals were used for Appendix IV parameters. Nonparametric confidence intervals were constructed when data did not follow a normal or transformed-normal distribution or when there were greater than 50% non-detects. The lower confidence limit, which is constructed with 99% confidence for parametric confidence intervals, is compared to the GWPS prepared as described above. The confidence level associated with nonparametric confidence intervals is dependent upon the number samples available.

Only when the entire confidence interval is above a GWPS is the well/constituent pair considered to exceed its respective standard. Complete results of the confidence interval analysis follow this letter. The following confidence interval exceedances were identified using all available data within each well:

Chattanooga Shale

- Barium: MW-1603, MW-1604, and MW-1612
- Lithium: MW-1605

Rome Limestone

- Cobalt: MW-1607
- Lithium: MW-1606 and MW-1607
- Molybdenum: MW-1607

Dumps Fault

- Cobalt: MW-1610
- Lithium: MW-1610
- Molybdenum: MW-1610

Note that for barium in well MW-1605 at Chattanooga Shale, an increase in concentrations among the most recent 8 observations was identified when compared to historic reported concentrations; therefore, an additional confidence interval using the most recent 8 observations for this well/constituent pair was constructed (Figure I). An exceedance was identified.

Trend Test Evaluation – Appendix IV

When confidence interval exceedances are identified in downgradient wells, data are further evaluated using the Sen's Slope/Mann Kendall trend test to determine whether concentrations are statistically increasing, decreasing, or stable at the 95% confidence level (Figure J). Utilizing the 95% confidence level for trend tests readily identifies significant trends and is more sensitive than the 99% confidence level without drastically increasing the false negative rate. Upgradient wells are included in the trend analyses for all parameters found to exceed their confidence interval in downgradient wells. When similar patterns exist upgradient of the site, it is an indication of variability in groundwater which may be unrelated to practices at the site. Significant trends were identified for the following well/constituent pairs:

Increasing

Chattanooga Shale

- Barium: MW-1603, MW-1605, and MW-1612

Rome Limestone

- None

Dumps Fault

- None

Decreasing

Chattanooga Shale

- Barium: MW-1601, MW-1602, and MW-1608 (all upgradient)
- Lithium: MW-1602 and MW-1608 (both upgradient)

Rome Limestone

- Lithium: MW-1609 (upgradient)
- Molybdenum: MW-1609 (upgradient) and MW-1607

Dumps Fault

- Cobalt: MW-1611 (upgradient) and MW-1610
- Lithium: MW-1611 (upgradient)
- Molybdenum: MW-1611 (upgradient)

Note that the decreasing trend for lithium at Rome Limestone is a result of reporting limits earlier in the record compared to trace values later in the record.

Confidence Intervals – Most Recent 8 Measurements

Downgradient well/constituent pairs that exceed their respective GWPS when using the entire record of data as discussed earlier and that are found to have statistically significant decreasing trends are further evaluated using confidence intervals constructed with only the most recent 8 measurements through October 2023 to determine present-day groundwater quality conditions relative to the respective GWPS (Figure K). This included cobalt in downgradient well MW-1610 at Dumps Fault, which was the only downgradient well/constituent pair to meet these criteria. The confidence interval was compared against the same respective GWPS to assess compliance. Only when the entire confidence interval is above a GWPS is the well/constituent pair considered to exceed its respective standard. Complete results of the confidence interval analysis follow this letter and no exceedance was identified for cobalt at well MW-1610.

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for the Clinch River Pond 1. If you have any questions or comments, please feel free to contact us.

For Groundwater Stats Consulting,

Andrew T. Collins
Project Manager

Kristina L. Rayner
Senior Statistician

Date Ranges

Date: 2/7/2024 10:21 AM

Clinch River Data: Clinch River

Calcium total (mg/L)
- MW-1611 background:2/11/2020-4/12/2022

Chloride total (mg/L)
- MW-1611 background:2/11/2020-4/12/2022

Sulfate total (mg/L)
- MW-1603 background:2/11/2020-4/13/2022
- MW-1604 background:2/11/2020-4/13/2022
- MW-1605 background:2/11/2020-4/13/2022
- MW-1611 background:2/11/2020-4/12/2022
- MW-1612 background:2/11/2020-4/13/2022

Total Dissolved Solids (mg/L)
- MW-1605 background:2/11/2020-4/13/2022
- MW-1611 background:2/11/2020-4/12/2022

100% Non-Detects: Chattanooga Shale

Analysis Run 2/7/2024 11:38 AM View: Chattanooga Shale - Pond 1 Confidence Intervals
Clinch River Data: Clinch River

Cadmium total (mg/L)
MW-1603, MW-1604, MW-1612

Mercury total (mg/L)
MW-1605

FIGURE A.

Time Series - Chattanooga Shale

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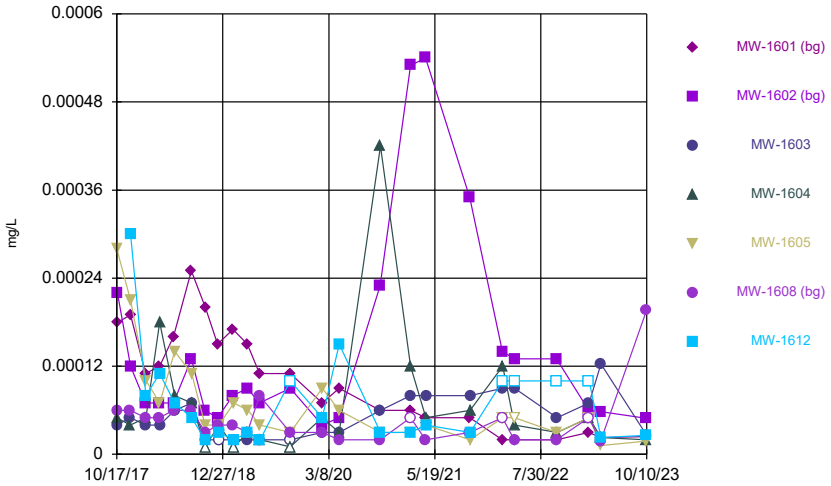
Hollow symbols indicate censored values.

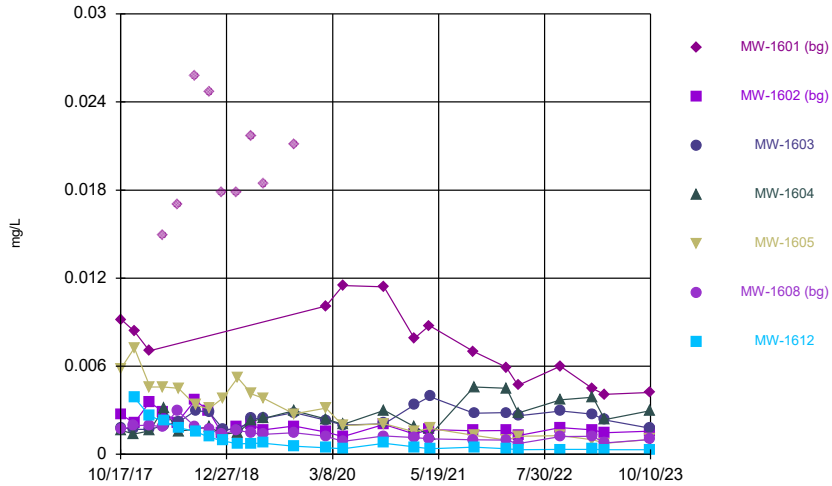
Time Series



Constituent: Antimony total Analysis Run 2/7/2024 1:31 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

Time Series



Constituent: Arsenic total Analysis Run 2/7/2024 1:31 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

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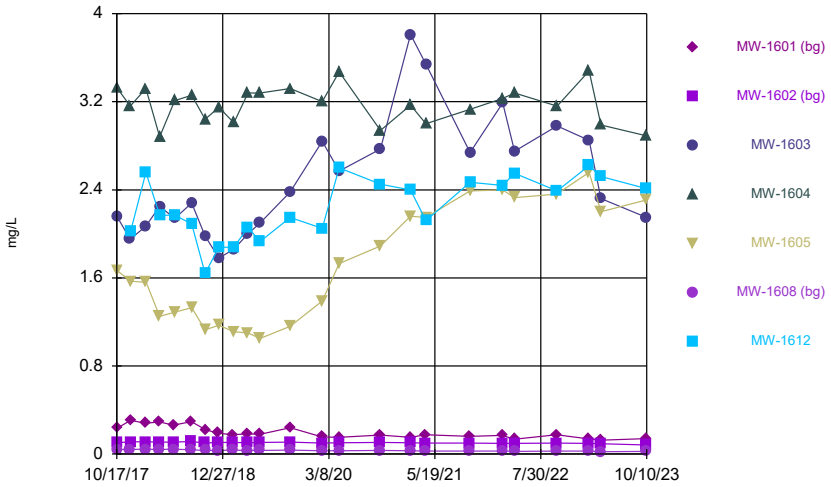
Time Series



Constituent: Barium total Analysis Run 2/7/2024 1:31 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

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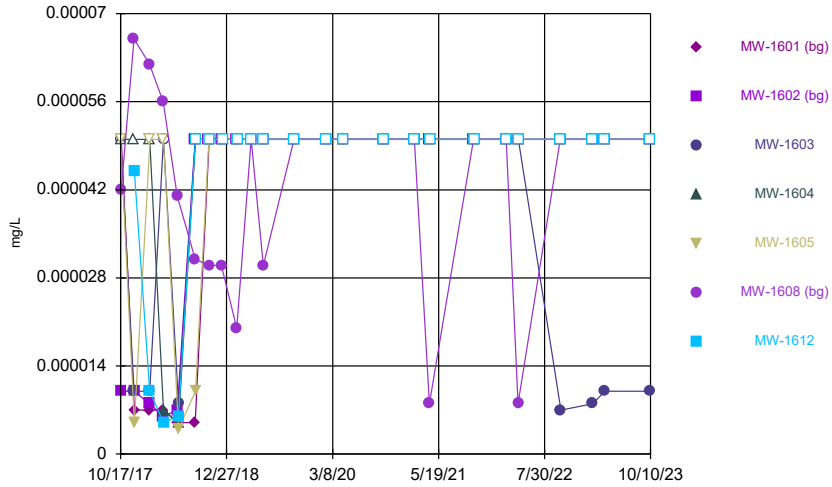
Hollow symbols indicate censored values.

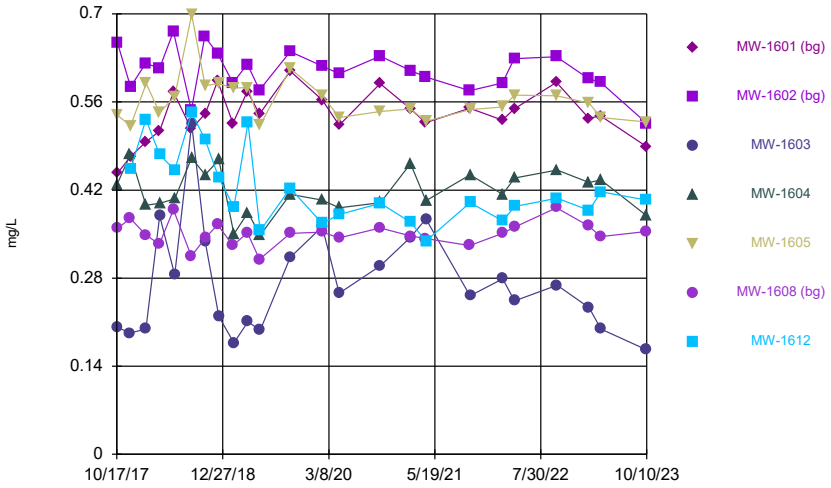
Time Series



Constituent: Beryllium total Analysis Run 2/7/2024 1:31 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

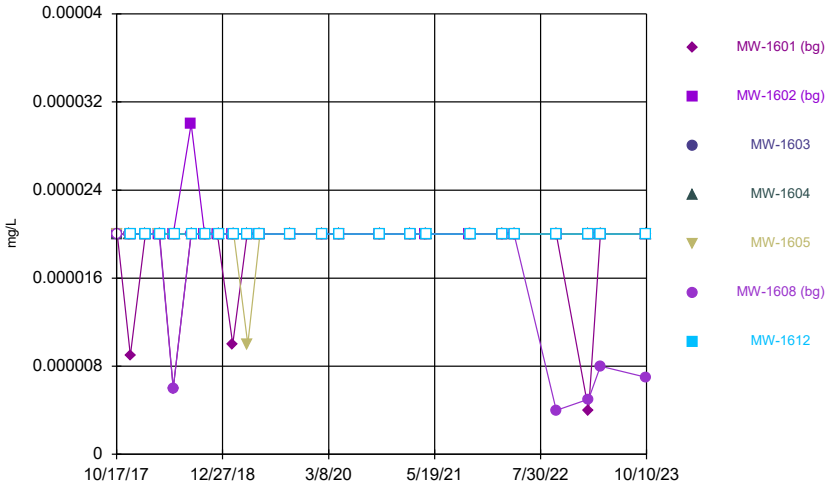
Time Series



Constituent: Boron total Analysis Run 2/7/2024 1:31 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG
Hollow symbols indicate censored values.

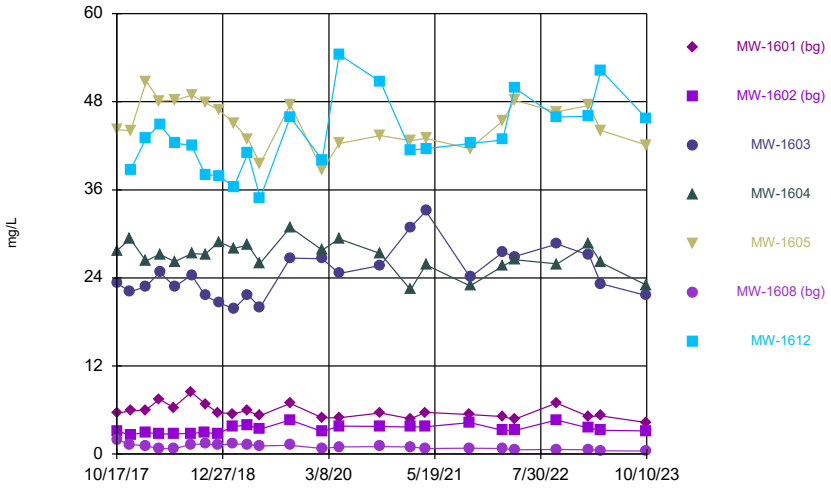
Time Series



Constituent: Cadmium total Analysis Run 2/7/2024 1:31 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

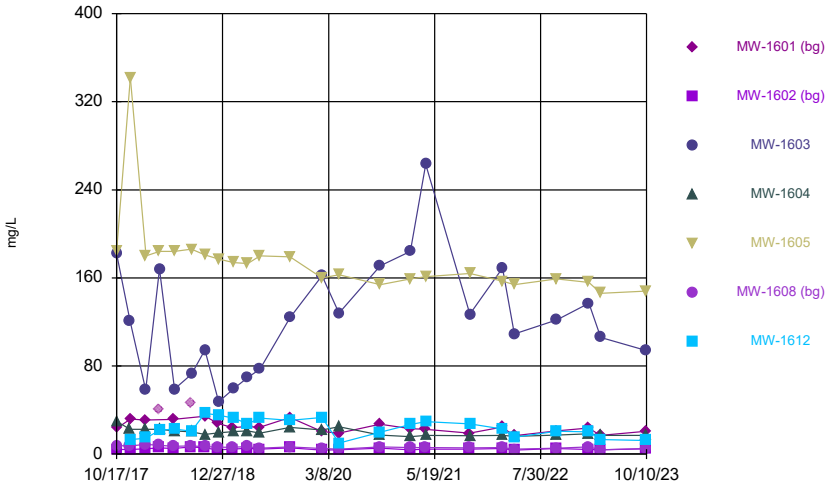
Time Series



Constituent: Calcium total Analysis Run 2/7/2024 1:31 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

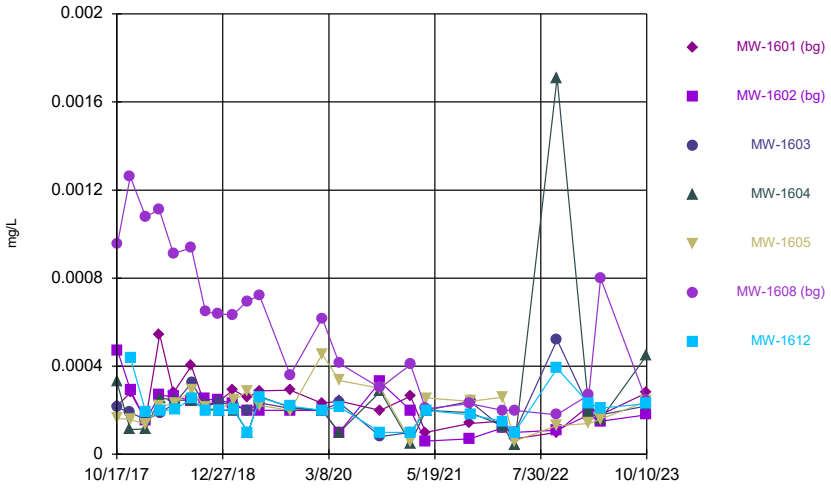
Time Series



Constituent: Chloride total Analysis Run 2/7/2024 1:31 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG
Hollow symbols indicate censored values.

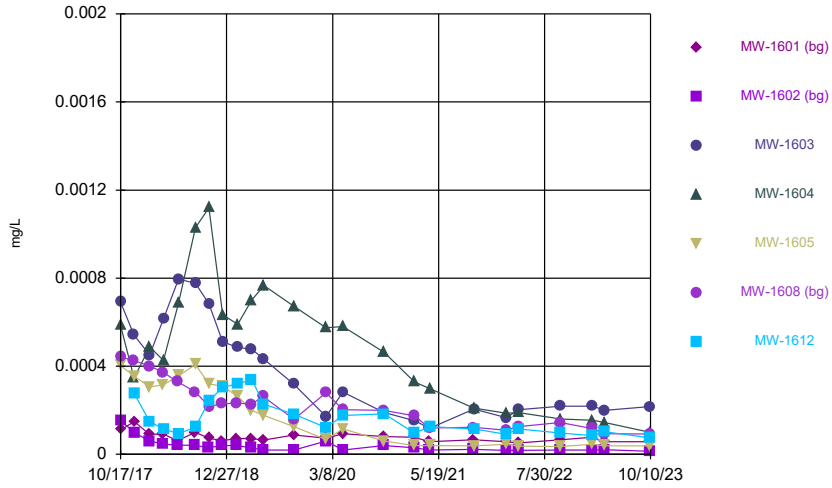
Time Series



Constituent: Chromium total Analysis Run 2/7/2024 1:31 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

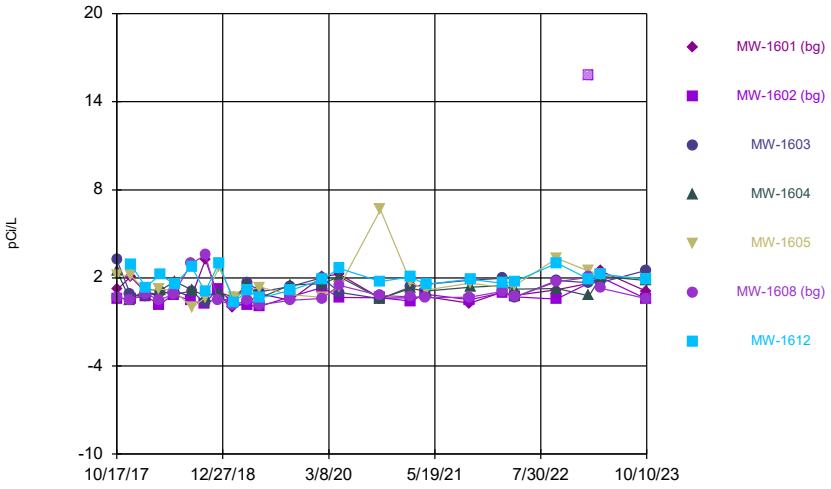
Time Series



Constituent: Cobalt total Analysis Run 2/7/2024 1:31 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

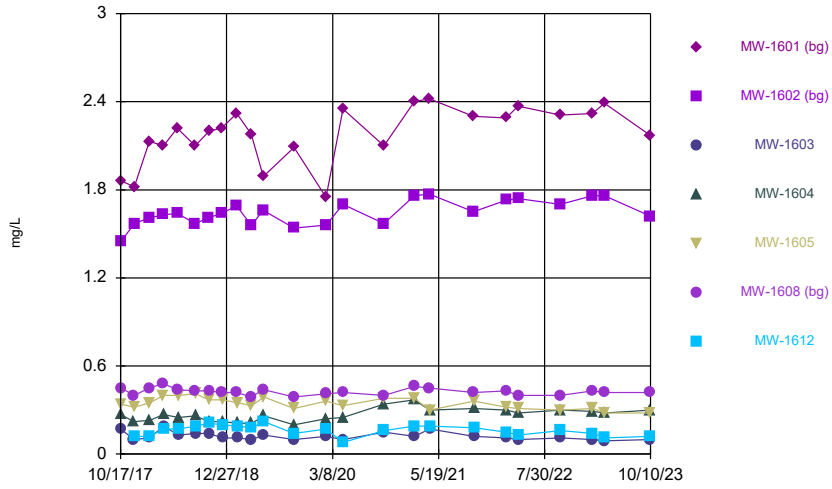
Time Series



Constituent: Combined Radium 226 and 228 Analysis Run 2/7/2024 1:31 PM View: Chattanooga Shale -
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

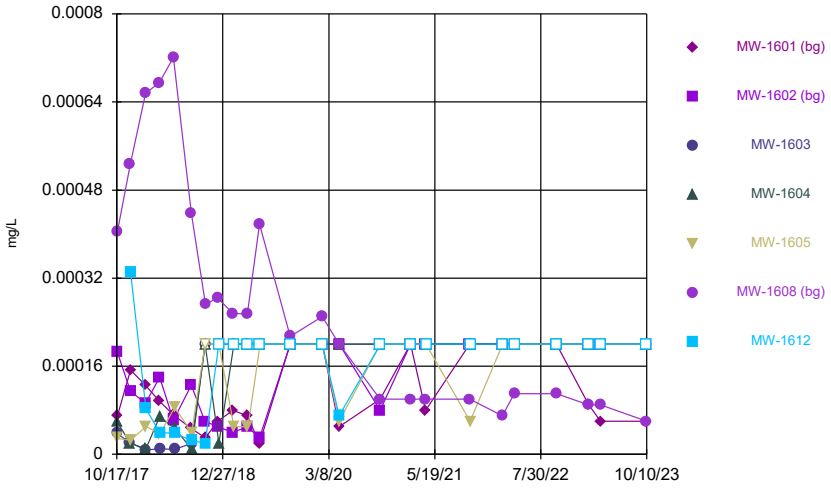
Time Series



Constituent: Fluoride total Analysis Run 2/7/2024 1:31 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG
Hollow symbols indicate censored values.

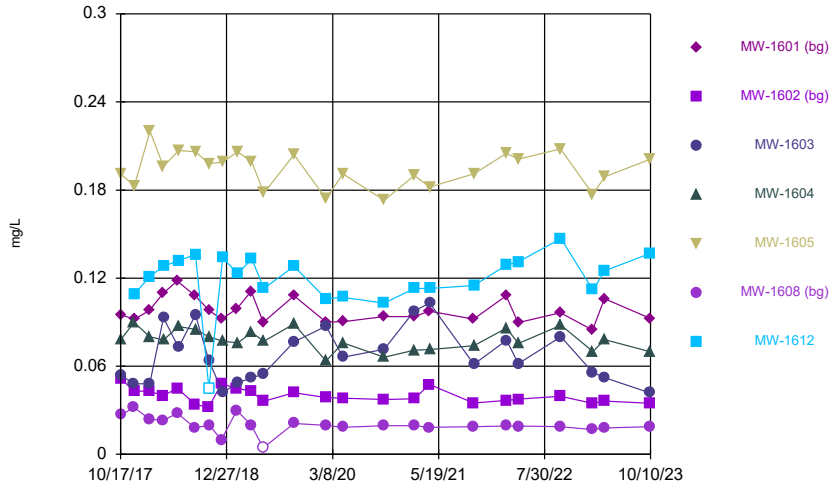
Time Series



Constituent: Lead total Analysis Run 2/7/2024 1:31 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG
Hollow symbols indicate censored values.

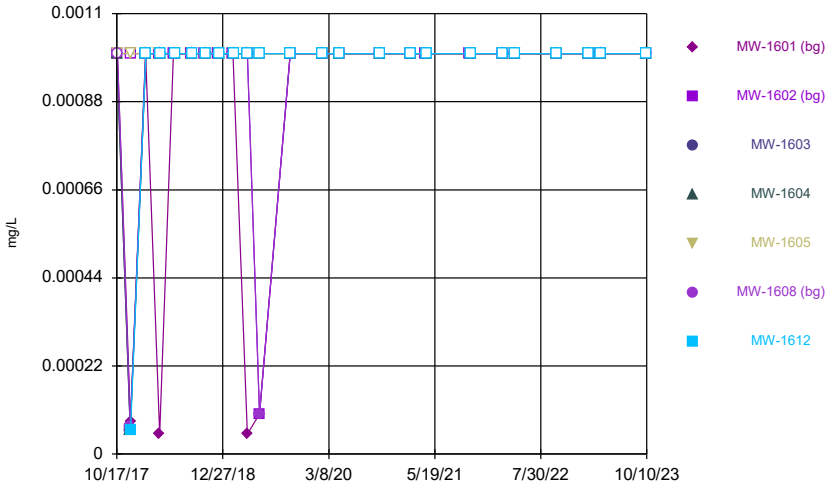
Time Series



Constituent: Lithium total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG
Hollow symbols indicate censored values.

Time Series



Constituent: Mercury total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

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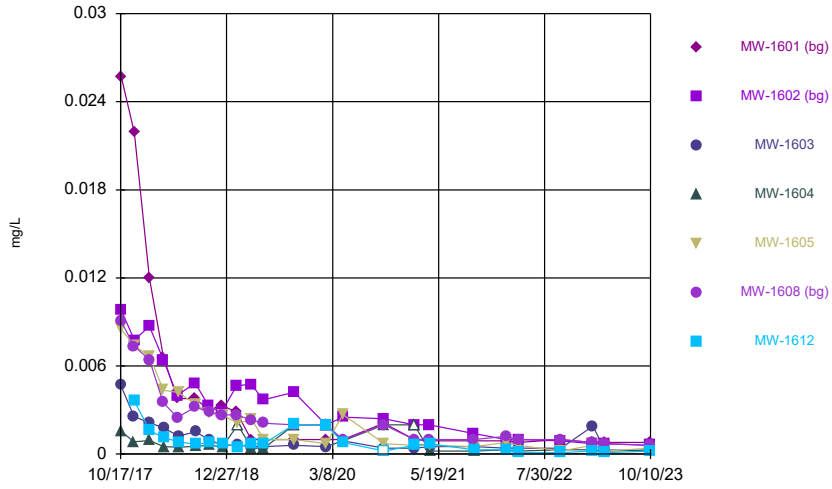
Hollow symbols indicate censored values.

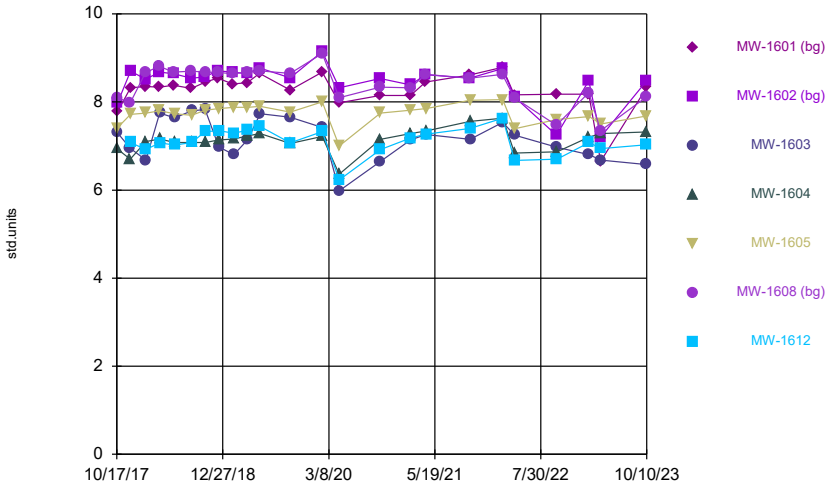
Time Series



Constituent: Molybdenum total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

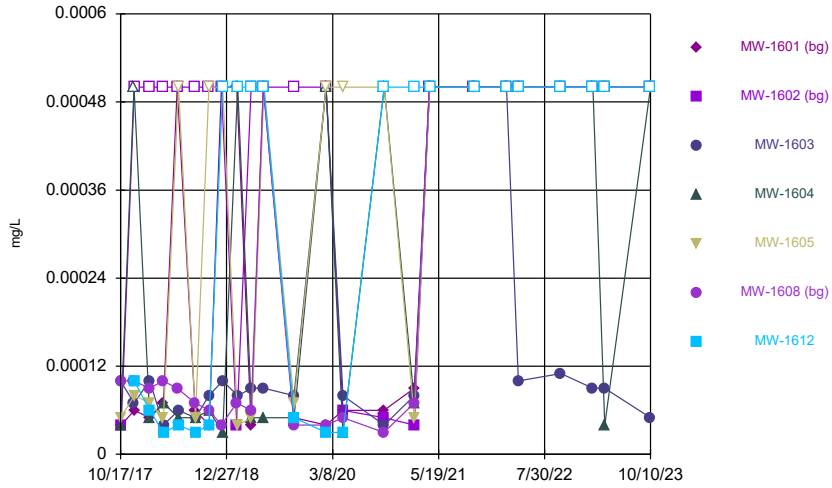
Time Series



Constituent: pH [field] Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG
Hollow symbols indicate censored values.

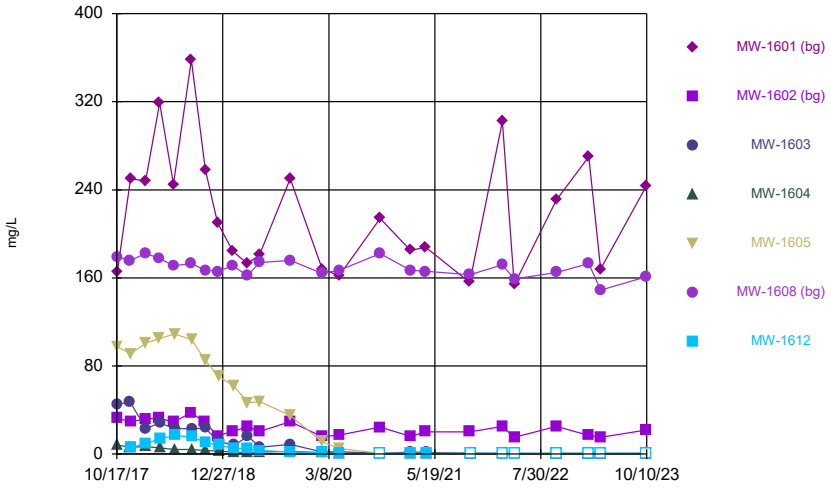
Time Series



Constituent: Selenium total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG
Hollow symbols indicate censored values.

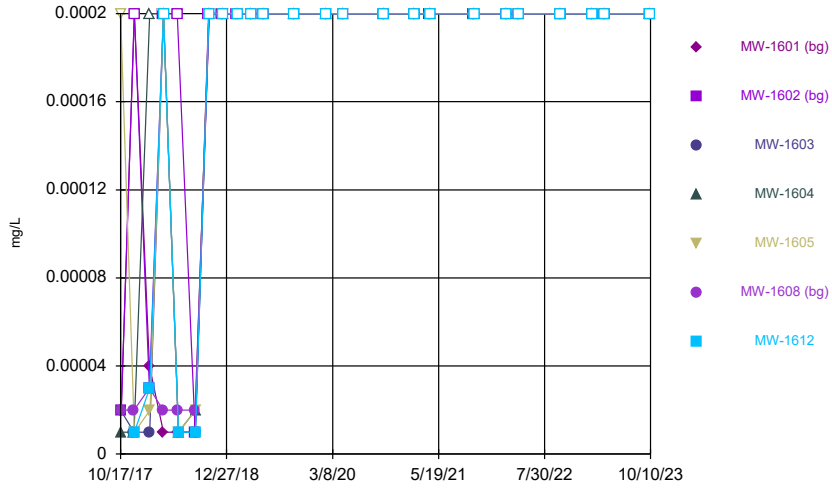
Time Series



Constituent: Sulfate total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

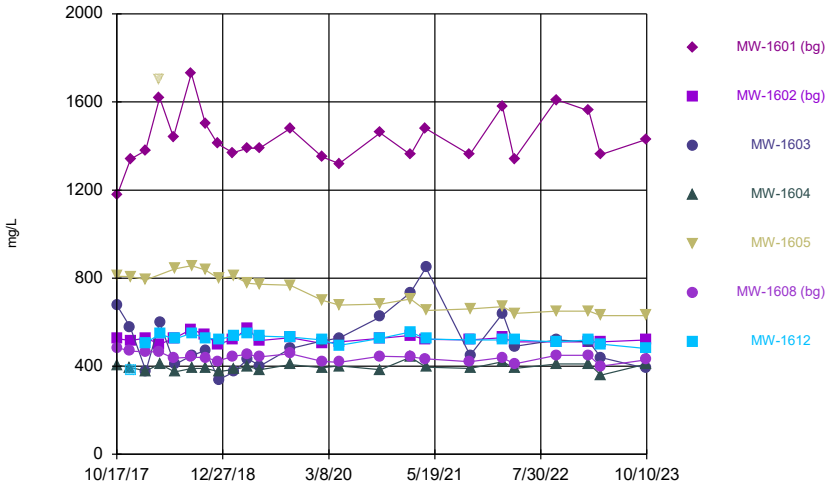
Sanitas™ v.10.0.15 Software licensed to . UG
Hollow symbols indicate censored values.

Time Series



Constituent: Thallium total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Time Series

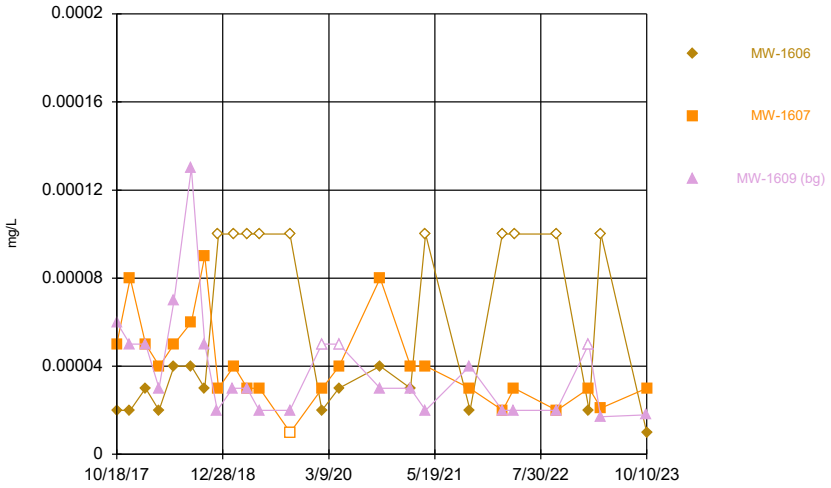


Constituent: Total Dissolved Solids Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Time Series - Rome Limestone

Sanitas™ v.10.0.15 Software licensed to . UG
Hollow symbols indicate censored values.

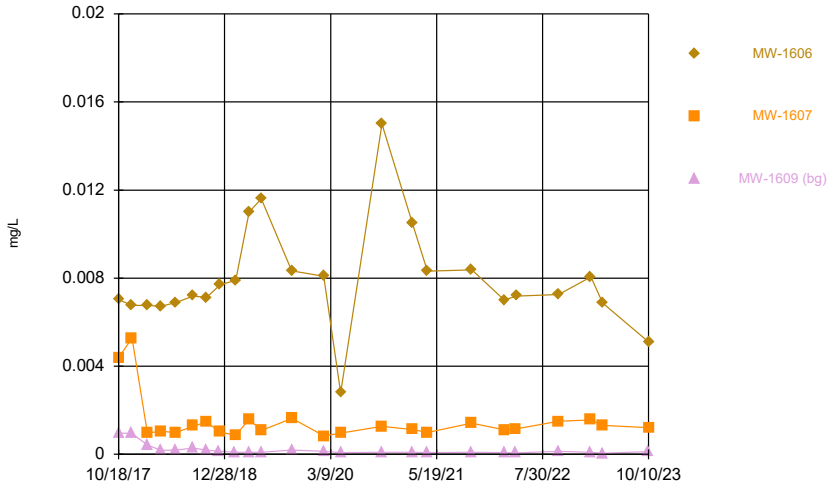
Time Series



Constituent: Antimony total Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

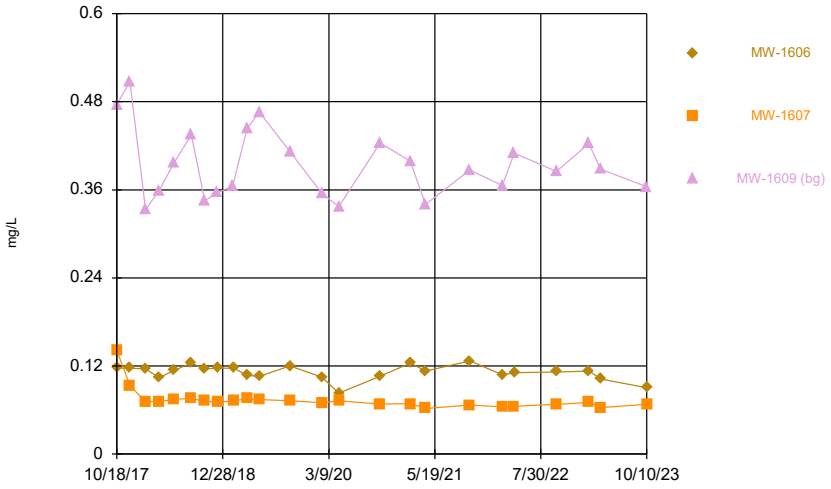
Time Series



Constituent: Arsenic total Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

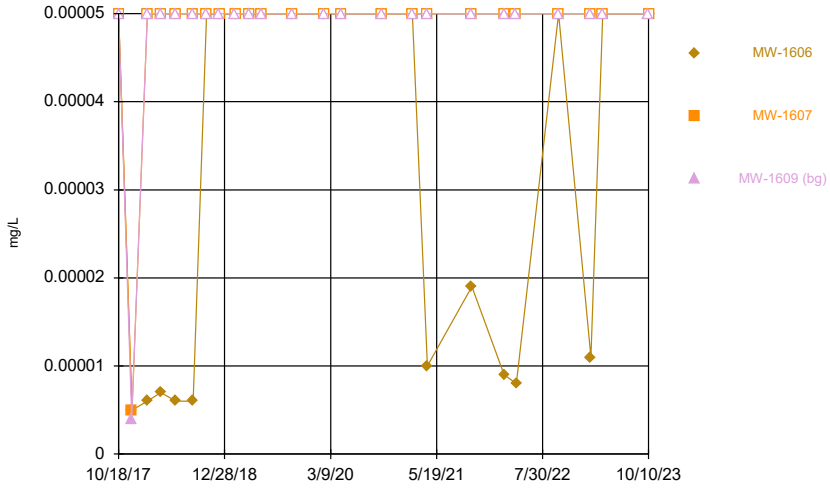
Time Series



Constituent: Barium total Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG
Hollow symbols indicate censored values.

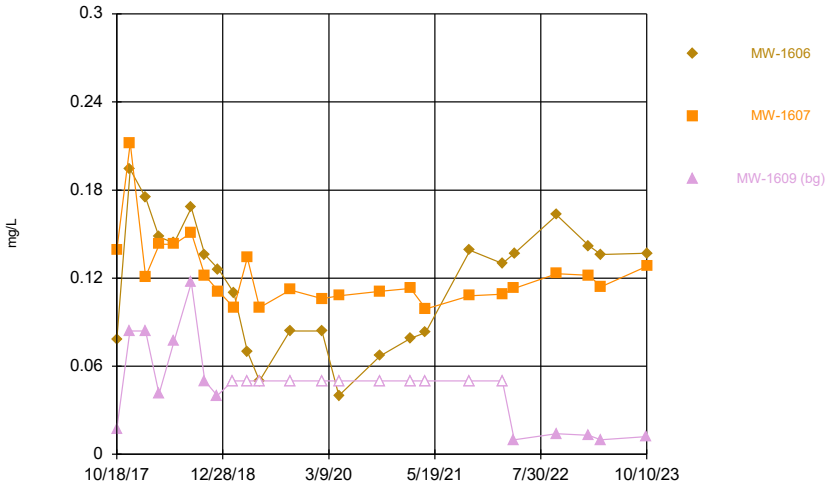
Time Series



Constituent: Beryllium total Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG
Hollow symbols indicate censored values.

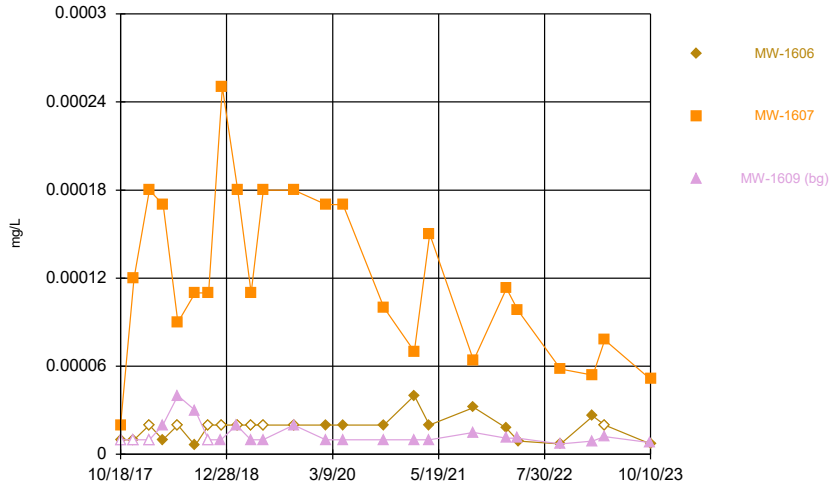
Time Series



Constituent: Boron total Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG
Hollow symbols indicate censored values.

Time Series



Constituent: Cadmium total Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

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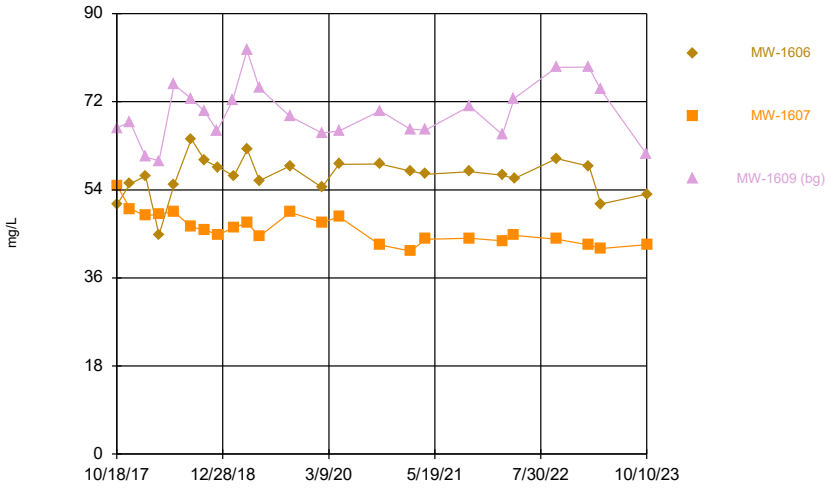
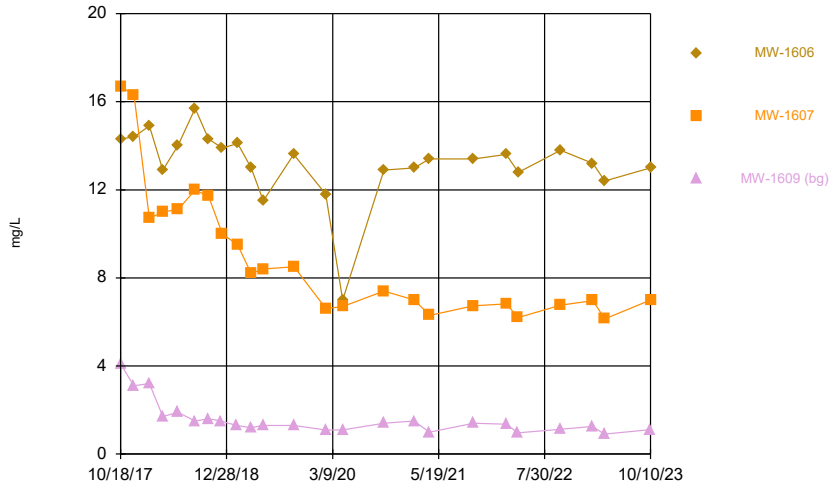
Time Series



Constituent: Calcium total Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

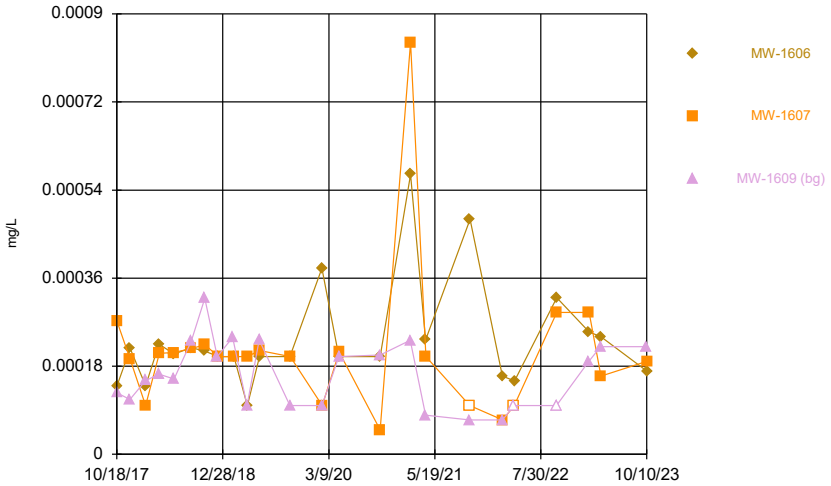
Time Series



Constituent: Chloride total Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG
Hollow symbols indicate censored values.

Time Series



Constituent: Chromium total Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

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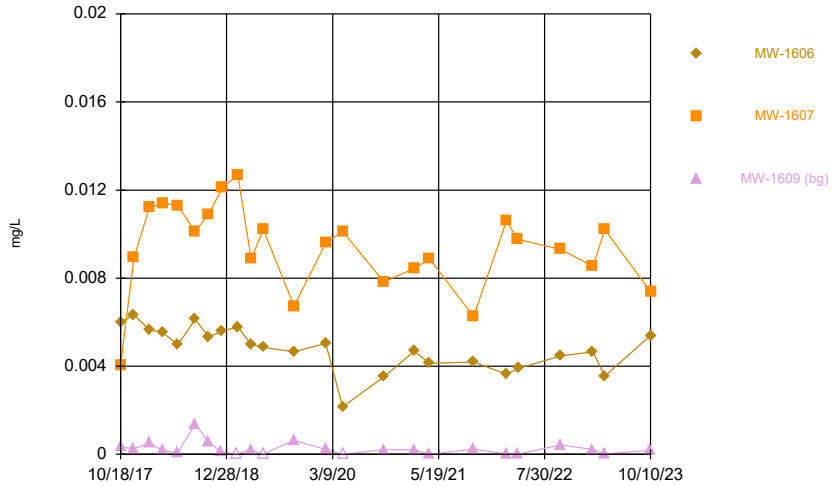
Hollow symbols indicate censored values.

Time Series



Constituent: Cobalt total Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

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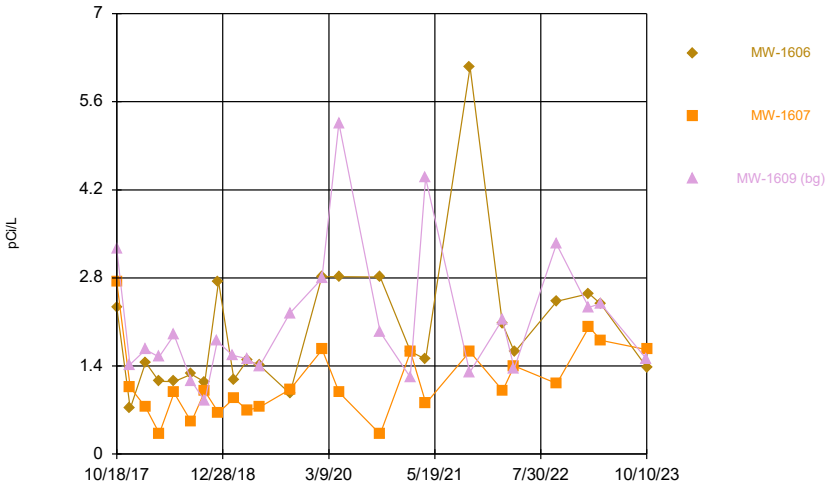
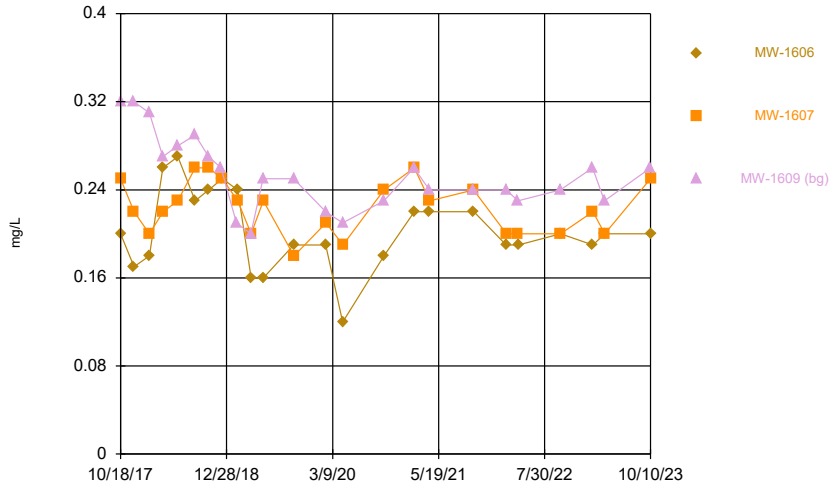
Time Series



Constituent: Combined Radium 226 and 228 Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Po
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

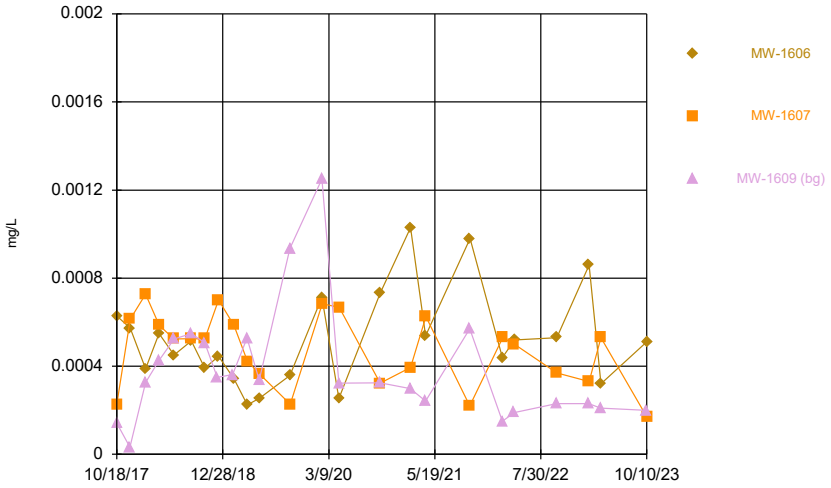
Time Series



Constituent: Fluoride total Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

Time Series



Constituent: Lead total Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

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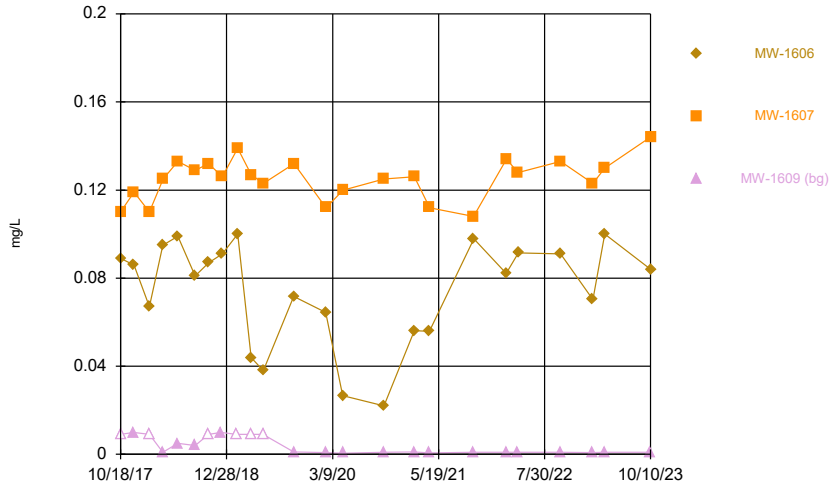
Hollow symbols indicate censored values.

Time Series



Constituent: Lithium total Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

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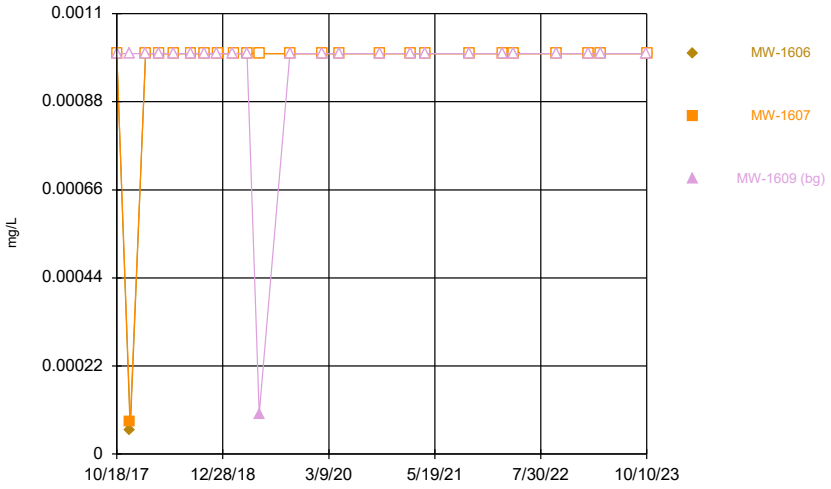
Hollow symbols indicate censored values.

Time Series



Constituent: Mercury total Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

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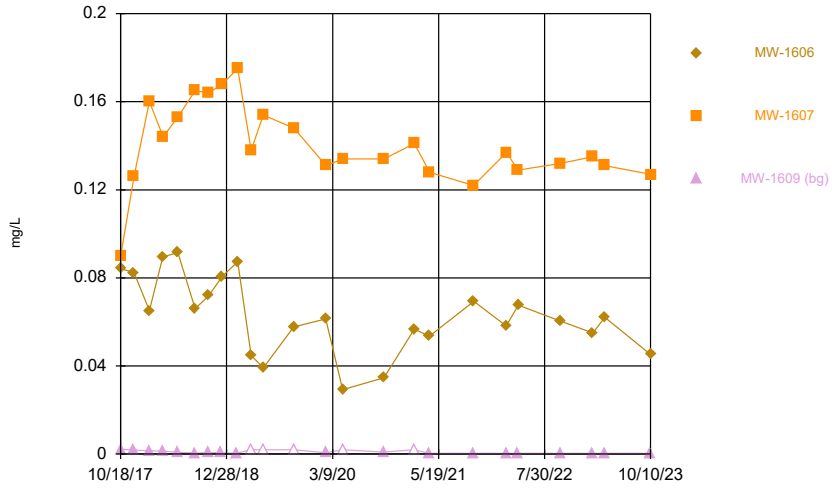
Hollow symbols indicate censored values.

Time Series



Constituent: Molybdenum total Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

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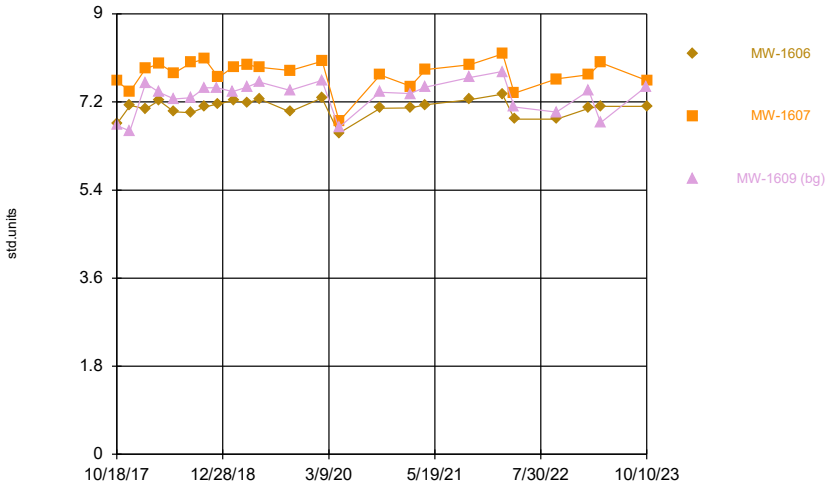
Time Series



Constituent: pH [field] Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

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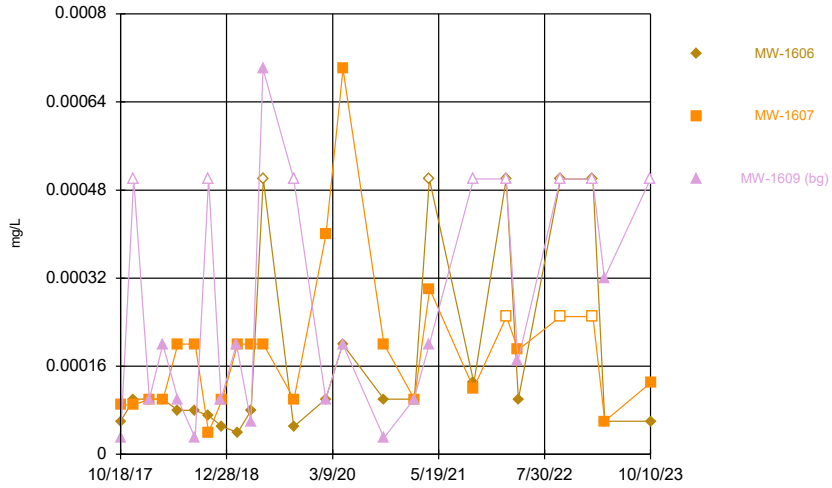
Hollow symbols indicate censored values.

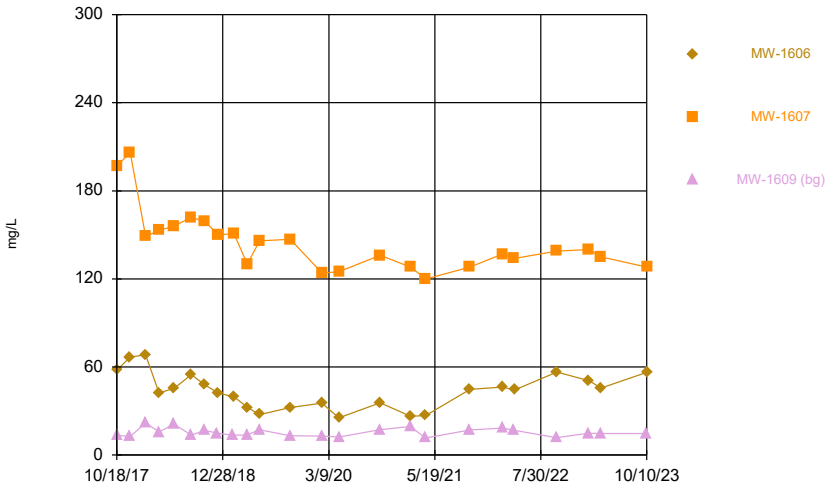
Time Series



Constituent: Selenium total Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

Time Series



Constituent: Sulfate total Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

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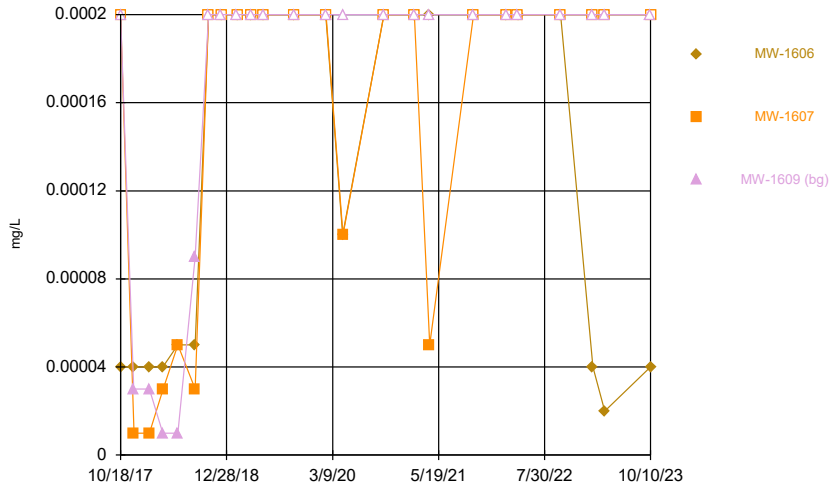
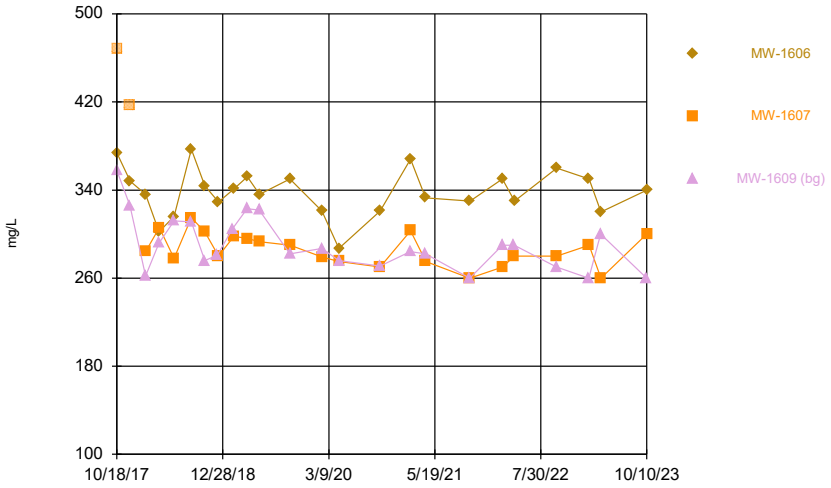
Hollow symbols indicate censored values.

Time Series



Constituent: Thallium total Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Time Series



Constituent: Total Dissolved Solids Analysis Run 2/7/2024 3:34 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Time Series - Dumps Fault

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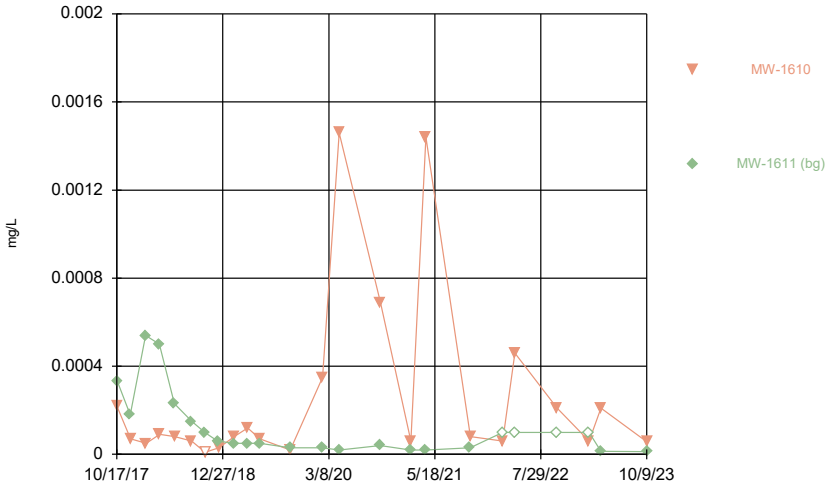
Hollow symbols indicate censored values.

Time Series



Constituent: Antimony total Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

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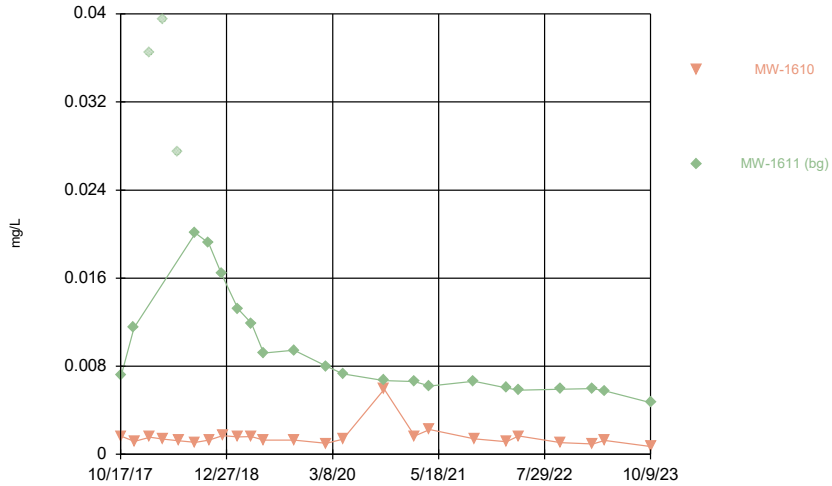
Time Series



Constituent: Arsenic total Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

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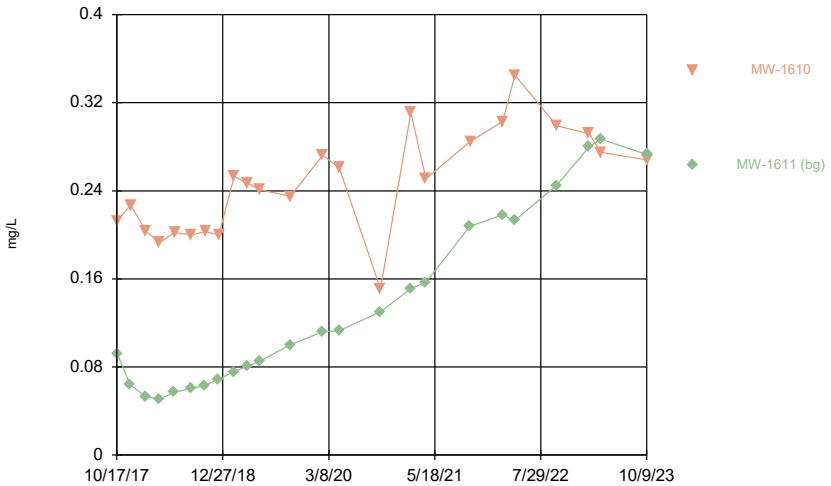
Time Series



Constituent: Barium total Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

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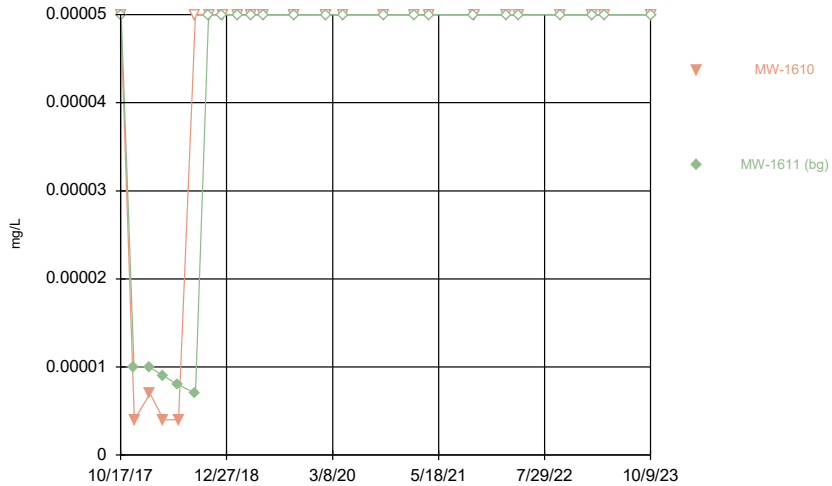
Hollow symbols indicate censored values.

Time Series



Constituent: Beryllium total Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

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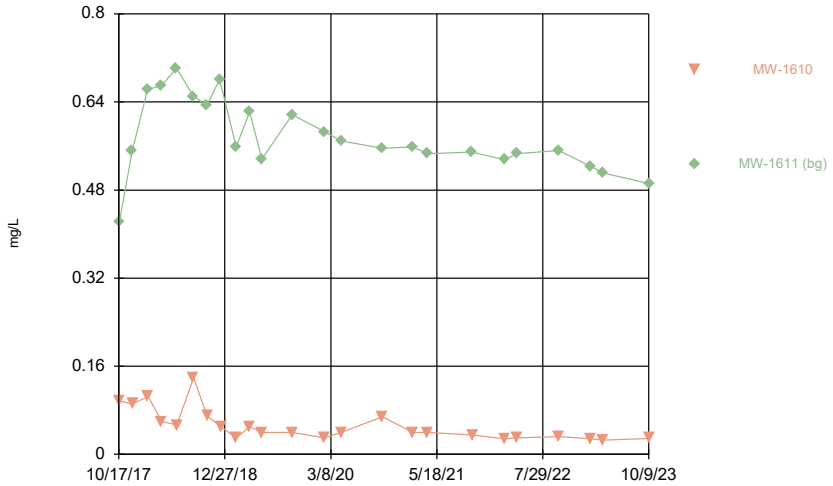
Time Series



Constituent: Boron total Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

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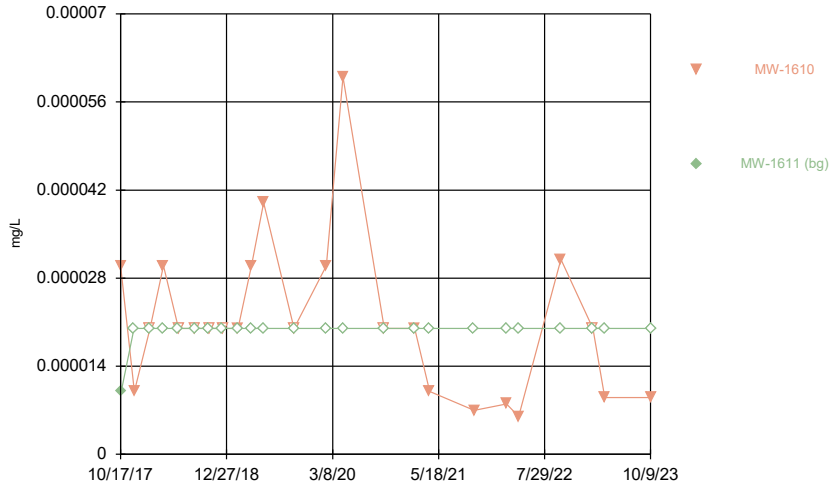
Hollow symbols indicate censored values.

Time Series



Constituent: Cadmium total Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

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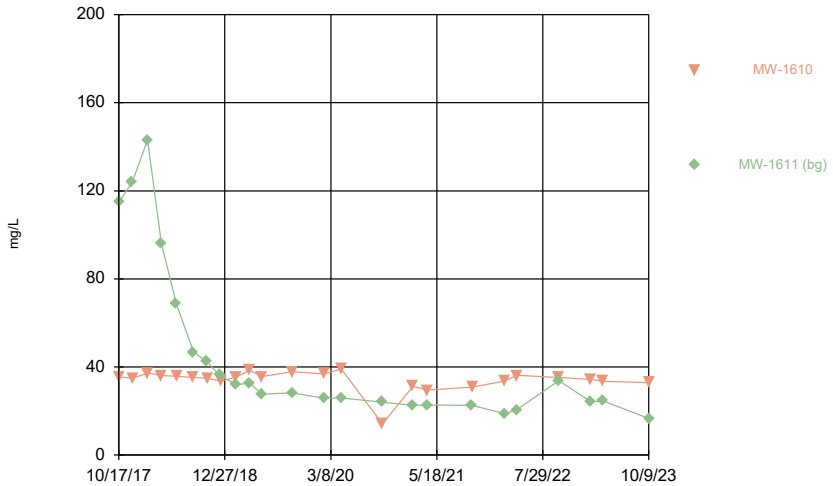
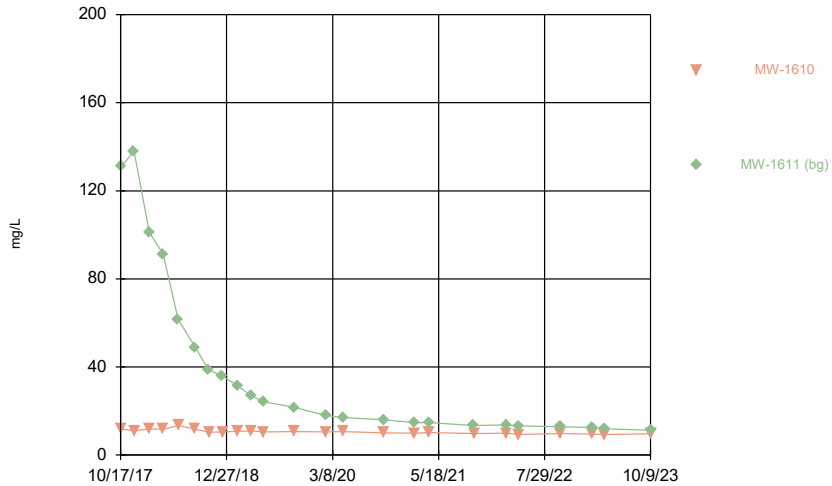
Time Series



Constituent: Calcium total Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

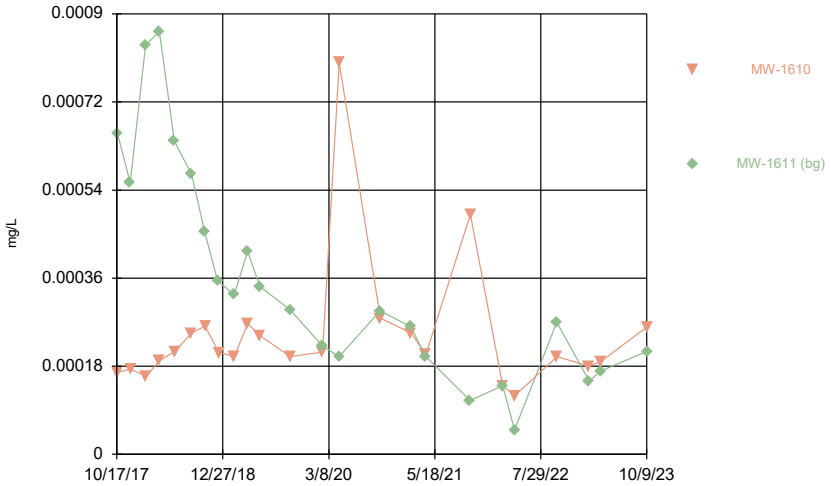
Sanitas™ v.10.0.15 Software licensed to . UG

Time Series



Constituent: Chloride total Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

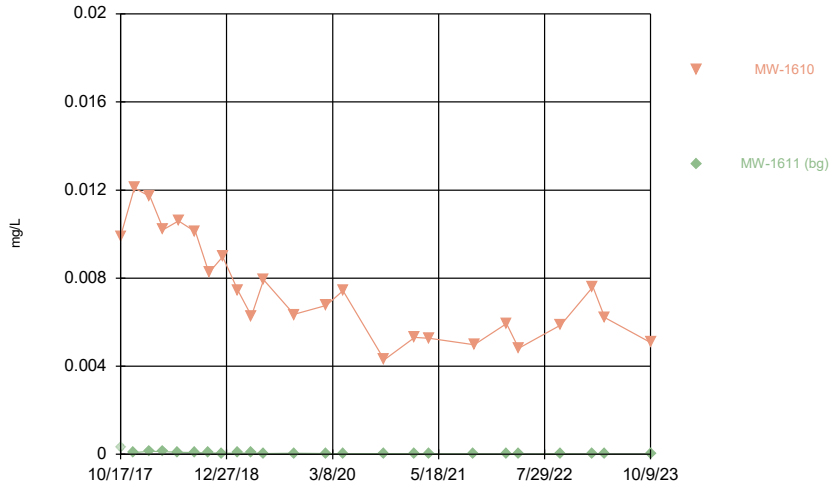
Time Series



Constituent: Chromium total Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

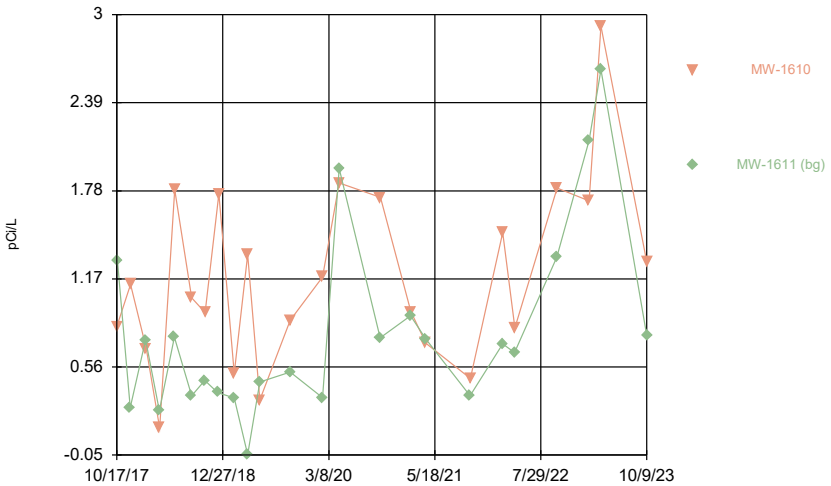
Time Series



Constituent: Cobalt total Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

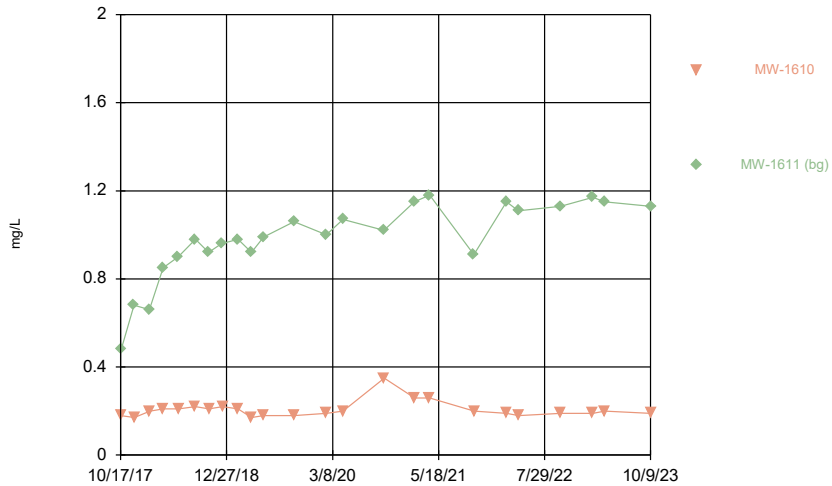
Time Series



Constituent: Combined Radium 226 and 228 Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

Time Series



Constituent: Fluoride total Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

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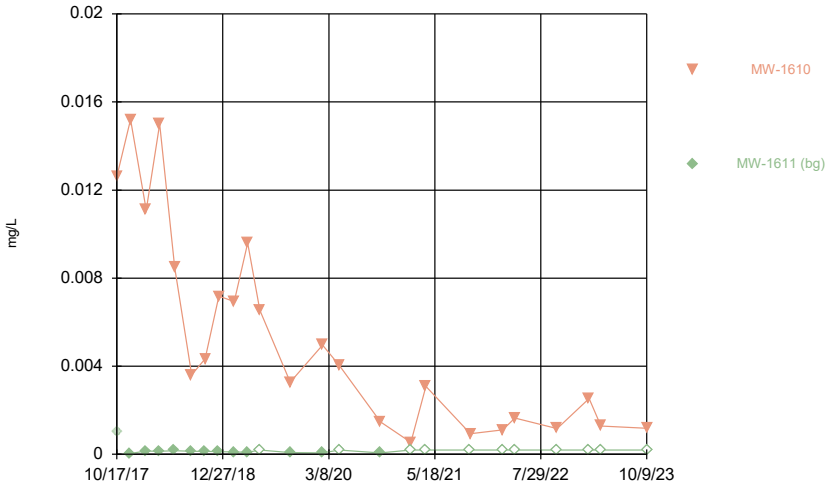
Hollow symbols indicate censored values.

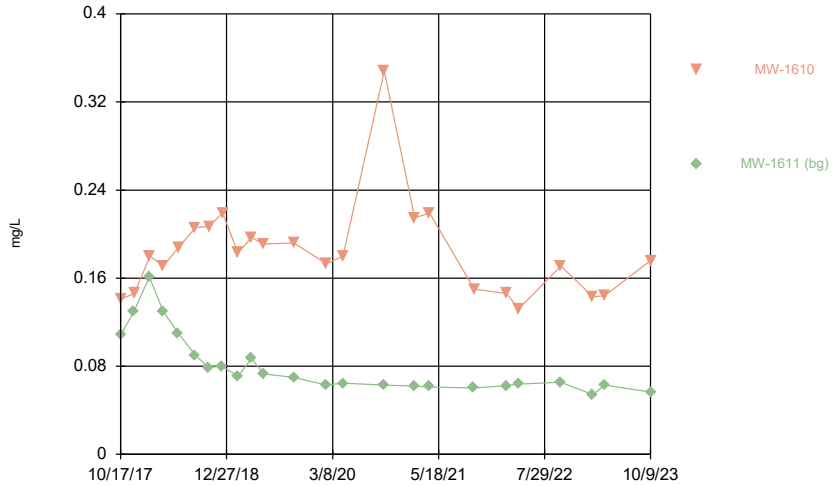
Time Series



Constituent: Lead total Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

Time Series



Constituent: Lithium total Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

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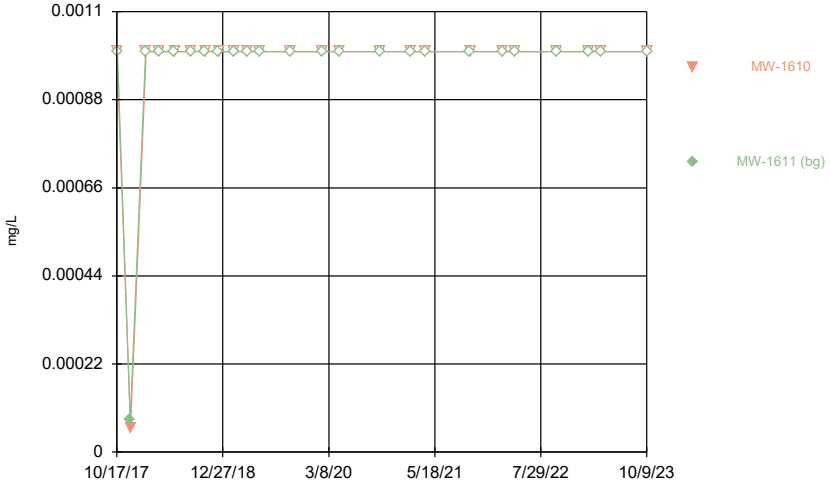
Hollow symbols indicate censored values.

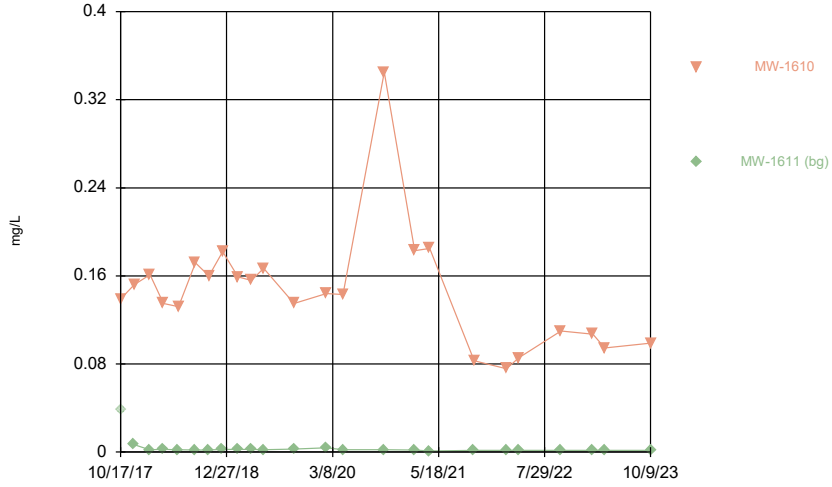
Time Series



Constituent: Mercury total Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

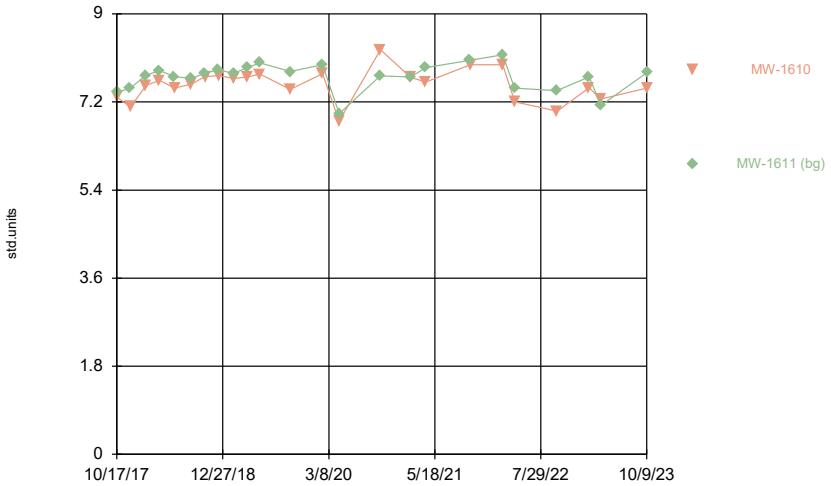
Time Series



Constituent: Molybdenum total Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

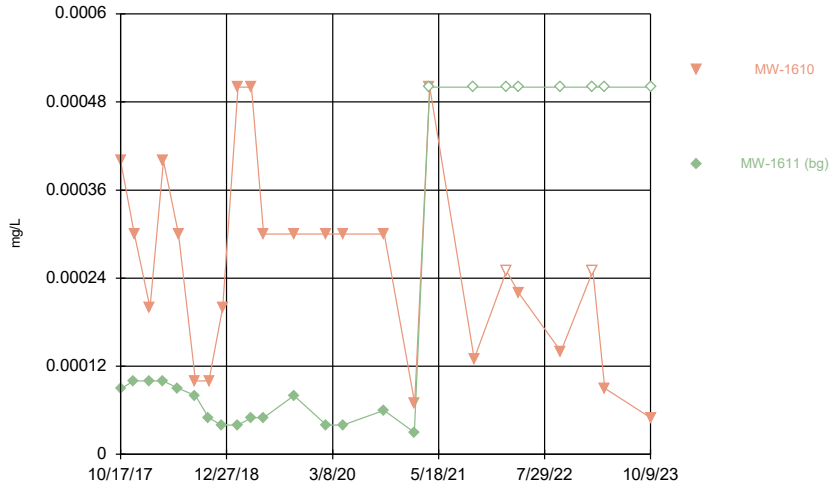
Time Series



Constituent: pH [field] Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG
Hollow symbols indicate censored values.

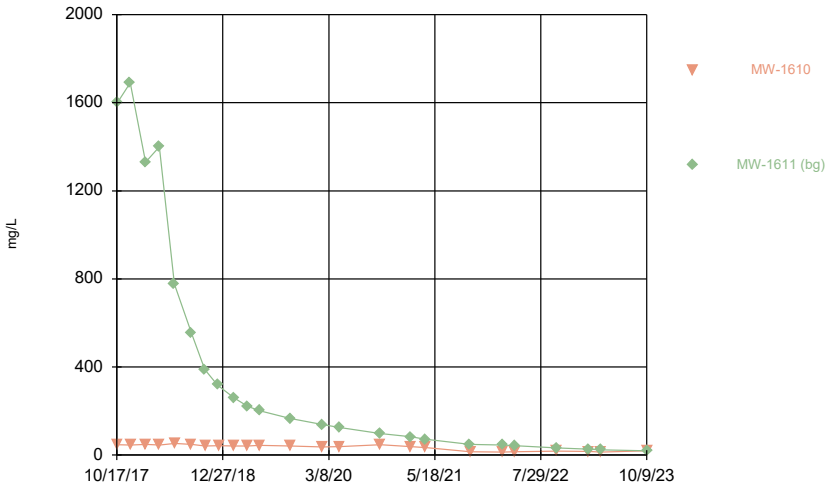
Time Series



Constituent: Selenium total Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

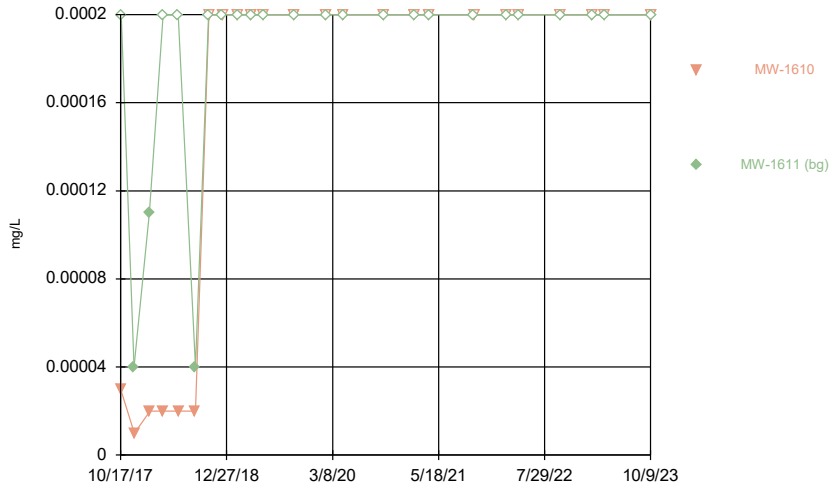
Time Series



Constituent: Sulfate total Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

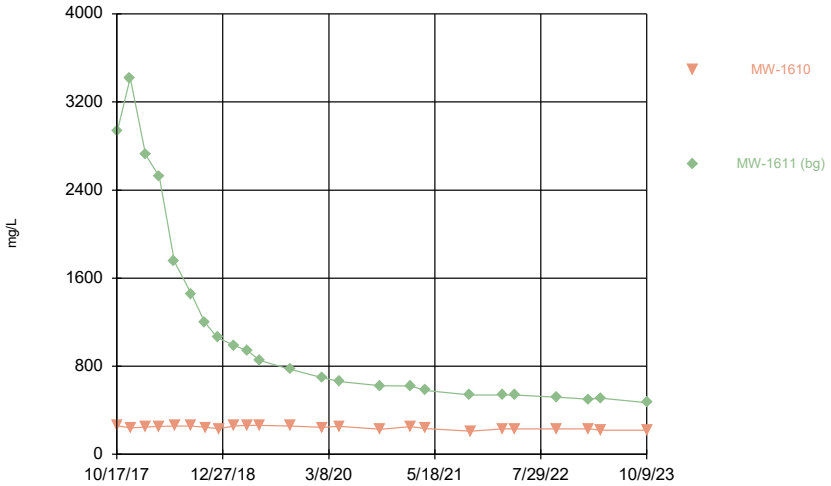
Sanitas™ v.10.0.15 Software licensed to . UG
Hollow symbols indicate censored values.

Time Series



Constituent: Thallium total Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Time Series

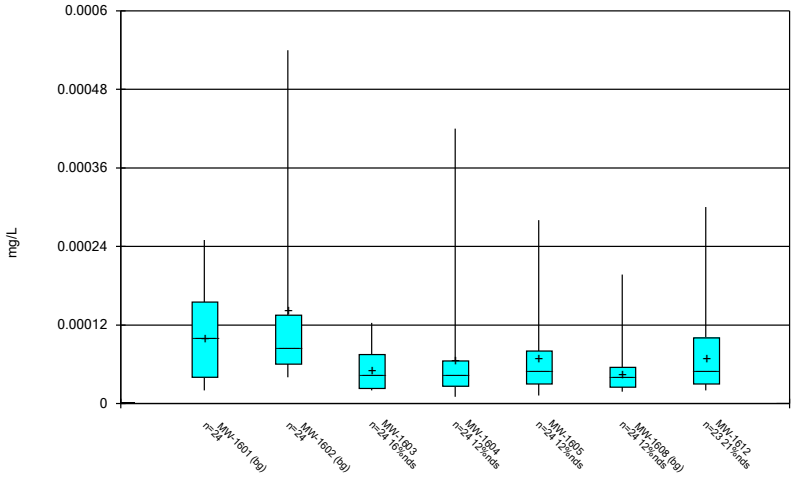


Constituent: Total Dissolved Solids Analysis Run 2/8/2024 2:00 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

FIGURE B.

Box Plots - Chattanooga Shale

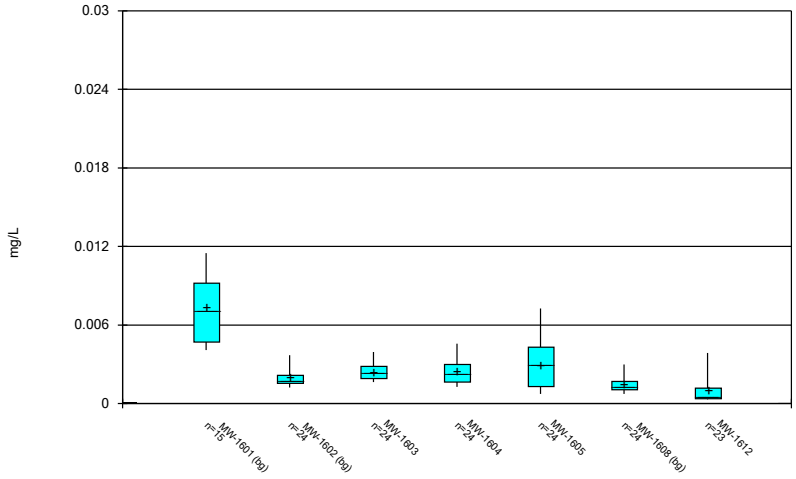
Box & Whiskers Plot



Constituent: Antimony total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

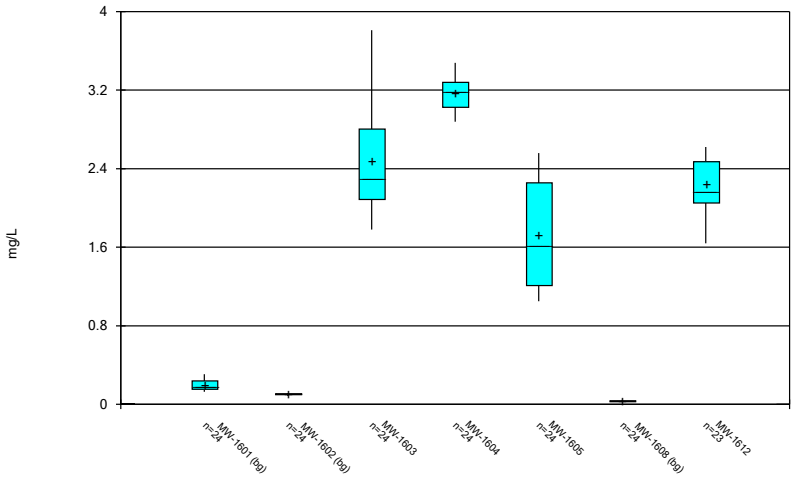
Box & Whiskers Plot



Constituent: Arsenic total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

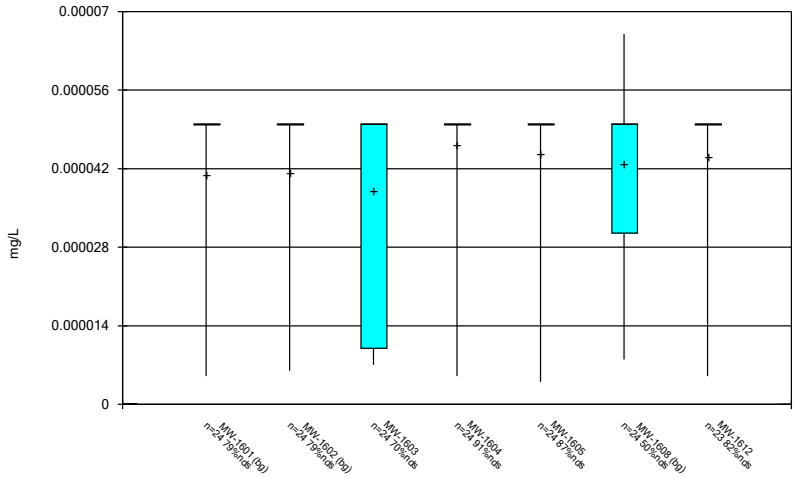
Box & Whiskers Plot



Constituent: Barium total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

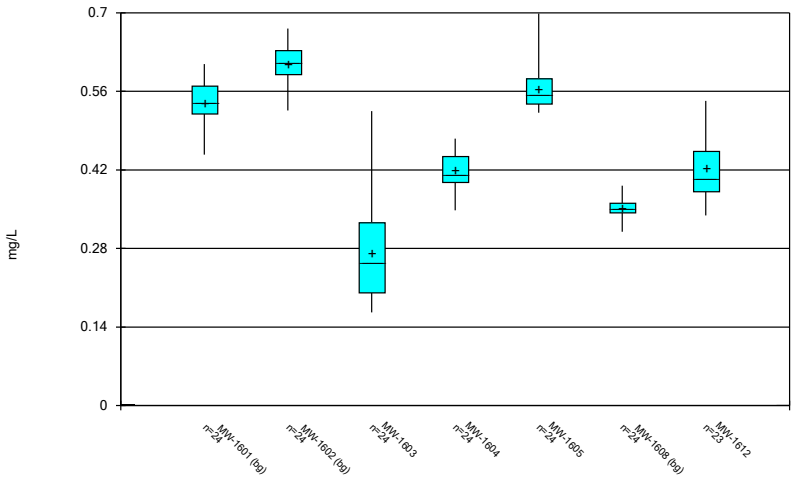
Sanitas™ v.10.0.15 Software licensed to . UG

Box & Whiskers Plot



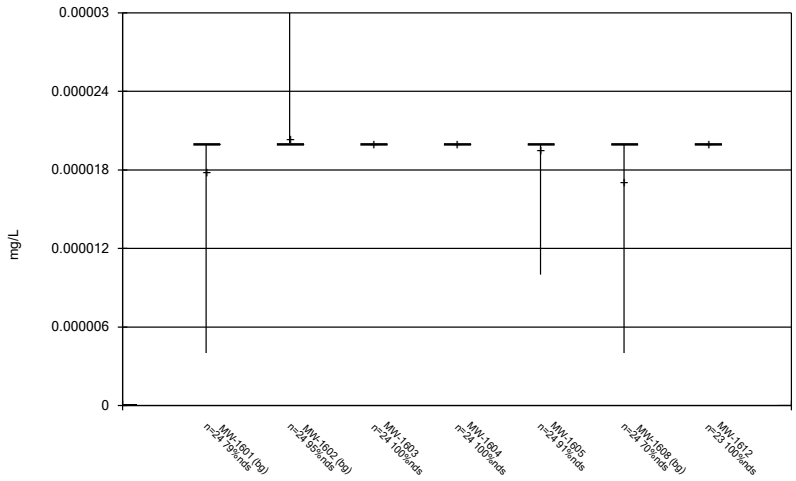
Constituent: Beryllium total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



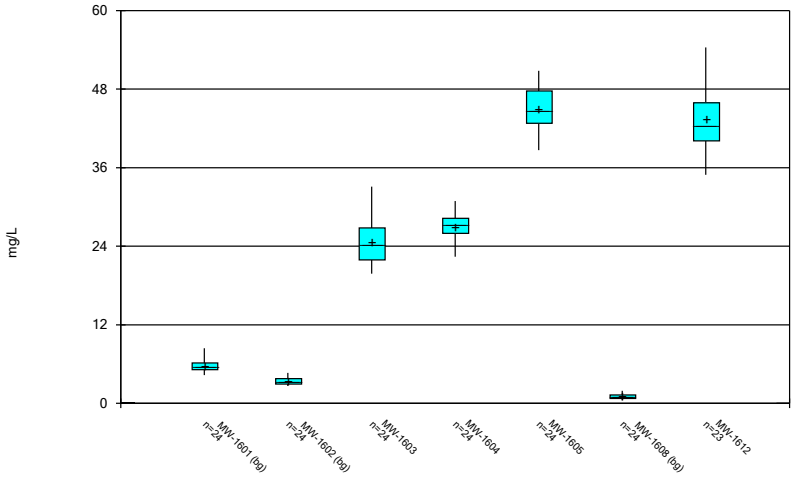
Constituent: Boron total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



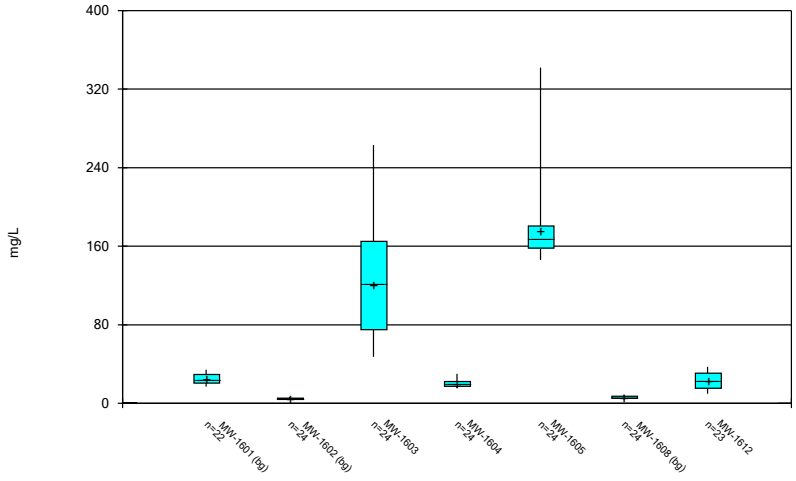
Constituent: Cadmium total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



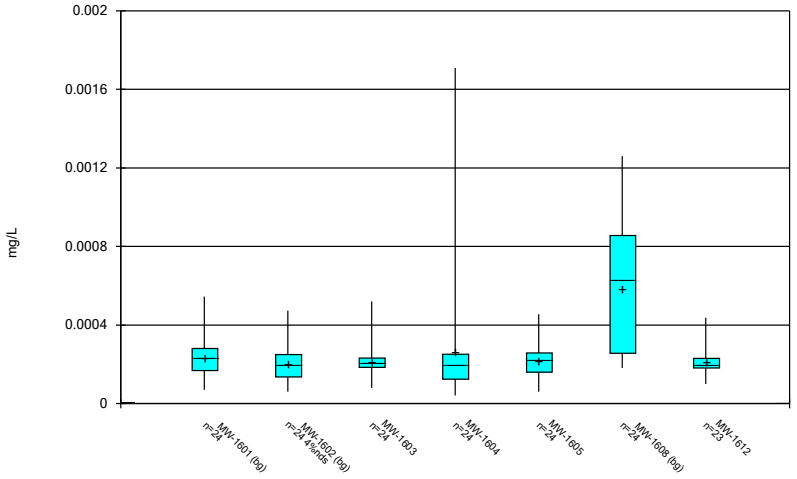
Constituent: Calcium total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



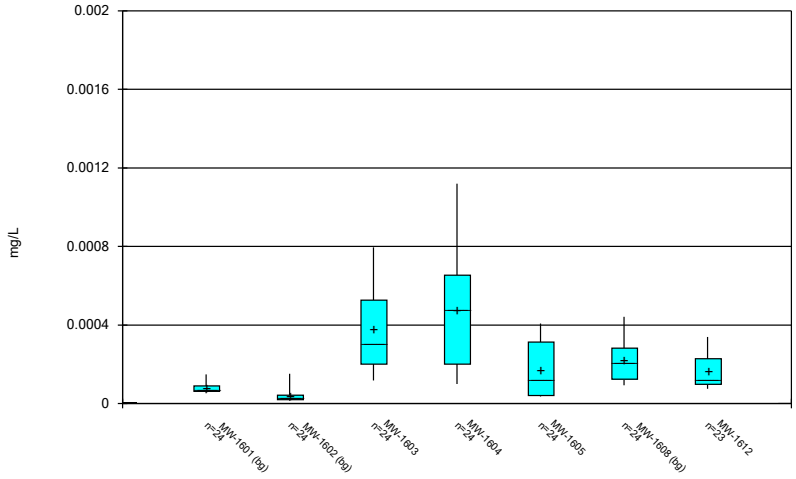
Constituent: Chloride total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



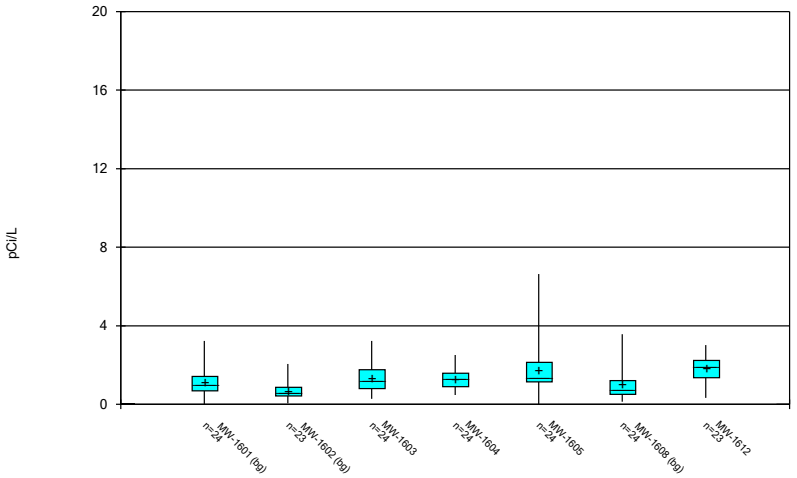
Constituent: Chromium total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1 Clinch River Data: Clinch River

Box & Whiskers Plot



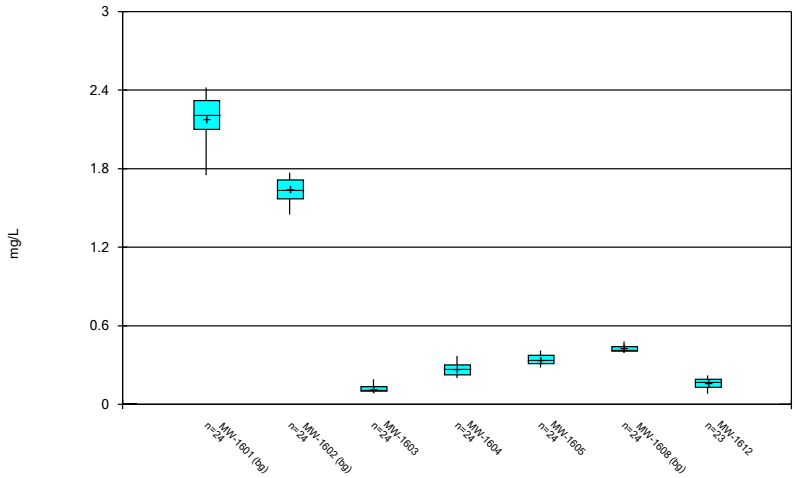
Constituent: Cobalt total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1 Clinch River Data: Clinch River

Box & Whiskers Plot



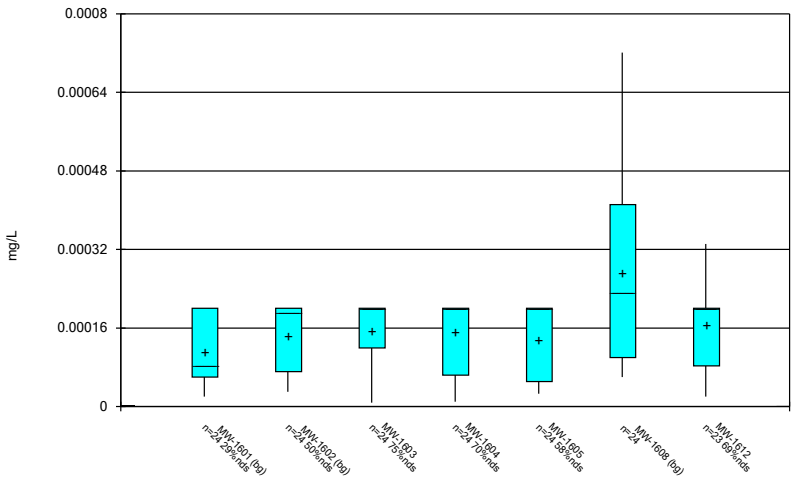
Constituent: Combined Radium 226 and 228 Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Clinch River Data: Clinch River

Box & Whiskers Plot



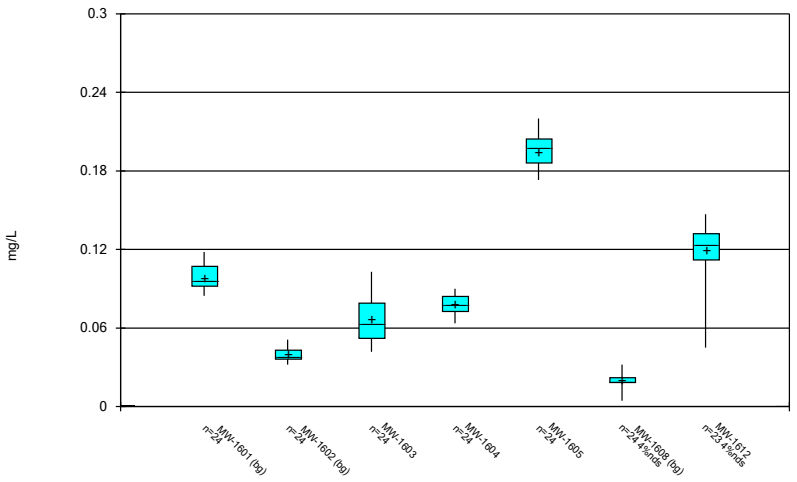
Constituent: Fluoride total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1 Clinch River Data: Clinch River

Box & Whiskers Plot



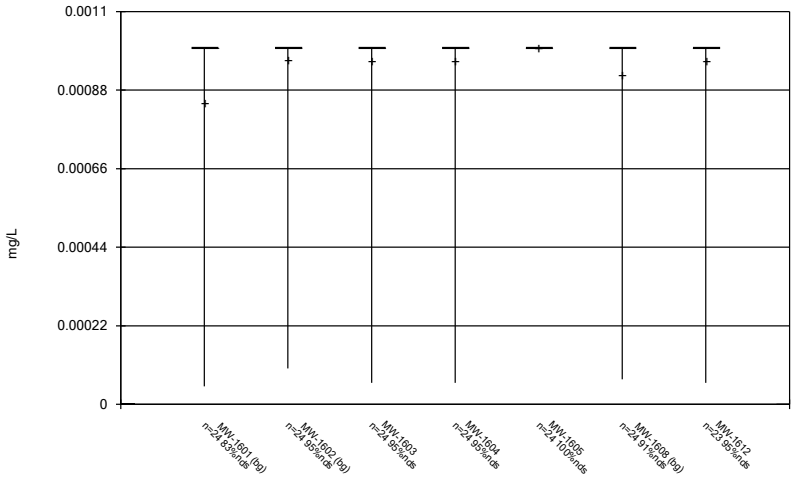
Constituent: Lead total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



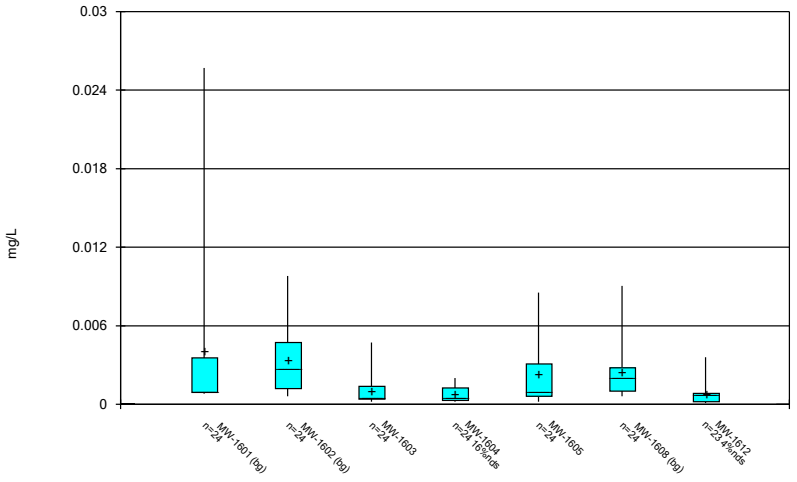
Constituent: Lithium total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



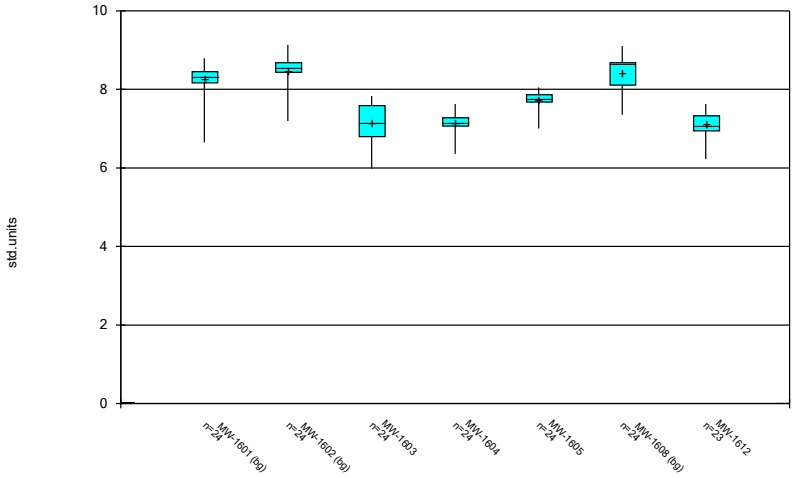
Constituent: Mercury total Analysis Run 2/7/2024 1:32 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



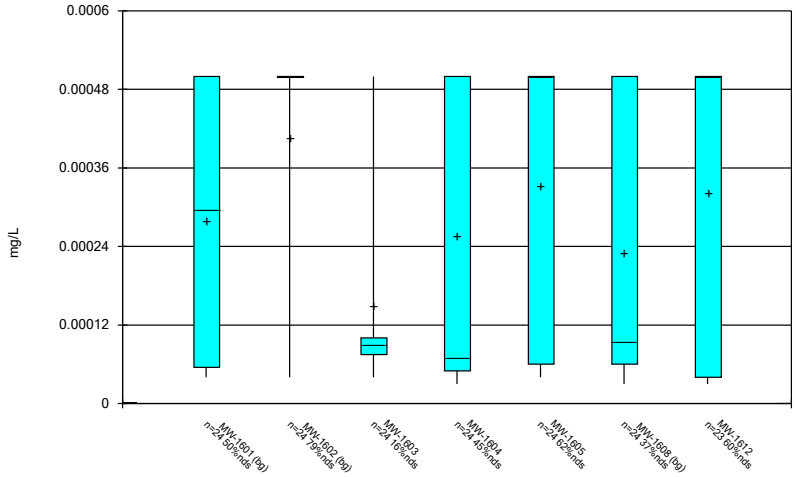
Constituent: Molybdenum total Analysis Run 2/7/2024 1:33 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



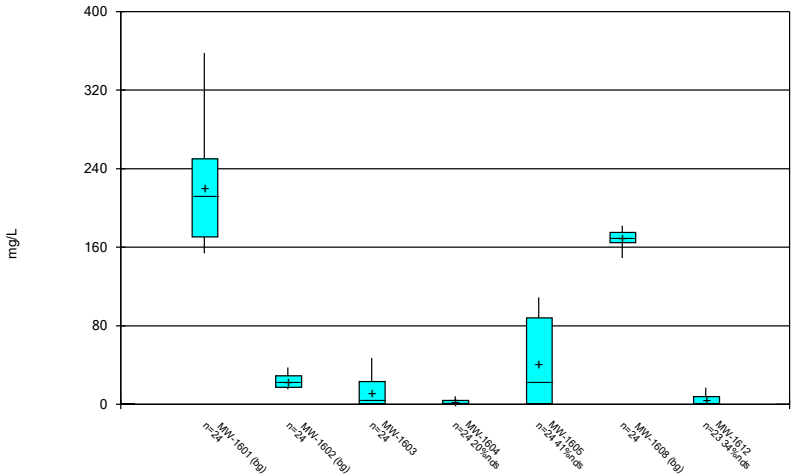
Constituent: pH [field] Analysis Run 2/7/2024 1:33 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



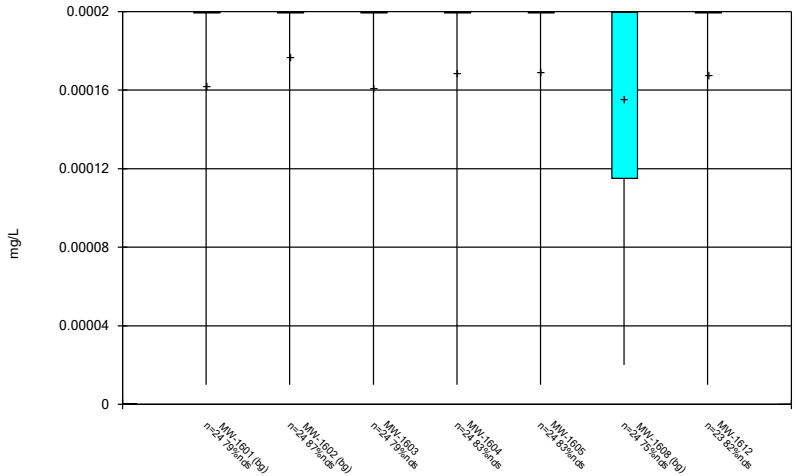
Constituent: Selenium total Analysis Run 2/7/2024 1:33 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



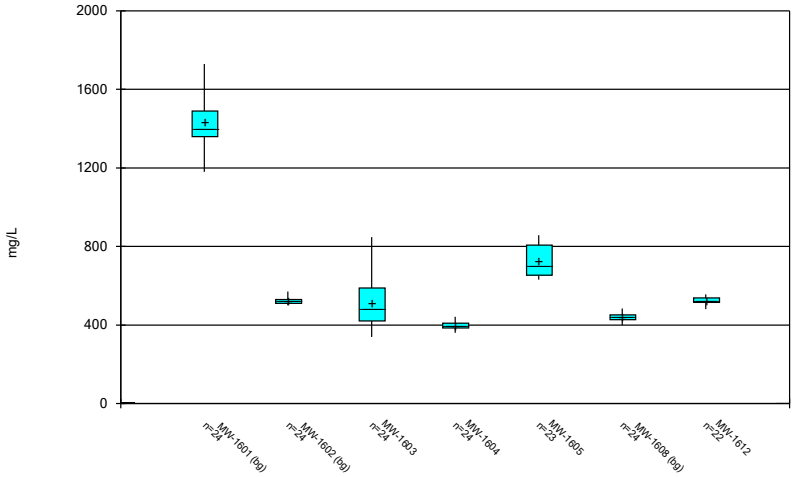
Constituent: Sulfate total Analysis Run 2/7/2024 1:33 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



Constituent: Thallium total Analysis Run 2/7/2024 1:33 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

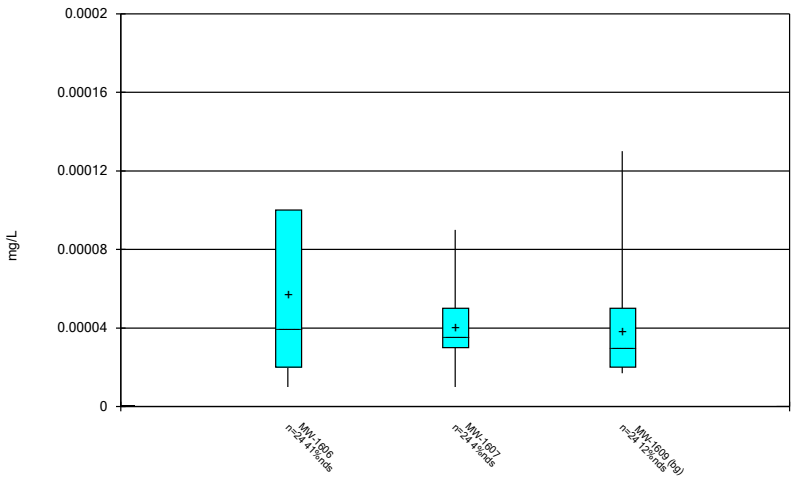
Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 2/7/2024 1:33 PM View: Chattanooga Shale - Pond 1
Clinch River Data: Clinch River

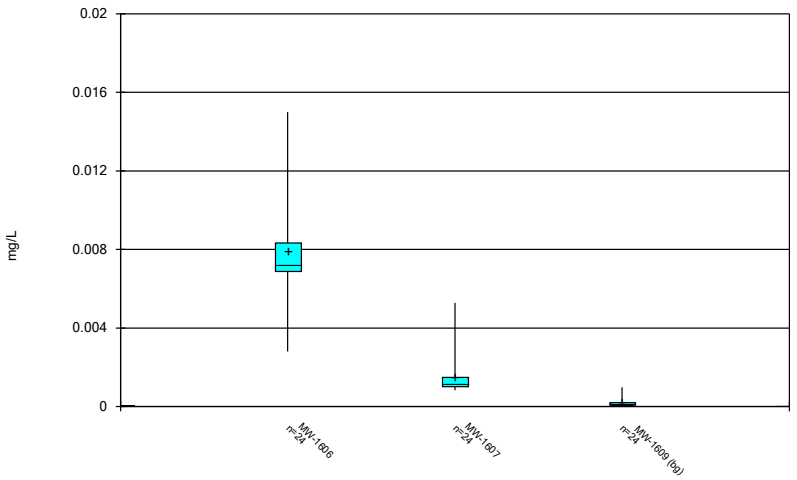
Box Plots - Rome Limestone

Box & Whiskers Plot



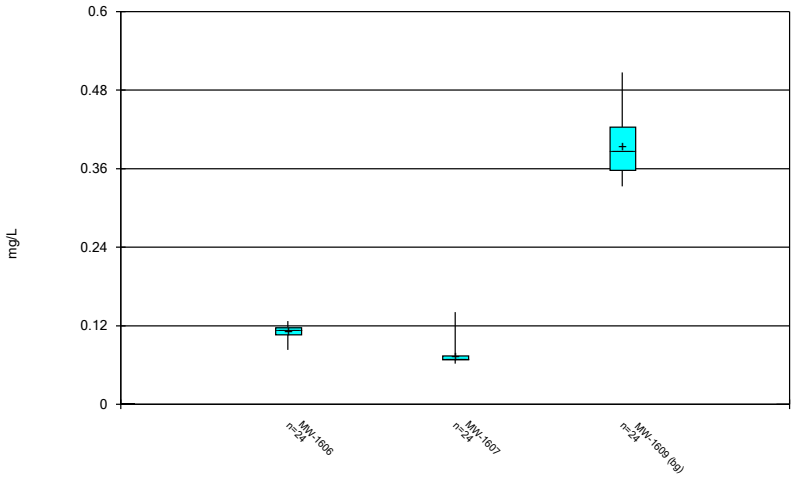
Constituent: Antimony total Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



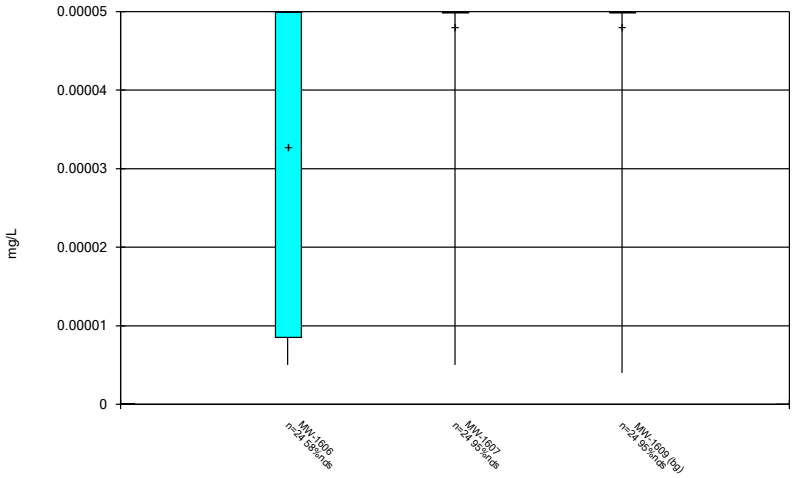
Constituent: Arsenic total Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



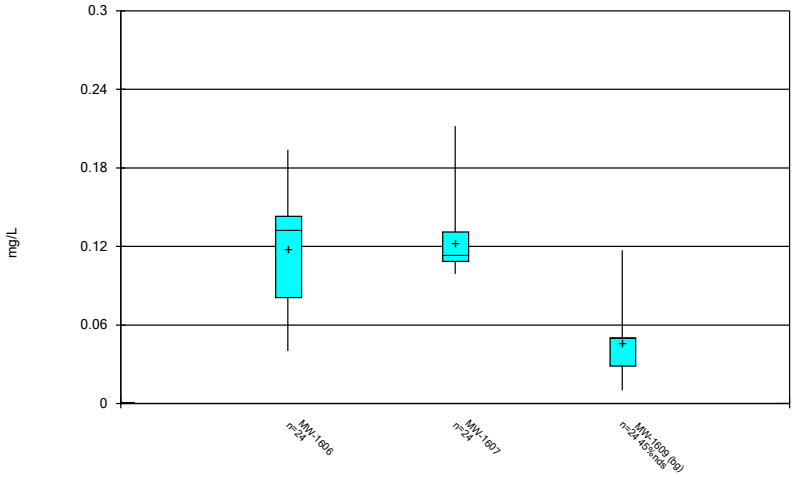
Constituent: Barium total Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



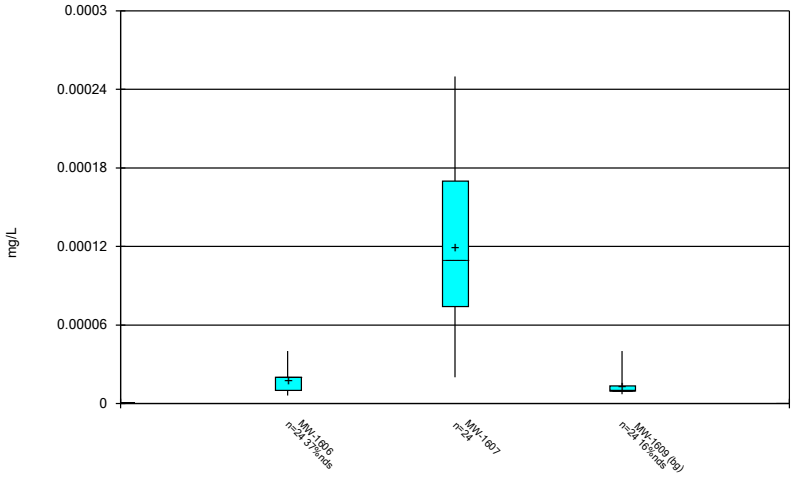
Constituent: Beryllium total Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



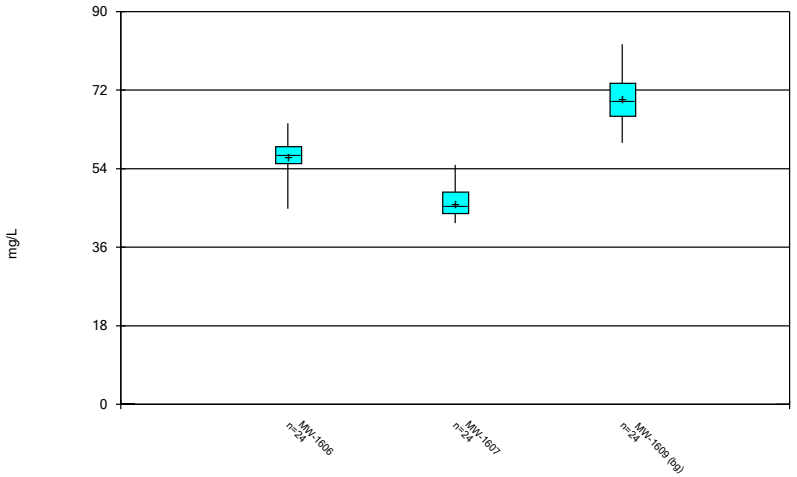
Constituent: Boron total Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



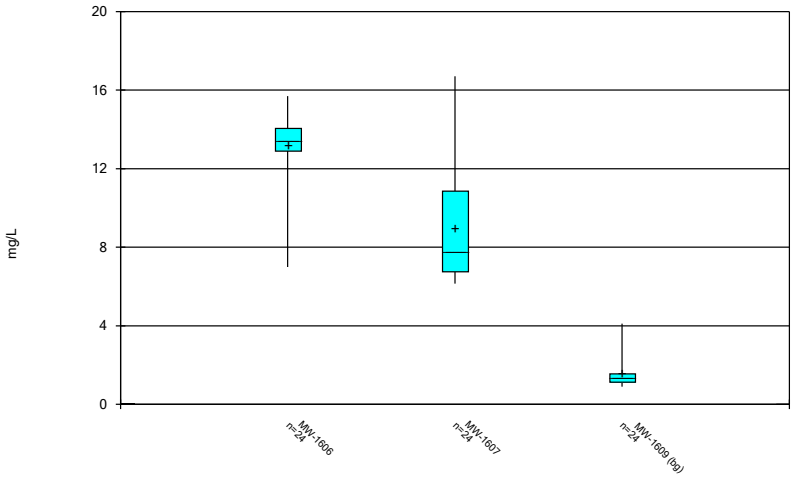
Constituent: Cadmium total Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



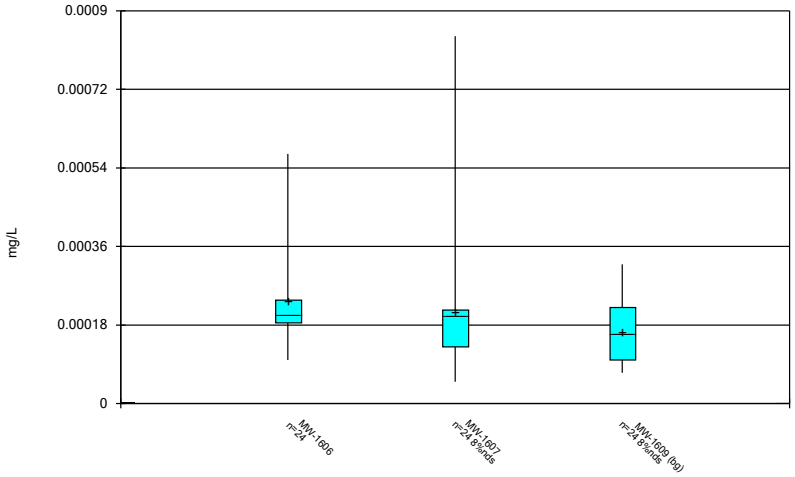
Constituent: Calcium total Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



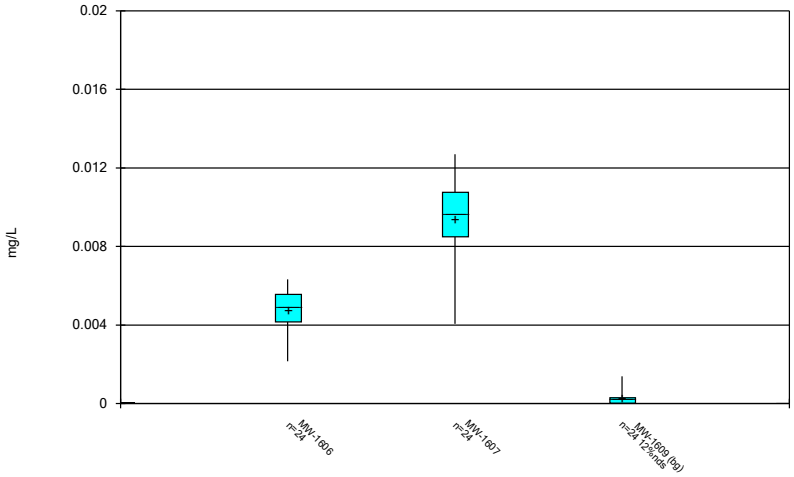
Constituent: Chloride total Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



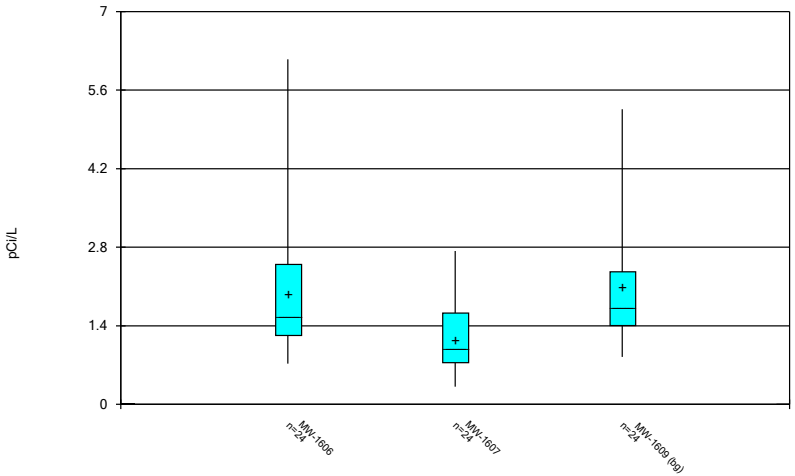
Constituent: Chromium total Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



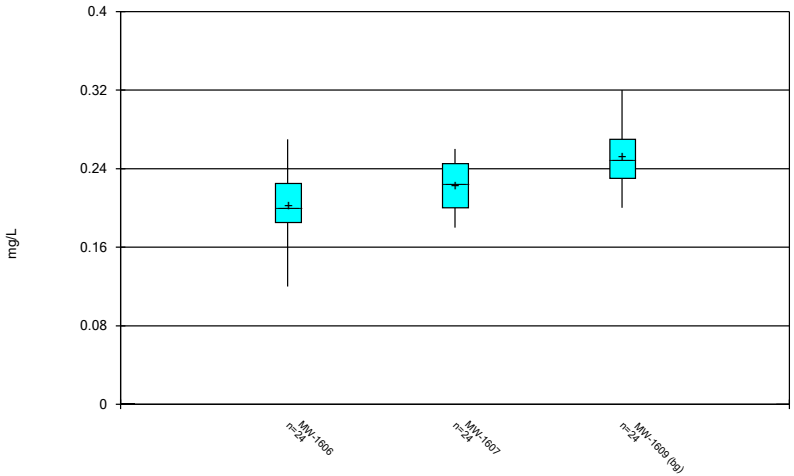
Constituent: Cobalt total Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



Constituent: Combined Radium 226 and 228 Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Po
Clinch River Data: Clinch River

Box & Whiskers Plot



Constituent: Fluoride total Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

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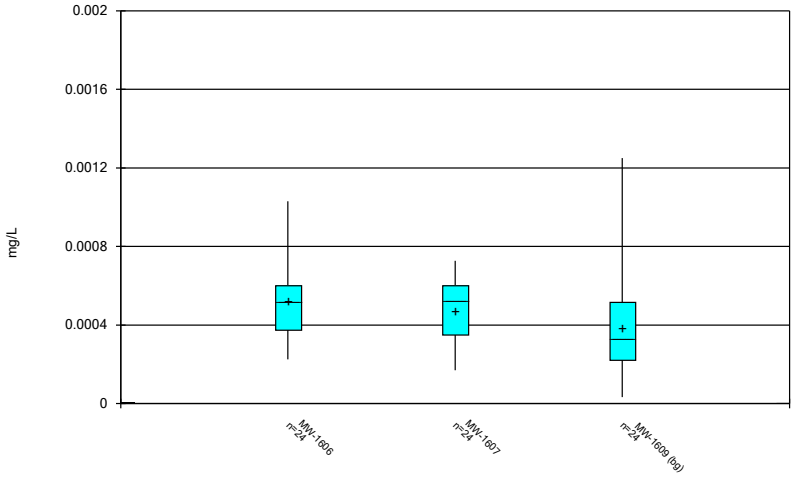
Box & Whiskers Plot



Constituent: Lead total Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

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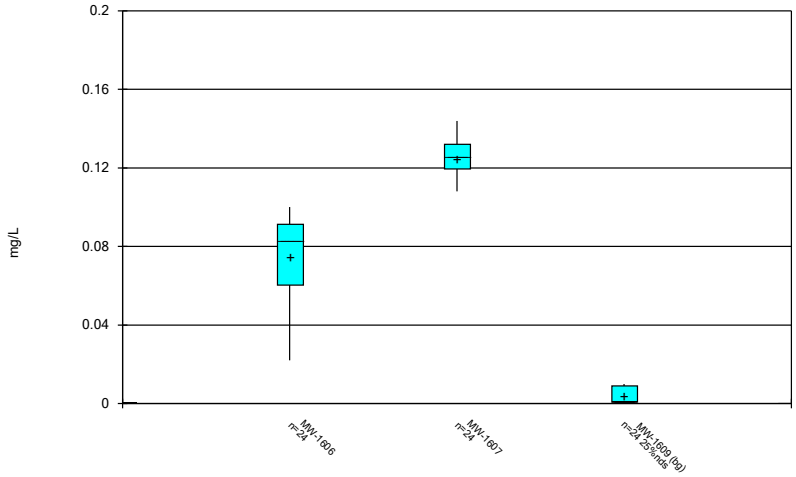
Box & Whiskers Plot



Constituent: Lithium total Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

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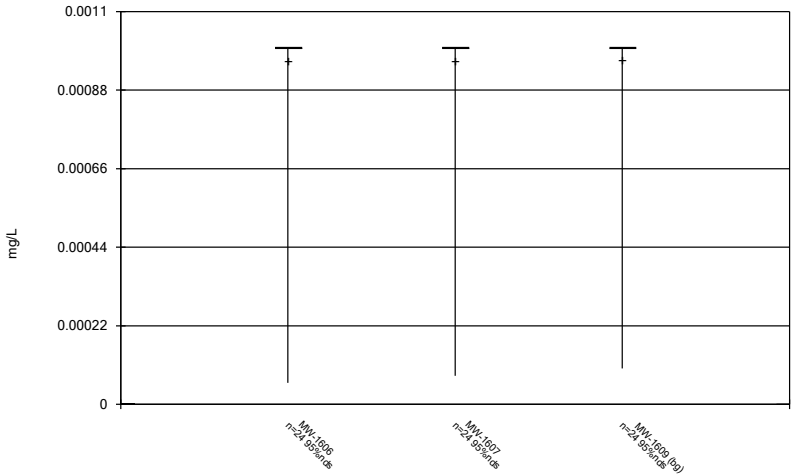
Box & Whiskers Plot



Constituent: Mercury total Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

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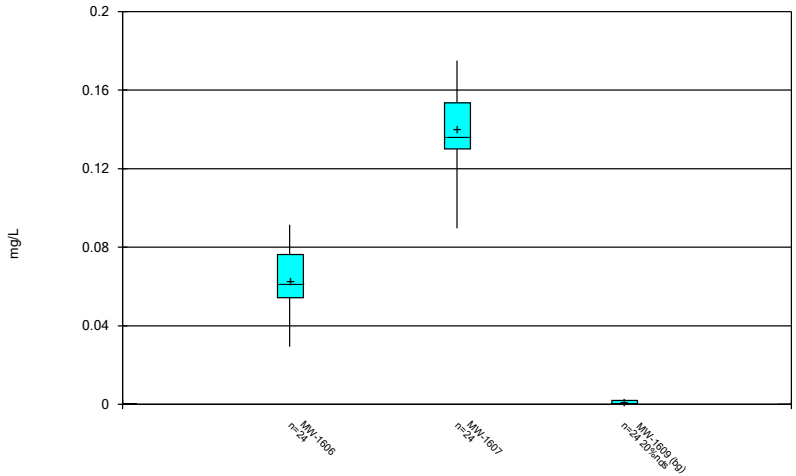
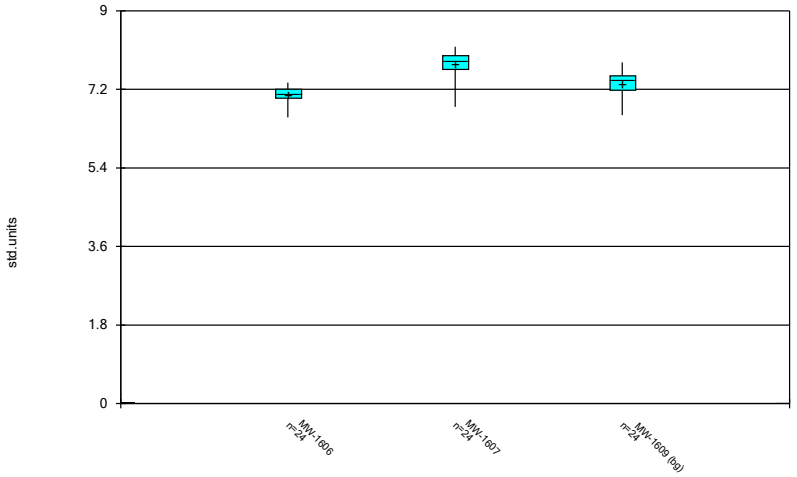
Box & Whiskers Plot



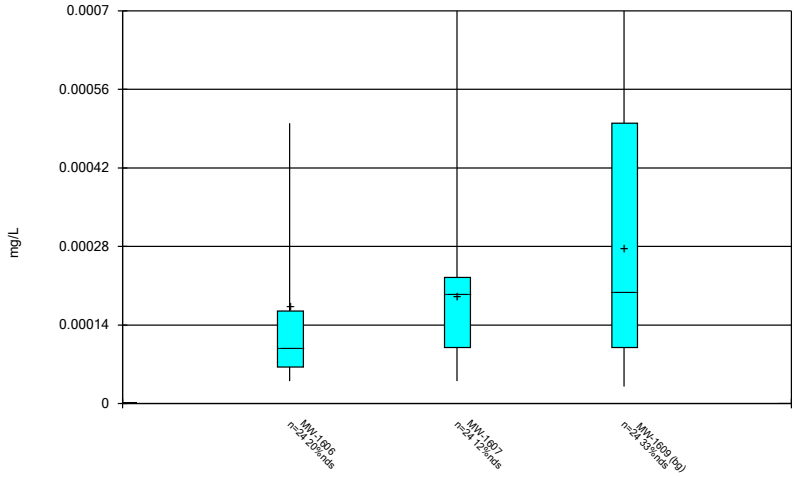
Constituent: Molybdenum total Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



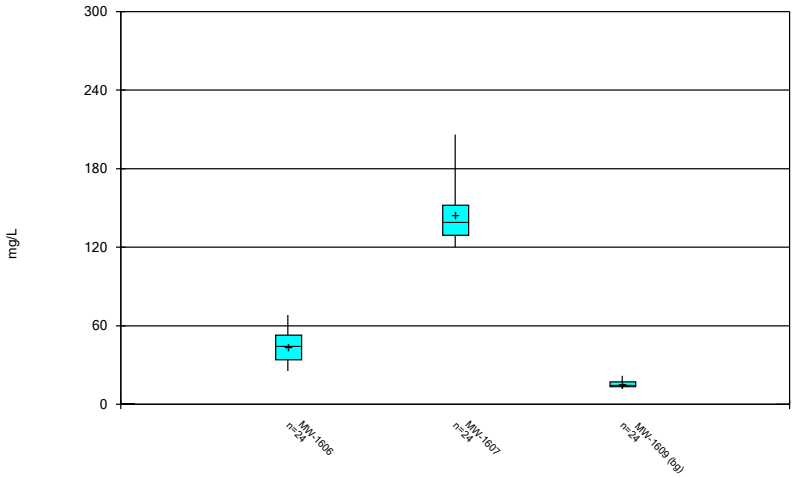
Constituent: pH [field] Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



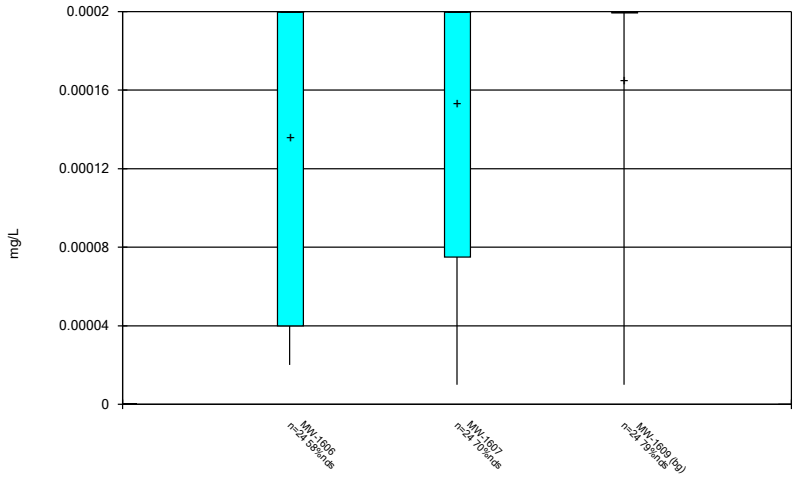
Constituent: Selenium total Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



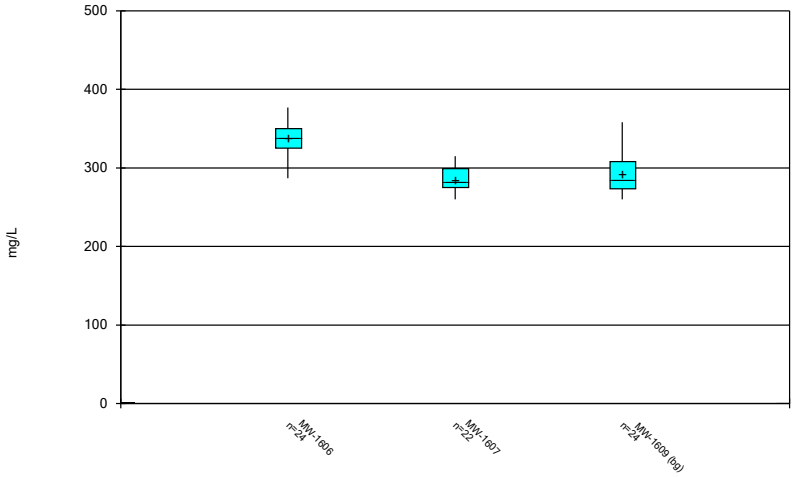
Constituent: Sulfate total Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



Constituent: Thallium total Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

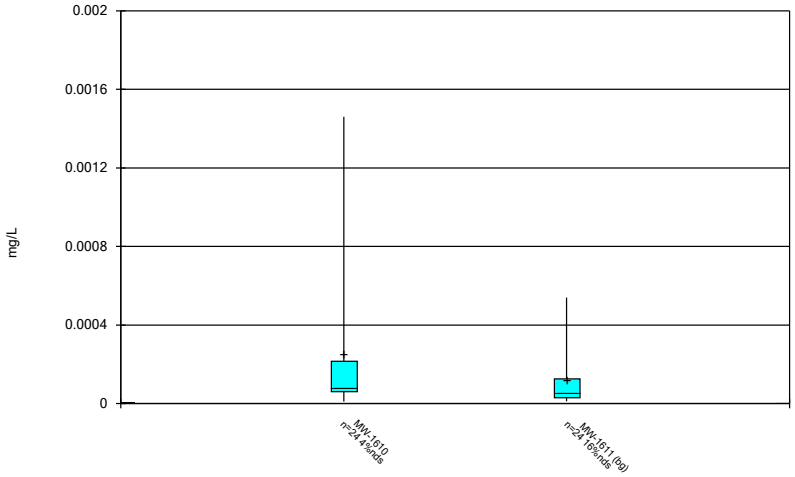
Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 2/7/2024 3:35 PM View: Rome Limestone - Pond 1
Clinch River Data: Clinch River

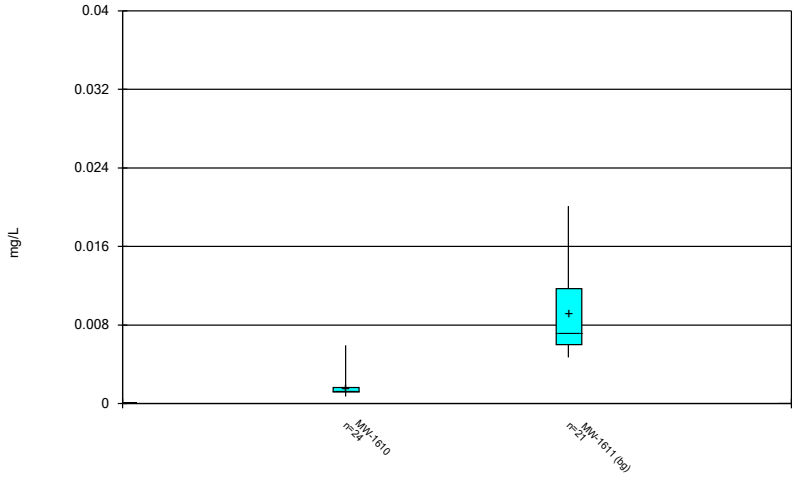
Box Plots - Dumps Fault

Box & Whiskers Plot



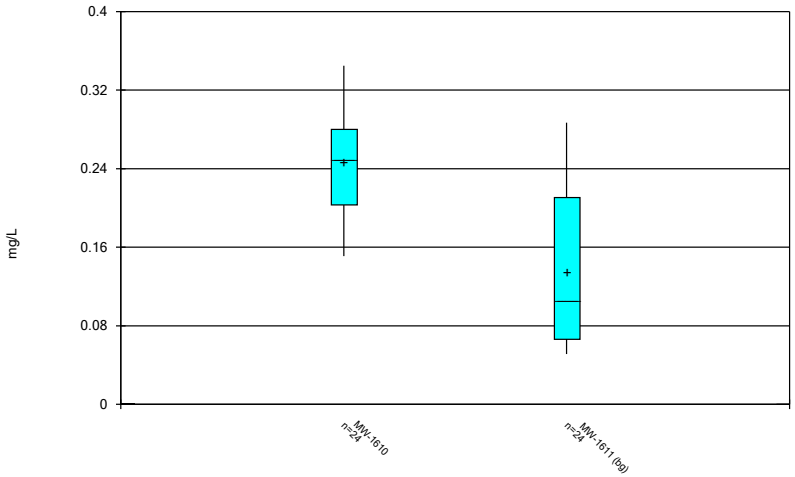
Constituent: Antimony total Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



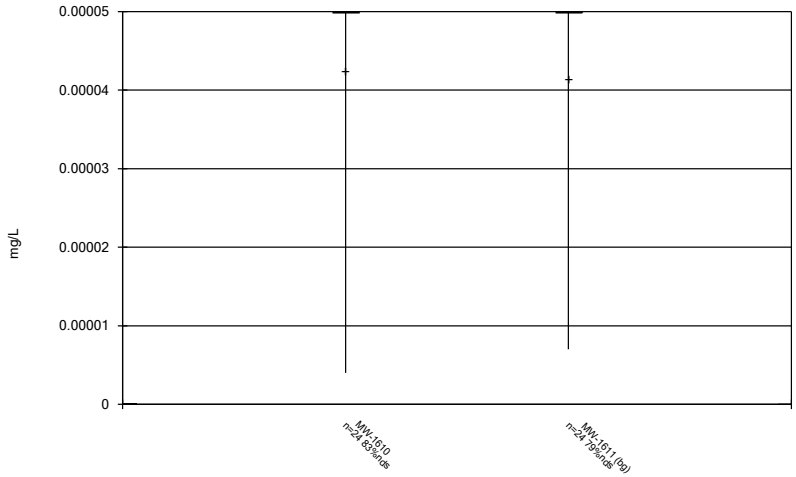
Constituent: Arsenic total Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



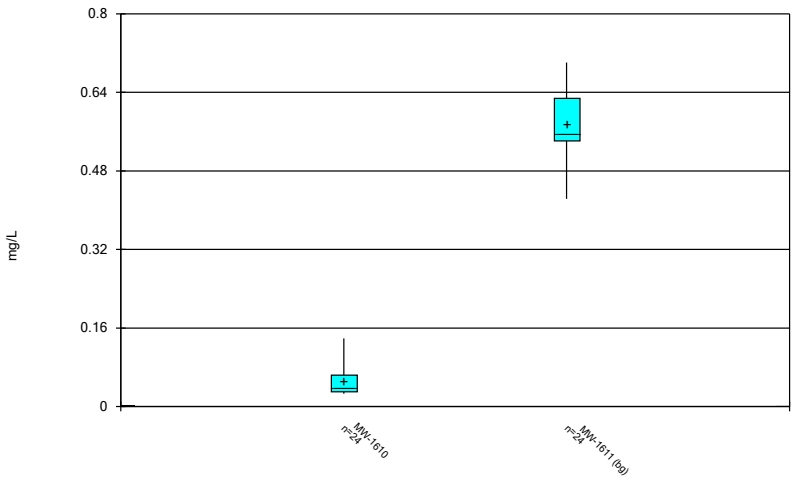
Constituent: Barium total Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



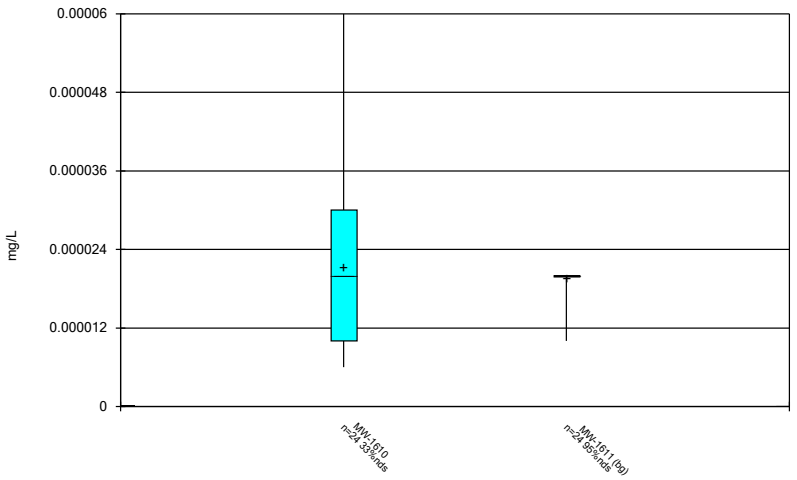
Constituent: Beryllium total Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



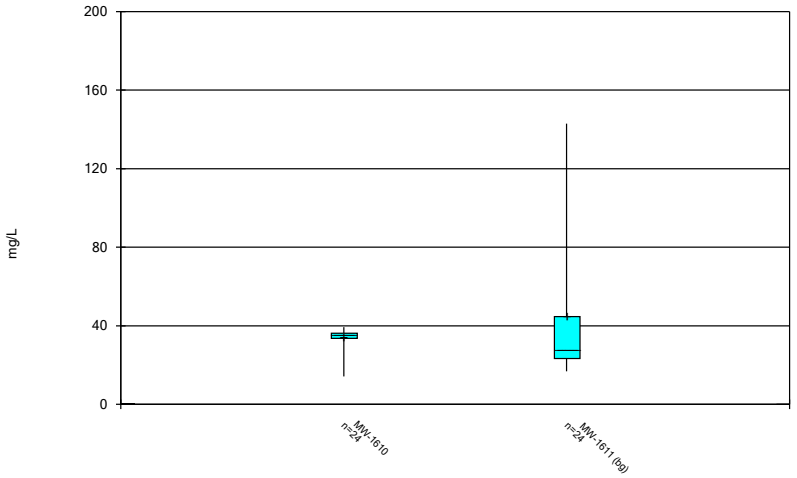
Constituent: Boron total Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



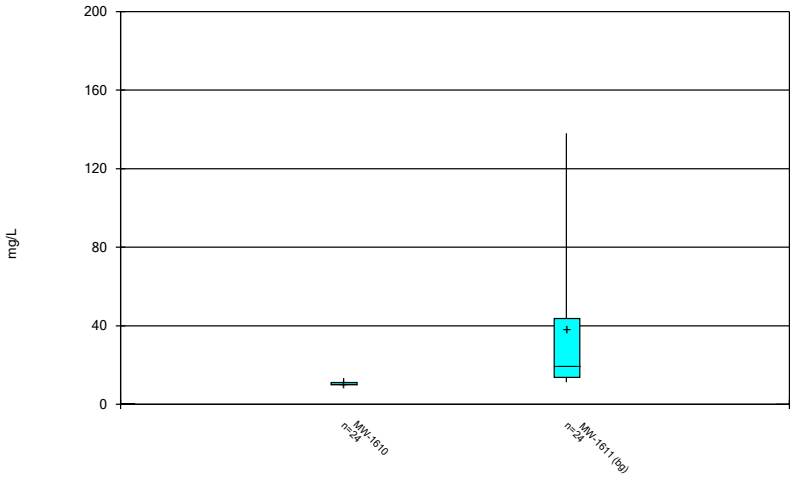
Constituent: Cadmium total Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



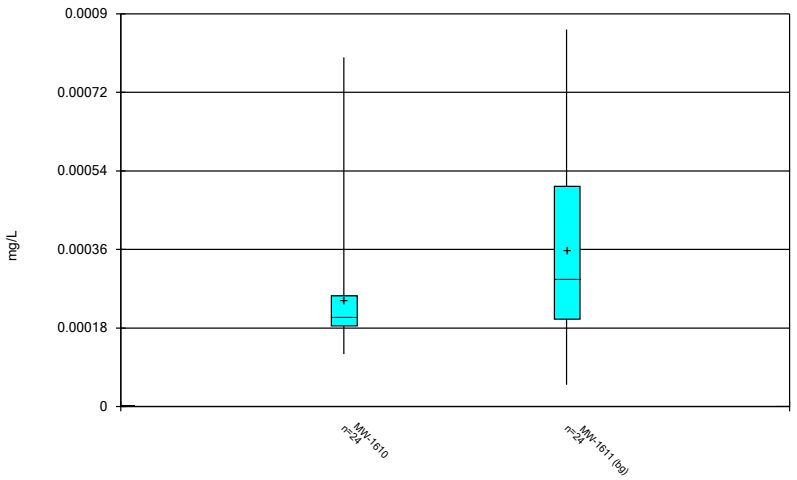
Constituent: Calcium total Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



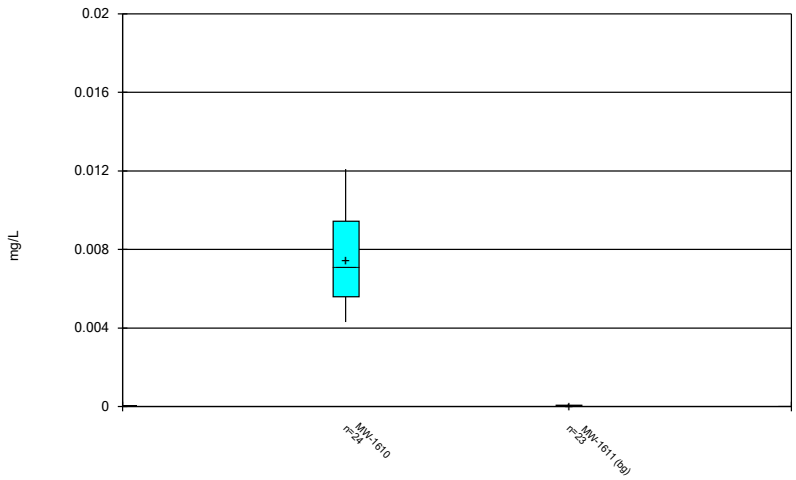
Constituent: Chloride total Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



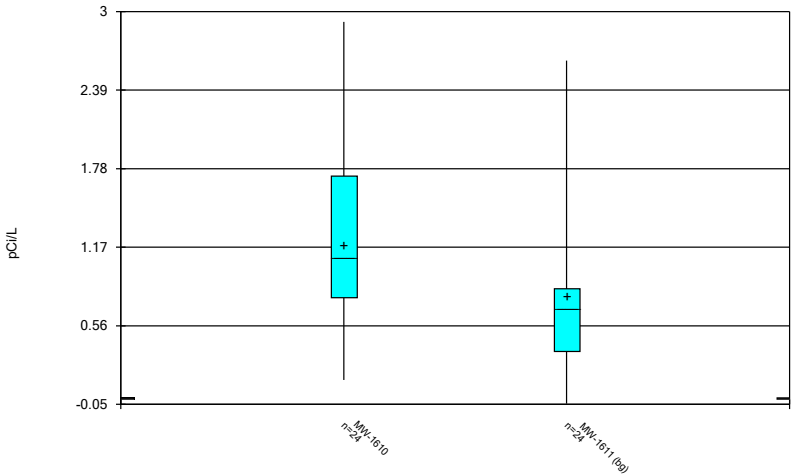
Constituent: Chromium total Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



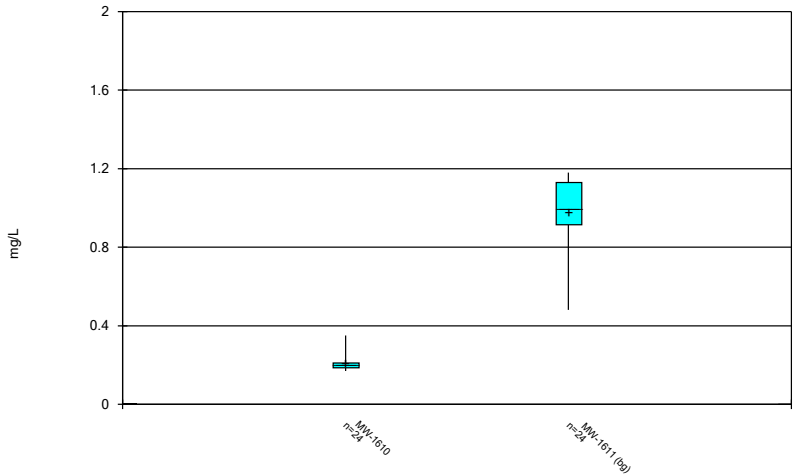
Constituent: Cobalt total Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



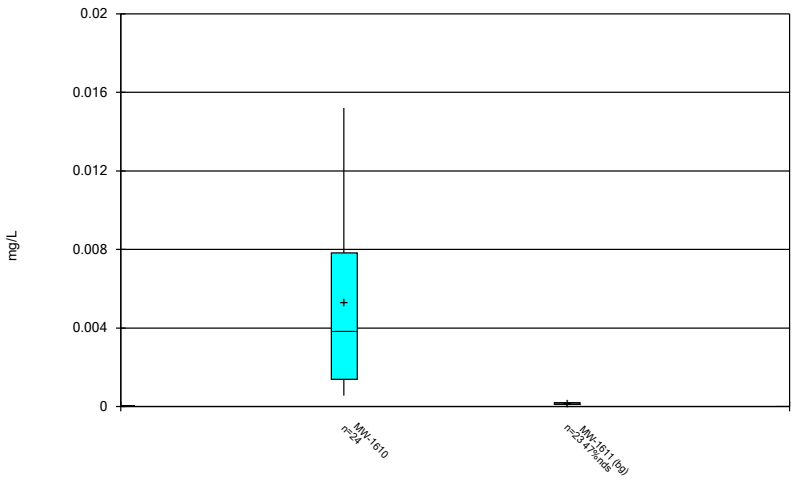
Constituent: Combined Radium 226 and 228 Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



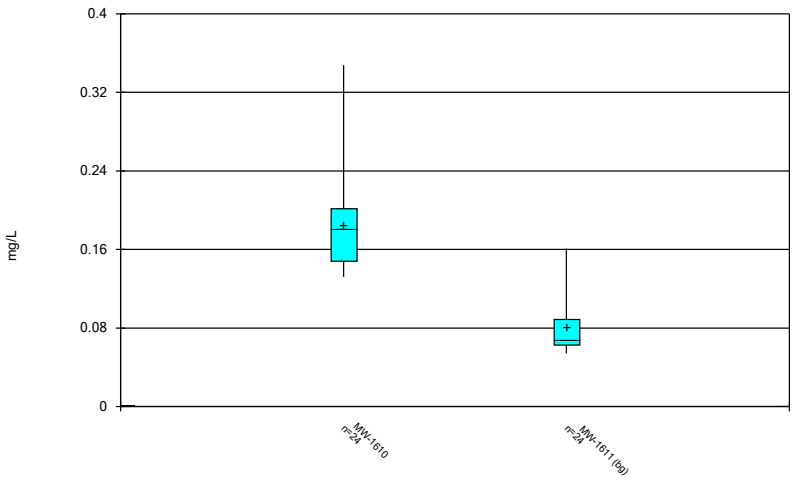
Constituent: Fluoride total Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



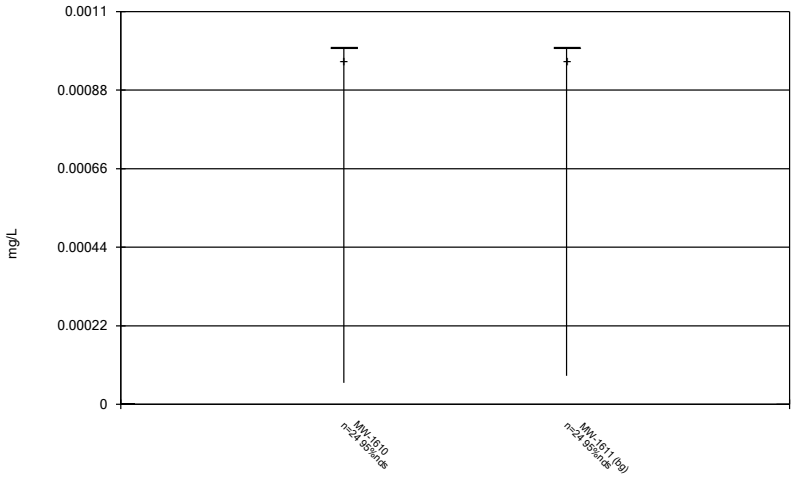
Constituent: Lead total Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



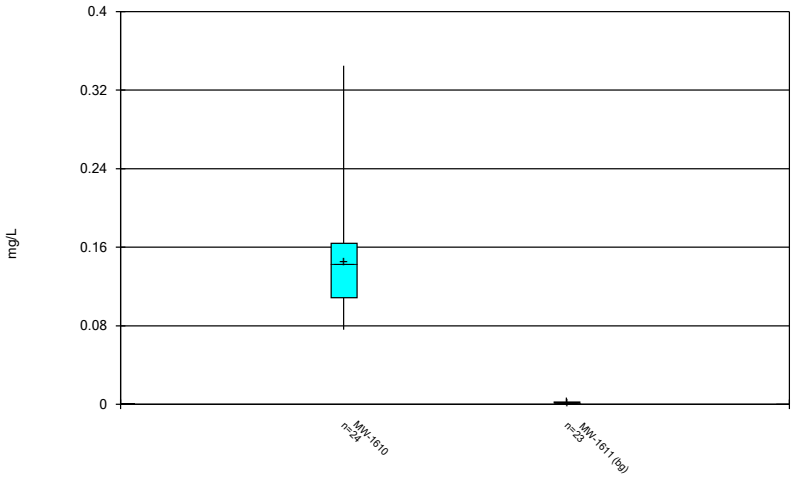
Constituent: Lithium total Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



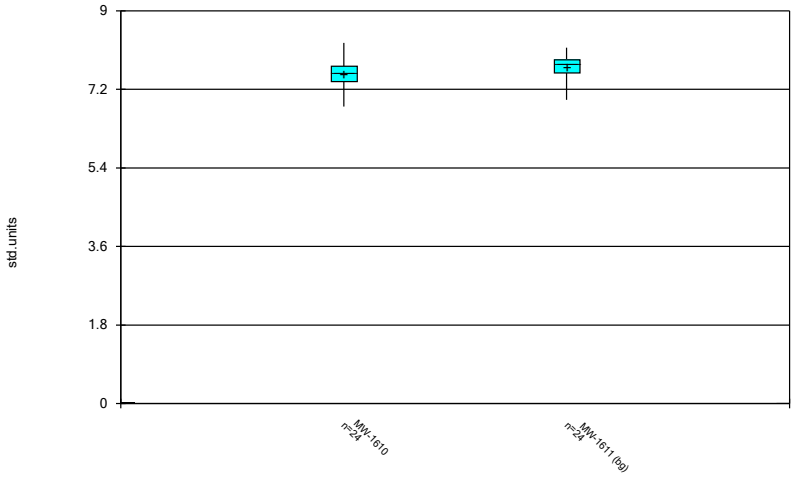
Constituent: Mercury total Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



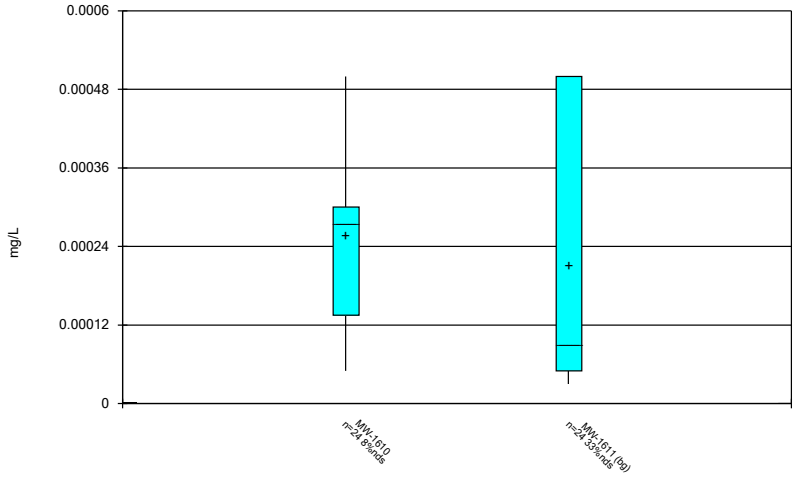
Constituent: Molybdenum total Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



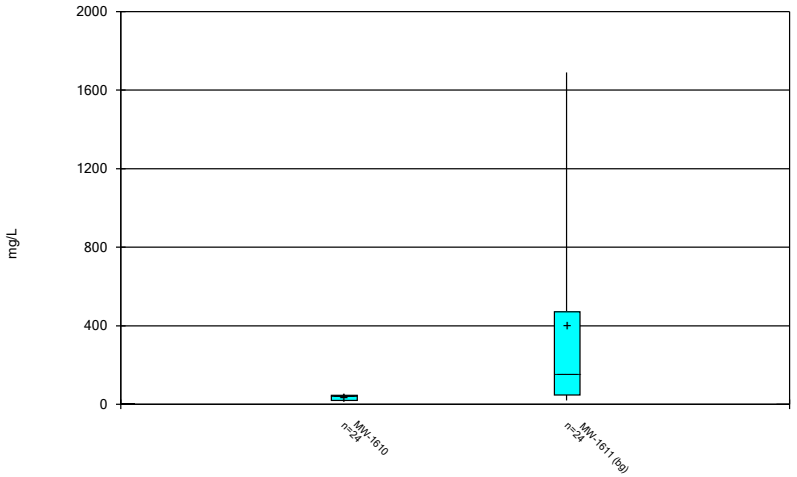
Constituent: pH [field] Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



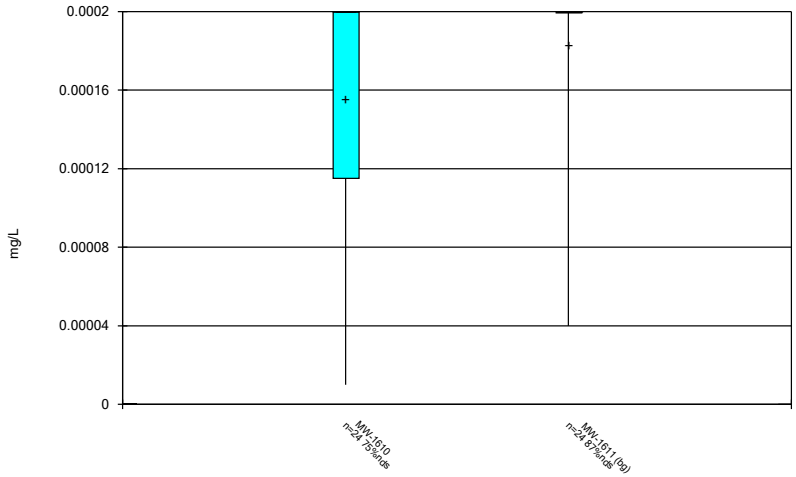
Constituent: Selenium total Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



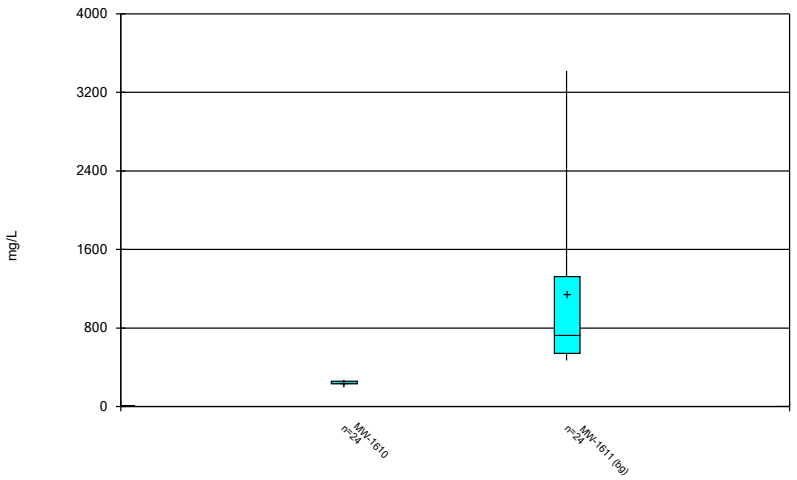
Constituent: Sulfate total Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



Constituent: Thallium total Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 2/8/2024 2:01 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

FIGURE C.

Outlier Summary - Chattanooga Shale

Clinch River Data: Clinch River Printed 2/7/2024, 1:34 PM

	MW-1601 Arsenic total (mg/L)	MW-1601 Chloride total (mg/L)	MW-1602 Combined Radium 226 and 228 (pCi/L)	MW-1605 Total Dissolved Solids (mg/L)	MW-1612 Total Dissolved Solids (mg/L)
12/13/2017					384 (o)
4/11/2018	0.0149 (o)	41 (o)		1700 (o)	
6/7/2018	0.017 (o)				
8/20/2018	0.0258 (o)	45.8 (o)			
10/17/2018	0.0247 (o)				
12/6/2018	0.0178 (o)				
2/7/2019	0.0178 (o)				
4/8/2019	0.0217 (o)				
5/28/2019	0.0184 (o)				
10/1/2019	0.0211 (o)				
2/13/2023			15.74 (o)		

Outlier Summary - Rome Limestone

Clinch River Data: Clinch River Printed 2/7/2024, 3:36 PM

	MW-1607 Total Dissolved Solids (mg/L)
10/18/2017	468 (o)
12/12/2017	417 (o)

Outlier Summary - Dumps Fault

Clinch River Data: Clinch River Printed 2/8/2024, 2:02 PM

	MW-1611 Arsenic total (mg/L)	MW-1611 Cobalt total (mg/L)	MW-1611 Lead total (mg/L)	MW-1611 Molybdenum total (mg/L)
10/19/2017		0.000311 (o)	0.00105 (o)	0.038 (o)
2/13/2018	0.0365 (o)			
4/10/2018	0.0395 (o)			
6/11/2018	0.0275 (o)			

Tukey's Outlier Test - Upgradient Wells (Chatanooga Shale) - Significant Results

Clinch River Data: Clinch River Printed 2/7/2024, 10:16 AM

Constituent	Well	Outlier	Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Combined Radium 226 and 228 (pCi/L)	**MW-1601,MW-1602,M...**	**Yes**	**0.012,15.74**	**NP**	**NaN**	**72**	**1.153**	**1.887**	**ln(x)**	**ShapiroFrancia**

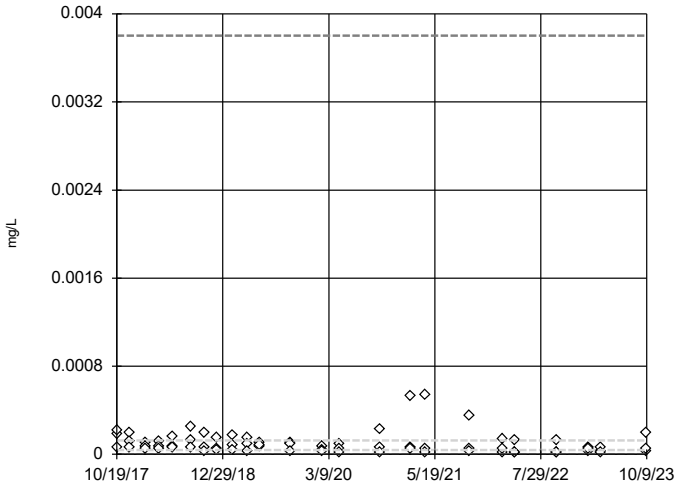
Tukey's Outlier Test - Upgradient Wells (Chattanooga Shale) - All Results

Clinch River Data: Clinch River Printed 2/7/2024, 10:16 AM

Constituent	Well	Outlier	Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Antimony total (mg/L)	MW-1601,MW-1602,M...	No	n/a	NP	NaN	72	0.00009665	0.00009943	ln(x)	ShapiroFrancia
Arsenic total (mg/L)	MW-1601,MW-1602,M...	No	n/a	NP	NaN	72	0.005162	0.006304	ln(x)	ShapiroFrancia
Barium total (mg/L)	MW-1601,MW-1602,M...	No	n/a	NP	NaN	72	0.1108	0.07495	x^(1/3)	ShapiroFrancia
Beryllium total (mg/L)	MW-1601,MW-1602,M...	No	n/a	NP	NaN	72	0.00004161	0.00001672	x^2	ShapiroFrancia
Cadmium total (mg/L)	MW-1601,MW-1602,M...	n/a	n/a	NP	NaN	72	0.00001846	0.000004735	unknown	ShapiroFrancia
Calcium total (mg/L)	MW-1601,MW-1602,M...	No	n/a	NP	NaN	72	3.387	2.084	normal	ShapiroFrancia
Chloride total (mg/L)	MW-1601,MW-1602,M...	No	n/a	NP	NaN	72	12.36	10.74	ln(x)	ShapiroFrancia
Chromium total (mg/L)	MW-1601,MW-1602,M...	No	n/a	NP	NaN	72	0.00034	0.0002695	ln(x)	ShapiroFrancia
Cobalt total (mg/L)	MW-1601,MW-1602,M...	No	n/a	NP	NaN	72	0.000113	0.0001031	ln(x)	ShapiroFrancia
Combined Radium 226 and 228 (pCi/L)	**MW-1601,MW-1602,M...**	**Yes**	**0.012,15.74**	**NP**	**NaN**	**72**	**1.153**	**1.887**	**ln(x)**	**ShapiroFrancia**
Fluoride total (mg/L)	MW-1601,MW-1602,M...	No	n/a	NP	NaN	72	1.417	0.7489	x^2	ShapiroFrancia
Lead total (mg/L)	MW-1601,MW-1602,M...	No	n/a	NP	NaN	72	0.0001749	0.0001462	ln(x)	ShapiroFrancia
Lithium total (mg/L)	MW-1601,MW-1602,M...	No	n/a	NP	NaN	72	0.05268	0.03396	ln(x)	ShapiroFrancia
Mercury total (mg/L)	MW-1601,MW-1602,M...	n/a	n/a	NP	NaN	72	0.0009104	0.000275	unknown	ShapiroFrancia
Molybdenum total (mg/L)	MW-1601,MW-1602,M...	No	n/a	NP	NaN	72	0.003335	0.004274	ln(x)	ShapiroFrancia
pH [field] (std.units)	MW-1601,MW-1602,M...	No	n/a	NP	NaN	72	8.378	0.4241	x^6	ShapiroFrancia
Selenium total (mg/L)	MW-1601,MW-1602,M...	No	n/a	NP	NaN	72	0.0003042	0.0002209	ln(x)	ShapiroFrancia
Thallium total (mg/L)	MW-1601,MW-1602,M...	n/a	n/a	NP	NaN	72	0.000165	0.00007184	unknown	ShapiroFrancia

Tukey's Outlier Screening, Pooled Background

MW-1601,MW-1602,MW-1608



n = 72

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

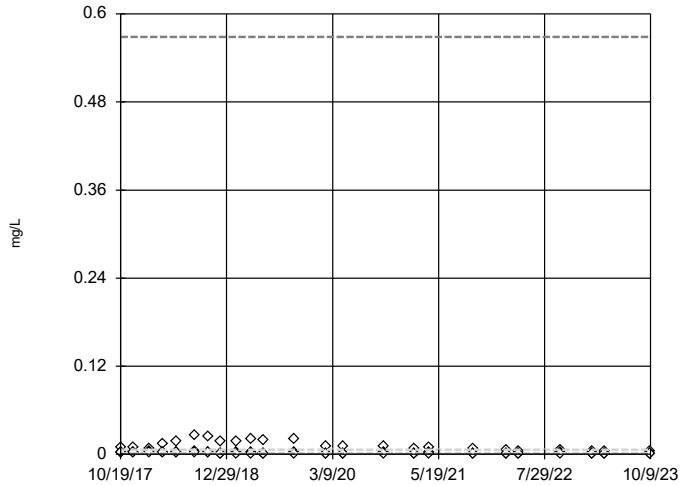
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.003802, low cutoff = 0.000001314, based on IQR multiplier of 3.

Constituent: Antimony total Analysis Run 2/7/2024 10:15 AM View: Chattanooga Shale - Pond 1 Upgradie
Clinch River Data: Clinch River

Tukey's Outlier Screening, Pooled Background

MW-1601,MW-1602,MW-1608



n = 72

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

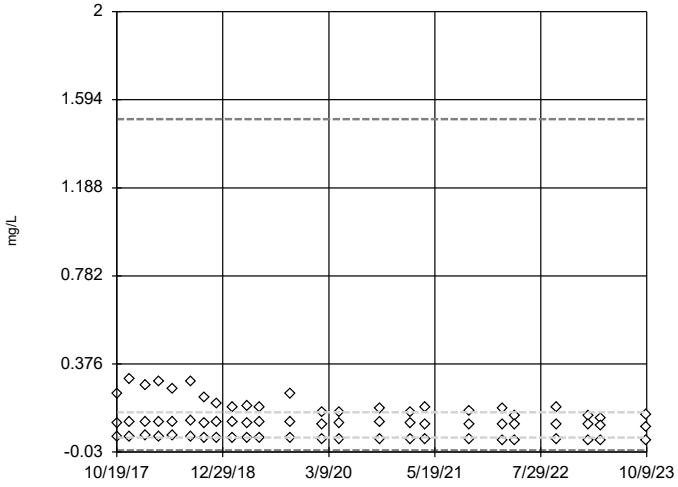
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.5687, low cutoff = 0.00001665, based on IQR multiplier of 3.

Constituent: Arsenic total Analysis Run 2/7/2024 10:15 AM View: Chattanooga Shale - Pond 1 Upgradient
Clinch River Data: Clinch River

Tukey's Outlier Screening, Pooled Background

MW-1601,MW-1602,MW-1608



n = 72

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

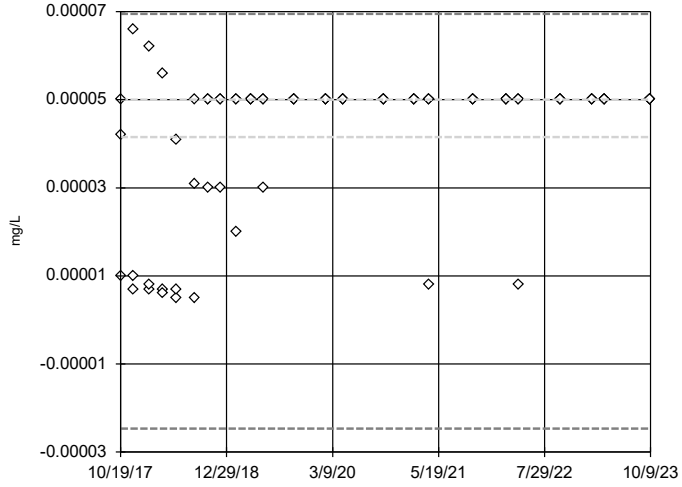
Data were cube root transformed to achieve best W statistic (graph shown in original units).

High cutoff = 1.505, low cutoff = -0.0213, based on IQR multiplier of 3.

Constituent: Barium total Analysis Run 2/7/2024 10:15 AM View: Chattanooga Shale - Pond 1 Upgradient
Clinch River Data: Clinch River

Tukey's Outlier Screening, Pooled Background

MW-1601,MW-1602,MW-1608



n = 72

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

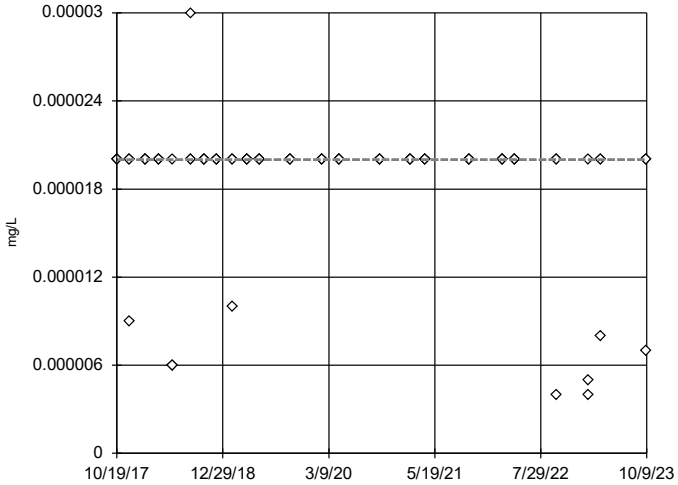
Data were square transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.00006952, low cutoff = -0.0000247, based on IQR multiplier of 3.

Constituent: Beryllium total Analysis Run 2/7/2024 10:15 AM View: Chattanooga Shale - Pond 1 Upgradie
Clinch River Data: Clinch River

Tukey's Outlier Screening, Pooled Background

MW-1601,MW-1602,MW-1608



n = 72

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

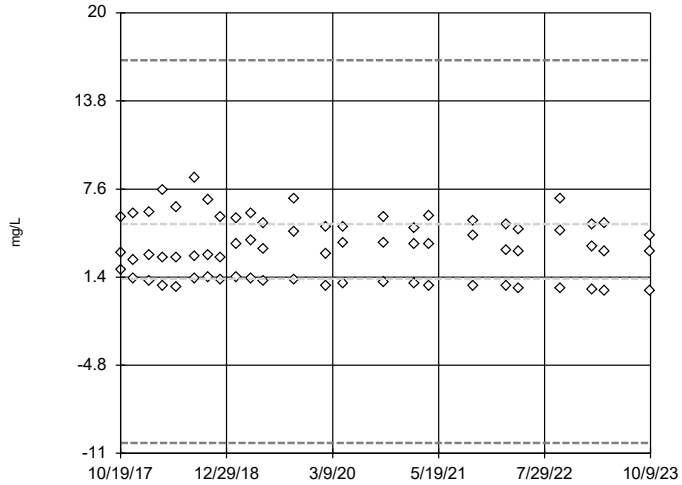
Data were square transformed to achieve best W statistic (graph shown in original units).

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

Constituent: Cadmium total Analysis Run 2/7/2024 10:15 AM View: Chattanooga Shale - Pond 1 Upgradie
Clinch River Data: Clinch River

Tukey's Outlier Screening, Pooled Background

MW-1601,MW-1602,MW-1608



n = 72

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

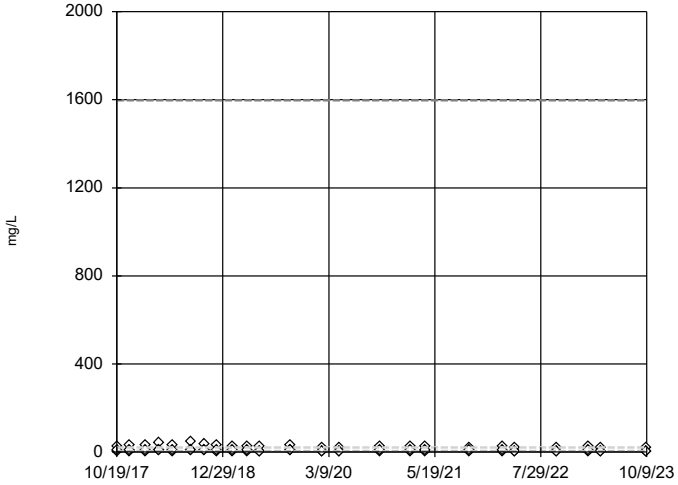
Ladder of Powers transformations did not improve normality; analysis run on raw data.

High cutoff = 16.68, low cutoff = -10.28, based on IQR multiplier of 3.

Constituent: Calcium total Analysis Run 2/7/2024 10:15 AM View: Chattanooga Shale - Pond 1 Upgradient
Clinch River Data: Clinch River

Tukey's Outlier Screening, Pooled Background

MW-1601,MW-1602,MW-1608



n = 72

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

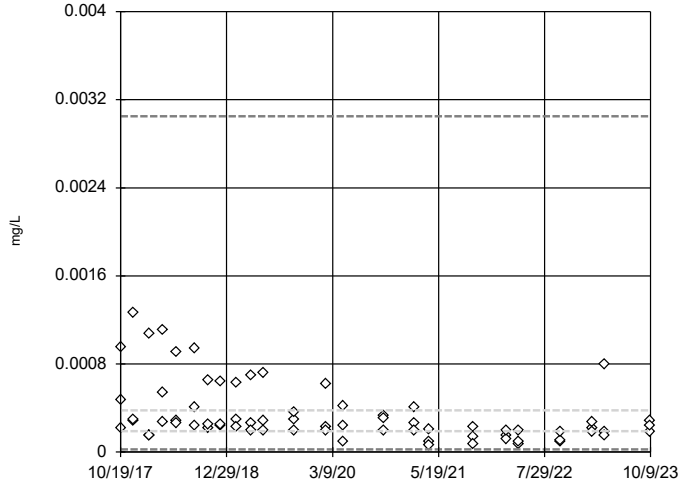
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 1597, low cutoff = 0.06445, based on IQR multiplier of 3.

Constituent: Chloride total Analysis Run 2/7/2024 10:15 AM View: Chattanooga Shale - Pond 1 Upgradien
Clinch River Data: Clinch River

Tukey's Outlier Screening, Pooled Background

MW-1601,MW-1602,MW-1608



n = 72

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

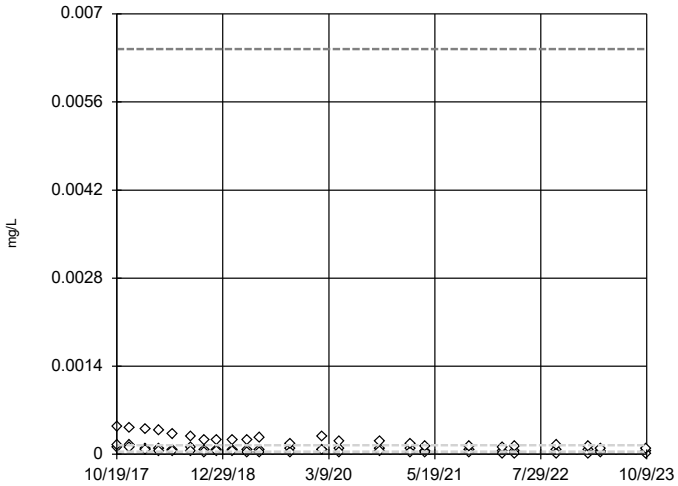
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.003049, low cutoff = 0.00002364, based on IQR multiplier of 3.

Constituent: Chromium total Analysis Run 2/7/2024 10:15 AM View: Chattanooga Shale - Pond 1 Upgradi
Clinch River Data: Clinch River

Tukey's Outlier Screening, Pooled Background

MW-1601,MW-1602,MW-1608



n = 72

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

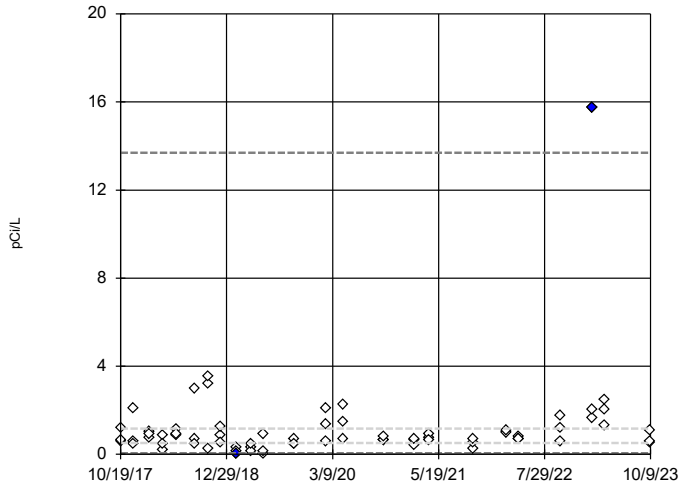
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.006442, low cutoff = 9.4e-7, based on IQR multiplier of 3.

Constituent: Cobalt total Analysis Run 2/7/2024 10:15 AM View: Chattanooga Shale - Pond 1 Upgradient Clinch River Data: Clinch River

Tukey's Outlier Screening, Pooled Background

MW-1601,MW-1602,MW-1608



n = 72

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

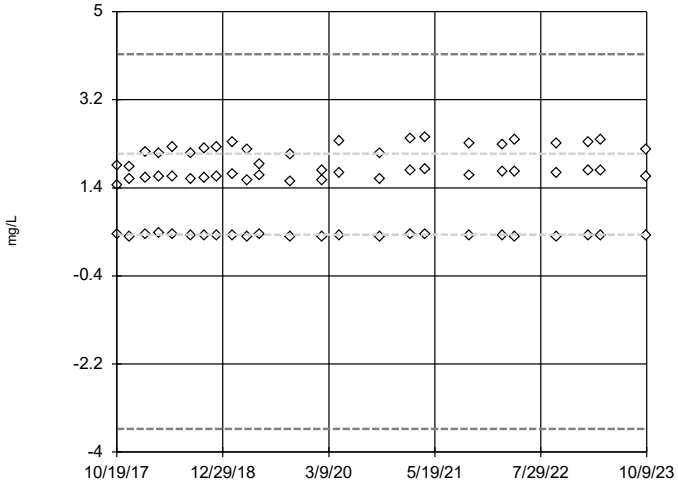
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 13.7, low cutoff = 0.04382, based on IQR multiplier of 3.

Constituent: Combined Radium 226 and 228 Analysis Run 2/7/2024 10:15 AM View: Chattanooga Shale - Clinch River Data: Clinch River

Tukey's Outlier Screening, Pooled Background

MW-1601,MW-1602,MW-1608



n = 72

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

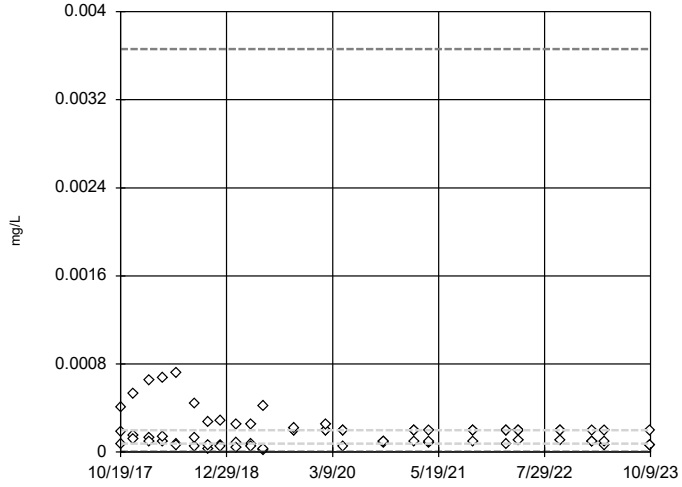
Data were square transformed to achieve best W statistic (graph shown in original units).

High cutoff = 4.13, low cutoff = -3.529, based on IQR multiplier of 3.

Constituent: Fluoride total Analysis Run 2/7/2024 10:15 AM View: Chattanooga Shale - Pond 1 Upgradient Clinch River Data: Clinch River

Tukey's Outlier Screening, Pooled Background

MW-1601,MW-1602,MW-1608



n = 72

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

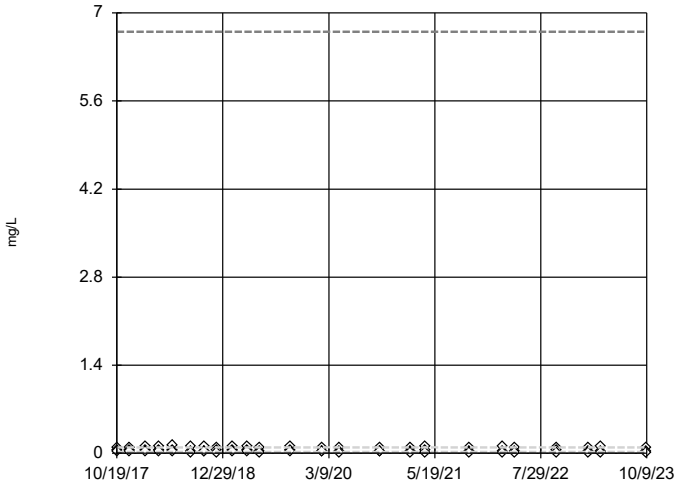
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.00366, low cutoff = 0.000004147, based on IQR multiplier of 3.

Constituent: Lead total Analysis Run 2/7/2024 10:15 AM View: Chattanooga Shale - Pond 1 Upgradient O Clinch River Data: Clinch River

Tukey's Outlier Screening, Pooled Background

MW-1601,MW-1602,MW-1608



n = 72

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

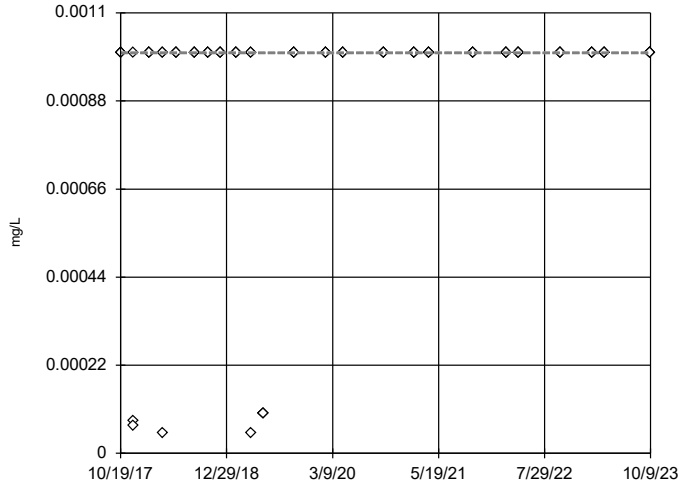
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 6.701, low cutoff = 0.0003025, based on IQR multiplier of 3.

Constituent: Lithium total Analysis Run 2/7/2024 10:15 AM View: Chattanooga Shale - Pond 1 Upgradient Clinch River Data: Clinch River

Tukey's Outlier Screening, Pooled Background

MW-1601,MW-1602,MW-1608



n = 72

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

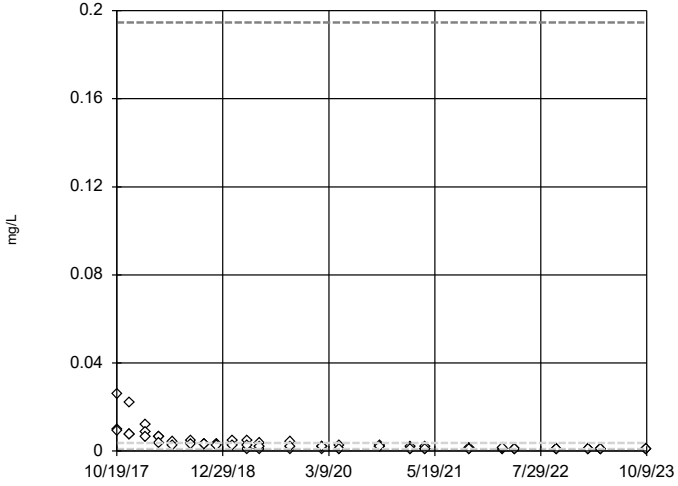
Data were natural log transformed to achieve best W statistic (graph shown in original units).

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

Constituent: Mercury total Analysis Run 2/7/2024 10:15 AM View: Chattanooga Shale - Pond 1 Upgradient Clinch River Data: Clinch River

Tukey's Outlier Screening, Pooled Background

MW-1601,MW-1602,MW-1608



n = 72

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

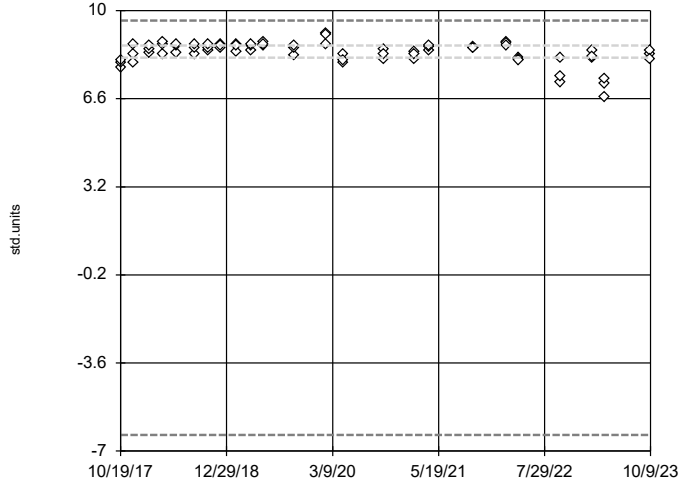
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.1946, low cutoff = 0.00001919, based on IQR multiplier of 3.

Constituent: Molybdenum total Analysis Run 2/7/2024 10:15 AM View: Chattanooga Shale - Pond 1 Upgra Clinch River Data: Clinch River

Tukey's Outlier Screening, Pooled Background

MW-1601,MW-1602,MW-1608



n = 72

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

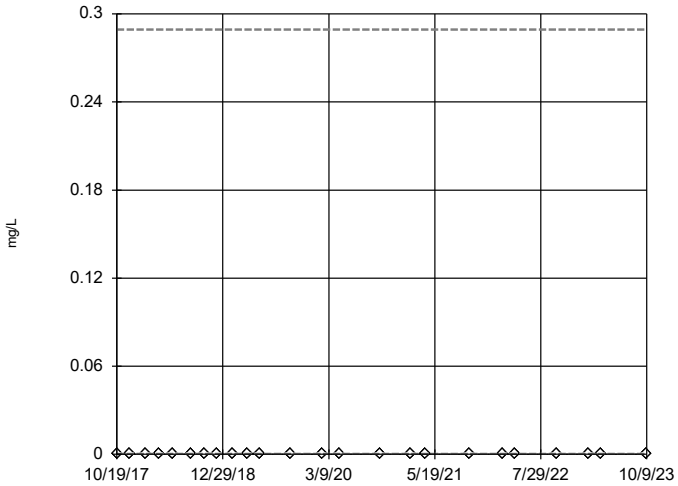
Data were x^6 transformed to achieve best W statistic (graph shown in original units).

High cutoff = 9.612, low cutoff = -6.374, based on IQR multiplier of 3.

Constituent: pH [field] Analysis Run 2/7/2024 10:15 AM View: Chattanooga Shale - Pond 1 Upgradient Out Clinch River Data: Clinch River

Tukey's Outlier Screening, Pooled Background

MW-1601,MW-1602,MW-1608



n = 72

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

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

High cutoff = 0.2894, low cutoff = 1.0e-7, based on IQR multiplier of 3.

Constituent: Selenium total Analysis Run 2/7/2024 10:15 AM View: Chattanooga Shale - Pond 1 Upgradie
Clinch River Data: Clinch River

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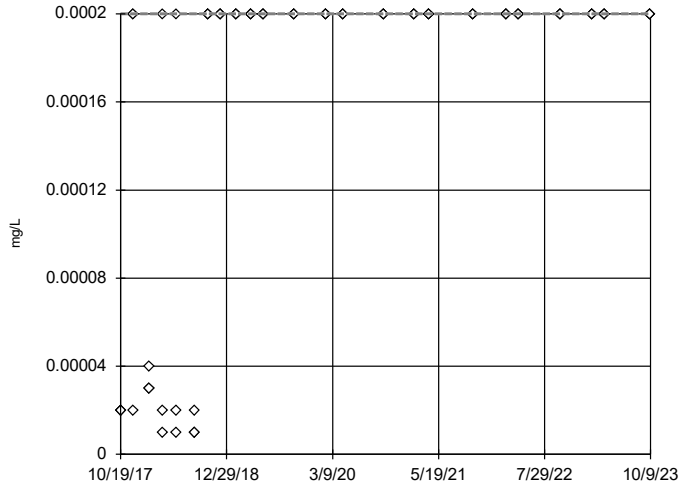
Tukey's Outlier Screening, Pooled Background

MW-1601,MW-1602,MW-1608



n = 72

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

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

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

Constituent: Thallium total Analysis Run 2/7/2024 10:15 AM View: Chattanooga Shale - Pond 1 Upgradien
Clinch River Data: Clinch River

Tukey's Outlier Test - Upgradient Well (Rome Limestone) - Significant Results

Clinch River Data: Clinch River Printed 2/7/2024, 3:31 PM

Constituent	Well	Outlier	Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Cadmium total (mg/L)	**MW-1609 (bg)**	**Yes**	**0.00004**	**NP**	**NaN**	**24**	**0.00001346**	**0.000007684**	**ln(x)**	**ShapiroWilk**

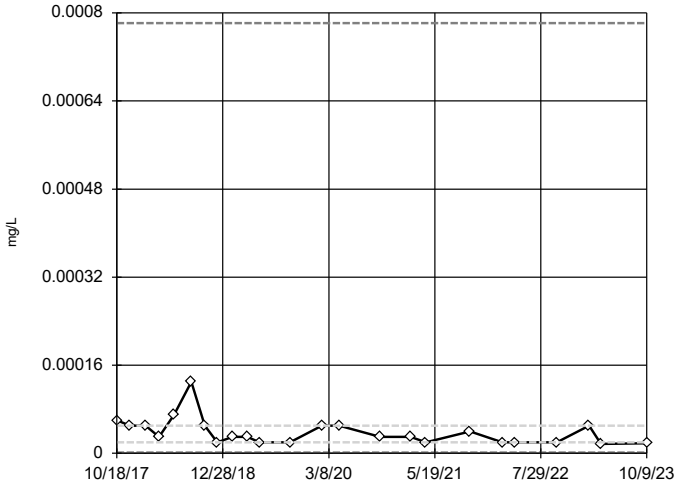
Tukey's Outlier Test - Upgradient Well (Rome Limestone) - All Results

Clinch River Data: Clinch River Printed 2/7/2024, 3:31 PM

Constituent	Well	Outlier	Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Antimony total (mg/L)	MW-1609 (bg)	No	n/a	NP	NaN	24	0.00003854	0.0000249	ln(x)	ShapiroWilk
Arsenic total (mg/L)	MW-1609 (bg)	No	n/a	NP	NaN	24	0.0002063	0.0002459	ln(x)	ShapiroWilk
Barium total (mg/L)	MW-1609 (bg)	No	n/a	NP	NaN	24	0.3947	0.04675	ln(x)	ShapiroWilk
Beryllium total (mg/L)	MW-1609 (bg)	n/a	n/a	NP	NaN	24	0.00004808	0.00000939	unknown	ShapiroWilk
Cadmium total (mg/L)	**MW-1609 (bg)**	**Yes**	**0.00004**	**NP**	**NaN**	**24**	**0.00001346**	**0.000007684**	**ln(x)**	**ShapiroWilk**
Chloride total (mg/L)	MW-1609 (bg)	No	n/a	NP	NaN	24	1.58	0.7824	ln(x)	ShapiroWilk
Chromium total (mg/L)	MW-1609 (bg)	No	n/a	NP	NaN	24	0.0001632	0.00006744	sqrt(x)	ShapiroWilk
Cobalt total (mg/L)	MW-1609 (bg)	No	n/a	NP	NaN	24	0.0002522	0.0003022	x^(1/3)	ShapiroWilk
Combined Radium 226 and 228 (pCi/L)	MW-1609 (bg)	No	n/a	NP	NaN	24	2.094	1.058	ln(x)	ShapiroWilk
Fluoride total (mg/L)	MW-1609 (bg)	No	n/a	NP	NaN	24	0.2538	0.03294	ln(x)	ShapiroWilk
Lead total (mg/L)	MW-1609 (bg)	No	n/a	NP	NaN	24	0.0003848	0.0002637	x^(1/3)	ShapiroWilk
Lithium total (mg/L)	MW-1609 (bg)	No	n/a	NP	NaN	24	0.003977	0.003949	ln(x)	ShapiroWilk
Mercury total (mg/L)	MW-1609 (bg)	n/a	n/a	NP	NaN	24	0.0009625	0.0001837	unknown	ShapiroWilk
Molybdenum total (mg/L)	MW-1609 (bg)	No	n/a	NP	NaN	24	0.0009892	0.0007404	ln(x)	ShapiroWilk
Selenium total (mg/L)	MW-1609 (bg)	No	n/a	NP	NaN	24	0.0002767	0.0002086	x^(1/3)	ShapiroWilk
Sulfate total (mg/L)	MW-1609 (bg)	No	n/a	NP	NaN	24	15.44	2.811	ln(x)	ShapiroWilk
Thallium total (mg/L)	MW-1609 (bg)	n/a	n/a	NP	NaN	24	0.0001654	0.00007022	unknown	ShapiroWilk

Tukey's Outlier Screening

MW-1609 (bg)



n = 24

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

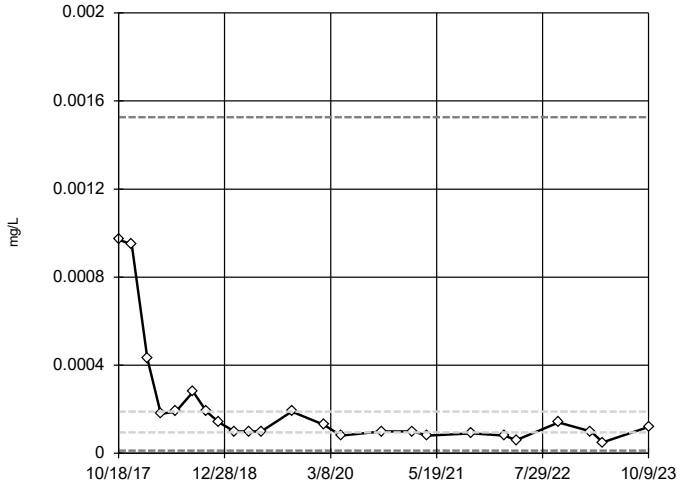
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.0007812, low cutoff = 0.00000128, based on IQR multiplier of 3.

Constituent: Antimony total Analysis Run 2/7/2024 3:30 PM View: Rome Limestone - Pond 1 Upgradient O
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1609 (bg)



n = 24

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

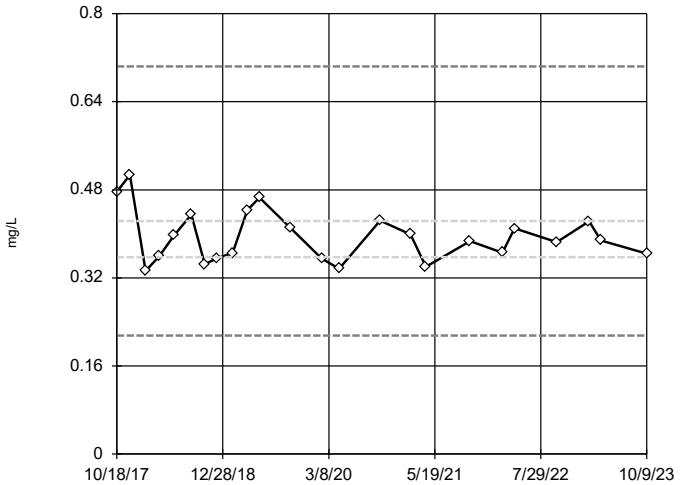
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.001526, low cutoff = 0.00001181, based on IQR multiplier of 3.

Constituent: Arsenic total Analysis Run 2/7/2024 3:30 PM View: Rome Limestone - Pond 1 Upgradient Out
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1609 (bg)



n = 24

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

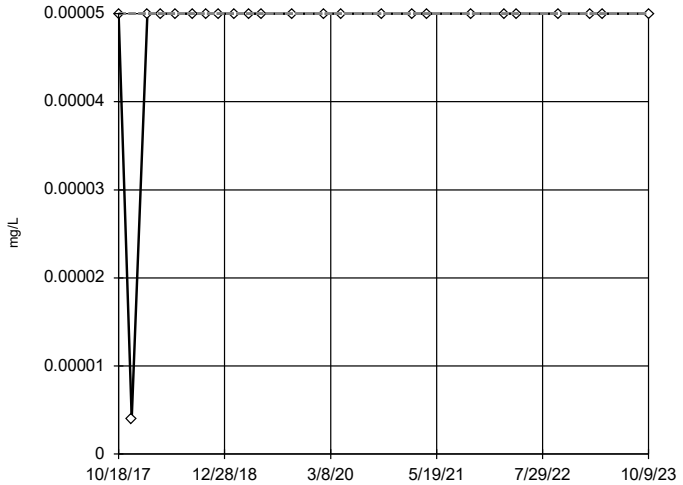
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.704, low cutoff = 0.215, based on IQR multiplier of 3.

Constituent: Barium total Analysis Run 2/7/2024 3:30 PM View: Rome Limestone - Pond 1 Upgradient Out
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1609 (bg)



n = 24

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

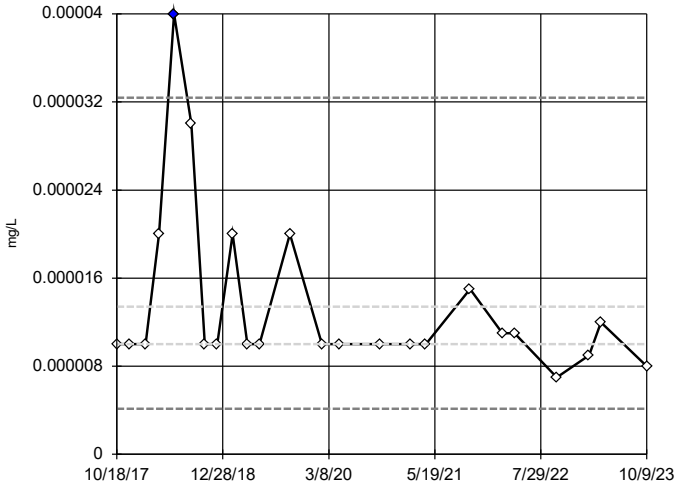
Data were natural log transformed to achieve best W statistic (graph shown in original units).

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

Constituent: Beryllium total Analysis Run 2/7/2024 3:30 PM View: Rome Limestone - Pond 1 Upgradient O
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1609 (bg)



n = 24

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

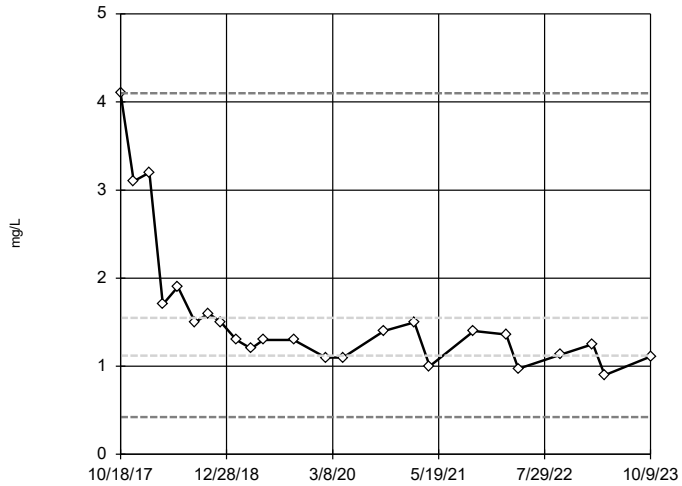
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.0000324, low cutoff = 0.000004141, based on IQR multiplier of 3.

Constituent: Cadmium total Analysis Run 2/7/2024 3:30 PM View: Rome Limestone - Pond 1 Upgradient
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1609 (bg)



n = 24

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

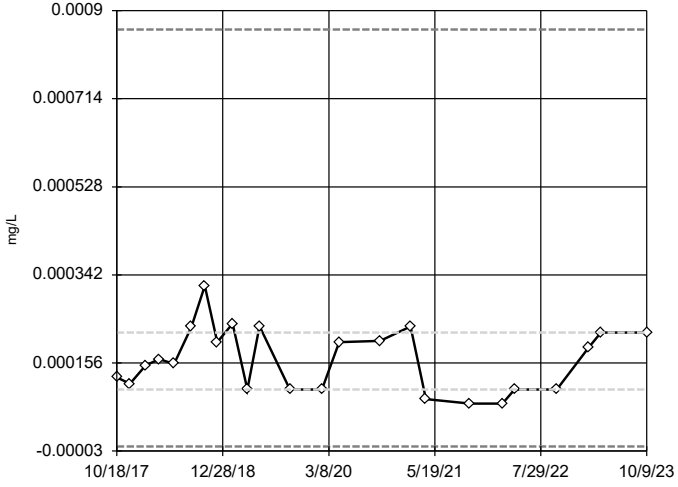
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 4.1, low cutoff = 0.4231, based on IQR multiplier of 3.

Constituent: Chloride total Analysis Run 2/7/2024 3:30 PM View: Rome Limestone - Pond 1 Upgradient O
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1609 (bg)



n = 24

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

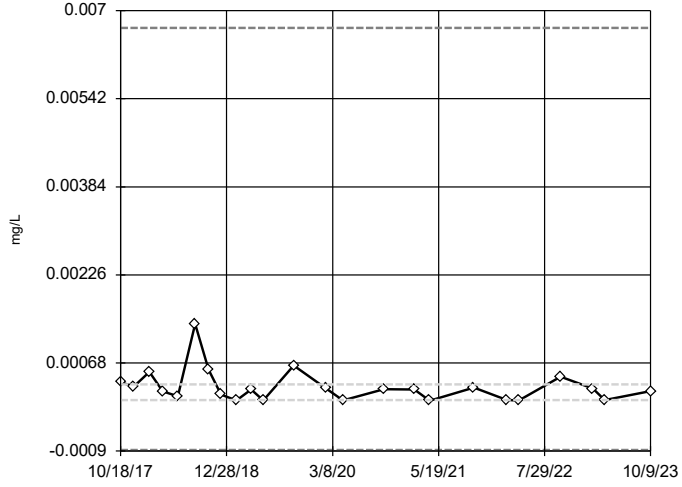
Data were square root transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.0008602, low cutoff = -0.00002022, based on IQR multiplier of 3.

Constituent: Chromium total Analysis Run 2/7/2024 3:30 PM View: Rome Limestone - Pond 1 Upgradient
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1609 (bg)



n = 24

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

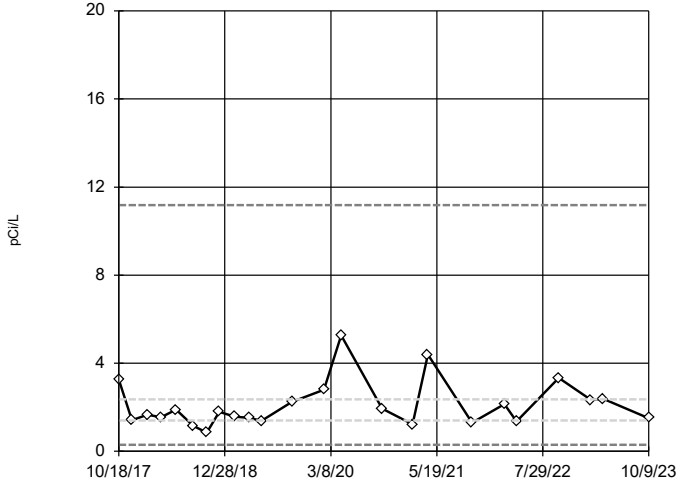
Data were cube root transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.006693, low cutoff = -0.0008774, based on IQR multiplier of 3.

Constituent: Cobalt total Analysis Run 2/7/2024 3:30 PM View: Rome Limestone - Pond 1 Upgradient Outl
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1609 (bg)



n = 24

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

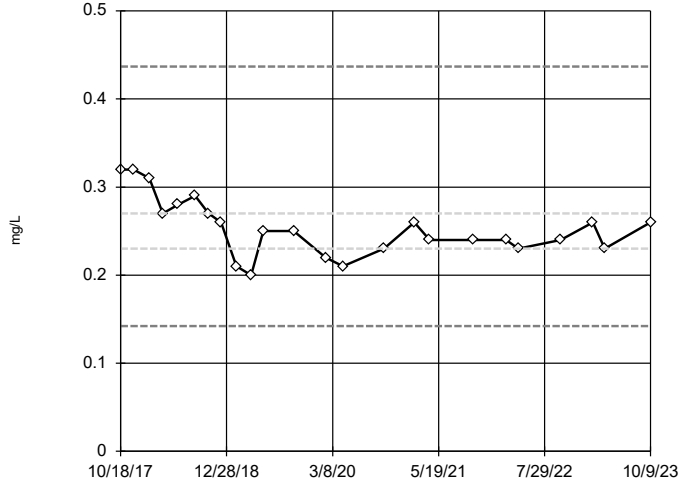
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 11.18, low cutoff = 0.2964, based on IQR multiplier of 3.

Constituent: Combined Radium 226 and 228 Analysis Run 2/7/2024 3:30 PM View: Rome Limestone - Po
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1609 (bg)



n = 24

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

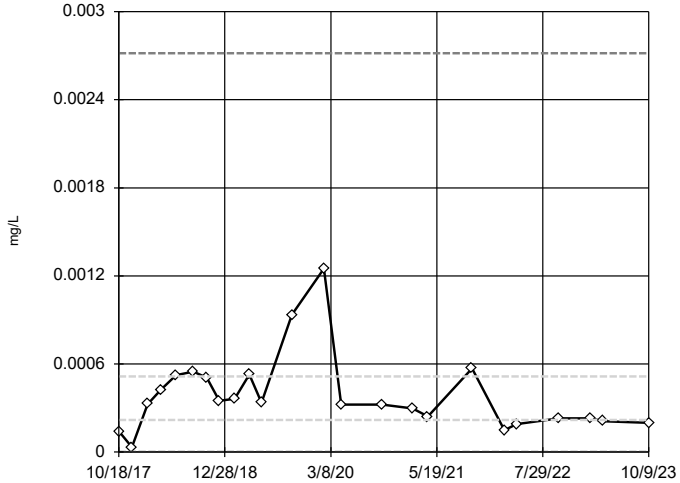
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.4368, low cutoff = 0.1422, based on IQR multiplier of 3.

Constituent: Fluoride total Analysis Run 2/7/2024 3:30 PM View: Rome Limestone - Pond 1 Upgradient Ou
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1609 (bg)



n = 24

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

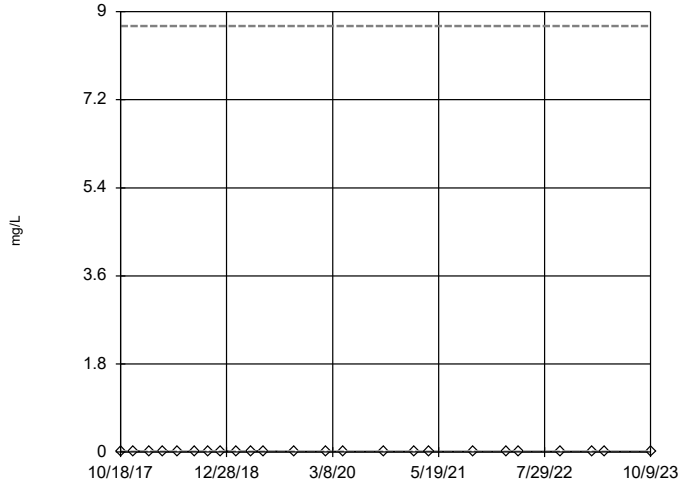
Data were cube root transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.002718, low cutoff = 8.8e-10, based on IQR multiplier of 3.

Constituent: Lead total Analysis Run 2/7/2024 3:30 PM View: Rome Limestone - Pond 1 Upgradient Outlie
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1609 (bg)



n = 24

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

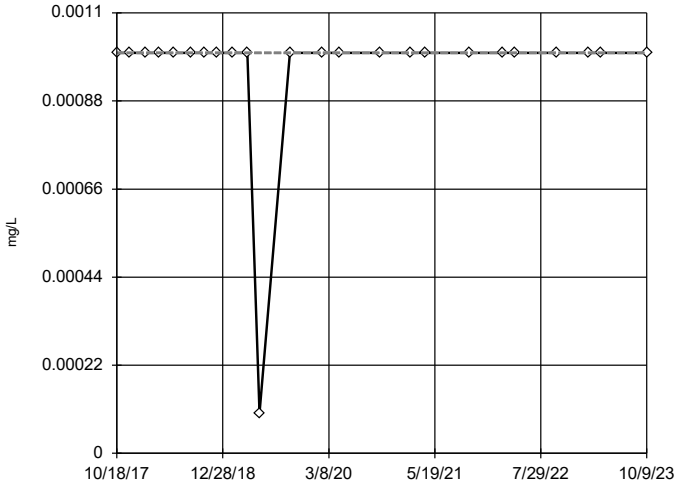
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 8.708, low cutoff = 9.4e-7, based on IQR multiplier of 3.

Constituent: Lithium total Analysis Run 2/7/2024 3:30 PM View: Rome Limestone - Pond 1 Upgradient Out
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1609 (bg)



n = 24

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

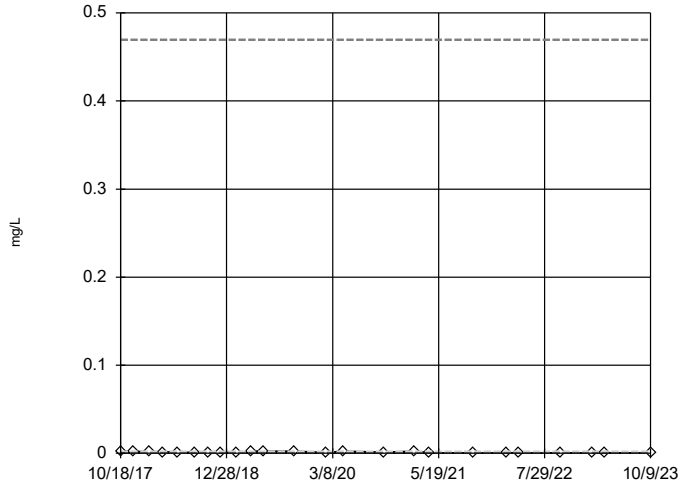
Ladder of Powers transformations did not improve normality; analysis run on raw data.

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

Constituent: Mercury total Analysis Run 2/7/2024 3:30 PM View: Rome Limestone - Pond 1 Upgradient Ou
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1609 (bg)



n = 24

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

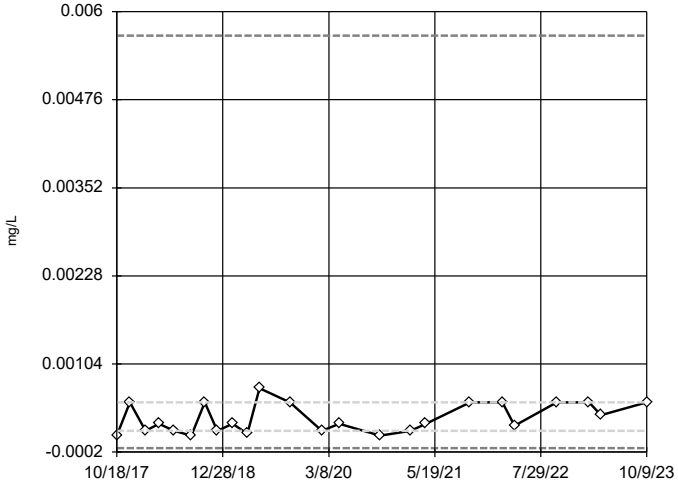
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.4694, low cutoff = 0.000001206, based on IQR multiplier of 3.

Constituent: Molybdenum total Analysis Run 2/7/2024 3:30 PM View: Rome Limestone - Pond 1 Upgradie
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1609 (bg)



n = 24

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

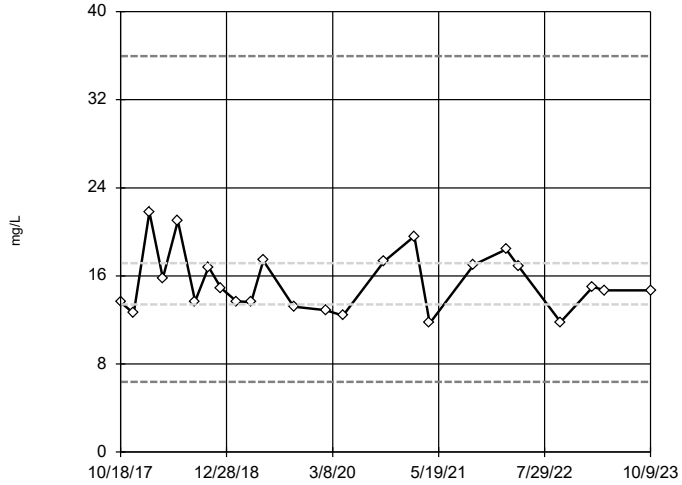
Data were cube root transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.005662, low cutoff = -0.0001443, based on IQR multiplier of 3.

Constituent: Selenium total Analysis Run 2/7/2024 3:30 PM View: Rome Limestone - Pond 1 Upgradient O
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1609 (bg)



n = 24

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

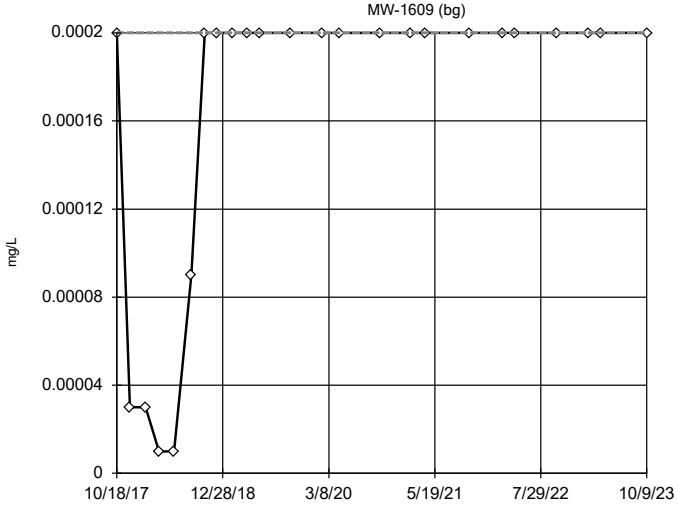
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 35.96, low cutoff = 6.39, based on IQR multiplier of 3.

Constituent: Sulfate total Analysis Run 2/7/2024 3:30 PM View: Rome Limestone - Pond 1 Upgradient Outl
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1609 (bg)



n = 24

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

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

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

Constituent: Thallium total Analysis Run 2/7/2024 3:30 PM View: Rome Limestone - Pond 1 Upgradient O
Clinch River Data: Clinch River

Tukey's Outlier Test - Upgradient Well (Dumps Fault) - Significant Results

Clinch River Data: Clinch River Printed 2/8/2024, 1:50 PM

Constituent	Well	Outlier	Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Combined Radium 226 and 228 (pCi/L)	**MW-1611 (bg)**	**Yes**	**2.62**	**NP**	**NaN**	**24**	**0.7974**	**0.6424**	**normal**	**ShapiroWilk**
Molybdenum total (mg/L)	**MW-1611 (bg)**	**Yes**	**0.038**	**NP**	**NaN**	**24**	**0.003753**	**0.007379**	**ln(x)**	**ShapiroWilk**

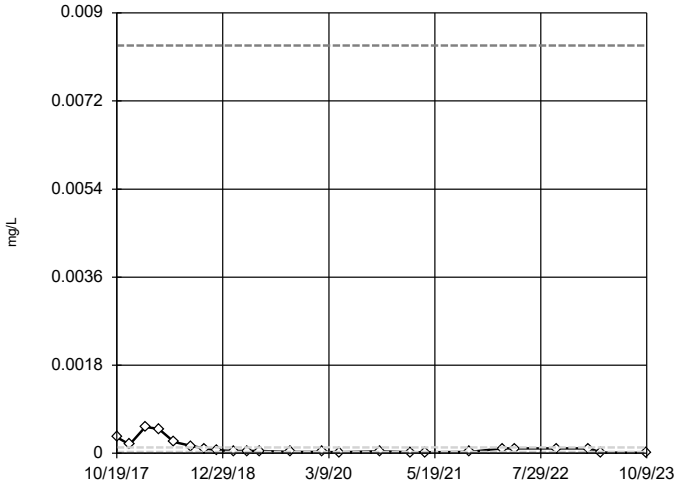
Tukey's Outlier Test - Upgradient Well (Dumps Fault) - All Results

Clinch River Data: Clinch River Printed 2/8/2024, 1:50 PM

Constituent	Well	Outlier	Value(s)	Method	Alpha	N	Mean	Std. Dev.	Distribution	Normality Test
Antimony total (mg/L)	MW-1611 (bg)	No	n/a	NP	NaN	24	0.000119	0.0001453	ln(x)	ShapiroWilk
Arsenic total (mg/L)	MW-1611 (bg)	No	n/a	NP	NaN	24	0.01239	0.009706	ln(x)	ShapiroWilk
Barium total (mg/L)	MW-1611 (bg)	No	n/a	NP	NaN	24	0.1349	0.08003	ln(x)	ShapiroWilk
Beryllium total (mg/L)	MW-1611 (bg)	n/a	n/a	NP	NaN	24	0.00004142	0.0000171	unknown	ShapiroWilk
Cadmium total (mg/L)	MW-1611 (bg)	n/a	n/a	NP	NaN	24	0.00001958	0.000002041	unknown	ShapiroWilk
Chromium total (mg/L)	MW-1611 (bg)	No	n/a	NP	NaN	24	0.0003578	0.0002236	x^(1/3)	ShapiroWilk
Cobalt total (mg/L)	MW-1611 (bg)	No	n/a	NP	NaN	24	0.00005588	0.00006474	ln(x)	ShapiroWilk
Combined Radium 226 and 228 (pCi/L)	**MW-1611 (bg)**	**Yes**	**2.62**	**NP**	**NaN**	**24**	**0.7974**	**0.6424**	**normal**	**ShapiroWilk**
Fluoride total (mg/L)	MW-1611 (bg)	No	n/a	NP	NaN	24	0.9813	0.1769	x^4	ShapiroWilk
Lead total (mg/L)	MW-1611 (bg)	No	n/a	NP	NaN	24	0.0001897	0.0001909	ln(x)	ShapiroWilk
Lithium total (mg/L)	MW-1611 (bg)	No	n/a	NP	NaN	24	0.0804	0.02785	ln(x)	ShapiroWilk
Mercury total (mg/L)	MW-1611 (bg)	n/a	n/a	NP	NaN	24	0.0009617	0.0001878	unknown	ShapiroWilk
Molybdenum total (mg/L)	**MW-1611 (bg)**	**Yes**	**0.038**	**NP**	**NaN**	**24**	**0.003753**	**0.007379**	**ln(x)**	**ShapiroWilk**
Selenium total (mg/L)	MW-1611 (bg)	No	n/a	NP	NaN	24	0.00021	0.0002105	ln(x)	ShapiroWilk
Thallium total (mg/L)	MW-1611 (bg)	n/a	n/a	NP	NaN	24	0.0001829	0.00004768	unknown	ShapiroWilk

Tukey's Outlier Screening

MW-1611 (bg)



n = 24

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

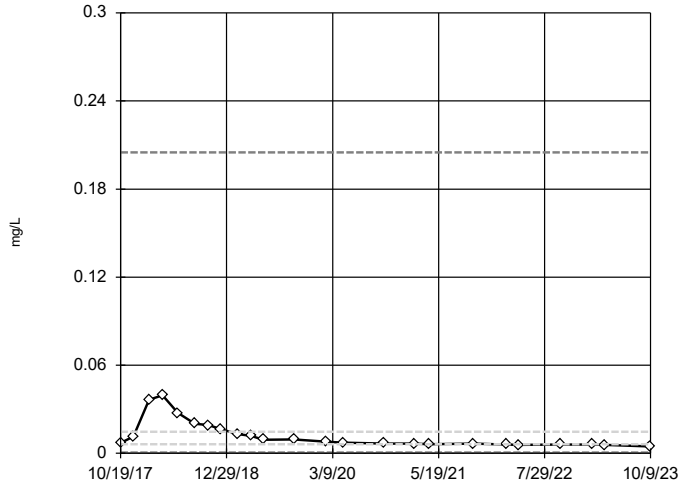
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.008333, low cutoff = 4.4e-7, based on IQR multiplier of 3.

Constituent: Antimony total Analysis Run 2/8/2024 1:49 PM View: Dumps Fault - Pond 1 Upgradient Outlie
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1611 (bg)



n = 24

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

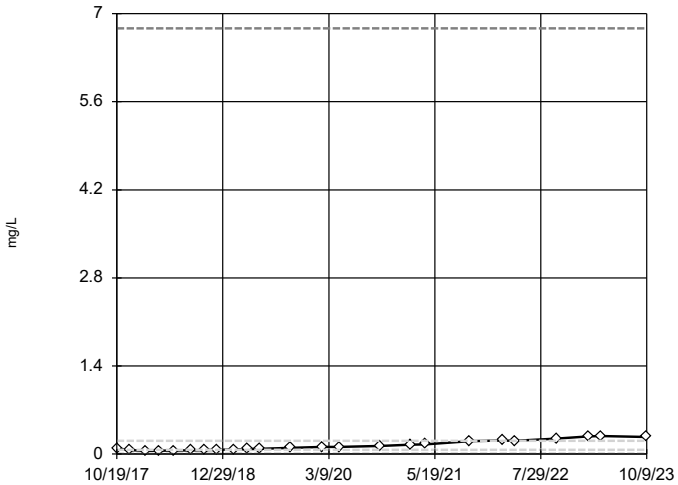
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.205, low cutoff = 0.0004389, based on IQR multiplier of 3.

Constituent: Arsenic total Analysis Run 2/8/2024 1:49 PM View: Dumps Fault - Pond 1 Upgradient Outliers
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1611 (bg)



n = 24

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

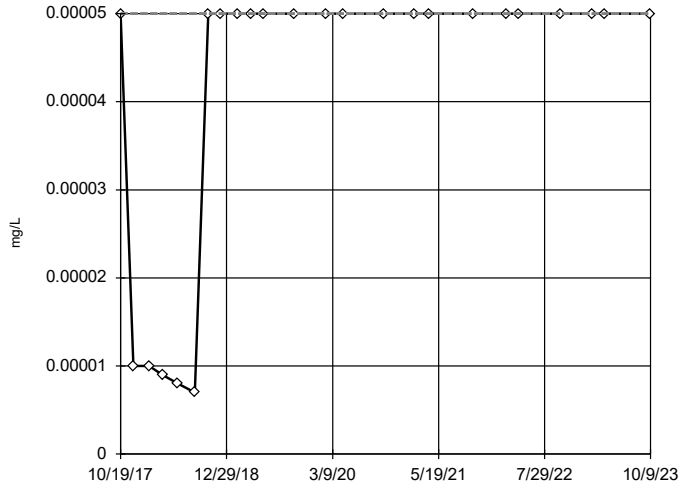
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 6.765, low cutoff = 0.00206, based on IQR multiplier of 3.

Constituent: Barium total Analysis Run 2/8/2024 1:49 PM View: Dumps Fault - Pond 1 Upgradient Outliers
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1611 (bg)



n = 24

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

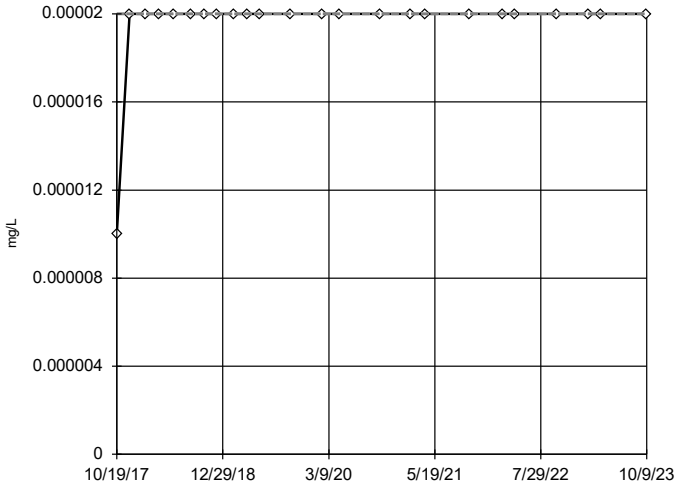
Data were natural log transformed to achieve best W statistic (graph shown in original units).

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

Constituent: Beryllium total Analysis Run 2/8/2024 1:49 PM View: Dumps Fault - Pond 1 Upgradient Outlie
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1611 (bg)



n = 24

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

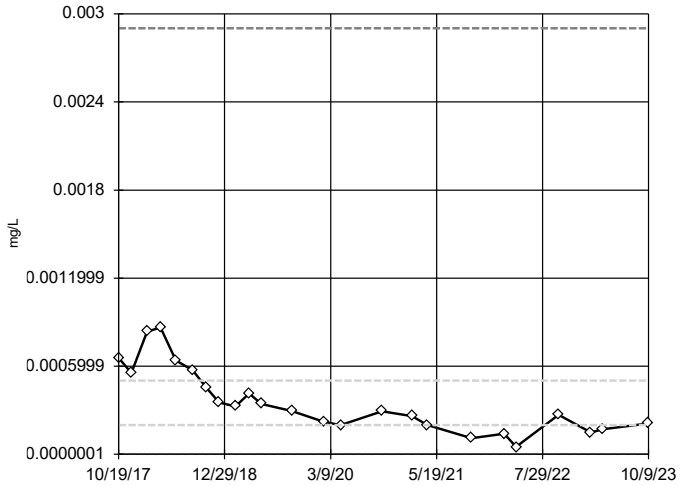
Data were square transformed to achieve best W statistic (graph shown in original units).

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

Constituent: Cadmium total Analysis Run 2/8/2024 1:49 PM View: Dumps Fault - Pond 1 Upgradient Outli
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1611 (bg)



n = 24

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

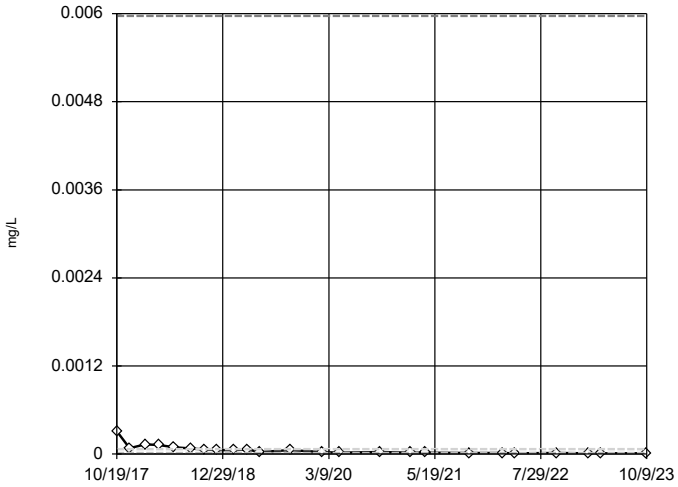
Data were cube root transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.002902, low cutoff = -1.0e-7, based on IQR multiplier of 3.

Constituent: Chromium total Analysis Run 2/8/2024 1:49 PM View: Dumps Fault - Pond 1 Upgradient Outli
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1611 (bg)



n = 24

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

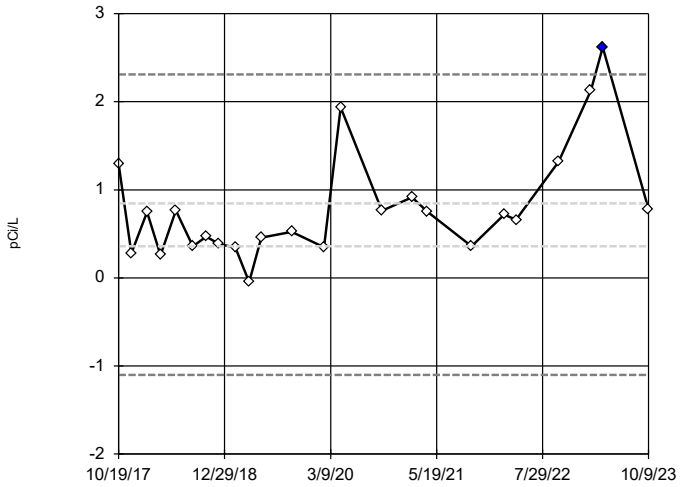
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.005972, low cutoff = 1.8e-7, based on IQR multiplier of 3.

Constituent: Cobalt total Analysis Run 2/8/2024 1:49 PM View: Dumps Fault - Pond 1 Upgradient Outliers
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1611 (bg)



n = 24

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

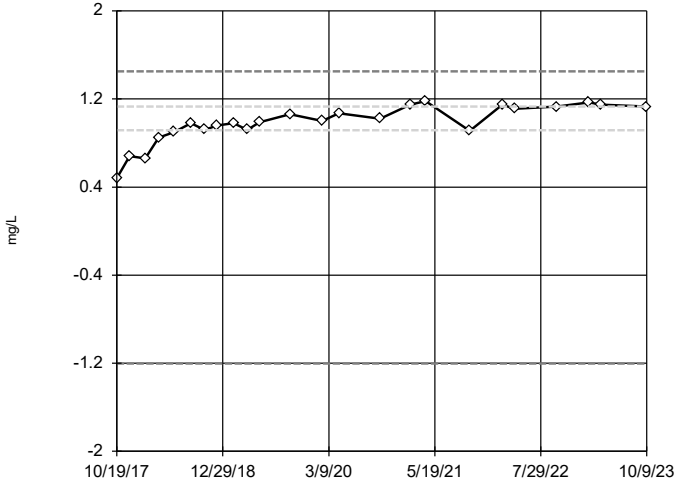
Ladder of Powers transformations did not improve normality; analysis run on raw data.

High cutoff = 2.31, low cutoff = -1.103, based on IQR multiplier of 3.

Constituent: Combined Radium 226 and 228 Analysis Run 2/8/2024 1:49 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1611 (bg)



n = 24

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

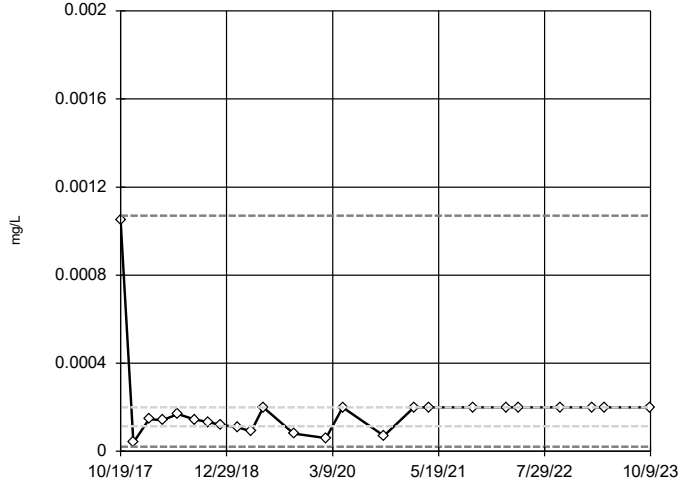
Data were x^4 transformed to achieve best W statistic (graph shown in original units).

High cutoff = 1.45, low cutoff = -1.202, based on IQR multiplier of 3.

Constituent: Fluoride total Analysis Run 2/8/2024 1:49 PM View: Dumps Fault - Pond 1 Upgradient Outlier
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1611 (bg)



n = 24

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

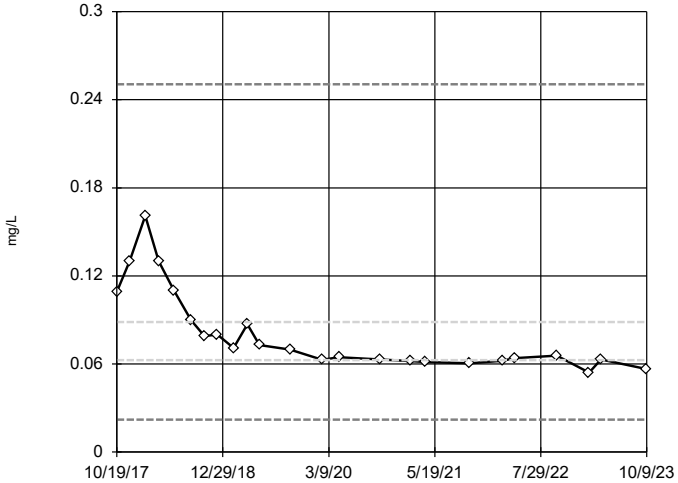
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.00107, low cutoff = 0.00002139, based on IQR multiplier of 3.

Constituent: Lead total Analysis Run 2/8/2024 1:49 PM View: Dumps Fault - Pond 1 Upgradient Outliers
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1611 (bg)



n = 24

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

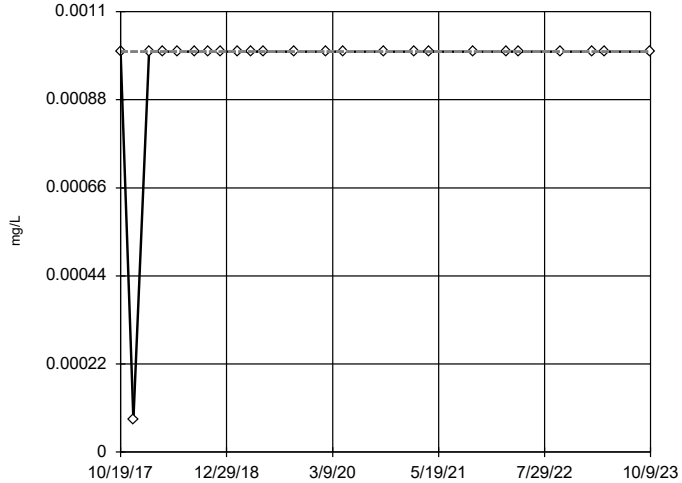
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.2505, low cutoff = 0.02209, based on IQR multiplier of 3.

Constituent: Lithium total Analysis Run 2/8/2024 1:49 PM View: Dumps Fault - Pond 1 Upgradient Outliers
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1611 (bg)



n = 24

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

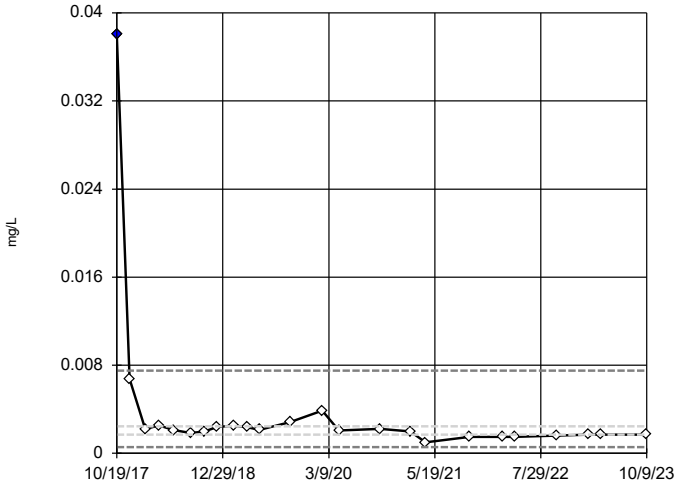
Data were x^5 transformed to achieve best W statistic (graph shown in original units).

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

Constituent: Mercury total Analysis Run 2/8/2024 1:49 PM View: Dumps Fault - Pond 1 Upgradient Outlier
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1611 (bg)



n = 24

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

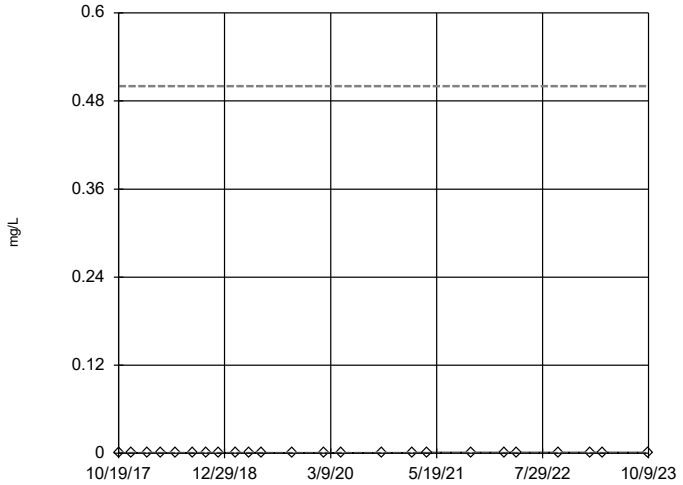
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.007507, low cutoff = 0.000558, based on IQR multiplier of 3.

Constituent: Molybdenum total Analysis Run 2/8/2024 1:49 PM View: Dumps Fault - Pond 1 Upgradient O
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1611 (bg)



n = 24

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

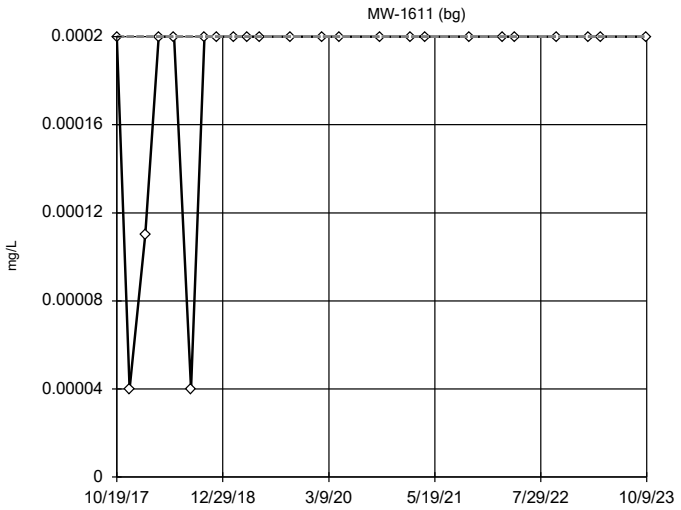
Data were natural log transformed to achieve best W statistic (graph shown in original units).

High cutoff = 0.5, low cutoff = 5.0e-8, based on IQR multiplier of 3.

Constituent: Selenium total Analysis Run 2/8/2024 1:49 PM View: Dumps Fault - Pond 1 Upgradient Outlie
Clinch River Data: Clinch River

Tukey's Outlier Screening

MW-1611 (bg)



n = 24

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

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

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

Constituent: Thallium total Analysis Run 2/8/2024 1:49 PM View: Dumps Fault - Pond 1 Upgradient Outlier
Clinch River Data: Clinch River

FIGURE D.

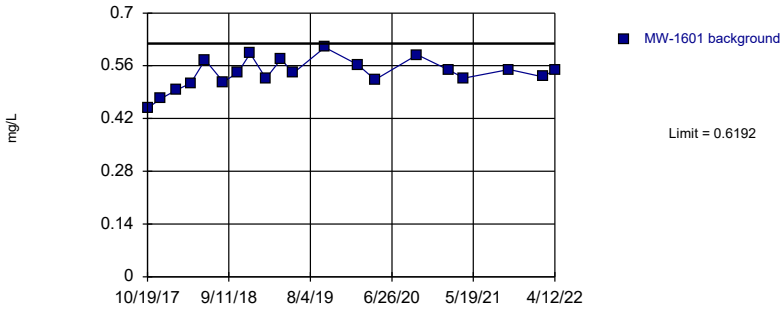
Intrawell Prediction Limits - Chattanooga Shale - All Results

Clinch River Data: Clinch River Printed 2/7/2024, 11:28 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron total (mg/L)	MW-1601	0.6192	n/a	n/a	1 future	n/a	20	0.5396	0.04003	0	None	No	0.00188	Param Intra 1 of 2
Boron total (mg/L)	MW-1602	0.6766	n/a	n/a	1 future	n/a	20	0.6142	0.03137	0	None	No	0.00188	Param Intra 1 of 2
Boron total (mg/L)	MW-1603	0.4552	n/a	n/a	1 future	n/a	20	0.2826	0.08685	0	None	No	0.00188	Param Intra 1 of 2
Boron total (mg/L)	MW-1604	0.49	n/a	n/a	1 future	n/a	20	0.417	0.03672	0	None	No	0.00188	Param Intra 1 of 2
Boron total (mg/L)	MW-1605	0.699	n/a	n/a	1 future	n/a	20	n/a	n/a	0	n/a	n/a	0.004291	NP Intra (normality) 1 of 2
Boron total (mg/L)	MW-1608	0.385	n/a	n/a	1 future	n/a	20	0.3483	0.01848	0	None	No	0.00188	Param Intra 1 of 2
Boron total (mg/L)	MW-1612	0.5546	n/a	n/a	1 future	n/a	19	0.427	0.0635	0	None	No	0.00188	Param Intra 1 of 2
Fluoride total (mg/L)	MW-1601	2.548	n/a	n/a	1 future	n/a	20	2.156	0.1973	0	None	No	0.00188	Param Intra 1 of 2
Fluoride total (mg/L)	MW-1602	1.797	n/a	n/a	1 future	n/a	20	1.633	0.08284	0	None	No	0.00188	Param Intra 1 of 2
Fluoride total (mg/L)	MW-1603	0.1807	n/a	n/a	1 future	n/a	20	0.3532	0.03613	0	None	sqrt(x)	0.00188	Param Intra 1 of 2
Fluoride total (mg/L)	MW-1604	0.3514	n/a	n/a	1 future	n/a	20	0.2605	0.04571	0	None	No	0.00188	Param Intra 1 of 2
Fluoride total (mg/L)	MW-1605	0.4202	n/a	n/a	1 future	n/a	20	0.354	0.03331	0	None	No	0.00188	Param Intra 1 of 2
Fluoride total (mg/L)	MW-1608	0.4749	n/a	n/a	1 future	n/a	20	0.4265	0.02434	0	None	No	0.00188	Param Intra 1 of 2
Fluoride total (mg/L)	MW-1612	0.2376	n/a	n/a	1 future	n/a	19	0.1663	0.03547	0	None	No	0.00188	Param Intra 1 of 2
Sulfate total (mg/L)	MW-1601	334.9	n/a	n/a	1 future	n/a	20	218.6	58.5	0	None	No	0.00188	Param Intra 1 of 2
Sulfate total (mg/L)	MW-1602	37.84	n/a	n/a	1 future	n/a	20	24.44	6.741	0	None	No	0.00188	Param Intra 1 of 2
Sulfate total (mg/L)	MW-1603	3.106	n/a	n/a	1 future	n/a	8	1.31	0.6867	0	None	No	0.00188	Param Intra 1 of 2
Sulfate total (mg/L)	MW-1604	1.707	n/a	n/a	1 future	n/a	8	0.6275	0.4125	12.5	None	No	0.00188	Param Intra 1 of 2
Sulfate total (mg/L)	MW-1605	11.2	n/a	n/a	1 future	n/a	8	n/a	n/a	75	n/a	n/a	0.02144	NP Intra (NDs) 1 of 2
Sulfate total (mg/L)	MW-1608	184.1	n/a	n/a	1 future	n/a	20	170.8	6.703	0	None	No	0.00188	Param Intra 1 of 2
Sulfate total (mg/L)	MW-1612	1.2	n/a	n/a	1 future	n/a	8	n/a	n/a	50	n/a	n/a	0.02144	NP Intra (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-1601	1663	n/a	n/a	1 future	n/a	20	1424	120.4	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-1602	563	n/a	n/a	1 future	n/a	20	525.3	18.97	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-1603	785.4	n/a	n/a	1 future	n/a	20	520.9	133.1	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-1604	426.9	n/a	n/a	1 future	n/a	20	395.4	15.89	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-1605	731.6	n/a	n/a	1 future	n/a	8	673.4	22.27	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-1608	480.6	n/a	n/a	1 future	n/a	20	442.7	19.08	0	None	No	0.00188	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-1612	560.3	n/a	n/a	1 future	n/a	18	528.6	15.62	0	None	No	0.00188	Param Intra 1 of 2

Prediction Limit

Intrawell Parametric, MW-1601 (bg)



Background Data Summary: Mean=0.5396, Std. Dev.=0.04003, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9748, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Boron total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

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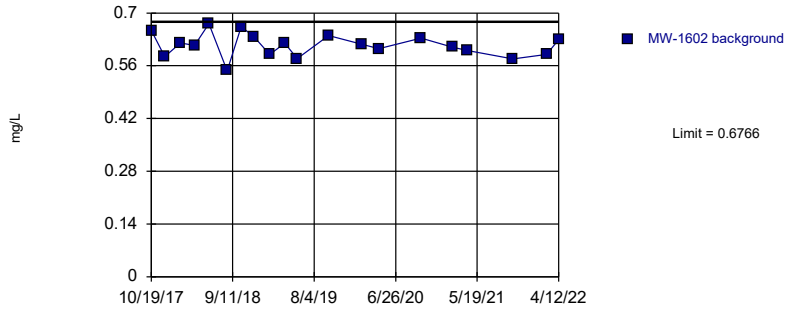
Prediction Limit

Intrawell Parametric, MW-1602 (bg)



Background Data Summary: Mean=0.6142, Std. Dev.=0.03137, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9875, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Boron total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

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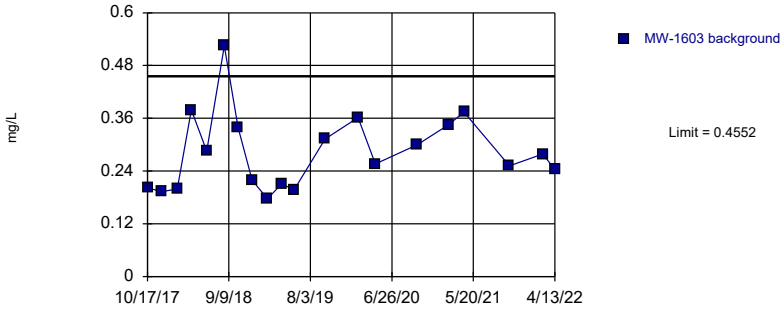
Prediction Limit

Intrawell Parametric, MW-1603



Background Data Summary: Mean=0.2826, Std. Dev.=0.08685, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9055, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Boron total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

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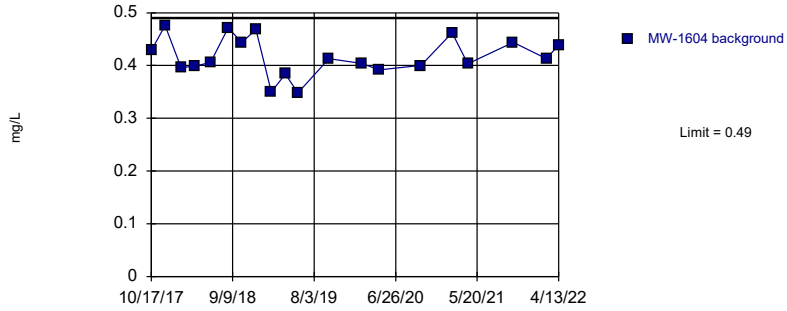
Prediction Limit

Intrawell Parametric, MW-1604

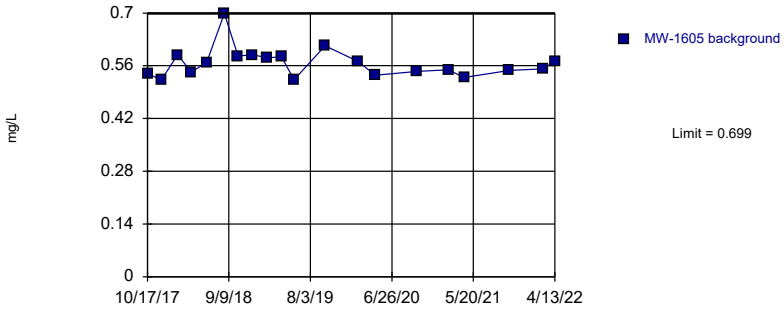


Background Data Summary: Mean=0.417, Std. Dev.=0.03672, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9485, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Boron total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

Prediction Limit

Intrawell Non-parametric, MW-1605



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 20 background values. Well-constituent pair annual alpha = 0.008564. Individual comparison alpha = 0.004291 (1 of 2). Assumes 1 future value.

Constituent: Boron total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

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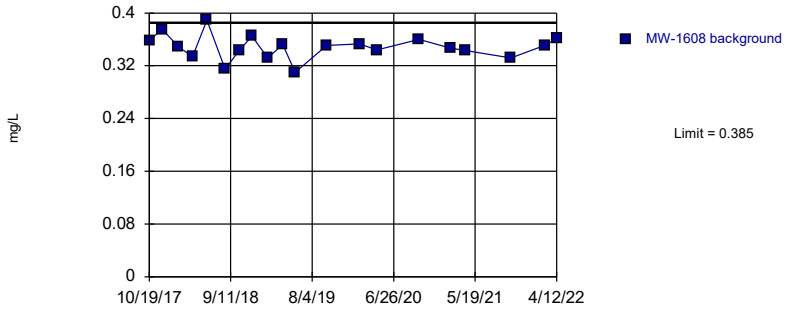
Prediction Limit

Intrawell Parametric, MW-1608 (bg)



Background Data Summary: Mean=0.3483, Std. Dev.=0.01848, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9707, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Boron total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

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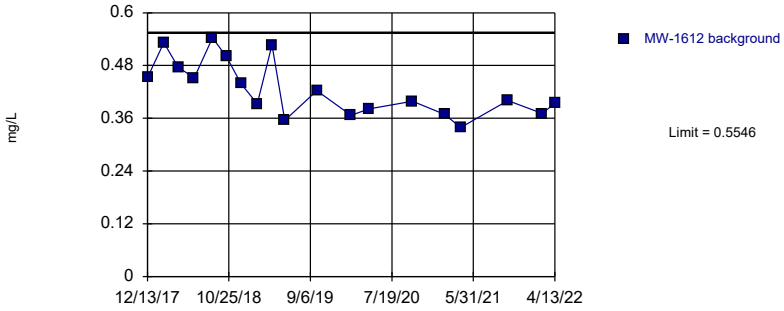
Prediction Limit

Intrawell Parametric, MW-1612



Background Data Summary: Mean=0.427, Std. Dev.=0.0635, n=19. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9215, critical = 0.901. Kappa = 2.01 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Boron total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

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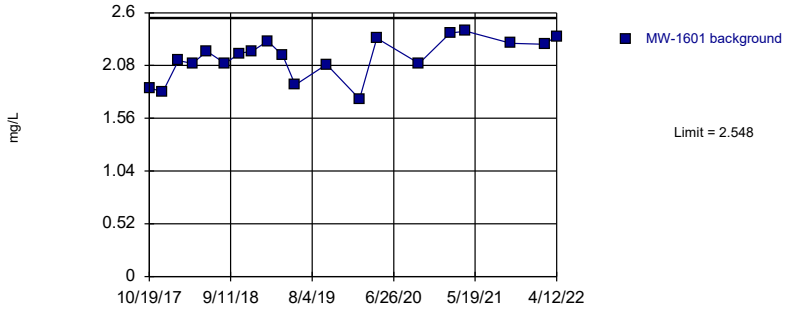
Prediction Limit

Intrawell Parametric, MW-1601 (bg)

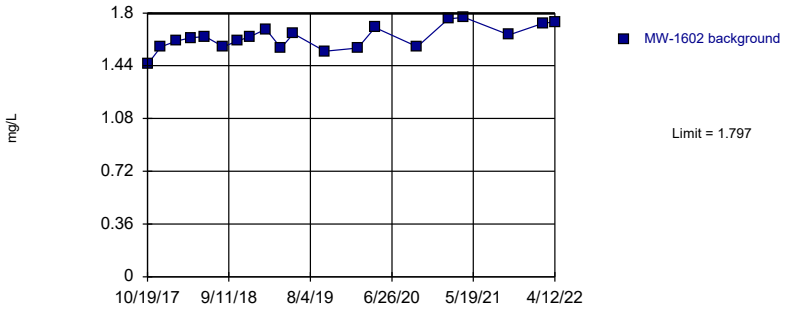


Background Data Summary: Mean=2.156, Std. Dev.=0.1973, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9259, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Fluoride total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1602 (bg)

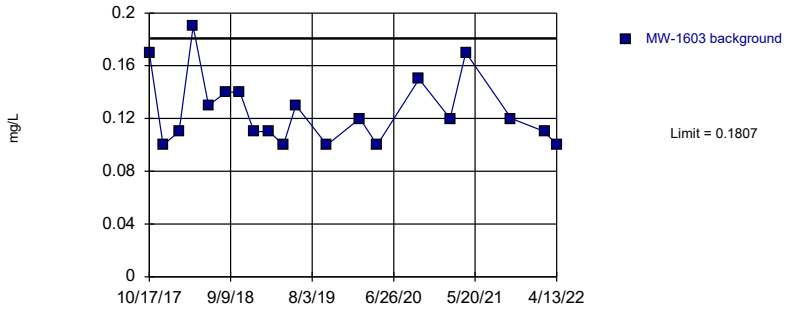


Background Data Summary: Mean=1.633, Std. Dev.=0.08284, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9668, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Fluoride total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1603

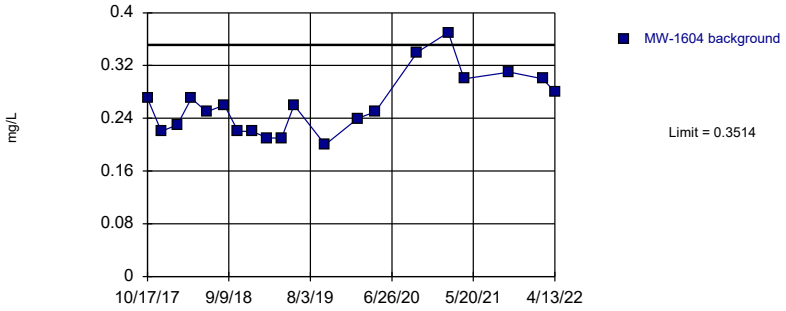


Background Data Summary (based on square root transformation): Mean=0.3532, Std. Dev.=0.03613, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8831, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Fluoride total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1604

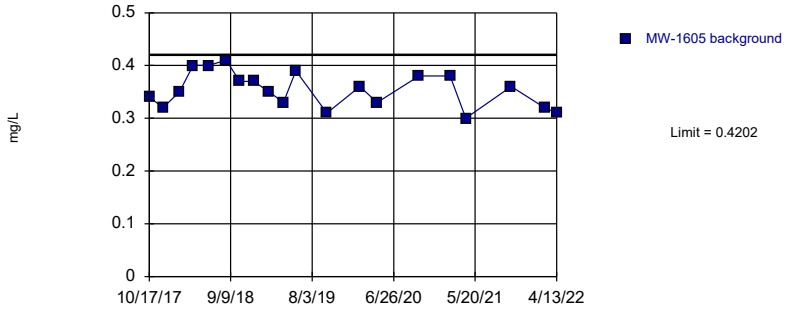


Background Data Summary: Mean=0.2605, Std. Dev.=0.04571, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9363, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Fluoride total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1605

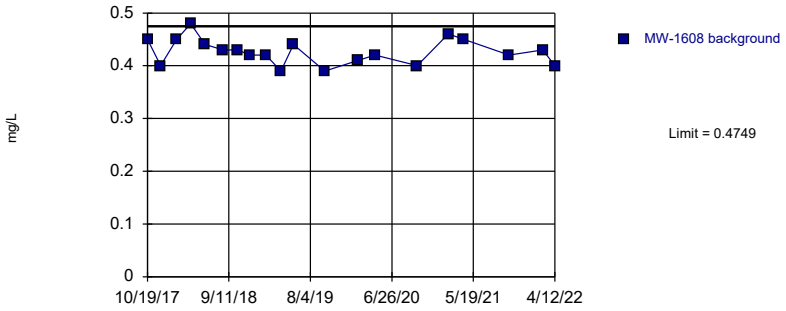


Background Data Summary: Mean=0.354, Std. Dev.=0.03331, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9591, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Fluoride total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1608 (bg)



Background Data Summary: Mean=0.4265, Std. Dev.=0.02434, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9622, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Fluoride total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

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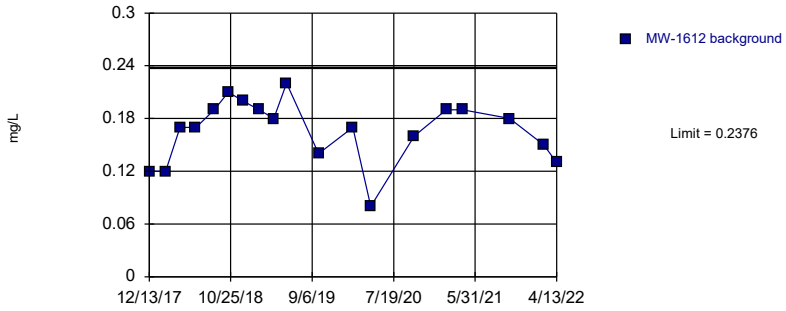
Prediction Limit

Intrawell Parametric, MW-1612



Background Data Summary: Mean=0.1663, Std. Dev.=0.03547, n=19. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9446, critical = 0.901. Kappa = 2.01 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Fluoride total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

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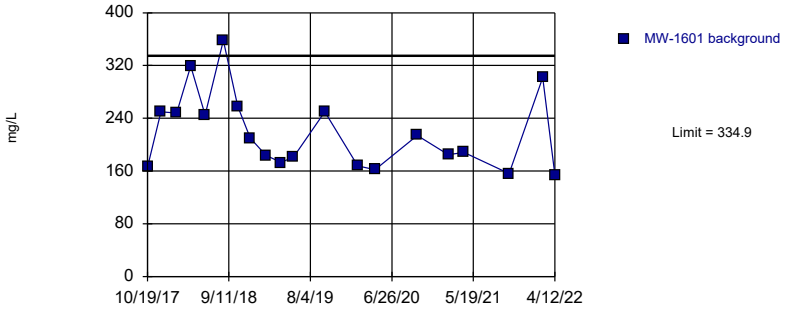
Prediction Limit

Intrawell Parametric, MW-1601 (bg)



Background Data Summary: Mean=218.6, Std. Dev.=58.5, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8914, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Sulfate total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

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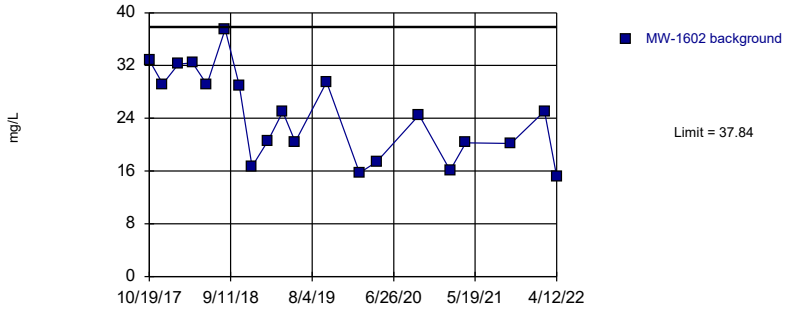
Prediction Limit

Intrawell Parametric, MW-1602 (bg)

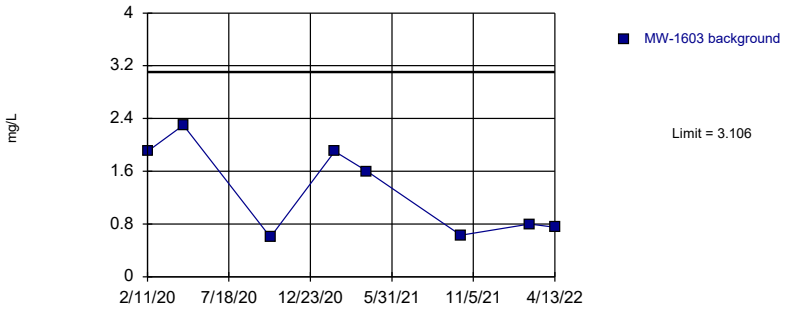


Background Data Summary: Mean=24.44, Std. Dev.=6.741, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9346, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Sulfate total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1603



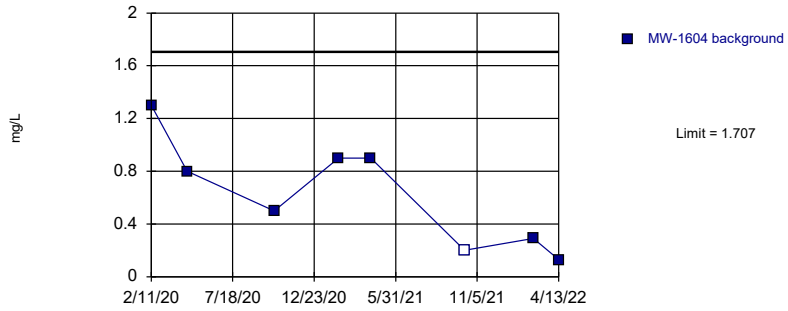
Background Data Summary: Mean=1.31, Std. Dev.=0.6867, n=8. Normality test: Shapiro Wilk @alpha = 0.1, calculated = 0.851, critical = 0.851. Kappa = 2.616 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Sulfate total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

Hollow symbols indicate censored values.

Prediction Limit

Intrawell Parametric, MW-1604



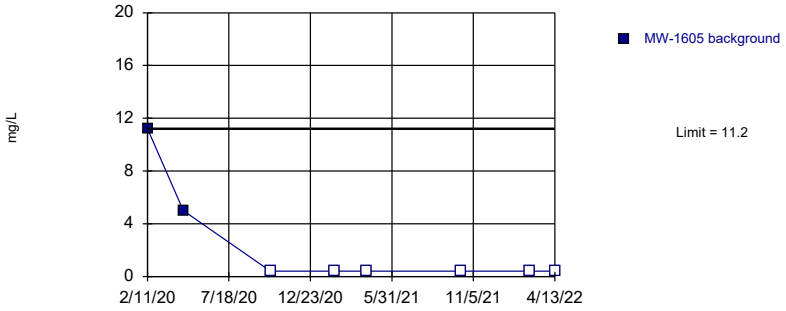
Background Data Summary: Mean=0.6275, Std. Dev.=0.4125, n=8, 12.5% NDs. Normality test: Shapiro Wilk @alpha = 0.1, calculated = 0.9305, critical = 0.851. Kappa = 2.616 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Sulfate total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-1605

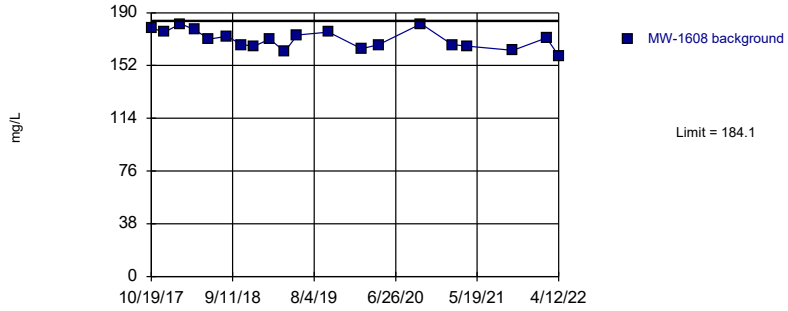


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 8 background values. 75% NDs. Well-constituent pair annual alpha = 0.04242. Individual comparison alpha = 0.02144 (1 of 2). Assumes 1 future value.

Constituent: Sulfate total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1608 (bg)



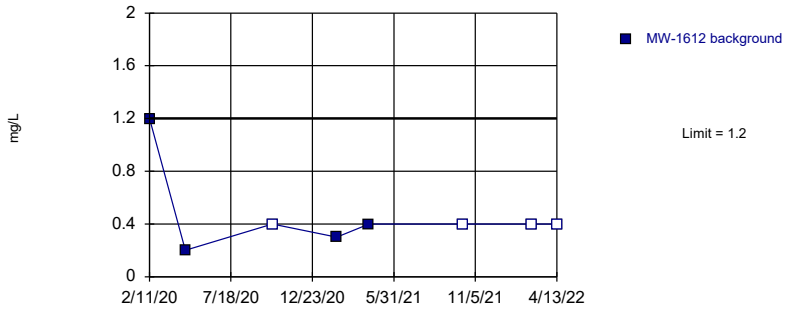
Background Data Summary: Mean=170.8, Std. Dev.=6.703, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9648, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Sulfate total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-1612

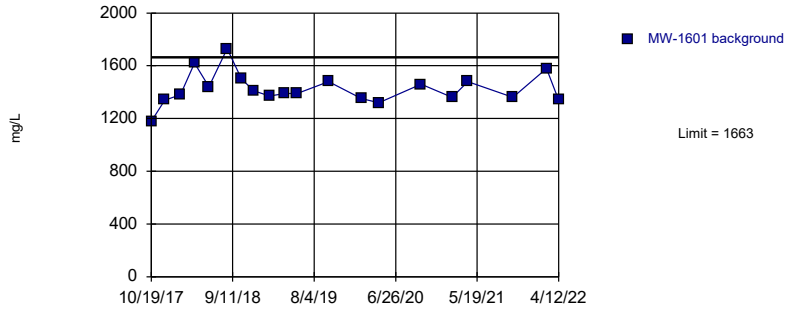


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.1 alpha level. Limit is highest of 8 background values. 50% NDs. Well-constituent pair annual alpha = 0.04242. Individual comparison alpha = 0.02144 (1 of 2). Assumes 1 future value.

Constituent: Sulfate total Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 Intrawell Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1601 (bg)

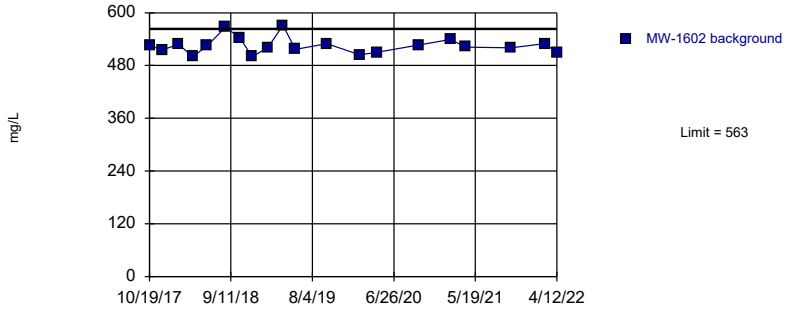


Background Data Summary: Mean=1424, Std. Dev.=120.4, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9291, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Total Dissolved Solids Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 In Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1602 (bg)

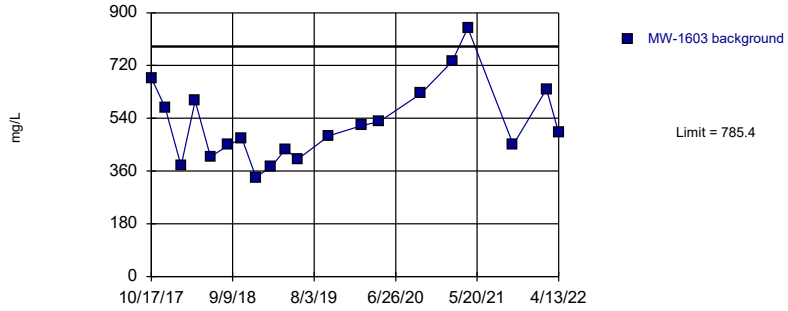


Background Data Summary: Mean=525.3, Std. Dev.=18.97, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9015, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Total Dissolved Solids Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 In Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1603

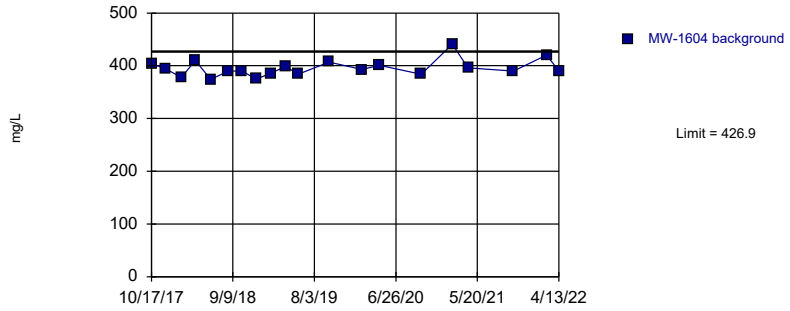


Background Data Summary: Mean=520.9, Std. Dev.=133.1, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9401, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Total Dissolved Solids Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 In Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1604



Background Data Summary: Mean=395.4, Std. Dev.=15.89, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9115, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Total Dissolved Solids Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 In Clinch River Data: Clinch River

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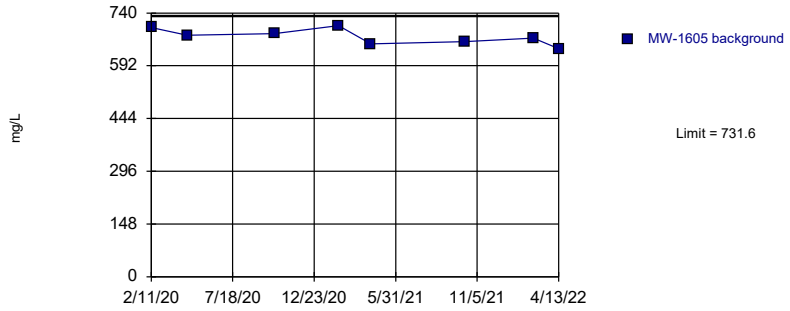
Prediction Limit

Intrawell Parametric, MW-1605



Background Data Summary: Mean=673.4, Std. Dev.=22.27, n=8. Normality test: Shapiro Wilk @alpha = 0.1, calculated = 0.9748, critical = 0.851. Kappa = 2.616 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Total Dissolved Solids Analysis Run 2/7/2024 11:27 AM View: Chattanooga Shale - Pond 1 In Clinch River Data: Clinch River

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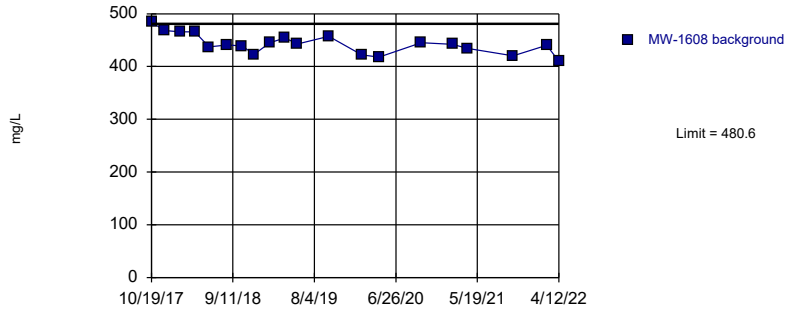
Prediction Limit

Intrawell Parametric, MW-1608 (bg)



Background Data Summary: Mean=442.7, Std. Dev.=19.08, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9681, critical = 0.868. Kappa = 1.988 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Total Dissolved Solids Analysis Run 2/7/2024 11:28 AM View: Chattanooga Shale - Pond 1 In Clinch River Data: Clinch River

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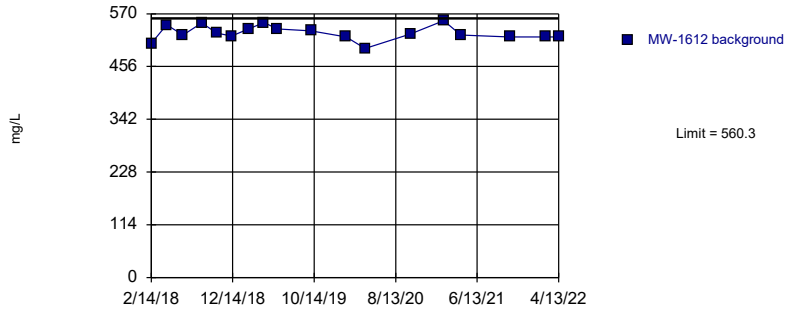
Prediction Limit

Intrawell Parametric, MW-1612



Background Data Summary: Mean=528.6, Std. Dev.=15.62, n=18. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9497, critical = 0.897. Kappa = 2.032 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.00188. Assumes 1 future value.

Constituent: Total Dissolved Solids Analysis Run 2/7/2024 11:28 AM View: Chattanooga Shale - Pond 1 In Clinch River Data: Clinch River

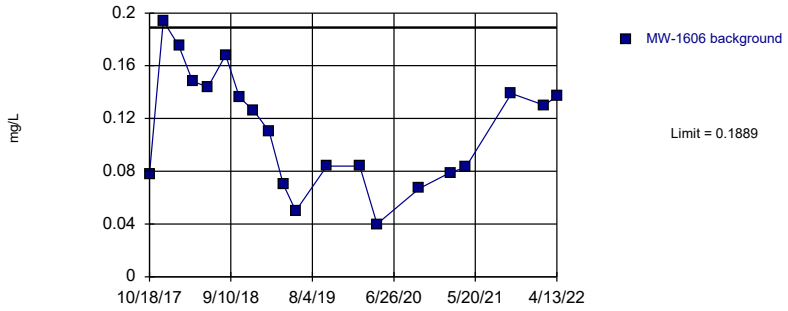
Intrawell Prediction Limits - Rome Limestone - All Results

Clinch River Data: Clinch River Printed 2/7/2024, 3:39 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron total (mg/L)	MW-1606	0.1889	n/a	n/a	1 future	n/a	20	0.1121	0.04357	0	None	No	0.003756	Param Intra 1 of 2
Boron total (mg/L)	MW-1607	0.212	n/a	n/a	1 future	n/a	20	n/a	n/a	0	n/a	n/a	0.004291	NP Intra (normality) 1 of 2
Boron total (mg/L)	MW-1609	0.117	n/a	n/a	1 future	n/a	20	n/a	n/a	55	n/a	n/a	0.004291	NP Intra (NDs) 1 of 2
Calcium total (mg/L)	MW-1606	64.04	n/a	n/a	1 future	n/a	20	56.93	4.034	0	None	No	0.003756	Param Intra 1 of 2
Calcium total (mg/L)	MW-1607	52.2	n/a	n/a	1 future	n/a	20	46.65	3.148	0	None	No	0.003756	Param Intra 1 of 2
Calcium total (mg/L)	MW-1609	78.27	n/a	n/a	1 future	n/a	20	69.07	5.222	0	None	No	0.003756	Param Intra 1 of 2
Fluoride total (mg/L)	MW-1606	0.2713	n/a	n/a	1 future	n/a	20	0.204	0.03817	0	None	No	0.003756	Param Intra 1 of 2
Fluoride total (mg/L)	MW-1607	0.2683	n/a	n/a	1 future	n/a	20	0.225	0.0246	0	None	No	0.003756	Param Intra 1 of 2
Fluoride total (mg/L)	MW-1609	0.3178	n/a	n/a	1 future	n/a	20	0.255	0.03561	0	None	No	0.003756	Param Intra 1 of 2
pH [field] (std.units)	MW-1606	7.422	6.745	n/a	1 future	n/a	20	7.084	0.1923	0	None	No	0.001878	Param Intra 1 of 2
pH [field] (std.units)	MW-1607	8.303	7.231	n/a	1 future	n/a	20	60.61	4.727	0	None	x^2	0.001878	Param Intra 1 of 2
pH [field] (std.units)	MW-1609	7.91	6.76	n/a	1 future	n/a	20	54.14	4.788	0	None	x^2	0.001878	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-1606	376.7	n/a	n/a	1 future	n/a	20	337.3	22.4	0	None	No	0.003756	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-1607	312.9	n/a	n/a	1 future	n/a	18	286.3	14.78	0	None	No	0.003756	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-1609	337.8	n/a	n/a	1 future	n/a	20	294.5	24.57	0	None	No	0.003756	Param Intra 1 of 2

Prediction Limit

Intrawell Parametric, MW-1606

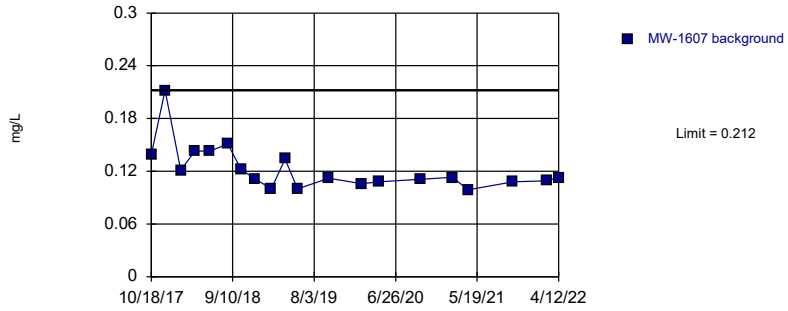


Background Data Summary: Mean=0.1121, Std. Dev.=0.04357, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9557, critical = 0.868. Kappa = 1.762 (c=7, w=2, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756. Assumes 1 future value.

Constituent: Boron total Analysis Run 2/7/2024 3:38 PM View: Rome Limestone - Pond 1 Intrawell Clinch River Data: Clinch River

Prediction Limit

Intrawell Non-parametric, MW-1607



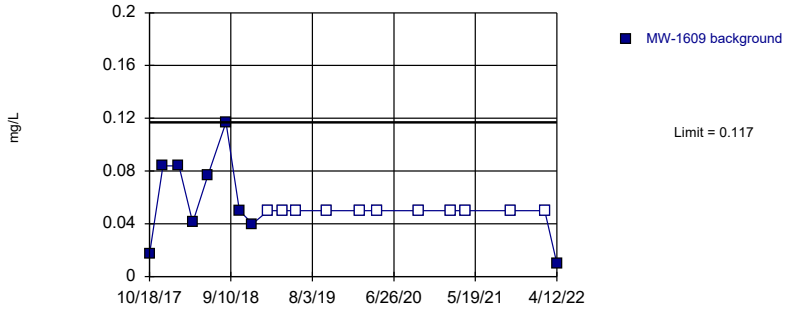
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 20 background values. Well-constituent pair annual alpha = 0.008564. Individual comparison alpha = 0.004291 (1 of 2). Assumes 1 future value.

Constituent: Boron total Analysis Run 2/7/2024 3:38 PM View: Rome Limestone - Pond 1 Intrawell Clinch River Data: Clinch River

Hollow symbols indicate censored values.

Prediction Limit

Intrawell Non-parametric, MW-1609 (bg)

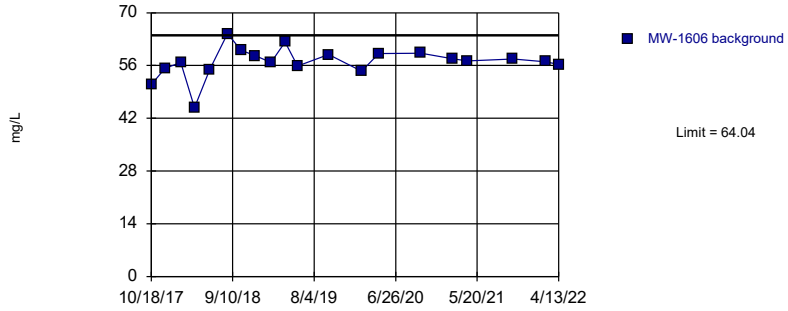


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 20 background values. 55% NDs. Well-constituent pair annual alpha = 0.008564. Individual comparison alpha = 0.004291 (1 of 2). Assumes 1 future value.

Constituent: Boron total Analysis Run 2/7/2024 3:38 PM View: Rome Limestone - Pond 1 Intrawell Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1606

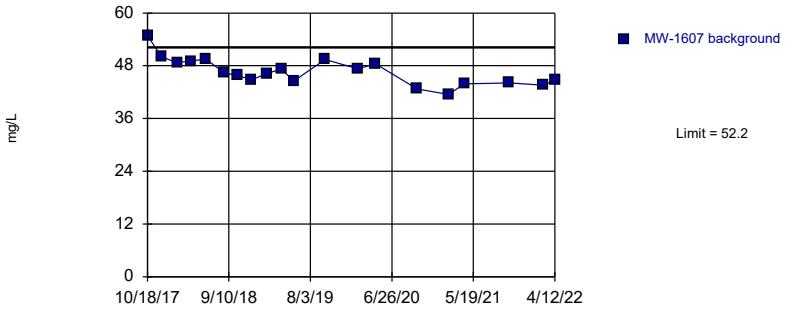


Background Data Summary: Mean=56.93, Std. Dev.=4.034, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8932, critical = 0.868. Kappa = 1.762 (c=7, w=2, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756. Assumes 1 future value.

Constituent: Calcium total Analysis Run 2/7/2024 3:38 PM View: Rome Limestone - Pond 1 Intrawell Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1607



Background Data Summary: Mean=46.65, Std. Dev.=3.148, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9547, critical = 0.868. Kappa = 1.762 (c=7, w=2, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756. Assumes 1 future value.

Constituent: Calcium total Analysis Run 2/7/2024 3:38 PM View: Rome Limestone - Pond 1 Intrawell Clinch River Data: Clinch River

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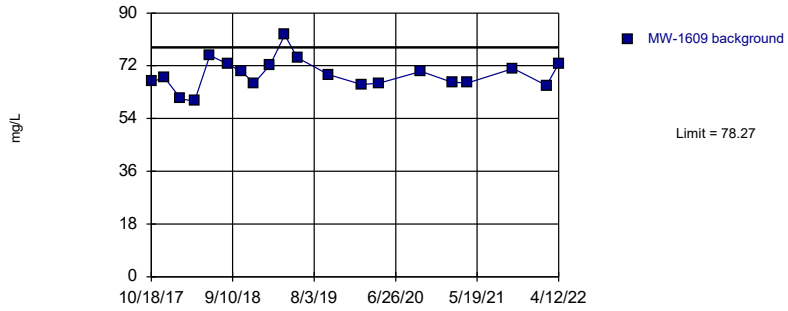
Prediction Limit

Intrawell Parametric, MW-1609 (bg)



Background Data Summary: Mean=69.07, Std. Dev.=5.222, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9534, critical = 0.868. Kappa = 1.762 (c=7, w=2, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756. Assumes 1 future value.

Constituent: Calcium total Analysis Run 2/7/2024 3:38 PM View: Rome Limestone - Pond 1 Intrawell Clinch River Data: Clinch River

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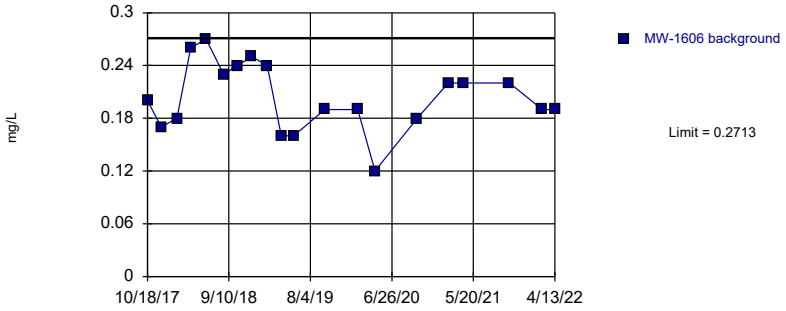
Prediction Limit

Intrawell Parametric, MW-1606



Background Data Summary: Mean=0.204, Std. Dev.=0.03817, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9736, critical = 0.868. Kappa = 1.762 (c=7, w=2, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756. Assumes 1 future value.

Constituent: Fluoride total Analysis Run 2/7/2024 3:38 PM View: Rome Limestone - Pond 1 Intrawell Clinch River Data: Clinch River

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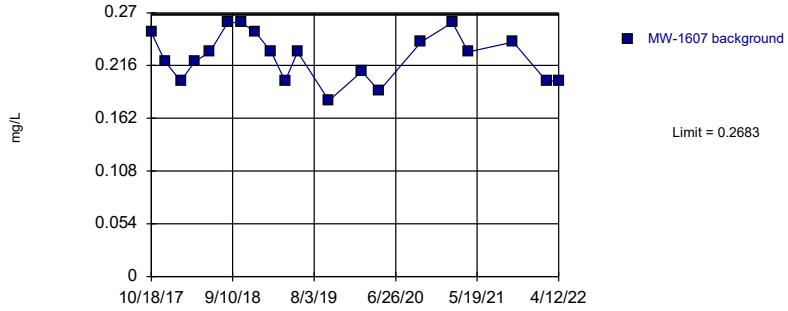
Prediction Limit

Intrawell Parametric, MW-1607

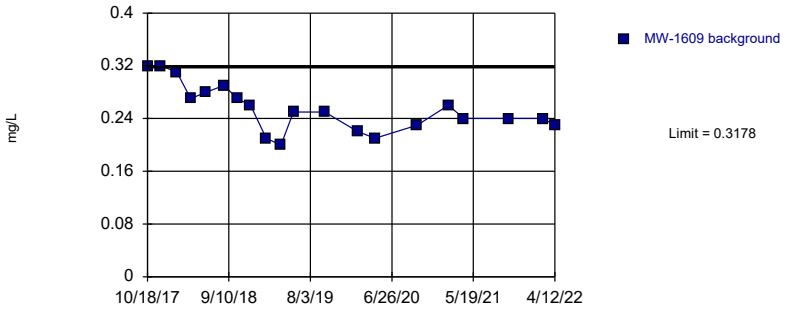


Background Data Summary: Mean=0.225, Std. Dev.=0.0246, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9424, critical = 0.868. Kappa = 1.762 (c=7, w=2, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756. Assumes 1 future value.

Constituent: Fluoride total Analysis Run 2/7/2024 3:38 PM View: Rome Limestone - Pond 1 Intrawell Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1609 (bg)

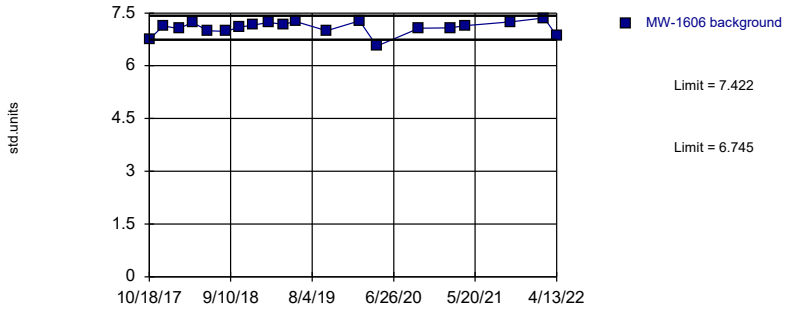


Background Data Summary: Mean=0.255, Std. Dev.=0.03561, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9517, critical = 0.868. Kappa = 1.762 (c=7, w=2, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756. Assumes 1 future value.

Constituent: Fluoride total Analysis Run 2/7/2024 3:38 PM View: Rome Limestone - Pond 1 Intrawell Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1606

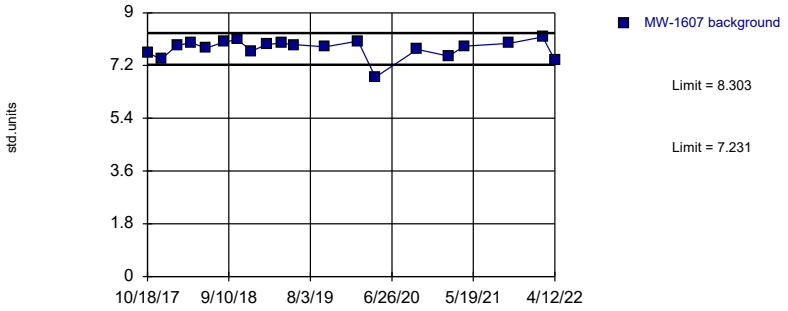


Background Data Summary: Mean=7.084, Std. Dev.=0.1923, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9136, critical = 0.868. Kappa = 1.762 (c=7, w=2, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756. Assumes 1 future value.

Constituent: pH [field] Analysis Run 2/7/2024 3:38 PM View: Rome Limestone - Pond 1 Intrawell Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1607

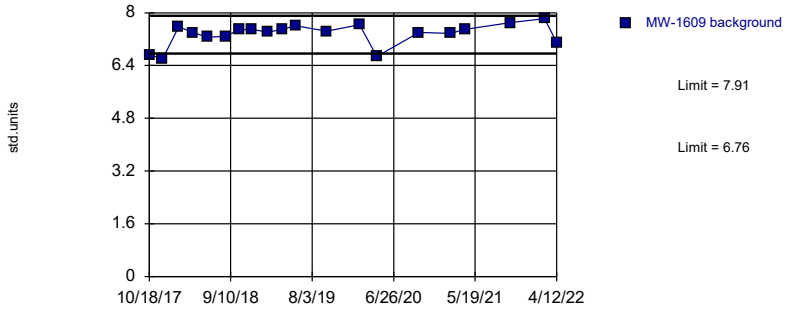


Background Data Summary (based on square transformation): Mean=60.61, Std. Dev.=4.727, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8706, critical = 0.868. Kappa = 1.762 (c=7, w=2, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756. Assumes 1 future value.

Constituent: pH [field] Analysis Run 2/7/2024 3:38 PM View: Rome Limestone - Pond 1 Intrawell Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1609 (bg)

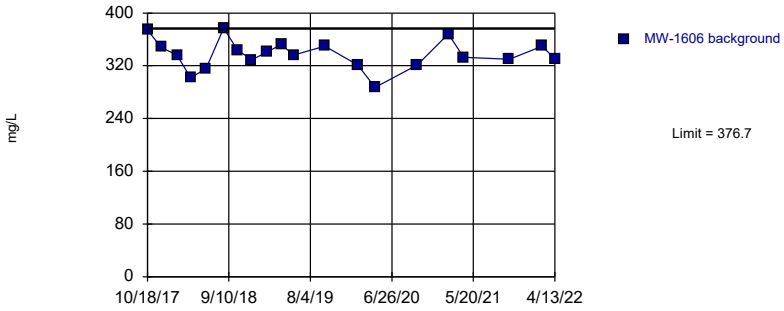


Background Data Summary (based on square transformation): Mean=54.14, Std. Dev.=4.788, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8726, critical = 0.868. Kappa = 1.762 (c=7, w=2, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756. Assumes 1 future value.

Constituent: pH [field] Analysis Run 2/7/2024 3:38 PM View: Rome Limestone - Pond 1 Intrawell Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1606

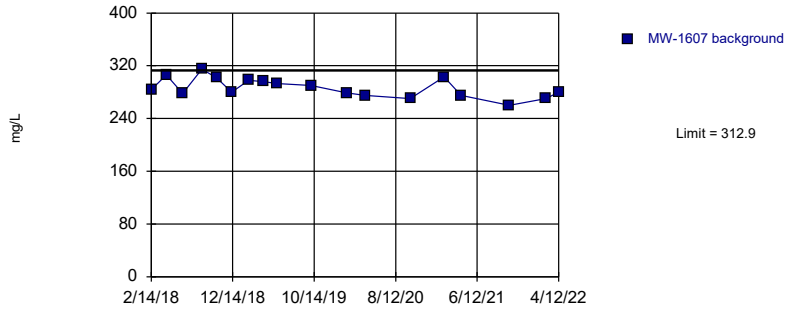


Background Data Summary: Mean=337.3, Std. Dev.=22.4, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.974, critical = 0.868. Kappa = 1.762 (c=7, w=2, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756. Assumes 1 future value.

Constituent: Total Dissolved Solids Analysis Run 2/7/2024 3:38 PM View: Rome Limestone - Pond 1 Intra
Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1607

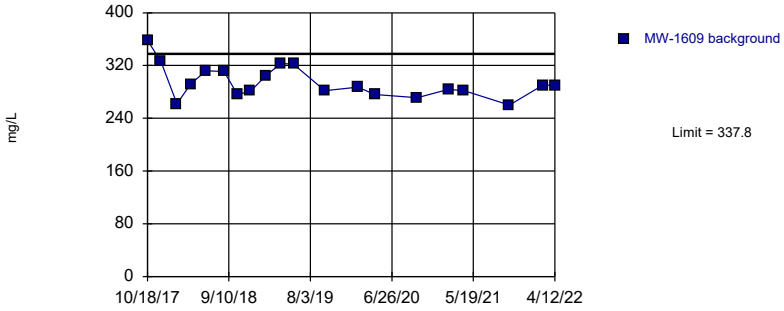


Background Data Summary: Mean=286.3, Std. Dev.=14.78, n=18. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.9705, critical = 0.897. Kappa = 1.796 (c=7, w=2, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756. Assumes 1 future value.

Constituent: Total Dissolved Solids Analysis Run 2/7/2024 3:39 PM View: Rome Limestone - Pond 1 Intra
Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1609 (bg)



Background Data Summary: Mean=294.5, Std. Dev.=24.57, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9297, critical = 0.868. Kappa = 1.762 (c=7, w=2, 1 of 2, event alpha = 0.05132). Report alpha = 0.003756. Assumes 1 future value.

Constituent: Total Dissolved Solids Analysis Run 2/7/2024 3:39 PM View: Rome Limestone - Pond 1 Intra
Clinch River Data: Clinch River

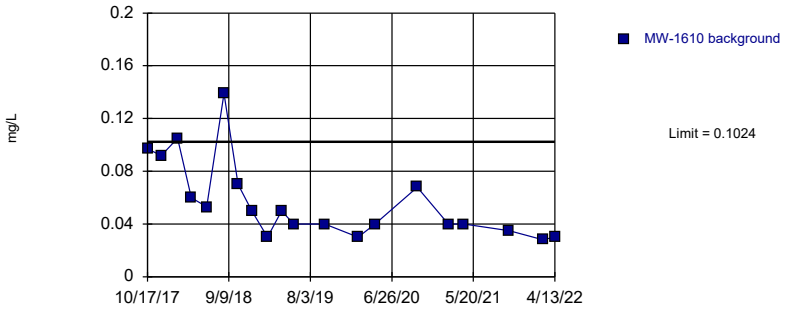
Intrawell Prediction Limits - Dumps Fault - All Results

Clinch River Data: Clinch River Printed 2/8/2024, 2:06 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron total (mg/L)	MW-1610	0.1024	n/a	n/a	1 future	n/a	20	0.2317	0.05785	0	None	sqrt(x)	0.007498	Param Intra 1 of 2
Boron total (mg/L)	MW-1611	0.6889	n/a	n/a	1 future	n/a	20	0.5876	0.06643	0	None	No	0.007498	Param Intra 1 of 2
Calcium total (mg/L)	MW-1610	39.47	n/a	n/a	1 future	n/a	20	42064	12738	0	None	x^3	0.007498	Param Intra 1 of 2
Calcium total (mg/L)	MW-1611	27.47	n/a	n/a	1 future	n/a	8	22.89	2.436	0	None	No	0.007498	Param Intra 1 of 2
Chloride total (mg/L)	MW-1610	12.21	n/a	n/a	1 future	n/a	20	10.81	0.9226	0	None	No	0.007498	Param Intra 1 of 2
Chloride total (mg/L)	MW-1611	18.31	n/a	n/a	1 future	n/a	8	15.11	1.702	0	None	No	0.007498	Param Intra 1 of 2
Fluoride total (mg/L)	MW-1610	0.35	n/a	n/a	1 future	n/a	20	n/a	n/a	0	n/a	n/a	0.004291	NP Intra (normality) 1 of 2
Fluoride total (mg/L)	MW-1611	1.217	n/a	n/a	1 future	n/a	20	0.9485	0.1762	0	None	No	0.007498	Param Intra 1 of 2
pH [field] (std.units)	MW-1610	8.095	7.105	n/a	1 future	n/a	20	7.6	0.3241	0	None	No	0.003749	Param Intra 1 of 2
pH [field] (std.units)	MW-1611	8.153	7.343	n/a	1 future	n/a	20	7.748	0.2652	0	None	No	0.003749	Param Intra 1 of 2
Sulfate total (mg/L)	MW-1610	52.8	n/a	n/a	1 future	n/a	20	1651	745	0	None	x^2	0.007498	Param Intra 1 of 2
Sulfate total (mg/L)	MW-1611	150.8	n/a	n/a	1 future	n/a	8	81.64	36.81	0	None	No	0.007498	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-1610	267.9	n/a	n/a	1 future	n/a	20	246.1	14.32	0	None	No	0.007498	Param Intra 1 of 2
Total Dissolved Solids (mg/L)	MW-1611	713	n/a	n/a	1 future	n/a	8	600	60.12	0	None	No	0.007498	Param Intra 1 of 2

Prediction Limit

Intrawell Parametric, MW-1610

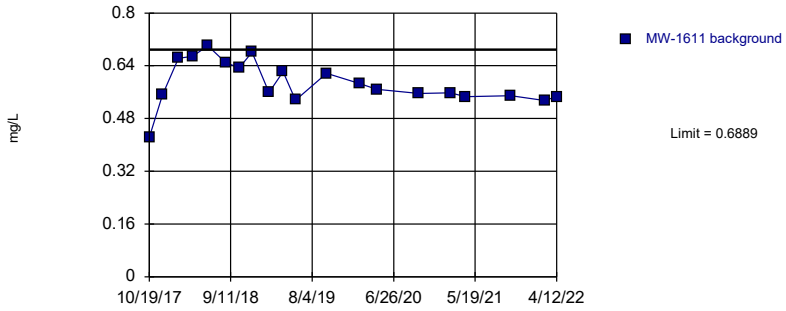


Background Data Summary (based on square root transformation): Mean=0.2317, Std. Dev.=0.05785, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.887, critical = 0.868. Kappa = 1.526 (c=7, w=1, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Assumes 1 future value.

Constituent: Boron total Analysis Run 2/8/2024 2:03 PM View: Dumps Fault - Pond 1 PLs
Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1611 (bg)

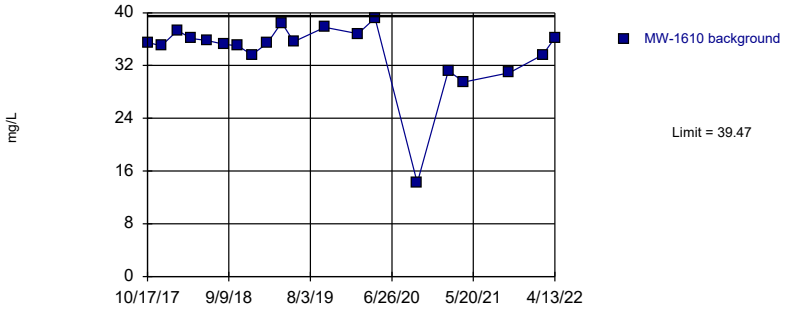


Background Data Summary: Mean=0.5876, Std. Dev.=0.06643, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9265, critical = 0.868. Kappa = 1.526 (c=7, w=1, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Assumes 1 future value.

Constituent: Boron total Analysis Run 2/8/2024 2:03 PM View: Dumps Fault - Pond 1 PLs
Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1610

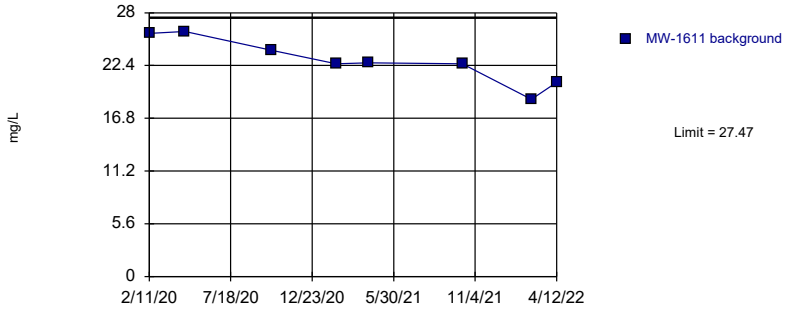


Background Data Summary (based on cube transformation): Mean=42064, Std. Dev.=12738, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8769, critical = 0.868. Kappa = 1.526 (c=7, w=1, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Assumes 1 future value.

Constituent: Calcium total Analysis Run 2/8/2024 2:03 PM View: Dumps Fault - Pond 1 PLs
Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1611 (bg)

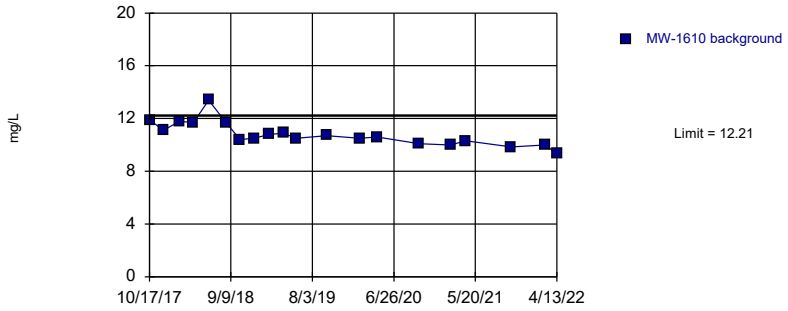


Background Data Summary: Mean=22.89, Std. Dev.=2.436, n=8. Normality test: Shapiro Wilk @alpha = 0.1, calculated = 0.9409, critical = 0.851. Kappa = 1.88 (c=7, w=1, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Assumes 1 future value.

Constituent: Calcium total Analysis Run 2/8/2024 2:03 PM View: Dumps Fault - Pond 1 PLs
Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1610

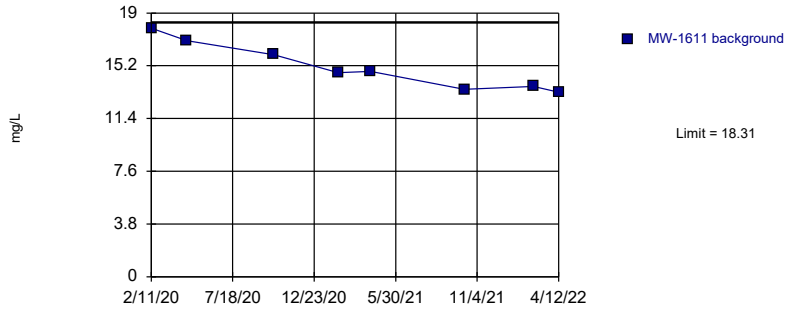


Background Data Summary: Mean=10.81, Std. Dev.=0.9226, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9148, critical = 0.868. Kappa = 1.526 (c=7, w=1, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Assumes 1 future value.

Constituent: Chloride total Analysis Run 2/8/2024 2:03 PM View: Dumps Fault - Pond 1 PLs
Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1611 (bg)

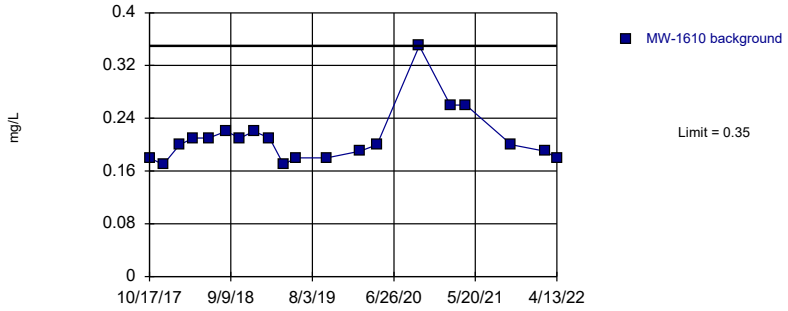


Background Data Summary: Mean=15.11, Std. Dev.=1.702, n=8. Normality test: Shapiro Wilk @alpha = 0.1, calculated = 0.9113, critical = 0.851. Kappa = 1.88 (c=7, w=1, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Assumes 1 future value.

Constituent: Chloride total Analysis Run 2/8/2024 2:03 PM View: Dumps Fault - Pond 1 PLs
Clinch River Data: Clinch River

Prediction Limit

Intrawell Non-parametric, MW-1610

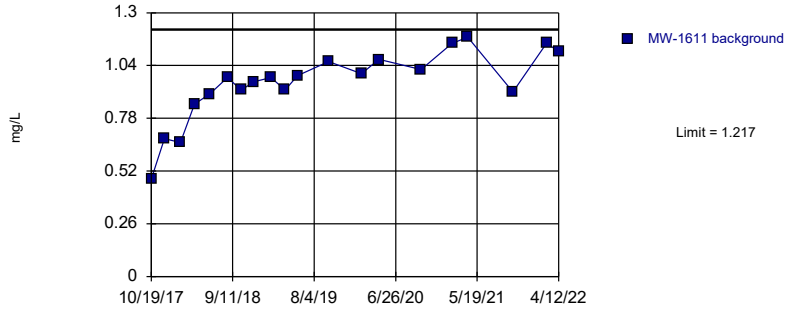


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 20 background values. Well-constituent pair annual alpha = 0.008564. Individual comparison alpha = 0.004291 (1 of 2). Assumes 1 future value.

Constituent: Fluoride total Analysis Run 2/8/2024 2:03 PM View: Dumps Fault - Pond 1 PLs
Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1611 (bg)

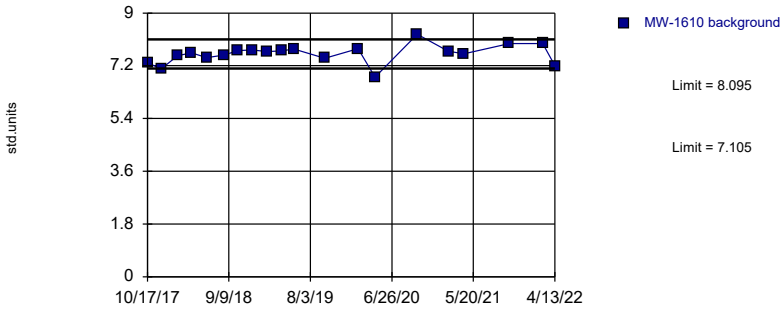


Background Data Summary: Mean=0.9485, Std. Dev.=0.1762, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9019, critical = 0.868. Kappa = 1.526 (c=7, w=1, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Assumes 1 future value.

Constituent: Fluoride total Analysis Run 2/8/2024 2:03 PM View: Dumps Fault - Pond 1 PLs
Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1610

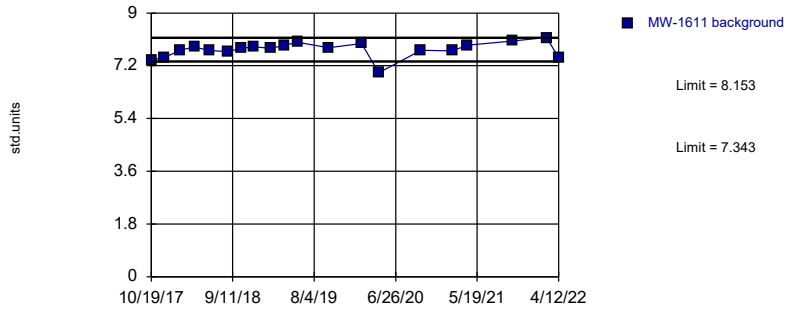


Background Data Summary: Mean=7.6, Std. Dev.=0.3241, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9565, critical = 0.868. Kappa = 1.526 (c=7, w=1, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Assumes 1 future value.

Constituent: pH [field] Analysis Run 2/8/2024 2:03 PM View: Dumps Fault - Pond 1 PLs
Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1611 (bg)

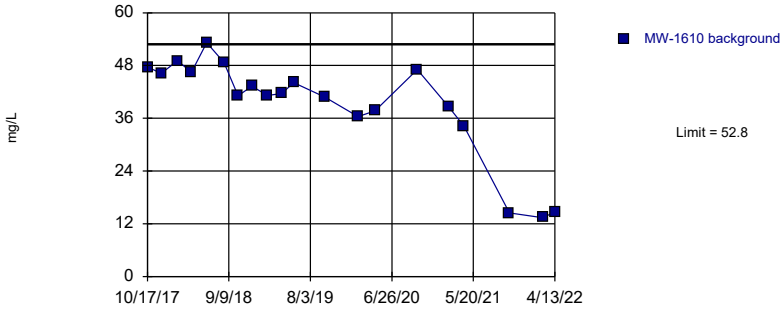


Background Data Summary: Mean=7.748, Std. Dev.=0.2652, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9008, critical = 0.868. Kappa = 1.526 (c=7, w=1, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Assumes 1 future value.

Constituent: pH [field] Analysis Run 2/8/2024 2:04 PM View: Dumps Fault - Pond 1 PLs
Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1610

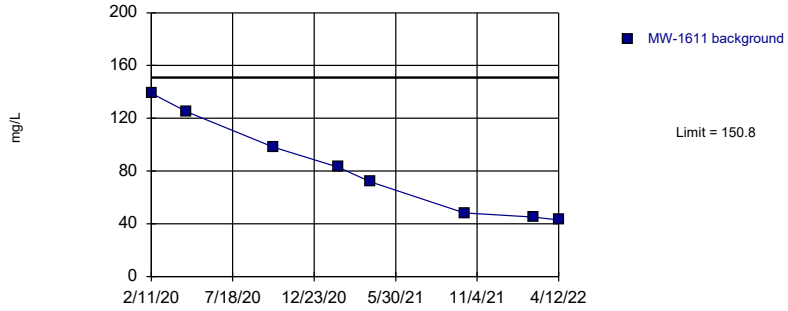


Background Data Summary (based on square transformation): Mean=1651, Std. Dev.=745, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.903, critical = 0.868. Kappa = 1.526 (c=7, w=1, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Assumes 1 future value.

Constituent: Sulfate total Analysis Run 2/8/2024 2:04 PM View: Dumps Fault - Pond 1 PLs
Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1611 (bg)

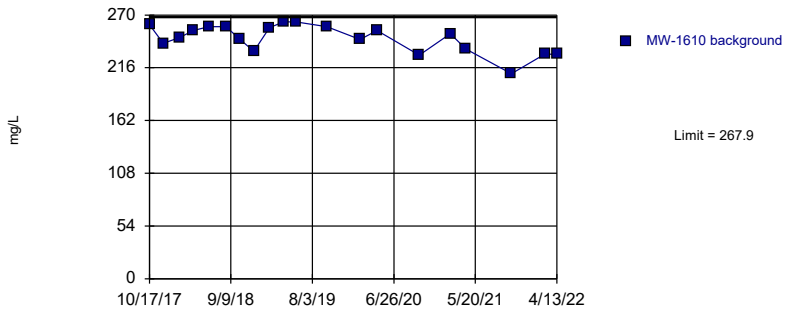


Background Data Summary: Mean=81.64, Std. Dev.=36.81, n=8. Normality test: Shapiro Wilk @alpha = 0.1, calculated = 0.9066, critical = 0.851. Kappa = 1.88 (c=7, w=1, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Assumes 1 future value.

Constituent: Sulfate total Analysis Run 2/8/2024 2:04 PM View: Dumps Fault - Pond 1 PLs
Clinch River Data: Clinch River

Prediction Limit

Intrawell Parametric, MW-1610



Background Data Summary: Mean=246.1, Std. Dev.=14.32, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9096, critical = 0.868. Kappa = 1.526 (c=7, w=1, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Assumes 1 future value.

Constituent: Total Dissolved Solids Analysis Run 2/8/2024 2:04 PM View: Dumps Fault - Pond 1 PLs
Clinch River Data: Clinch River

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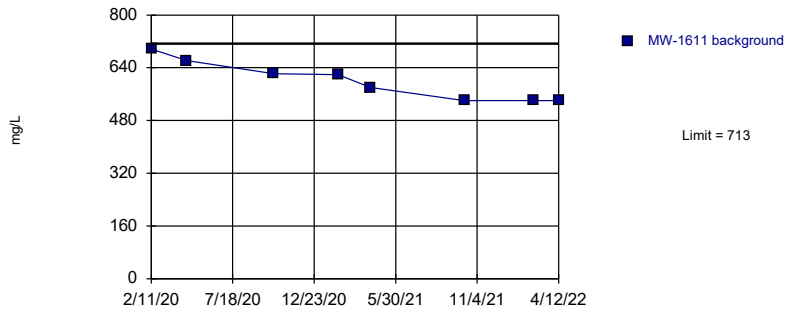
Prediction Limit

Intrawell Parametric, MW-1611 (bg)



Background Data Summary: Mean=600, Std. Dev.=60.12, n=8. Normality test: Shapiro Wilk @alpha = 0.1, calculated = 0.8906, critical = 0.851. Kappa = 1.88 (c=7, w=1, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Assumes 1 future value.

Constituent: Total Dissolved Solids Analysis Run 2/8/2024 2:04 PM View: Dumps Fault - Pond 1 PLs
Clinch River Data: Clinch River

FIGURE E.

Upgradient Trend Tests - Chattanooga Shale - Significant Results

Clinch River Data: Clinch River Printed 2/7/2024, 10:29 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Calcium total (mg/L)	**MW-1601 (bg)**	**-0.231**	**-114**	**-105**	**Yes**	**24**	**0**	**n/a**	**0.01**	**NP**
Calcium total (mg/L)	**MW-1608 (bg)**	**-0.1687**	**-171**	**-105**	**Yes**	**24**	**0**	**n/a**	**0.01**	**NP**
Chloride total (mg/L)	**MW-1601 (bg)**	**-1.895**	**-116**	**-92**	**Yes**	**22**	**0**	**n/a**	**0.01**	**NP**
Chloride total (mg/L)	**MW-1608 (bg)**	**-0.4792**	**-176**	**-105**	**Yes**	**24**	**0**	**n/a**	**0.01**	**NP**

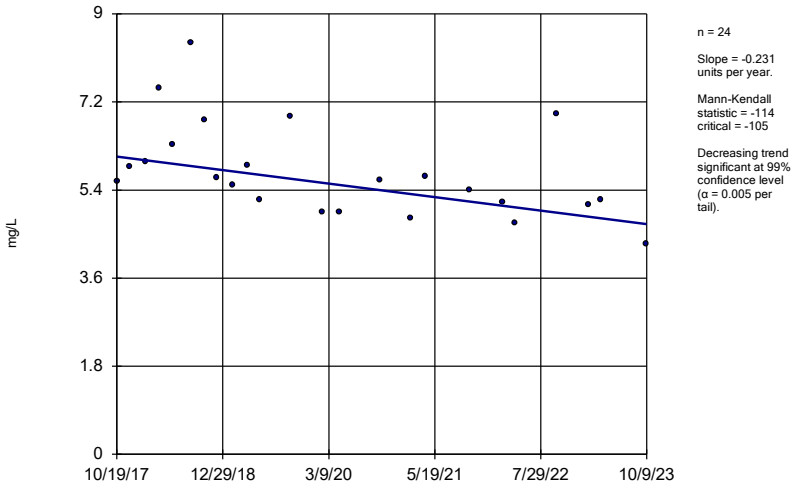
Upgradient Trend Tests - Chattanooga Shale - All Results

Clinch River Data: Clinch River Printed 2/7/2024, 10:29 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Calcium total (mg/L)	**MW-1601 (bg)**	**-0.231**	**-114**	**-105**	**Yes**	**24**	**0**	**n/a**	**0.01**	**NP**
Calcium total (mg/L)	MW-1602 (bg)	0.1367	95	105	No	24	0	n/a	0.01	NP
Calcium total (mg/L)	**MW-1608 (bg)**	**-0.1687**	**-171**	**-105**	**Yes**	**24**	**0**	**n/a**	**0.01**	**NP**
Chloride total (mg/L)	**MW-1601 (bg)**	**-1.895**	**-116**	**-92**	**Yes**	**22**	**0**	**n/a**	**0.01**	**NP**
Chloride total (mg/L)	MW-1602 (bg)	-0.09489	-41	-105	No	24	0	n/a	0.01	NP
Chloride total (mg/L)	**MW-1608 (bg)**	**-0.4792**	**-176**	**-105**	**Yes**	**24**	**0**	**n/a**	**0.01**	**NP**
pH [field] (std.units)	MW-1601 (bg)	-0.002678	-5	-105	No	24	0	n/a	0.01	NP
pH [field] (std.units)	MW-1602 (bg)	-0.04139	-74	-105	No	24	0	n/a	0.01	NP
pH [field] (std.units)	MW-1608 (bg)	-0.09016	-102	-105	No	24	0	n/a	0.01	NP

Sen's Slope Estimator

MW-1601 (bg)



n = 24

Slope = -0.231 units per year.

Mann-Kendall statistic = -114 critical = -105

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

Constituent: Calcium total Analysis Run 2/7/2024 10:28 AM View: Chattanooga Shale - Pond 1 Upgradient
Clinch River Data: Clinch River

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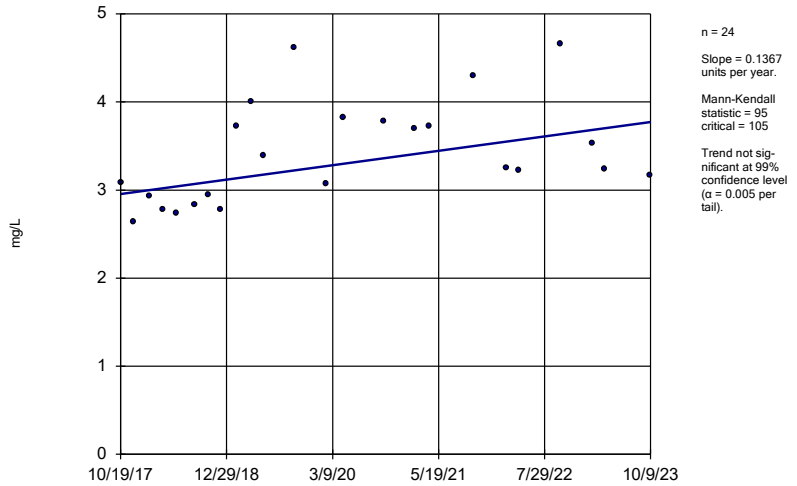
Sen's Slope Estimator

MW-1602 (bg)



n = 24

Slope = 0.1367 units per year.

Mann-Kendall statistic = 95 critical = 105

Trend not sig-nificant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium total Analysis Run 2/7/2024 10:28 AM View: Chattanooga Shale - Pond 1 Upgradient
Clinch River Data: Clinch River

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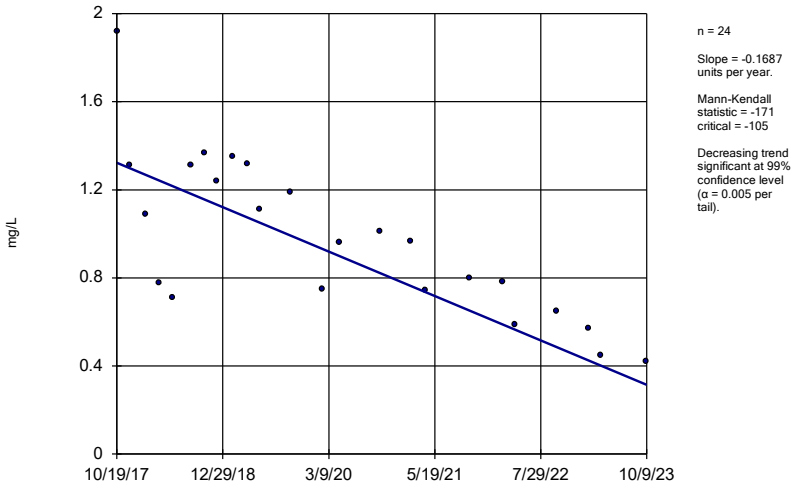
Sen's Slope Estimator

MW-1608 (bg)



n = 24

Slope = -0.1687 units per year.

Mann-Kendall statistic = -171 critical = -105

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

Constituent: Calcium total Analysis Run 2/7/2024 10:28 AM View: Chattanooga Shale - Pond 1 Upgradient
Clinch River Data: Clinch River

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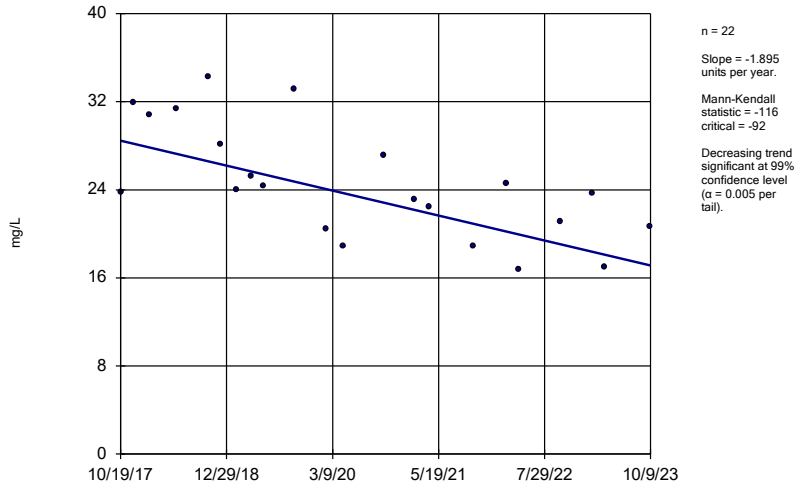
Sen's Slope Estimator

MW-1601 (bg)



n = 22

Slope = -1.895 units per year.

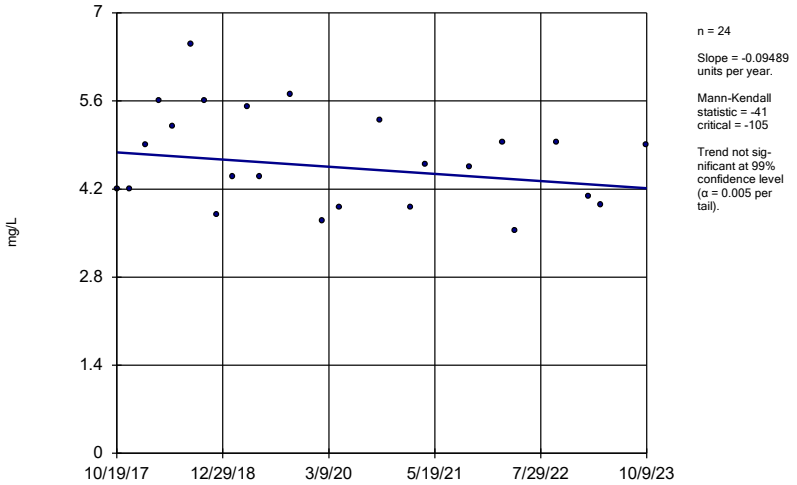
Mann-Kendall statistic = -116 critical = -92

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

Constituent: Chloride total Analysis Run 2/7/2024 10:28 AM View: Chattanooga Shale - Pond 1 Upgradien
Clinch River Data: Clinch River

Sen's Slope Estimator

MW-1602 (bg)



n = 24

Slope = -0.09489 units per year.

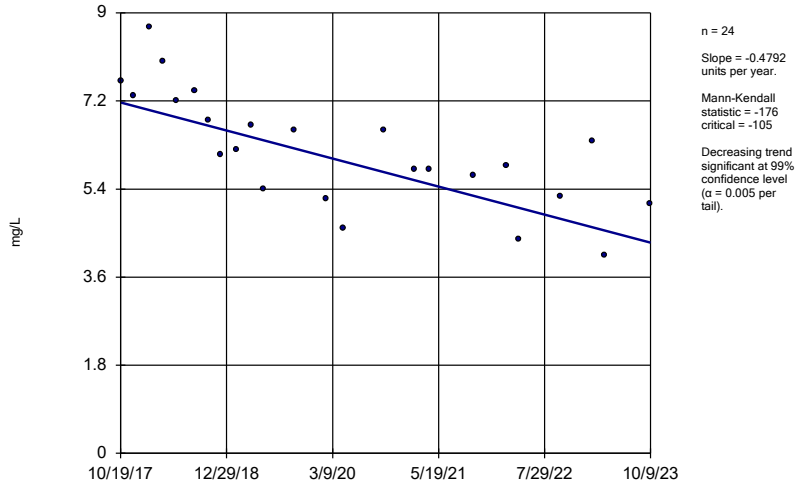
Mann-Kendall statistic = -41
critical = -105

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

Constituent: Chloride total Analysis Run 2/7/2024 10:28 AM View: Chattanooga Shale - Pond 1 Upgradien
Clinch River Data: Clinch River

Sen's Slope Estimator

MW-1608 (bg)



n = 24

Slope = -0.4792 units per year.

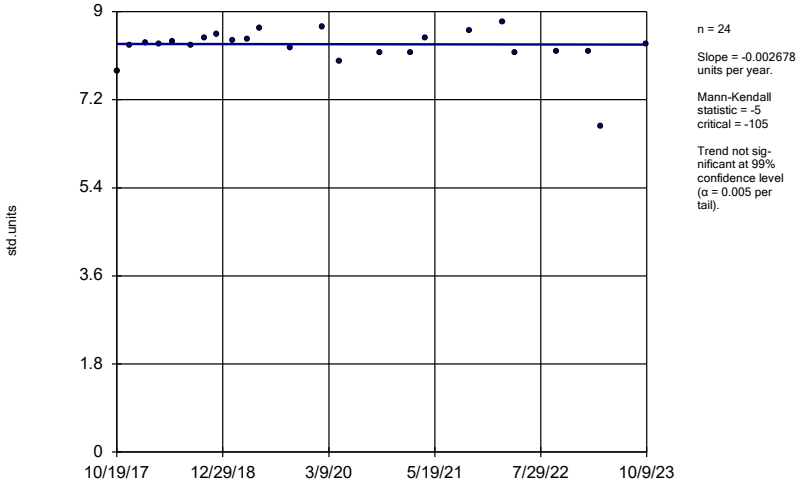
Mann-Kendall statistic = -176
critical = -105

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

Constituent: Chloride total Analysis Run 2/7/2024 10:28 AM View: Chattanooga Shale - Pond 1 Upgradien
Clinch River Data: Clinch River

Sen's Slope Estimator

MW-1601 (bg)



n = 24

Slope = -0.002678 units per year.

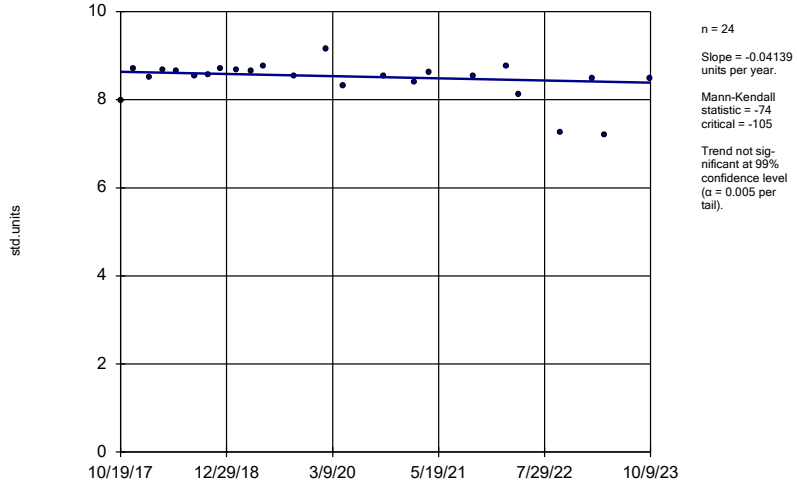
Mann-Kendall statistic = -5
critical = -105

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

Constituent: pH [field] Analysis Run 2/7/2024 10:28 AM View: Chattanooga Shale - Pond 1 Upgradient Tre
Clinch River Data: Clinch River

Sen's Slope Estimator

MW-1602 (bg)



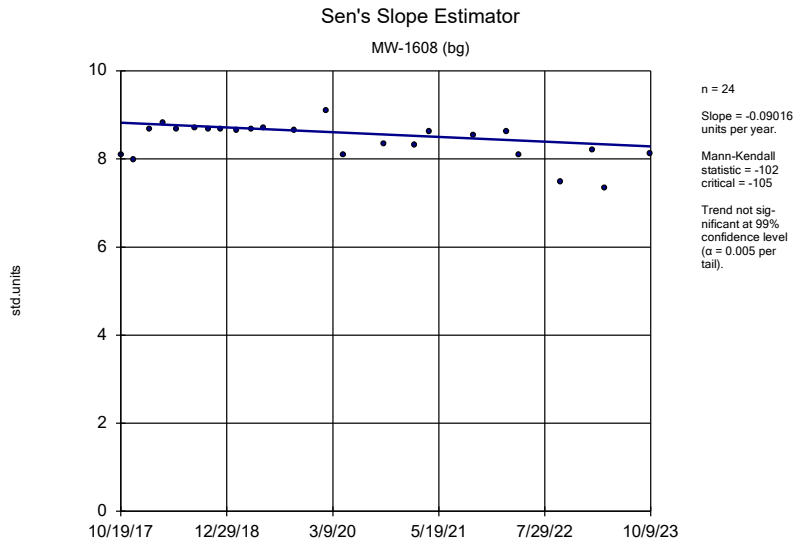
n = 24

Slope = -0.04139 units per year.

Mann-Kendall statistic = -74
critical = -105

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

Constituent: pH [field] Analysis Run 2/7/2024 10:28 AM View: Chattanooga Shale - Pond 1 Upgradient Tre
Clinch River Data: Clinch River



Constituent: pH [field] Analysis Run 2/7/2024 10:28 AM View: Chattanooga Shale - Pond 1 Upgradient Tre
Clinch River Data: Clinch River

Upgradient Trend Tests - Rome Limestone - Significant Results

Clinch River Data: Clinch River Printed 2/7/2024, 3:45 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Chloride total (mg/L)	**MW-1609 (bg)**	**-0.1602**	**-174**	**-105**	**Yes**	**24**	**0**	**n/a**	**0.01**	**NP**

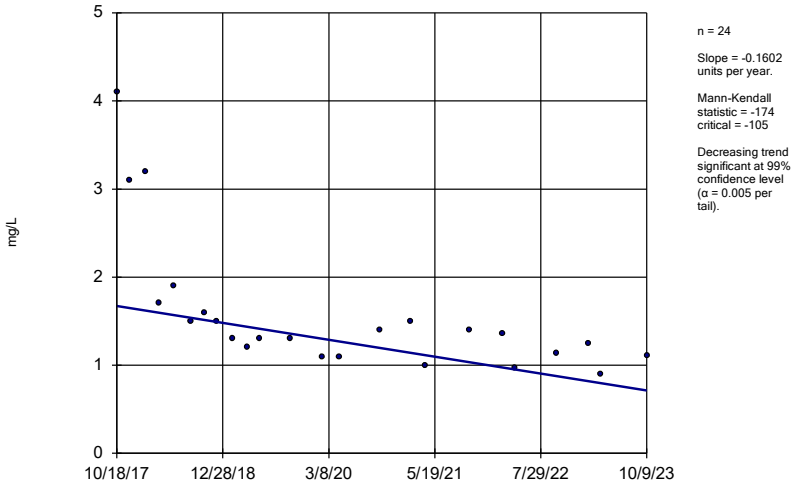
Upgradient Trend Tests - Rome Limestone - All Results

Clinch River Data: Clinch River Printed 2/7/2024, 3:45 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Chloride total (mg/L)	**MW-1609 (bg)**	**-0.1602**	**-174**	**-105**	**Yes**	**24**	**0**	**n/a**	**0.01**	**NP**
Sulfate total (mg/L)	MW-1609 (bg)	-0.2024	-25	-105	No	24	0	n/a	0.01	NP

Sen's Slope Estimator

MW-1609 (bg)



n = 24

Slope = -0.1602 units per year.

Mann-Kendall statistic = -174 critical = -105

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

Constituent: Chloride total Analysis Run 2/7/2024 3:41 PM View: Rome Limestone - Pond 1 Upgradient Tr
Clinch River Data: Clinch River

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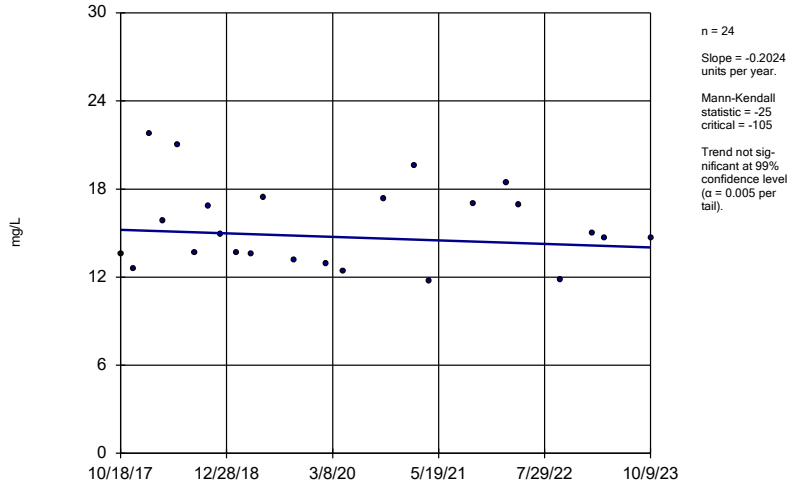
Sen's Slope Estimator

MW-1609 (bg)



n = 24

Slope = -0.2024 units per year.

Mann-Kendall statistic = -25 critical = -105

Trend not sig-nificant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate total Analysis Run 2/7/2024 3:41 PM View: Rome Limestone - Pond 1 Upgradient Tre
Clinch River Data: Clinch River

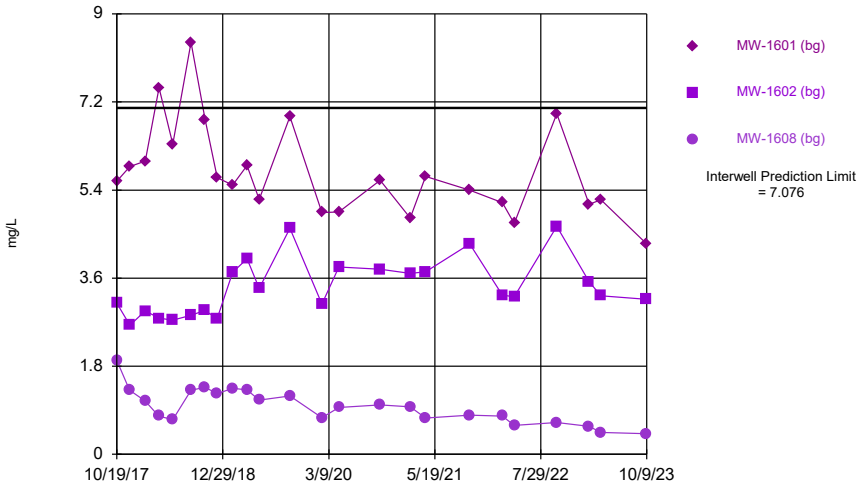
FIGURE F.

Interwell Prediction Limits - Chattanooga Shale - All Results

Clinch River Data: Clinch River Printed 2/7/2024, 11:22 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Calcium total (mg/L)	n/a	7.076	n/a	n/a	4 future	n/a	72	3.387	2.084	0	None	No	0.00188	Param Inter 1 of 2
Chloride total (mg/L)	n/a	34.3	n/a	n/a	4 future	n/a	70	n/a	n/a	0	n/a	n/a	0.0003888	NP Inter (normality) 1 of 2
pH [field] (std.units)	n/a	9.14	6.65	n/a	4 future	n/a	72	n/a	n/a	0	n/a	n/a	0.0007419	NP Inter (normality) 1 of 2

Time Series



Constituent: Calcium total Analysis Run 2/7/2024 11:20 AM View: Chattanooga Shale - Pond 1 Interwell Clinch River Data: Clinch River

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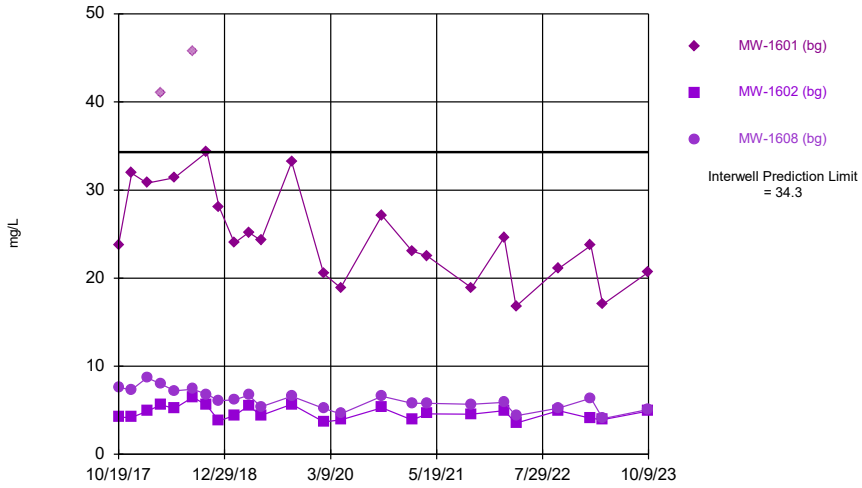
Time Series



Constituent: Chloride total Analysis Run 2/7/2024 11:20 AM View: Chattanooga Shale - Pond 1 Interwell Clinch River Data: Clinch River

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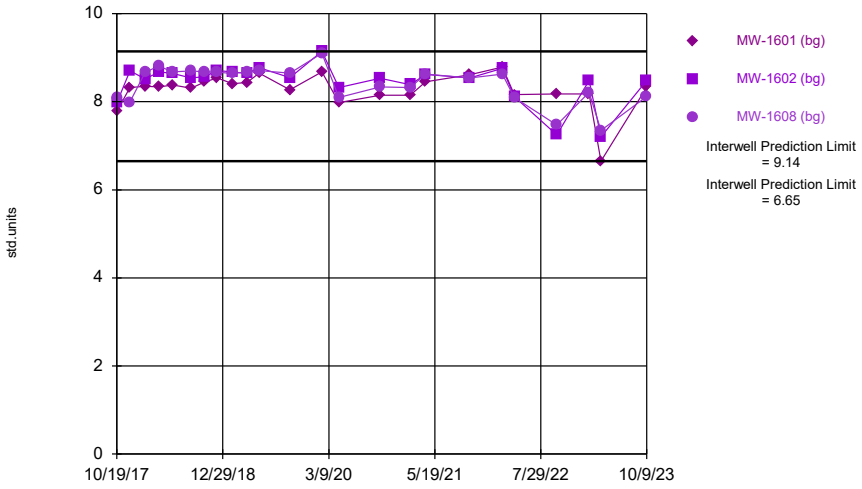
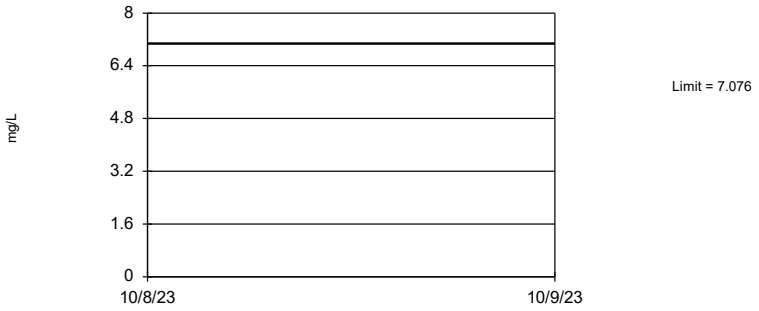
Time Series



Constituent: pH [field] Analysis Run 2/7/2024 11:21 AM View: Chattanooga Shale - Pond 1 Interwell Clinch River Data: Clinch River

Prediction Limit

Interwell Parametric

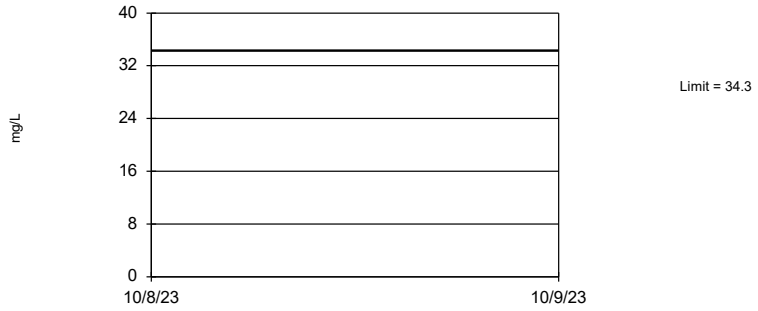


Background Data Summary: Mean=3.387, Std. Dev.=2.084, n=72. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9546, critical = 0.954. Kappa = 1.77 (c=7, w=4, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.00188. Assumes 4 future values.

Constituent: Calcium total Analysis Run 2/7/2024 11:19 AM View: Chattanooga Shale - Pond 1 Interwell Clinch River Data: Clinch River

Prediction Limit

Interwell Non-parametric

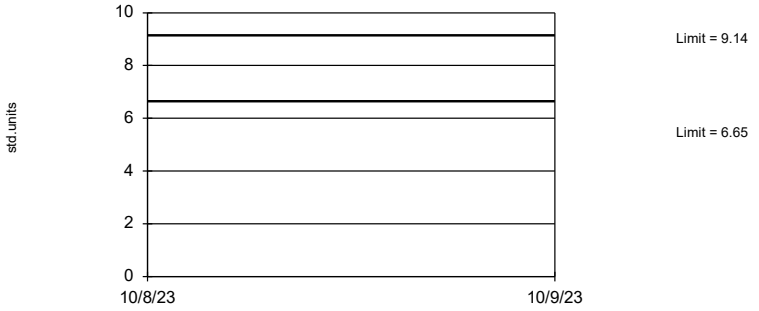


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 70 background values. Annual per-constituent alpha = 0.003106. Individual comparison alpha = 0.0003888 (1 of 2). Assumes 4 future values.

Constituent: Chloride total Analysis Run 2/7/2024 11:19 AM View: Chattanooga Shale - Pond 1 Interwell Clinch River Data: Clinch River

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 72 background values. Annual per-constituent alpha = 0.005928. Individual comparison alpha = 0.0007419 (1 of 2). Assumes 4 future values.

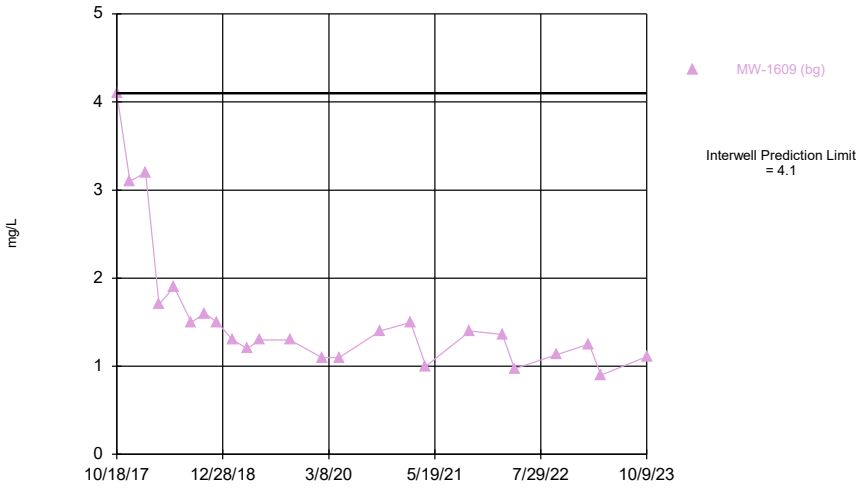
Constituent: pH [field] Analysis Run 2/7/2024 11:19 AM View: Chattanooga Shale - Pond 1 Interwell Clinch River Data: Clinch River

Interwell Prediction Limits - Rome Limestone - All Results

Clinch River Data: Clinch River Printed 2/7/2024, 3:48 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Chloride total (mg/L)	n/a	4.1	n/a	n/a	2 future	n/a	24	n/a	n/a	0	n/a	n/a	0.003083	NP Inter (normality) 1 of 2
Sulfate total (mg/L)	n/a	20.26	n/a	n/a	2 future	n/a	24	15.44	2.811	0	None	No	0.003756	Param Inter 1 of 2

Time Series



Constituent: Chloride total Analysis Run 2/7/2024 3:47 PM View: Rome Limestone - Pond 1 Interwell Clinch River Data: Clinch River

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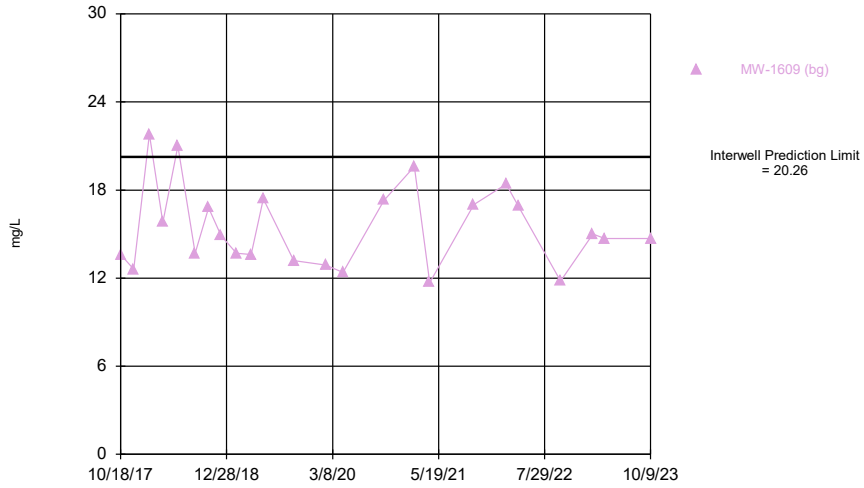
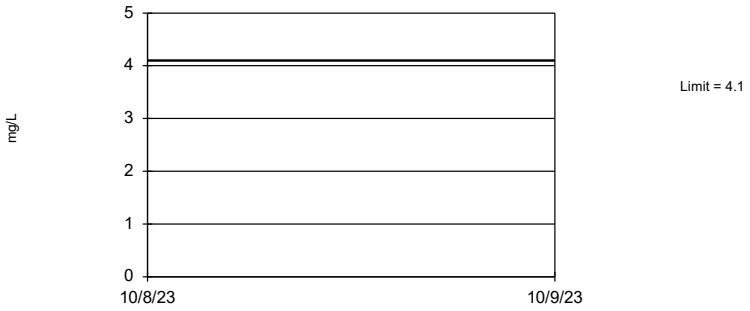
Time Series



Constituent: Sulfate total Analysis Run 2/7/2024 3:47 PM View: Rome Limestone - Pond 1 Interwell Clinch River Data: Clinch River

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 24 background values. Annual per-constituent alpha = 0.01227. Individual comparison alpha = 0.003083 (1 of 2). Assumes 2 future values.

Constituent: Chloride total Analysis Run 2/7/2024 3:46 PM View: Rome Limestone - Pond 1 Interwell Clinch River Data: Clinch River

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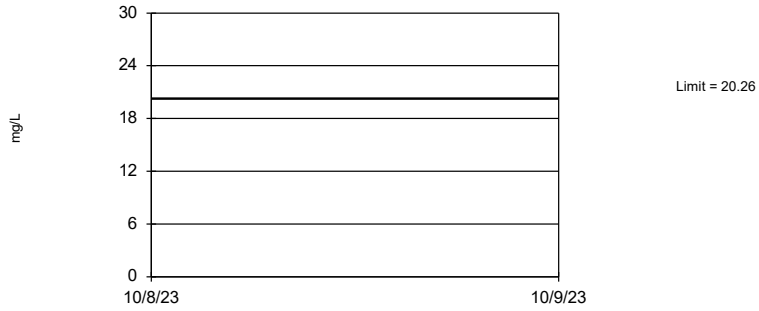
Prediction Limit

Interwell Parametric



Background Data Summary: Mean=15.44, Std. Dev.=2.811, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9327, critical = 0.884. Kappa = 1.717 (c=7, w=2, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.003756. Assumes 2 future values.

Constituent: Sulfate total Analysis Run 2/7/2024 3:46 PM View: Rome Limestone - Pond 1 Interwell Clinch River Data: Clinch River

FIGURE G.

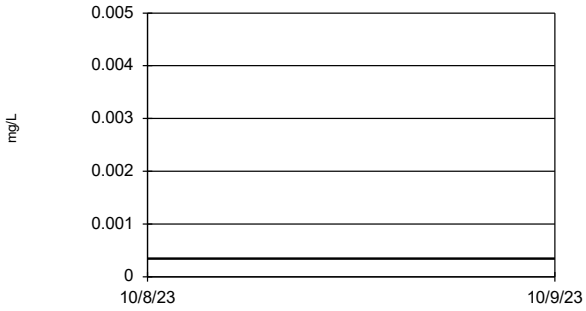
Upper Tolerance Limits Summary Table - Chattanooga Shale

Clinch River Data: Clinch River Printed 2/7/2024, 11:55 AM

Constituent	Upper Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony total (mg/L)	0.0003457	72	-9.603	0.8245	4.167	None	ln(x)	0.05	Inter
Arsenic total (mg/L)	0.0115	63	n/a	n/a	0	n/a	n/a	0.0395	NP Inter(normality)
Barium total (mg/L)	0.306	72	n/a	n/a	0	n/a	n/a	0.02489	NP Inter(normality)
Beryllium total (mg/L)	0.000066	72	n/a	n/a	69.44	n/a	n/a	0.02489	NP Inter(NDs)
Cadmium total (mg/L)	0.00003	72	n/a	n/a	81.94	n/a	n/a	0.02489	NP Inter(NDs)
Chromium total (mg/L)	0.001031	72	-8.231	0.6832	1.389	None	ln(x)	0.05	Inter
Cobalt total (mg/L)	0.000355	72	0.04457	0.01325	0	None	x^(1/3)	0.05	Inter
Combined Radium 226 and 228 (pCi/L)	2.563	71	0.9097	0.3486	0	None	sqrt(x)	0.05	Inter
Fluoride total (mg/L)	2.42	72	n/a	n/a	0	n/a	n/a	0.02489	NP Inter(normality)
Lead total (mg/L)	0.0005228	72	-9.563	1.013	26.39	Kaplan-Meier	ln(x)	0.05	Inter
Lithium total (mg/L)	0.118	72	n/a	n/a	1.389	n/a	n/a	0.02489	NP Inter(normality)
Mercury total (mg/L)	0.001	72	n/a	n/a	90.28	n/a	n/a	0.02489	NP Inter(NDs)
Molybdenum total (mg/L)	0.0257	72	n/a	n/a	0	n/a	n/a	0.02489	NP Inter(normality)
Selenium total (mg/L)	0.0005	72	n/a	n/a	55.56	n/a	n/a	0.02489	NP Inter(NDs)
Thallium total (mg/L)	0.0002	72	n/a	n/a	80.56	n/a	n/a	0.02489	NP Inter(NDs)

Tolerance Limit

Interwell Parametric

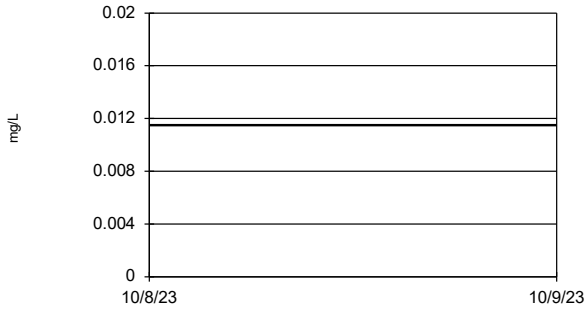


95% coverage. Background Data Summary (based on natural log transformation): Mean=-9.603, Std. Dev.=0.8245, n=72, 4.167% NDs. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.971, critical = 0.954. Report alpha = 0.05.

Constituent: Antimony total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

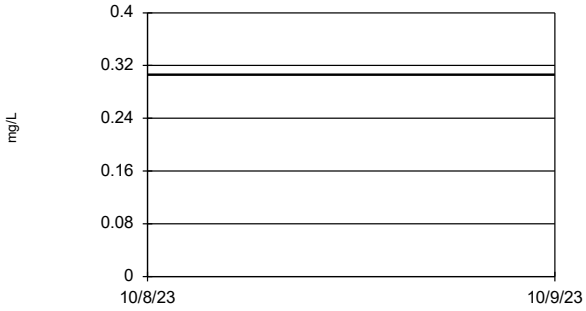


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 63 background values. 92.77% coverage at alpha=0.01; 95.51% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.0395.

Constituent: Arsenic total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

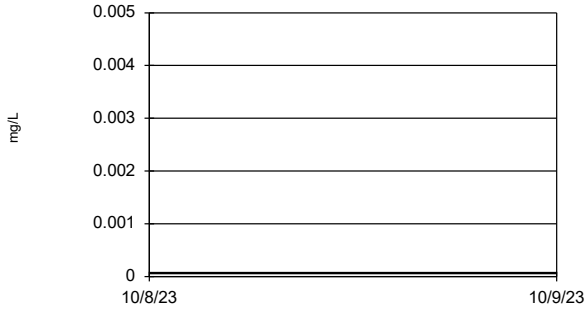


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 72 background values. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02489.

Constituent: Barium total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 72 background values. 69.44% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02489.

Constituent: Beryllium total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

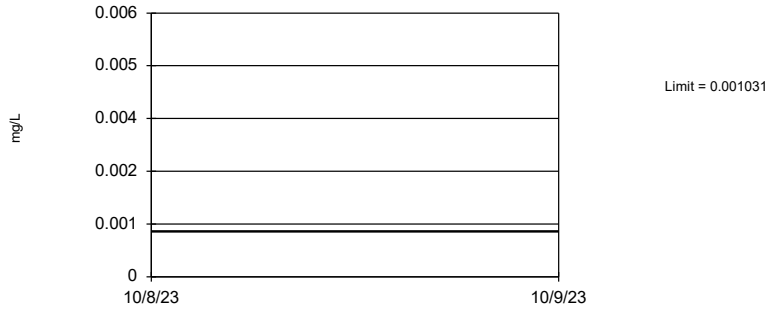
Interwell Non-parametric

Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 72 background values. 81.94% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02489.

Constituent: Cadmium total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

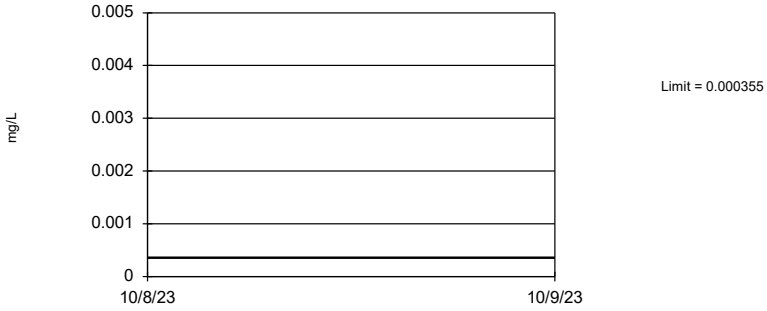


95% coverage. Background Data Summary (based on natural log transformation): Mean=-8.231, Std. Dev.=0.6832, n=72, 1.389% NDs. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9615, critical = 0.954. Report alpha = 0.05.

Constituent: Chromium total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

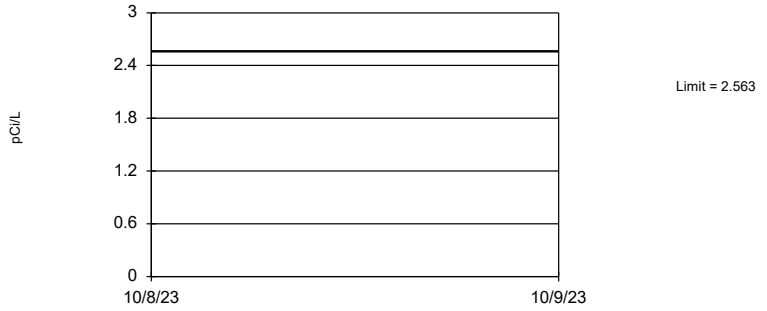


95% coverage. Background Data Summary (based on cube root transformation): Mean=0.04457, Std. Dev.=0.01325, n=72. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9589, critical = 0.954. Report alpha = 0.05.

Constituent: Cobalt total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric



95% coverage. Background Data Summary (based on square root transformation): Mean=0.9097, Std. Dev.=0.3486, n=71. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9541, critical = 0.953. Report alpha = 0.05.

Constituent: Combined Radium 226 and 228 Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale -
Clinch River Data: Clinch River

Tolerance Limit

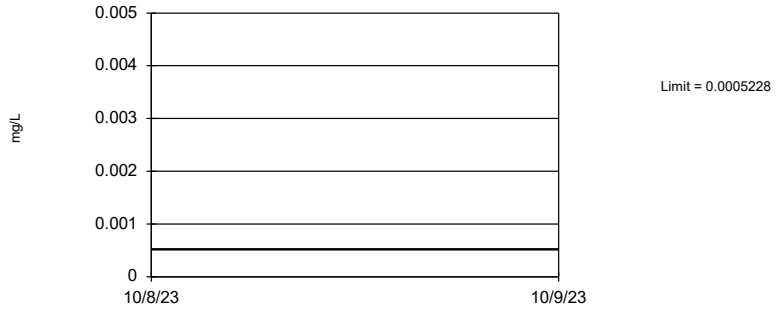
Interwell Non-parametric

Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 72 background values. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02489.

Constituent: Fluoride total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric



95% coverage. Background Data Summary (based on natural log transformation) (after Kaplan-Meier Adjustment): Mean=-9.563, Std. Dev.=1.013, n=72, 26.39% NDs. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9696, critical = 0.954. Report alpha = 0.05.

Constituent: Lead total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 72 background values. 1.389% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02489.

Constituent: Lithium total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

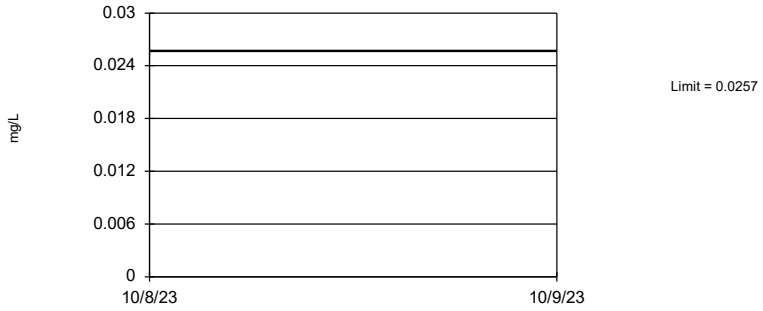
Interwell Non-parametric

Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 72 background values. 90.28% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02489.

Constituent: Mercury total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 72 background values. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02489.

Constituent: Molybdenum total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

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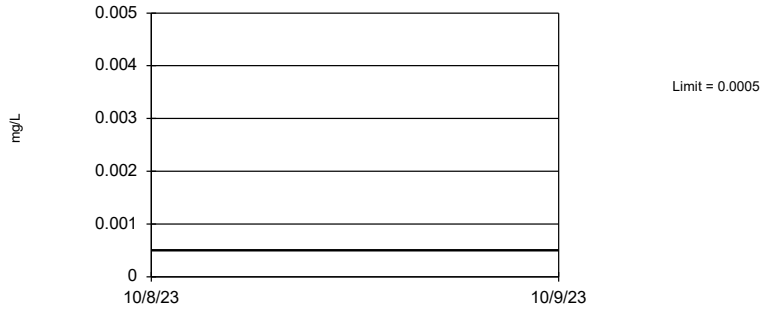
Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 72 background values. 55.56% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02489.

Constituent: Selenium total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

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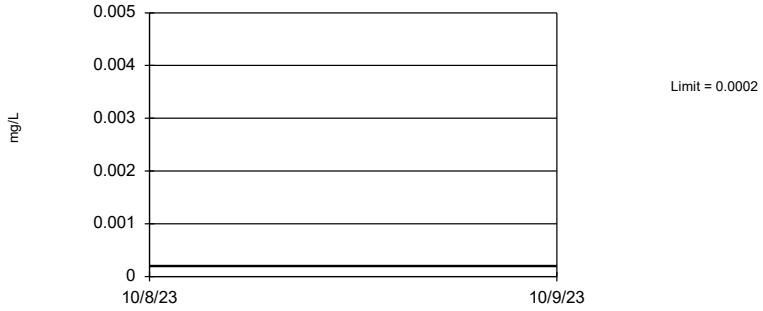
Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 72 background values. 80.56% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02489.

Constituent: Thallium total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

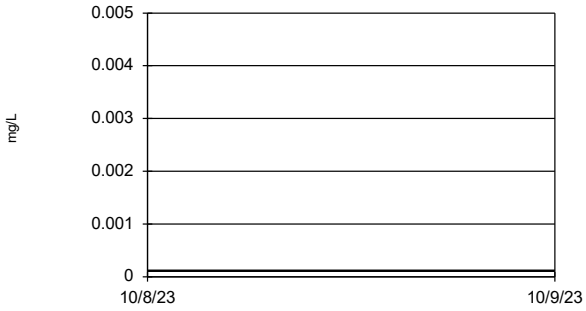
Upper Tolerance Limits Summary Table - Rome Limestone

Clinch River Data: Clinch River Printed 2/8/2024, 9:10 AM

Constituent	Upper Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony total (mg/L)	0.0001132	24	-10.31	0.5309	12.5	None	ln(x)	0.05	Inter
Arsenic total (mg/L)	0.00097	24	n/a	n/a	0	n/a	n/a	0.292	NP Inter(normality)
Barium total (mg/L)	0.5026	24	0.3947	0.04675	0	None	No	0.05	Inter
Beryllium total (mg/L)	0.00005	24	n/a	n/a	95.83	n/a	n/a	0.292	NP Inter(NDs)
Cadmium total (mg/L)	0.00004	24	n/a	n/a	16.67	n/a	n/a	0.292	NP Inter(normality)
Chromium total (mg/L)	0.0003189	24	0.0001632	0.00006744	8.333	None	No	0.05	Inter
Cobalt total (mg/L)	0.001126	24	0.01338	0.008735	12.5	None	sqrt(x)	0.05	Inter
Combined Radium 226 and 228 (pCi/L)	4.722	24	1.411	0.3302	0	None	sqrt(x)	0.05	Inter
Fluoride total (mg/L)	0.3298	24	0.2538	0.03294	0	None	No	0.05	Inter
Lead total (mg/L)	0.001084	24	0.01866	0.006179	0	None	sqrt(x)	0.05	Inter
Lithium total (mg/L)	0.0100	24	n/a	n/a	25	n/a	n/a	0.292	NP Inter(normality)
Mercury total (mg/L)	0.001	24	n/a	n/a	95.83	n/a	n/a	0.292	NP Inter(NDs)
Molybdenum total (mg/L)	0.00222	24	n/a	n/a	20.83	n/a	n/a	0.292	NP Inter(normality)
Selenium total (mg/L)	0.0004203	24	0.008499	0.005199	33.33	Kaplan-Meier	sqrt(x)	0.05	Inter
Thallium total (mg/L)	0.0002	24	n/a	n/a	79.17	n/a	n/a	0.292	NP Inter(NDs)

Tolerance Limit

Interwell Parametric

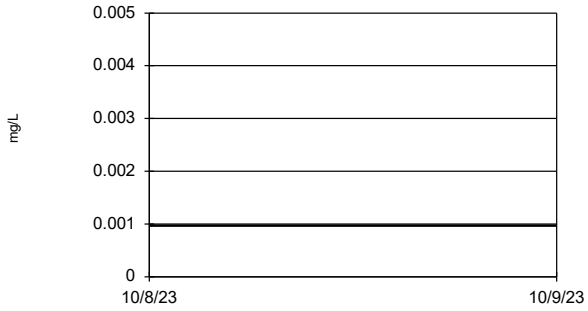


95% coverage. Background Data Summary (based on natural log transformation): Mean=-10.31, Std. Dev.=0.5309, n=24, 12.5% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8937, critical = 0.884. Report alpha = 0.05.

Constituent: Antimony total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

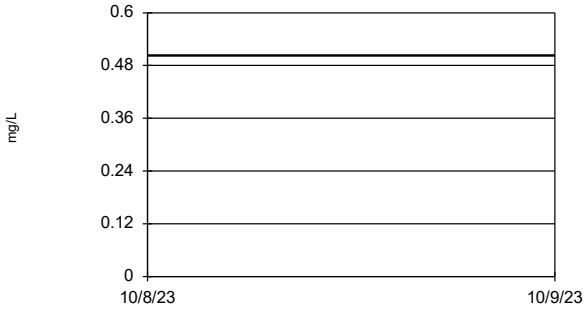


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 24 background values. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Arsenic total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

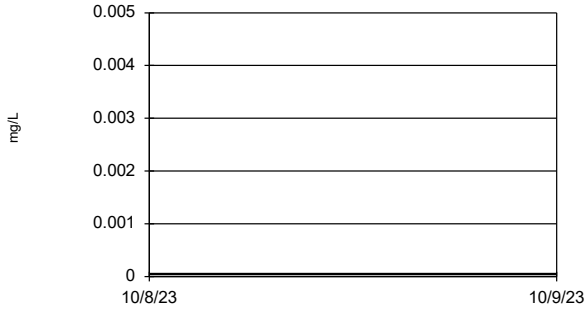


95% coverage. Background Data Summary: Mean=0.3947, Std. Dev.=0.04675, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9414, critical = 0.884. Report alpha = 0.05.

Constituent: Barium total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 24 background values. 95.83% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Beryllium total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

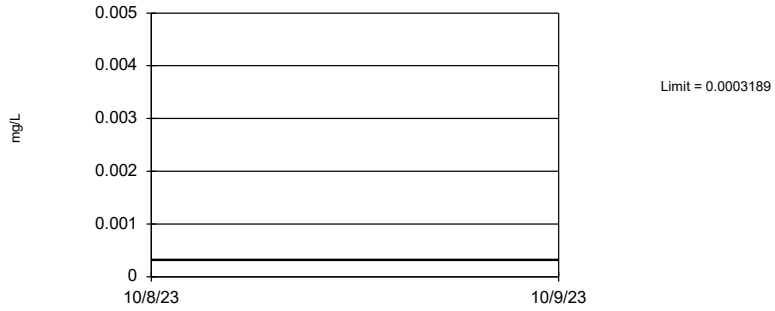
Interwell Non-parametric

Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 24 background values. 16.67% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Cadmium total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

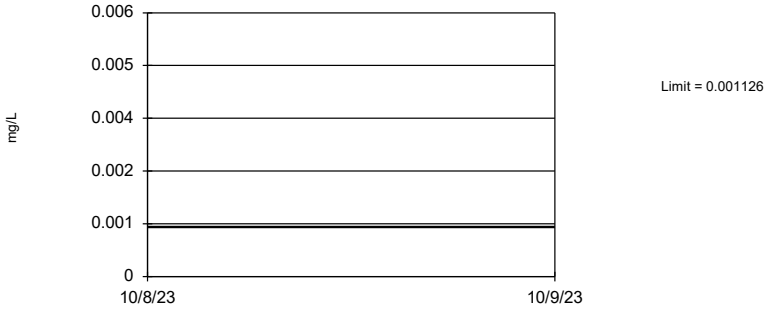


95% coverage. Background Data Summary: Mean=0.0001632, Std. Dev.=0.00006744, n=24, 8.333% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9268, critical = 0.884. Report alpha = 0.05.

Constituent: Chromium total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

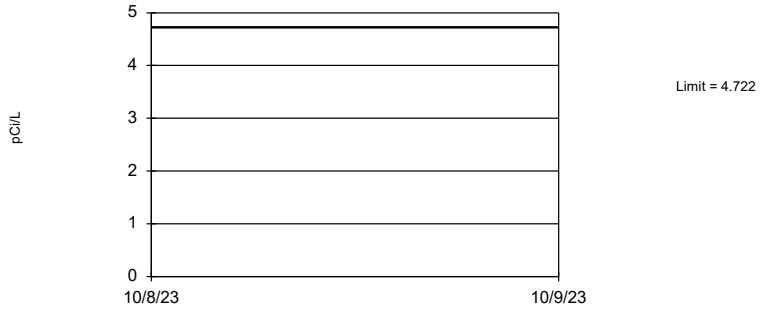


95% coverage. Background Data Summary (based on square root transformation): Mean=0.01338, Std. Dev.=0.008735, n=24, 12.5% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9198, critical = 0.884. Report alpha = 0.05.

Constituent: Cobalt total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

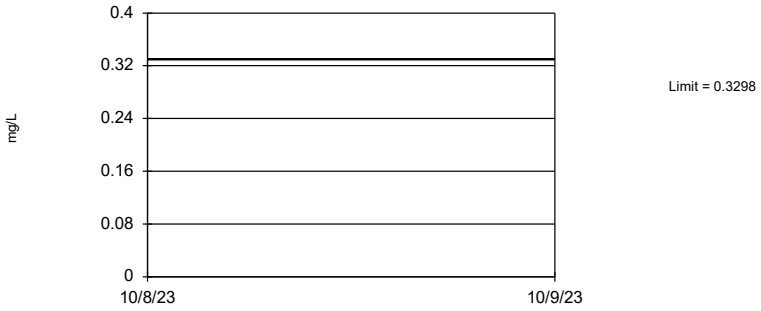


95% coverage. Background Data Summary (based on square root transformation): Mean=1.411, Std. Dev.=0.3302, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9038, critical = 0.884. Report alpha = 0.05.

Constituent: Combined Radium 226 and 228 Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Po
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

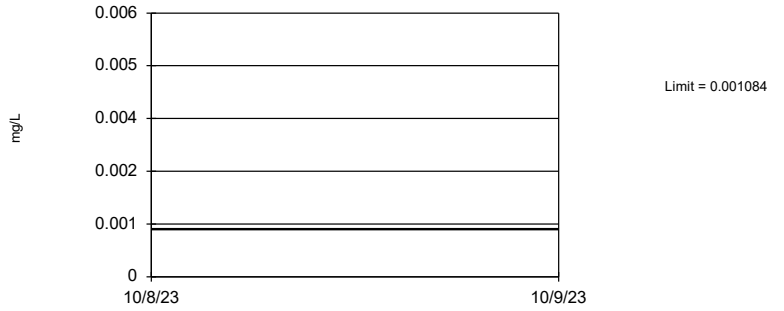


95% coverage. Background Data Summary: Mean=0.2538, Std. Dev.=0.03294, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9483, critical = 0.884. Report alpha = 0.05.

Constituent: Fluoride total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

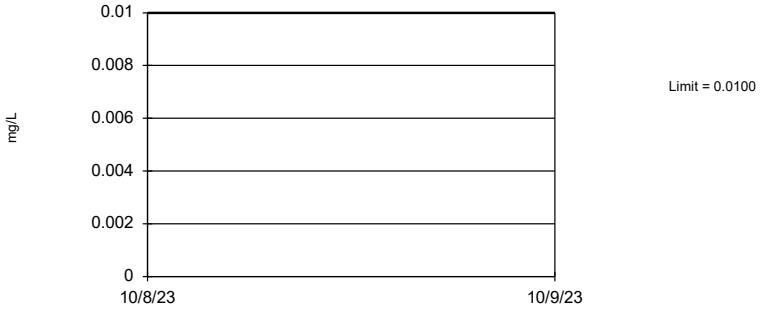


95% coverage. Background Data Summary (based on square root transformation): Mean=0.01866, Std. Dev.=0.006179, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9446, critical = 0.884. Report alpha = 0.05.

Constituent: Lead total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

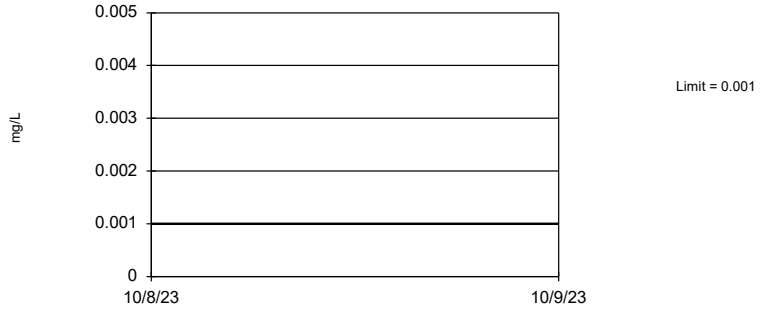


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 24 background values. 25% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Lithium total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

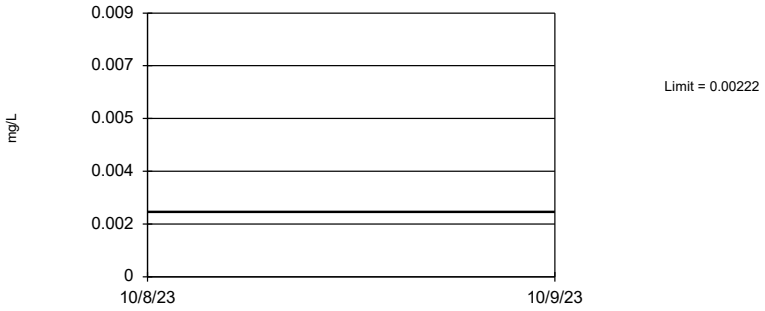


Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 24 background values. 95.83% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Mercury total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 24 background values. 20.83% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Molybdenum total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

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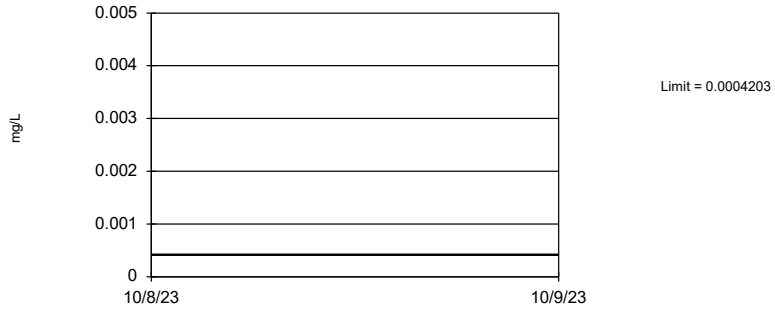
Tolerance Limit

Interwell Parametric



95% coverage. Background Data Summary (based on square root transformation) (after Kaplan-Meier Adjustment): Mean=0.008499, Std. Dev.=0.005199, n=24, 33.33% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8867, critical = 0.884. Report alpha = 0.05.

Constituent: Selenium total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

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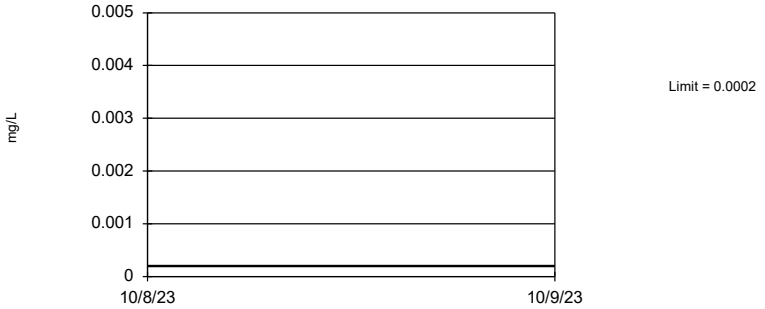
Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 24 background values. 79.17% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Thallium total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

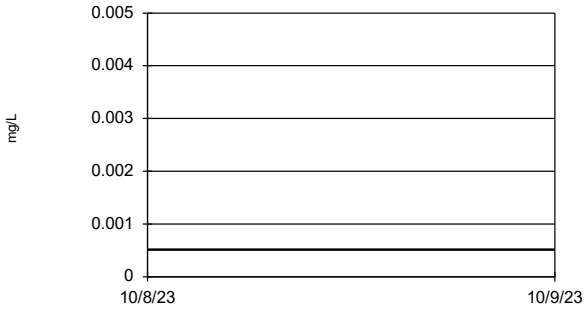
Upper Tolerance Limits Summary Table - Dumps Fault

Clinch River Data: Clinch River Printed 2/8/2024, 2:07 PM

Constituent	Upper Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony total (mg/L)	0.0005128	24	0.03753	0.01841	16.67	Kaplan-Meier	x^(1/3)	0.05	Inter
Arsenic total (mg/L)	0.02299	21	-4.78	0.4249	0	None	ln(x)	0.05	Inter
Barium total (mg/L)	0.3548	24	0.3526	0.1053	0	None	sqrt(x)	0.05	Inter
Beryllium total (mg/L)	0.00005	24	n/a	n/a	79.17	n/a	n/a	0.292	NP Inter(NDs)
Cadmium total (mg/L)	0.00002	24	n/a	n/a	95.83	n/a	n/a	0.292	NP Inter(NDs)
Chromium total (mg/L)	0.000874	24	0.0003578	0.0002236	0	None	No	0.05	Inter
Cobalt total (mg/L)	0.0001491	23	0.006197	0.002581	0	None	sqrt(x)	0.05	Inter
Combined Radium 226 and 228 (pCi/L)	2.62	24	n/a	n/a	0	n/a	n/a	0.292	NP Inter(normality)
Fluoride total (mg/L)	1.309	24	0.9928	0.3124	0	None	x^2	0.05	Inter
Lead total (mg/L)	0.0002	23	n/a	n/a	47.83	n/a	n/a	0.3074	NP Inter(normality)
Lithium total (mg/L)	0.161	24	n/a	n/a	0	n/a	n/a	0.292	NP Inter(normality)
Mercury total (mg/L)	0.001	24	n/a	n/a	95.83	n/a	n/a	0.292	NP Inter(NDs)
Molybdenum total (mg/L)	0.004992	23	-6.169	0.3731	0	None	ln(x)	0.05	Inter
Selenium total (mg/L)	0.0005	24	n/a	n/a	33.33	n/a	n/a	0.292	NP Inter(normality)
Thallium total (mg/L)	0.0002	24	n/a	n/a	87.5	n/a	n/a	0.292	NP Inter(NDs)

Tolerance Limit

Interwell Parametric

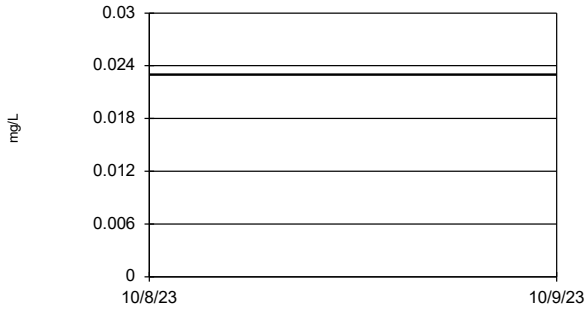


95% coverage. Background Data Summary (based on cube root transformation) (after Kaplan-Meier Adjustment): Mean=0.03753, Std. Dev.=0.01841, n=24, 16.67% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9009, critical = 0.884. Report alpha = 0.05.

Constituent: Antimony total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

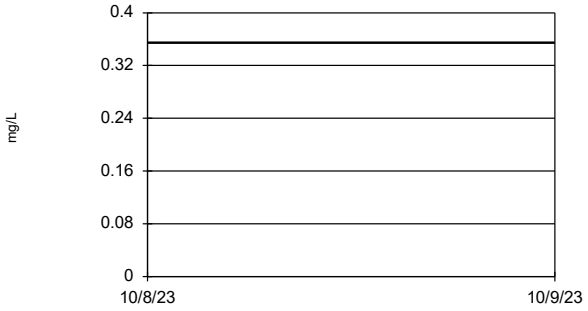


95% coverage. Background Data Summary (based on natural log transformation): Mean=-4.78, Std. Dev.=0.4249, n=21. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8895, critical = 0.873. Report alpha = 0.05.

Constituent: Arsenic total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

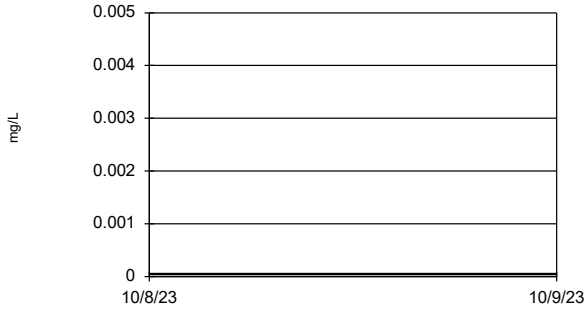


95% coverage. Background Data Summary (based on square root transformation): Mean=0.3526, Std. Dev.=0.1053, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8926, critical = 0.884. Report alpha = 0.05.

Constituent: Barium total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 24 background values. 79.17% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Beryllium total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

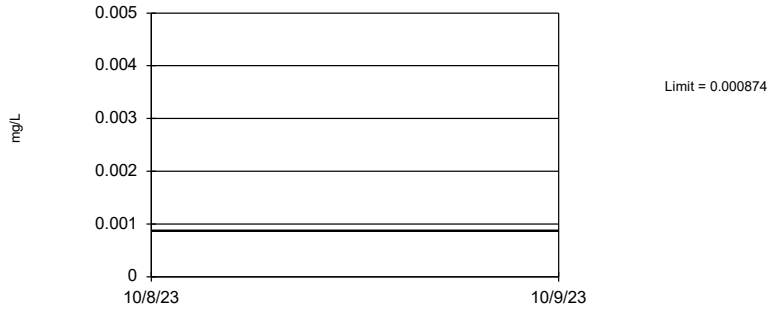
Interwell Non-parametric

Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 24 background values. 95.83% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Cadmium total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

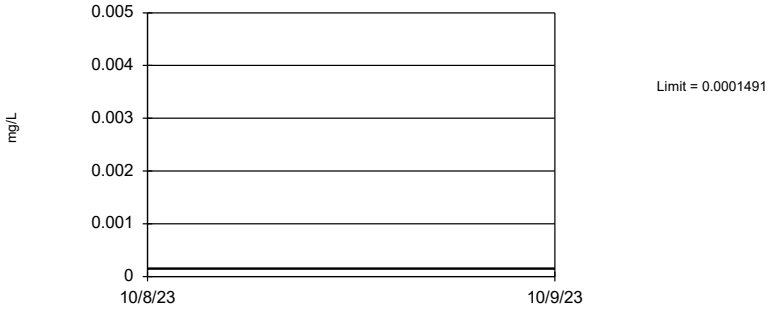


95% coverage. Background Data Summary: Mean=0.0003578, Std. Dev.=0.0002236, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9092, critical = 0.884. Report alpha = 0.05.

Constituent: Chromium total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

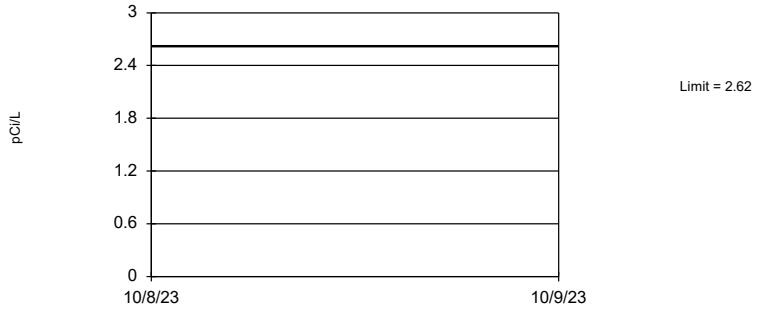


95% coverage. Background Data Summary (based on square root transformation): Mean=0.006197, Std. Dev.=0.002581, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9045, critical = 0.881. Report alpha = 0.05.

Constituent: Cobalt total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

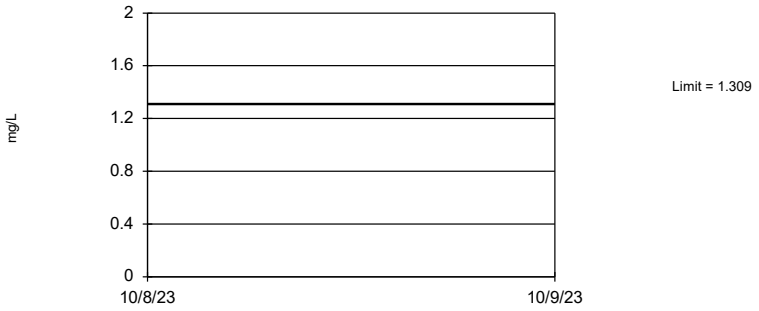


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 24 background values. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Combined Radium 226 and 228 Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

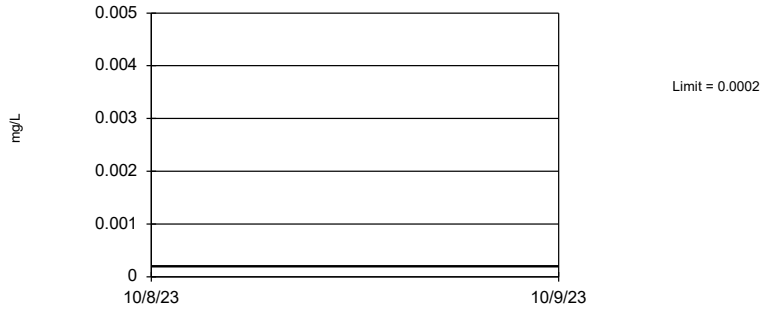


95% coverage. Background Data Summary (based on square transformation): Mean=0.9928, Std. Dev.=0.3124, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9245, critical = 0.884. Report alpha = 0.05.

Constituent: Fluoride total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

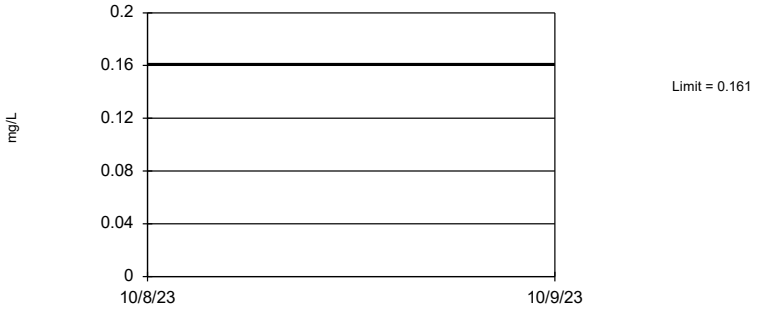


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 23 background values. 47.83% NDs. 81.84% coverage at alpha=0.01; 87.7% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.3074.

Constituent: Lead total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

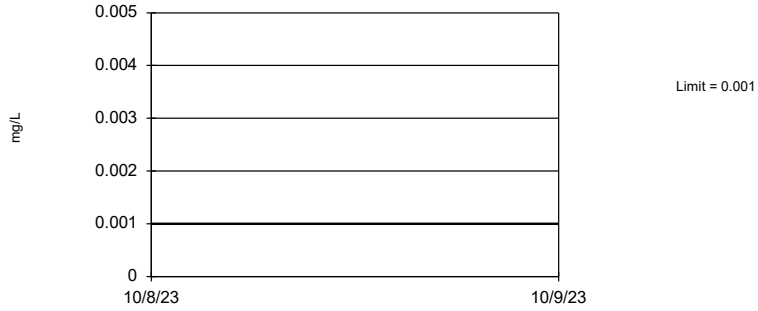


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 24 background values. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Lithium total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 24 background values. 95.83% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Mercury total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

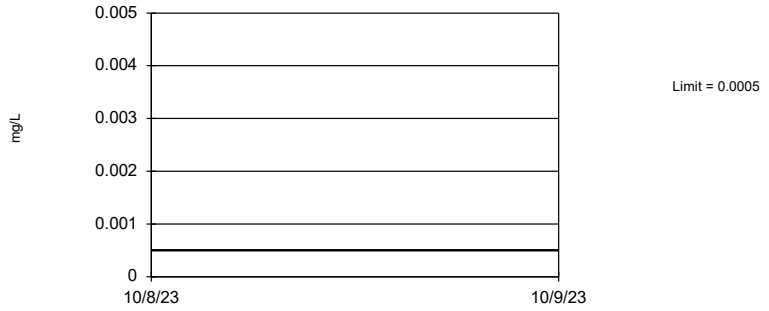
Interwell Parametric

95% coverage. Background Data Summary (based on natural log transformation): Mean=-6.169, Std. Dev.=0.3731, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8938, critical = 0.881. Report alpha = 0.05.

Constituent: Molybdenum total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

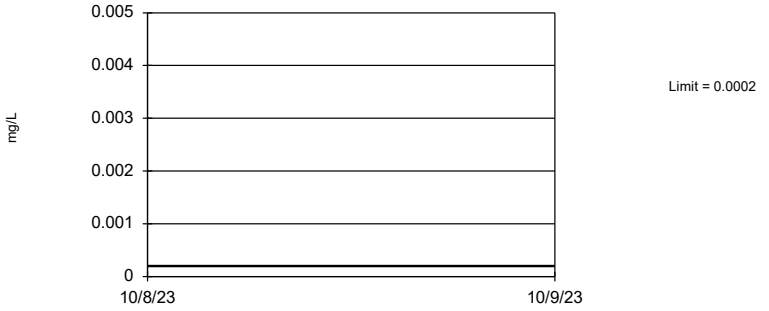


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 24 background values. 33.33% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Selenium total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 24 background values. 87.5% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Thallium total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

FIGURE H.

CLINCH RIVER GWPS - CHATTANOOGA SHALE				
Constituent Name	**MCL**	**CCR Rule Specified**	**Background Limit**	**GWPS**
Antimony, Total (mg/L)	0.006		0.00035	0.006
Arsenic, Total (mg/L)	0.01		0.012	0.012
Barium, Total (mg/L)	2		0.31	2
Beryllium, Total (mg/L)	0.004		0.000066	0.004
Cadmium, Total (mg/L)	0.005		0.00003	0.005
Chromium, Total (mg/L)	0.1		0.001	0.1
Cobalt, Total (mg/L)		0.006	0.00036	0.006
Combined Radium, Total (pCi/L)	5		2.56	5
Fluoride, Total (mg/L)	4		2.42	4
Lead, Total (mg/L)		0.015	0.00052	0.015
Lithium, Total (mg/L)		0.04	0.118	0.118
Mercury, Total (mg/L)	0.002		0.001	0.002
Molybdenum, Total (mg/L)		0.1	0.026	0.1
Selenium, Total (mg/L)	0.05		0.0005	0.05
Thallium, Total (mg/L)	0.002		0.0002	0.002

**Grey cell indicates background is higher than MCL or CCR Rule*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residual*

**GWPS = Groundwater Protection Standard*

CLINCH RIVER GWPS - ROME LIMESTONE				
Constituent Name	**MCL**	**CCR Rule Specified**	**Background Limit**	**GWPS**
Antimony, Total (mg/L)	0.006		0.00011	0.006
Arsenic, Total (mg/L)	0.01		0.00097	0.01
Barium, Total (mg/L)	2		0.5	2
Beryllium, Total (mg/L)	0.004		0.00005	0.004
Cadmium, Total (mg/L)	0.005		0.00004	0.005
Chromium, Total (mg/L)	0.1		0.00032	0.1
Cobalt, Total (mg/L)		0.006	0.0011	0.006
Combined Radium, Total (pCi/L)	5		4.72	5
Fluoride, Total (mg/L)	4		0.33	4
Lead, Total (mg/L)		0.015	0.0011	0.015
Lithium, Total (mg/L)		0.04	0.01	0.04
Mercury, Total (mg/L)	0.002		0.001	0.002
Molybdenum, Total (mg/L)		0.1	0.0022	0.1
Selenium, Total (mg/L)	0.05		0.00042	0.05
Thallium, Total (mg/L)	0.002		0.0002	0.002

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residual*

**GWPS = Groundwater Protection Standard*

CLINCH RIVER GWPS - DUMPS FAULT				
Constituent Name	**MCL**	**CCR Rule Specified**	**Background Limit**	**GWPS**
Antimony, Total (mg/L)	0.006		0.00051	0.006
Arsenic, Total (mg/L)	0.01		0.023	0.023
Barium, Total (mg/L)	2		0.35	2
Beryllium, Total (mg/L)	0.004		0.00005	0.004
Cadmium, Total (mg/L)	0.005		0.00002	0.005
Chromium, Total (mg/L)	0.1		0.00087	0.1
Cobalt, Total (mg/L)		0.006	0.00015	0.006
Combined Radium, Total (pCi/L)	5		2.62	5
Fluoride, Total (mg/L)	4		1.31	4
Lead, Total (mg/L)		0.015	0.0002	0.015
Lithium, Total (mg/L)		0.04	0.161	0.161
Mercury, Total (mg/L)	0.002		0.001	0.002
Molybdenum, Total (mg/L)		0.1	0.005	0.1
Selenium, Total (mg/L)	0.05		0.0005	0.05
Thallium, Total (mg/L)	0.002		0.0002	0.002

**Grey cell indicates background is higher than MCL or CCR Rule*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residual*

**GWPS = Groundwater Protection Standard*

FIGURE I.

Confidence Intervals - Chattanooga Shale - Significant Results

Clinch River Data: Clinch River Printed 2/7/2024, 12:01 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Barium total (mg/L)	**MW-1603**	**2.75**	**2.205**	**2**	**Yes**	**24**	**2.478**	**0.5336**	**0**	**None**	**No**	**0.01**	**Param.**
Barium total (mg/L)	**MW-1604**	**3.258**	**3.09**	**2**	**Yes**	**24**	**3.174**	**0.1653**	**0**	**None**	**No**	**0.01**	**Param.**
Barium total (mg/L)	**MW-1605**	**2.471**	**2.204**	**2**	**Yes**	**8**	**2.338**	**0.1262**	**0**	**None**	**No**	**0.01**	**Param.**
Barium total (mg/L)	**MW-1612**	**2.385**	**2.099**	**2**	**Yes**	**23**	**2.242**	**0.274**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium total (mg/L)	**MW-1605**	**0.2008**	**0.1883**	**0.118**	**Yes**	**24**	**0.1945**	**0.01221**	**0**	**None**	**No**	**0.01**	**Param.**

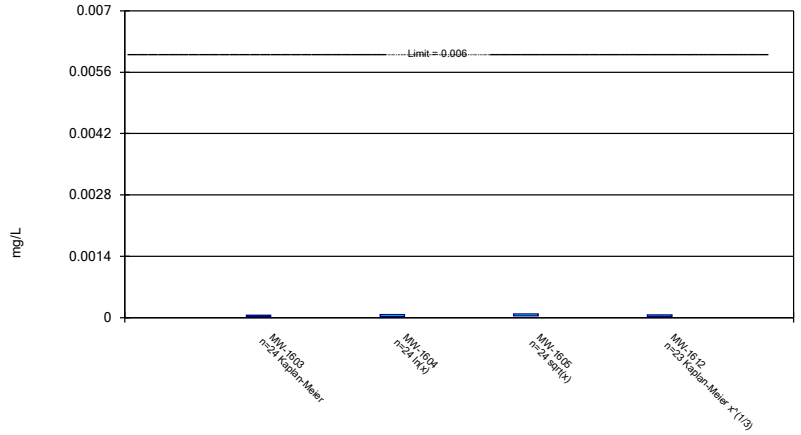
Confidence Intervals - Chattanooga Shale - All Results

Clinch River Data: Clinch River Printed 2/7/2024, 12:01 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony total (mg/L)	MW-1603	0.0000524	0.0000244	0.006	No	24	0.00005121	0.00002895	16.67	Kaplan-Meier	No	0.01	Param.
Antimony total (mg/L)	MW-1604	0.00006836	0.00002734	0.006	No	24	0.00006679	0.00008523	12.5	None	ln(x)	0.01	Param.
Antimony total (mg/L)	MW-1605	0.00008761	0.00003755	0.006	No	24	0.00006958	0.00006306	12.5	None	sqrt(x)	0.01	Param.
Antimony total (mg/L)	MW-1612	0.00006164	0.00002396	0.006	No	23	0.00006996	0.00006283	21.74	Kaplan-Meier	x^(1/3)	0.01	Param.
Arsenic total (mg/L)	MW-1603	0.002726	0.002119	0.012	No	24	0.002422	0.0005946	0	None	No	0.01	Param.
Arsenic total (mg/L)	MW-1604	0.002951	0.001955	0.012	No	24	0.002453	0.000976	0	None	No	0.01	Param.
Arsenic total (mg/L)	MW-1605	0.003862	0.002049	0.012	No	24	0.002955	0.001777	0	None	No	0.01	Param.
Arsenic total (mg/L)	MW-1612	0.001034	0.0004688	0.012	No	23	0.0009526	0.0009062	0	None	ln(x)	0.01	Param.
Barium total (mg/L)	**MW-1603**	**2.75**	**2.205**	**2**	**Yes**	**24**	**2.478**	**0.5336**	**0**	**None**	**No**	**0.01**	**Param.**
Barium total (mg/L)	**MW-1604**	**3.258**	**3.09**	**2**	**Yes**	**24**	**3.174**	**0.1653**	**0**	**None**	**No**	**0.01**	**Param.**
Barium total (mg/L)	**MW-1605**	**2.471**	**2.204**	**2**	**Yes**	**8**	**2.338**	**0.1262**	**0**	**None**	**No**	**0.01**	**Param.**
Barium total (mg/L)	**MW-1612**	**2.385**	**2.099**	**2**	**Yes**	**23**	**2.242**	**0.274**	**0**	**None**	**No**	**0.01**	**Param.**
Beryllium total (mg/L)	MW-1603	0.00005	0.00001	0.004	No	24	0.00003804	0.00001905	70.83	None	No	0.01	NP (NDs)
Beryllium total (mg/L)	MW-1604	0.00005	0.000007	0.004	No	24	0.00004633	0.00001243	91.67	None	No	0.01	NP (NDs)
Beryllium total (mg/L)	MW-1605	0.00005	0.00001	0.004	No	24	0.00004454	0.00001478	87.5	None	No	0.01	NP (NDs)
Beryllium total (mg/L)	MW-1612	0.00005	0.000045	0.004	No	23	0.00004417	0.00001478	82.61	None	No	0.01	NP (NDs)
Cadmium total (mg/L)	MW-1605	0.00002	0.00001	0.005	No	24	0.00001958	0.00000204	91.67	None	No	0.01	NP (NDs)
Chromium total (mg/L)	MW-1603	0.000233	0.00018	0.1	No	24	0.0002097	0.00008519	0	None	No	0.01	NP (normality)
Chromium total (mg/L)	MW-1604	0.0002731	0.0001302	0.1	No	24	0.0002581	0.0003221	0	None	ln(x)	0.01	Param.
Chromium total (mg/L)	MW-1605	0.000261	0.0001725	0.1	No	24	0.0002168	0.00008673	0	None	No	0.01	Param.
Chromium total (mg/L)	MW-1612	0.00023	0.00018	0.1	No	23	0.0002072	0.00008048	0	None	No	0.01	NP (normality)
Cobalt total (mg/L)	MW-1603	0.0004641	0.000254	0.006	No	24	0.0003801	0.0002164	0	None	sqrt(x)	0.01	Param.
Cobalt total (mg/L)	MW-1604	0.0006182	0.0003347	0.006	No	24	0.0004764	0.0002778	0	None	No	0.01	Param.
Cobalt total (mg/L)	MW-1605	0.000316	0.00004	0.006	No	24	0.0001725	0.00014	0	None	No	0.01	NP (normality)
Cobalt total (mg/L)	MW-1612	0.0001963	0.0001177	0.006	No	23	0.0001632	0.00008179	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 and 228 (pCi/L)	MW-1603	1.696	0.9781	5	No	24	1.337	0.7033	0	None	No	0.01	Param.
Combined Radium 226 and 228 (pCi/L)	MW-1604	1.566	1.038	5	No	24	1.302	0.5168	0	None	No	0.01	Param.
Combined Radium 226 and 228 (pCi/L)	MW-1605	2.159	1.132	5	No	24	1.712	1.288	0	None	No	0.01	NP (normality)
Combined Radium 226 and 228 (pCi/L)	MW-1612	2.224	1.464	5	No	23	1.844	0.7265	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1603	0.133	0.1079	4	No	24	0.1217	0.02632	0	None	x^(1/3)	0.01	Param.
Fluoride total (mg/L)	MW-1604	0.288	0.2437	4	No	24	0.2658	0.04343	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1605	0.3635	0.324	4	No	24	0.3438	0.03865	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1612	0.1791	0.1418	4	No	23	0.1604	0.03561	0	None	No	0.01	Param.
Lead total (mg/L)	MW-1603	0.0002	0.000038	0.015	No	24	0.0001544	0.00008083	75	None	No	0.01	NP (NDs)
Lead total (mg/L)	MW-1604	0.0002	0.00006	0.015	No	24	0.0001515	0.00007826	70.83	None	No	0.01	NP (NDs)
Lead total (mg/L)	MW-1605	0.0002	0.000051	0.015	No	24	0.000137	0.00007697	58.33	None	No	0.01	NP (NDs)
Lead total (mg/L)	MW-1612	0.0002	0.000083	0.015	No	23	0.0001655	0.00007842	69.57	None	No	0.01	NP (NDs)
Lithium total (mg/L)	MW-1603	0.07631	0.05751	0.118	No	24	0.06691	0.01842	0	None	No	0.01	Param.
Lithium total (mg/L)	MW-1604	0.08155	0.0742	0.118	No	24	0.07788	0.007193	0	None	No	0.01	Param.
Lithium total (mg/L)	**MW-1605**	**0.2008**	**0.1883**	**0.118**	**Yes**	**24**	**0.1945**	**0.01221**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium total (mg/L)	MW-1612	0.129	0.1118	0.118	No	23	0.1191	0.01996	4.348	None	x^2	0.01	Param.
Mercury total (mg/L)	MW-1603	0.001	0.00006	0.002	No	24	0.0009608	0.0001919	95.83	None	No	0.01	NP (NDs)
Mercury total (mg/L)	MW-1604	0.001	0.00006	0.002	No	24	0.0009608	0.0001919	95.83	None	No	0.01	NP (NDs)
Mercury total (mg/L)	MW-1612	0.001	0.00006	0.002	No	23	0.0009591	0.000196	95.65	None	No	0.01	NP (NDs)
Molybdenum total (mg/L)	MW-1603	0.001093	0.0004935	0.1	No	24	0.001022	0.001018	0	None	ln(x)	0.01	Param.
Molybdenum total (mg/L)	MW-1604	0.0005195	0.0002463	0.1	No	24	0.0008179	0.0006905	16.67	Kaplan-Meier	ln(x)	0.01	Param.
Molybdenum total (mg/L)	MW-1605	0.002911	0.0009227	0.1	No	24	0.00229	0.002389	0	None	sqrt(x)	0.01	Param.
Molybdenum total (mg/L)	MW-1612	0.001051	0.0003704	0.1	No	23	0.0008187	0.0008176	4.348	None	sqrt(x)	0.01	Param.
Selenium total (mg/L)	MW-1603	0.0001	0.00007	0.05	No	24	0.0001492	0.0001614	16.67	None	No	0.01	NP (normality)
Selenium total (mg/L)	MW-1604	0.0005	0.00005	0.05	No	24	0.0002558	0.0002296	45.83	None	No	0.01	NP (normality)
Selenium total (mg/L)	MW-1605	0.0005	0.00007	0.05	No	24	0.0003338	0.0002194	62.5	None	No	0.01	NP (NDs)
Selenium total (mg/L)	MW-1612	0.0005	0.00004	0.05	No	23	0.0003222	0.0002272	60.87	None	No	0.01	NP (NDs)
Thallium total (mg/L)	MW-1603	0.0002	0.00002	0.002	No	24	0.0001608	0.00007801	79.17	None	No	0.01	NP (NDs)
Thallium total (mg/L)	MW-1604	0.0002	0.00002	0.002	No	24	0.0001687	0.0000714	83.33	None	No	0.01	NP (NDs)
Thallium total (mg/L)	MW-1605	0.0002	0.00002	0.002	No	24	0.0001692	0.00007046	83.33	None	No	0.01	NP (NDs)
Thallium total (mg/L)	MW-1612	0.0002	0.00003	0.002	No	23	0.0001678	0.00007179	82.61	None	No	0.01	NP (NDs)

Parametric Confidence Interval

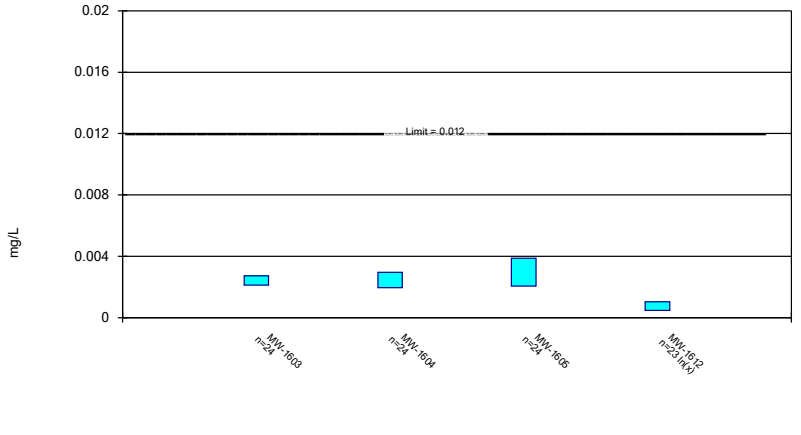
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Antimony total Analysis Run 2/7/2024 11:59 AM View: Chattanooga Shale - Pond 1 Confiden
Clinch River Data: Clinch River

Parametric Confidence Interval

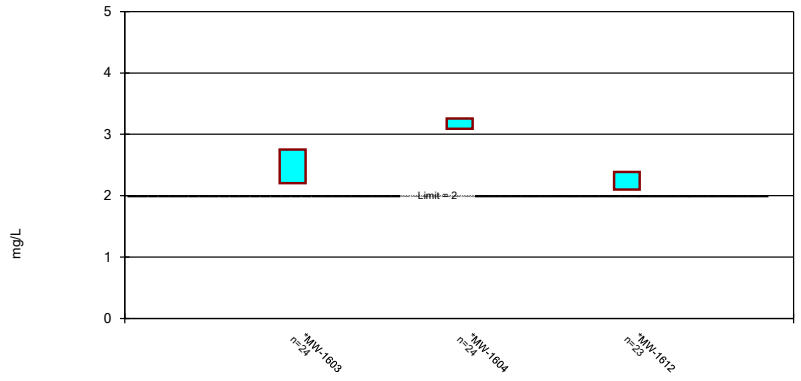
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic total Analysis Run 2/7/2024 11:59 AM View: Chattanooga Shale - Pond 1 Confidence
Clinch River Data: Clinch River

Parametric Confidence Interval

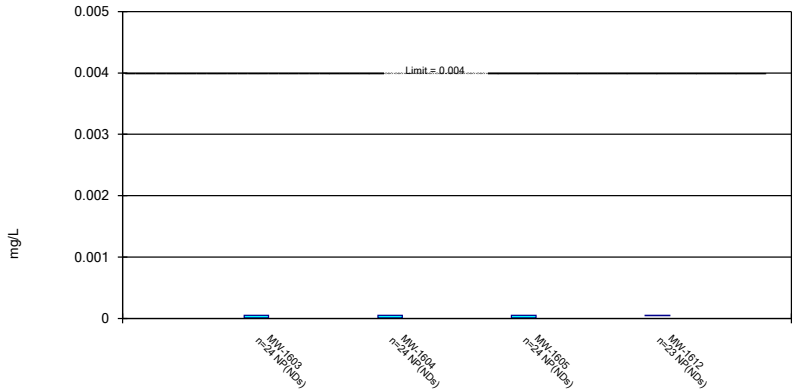
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium total Analysis Run 2/7/2024 11:59 AM View: Chattanooga Shale - Pond 1 Confidence
Clinch River Data: Clinch River

Non-Parametric Confidence Interval

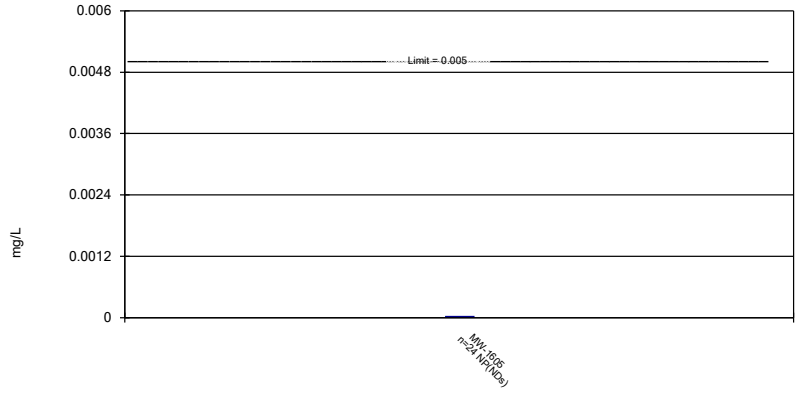
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Beryllium total Analysis Run 2/7/2024 11:59 AM View: Chattanooga Shale - Pond 1 Confiden
Clinch River Data: Clinch River

Non-Parametric Confidence Interval

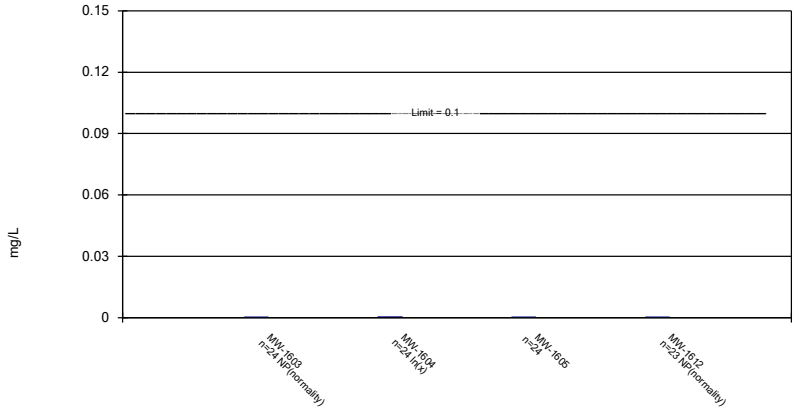
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Cadmium total Analysis Run 2/7/2024 11:59 AM View: Chattanooga Shale - Pond 1 Confiden
Clinch River Data: Clinch River

Parametric and Non-Parametric (NP) Confidence Interval

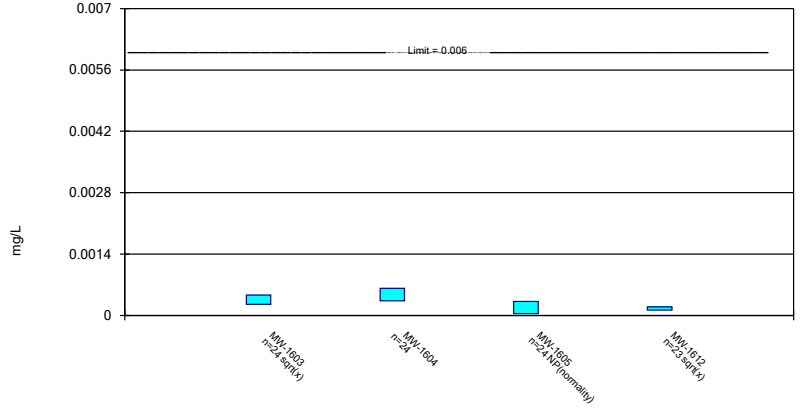
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Chromium total Analysis Run 2/7/2024 11:59 AM View: Chattanooga Shale - Pond 1 Confide
Clinch River Data: Clinch River

Parametric and Non-Parametric (NP) Confidence Interval

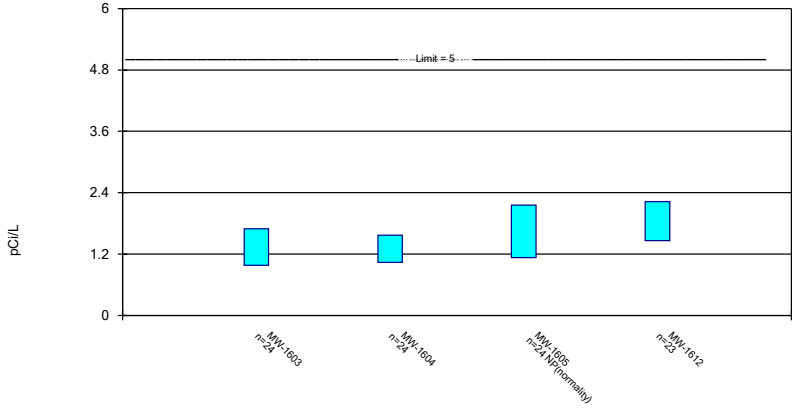
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt total Analysis Run 2/7/2024 11:59 AM View: Chattanooga Shale - Pond 1 Confidence I
Clinch River Data: Clinch River

Parametric and Non-Parametric (NP) Confidence Interval

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



Constituent: Combined Radium 226 and 228 Analysis Run 2/7/2024 11:59 AM View: Chattanooga Shale -
Clinch River Data: Clinch River

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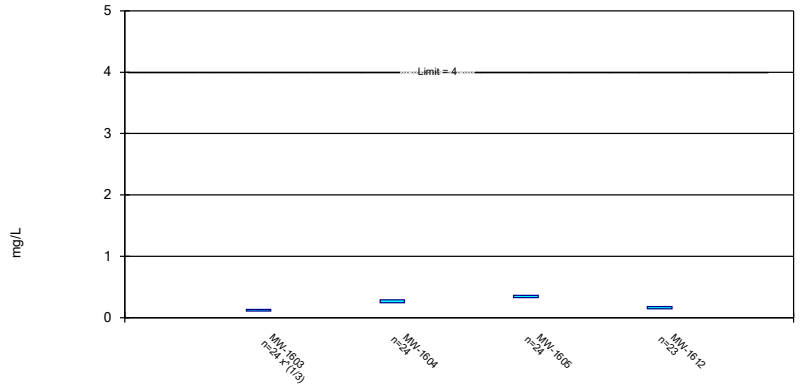
Parametric Confidence Interval

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



Constituent: Fluoride total Analysis Run 2/7/2024 11:59 AM View: Chattanooga Shale - Pond 1 Confidenc
Clinch River Data: Clinch River

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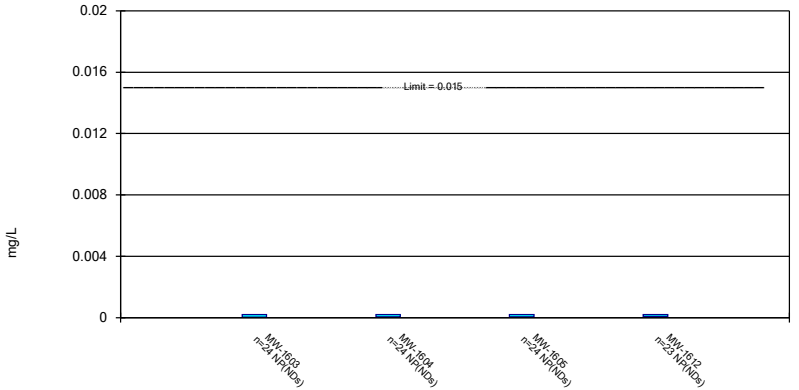
Non-Parametric Confidence Interval

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



Constituent: Lead total Analysis Run 2/7/2024 11:59 AM View: Chattanooga Shale - Pond 1 Confidence In
Clinch River Data: Clinch River

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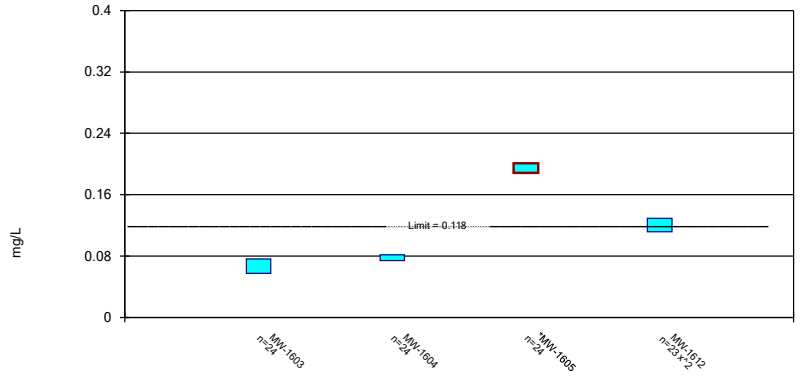
Parametric Confidence Interval

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



Constituent: Lithium total Analysis Run 2/7/2024 11:59 AM View: Chattanooga Shale - Pond 1 Confidence
Clinch River Data: Clinch River

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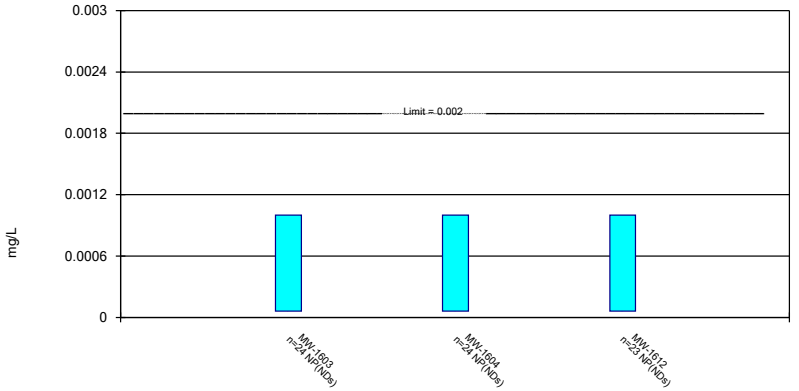
Non-Parametric Confidence Interval

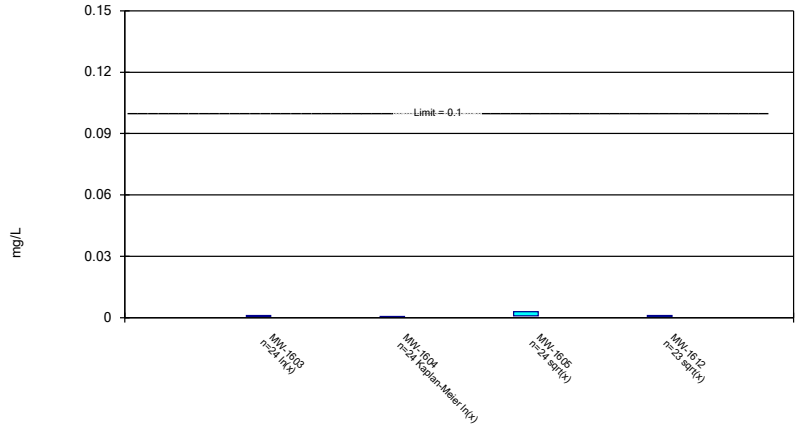
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Mercury total Analysis Run 2/7/2024 11:59 AM View: Chattanooga Shale - Pond 1 Confidenc
Clinch River Data: Clinch River

Parametric Confidence Interval

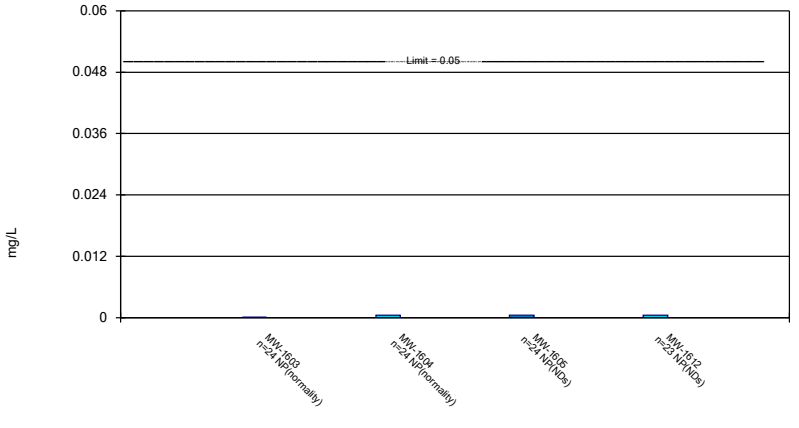
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum total Analysis Run 2/7/2024 11:59 AM View: Chattanooga Shale - Pond 1 Confi
Clinch River Data: Clinch River

Non-Parametric Confidence Interval

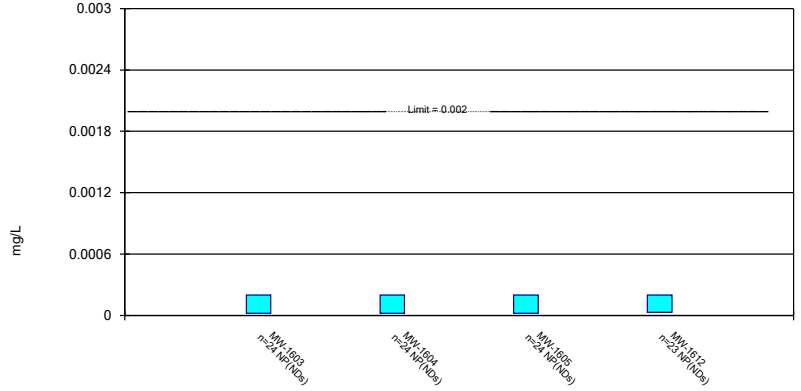
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Selenium total Analysis Run 2/7/2024 11:59 AM View: Chattanooga Shale - Pond 1 Confiden
Clinch River Data: Clinch River

Non-Parametric Confidence Interval

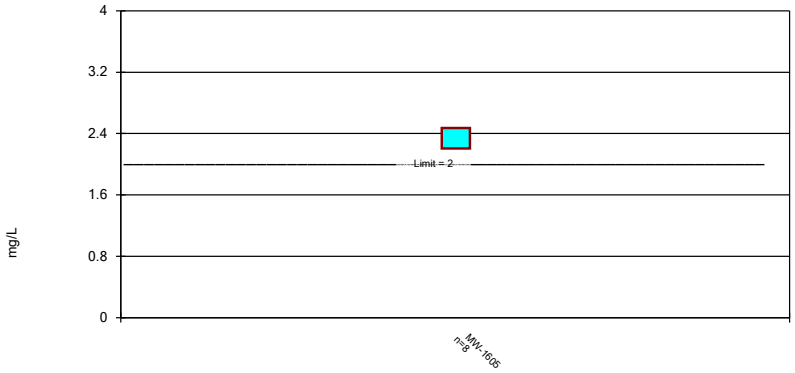
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Thallium total Analysis Run 2/7/2024 11:59 AM View: Chattanooga Shale - Pond 1 Confidenc
Clinch River Data: Clinch River

Parametric Confidence Interval

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



Constituent: Barium total Analysis Run 2/7/2024 12:00 PM View: Chattanooga Shale - Pond 1 Confidence Clinch River Data: Clinch River

Confidence Intervals - Rome Limestone - Significant Results

Clinch River Data: Clinch River Printed 2/8/2024, 9:30 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Cobalt total (mg/L)	**MW-1607**	**0.0104**	**0.008385**	**0.006**	**Yes**	**24**	**0.009392**	**0.001974**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium total (mg/L)	**MW-1606**	**0.08654**	**0.06269**	**0.04**	**Yes**	**24**	**0.07461**	**0.02337**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium total (mg/L)	**MW-1607**	**0.1298**	**0.1202**	**0.04**	**Yes**	**24**	**0.125**	**0.009478**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum total (mg/L)	**MW-1607**	**0.1497**	**0.1308**	**0.1**	**Yes**	**24**	**0.1402**	**0.0185**	**0**	**None**	**No**	**0.01**	**Param.**

Confidence Intervals - Rome Limestone - All Results

Clinch River Data: Clinch River Printed 2/8/2024, 9:30 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony total (mg/L)	MW-1606	0.0001	0.00002	0.006	No	24	0.00005708	0.0000377	41.67	None	No	0.01	NP (normality)
Antimony total (mg/L)	MW-1607	0.00004841	0.00002932	0.006	No	24	0.00004046	0.00002006	4.167	None	sqrt(x)	0.01	Param.
Arsenic total (mg/L)	MW-1606	0.00833	0.00687	0.01	No	24	0.0079	0.002328	0	None	No	0.01	NP (normality)
Arsenic total (mg/L)	MW-1607	0.0015	0.001	0.01	No	24	0.001502	0.00106	0	None	No	0.01	NP (normality)
Barium total (mg/L)	MW-1606	0.1164	0.1061	2	No	24	0.1112	0.01005	0	None	No	0.01	Param.
Barium total (mg/L)	MW-1607	0.0742	0.0678	2	No	24	0.07375	0.01551	0	None	No	0.01	NP (normality)
Beryllium total (mg/L)	MW-1606	0.00005	0.000008	0.004	No	24	0.00003279	0.00002096	58.33	None	No	0.01	NP (NDs)
Beryllium total (mg/L)	MW-1607	0.00005	0.000005	0.004	No	24	0.00004812	0.00000918	95.83	None	No	0.01	NP (NDs)
Cadmium total (mg/L)	MW-1606	0.00002	0.00001	0.005	No	24	0.00001812	0.00000795	37.5	None	No	0.01	NP (normality)
Cadmium total (mg/L)	MW-1607	0.0001484	0.00009124	0.005	No	24	0.0001198	0.00005603	0	None	No	0.01	Param.
Chromium total (mg/L)	MW-1606	0.0002631	0.0001777	0.1	No	24	0.0002338	0.0001074	0	None	ln(x)	0.01	Param.
Chromium total (mg/L)	MW-1607	0.000216	0.00016	0.1	No	24	0.0002097	0.0001494	8.333	None	No	0.01	NP (normality)
Cobalt total (mg/L)	MW-1606	0.005303	0.004293	0.006	No	24	0.004798	0.00099	0	None	No	0.01	Param.
Cobalt total (mg/L)	**MW-1607**	**0.0104**	**0.008385**	**0.006**	**Yes**	**24**	**0.009392**	**0.001974**	**0**	**None**	**No**	**0.01**	**Param.**
Combined Radium 226 and 228 (pCi/L)	MW-1606	2.314	1.401	5	No	24	1.967	1.11	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 and 228 (pCi/L)	MW-1607	1.435	0.8483	5	No	24	1.142	0.575	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1606	0.2207	0.1851	4	No	24	0.2029	0.03483	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1607	0.236	0.2115	4	No	24	0.2238	0.0241	0	None	No	0.01	Param.
Lead total (mg/L)	MW-1606	0.0006324	0.0004131	0.015	No	24	0.0005228	0.0002149	0	None	No	0.01	Param.
Lead total (mg/L)	MW-1607	0.0005585	0.0003894	0.015	No	24	0.000474	0.0001658	0	None	No	0.01	Param.
Lithium total (mg/L)	**MW-1606**	**0.08654**	**0.06269**	**0.04**	**Yes**	**24**	**0.07461**	**0.02337**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium total (mg/L)	**MW-1607**	**0.1298**	**0.1202**	**0.04**	**Yes**	**24**	**0.125**	**0.009478**	**0**	**None**	**No**	**0.01**	**Param.**
Mercury total (mg/L)	MW-1606	0.001	0.00006	0.002	No	24	0.0009608	0.0001919	95.83	None	No	0.01	NP (NDs)
Mercury total (mg/L)	MW-1607	0.001	0.00008	0.002	No	24	0.0009617	0.0001878	95.83	None	No	0.01	NP (NDs)
Molybdenum total (mg/L)	MW-1606	0.07188	0.0543	0.1	No	24	0.06309	0.01722	0	None	No	0.01	Param.
Molybdenum total (mg/L)	**MW-1607**	**0.1497**	**0.1308**	**0.1**	**Yes**	**24**	**0.1402**	**0.0185**	**0**	**None**	**No**	**0.01**	**Param.**
Selenium total (mg/L)	MW-1606	0.0002	0.00007	0.05	No	24	0.0001733	0.0001741	20.83	None	No	0.01	NP (normality)
Selenium total (mg/L)	MW-1607	0.0002353	0.0001195	0.05	No	24	0.0001904	0.0001377	12.5	None	sqrt(x)	0.01	Param.
Thallium total (mg/L)	MW-1606	0.0002	0.00004	0.002	No	24	0.0001358	0.00007862	58.33	None	No	0.01	NP (NDs)
Thallium total (mg/L)	MW-1607	0.0002	0.0001	0.002	No	24	0.0001533	0.00007597	70.83	None	No	0.01	NP (NDs)

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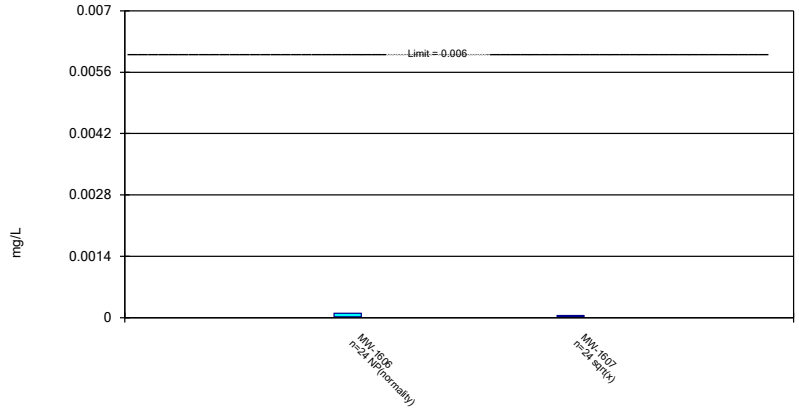
Parametric and Non-Parametric (NP) Confidence Interval

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



Constituent: Antimony total Analysis Run 2/8/2024 9:29 AM View: Rome Limestone - Pond 1 Confidence I
Clinch River Data: Clinch River

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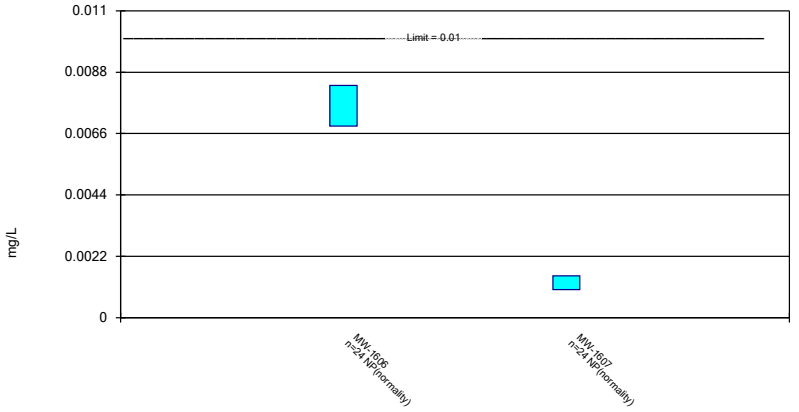
Non-Parametric Confidence Interval

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



Constituent: Arsenic total Analysis Run 2/8/2024 9:29 AM View: Rome Limestone - Pond 1 Confidence Int
Clinch River Data: Clinch River

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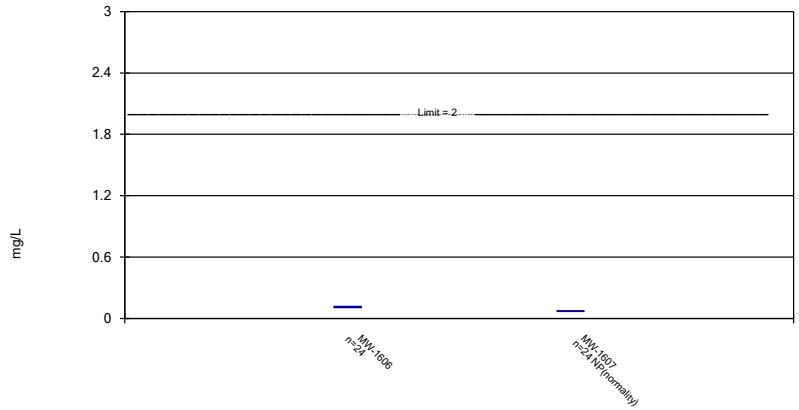
Parametric and Non-Parametric (NP) Confidence Interval

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



Constituent: Barium total Analysis Run 2/8/2024 9:29 AM View: Rome Limestone - Pond 1 Confidence Int
Clinch River Data: Clinch River

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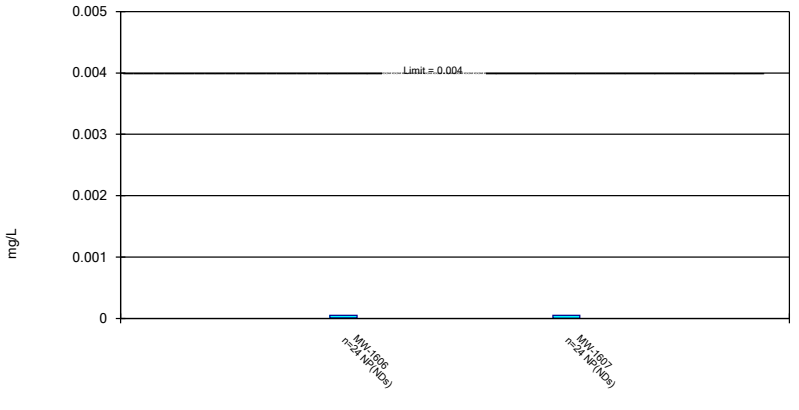
Non-Parametric Confidence Interval

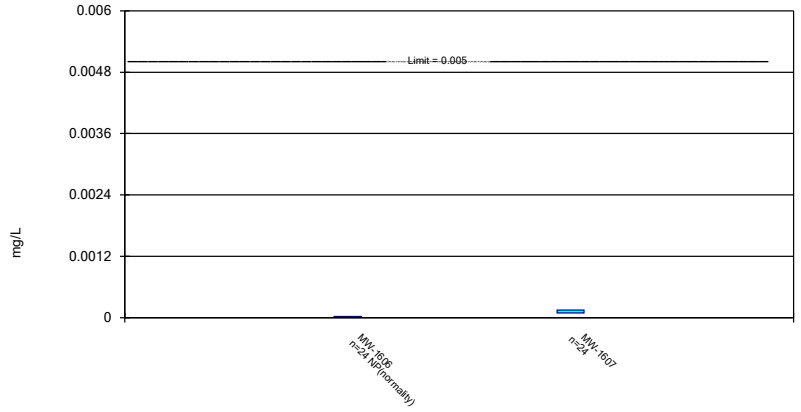
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Beryllium total Analysis Run 2/8/2024 9:29 AM View: Rome Limestone - Pond 1 Confidence I
Clinch River Data: Clinch River

Parametric and Non-Parametric (NP) Confidence Interval

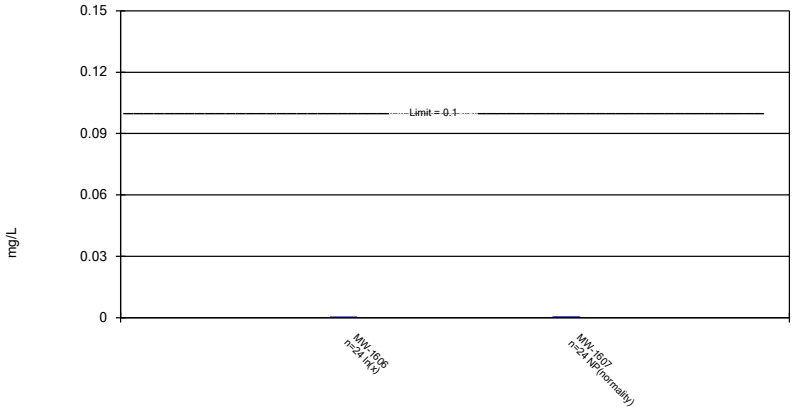
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cadmium total Analysis Run 2/8/2024 9:29 AM View: Rome Limestone - Pond 1 Confidence I
Clinch River Data: Clinch River

Parametric and Non-Parametric (NP) Confidence Interval

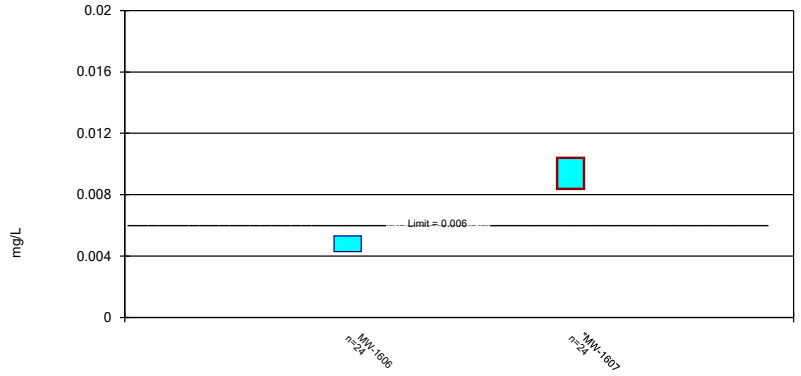
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Chromium total Analysis Run 2/8/2024 9:29 AM View: Rome Limestone - Pond 1 Confidence
Clinch River Data: Clinch River

Parametric Confidence Interval

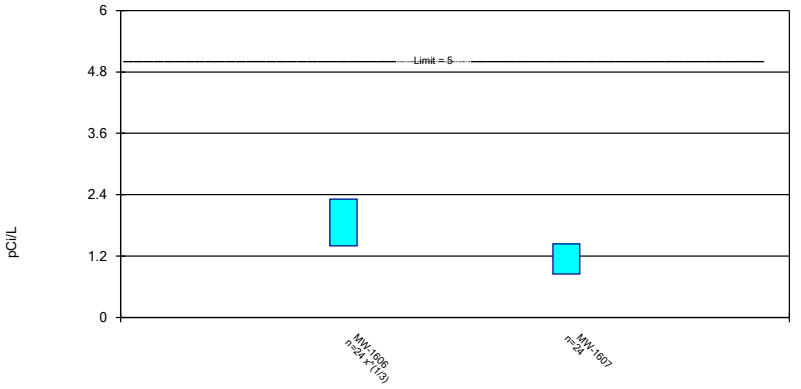
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt total Analysis Run 2/8/2024 9:29 AM View: Rome Limestone - Pond 1 Confidence Inte
Clinch River Data: Clinch River

Parametric Confidence Interval

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



Constituent: Combined Radium 226 and 228 Analysis Run 2/8/2024 9:29 AM View: Rome Limestone - Po
Clinch River Data: Clinch River

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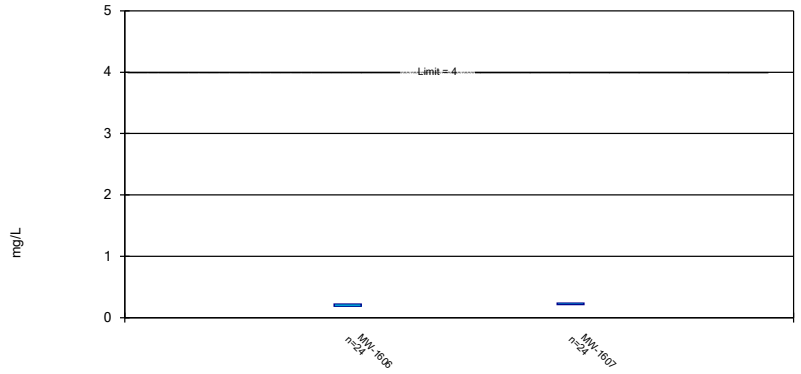
Parametric Confidence Interval

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



Constituent: Fluoride total Analysis Run 2/8/2024 9:29 AM View: Rome Limestone - Pond 1 Confidence Int
Clinch River Data: Clinch River

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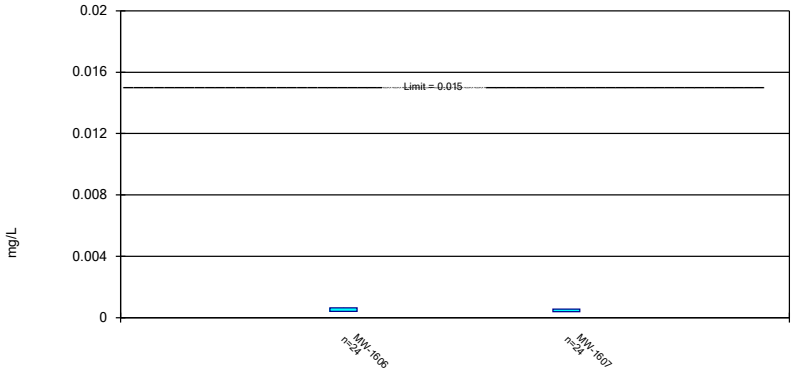
Parametric Confidence Interval

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



Constituent: Lead total Analysis Run 2/8/2024 9:29 AM View: Rome Limestone - Pond 1 Confidence Interv
Clinch River Data: Clinch River

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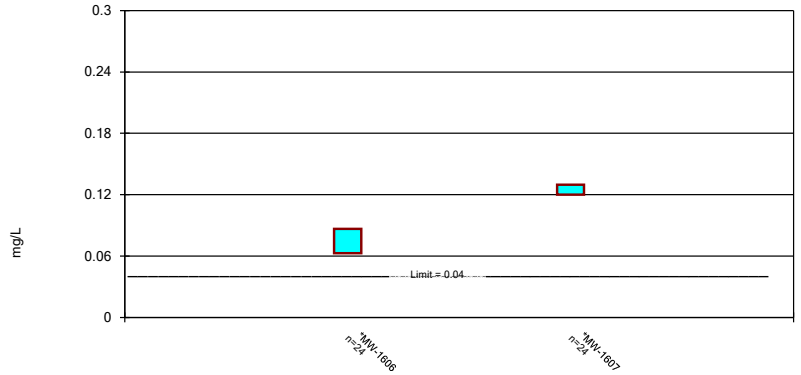
Parametric Confidence Interval

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



Constituent: Lithium total Analysis Run 2/8/2024 9:29 AM View: Rome Limestone - Pond 1 Confidence Int
Clinch River Data: Clinch River

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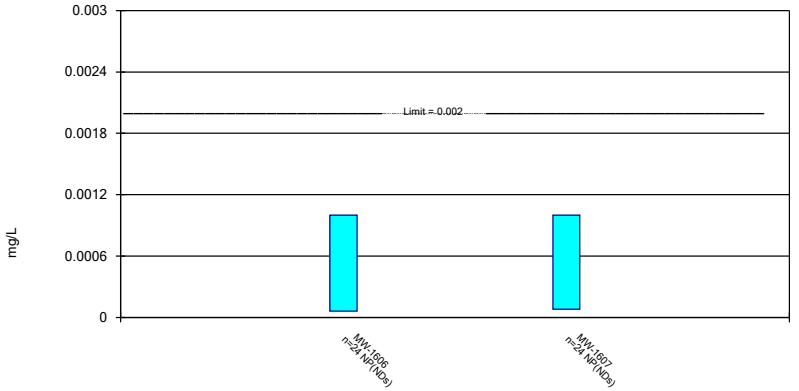
Non-Parametric Confidence Interval

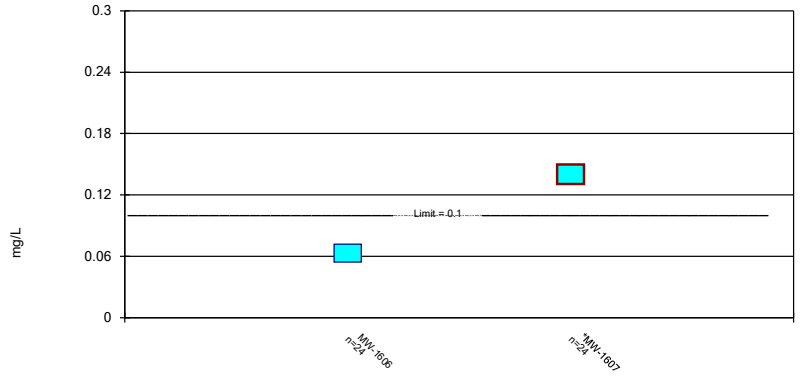
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Mercury total Analysis Run 2/8/2024 9:29 AM View: Rome Limestone - Pond 1 Confidence Int
Clinch River Data: Clinch River

Parametric Confidence Interval

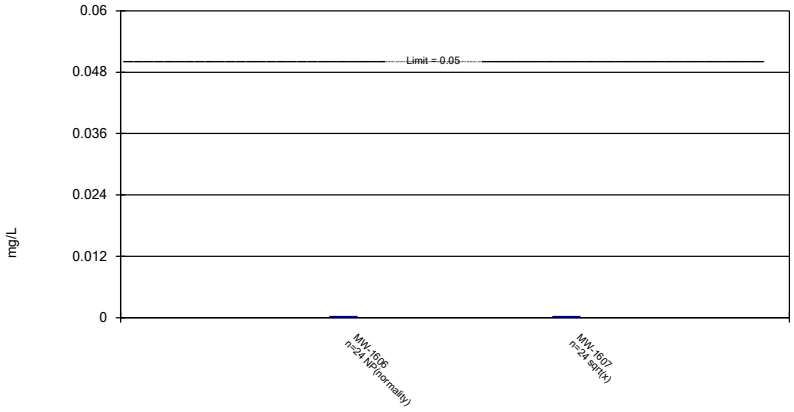
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum total Analysis Run 2/8/2024 9:29 AM View: Rome Limestone - Pond 1 Confiden
Clinch River Data: Clinch River

Parametric and Non-Parametric (NP) Confidence Interval

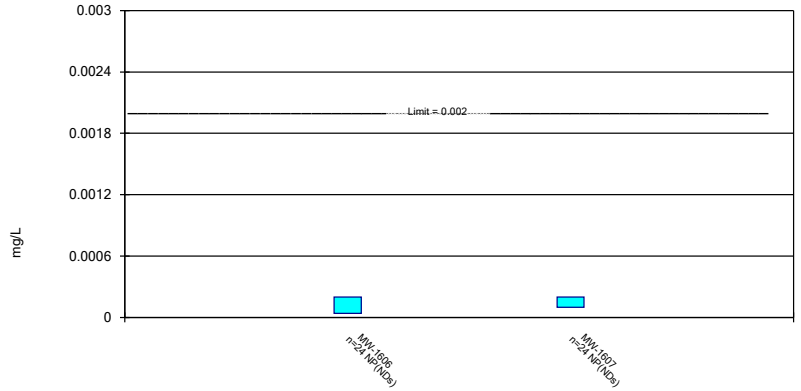
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium total Analysis Run 2/8/2024 9:29 AM View: Rome Limestone - Pond 1 Confidence I
Clinch River Data: Clinch River

Non-Parametric Confidence Interval

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



Constituent: Thallium total Analysis Run 2/8/2024 9:29 AM View: Rome Limestone - Pond 1 Confidence In
Clinch River Data: Clinch River

Confidence Intervals - Dumps Fault - Significant Results

Clinch River Data: Clinch River Printed 2/8/2024, 2:45 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Cobalt total (mg/L)	**MW-1610**	**0.008642**	**0.006304**	**0.006**	**Yes**	**24**	**0.007473**	**0.002291**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium total (mg/L)	**MW-1610**	**0.2001**	**0.162**	**0.161**	**Yes**	**24**	**0.1841**	**0.04376**	**0**	**None**	**ln(x)**	**0.01**	**Param.**
Molybdenum total (mg/L)	**MW-1610**	**0.1679**	**0.1183**	**0.1**	**Yes**	**24**	**0.146**	**0.05372**	**0**	**None**	**sqrt(x)**	**0.01**	**Param.**

Confidence Intervals - Dumps Fault - All Results

Clinch River Data: Clinch River Printed 2/8/2024, 2:45 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony total (mg/L)	MW-1610	0.0002092	0.00005941	0.006	No	24	0.0002515	0.0004014	4.167	None	ln(x)	0.01	Param.
Arsenic total (mg/L)	MW-1610	0.00161	0.00114	0.023	No	24	0.001554	0.0009839	0	None	No	0.01	NP (normality)
Barium total (mg/L)	MW-1610	0.2707	0.2234	2	No	24	0.247	0.04633	0	None	No	0.01	Param.
Beryllium total (mg/L)	MW-1610	0.00005	0.000007	0.004	No	24	0.00004246	0.00001723	83.33	None	No	0.01	NP (NDs)
Cadmium total (mg/L)	MW-1610	0.00001514	0.000005683	0.005	No	24	0.00002125	0.00001222	33.33	Kaplan-Meier	sqrt(x)	0.01	Param.
Chromium total (mg/L)	MW-1610	0.00026	0.00018	0.1	No	24	0.0002437	0.0001378	0	None	No	0.01	NP (normality)
Cobalt total (mg/L)	**MW-1610**	**0.008642**	**0.006304**	**0.006**	**Yes**	**24**	**0.007473**	**0.002291**	**0**	**None**	**No**	**0.01**	**Param.**
Combined Radium 226 and 228 (pCi/L)	MW-1610	1.498	0.8627	5	No	24	1.18	0.6226	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1610	0.21	0.18	4	No	24	0.2067	0.0383	0	None	No	0.01	NP (normality)
Lead total (mg/L)	MW-1610	0.006753	0.002586	0.015	No	24	0.005327	0.004543	0	None	sqrt(x)	0.01	Param.
Lithium total (mg/L)	**MW-1610**	**0.2001**	**0.162**	**0.161**	**Yes**	**24**	**0.1841**	**0.04376**	**0**	**None**	**ln(x)**	**0.01**	**Param.**
Mercury total (mg/L)	MW-1610	0.001	0.00006	0.002	No	24	0.0009608	0.0001919	95.83	None	No	0.01	NP (NDs)
Molybdenum total (mg/L)	**MW-1610**	**0.1679**	**0.1183**	**0.1**	**Yes**	**24**	**0.146**	**0.05372**	**0**	**None**	**sqrt(x)**	**0.01**	**Param.**
Selenium total (mg/L)	MW-1610	0.0003276	0.0001891	0.05	No	24	0.0002583	0.0001357	8.333	None	No	0.01	Param.
Thallium total (mg/L)	MW-1610	0.0002	0.00003	0.002	No	24	0.000155	0.00007967	75	None	No	0.01	NP (NDs)

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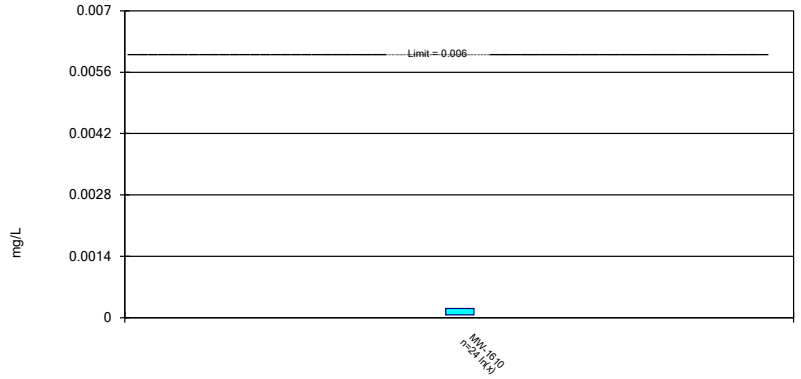
Parametric Confidence Interval

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



Constituent: Antimony total Analysis Run 2/8/2024 2:11 PM View: Dumps Fault - Pond 1 Confidence Interv
Clinch River Data: Clinch River

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Non-Parametric Confidence Interval

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

Constituent: Arsenic total Analysis Run 2/8/2024 2:11 PM View: Dumps Fault - Pond 1 Confidence Interval
Clinch River Data: Clinch River

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Parametric Confidence Interval

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

Constituent: Barium total Analysis Run 2/8/2024 2:11 PM View: Dumps Fault - Pond 1 Confidence Interval
Clinch River Data: Clinch River

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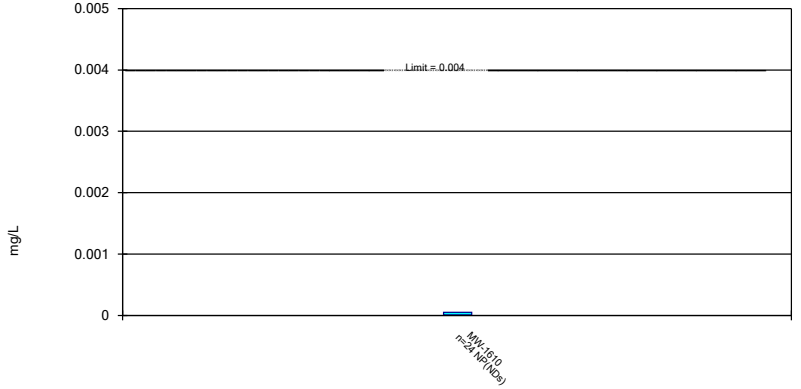
Non-Parametric Confidence Interval

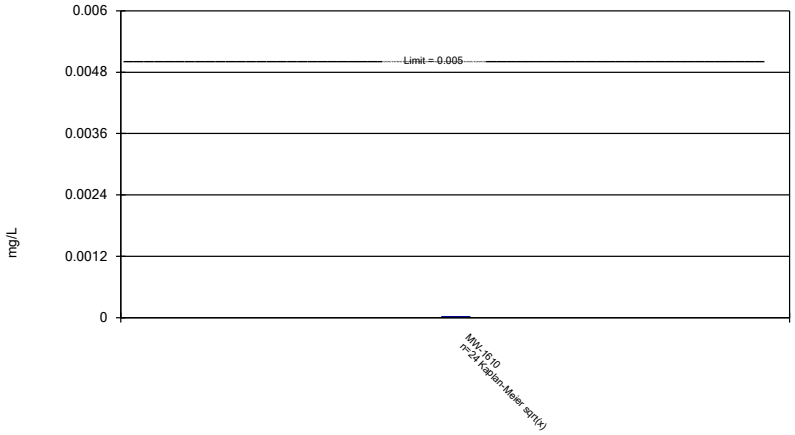
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Beryllium total Analysis Run 2/8/2024 2:11 PM View: Dumps Fault - Pond 1 Confidence Interv
Clinch River Data: Clinch River

Parametric Confidence Interval

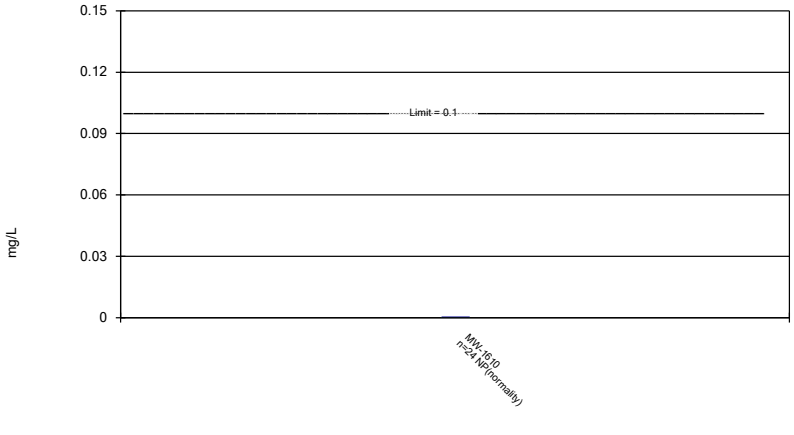
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cadmium total Analysis Run 2/8/2024 2:11 PM View: Dumps Fault - Pond 1 Confidence Inter
Clinch River Data: Clinch River

Non-Parametric Confidence Interval

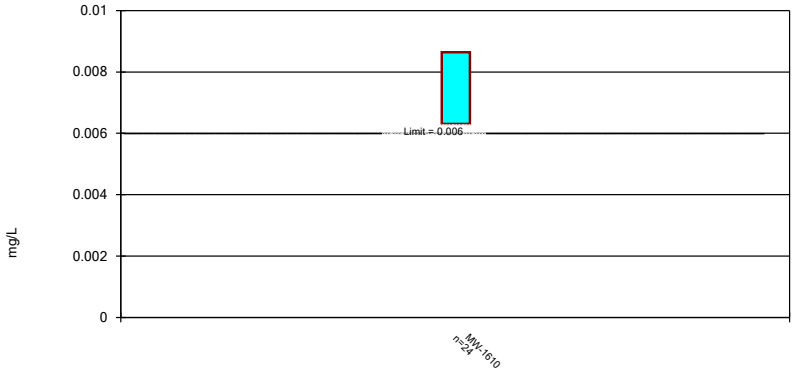
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Chromium total Analysis Run 2/8/2024 2:11 PM View: Dumps Fault - Pond 1 Confidence Inter
Clinch River Data: Clinch River

Parametric Confidence Interval

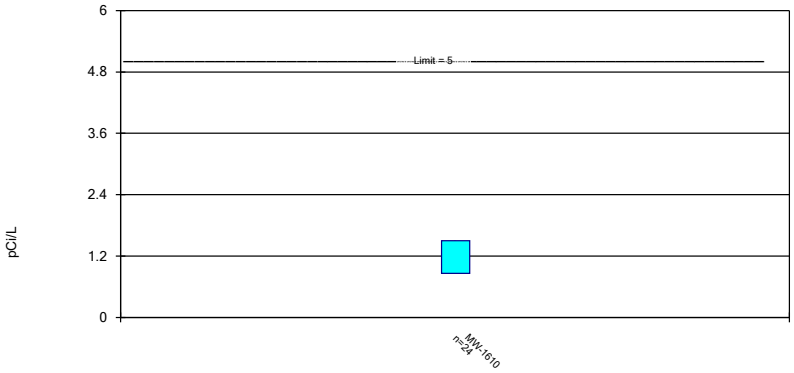
Compliance limit is exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt total Analysis Run 2/8/2024 2:11 PM View: Dumps Fault - Pond 1 Confidence Intervals
Clinch River Data: Clinch River

Parametric Confidence Interval

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



Constituent: Combined Radium 226 and 228 Analysis Run 2/8/2024 2:12 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

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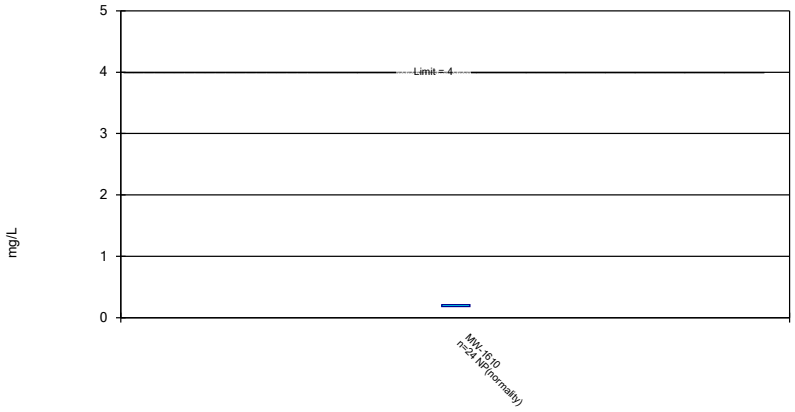
Non-Parametric Confidence Interval

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



Constituent: Fluoride total Analysis Run 2/8/2024 2:12 PM View: Dumps Fault - Pond 1 Confidence Interva
Clinch River Data: Clinch River

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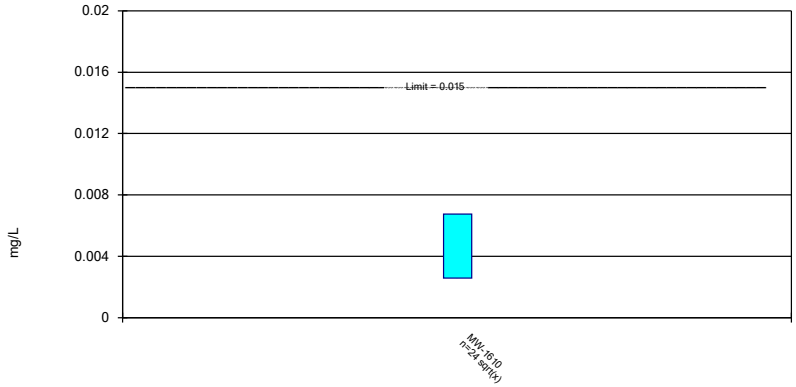
Parametric Confidence Interval

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



Constituent: Lead total Analysis Run 2/8/2024 2:12 PM View: Dumps Fault - Pond 1 Confidence Intervals
Clinch River Data: Clinch River

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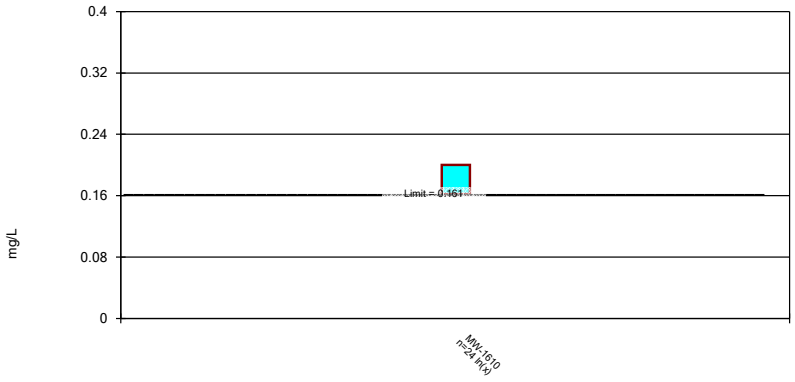
Parametric Confidence Interval

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



Constituent: Lithium total Analysis Run 2/8/2024 2:12 PM View: Dumps Fault - Pond 1 Confidence Interval
Clinch River Data: Clinch River

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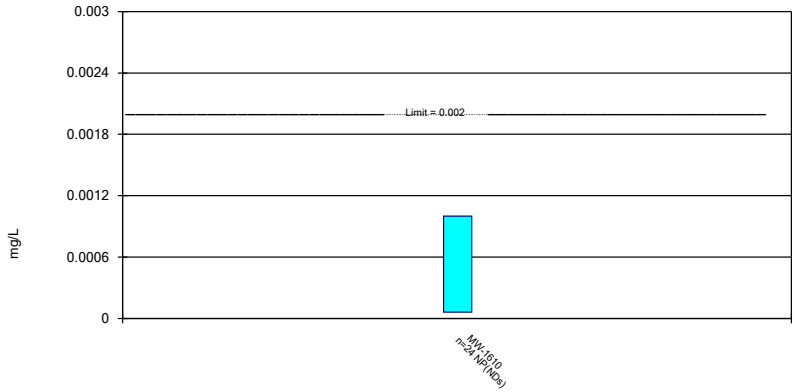
Non-Parametric Confidence Interval

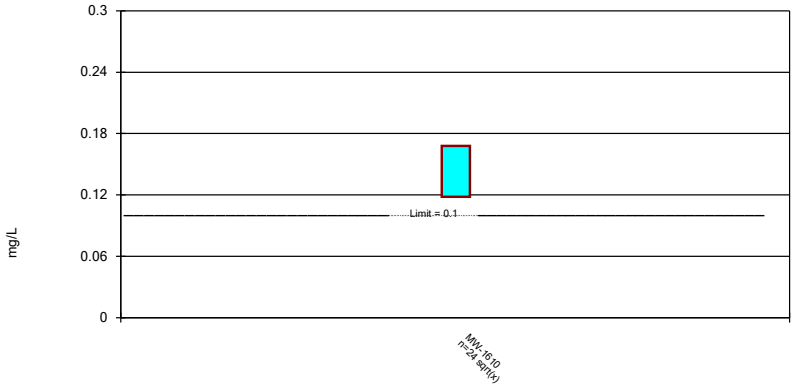
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Mercury total Analysis Run 2/8/2024 2:12 PM View: Dumps Fault - Pond 1 Confidence Interva
Clinch River Data: Clinch River

Parametric Confidence Interval

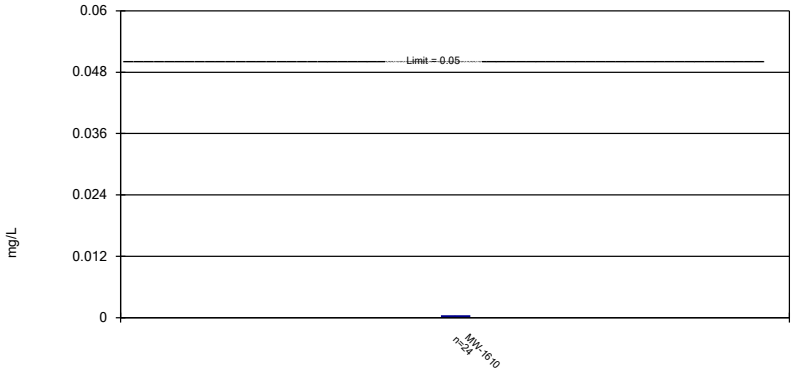
Compliance limit is exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum total Analysis Run 2/8/2024 2:12 PM View: Dumps Fault - Pond 1 Confidence In
Clinch River Data: Clinch River

Parametric Confidence Interval

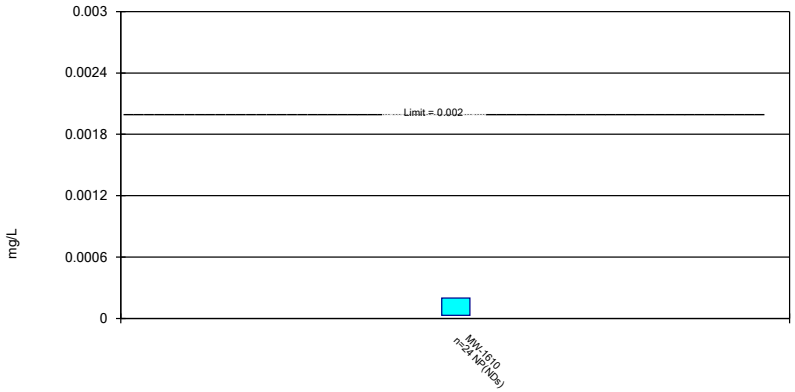
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium total Analysis Run 2/8/2024 2:12 PM View: Dumps Fault - Pond 1 Confidence Interv
Clinch River Data: Clinch River

Non-Parametric Confidence Interval

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



Constituent: Thallium total Analysis Run 2/8/2024 2:12 PM View: Dumps Fault - Pond 1 Confidence Interv
Clinch River Data: Clinch River

FIGURE J.

Appendix IV Trend Tests - Chattanooga Shale - Significant Results

Clinch River Data: Clinch River Printed 2/7/2024, 11:45 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Barium total (mg/L)	**MW-1601 (bg)**	**-0.02454**	**-192**	**-81**	**Yes**	**24**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1602 (bg)**	**-0.002884**	**-181**	**-81**	**Yes**	**24**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1603**	**0.1683**	**118**	**81**	**Yes**	**24**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1605**	**0.2072**	**124**	**81**	**Yes**	**24**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1608 (bg)**	**-0.003342**	**-228**	**-81**	**Yes**	**24**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1612**	**0.09617**	**95**	**76**	**Yes**	**23**	**0**	**n/a**	**0.05**	**NP**
Lithium total (mg/L)	**MW-1602 (bg)**	**-0.001417**	**-108**	**-81**	**Yes**	**24**	**0**	**n/a**	**0.05**	**NP**
Lithium total (mg/L)	**MW-1608 (bg)**	**-0.0009332**	**-134**	**-81**	**Yes**	**24**	**4.167**	**n/a**	**0.05**	**NP**

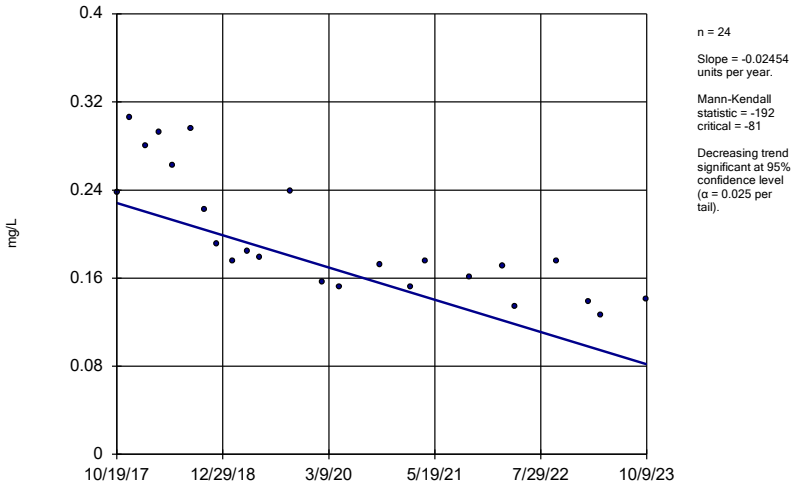
Appendix IV Trend Tests - Chattanooga Shale - All Results

Clinch River Data: Clinch River Printed 2/7/2024, 11:45 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Barium total (mg/L)	**MW-1601 (bg)**	**-0.02454**	**-192**	**-81**	**Yes**	**24**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1602 (bg)**	**-0.002884**	**-181**	**-81**	**Yes**	**24**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1603**	**0.1683**	**118**	**81**	**Yes**	**24**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	MW-1604	-0.01138	-31	-81	No	24	0	n/a	0.05	NP
Barium total (mg/L)	**MW-1605**	**0.2072**	**124**	**81**	**Yes**	**24**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1608 (bg)**	**-0.003342**	**-228**	**-81**	**Yes**	**24**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1612**	**0.09617**	**95**	**76**	**Yes**	**23**	**0**	**n/a**	**0.05**	**NP**
Lithium total (mg/L)	MW-1601 (bg)	-0.0009984	-57	-81	No	24	0	n/a	0.05	NP
Lithium total (mg/L)	**MW-1602 (bg)**	**-0.001417**	**-108**	**-81**	**Yes**	**24**	**0**	**n/a**	**0.05**	**NP**
Lithium total (mg/L)	MW-1605	-0.001172	-34	-81	No	24	0	n/a	0.05	NP
Lithium total (mg/L)	**MW-1608 (bg)**	**-0.0009332**	**-134**	**-81**	**Yes**	**24**	**4.167**	**n/a**	**0.05**	**NP**

Sen's Slope Estimator

MW-1601 (bg)



n = 24

Slope = -0.02454 units per year.

Mann-Kendall statistic = -192
critical = -81

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

Constituent: Barium total Analysis Run 2/7/2024 11:44 AM View: Chattanooga Shale - Pond 1 Appendix IV
Clinch River Data: Clinch River

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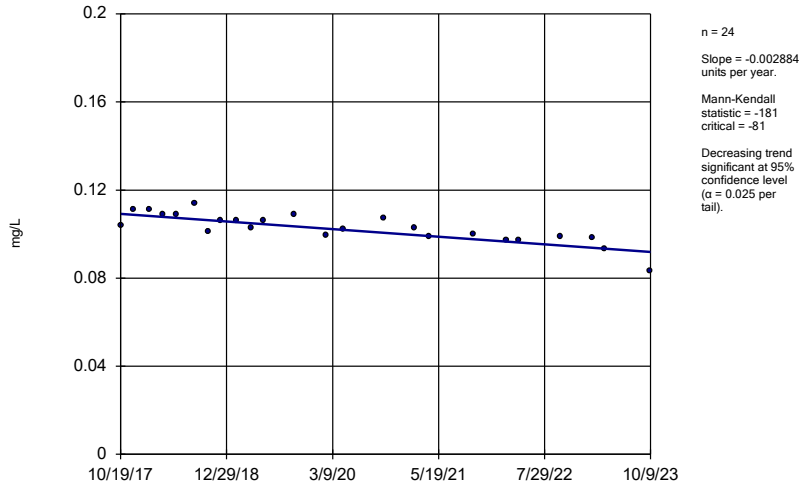
Sen's Slope Estimator

MW-1602 (bg)



n = 24

Slope = -0.002884 units per year.

Mann-Kendall statistic = -181
critical = -81

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

Constituent: Barium total Analysis Run 2/7/2024 11:44 AM View: Chattanooga Shale - Pond 1 Appendix IV
Clinch River Data: Clinch River

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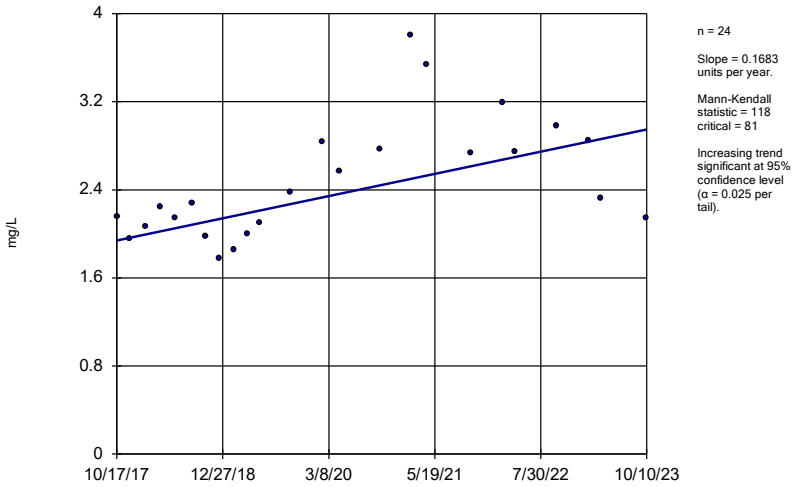
Sen's Slope Estimator

MW-1603



n = 24

Slope = 0.1683 units per year.

Mann-Kendall statistic = 118
critical = 81

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

Constituent: Barium total Analysis Run 2/7/2024 11:44 AM View: Chattanooga Shale - Pond 1 Appendix IV
Clinch River Data: Clinch River

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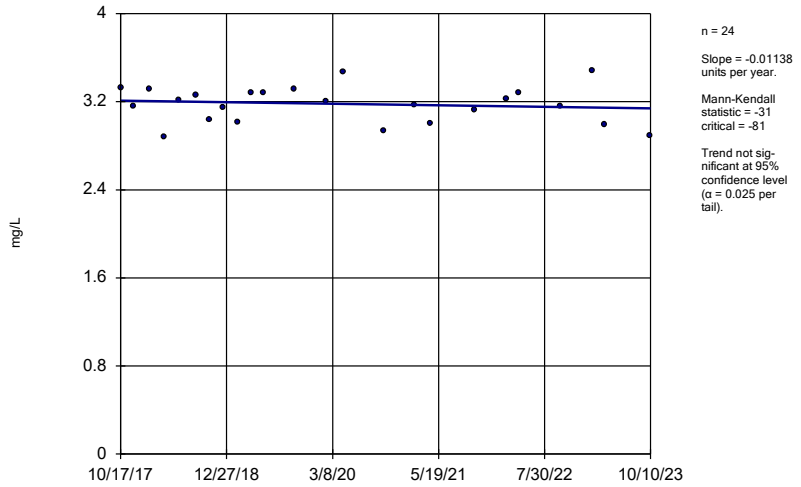
Sen's Slope Estimator

MW-1604



n = 24

Slope = -0.01138 units per year.

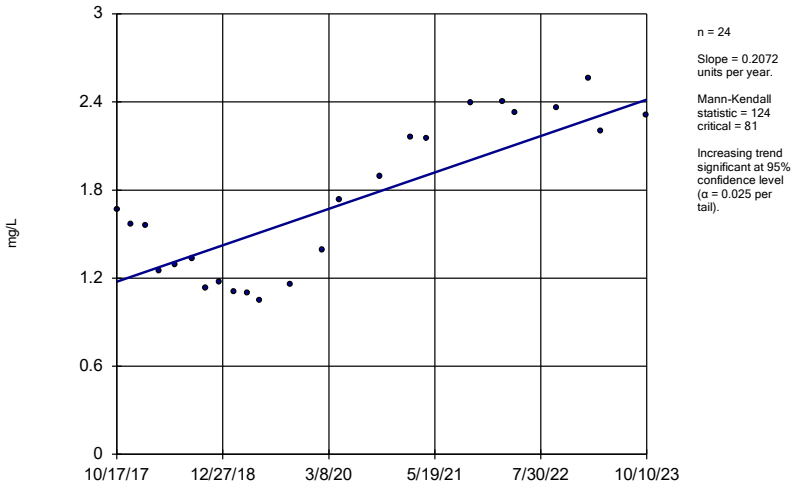
Mann-Kendall statistic = -31
critical = -81

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

Constituent: Barium total Analysis Run 2/7/2024 11:44 AM View: Chattanooga Shale - Pond 1 Appendix IV
Clinch River Data: Clinch River

Sen's Slope Estimator

MW-1605



n = 24

Slope = 0.2072 units per year.

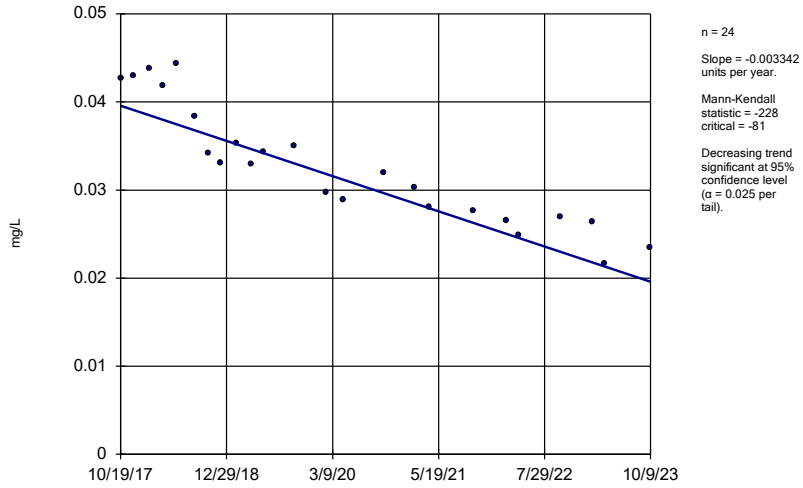
Mann-Kendall statistic = 124
critical = 81

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

Constituent: Barium total Analysis Run 2/7/2024 11:44 AM View: Chattanooga Shale - Pond 1 Appendix IV
Clinch River Data: Clinch River

Sen's Slope Estimator

MW-1608 (bg)



n = 24

Slope = -0.003342 units per year.

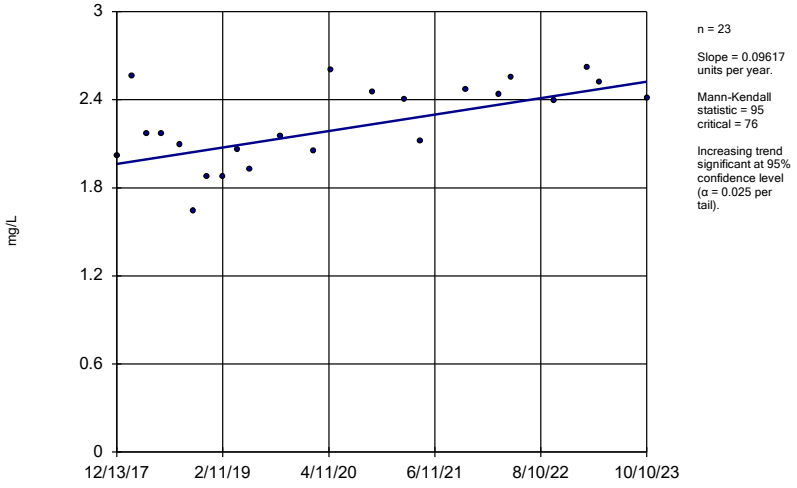
Mann-Kendall statistic = -228
critical = -81

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

Constituent: Barium total Analysis Run 2/7/2024 11:44 AM View: Chattanooga Shale - Pond 1 Appendix IV
Clinch River Data: Clinch River

Sen's Slope Estimator

MW-1612



n = 23

Slope = 0.09617 units per year.

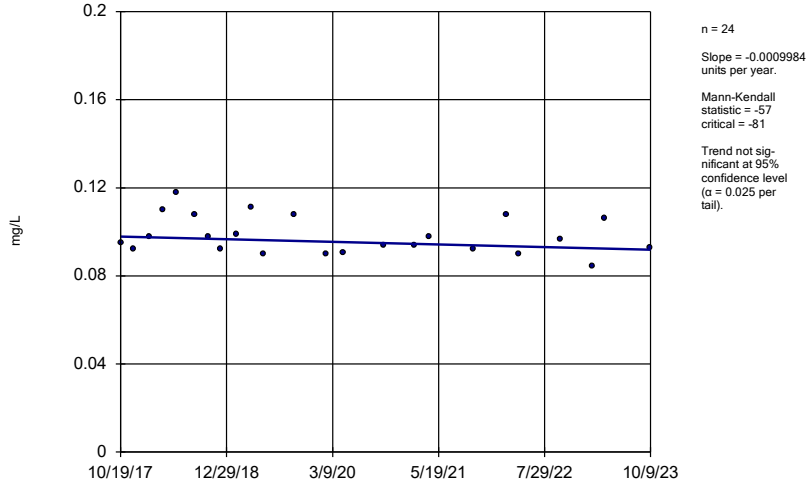
Mann-Kendall statistic = 95
critical = 76

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

Constituent: Barium total Analysis Run 2/7/2024 11:44 AM View: Chattanooga Shale - Pond 1 Appendix IV
Clinch River Data: Clinch River

Sen's Slope Estimator

MW-1601 (bg)



n = 24

Slope = -0.0009984 units per year.

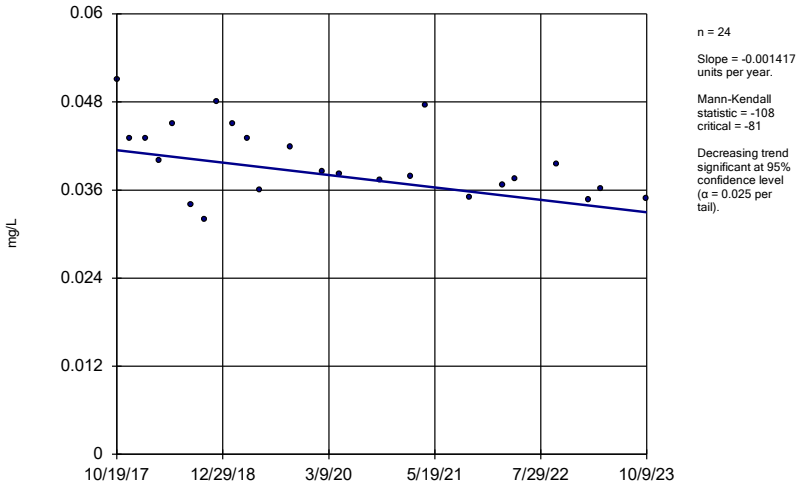
Mann-Kendall statistic = -57
critical = -81

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

Constituent: Lithium total Analysis Run 2/7/2024 11:44 AM View: Chattanooga Shale - Pond 1 Appendix I
Clinch River Data: Clinch River

Sen's Slope Estimator

MW-1602 (bg)



n = 24

Slope = -0.001417 units per year.

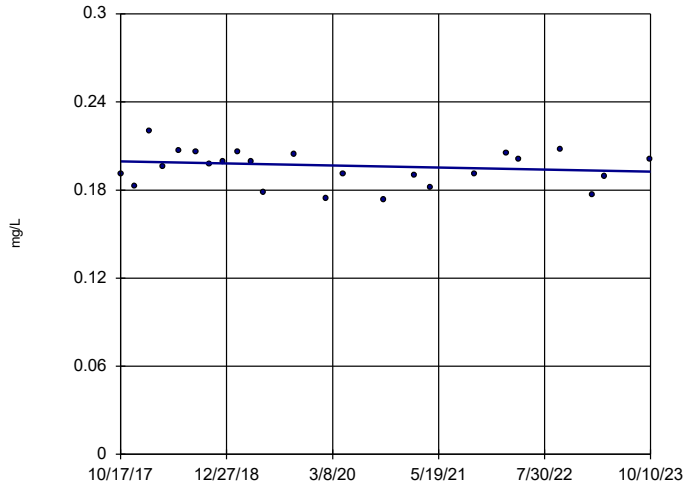
Mann-Kendall statistic = -108
critical = -81

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

Constituent: Lithium total Analysis Run 2/7/2024 11:44 AM View: Chattanooga Shale - Pond 1 Appendix I
Clinch River Data: Clinch River

Sen's Slope Estimator

MW-1605



n = 24

Slope = -0.001172 units per year.

Mann-Kendall statistic = -34
critical = -81

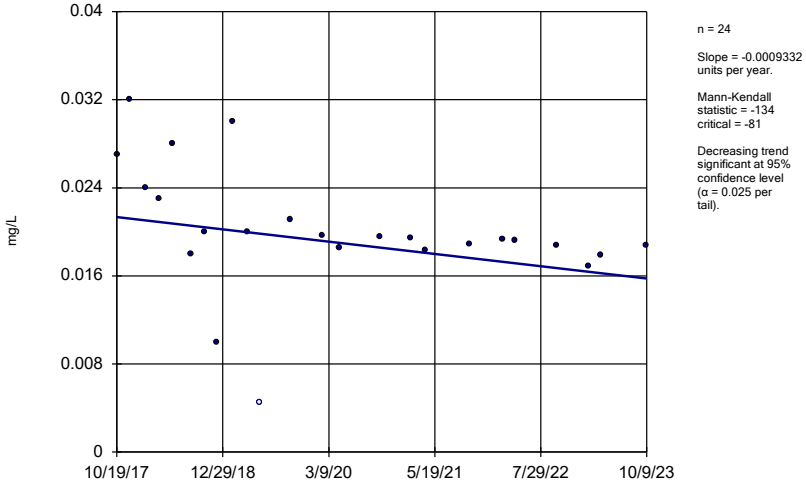
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium total Analysis Run 2/7/2024 11:44 AM View: Chattanooga Shale - Pond 1 Appendix I
Clinch River Data: Clinch River

Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-1608 (bg)



n = 24

Slope = -0.0009332 units per year.

Mann-Kendall statistic = -134
critical = -81

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

Constituent: Lithium total Analysis Run 2/7/2024 11:44 AM View: Chattanooga Shale - Pond 1 Appendix I
Clinch River Data: Clinch River

Appendix IV Trend Tests - Rome Limestone - Significant Results

Clinch River Data: Clinch River Printed 2/8/2024, 9:33 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Lithium total (mg/L)	**MW-1609 (bg)**	**-0.0009344**	**-127**	**-81**	**Yes**	**24**	**25**	**n/a**	**0.05**	**NP**
Molybdenum total (mg/L)	**MW-1607**	**-0.004622**	**-84**	**-81**	**Yes**	**24**	**0**	**n/a**	**0.05**	**NP**
Molybdenum total (mg/L)	**MW-1609 (bg)**	**-0.0001276**	**-129**	**-81**	**Yes**	**24**	**20.83**	**n/a**	**0.05**	**NP**

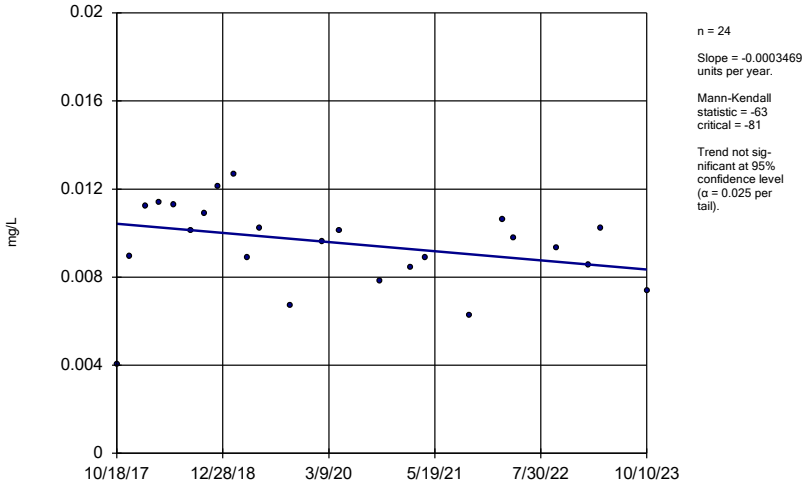
Appendix IV Trend Tests - Rome Limestone - All Results

Clinch River Data: Clinch River Printed 2/8/2024, 9:33 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Cobalt total (mg/L)	MW-1607	-0.0003469	-63	-81	No	24	0	n/a	0.05	NP
Cobalt total (mg/L)	MW-1609 (bg)	-0.00002556	-62	-81	No	24	12.5	n/a	0.05	NP
Lithium total (mg/L)	MW-1606	-0.0006945	-10	-81	No	24	0	n/a	0.05	NP
Lithium total (mg/L)	MW-1607	0.001248	51	81	No	24	0	n/a	0.05	NP
Lithium total (mg/L)	**MW-1609 (bg)**	**-0.0009344**	**-127**	**-81**	**Yes**	**24**	**25**	**n/a**	**0.05**	**NP**
Molybdenum total (mg/L)	**MW-1607**	**-0.004622**	**-84**	**-81**	**Yes**	**24**	**0**	**n/a**	**0.05**	**NP**
Molybdenum total (mg/L)	**MW-1609 (bg)**	**-0.0001276**	**-129**	**-81**	**Yes**	**24**	**20.83**	**n/a**	**0.05**	**NP**

Sen's Slope Estimator

MW-1607



n = 24

Slope = -0.0003469 units per year.

Mann-Kendall statistic = -63
critical = -81

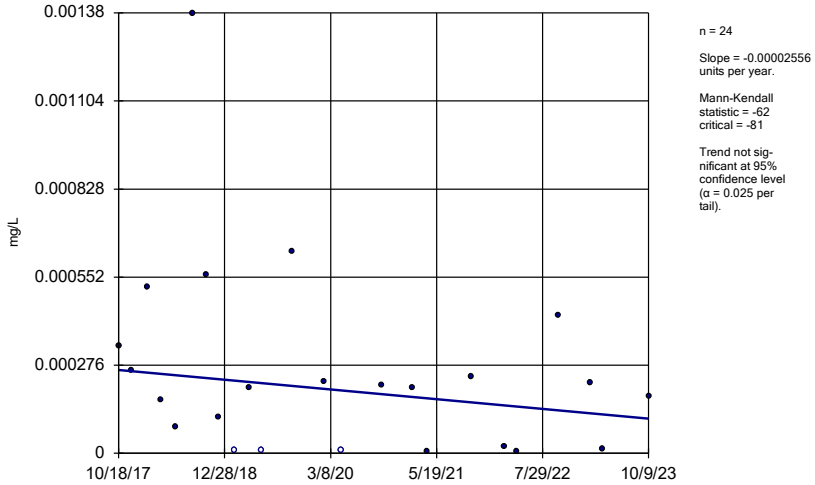
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt total Analysis Run 2/8/2024 9:31 AM View: Rome Limestone - Pond 1 Appendix IV Tre
Clinch River Data: Clinch River

Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-1609 (bg)



n = 24

Slope = -0.00002556 units per year.

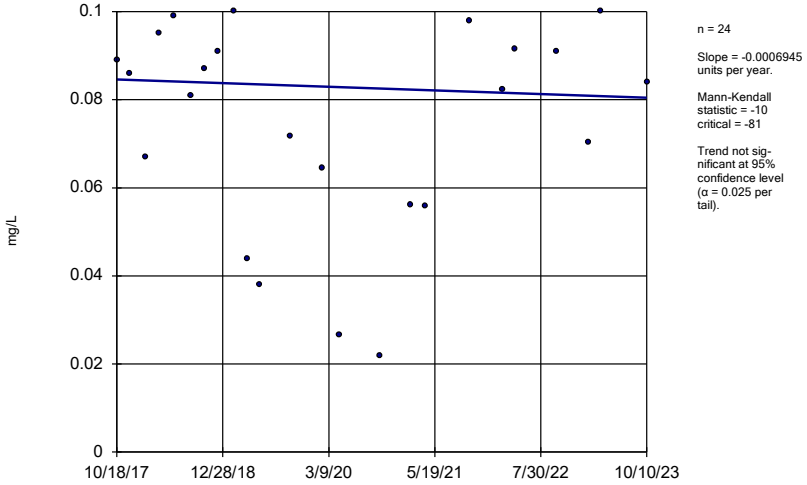
Mann-Kendall statistic = -62
critical = -81

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

Constituent: Cobalt total Analysis Run 2/8/2024 9:31 AM View: Rome Limestone - Pond 1 Appendix IV Tre
Clinch River Data: Clinch River

Sen's Slope Estimator

MW-1606



n = 24

Slope = -0.0006945 units per year.

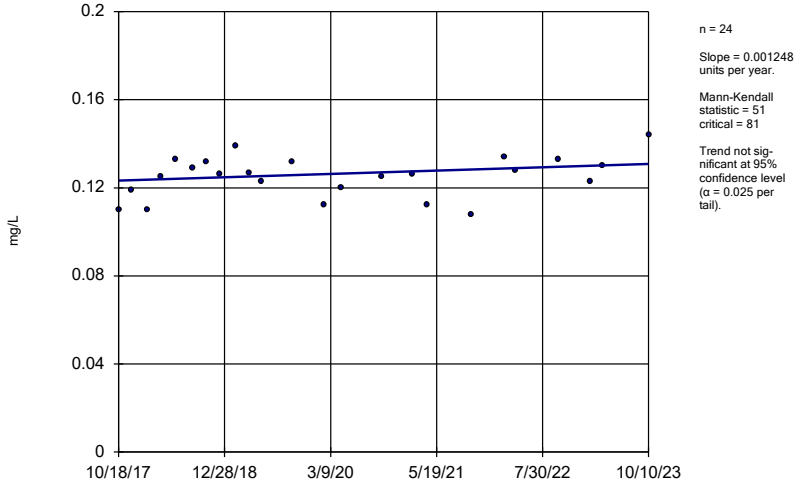
Mann-Kendall statistic = -10
critical = -81

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

Constituent: Lithium total Analysis Run 2/8/2024 9:31 AM View: Rome Limestone - Pond 1 Appendix IV Tr
Clinch River Data: Clinch River

Sen's Slope Estimator

MW-1607



n = 24

Slope = 0.001248 units per year.

Mann-Kendall statistic = 51
critical = 81

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

Constituent: Lithium total Analysis Run 2/8/2024 9:31 AM View: Rome Limestone - Pond 1 Appendix IV Tr
Clinch River Data: Clinch River

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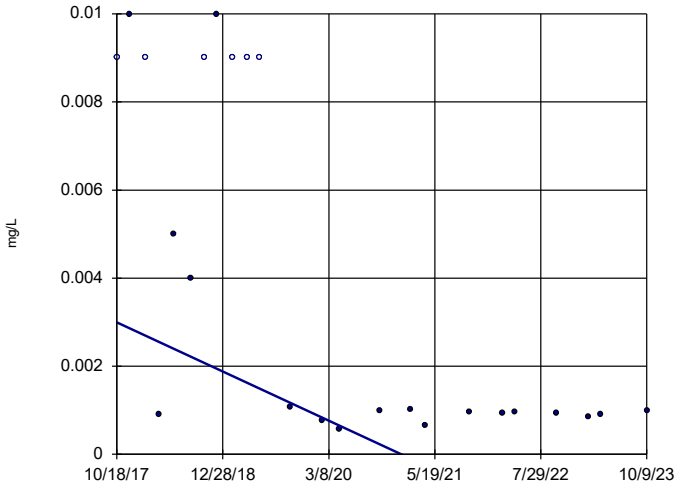
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-1609 (bg)



n = 24

Slope = -0.0009344 units per year.

Mann-Kendall statistic = -127
critical = -81

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

Constituent: Lithium total Analysis Run 2/8/2024 9:31 AM View: Rome Limestone - Pond 1 Appendix IV Tr
Clinch River Data: Clinch River

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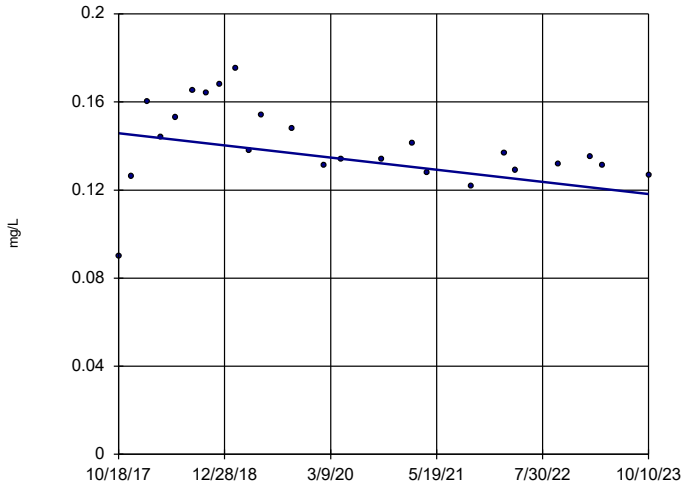
Sen's Slope Estimator

MW-1607



n = 24

Slope = -0.004622 units per year.

Mann-Kendall statistic = -84
critical = -81

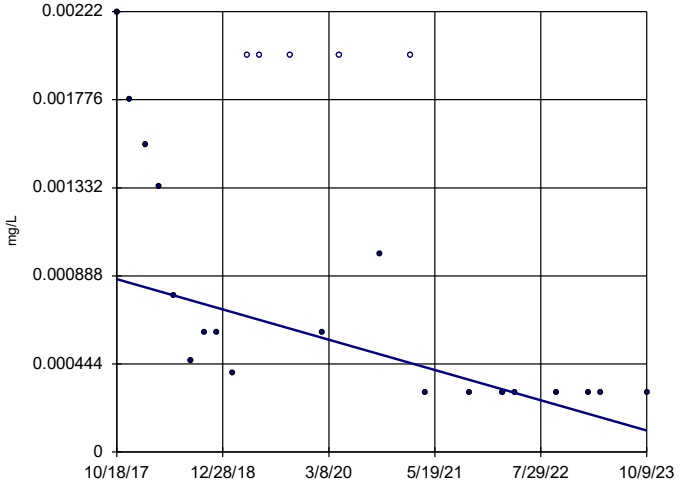
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Molybdenum total Analysis Run 2/8/2024 9:31 AM View: Rome Limestone - Pond 1 Appendix
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-1609 (bg)



n = 24

Slope = -0.0001276 units per year.

Mann-Kendall statistic = -129
critical = -81

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

Constituent: Molybdenum total Analysis Run 2/8/2024 9:31 AM View: Rome Limestone - Pond 1 Appendix
Clinch River Data: Clinch River

Appendix IV Trend Tests - Dumps Fault - Significant Results

Clinch River Data: Clinch River Printed 2/8/2024, 2:50 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Cobalt total (mg/L)	**MW-1610**	**-0.00108**	**-175**	**-81**	**Yes**	**24**	**0**	**n/a**	**0.05**	**NP**
Cobalt total (mg/L)	**MW-1611 (bg)**	**-0.0000149**	**-220**	**-76**	**Yes**	**23**	**0**	**n/a**	**0.05**	**NP**
Lithium total (mg/L)	**MW-1611 (bg)**	**-0.008568**	**-202**	**-81**	**Yes**	**24**	**0**	**n/a**	**0.05**	**NP**
Molybdenum total (mg/L)	**MW-1611 (bg)**	**-0.0001658**	**-110**	**-76**	**Yes**	**23**	**0**	**n/a**	**0.05**	**NP**

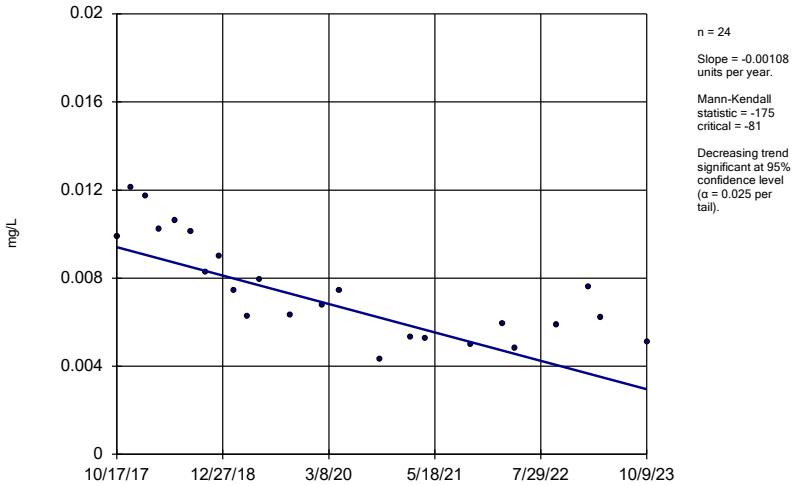
Appendix IV Trend Tests - Dumps Fault - All Results

Clinch River Data: Clinch River Printed 2/8/2024, 2:50 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Cobalt total (mg/L)	**MW-1610**	**-0.00108**	**-175**	**-81**	**Yes**	**24**	**0**	**n/a**	**0.05**	**NP**
Cobalt total (mg/L)	**MW-1611 (bg)**	**-0.0000149**	**-220**	**-76**	**Yes**	**23**	**0**	**n/a**	**0.05**	**NP**
Lithium total (mg/L)	MW-1610	-0.003156	-30	-81	No	24	0	n/a	0.05	NP
Lithium total (mg/L)	**MW-1611 (bg)**	**-0.008568**	**-202**	**-81**	**Yes**	**24**	**0**	**n/a**	**0.05**	**NP**
Molybdenum total (mg/L)	MW-1610	-0.01082	-71	-81	No	24	0	n/a	0.05	NP
Molybdenum total (mg/L)	**MW-1611 (bg)**	**-0.0001658**	**-110**	**-76**	**Yes**	**23**	**0**	**n/a**	**0.05**	**NP**

Sen's Slope Estimator

MW-1610



n = 24

Slope = -0.00108 units per year.

Mann-Kendall statistic = -175
critical = -81

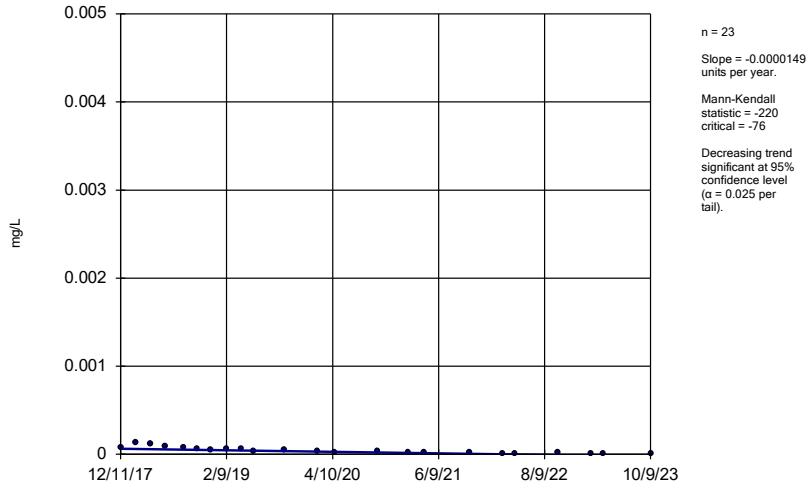
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt total Analysis Run 2/8/2024 2:49 PM View: Dumps Fault - Pond 1 Appendix IV Trend
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

Sen's Slope Estimator

MW-1611 (bg)



n = 23

Slope = -0.0000149 units per year.

Mann-Kendall statistic = -220
critical = -76

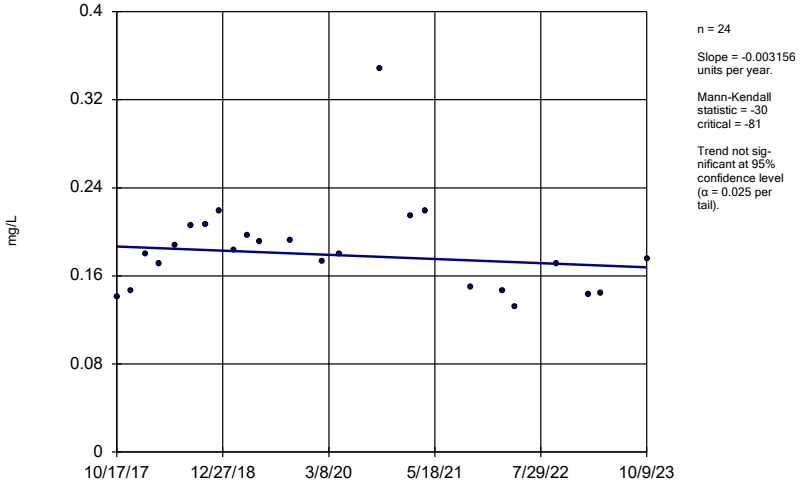
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt total Analysis Run 2/8/2024 2:49 PM View: Dumps Fault - Pond 1 Appendix IV Trend
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

Sen's Slope Estimator

MW-1610



n = 24

Slope = -0.003156 units per year.

Mann-Kendall statistic = -30
critical = -81

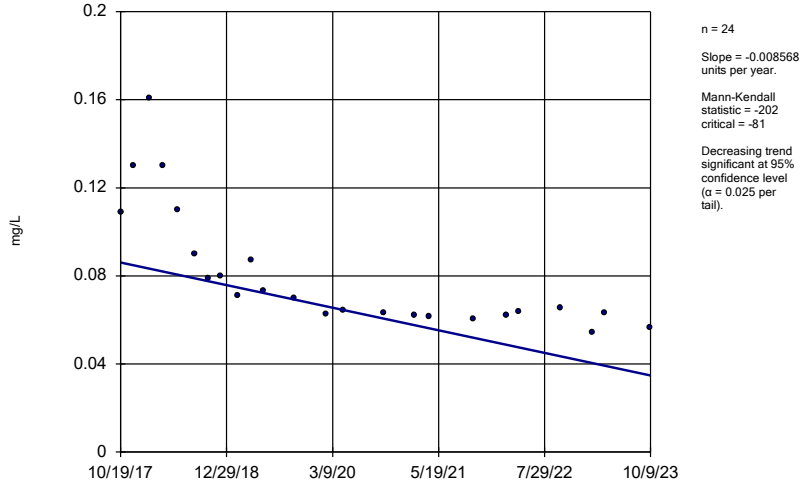
Trend not sig-nificant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium total Analysis Run 2/8/2024 2:49 PM View: Dumps Fault - Pond 1 Appendix IV Trend
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

Sen's Slope Estimator

MW-1611 (bg)



n = 24

Slope = -0.008568 units per year.

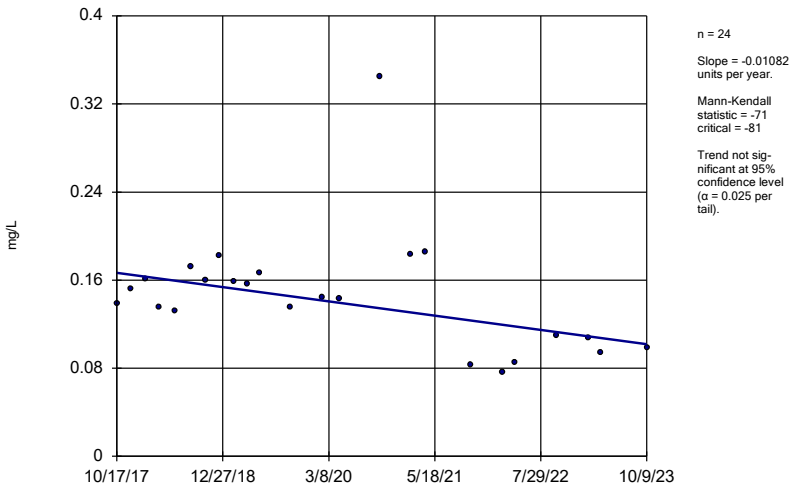
Mann-Kendall statistic = -202
critical = -81

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

Constituent: Lithium total Analysis Run 2/8/2024 2:49 PM View: Dumps Fault - Pond 1 Appendix IV Trend
Clinch River Data: Clinch River

Sen's Slope Estimator

MW-1610



n = 24

Slope = -0.01082 units per year.

Mann-Kendall statistic = -71
critical = -81

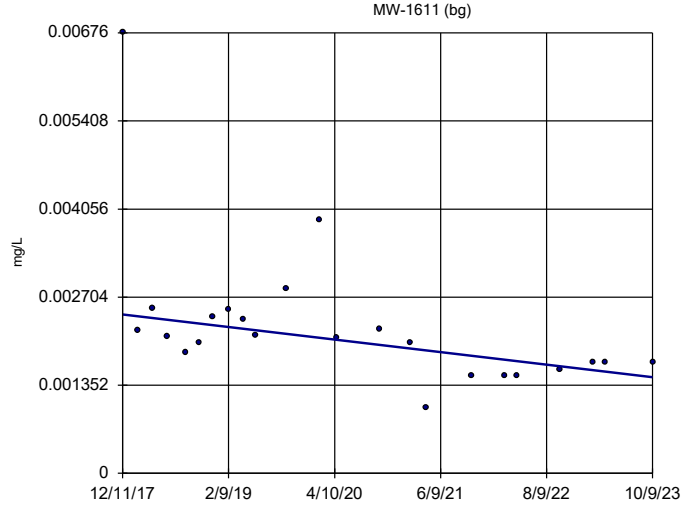
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Molybdenum total Analysis Run 2/8/2024 2:49 PM View: Dumps Fault - Pond 1 Appendix IV T
Clinch River Data: Clinch River

Sanitas™ v.10.0.15 Software licensed to . UG

Sen's Slope Estimator

MW-1611 (bg)



n = 23

Slope = -0.0001658 units per year.

Mann-Kendall statistic = -110
critical = -76

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

Constituent: Molybdenum total Analysis Run 2/8/2024 2:49 PM View: Dumps Fault - Pond 1 Appendix IV T
Clinch River Data: Clinch River

FIGURE K.

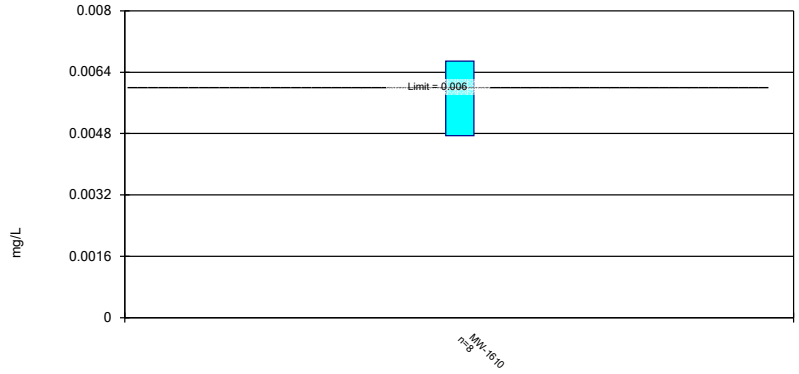
Confidence Interval (Most Recent 8) - Dumps Fault - All Results (No Significant)

Clinch River Data: Clinch River Printed 2/8/2024, 2:52 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Cobalt total (mg/L)	MW-1610	0.006687	0.004748	0.006	No	8	0.005718	0.0009147	0	None	No	0.01	Param.

Parametric Confidence Interval

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



Constituent: Cobalt total Analysis Run 2/8/2024 2:51 PM View: Dumps Fault - Pond 1 Confidence Intervals
Clinch River Data: Clinch River

Geosyntec consultants

engineers | scientists | innovators

STATISTICAL ANALYSIS SUMMARY, ASH POND 1

Clinch River Plant

Carbo, Virginia

Prepared for

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Project Number: CHA8500B

July 31, 2024

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LIST OF ATTACHMENTS

ACRONYMS AND ABBREVIATIONS

CCR	coal combustion residuals
CFR	Code of Federal Regulations
GWPS	groundwater protection standards
LCL	lower confidence limit
mg/L	milligrams per liter
QA/QC	quality assurance and quality control
SSI	statistically significant increase
SSL	statistically significant level
UPL	upper prediction limit
USEPA	United States Environmental Protection Agency

1. INTRODUCTION

In accordance with United States Environmental Protection Agency (USEPA) regulations regarding the disposal of coal combustion residuals (CCR) in landfills and surface impoundments (Code of Federal Regulations [CFR] Title 40, Section 257, Subpart D), groundwater monitoring has been conducted at Ash Pond 1, an existing CCR unit at the Clinch River Plant in Carbo, Virginia. Recent groundwater monitoring results were used to identify concentrations of Appendix IV constituents that are above the groundwater protection standards (GWPSs).

Eight monitoring events were completed from December 2017 to December 2018 to establish background concentrations for Appendix III and Appendix IV parameters under the CCR rule. Data collected through April 2019 were compared to the background concentrations to evaluate for any statistically significant increases (SSIs) or statistically significant levels (SSLs) of Appendix III or Appendix IV constituents. SSLs and SSIs were identified for several constituents in groundwater. Because an alternative source of these constituents was not identified, an assessment of corrective measures was initiated for Ash Pond 1 in accordance with 40 CFR 257.96. The assessment of corrective measures has been conducted and the selection of a remedy is ongoing. Ash Pond 1 continues to undergo assessment monitoring in the interim.

An annual sampling event at Ash Pond 1 for Appendix III and Appendix IV parameters required by 40 CFR 257.95(b) was completed in February 2024, and a semiannual sampling event for Appendix III and Appendix IV parameters required by 40 CFR 257.95(d)(1) was completed in April 2024. The results of these annual and semiannual assessment monitoring events are documented in this report.

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

Groundwater data were submitted to Groundwater Stats Consulting, LLC for statistical analysis. The statistics were completed in three separate groups that correspond to differences in the underlying geology at the monitoring locations. Confidence intervals were calculated from the Appendix IV parameter data at the compliance wells to assess whether any were present at SSLs above the previously established GWPSs. SSLs were identified for barium, cobalt, lithium, and molybdenum. Therefore, selection of the remedy will continue, and groundwater monitoring will continue in accordance with the assessment monitoring program as required by 40 CFR 275.96(b). Certification of the selected statistical methods by a qualified professional engineer is documented in Attachment A.

2. ASH POND 1 EVALUATION

2.1 Data Validation and QA/QC

During the assessment monitoring program, two sets of samples were collected for analysis from each upgradient and downgradient well throughout the three geologically distinct monitoring well networks to meet the requirements of 40 CFR 257.95b (February 2024) and 40 CFR 257.95(d)(1) (April 2024). The three geological units are the Chattanooga Shale, the Rome Limestone, and the Dumps Fault water-bearing unit. A summary of data collected during these assessment monitoring events may be found in Table 1.

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

The analytical data were imported into a Microsoft Access database, where checks were completed to assess the accuracy of sample location identification and analyte identification. Where necessary, unit conversions were applied to standardize reported units across all sampling events. Exported data files were created for use with the Sanitas™ v.10.0.16e statistics software. The export file was checked against the analytical data for transcription errors and completeness. No QA/QC issues that would impact data usability were noted.

2.2 Statistical Analysis

Statistical analyses for Ash Pond 1 were conducted in accordance with the October 2020 *Statistical Analysis Plan* (Geosyntec 2020). Time series plots and results for all completed statistical tests are provided in Attachment B. The data obtained in February and April 2024 were screened for potential outliers. No outliers were identified for these events.

2.2.1 Evaluation of Potential Appendix IV SSLs

A confidence interval was constructed for each Appendix IV parameter at each compliance well. Confidence limits were generally calculated parametrically ($\alpha = 0.01$); however, nonparametric confidence limits were calculated in some cases (e.g., when the data were not normally distributed or when the nondetect frequency was too high). Sen's Slop/Mann-Kendall trend tests at a 95% confidence level were used to evaluate data for statistically significant trends. A statistically significant decreasing trend was observed for molybdenum at MW-1607; therefore, the LCL was calculated using the most recent eight data points. Additionally, the confidence interval for barium at MW-1605 was calculated using data collected since February 2021 due to a statistically significant increasing trend.

An SSL was concluded if the lower confidence limit (LCL) exceeded the GWPS (i.e., if the entire confidence interval exceeded the GWPS). The calculated confidence limits (Attachment B) were compared to the GWPSs provided in Table 2. The GWPSs were established during a previous statistical analysis as either (a) the background concentration or (b) the maximum contaminant level and risk-based level specified in 40 CFR 257.95(h)(2), whichever was greater (Geosyntec 2024).

The following SSLs were identified at Clinch River Ash Pond 1 (Table 3):

- Chattanooga Shale
  - LCLs for barium at MW-1603 (2.25 milligrams per liter [mg/L]), MW-1604 (3.08 mg/L), MW-1605 (2.20 mg/L) and MW-1612 (2.12 mg/L) were above the GWPS of 2.00 mg/L.
  - The LCL for lithium at MW-1605 (0.188 mg/L) was above the GWPS of 0.118 mg/L.
- Rome Limestone
  - LCLs for lithium at MW-1606 (0.0636 mg/L) and MW-1607 (0.121 mg/L) were above the GWPS of 0.0400 mg/L.
  - The LCL for cobalt at MW-1607 (0.00836 mg/L) was above the GWPS of 0.00600 mg/L.
  - The LCL for molybdenum at MW-1607 (0.125 mg/L) was above the GWPS of 0.100 mg/L.

As a result of the identified SSLs, the selection of remedy will continue, and groundwater monitoring will continue in accordance with the assessment monitoring program per 40 CFR 257.96(b).

2.2.2 Evaluation of Potential Appendix III SSIs

While SSLs were identified, a review of the Appendix III results was also completed to assess whether concentrations of Appendix III parameters at the compliance wells were above background concentrations. Data collected during the April 2024 assessment monitoring event from each compliance well were compared to previously calculated prediction limits to assess whether the results were statistically above background values, as shown in Table 4. The following SSIs above the upper prediction limits (UPLs) were noted:

- Calcium concentrations were above the Chattanooga Shale interwell UPL of 7.08 mg/L at MW-1603 (26.5 mg/L), MW-1604 (26.8 mg/L), MW-1605 (45.6 mg/L), and MW-1612 (45.6 mg/L).
- Chloride concentrations were above the Chattanooga Shale interwell UPL of 34.3 mg/L at MW-1603 (129 mg/L) and MW-1605 (145 mg/L). Chloride concentrations were above the Rome Limestone interwell UPL of 4.10 mg/L at MW-1606 (13.7 mg/L) and MW-1607 (6.82 mg/L).
- Sulfate concentrations were above the Rome Limestone interwell UPL of 20.3 mg/L at MW-1606 (62.1 mg/L) and MW-1607 (141 mg/L).

While the prediction limits were calculated for a one-of-two retesting procedure, SSIs were conservatively assumed if the April 2024 sample was above the UPL or, in the case of pH, below the lower prediction limit.

2.3 Conclusions

Annual and semiannual assessment monitoring events were conducted in accordance with the CCR Rule. The laboratory and field data were reviewed prior to statistical analysis, with no QA/QC issues identified that prevented data usage. A review of outliers identified no potential outliers in the February or April 2023 data. A confidence interval was constructed at each compliance well for each Appendix IV parameter; SSLs were concluded if the entire confidence interval was above the GWPS. SSLs were identified for barium, cobalt, lithium, and molybdenum.

Appendix III parameters were compared to previously calculated prediction limits; concentrations of calcium, chloride, and sulfate were above the prediction limits.

Based on this evaluation, the selection of a remedy for the Clinch River Ash Pond 1 CCR unit will continue, and the groundwater monitoring will continue in accordance with the assessment monitoring program per 40 CFR 257.96(b).

3. REFERENCES

Geosyntec. 2020. Statistical Analysis Plan – Clinch River Plant. Geosyntec Consultants, Inc. October.

Geosyntec. 2024. Statistical Analysis Summary – Ash Pond 1, Clinch River Plant, Carbo, Virginia. Geosyntec Consultants, Inc. February.

TABLES

Table 1. Groundwater Data Summary
Statistical Analysis Summary
Clinch River Plant, Ash Pond 1

Parameter	Unit	MW-1601		MW-1602		MW-1603		MW-1604		MW-1605		MW-1606	
		2/19/2024	4/1/2024	2/19/2024	4/1/2024	2/20/2024	4/2/2024	2/20/2024	4/2/2024	2/20/2024	4/2/2024	2/19/2024	4/2/2024
Antimony	µg/L	0.016 J1	0.021 J1	0.043 J1	0.043 J1	0.029 J1	0.046 J1	0.018 J1	0.023 J1	0.011 J1	0.047 J1	0.1 U1	0.384
Arsenic	µg/L	4.03	4.26	1.84	1.64	2.28	2.26	4.57	2.13	0.78	1.08	5.51	5.39
Barium	µg/L	135	137	88.6	85.0	2,680	2,810 M1	2,870	3,080	2,200	2,240	95.8	99.7
Beryllium	µg/L	0.05 U1	0.05 U1	0.05 U1	0.05 U1	0.008 J1	0.009 J1	0.05 U1	0.05 U1	0.05 U1	0.05 U1	0.05 U1	0.05 U1
Boron	mg/L	0.480	0.550	0.547	0.601	0.194	0.204	0.338	0.405	0.514	0.537	0.143	0.150
Cadmium	µg/L	0.02 U1	0.02 U1	0.02 U1	0.02 U1	0.02 U1	0.02 U1	0.02 U1	0.02 U1	0.02 U1	0.02 U1	0.005 J1	0.020
Calcium	mg/L	5.16	5.15	3.38	3.61	26.1	26.5 M1	30.6	26.8	44.9	45.6	54.4	57.8
Chloride	mg/L	15.3	14.5	4.06	3.67	129	129	15.7	16.8	158	145	13.2	13.7
Chromium	µg/L	0.19 J1	0.25 J1	0.14 J1	0.19 J1	0.18 J1	0.18 J1	0.22 J1	0.18 J1	0.21 J1	0.19 J1	0.14 J1	0.16 J1
Cobalt	µg/L	0.044	0.050	0.013 J1	0.012 J1	0.202	0.199	0.178	0.123	0.051	0.042	5.14	5.51
Combined Radium	pCi/L	0.82	0.63	1.17	0.69	1.04	1.36	2	1.42	1.81	1.4	2.59	1.14
Fluoride	mg/L	2.18	2.29	1.61	1.67	0.07	0.11	0.24	0.27	0.27	0.29	0.17	0.20
Lead	µg/L	0.05 J1	0.06 J1	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.07 J1	0.2 U1	0.46	0.58
Lithium	mg/L	0.0898	0.101	0.0349	0.0367	0.0508	0.0560	0.0604	0.0709	0.190	0.185	0.0694	0.0772
Mercury	µg/L	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1
Molybdenum	µg/L	0.8	0.9	0.5	0.6	0.2 J1	0.2 J1	0.3 J1	0.2 J1	0.2 J1	0.3 J1	42.6	44.3
Selenium	µg/L	0.07 J1	0.5 U1	0.5 U1	0.5 U1	0.11 J1	0.08 J1	0.05 J1	0.5 U1	0.5 U1	0.5 U1	0.07 J1	0.06 J1
Sulfate	mg/L	164	142	14.5	12.1	0.6 U1	0.6 U1	0.6 U1	0.6 U1	0.6 U1	0.6 U1	59.4	62.1
Thallium	µg/L	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1
Total Dissolved Solids	mg/L	1,340	1,240	500 S7	480	500	460	400	370	670	620	330	320
pH	SU	8.3	8.3	8.5	8.4	6.9	6.7	7.2	7.3	7.8	7.7	7.1	7.1

Table 1. Groundwater Data Summary
Statistical Analysis Summary
Clinch River Plant, Ash Pond 1

Parameter	Unit	MW-1607		MW-1608		MW-1609		MW-1610		MW-1611		MW-1612	
		2/20/2024	4/2/2024	2/19/2024	4/1/2024	2/19/2024	4/1/2024	2/20/2024	4/1/2024	2/19/2024	4/1/2024	2/20/2024	4/2/2024
Antimony	µg/L	0.015 J1	0.019 J1	0.011 J1	0.009 J1	0.016 J1	0.017 J1	0.073 J1	0.112	0.012 J1	0.015 J1	0.042 J1	0.030 J1
Arsenic	µg/L	1.40	1.16	0.79	0.79	0.10	0.10	0.86	1.19	5.00	4.82	0.31	0.21
Barium	µg/L	66.3	68.9	21.7	21.1	366	406	265	267 M1	301	319	2,310	2,320
Beryllium	µg/L	0.05 U1	0.05 U1	0.05 U1	0.05 U1	0.05 U1	0.05 U1	0.05 U1	0.05 U1	0.05 U1	0.05 U1	0.05 U1	0.05 U1
Boron	mg/L	0.120	0.124	0.346	0.353	0.011 J1	0.012 J1	0.028 J1	0.027 J1	0.521	0.526	0.351	0.372
Cadmium	µg/L	0.052	0.073	0.006 J1	0.02 U1	0.009 J1	0.007 J1	0.010 J1	0.010 J1	0.02 U1	0.02 U1	0.02 U1	0.02 U1
Calcium	mg/L	38.9 M1	42.1	0.42	0.39	77.5	83.5	31.1	31.0 M1	27.7	27.7	44.1	45.6
Chloride	mg/L	6.74	6.82	3.87	3.78	1.21	1.35	9.36	9.54	11.0	11.2	15.8	19.2
Chromium	µg/L	0.15 J1	0.14 J1	0.20 J1	0.15 J1	0.14 J1	0.16 J1	0.28 J1	0.17 J1	0.19 J1	0.13 J1	0.19 J1	0.21 J1
Cobalt	µg/L	7.78	8.62	0.078	0.078	0.162	0.168	4.54	5.21	0.011 J1	0.010 J1	0.068	0.077
Combined Radium	pCi/L	1.9	0.84	1.36	0.98	2.19	0.98	0.7	0.76	1	0.5	1.7	1.95
Fluoride	mg/L	0.20	0.21	0.40	0.43	0.23	0.25	0.18	0.21	1.08	1.13	0.11	0.13
Lead	µg/L	0.33	0.32	0.07 J1	0.06 J1	0.23	0.18 J1	1.16	0.74	0.2 U1	0.2 U1	0.2 U1	0.2 U1
Lithium	mg/L	0.127 M1	0.131	0.0163	0.0182	0.00107	0.00100	0.173	0.147 M1	0.0601	0.0614	0.129	0.112
Mercury	µg/L	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1
Molybdenum	µg/L	121	131	0.5	0.5	0.3 J1	0.3 J1	82.5	80.9	1.9	1.8	0.5 U1	0.1 J1
Selenium	µg/L	0.05 J1	0.05 J1	0.5 U1	0.5 U1	0.5 U1	0.5 U1	0.08 J1	0.06 J1	0.5 U1	0.5 U1	0.5 U1	0.5 U1
Sulfate	mg/L	139	141	146	142	16.0	17.6	11.6	10.2	16.7	15.9	0.6 U1	0.6 U1
Thallium	µg/L	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.03 J1	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1
Total Dissolved Solids	mg/L	280	260	410	390	270	250	240	200	460	440	500	490
pH	SU	8.1	7.7	8.5	8.5	7.5	7.5	7.5	7.6	7.8	7.8	7.1	7.1

Table 1. Groundwater Data Summary
Statistical Analysis Summary
Clinch River Plant, Ash Pond 1

Parameter	Unit	MW-1903D	MW-1903S	MW-1904D	MW-1904S	MW-1905D	MW-1905S	MW-1906D	MW-1906S	MW-1907D	MW-1907S	MW-1910S	MW-1913D
		4/3/2024	4/3/2024	4/3/2024	4/3/2024	4/3/2024	4/3/2024	4/2/2024	4/2/2024	4/4/2024	4/4/2024	4/4/2024	4/4/2024
Antimony	µg/L	0.501	0.069 J1	0.095 J1	0.035 J1	2 U1	0.130	0.036 J1	0.219	0.022 J1	0.016 J1	0.030 J1	0.208
Arsenic	µg/L	6.02	0.70	1.51	2.43	2.1	1.48	3.71	7.33	1.04	0.31	1.07	6.95
Barium	µg/L	14,800	8,040	1,000	1,380	9,850	5,830	47.6	55.3	36.0	52.0	321	50.4
Beryllium	µg/L	0.05 U1	0.012 J1	0.05 U1	0.014 J1	1 U1	0.05 U1	0.05 U1	0.011 J1	0.011 P2, J1	0.05 P2, U1	0.05 P2, U1	0.05 P2, U1
Boron	mg/L	0.263	0.350	0.511	0.368	0.6 J1	0.516	0.028 J1	0.315	0.013 J1	0.015 J1	0.068	0.603
Cadmium	µg/L	0.02 U1	0.02 U1	0.02 U1	0.02 U1	0.4 U1	0.02 U1	0.02 U1	0.032	0.02 U1	0.02 U1	0.02 U1	0.033
Calcium	mg/L	134	83.9	8.83	21.2	197	246	51.0	47.5	53.4	66.4	22.2	51.0
Chloride	mg/L	3,870	1,020	102	10.8	3,380	1,760	16.6	14.5	3.12	11.7	16.4	13.3
Chromium	µg/L	0.14 J1	0.19 J1	0.15 J1	0.39	6 U1	0.16 J1	0.21 J1	0.35	0.22 J1	0.20 J1	0.19 J1	0.15 J1
Cobalt	µg/L	0.025	0.078	0.140	0.270	0.4 U1	0.047	0.420	0.423	0.155	9.49	0.299	0.099
Combined Radium	pCi/L	5.99	3.96	1.81	1.99	7.68	5.37	2.6	1.21	2.75	0.59	2.28	1.19
Fluoride	mg/L	0.6 J1	0.13 J1	1.05	0.20	0.3 J1	0.3	0.09	0.38	0.10	0.05 J1	0.18	0.30
Lead	µg/L	0.08 J1	0.09 J1	0.2 U1	0.2 U1	4 U1	0.2 U1	0.2 U1	0.10 J1	0.2 U1	0.2 U1	0.22	0.2 U1
Lithium	mg/L	0.357	0.166	0.164	0.0784	1.15	0.551	0.00996	0.156	0.00410	0.00678	0.0193	0.204
Mercury	µg/L	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1	21	1 U1	1 U1
Molybdenum	µg/L	16.0	0.2 J1	4.4	0.6	2 J1	5.1	2.2	429	1.9	0.9	3.2	476
Selenium	µg/L	0.5 U1	0.06 J1	0.5 U1	0.5 U1	10 U1	0.09 J1	0.5 U1	0.37 J1	0.5 U1	0.22 J1	0.35 J1	0.39 J1
Sulfate	mg/L	8 U1	1.5 U1	0.6 U1	0.6 U1	8 U1	1.8 J1	130	141	29.6	14.0	1.1	152
Thallium	µg/L	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.7 J1	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1
Total Dissolved Solids	mg/L	6,100	1,700	860	340	5,800	3,200	440	280	300	370	260	330
pH	SU	8.2	7.0	8.2	7.0	7.7	7.6	7.8	7.3	7.6	7.4	7.8	10.5

Table 1. Groundwater Data Summary
Statistical Analysis Summary
Clinch River Plant, Ash Pond 1

Parameter	Unit	MW-1913S	MW-2012D	MW-2012S	W-2201D	W-2201S	W-2202D	W-2202S	W-2203D	W-2203S
		4/4/2024	4/3/2024	4/3/2024	4/15/2024	4/15/2024	4/15/2024	4/15/2024	4/15/2024	4/15/2024
Antimony	µg/L	0.012 J1	0.015 J1	0.020 J1	0.085 J1	0.010 J1	0.108	0.056 J1	0.016 J1	0.026 J1
Arsenic	µg/L	0.45	1.30	2.29	5.30	3.54	18.6	3.82	5.38	6.52
Barium	µg/L	84.8	1,120	1,970	99.4	428	40.4	67.8	74.0	66.7
Beryllium	µg/L	0.05 P2, U1	0.05 U1	0.05 U1	0.05 U1	0.05 U1	0.008 J1	0.05 U1	0.05 U1	0.05 U1
Boron	mg/L	0.095	0.422	0.364	0.559	0.413	0.658	0.642	0.488	0.613
Cadmium	µg/L	0.009 J1	0.02 U1	0.02 U1	0.02 U1	0.02 U1	0.004 J1	0.005 J1	0.02 U1	0.02 U1
Calcium	mg/L	51.5	12.4	30.5	91.9	28.3	53.6	35.9	130	20.4 M1
Chloride	mg/L	26.4	448	86.6	1,570	154	312	35.1	2,720	133
Chromium	µg/L	0.14 J1	0.17 J1	0.16 J1	0.32	0.19 J1	1.26	0.24 J1	0.35	0.17 J1
Cobalt	µg/L	22.5	0.047	0.168	0.035	0.597	1.55	3.70	0.145	0.022
Combined Radium	pCi/L	1.75	0.95	1.58	0.54	0.95	1.45	0.65	0.45	0.58
Fluoride	mg/L	0.15	0.90	0.37	0.5	0.44	0.36	0.59	0.5 J1	1.07
Lead	µg/L	5.57	0.12 J1	0.2 U1	0.12 J1	0.30	0.14 J1	0.08 J1	0.41	0.28
Lithium	mg/L	0.00081	0.264	0.143	0.583	0.135	0.622	0.189	0.845	0.206 M1
Mercury	µg/L	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1	1 U1
Molybdenum	µg/L	78.6	0.5	1.1	2.1	5.3	11.3	31.8	1.0	6.9
Selenium	µg/L	0.07 J1	0.5 U1	0.5 U1	0.22 J1	0.5 U1	0.65	0.25 J1	0.18 J1	0.10 J1
Sulfate	mg/L	116	0.8 J1	0.6 U1	662	18.7	1,130	318	513	253
Thallium	µg/L	0.31	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1	0.2 U1
Total Dissolved Solids	mg/L	310	1,120	460	4,000	560	3,770	1,230	5,600	1,160
pH	SU	7.8	8.2	7.9	7.5	7.7	7.4	7.4	7.3	8.0

Table 1. Groundwater Data Summary
Statistical Analysis Summary
Clinch River Plant, Ash Pond 1

Notes:
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.
mg/L: milligrams per liter
P2: the precision on the laboratory control sample duplicate (LCSD) was above acceptance limits.
pCi/L: picocuries per liter
S7: sample did not achieve constant weight.
SU: standard unit
U1: non-detect value. For statistical analysis, parameters which were not detected were replaced with the reporting limit.
µg/L: micrograms per liter

Table 2. Appendix IV Groundwater Protection Standards
Statistical Analysis Summary
Clinch River Plant - Ash Pond 1

Chattanooga Shale Monitoring Well Network				
Constituent Name	**MCL**	**CCR Rule-Specified**	**Calculated UTL**	**GWPS**
Antimony, Total (mg/L)	0.00600		0.000346	0.00600
Arsenic, Total (mg/L)	0.0100		0.0115	0.0115
Barium, Total (mg/L)	2.00		0.306	2.00
Beryllium, Total (mg/L)	0.00400		0.0000660	0.00400
Cadmium, Total (mg/L)	0.00500		0.0000300	0.00500
Chromium, Total (mg/L)	0.100		0.00103	0.100
Cobalt, Total (mg/L)	n/a	0.00600	0.000355	0.00600
Combined Radium, Total (pCi/L)	5.00		2.56	5.00
Fluoride, Total (mg/L)	4.00		2.42	4.00
Lead, Total (mg/L)	n/a	0.0150	0.000523	0.0150
Lithium, Total (mg/L)	n/a	0.0400	0.118	0.118
Mercury, Total (mg/L)	0.00200		0.00100	0.00200
Molybdenum, Total (mg/L)	n/a	0.100	0.0257	0.100
Selenium, Total (mg/L)	0.0500		0.000500	0.0500
Thallium, Total (mg/L)	0.00200		0.000200	0.00200

Notes:
1: Calculated UTL (Upper Tolerance Limit) represents site-specific background values
2: Grey cells indicate the GWPS is based on the calculated UTL, which is higher than the MCL or CCR Rule-specified value.
CCR: Coal Combustion Residuals
GWPS: Groundwater Protection Standard
MCL: Maximum Contaminant Level
mg/L: milligrams per liter
pCi/L: picocuries per liter

Table 2. Appendix IV Groundwater Protection Standards
Statistical Analysis Summary
Clinch River Plant - Ash Pond 1

Rome Limestone Monitoring Well Network				
Constituent Name	**MCL**	**CCR Rule-Specified**	**Calculated UTL**	**GWPS**
Antimony, Total (mg/L)	0.00600		0.000113	0.00600
Arsenic, Total (mg/L)	0.0100		0.000970	0.0100
Barium, Total (mg/L)	2.00		0.503	2.00
Beryllium, Total (mg/L)	0.00400		0.0000500	0.00400
Cadmium, Total (mg/L)	0.00500		0.0000400	0.00500
Chromium, Total (mg/L)	0.100		0.000319	0.100
Cobalt, Total (mg/L)	n/a	0.00600	0.00113	0.00600
Combined Radium, Total (pCi/L)	5.00		4.72	5.00
Fluoride, Total (mg/L)	4.00		0.330	4.00
Lead, Total (mg/L)	n/a	0.0150	0.00108	0.0150
Lithium, Total (mg/L)	n/a	0.0400	0.0100	0.0400
Mercury, Total (mg/L)	0.00200		0.00100	0.00200
Molybdenum, Total (mg/L)	n/a	0.100	0.00222	0.100
Selenium, Total (mg/L)	0.0500		0.000420	0.0500
Thallium, Total (mg/L)	0.00200		0.000200	0.00200

Notes:
1: Calculated UTL (Upper Tolerance Limit) represents site-specific background values
2: Grey cells indicate the GWPS is based on the calculated UTL, which is higher than the MCL or CCR Rule-specified value.
CCR: Coal Combustion Residuals
GWPS: Groundwater Protection Standard
MCL: Maximum Contaminant Level
mg/L: milligrams per liter
pCi/L: picocuries per liter

Table 2. Appendix IV Groundwater Protection Standards
Statistical Analysis Summary
Clinch River Plant - Ash Pond 1

Dumps Fault Monitoring Well Network				
Constituent Name	**MCL**	**CCR Rule-Specified**	**Calculated UTL**	**GWPS**
Antimony, Total (mg/L)	0.00600		0.000513	0.00600
Arsenic, Total (mg/L)	0.0100		0.0230	0.0230
Barium, Total (mg/L)	2.00		0.355	2.00
Beryllium, Total (mg/L)	0.00400		0.0000500	0.00400
Cadmium, Total (mg/L)	0.00500		0.0000200	0.00500
Chromium, Total (mg/L)	0.100		0.000874	0.100
Cobalt, Total (mg/L)	n/a	0.00600	0.000149	0.00600
Combined Radium, Total (pCi/L)	5.00		2.62	5.00
Fluoride, Total (mg/L)	4.00		1.31	4.00
Lead, Total (mg/L)	n/a	0.0150	0.000200	0.0150
Lithium, Total (mg/L)	n/a	0.0400	0.161	0.161
Mercury, Total (mg/L)	0.00200		0.00100	0.00200
Molybdenum, Total (mg/L)	n/a	0.100	0.00499	0.100
Selenium, Total (mg/L)	0.0500		0.000500	0.0500
Thallium, Total (mg/L)	0.00200		0.000200	0.00200

Notes:
1: Calculated UTL (Upper Tolerance Limit) represents site-specific background values
2: Grey cells indicate the GWPS is based on the calculated UTL, which is higher than the MCL or CCR Rule-specified value.
CCR: Coal Combustion Residuals
GWPS: Groundwater Protection Standard
MCL: Maximum Contaminant Level
mg/L: milligrams per liter
pCi/L: picocuries per liter

Table 3. Appendix IV Identified Statistically Significant Levels
Statistical Analysis Summary
Clinch River Plant - Ash Pond 1

Formation	Well ID	Constituent	GWPS	LCL
Chattanooga Shale	MW-1603	Barium	2.00	2.25
	MW-1604	Barium	2.00	3.08
	MW-1605	Barium	2.00	2.20
		Lithium	0.118	0.188
	MW-1612	Barium	2.00	2.12
Rome Limestone	MW-1606	Lithium	0.0400	0.0636
	MW-1607	Cobalt	0.00600	0.00836
		Lithium	0.0400	0.121
		Molybdenum*	0.100	0.125

Notes:
1. All values are in milligrams per liter
*: The LCL for molybdenum at MW-1607 was calculated using the most recent eight data points, due to the observation of a statistically significant decreasing trend.
GWPS: groundwater protection standard
LCL: lower confidence limit

Table 4. Appendix III Data Summary
Statistical Analysis Summary
Clinch River Plant - Ash Pond 1

Analyte	Unit	Description	Chattanooga Shale			
			MW-1603	MW-1604	MW-1605	MW-1612
			4/2/2024	4/2/2024	4/2/2024	4/2/2024
Boron	mg/L	Intrawell Background Value (UPL)	0.455	0.490	0.699	0.555
		Analytical Result	0.204	0.405	0.537	0.372
Calcium	mg/L	Interwell Background Value (UPL)	7.08			
		Analytical Result	**26.5**	**26.8**	**45.6**	**45.6**
Chloride	mg/L	Interwell Background Value (UPL)	34.3			
		Analytical Result	**129**	16.8	**145**	19.2
Fluoride	mg/L	Intrawell Background Value (UPL)	0.181	0.351	0.420	0.238
		Analytical Result	0.11	0.27	0.29	0.13
pH	SU	Interwell Background Value (UPL)	9.1			
		Interwell Background Value (LPL)	6.7			
		Analytical Result	6.7	7.3	7.7	7.1
Sulfate	mg/L	Intrawell Background Value (UPL)	3.11	1.67	11.2	1.40
		Analytical Result	0.1	0.1	0.1	0.1
Total Dissolved Solids	mg/L	Intrawell Background Value (UPL)	785	427	732	560
		Analytical Result	460	370	620	490

Table 4. Appendix III Data Summary
Statistical Analysis Summary
Clinch River Plant - Ash Pond 1

Analyte	Unit	Description	Rome Limestone	
			MW-1606	MW-1607
			4/2/2024	4/2/2024
Boron	mg/L	Intrawell Background Value (UPL)	0.189	0.212
		Analytical Result	0.150	0.124
Calcium	mg/L	Intrawell Background Value (UPL)	64.0	52.2
		Analytical Result	57.8	42.1
Chloride	mg/L	Interwell Background Value (UPL)	4.10	
		Analytical Result	**13.7**	**6.82**
Fluoride	mg/L	Intrawell Background Value (UPL)	0.271	0.268
		Analytical Result	0.20	0.21
pH	SU	Intrawell Background Value (UPL)	7.4	8.3
		Intrawell Background Value (LPL)	6.7	7.2
		Analytical Result	7.1	7.7
Sulfate	mg/L	Interwell Background Value (UPL)	20.3	
		Analytical Result	**62.1**	**141**
Total Dissolved Solids	mg/L	Intrawell Background Value (UPL)	377	313
		Analytical Result	320	260

Table 4. Appendix III Data Summary
Statistical Analysis Summary
Clinch River Plant - Ash Pond 1

Analyte	Unit	Description	Dumps Fault MW-1610 4/1/2024
Boron	mg/L	Intrawell Background Value (UPL)	0.102
		Analytical Result	0.027
Calcium	mg/L	Intrawell Background Value (UPL)	39.5
		Analytical Result	31.0
Chloride	mg/L	Intrawell Background Value (UPL)	12.2
		Analytical Result	9.54
Fluoride	mg/L	Intrawell Background Value (UPL)	0.350
		Analytical Result	0.21
pH	SU	Intrawell Background Value (UPL)	8.1
		Intrawell Background Value (LPL)	7.1
		Analytical Result	7.6
Sulfate	mg/L	Intrawell Background Value (UPL)	52.8
		Analytical Result	10.2
Total Dissolved Solids	mg/L	Intrawell Background Value (UPL)	268
		Analytical Result	200

Notes:

1. Bold values exceed the background value.

2. Background values are shaded gray.

LPL: lower prediction limit

mg/L: milligrams per liter

SU: standard units

UPL: upper prediction limit

ATTACHMENT A
Certification by Qualified Professional Engineer

Certification by Qualified Professional Engineer

I certify that selected and above described statistical method is appropriate for evaluating the groundwater monitoring data for the Clinch River Ash Pond 1 CCR management area and that the requirements of 40 CFR 257.93(f) have been met.

David Anthony Miller

Printed Name of Licensed Professional Engineer

David Anthony Miller

Signature

058541	Virginia	08.06.2024
License Number	Licensing State	Date

ATTACHMENT B
Statistical Analysis Output

GROUNDWATER STATS CONSULTING

July 29, 2024

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

RE: Clinch River Pond 1 – Assessment Monitoring Report – February & April 2024

Dear Ms. Kreinberg,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the statistical evaluation of groundwater data for the February and April 2024 sample event at American Electric Power Company's Clinch River Pond 1. The analysis complies with the federal rule for the Disposal of Coal Combustion Residuals from Electric Utilities (CCR Rule, 2015) as well as with the United States Environmental Protection Agency (USEPA) Unified Guidance (2009).

Sampling began at the Clinch River Pond 1 for the Coal Combustion Residuals (CCR) program in 2017 at each of the groundwater monitoring wells. The monitoring well network, as provided by Geosyntec Consultants, consists of the following three formations:

Chattanooga Shale:
Upgradient Wells: MW-1601, MW-1602, MW-1608
Downgradient Wells: MW-1603, MW-1604, MW-1605, MW-1612

Rome Limestone:
Cross-gradient (background) Well: MW-1609
Downgradient Wells: MW-1606, MW-1607

Dumps Fault:
Upgradient Well: MW-1611
Downgradient Well: MW-1610

Data were sent electronically to Groundwater Stats Consulting, and the statistical analysis was reviewed by Kristina Rayner, Founder and Senior Statistician for Groundwater Stats Consulting.

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

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

For all constituents, a substitution of the most recent reporting limit is used for non-detect data. In the time series plots, a single reporting limit substitution is used across all wells for a given parameter since the wells are plotted as a group. Note that when there are no detections present in downgradient wells for a given constituent, statistical analyses are not required. A summary of well/constituent pairs containing 100% non-detects follows this letter.

A separate section is provided for each formation and includes time series plots for Appendix IV parameters at all wells within the same formation for the purpose of screening data (Figure A for each formation). Additionally, box plots are included for all constituents at upgradient and downgradient wells (Figure B for each formation). The time series plots are used to initially screen for suspected outliers and trends, while the box plots provide visual representation of variation within individual wells and between all wells.

Summary of Statistical Methods:

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

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

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

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

Summary of Background Update for Appendix IV Parameters – Fall 2023

Outlier Analysis

Background data were originally screened in June 2019 and all data were re-screened during the October 2021 and October 2022 sample events. The results were submitted with each respective report. Data at all wells were re-evaluated through October 2023 during the Fall 2023 analysis using time series plots and Tukey's outlier test to confirm previously identified outliers as well as identify new outliers and extreme trending patterns that would lead to artificially elevated statistical limits. Note that for the downgradient well data that are evaluated with confidence intervals, a regulatory conservative approach is taken in that values that are marginally high relative to the rest of the data are retained unless there is particular justification for excluding them. Any flagged values, as further discussed below, may be seen on the Outlier Summary table for each formation following this letter.

Tukey's outlier test on pooled upgradient well data for Chattanooga Shale, Rome Limestone, and Dumps Fault identified values for cadmium, combined radium 226 + 228, and molybdenum. Tukey's outlier test and visual screening confirmed previously flagged measurements. Any values identified by Tukey's test but not flagged in the database were either similar to concentrations among other upgradient wells or were below the respective Maximum Containment Level or CCR-Rule Specified levels. Although not identified by Tukey's test, the highest values for arsenic at upgradient well MW-1601 and upgradient well MW-1611 were flagged during the update in order to generate statistical limits that are more conservative and representative of present-day groundwater quality conditions. Values identified as outliers are flagged with "o" and displayed in a lighter font and disconnected symbol on the time series graphs. Summaries of all flagged outliers are included in Figure C for each of the three formations.

Interwell Upper Tolerance Limits

Interwell upper tolerance limits were calculated to create background limits for the Appendix IV constituents from all available pooled upgradient well data through October 2023 at each of the formations (Figures D). Parametric limits use a target of 95% confidence and 95% coverage. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples. The background limit for lithium was reported to three significant figures where applicable, as requested by Geosyntec Consultants. The upper tolerance limits are updated annually and will be updated again during the 2024 2nd semi-annual analysis.

Groundwater Protection Standards

Interwell upper tolerance limits were compared to the MCLs and CCR-Rule specified levels, as shown in the Groundwater Protection Standards (GWPS) table following this letter (Figures E), to determine the highest limit for use as the GWPS in the Confidence Interval comparisons.

Evaluation of Appendix IV Parameters – February & April 2024

Confidence Intervals

Confidence intervals were then constructed for each Appendix IV constituent and each downgradient well using data through April 2024 (Figures F). These intervals were constructed as either parametric or nonparametric confidence intervals depending on the data distribution and percentage of non-detects. When data followed a normal or transformed-normal distribution, parametric confidence intervals were used for Appendix IV parameters. Nonparametric confidence intervals were constructed when data did not follow a normal or transformed-normal distribution or when there were greater than 50% non-detects. The lower confidence limit, which is constructed with 99% confidence for parametric confidence intervals, is compared to the GWPS prepared as described above. The confidence level associated with nonparametric confidence intervals is dependent upon the number samples available.

Only when the entire confidence interval is above a GWPS is the well/constituent pair considered to exceed its respective standard. Complete results of the confidence interval analysis follow this letter. The following confidence interval exceedances were identified using all available data within each well:

Chattanooga Shale

- Barium: MW-1603, MW-1604, MW-1605, and MW-1612
- Lithium: MW-1605

Rome Limestone

- Cobalt: MW-1607
- Lithium: MW-1606 and MW-1607
- Molybdenum: MW-1607

Dumps Fault

- None

Note that while barium at downgradient wells MW-1603 and MW-1612 have had statistically significant increases over their records, truncation of these records would have no significant impact on the resulting confidence intervals. For barium in well MW-1605 at Chattanooga Shale, however, a significant increase in concentrations since February 2021 was identified when compared to historic measurements as observed on the time series graph; therefore, a confidence interval was constructed only using more recent and stable data (USEPA Unified Guidance, 2009, Chapter 7). Similarly, more recent concentrations for cobalt, lithium, and molybdenum at downgradient well MW-1610 have stabilized at concentrations at or below the GWPS; therefore, confidence intervals were constructed using only more recent data. Date ranges were used for the well/constituent pairs and a list of any well/constituent pairs using a truncated portion of their records follows this report.

Trend Test Evaluation – Appendix IV

Data at wells with confidence interval exceedances are further evaluated using the Sen's Slope/Mann Kendall trend test at the 95% confidence level to determine whether concentrations are statistically increasing, decreasing, or stable (Figures G). Previously, trend analyses were performed for the Appendix IV constituents at the 99% confidence level (i.e., 1% false positive rate). In order to identify whether statistically significant trends are present for these constituents, the 95% confidence level is used instead of the 99% confidence level and is more sensitive to detecting significant trends due to the increased false positive rate.

Upgradient wells are included in the trend analyses to identify whether similar patterns exist upgradient of the site for the same constituents. When trends are present in upgradient trends, it is an indication of variability in groundwater quality unrelated to

practices at the site. A summary of the Appendix IV trend test results follows this letter. Statistically significant trends were identified for the following well/constituent pairs:

Increasing

Chattanooga Shale

- Barium: MW-1603, MW-1605, and MW-1612

Rome Limestone

- None

Dumps Fault

- None

Decreasing

Chattanooga Shale

- Barium: MW-1601 MW-1602, and MW-1608 (all upgradient)
- Lithium: MW-1602 and MW-1608 (both upgradient)

Rome Limestone

- Lithium: MW-1609 (upgradient)
- Molybdenum: MW-1609 (upgradient) and MW-1607

Dumps Fault

- None

Note that the decreasing trends for lithium and molybdenum in upgradient well MW-1609 at Rome Limestone are a result of reporting limits earlier in the record compared to trace values later in the record.

Confidence Intervals – Most Recent 8 Measurements

Downgradient well/constituent pairs that meet both of the following criteria are further evaluated with confidence intervals using only the most recent 8 measurements through April 2024 to determine present-day groundwater quality conditions relative to the respective GWPS:

- Exceedance of the respective GWPS when using the entire record of data
- Statistically significant decreasing trends

This includes molybdenum in downgradient well MW-1607 at Rome Limestone, which was the only downgradient well/constituent pair to meet these criteria (Figure H). The confidence interval was compared against the same respective GWPS to assess compliance. Only when the entire confidence interval is above a GWPS is the

well/constituent pair considered to exceed its respective standard. Complete results of the confidence interval analysis follow this letter and an exceedance was identified for molybdenum at well MW-1607.

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for the Clinch River Pond 1. If you have any questions or comments, please feel free to contact us.

For Groundwater Stats Consulting,

Andrew T. Collins
Project Manager

Kristina L. Rayner
Senior Statistician

Date Ranges

Date: 6/5/2024 4:44 PM

Clinch River Client: AEP Data: Clinch River Pond 1

Barium total (mg/L)
MW-1605 overall:2/9/2021-4/2/2024
Cobalt total (mg/L)
MW-1610 overall:4/9/2019-4/1/2024
Lithium total (mg/L)
MW-1610 overall:10/12/2021-4/1/2024
Molybdenum total (mg/L)
MW-1610 overall:10/12/2021-4/1/2024

100% Non-Detects: Chattanooga Shale

Analysis Run 5/31/2024 2:05 PM View: Chattanooga Shale - Pond 1 Confidence Intervals
Clinch River Client: AEP Data: Clinch River Pond 1

Cadmium total (mg/L)
MW-1603, MW-1604, MW-1612

Mercury total (mg/L)
MW-1605

Upper Tolerance Limits Summary Table - Chattanooga Shale

Clinch River Data: Clinch River Printed 2/7/2024, 11:55 AM

Constituent	Upper Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony total (mg/L)	0.0003457	72	-9.603	0.8245	4.167	None	ln(x)	0.05	Inter
Arsenic total (mg/L)	0.0115	63	n/a	n/a	0	n/a	n/a	0.0395	NP Inter(normality)
Barium total (mg/L)	0.306	72	n/a	n/a	0	n/a	n/a	0.02489	NP Inter(normality)
Beryllium total (mg/L)	0.000066	72	n/a	n/a	69.44	n/a	n/a	0.02489	NP Inter(NDs)
Cadmium total (mg/L)	0.00003	72	n/a	n/a	81.94	n/a	n/a	0.02489	NP Inter(NDs)
Chromium total (mg/L)	0.001031	72	-8.231	0.6832	1.389	None	ln(x)	0.05	Inter
Cobalt total (mg/L)	0.000355	72	0.04457	0.01325	0	None	x^(1/3)	0.05	Inter
Combined Radium 226 and 228 (pCi/L)	2.563	71	0.9097	0.3486	0	None	sqrt(x)	0.05	Inter
Fluoride total (mg/L)	2.42	72	n/a	n/a	0	n/a	n/a	0.02489	NP Inter(normality)
Lead total (mg/L)	0.0005228	72	-9.563	1.013	26.39	Kaplan-Meier	ln(x)	0.05	Inter
Lithium total (mg/L)	0.118	72	n/a	n/a	1.389	n/a	n/a	0.02489	NP Inter(normality)
Mercury total (mg/L)	0.001	72	n/a	n/a	90.28	n/a	n/a	0.02489	NP Inter(NDs)
Molybdenum total (mg/L)	0.0257	72	n/a	n/a	0	n/a	n/a	0.02489	NP Inter(normality)
Selenium total (mg/L)	0.0005	72	n/a	n/a	55.56	n/a	n/a	0.02489	NP Inter(NDs)
Thallium total (mg/L)	0.0002	72	n/a	n/a	80.56	n/a	n/a	0.02489	NP Inter(NDs)

Upper Tolerance Limits Summary Table - Rome Limestone

Clinch River Data: Clinch River Printed 2/8/2024, 9:10 AM

Constituent	Upper Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony total (mg/L)	0.0001132	24	-10.31	0.5309	12.5	None	ln(x)	0.05	Inter
Arsenic total (mg/L)	0.00097	24	n/a	n/a	0	n/a	n/a	0.292	NP Inter(normality)
Barium total (mg/L)	0.5026	24	0.3947	0.04675	0	None	No	0.05	Inter
Beryllium total (mg/L)	0.00005	24	n/a	n/a	95.83	n/a	n/a	0.292	NP Inter(NDs)
Cadmium total (mg/L)	0.00004	24	n/a	n/a	16.67	n/a	n/a	0.292	NP Inter(normality)
Chromium total (mg/L)	0.0003189	24	0.0001632	0.00006744	8.333	None	No	0.05	Inter
Cobalt total (mg/L)	0.001126	24	0.01338	0.008735	12.5	None	sqrt(x)	0.05	Inter
Combined Radium 226 and 228 (pCi/L)	4.722	24	1.411	0.3302	0	None	sqrt(x)	0.05	Inter
Fluoride total (mg/L)	0.3298	24	0.2538	0.03294	0	None	No	0.05	Inter
Lead total (mg/L)	0.001084	24	0.01866	0.006179	0	None	sqrt(x)	0.05	Inter
Lithium total (mg/L)	0.0100	24	n/a	n/a	25	n/a	n/a	0.292	NP Inter(normality)
Mercury total (mg/L)	0.001	24	n/a	n/a	95.83	n/a	n/a	0.292	NP Inter(NDs)
Molybdenum total (mg/L)	0.00222	24	n/a	n/a	20.83	n/a	n/a	0.292	NP Inter(normality)
Selenium total (mg/L)	0.0004203	24	0.008499	0.005199	33.33	Kaplan-Meier	sqrt(x)	0.05	Inter
Thallium total (mg/L)	0.0002	24	n/a	n/a	79.17	n/a	n/a	0.292	NP Inter(NDs)

Upper Tolerance Limits Summary Table - Dumps Fault

Clinch River Data: Clinch River Printed 2/8/2024, 2:07 PM

Constituent	Upper Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony total (mg/L)	0.0005128	24	0.03753	0.01841	16.67	Kaplan-Meier	x^(1/3)	0.05	Inter
Arsenic total (mg/L)	0.02299	21	-4.78	0.4249	0	None	ln(x)	0.05	Inter
Barium total (mg/L)	0.3548	24	0.3526	0.1053	0	None	sqrt(x)	0.05	Inter
Beryllium total (mg/L)	0.00005	24	n/a	n/a	79.17	n/a	n/a	0.292	NP Inter(NDs)
Cadmium total (mg/L)	0.00002	24	n/a	n/a	95.83	n/a	n/a	0.292	NP Inter(NDs)
Chromium total (mg/L)	0.000874	24	0.0003578	0.0002236	0	None	No	0.05	Inter
Cobalt total (mg/L)	0.0001491	23	0.006197	0.002581	0	None	sqrt(x)	0.05	Inter
Combined Radium 226 and 228 (pCi/L)	2.62	24	n/a	n/a	0	n/a	n/a	0.292	NP Inter(normality)
Fluoride total (mg/L)	1.309	24	0.9928	0.3124	0	None	x^2	0.05	Inter
Lead total (mg/L)	0.0002	23	n/a	n/a	47.83	n/a	n/a	0.3074	NP Inter(normality)
Lithium total (mg/L)	0.161	24	n/a	n/a	0	n/a	n/a	0.292	NP Inter(normality)
Mercury total (mg/L)	0.001	24	n/a	n/a	95.83	n/a	n/a	0.292	NP Inter(NDs)
Molybdenum total (mg/L)	0.004992	23	-6.169	0.3731	0	None	ln(x)	0.05	Inter
Selenium total (mg/L)	0.0005	24	n/a	n/a	33.33	n/a	n/a	0.292	NP Inter(normality)
Thallium total (mg/L)	0.0002	24	n/a	n/a	87.5	n/a	n/a	0.292	NP Inter(NDs)

CLINCH RIVER GWPS - CHATTANOOGA SHALE				
Constituent Name	**MCL**	**CCR Rule Specified**	**Background Limit**	**GWPS**
Antimony, Total (mg/L)	0.006		0.00035	0.006
Arsenic, Total (mg/L)	0.01		0.012	0.012
Barium, Total (mg/L)	2		0.31	2
Beryllium, Total (mg/L)	0.004		0.000066	0.004
Cadmium, Total (mg/L)	0.005		0.00003	0.005
Chromium, Total (mg/L)	0.1		0.001	0.1
Cobalt, Total (mg/L)		0.006	0.00036	0.006
Combined Radium, Total (pCi/L)	5		2.56	5
Fluoride, Total (mg/L)	4		2.42	4
Lead, Total (mg/L)		0.015	0.00052	0.015
Lithium, Total (mg/L)		0.04	0.118	0.118
Mercury, Total (mg/L)	0.002		0.001	0.002
Molybdenum, Total (mg/L)		0.1	0.026	0.1
Selenium, Total (mg/L)	0.05		0.0005	0.05
Thallium, Total (mg/L)	0.002		0.0002	0.002

**Grey cell indicates background is higher than MCL or CCR Rule*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residual*

**GWPS = Groundwater Protection Standard*

CLINCH RIVER GWPS - ROME LIMESTONE				
Constituent Name	**MCL**	**CCR Rule Specified**	**Background Limit**	**GWPS**
Antimony, Total (mg/L)	0.006		0.00011	0.006
Arsenic, Total (mg/L)	0.01		0.00097	0.01
Barium, Total (mg/L)	2		0.5	2
Beryllium, Total (mg/L)	0.004		0.00005	0.004
Cadmium, Total (mg/L)	0.005		0.00004	0.005
Chromium, Total (mg/L)	0.1		0.00032	0.1
Cobalt, Total (mg/L)		0.006	0.0011	0.006
Combined Radium, Total (pCi/L)	5		4.72	5
Fluoride, Total (mg/L)	4		0.33	4
Lead, Total (mg/L)		0.015	0.0011	0.015
Lithium, Total (mg/L)		0.04	0.01	0.04
Mercury, Total (mg/L)	0.002		0.001	0.002
Molybdenum, Total (mg/L)		0.1	0.0022	0.1
Selenium, Total (mg/L)	0.05		0.00042	0.05
Thallium, Total (mg/L)	0.002		0.0002	0.002

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residual*

**GWPS = Groundwater Protection Standard*

CLINCH RIVER GWPS - DUMPS FAULT				
Constituent Name	**MCL**	**CCR Rule Specified**	**Background Limit**	**GWPS**
Antimony, Total (mg/L)	0.006		0.00051	0.006
Arsenic, Total (mg/L)	0.01		0.023	0.023
Barium, Total (mg/L)	2		0.35	2
Beryllium, Total (mg/L)	0.004		0.00005	0.004
Cadmium, Total (mg/L)	0.005		0.00002	0.005
Chromium, Total (mg/L)	0.1		0.00087	0.1
Cobalt, Total (mg/L)		0.006	0.00015	0.006
Combined Radium, Total (pCi/L)	5		2.62	5
Fluoride, Total (mg/L)	4		1.31	4
Lead, Total (mg/L)		0.015	0.0002	0.015
Lithium, Total (mg/L)		0.04	0.161	0.161
Mercury, Total (mg/L)	0.002		0.001	0.002
Molybdenum, Total (mg/L)		0.1	0.005	0.1
Selenium, Total (mg/L)	0.05		0.0005	0.05
Thallium, Total (mg/L)	0.002		0.0002	0.002

**Grey cell indicates background is higher than MCL or CCR Rule*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residual*

**GWPS = Groundwater Protection Standard*

Confidence Intervals - Chattanooga Shale - Significant Results

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 2:11 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Barium total (mg/L)	**MW-1603**	**2.75**	**2.246**	**2**	**Yes**	**26**	**2.498**	**0.5173**	**0**	**None**	**No**	**0.01**	**Param.**
Barium total (mg/L)	**MW-1604**	**3.242**	**3.076**	**2**	**Yes**	**26**	**3.159**	**0.1701**	**0**	**None**	**No**	**0.01**	**Param.**
Barium total (mg/L)	**MW-1605**	**2.404**	**2.196**	**2**	**Yes**	**11**	**2.3**	**0.1249**	**0**	**None**	**No**	**0.01**	**Param.**
Barium total (mg/L)	**MW-1612**	**2.379**	**2.117**	**2**	**Yes**	**25**	**2.248**	**0.2631**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium total (mg/L)	**MW-1605**	**0.1998**	**0.1882**	**0.118**	**Yes**	**26**	**0.194**	**0.01189**	**0**	**None**	**No**	**0.01**	**Param.**

Confidence Intervals - Chattanooga Shale - All Results

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 2:11 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony total (mg/L)	MW-1603	0.00005157	0.00002597	0.006	No	26	0.00005015	0.00002812	15.38	Kaplan-Meier	No	0.01	Param.
Antimony total (mg/L)	MW-1604	0.00006283	0.00002649	0.006	No	26	0.00006323	0.00008271	11.54	None	ln(x)	0.01	Param.
Antimony total (mg/L)	MW-1605	0.00007843	0.00003528	0.006	No	26	0.00006646	0.00006169	11.54	None	x^(1/3)	0.01	Param.
Antimony total (mg/L)	MW-1612	0.00005106	0.00002455	0.006	No	25	0.00006724	0.00006091	20	Kaplan-Meier	ln(x)	0.01	Param.
Arsenic total (mg/L)	MW-1603	0.002689	0.002132	0.012	No	26	0.00241	0.0005719	0	None	No	0.01	Param.
Arsenic total (mg/L)	MW-1604	0.003023	0.002022	0.012	No	26	0.002522	0.001027	0	None	No	0.01	Param.
Arsenic total (mg/L)	MW-1605	0.003673	0.001926	0.012	No	26	0.0028	0.001792	0	None	No	0.01	Param.
Arsenic total (mg/L)	MW-1612	0.0009466	0.0004361	0.012	No	25	0.0008972	0.0008886	0	None	ln(x)	0.01	Param.
Barium total (mg/L)	**MW-1603**	**2.75**	**2.246**	**2**	**Yes**	**26**	**2.498**	**0.5173**	**0**	**None**	**No**	**0.01**	**Param.**
Barium total (mg/L)	**MW-1604**	**3.242**	**3.076**	**2**	**Yes**	**26**	**3.159**	**0.1701**	**0**	**None**	**No**	**0.01**	**Param.**
Barium total (mg/L)	**MW-1605**	**2.404**	**2.196**	**2**	**Yes**	**11**	**2.3**	**0.1249**	**0**	**None**	**No**	**0.01**	**Param.**
Barium total (mg/L)	**MW-1612**	**2.379**	**2.117**	**2**	**Yes**	**25**	**2.248**	**0.2631**	**0**	**None**	**No**	**0.01**	**Param.**
Beryllium total (mg/L)	MW-1603	0.00005	0.00001	0.004	No	26	0.00003577	0.00001996	65.38	None	No	0.01	NP (NDs)
Beryllium total (mg/L)	MW-1604	0.00005	0.000007	0.004	No	26	0.00004662	0.00001196	92.31	None	No	0.01	NP (NDs)
Beryllium total (mg/L)	MW-1605	0.00005	0.00001	0.004	No	26	0.00004496	0.00001426	88.46	None	No	0.01	NP (NDs)
Beryllium total (mg/L)	MW-1612	0.00005	0.000045	0.004	No	25	0.00004464	0.00001424	84	None	No	0.01	NP (NDs)
Cadmium total (mg/L)	MW-1605	0.00002	0.00001	0.005	No	26	0.00001962	0.000001961	92.31	None	No	0.01	NP (NDs)
Chromium total (mg/L)	MW-1603	0.000231	0.00018	0.1	No	26	0.0002074	0.00008211	0	None	No	0.01	NP (normality)
Chromium total (mg/L)	MW-1604	0.000266	0.0001348	0.1	No	26	0.0002537	0.0003094	0	None	ln(x)	0.01	Param.
Chromium total (mg/L)	MW-1605	0.0002561	0.0001749	0.1	No	26	0.0002155	0.00008336	0	None	No	0.01	Param.
Chromium total (mg/L)	MW-1612	0.000218	0.00018	0.1	No	25	0.0002066	0.00007713	0	None	No	0.01	NP (normality)
Cobalt total (mg/L)	MW-1603	0.0004325	0.0002436	0.006	No	26	0.0003663	0.0002132	0	None	x^(1/3)	0.01	Param.
Cobalt total (mg/L)	MW-1604	0.0005882	0.0003145	0.006	No	26	0.0004513	0.0002809	0	None	No	0.01	Param.
Cobalt total (mg/L)	MW-1605	0.000309	0.00004	0.006	No	26	0.0001628	0.0001386	0	None	No	0.01	NP (normality)
Cobalt total (mg/L)	MW-1612	0.0001865	0.0001119	0.006	No	25	0.000156	0.00008225	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 and 228 (pCi/L)	MW-1603	1.656	0.9965	5	No	26	1.326	0.6771	0	None	No	0.01	Param.
Combined Radium 226 and 228 (pCi/L)	MW-1604	1.584	1.083	5	No	26	1.333	0.5146	0	None	No	0.01	Param.
Combined Radium 226 and 228 (pCi/L)	MW-1605	2.122	1.134	5	No	26	1.704	1.237	0	None	No	0.01	NP (normality)
Combined Radium 226 and 228 (pCi/L)	MW-1612	2.189	1.495	5	No	25	1.842	0.6965	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1603	0.1325	0.1059	4	No	26	0.1192	0.02727	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1604	0.2855	0.2445	4	No	26	0.265	0.04198	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1605	0.3588	0.3189	4	No	26	0.3388	0.04102	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1612	0.1751	0.1393	4	No	25	0.1572	0.036	0	None	No	0.01	Param.
Lead total (mg/L)	MW-1603	0.0002	0.000038	0.015	No	26	0.0001579	0.00007851	76.92	None	No	0.01	NP (NDs)
Lead total (mg/L)	MW-1604	0.0002	0.000068	0.015	No	26	0.0001552	0.00007622	73.08	None	No	0.01	NP (NDs)
Lead total (mg/L)	MW-1605	0.0002	0.000051	0.015	No	26	0.0001368	0.00007608	57.69	None	No	0.01	NP (NDs)
Lead total (mg/L)	MW-1612	0.0002	0.000083	0.015	No	25	0.0001683	0.00007568	72	None	No	0.01	NP (NDs)
Lithium total (mg/L)	MW-1603	0.07467	0.05707	0.118	No	26	0.06587	0.01806	0	None	No	0.01	Param.
Lithium total (mg/L)	MW-1604	0.08074	0.07313	0.118	No	26	0.07693	0.0078	0	None	No	0.01	Param.
Lithium total (mg/L)	**MW-1605**	**0.1998**	**0.1882**	**0.118**	**Yes**	**26**	**0.194**	**0.01189**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium total (mg/L)	MW-1612	0.1284	0.1125	0.118	No	25	0.1192	0.01927	4	None	x^2	0.01	Param.
Mercury total (mg/L)	MW-1603	0.001	0.00006	0.002	No	26	0.0009638	0.0001843	96.15	None	No	0.01	NP (NDs)
Mercury total (mg/L)	MW-1604	0.001	0.00006	0.002	No	26	0.0009638	0.0001843	96.15	None	No	0.01	NP (NDs)
Mercury total (mg/L)	MW-1612	0.001	0.00006	0.002	No	25	0.0009624	0.000188	96	None	No	0.01	NP (NDs)
Molybdenum total (mg/L)	MW-1603	0.000994	0.0004441	0.1	No	26	0.0009585	0.001002	0	None	ln(x)	0.01	Param.
Molybdenum total (mg/L)	MW-1604	0.00092	0.0003	0.1	No	26	0.0007742	0.0006802	15.38	None	No	0.01	NP (normality)
Molybdenum total (mg/L)	MW-1605	0.002443	0.0007724	0.1	No	26	0.002133	0.002358	0	None	x^(1/3)	0.01	Param.
Molybdenum total (mg/L)	MW-1612	0.0009681	0.0003463	0.1	No	25	0.0007692	0.0008017	8	None	sqrt(x)	0.01	Param.
Selenium total (mg/L)	MW-1603	0.0001	0.00007	0.05	No	26	0.000145	0.0001556	15.38	None	No	0.01	NP (normality)
Selenium total (mg/L)	MW-1604	0.0005	0.00005	0.05	No	26	0.0002573	0.0002293	46.15	None	No	0.01	NP (normality)
Selenium total (mg/L)	MW-1605	0.0005	0.00007	0.05	No	26	0.0003465	0.0002152	65.38	None	No	0.01	NP (NDs)
Selenium total (mg/L)	MW-1612	0.0005	0.00005	0.05	No	25	0.0003364	0.000223	64	None	No	0.01	NP (NDs)
Thallium total (mg/L)	MW-1603	0.0002	0.00002	0.002	No	26	0.0001638	0.00007558	80.77	None	No	0.01	NP (NDs)
Thallium total (mg/L)	MW-1604	0.0002	0.00002	0.002	No	26	0.0001712	0.00006901	84.62	None	No	0.01	NP (NDs)
Thallium total (mg/L)	MW-1605	0.0002	0.00002	0.002	No	26	0.0001715	0.0000681	84.62	None	No	0.01	NP (NDs)
Thallium total (mg/L)	MW-1612	0.0002	0.00003	0.002	No	25	0.0001704	0.00006931	84	None	No	0.01	NP (NDs)

Confidence Intervals - Rome Limestone - Significant Results

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 2:34 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Cobalt total (mg/L)	**MW-1607**	**0.01024**	**0.008362**	**0.006**	**Yes**	**26**	**0.0093**	**0.001925**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium total (mg/L)	**MW-1606**	**0.08545**	**0.06357**	**0.04**	**Yes**	**26**	**0.07451**	**0.02245**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium total (mg/L)	**MW-1607**	**0.1298**	**0.1208**	**0.04**	**Yes**	**26**	**0.1253**	**0.009173**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum total (mg/L)	**MW-1607**	**0.148**	**0.1303**	**0.1**	**Yes**	**26**	**0.1391**	**0.01822**	**0**	**None**	**No**	**0.01**	**Param.**

Confidence Intervals - Rome Limestone - All Results

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 2:34 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony total (mg/L)	MW-1606	0.0001	0.00003	0.006	No	26	0.00007131	0.0000738	42.31	None	No	0.01	NP (normality)
Antimony total (mg/L)	MW-1607	0.00004605	0.00002775	0.006	No	26	0.00003865	0.00002028	3.846	None	sqrt(x)	0.01	Param.
Arsenic total (mg/L)	MW-1606	0.008689	0.006489	0.01	No	26	0.007711	0.00233	0	None	sqrt(x)	0.01	Param.
Arsenic total (mg/L)	MW-1607	0.00146	0.00101	0.01	No	26	0.001485	0.001019	0	None	No	0.01	NP (normality)
Barium total (mg/L)	MW-1606	0.1152	0.1052	2	No	26	0.1102	0.01032	0	None	No	0.01	Param.
Barium total (mg/L)	MW-1607	0.0731	0.0678	2	No	26	0.07327	0.01497	0	None	No	0.01	NP (normality)
Beryllium total (mg/L)	MW-1606	0.00005	0.000009	0.004	No	26	0.00003412	0.00002064	61.54	None	No	0.01	NP (NDs)
Beryllium total (mg/L)	MW-1607	0.00005	0.000005	0.004	No	26	0.00004827	0.000008825	96.15	None	No	0.01	NP (NDs)
Cadmium total (mg/L)	MW-1606	0.00002	0.00001	0.005	No	26	0.00001769	0.000008064	34.62	None	No	0.01	NP (normality)
Cadmium total (mg/L)	MW-1607	0.0001427	0.00008812	0.005	No	26	0.0001154	0.00005603	0	None	No	0.01	Param.
Chromium total (mg/L)	MW-1606	0.0002532	0.0001745	0.1	No	26	0.0002273	0.0001055	0	None	ln(x)	0.01	Param.
Chromium total (mg/L)	MW-1607	0.000229	0.0001355	0.1	No	26	0.0002048	0.0001444	7.692	None	ln(x)	0.01	Param.
Cobalt total (mg/L)	MW-1606	0.005307	0.00437	0.006	No	26	0.004838	0.0009617	0	None	No	0.01	Param.
Cobalt total (mg/L)	**MW-1607**	**0.01024**	**0.008362**	**0.006**	**Yes**	**26**	**0.0093**	**0.001925**	**0**	**None**	**No**	**0.01**	**Param.**
Combined Radium 226 and 228 (pCi/L)	MW-1606	2.279	1.419	5	No	26	1.959	1.085	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 and 228 (pCi/L)	MW-1607	1.439	0.879	5	No	26	1.159	0.5749	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1606	0.2181	0.185	4	No	26	0.2015	0.03402	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1607	0.2339	0.2107	4	No	26	0.2223	0.02372	0	None	No	0.01	Param.
Lead total (mg/L)	MW-1606	0.0006233	0.0004218	0.015	No	26	0.0005225	0.0002068	0	None	No	0.01	Param.
Lead total (mg/L)	MW-1607	0.0005425	0.0003825	0.015	No	26	0.0004625	0.0001641	0	None	No	0.01	Param.
Lithium total (mg/L)	**MW-1606**	**0.08545**	**0.06357**	**0.04**	**Yes**	**26**	**0.07451**	**0.02245**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium total (mg/L)	**MW-1607**	**0.1298**	**0.1208**	**0.04**	**Yes**	**26**	**0.1253**	**0.009173**	**0**	**None**	**No**	**0.01**	**Param.**
Mercury total (mg/L)	MW-1606	0.001	0.00006	0.002	No	26	0.0009638	0.0001843	96.15	None	No	0.01	NP (NDs)
Mercury total (mg/L)	MW-1607	0.001	0.00008	0.002	No	26	0.0009646	0.0001804	96.15	None	No	0.01	NP (NDs)
Molybdenum total (mg/L)	MW-1606	0.07004	0.05311	0.1	No	26	0.06158	0.01736	0	None	No	0.01	Param.
Molybdenum total (mg/L)	**MW-1607**	**0.148**	**0.1303**	**0.1**	**Yes**	**26**	**0.1391**	**0.01822**	**0**	**None**	**No**	**0.01**	**Param.**
Selenium total (mg/L)	MW-1606	0.00013	0.00007	0.05	No	26	0.000165	0.0001696	19.23	None	No	0.01	NP (normality)
Selenium total (mg/L)	MW-1607	0.0002203	0.0001102	0.05	No	26	0.0001796	0.0001375	11.54	None	sqrt(x)	0.01	Param.
Thallium total (mg/L)	MW-1606	0.0002	0.00005	0.002	No	26	0.0001408	0.0000774	61.54	None	No	0.01	NP (NDs)
Thallium total (mg/L)	MW-1607	0.0002	0.0001	0.002	No	26	0.0001569	0.00007396	73.08	None	No	0.01	NP (NDs)

Confidence Intervals - Dumps Fault - All Results (No Significant)

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 3:12 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony total (mg/L)	MW-1610	0.0001956	0.00006154	0.006	No	26	0.0002393	0.0003875	3.846	None	ln(x)	0.01	Param.
Arsenic total (mg/L)	MW-1610	0.00161	0.00114	0.023	No	26	0.001513	0.0009557	0	None	No	0.01	NP (normality)
Barium total (mg/L)	MW-1610	0.2703	0.2267	2	No	26	0.2485	0.04473	0	None	No	0.01	Param.
Beryllium total (mg/L)	MW-1610	0.00005	0.000007	0.004	No	26	0.00004304	0.00001666	84.62	None	No	0.01	NP (NDs)
Cadmium total (mg/L)	MW-1610	0.00001433	0.00000572	0.005	No	26	0.00002038	0.00001211	30.77	Kaplan-Meier	sqrt(x)	0.01	Param.
Chromium total (mg/L)	MW-1610	0.00026	0.00018	0.1	No	26	0.0002423	0.0001332	0	None	No	0.01	NP (normality)
Cobalt total (mg/L)	MW-1610	0.006554	0.005193	0.006	No	17	0.005874	0.001086	0	None	No	0.01	Param.
Combined Radium 226 and 228 (pCi/L)	MW-1610	1.443	0.8486	5	No	26	1.146	0.6097	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1610	0.21	0.18	4	No	26	0.2058	0.03711	0	None	No	0.01	NP (normality)
Lead total (mg/L)	MW-1610	0.006222	0.002365	0.015	No	26	0.00499	0.004517	0	None	sqrt(x)	0.01	Param.
Lithium total (mg/L)	MW-1610	0.1687	0.1384	0.161	No	9	0.1536	0.01568	0	None	No	0.01	Param.
Mercury total (mg/L)	MW-1610	0.001	0.00006	0.002	No	26	0.0009638	0.0001843	96.15	None	No	0.01	NP (NDs)
Molybdenum total (mg/L)	MW-1610	0.1027	0.07913	0.1	No	9	0.0909	0.01219	0	None	No	0.01	Param.
Selenium total (mg/L)	MW-1610	0.000312	0.0001757	0.05	No	26	0.0002438	0.0001399	7.692	None	No	0.01	Param.
Thallium total (mg/L)	MW-1610	0.0002	0.00003	0.002	No	26	0.0001519	0.00008085	73.08	None	No	0.01	NP (NDs)

Appendix IV Trend Tests - Chattanooga Shale - Significant Results

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 2:19 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Barium total (mg/L)	**MW-1601 (bg)**	**-0.02077**	**-231**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1602 (bg)**	**-0.003209**	**-226**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1603**	**0.1417**	**137**	**90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1605**	**0.1908**	**148**	**90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1608 (bg)**	**-0.003303**	**-275**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1612**	**0.07282**	**98**	**85**	**Yes**	**25**	**0**	**n/a**	**0.05**	**NP**
Lithium total (mg/L)	**MW-1602 (bg)**	**-0.001271**	**-132**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Lithium total (mg/L)	**MW-1608 (bg)**	**-0.0008442**	**-167**	**-90**	**Yes**	**26**	**3.846**	**n/a**	**0.05**	**NP**

Appendix IV Trend Tests - Chattanooga Shale - All Results

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 2:19 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Barium total (mg/L)	**MW-1601 (bg)**	**-0.02077**	**-231**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1602 (bg)**	**-0.003209**	**-226**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1603**	**0.1417**	**137**	**90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	MW-1604	-0.02397	-64	-90	No	26	0	n/a	0.05	NP
Barium total (mg/L)	**MW-1605**	**0.1908**	**148**	**90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1608 (bg)**	**-0.003303**	**-275**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1612**	**0.07282**	**98**	**85**	**Yes**	**25**	**0**	**n/a**	**0.05**	**NP**
Lithium total (mg/L)	MW-1601 (bg)	-0.0008778	-66	-90	No	26	0	n/a	0.05	NP
Lithium total (mg/L)	**MW-1602 (bg)**	**-0.001271**	**-132**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Lithium total (mg/L)	MW-1605	-0.001426	-56	-90	No	26	0	n/a	0.05	NP
Lithium total (mg/L)	**MW-1608 (bg)**	**-0.0008442**	**-167**	**-90**	**Yes**	**26**	**3.846**	**n/a**	**0.05**	**NP**

Appendix IV Trend Tests - Rome Limestone - Significant Results

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 2:39 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Lithium total (mg/L)	**MW-1609 (bg)**	**-0.0007503**	**-126**	**-90**	**Yes**	**26**	**23.08**	**n/a**	**0.05**	**NP**
Molybdenum total (mg/L)	**MW-1607**	**-0.0043**	**-115**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Molybdenum total (mg/L)	**MW-1609 (bg)**	**-0.0001134**	**-161**	**-90**	**Yes**	**26**	**19.23**	**n/a**	**0.05**	**NP**

Appendix IV Trend Tests - Rome Limestone - All Results

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 2:39 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Cobalt total (mg/L)	MW-1607	-0.0003605	-88	-90	No	26	0	n/a	0.05	NP
Cobalt total (mg/L)	MW-1609 (bg)	-0.00001905	-72	-90	No	26	11.54	n/a	0.05	NP
Lithium total (mg/L)	MW-1606	-0.0008878	-21	-90	No	26	0	n/a	0.05	NP
Lithium total (mg/L)	MW-1607	0.001003	65	90	No	26	0	n/a	0.05	NP
Lithium total (mg/L)	**MW-1609 (bg)**	**-0.0007503**	**-126**	**-90**	**Yes**	**26**	**23.08**	**n/a**	**0.05**	**NP**
Molybdenum total (mg/L)	**MW-1607**	**-0.0043**	**-115**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Molybdenum total (mg/L)	**MW-1609 (bg)**	**-0.0001134**	**-161**	**-90**	**Yes**	**26**	**19.23**	**n/a**	**0.05**	**NP**

Confidence Interval (Most Recent 8) - Rome Limestone - All/Significant Results

Clinch River Data: Clinch River Pond 1 Printed 6/3/2024, 10:04 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Molybdenum total (mg/L)	**MW-1607**	**0.1356**	**0.1252**	**0.1**	**Yes**	**8**	**0.1304**	**0.004926**	**0**	**None**	**No**	**0.01**	**Param.**

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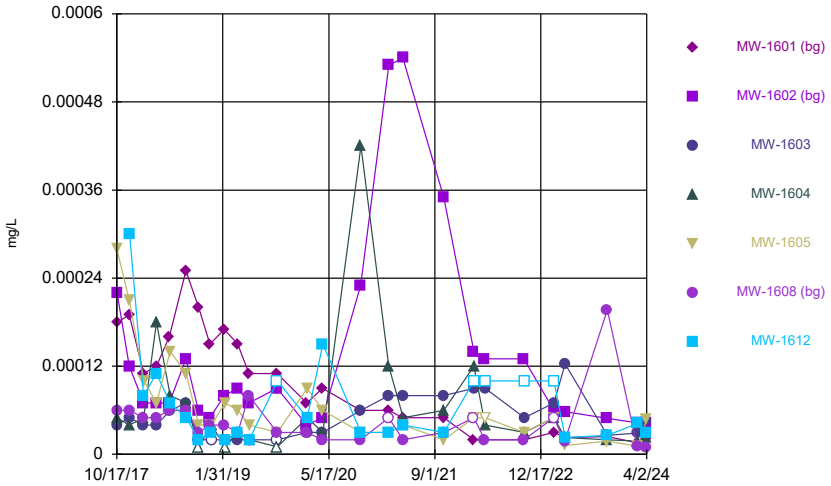
FIGURE A.

Time Series - Chattanooga Shale

Sanitas™ v.10.0.16e Software licensed to . UG
Hollow symbols indicate censored values.

Time Series



Constituent: Antimony total Analysis Run 5/31/2024 1:53 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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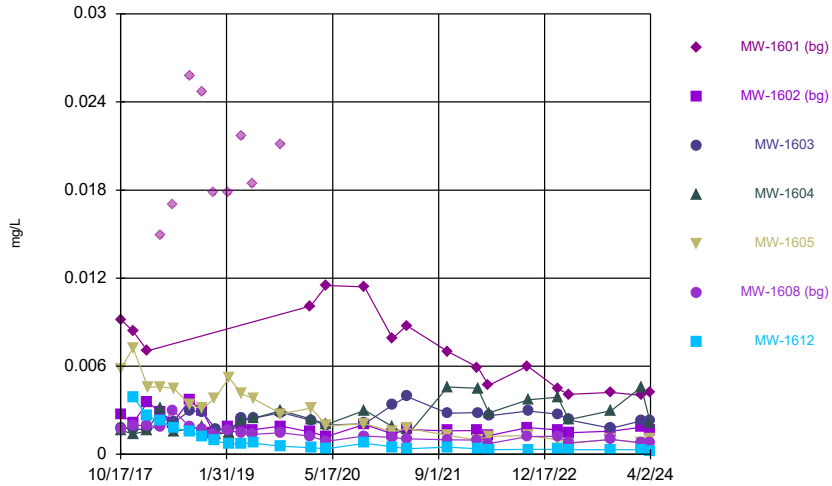
Time Series



Constituent: Arsenic total Analysis Run 5/31/2024 1:53 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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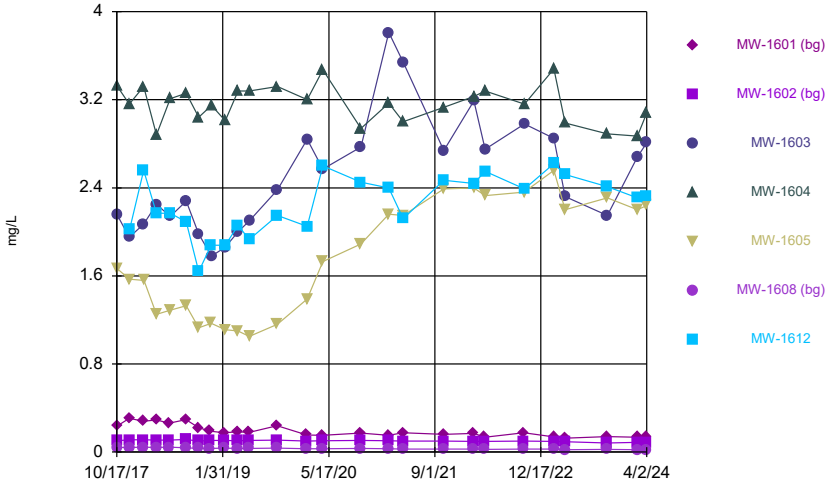
Time Series



Constituent: Barium total Analysis Run 5/31/2024 1:53 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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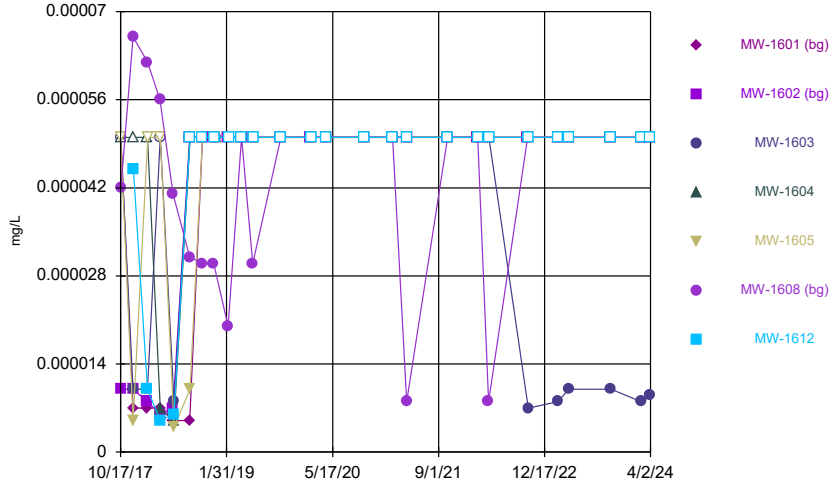
Time Series



Constituent: Beryllium total Analysis Run 5/31/2024 1:53 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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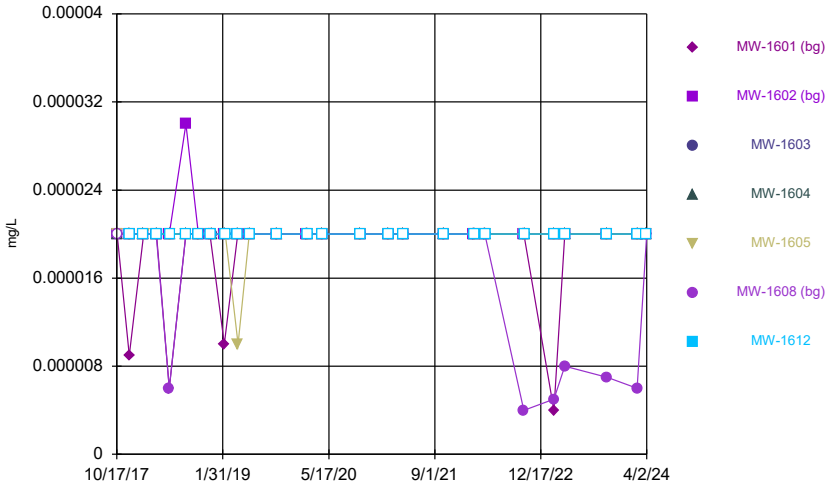
Time Series



Constituent: Cadmium total Analysis Run 5/31/2024 1:53 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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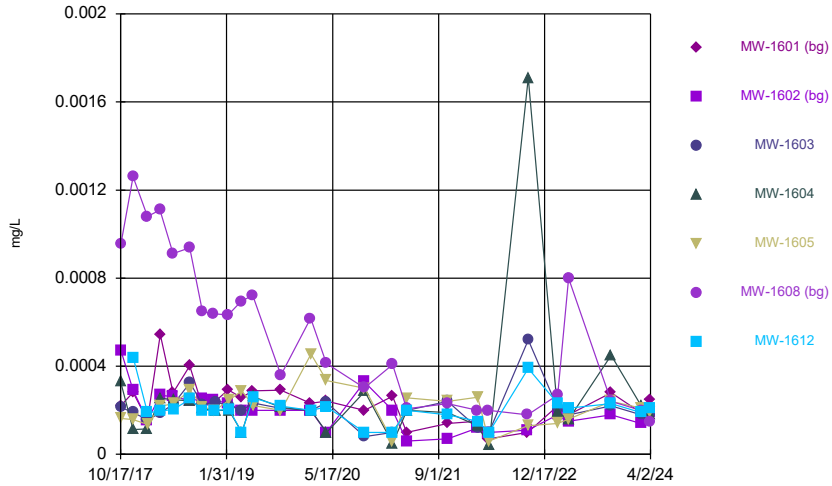
Hollow symbols indicate censored values.

Time Series



Constituent: Chromium total Analysis Run 5/31/2024 1:54 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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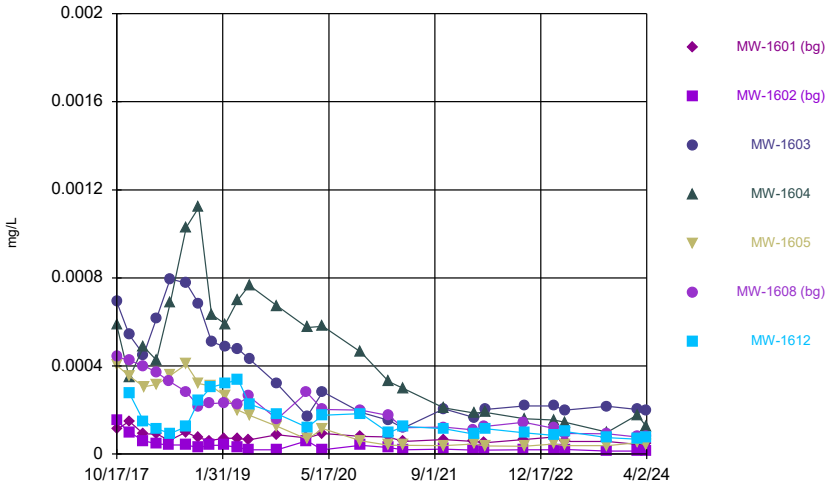
Time Series



Constituent: Cobalt total Analysis Run 5/31/2024 1:54 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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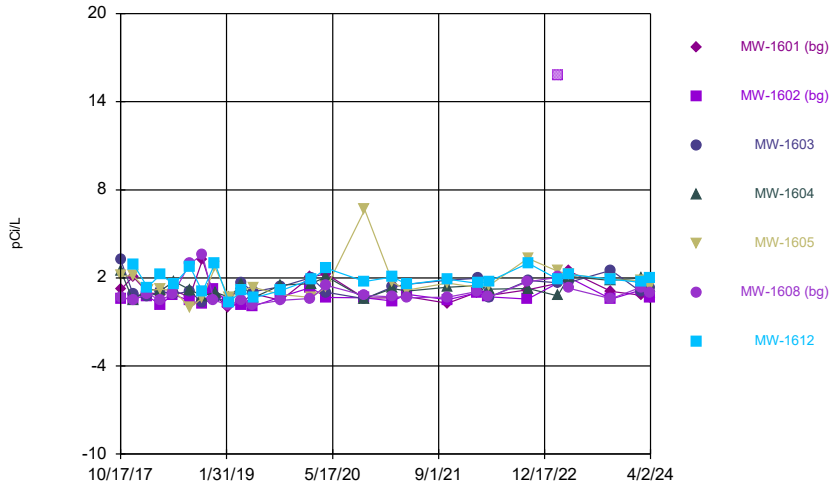
Time Series



Constituent: Combined Radium 226 and 228 Analysis Run 5/31/2024 1:54 PM View: Chattanooga Shale -
Clinch River Client: AEP Data: Clinch River Pond 1

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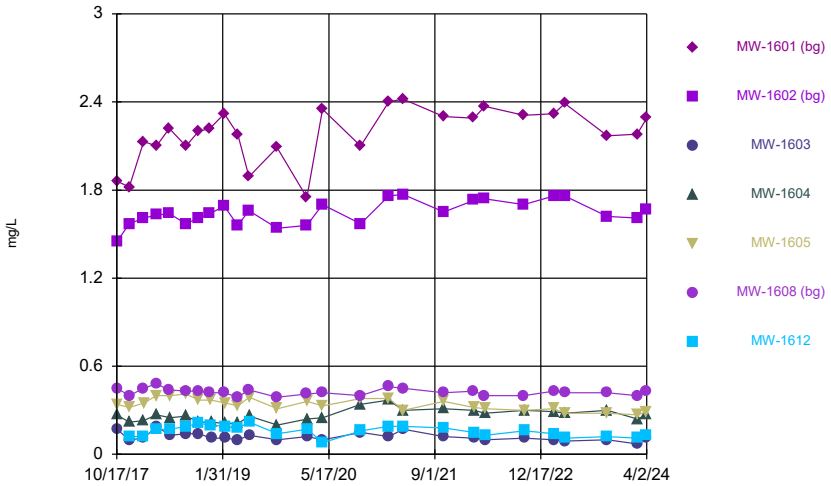
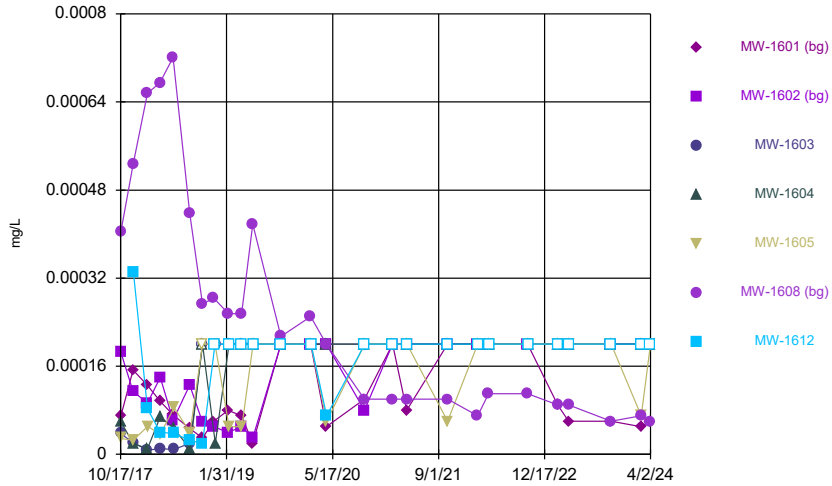
Time Series



Constituent: Fluoride total Analysis Run 5/31/2024 1:54 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Sanitas™ v.10.0.16e Software licensed to . UG
Hollow symbols indicate censored values.

Time Series



Constituent: Lead total Analysis Run 5/31/2024 1:54 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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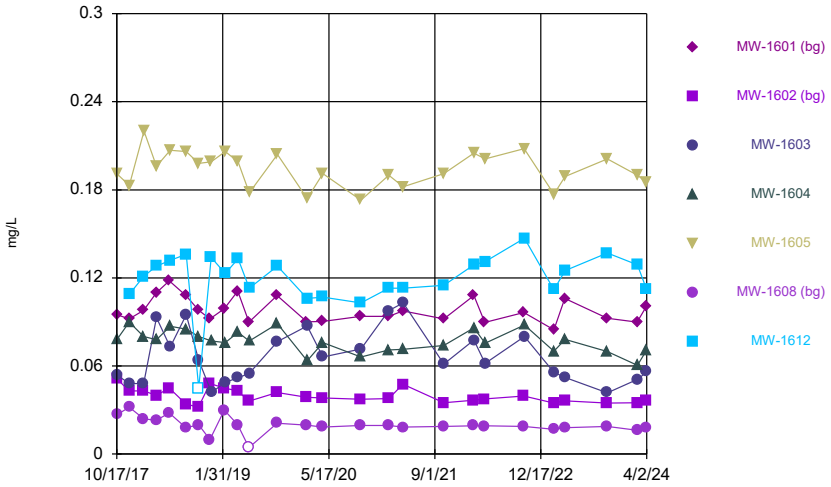
Hollow symbols indicate censored values.

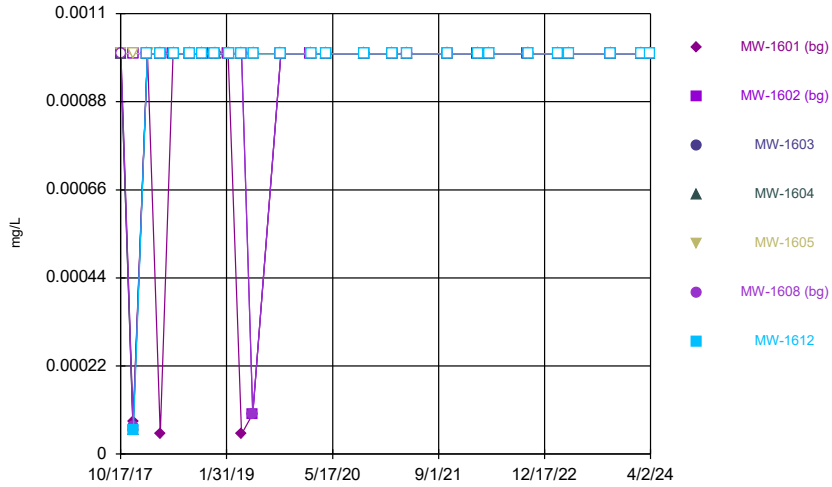
Time Series



Constituent: Lithium total Analysis Run 5/31/2024 1:54 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Sanitas™ v.10.0.16e Software licensed to . UG
Hollow symbols indicate censored values.

Time Series



Constituent: Mercury total Analysis Run 5/31/2024 1:54 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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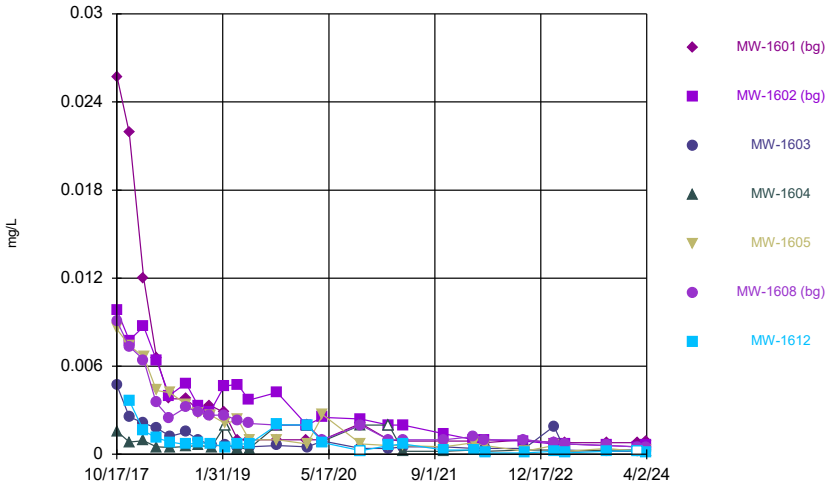
Hollow symbols indicate censored values.

Time Series



Constituent: Molybdenum total Analysis Run 5/31/2024 1:54 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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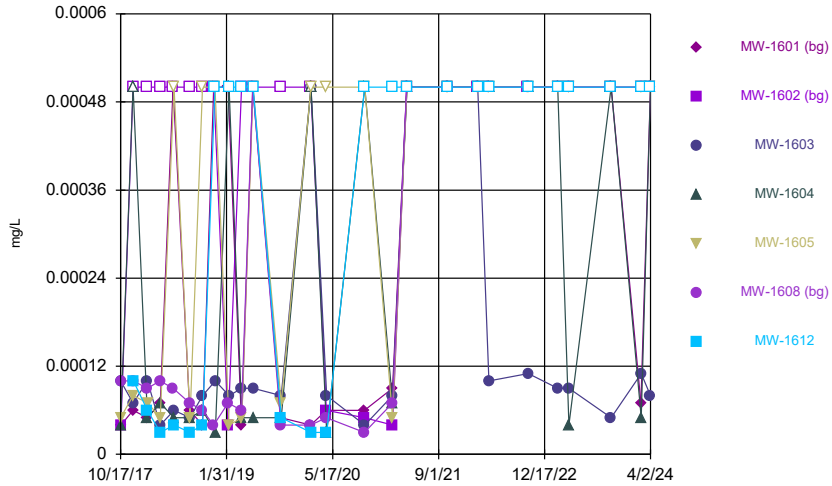
Hollow symbols indicate censored values.

Time Series



Constituent: Selenium total Analysis Run 5/31/2024 1:54 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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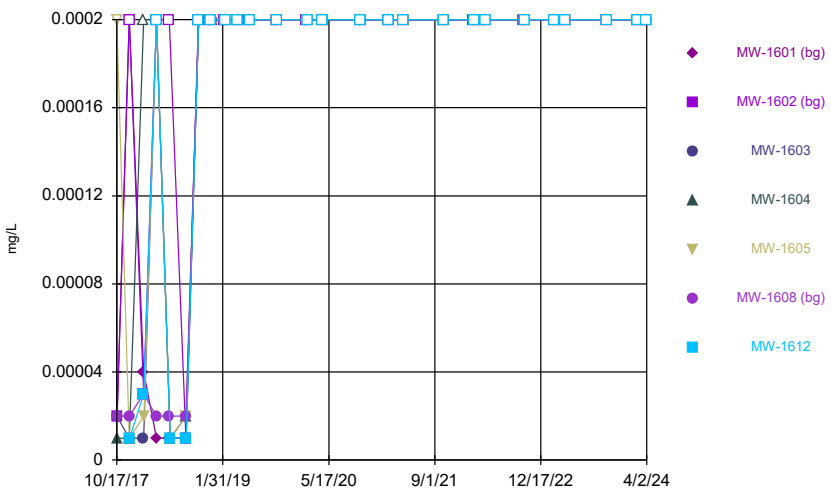
Hollow symbols indicate censored values.

Time Series



Constituent: Thallium total Analysis Run 5/31/2024 1:54 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Time Series - Rome Limestone

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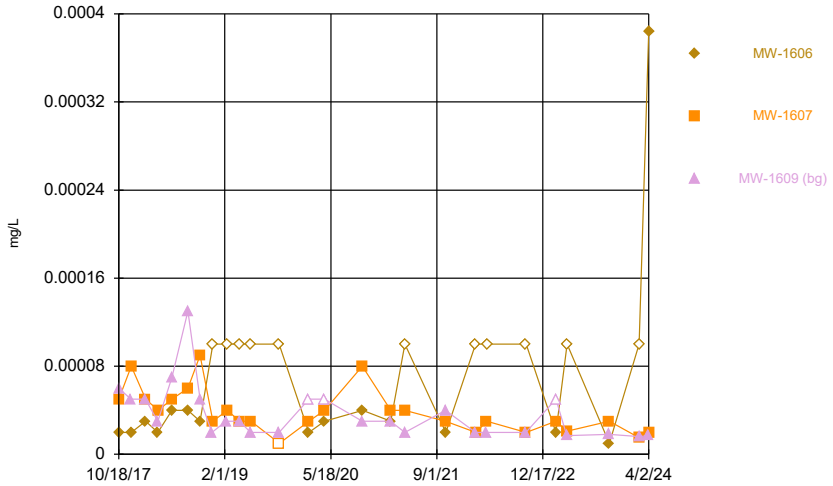
Hollow symbols indicate censored values.

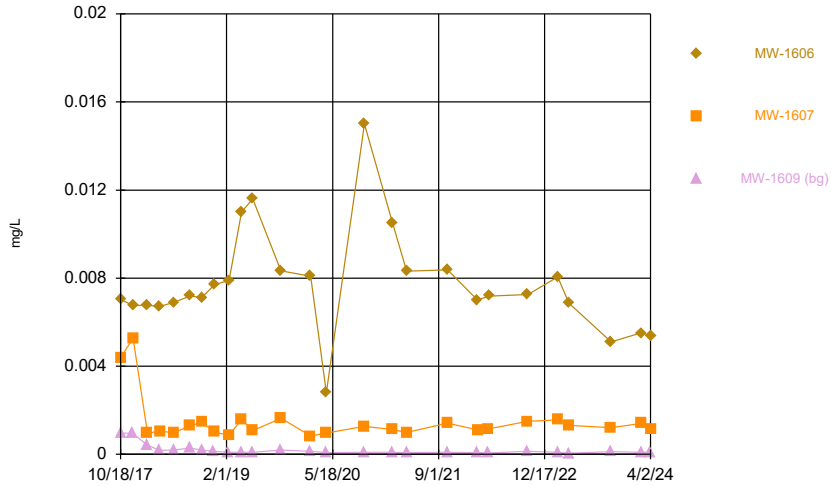
Time Series



Constituent: Antimony total Analysis Run 5/31/2024 2:27 PM View: Rome Limestone - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Sanitas™ v.10.0.16e Software licensed to . UG

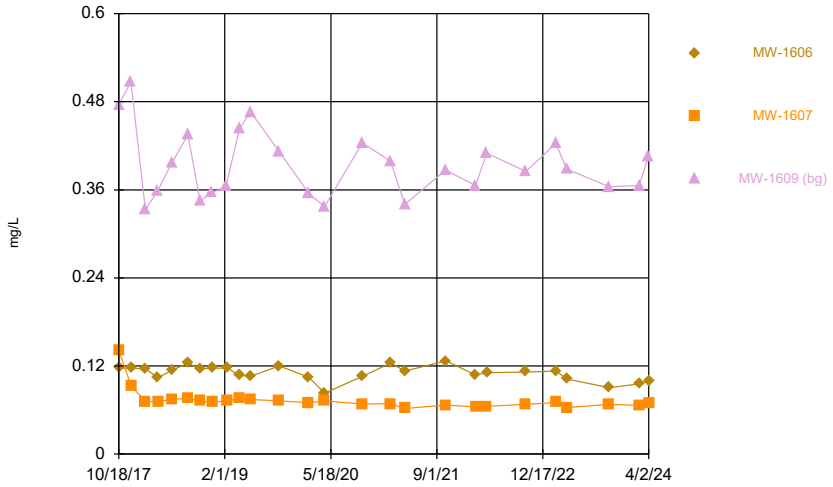
Time Series



Constituent: Arsenic total Analysis Run 5/31/2024 2:27 PM View: Rome Limestone - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Sanitas™ v.10.0.16e Software licensed to . UG

Time Series



Constituent: Barium total Analysis Run 5/31/2024 2:27 PM View: Rome Limestone - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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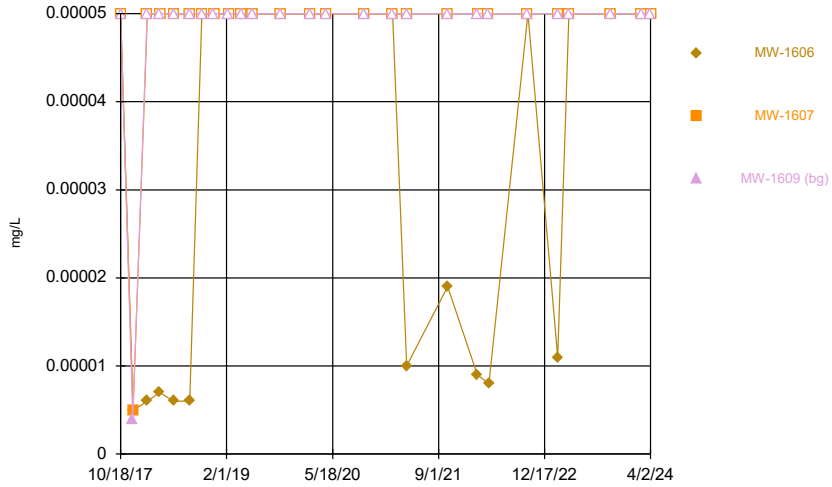
Hollow symbols indicate censored values.

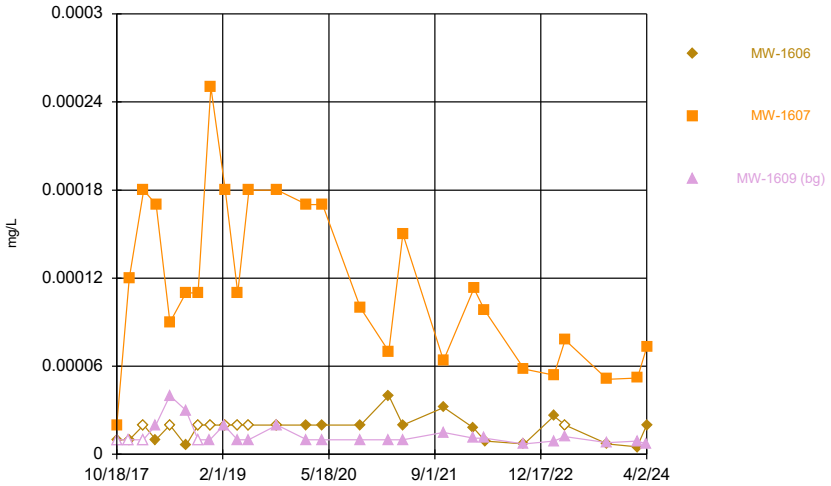
Time Series



Constituent: Beryllium total Analysis Run 5/31/2024 2:27 PM View: Rome Limestone - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Sanitas™ v.10.0.16e Software licensed to . UG
Hollow symbols indicate censored values.

Time Series



Constituent: Cadmium total Analysis Run 5/31/2024 2:27 PM View: Rome Limestone - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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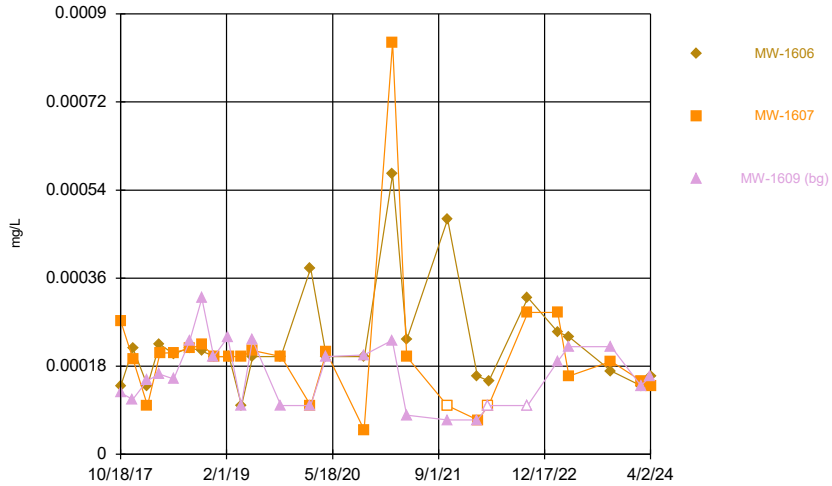
Hollow symbols indicate censored values.

Time Series



Constituent: Chromium total Analysis Run 5/31/2024 2:27 PM View: Rome Limestone - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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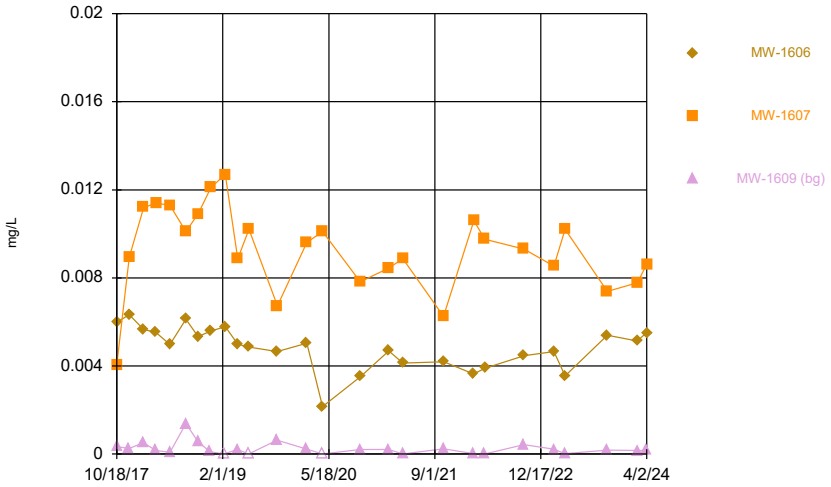
Hollow symbols indicate censored values.

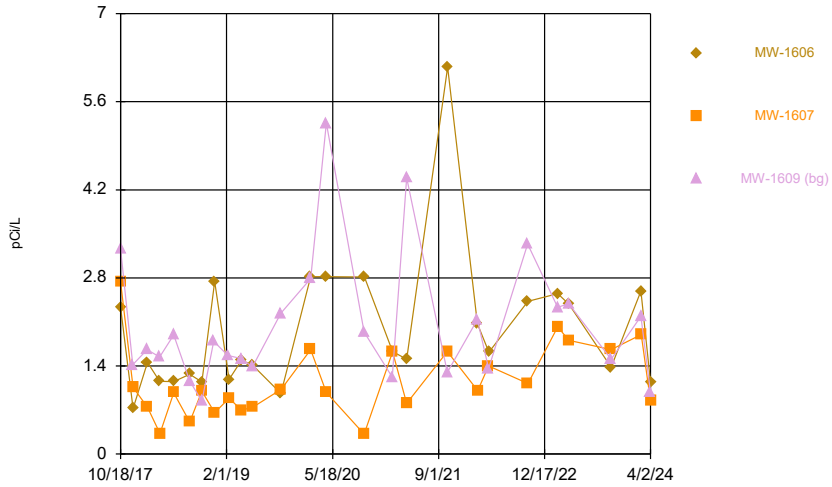
Time Series



Constituent: Cobalt total Analysis Run 5/31/2024 2:27 PM View: Rome Limestone - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Sanitas™ v.10.0.16e Software licensed to . UG

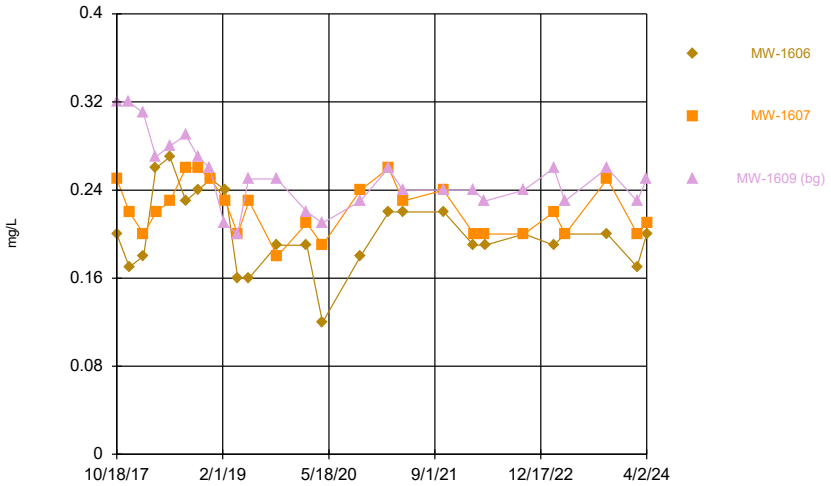
Time Series



Constituent: Combined Radium 226 and 228 Analysis Run 5/31/2024 2:27 PM View: Rome Limestone - P
Clinch River Client: AEP Data: Clinch River Pond 1

Sanitas™ v.10.0.16e Software licensed to . UG

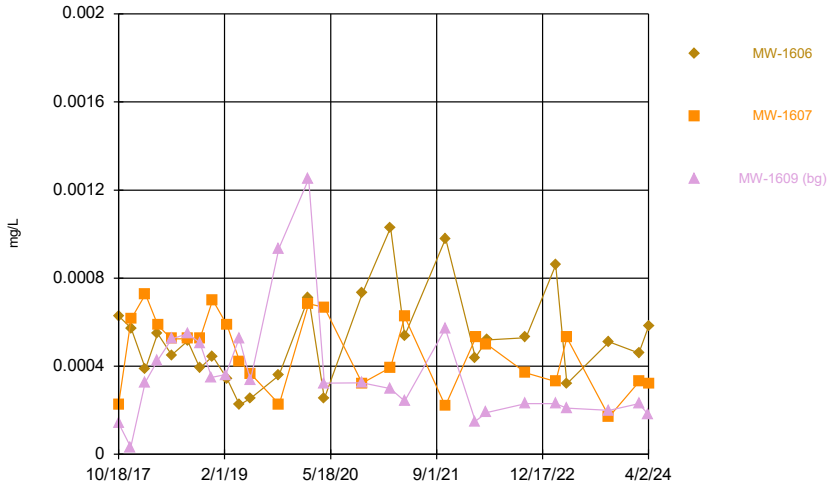
Time Series



Constituent: Fluoride total Analysis Run 5/31/2024 2:27 PM View: Rome Limestone - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Sanitas™ v.10.0.16e Software licensed to . UG

Time Series



Constituent: Lead total Analysis Run 5/31/2024 2:27 PM View: Rome Limestone - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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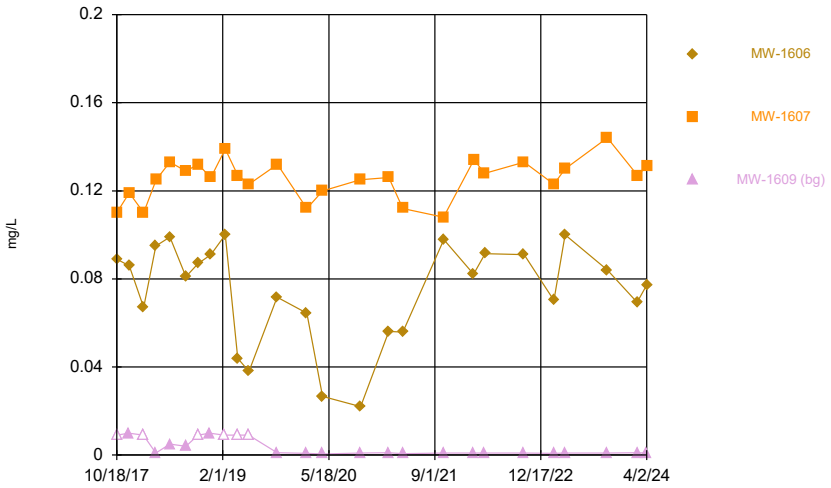
Hollow symbols indicate censored values.

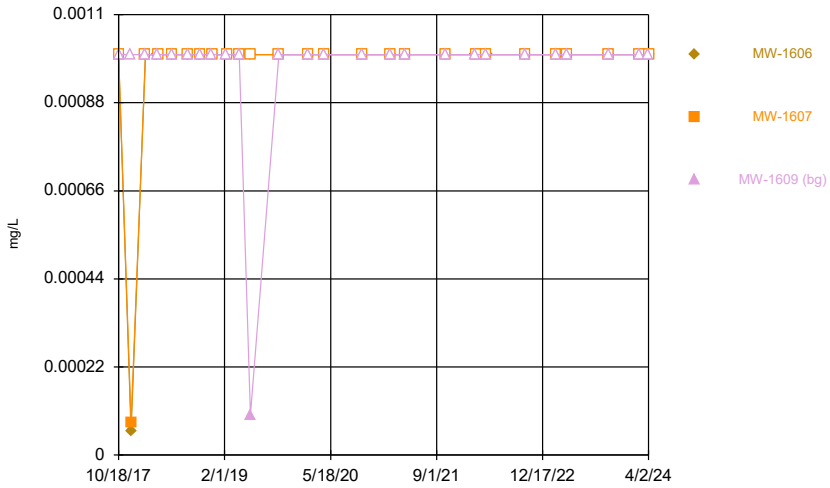
Time Series



Constituent: Lithium total Analysis Run 5/31/2024 2:27 PM View: Rome Limestone - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Sanitas™ v.10.0.16e Software licensed to . UG
Hollow symbols indicate censored values.

Time Series



Constituent: Mercury total Analysis Run 5/31/2024 2:27 PM View: Rome Limestone - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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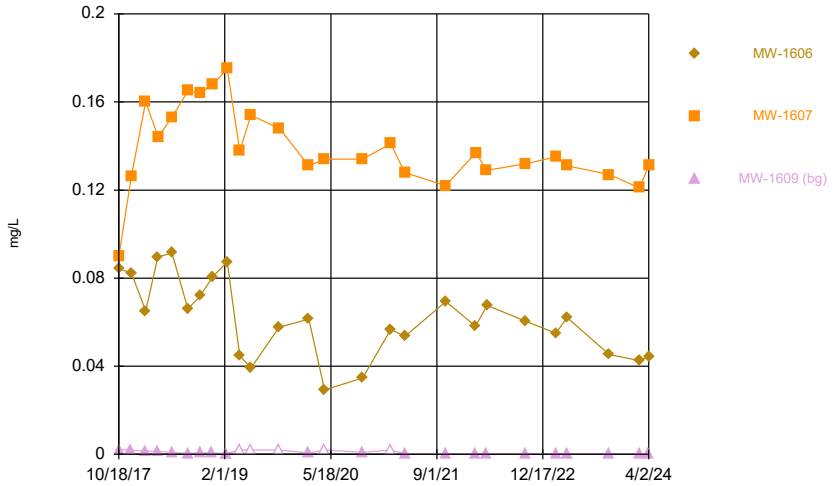
Hollow symbols indicate censored values.

Time Series



Constituent: Molybdenum total Analysis Run 5/31/2024 2:27 PM View: Rome Limestone - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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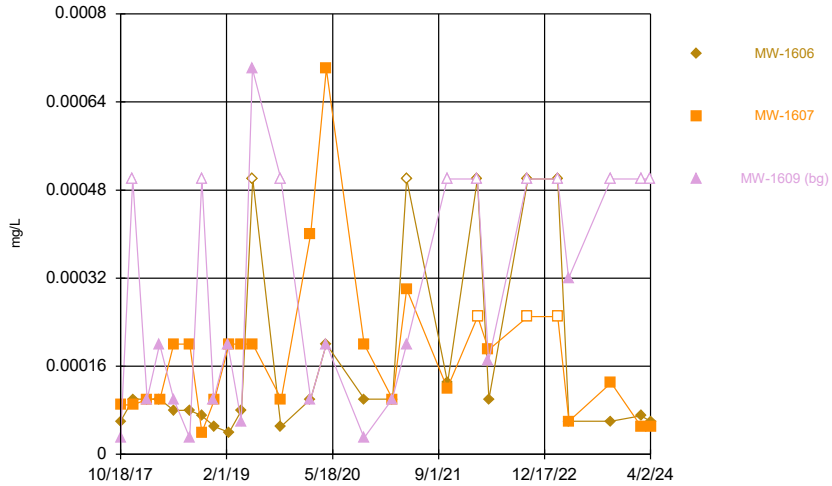
Hollow symbols indicate censored values.

Time Series



Constituent: Selenium total Analysis Run 5/31/2024 2:27 PM View: Rome Limestone - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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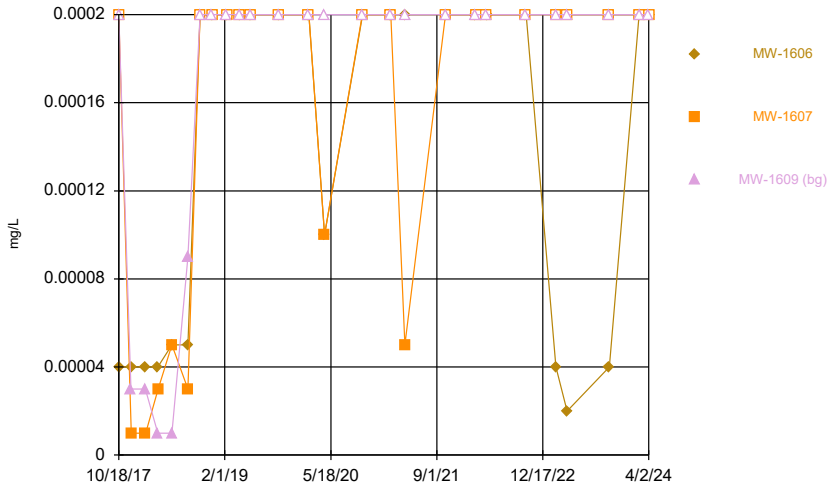
Hollow symbols indicate censored values.

Time Series



Constituent: Thallium total Analysis Run 5/31/2024 2:27 PM View: Rome Limestone - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Time Series - Dumps Fault

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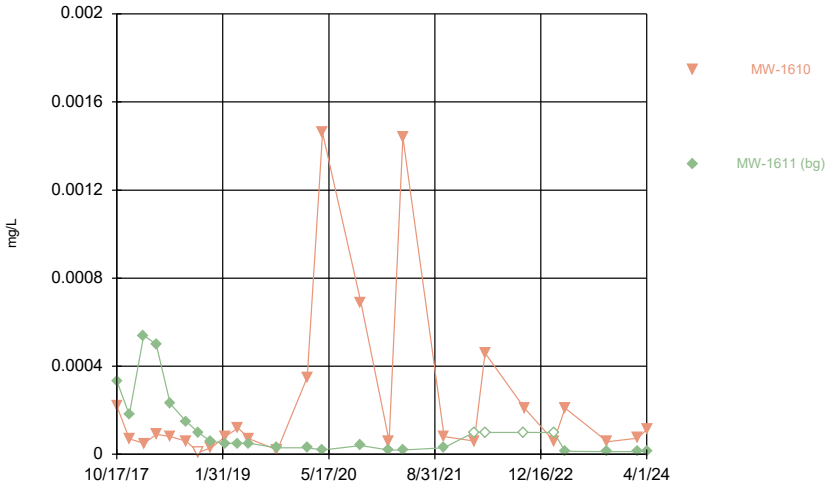
Hollow symbols indicate censored values.

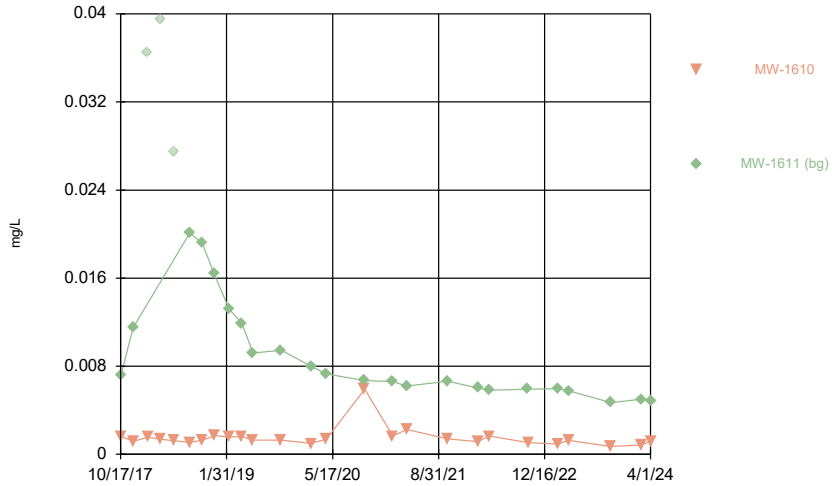
Time Series



Constituent: Antimony total Analysis Run 5/31/2024 2:41 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Sanitas™ v.10.0.16e Software licensed to . UG

Time Series



Constituent: Arsenic total Analysis Run 5/31/2024 2:41 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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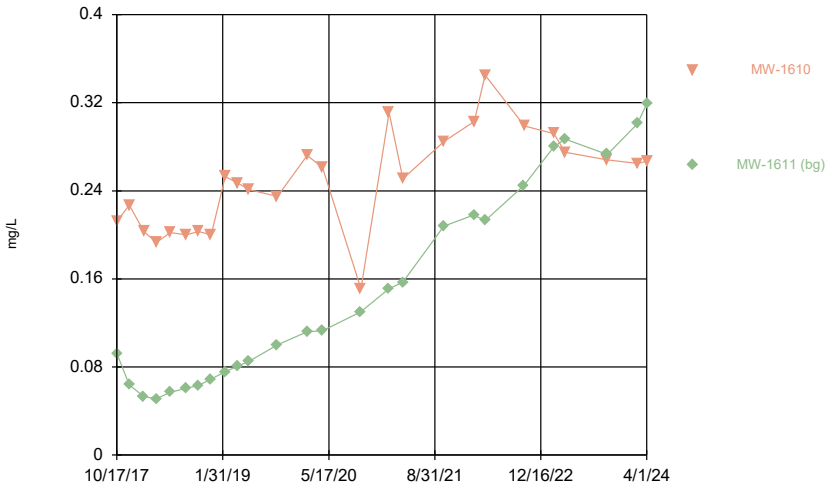
Time Series



Constituent: Barium total Analysis Run 5/31/2024 2:41 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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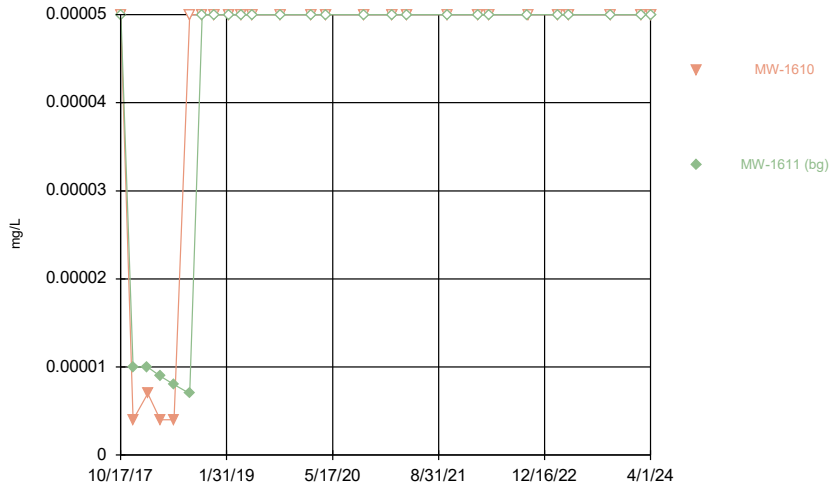
Hollow symbols indicate censored values.

Time Series



Constituent: Beryllium total Analysis Run 5/31/2024 2:41 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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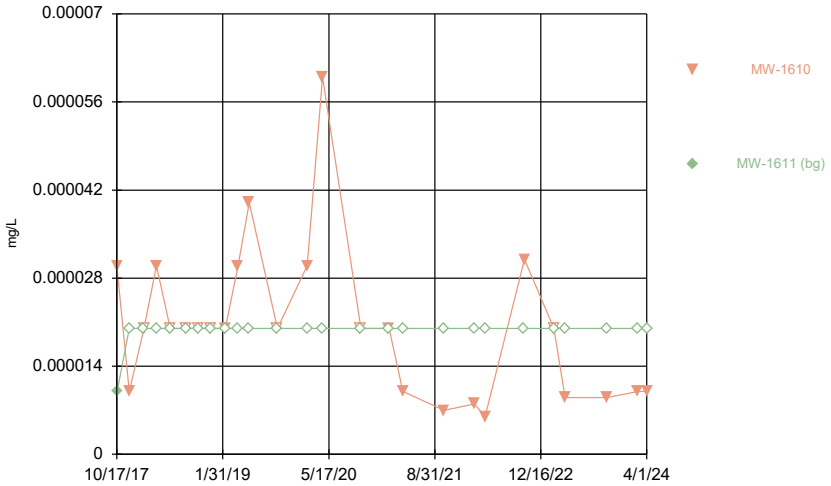
Hollow symbols indicate censored values.

Time Series



Constituent: Cadmium total Analysis Run 5/31/2024 2:41 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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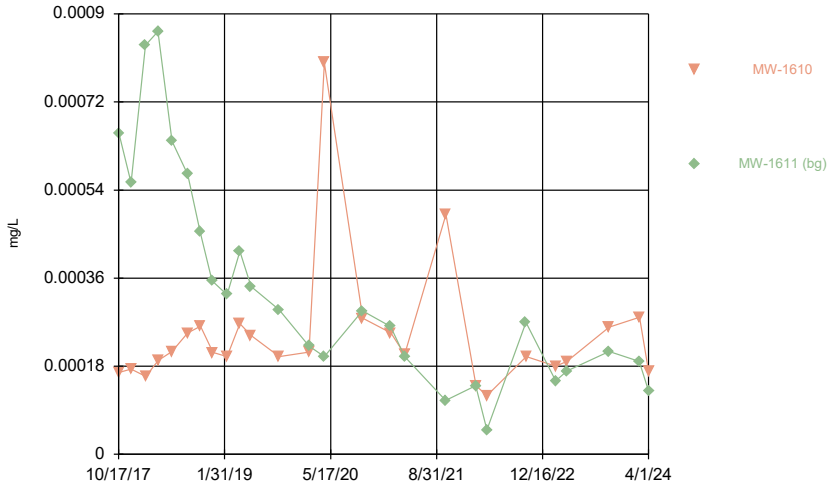
Time Series



Constituent: Chromium total Analysis Run 5/31/2024 2:41 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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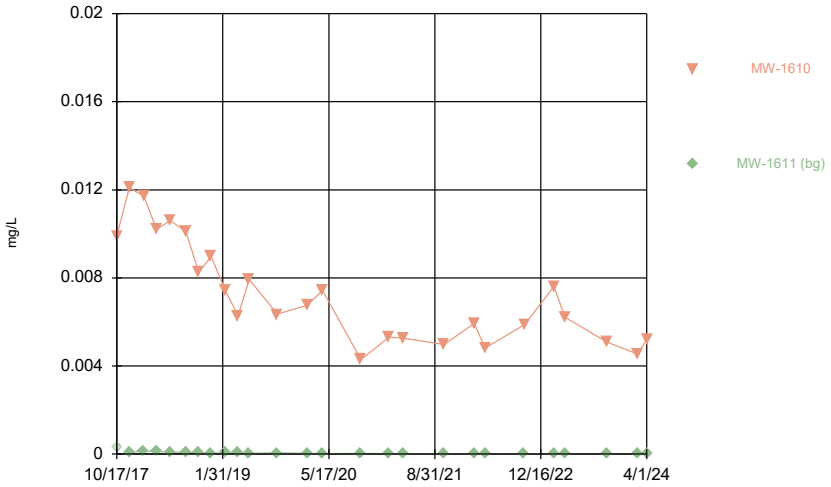
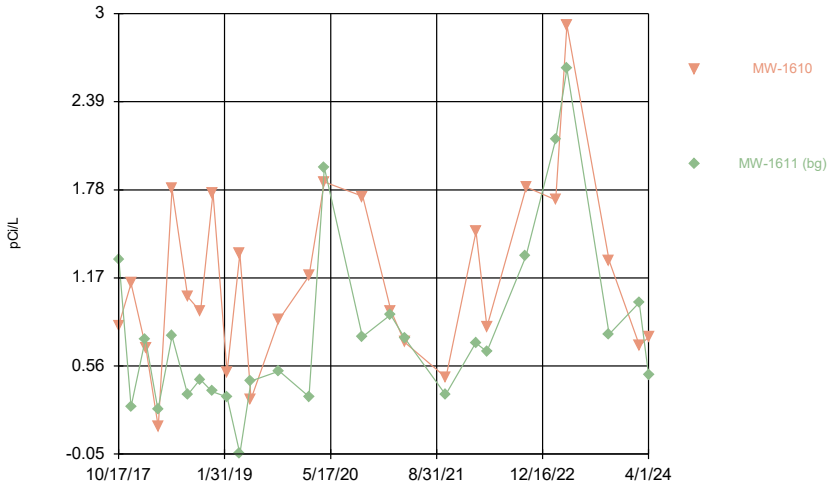
Time Series



Constituent: Cobalt total Analysis Run 5/31/2024 2:41 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Sanitas™ v.10.0.16e Software licensed to . UG

Time Series



Constituent: Combined Radium 226 and 228 Analysis Run 5/31/2024 2:42 PM View: Dumps Fault - Pond
Clinch River Client: AEP Data: Clinch River Pond 1

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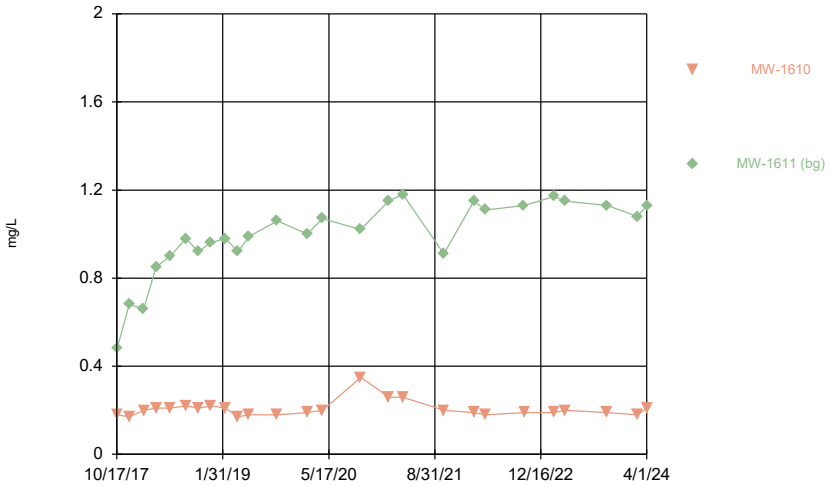
Time Series



Constituent: Fluoride total Analysis Run 5/31/2024 2:42 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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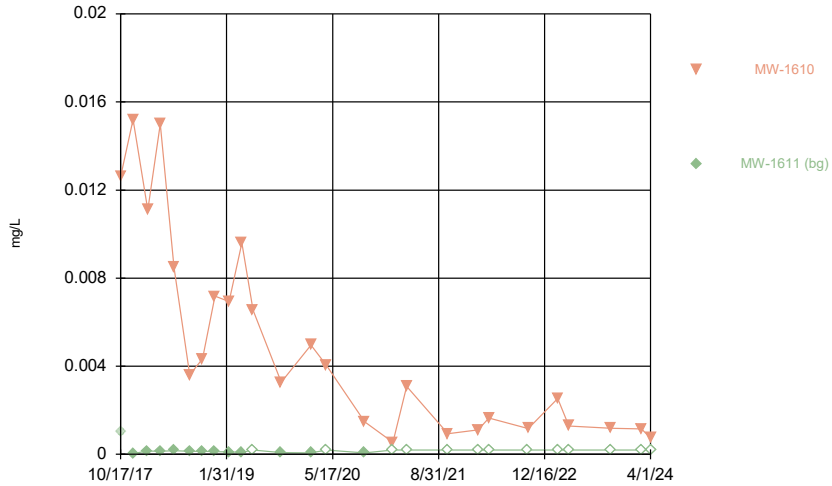
Hollow symbols indicate censored values.

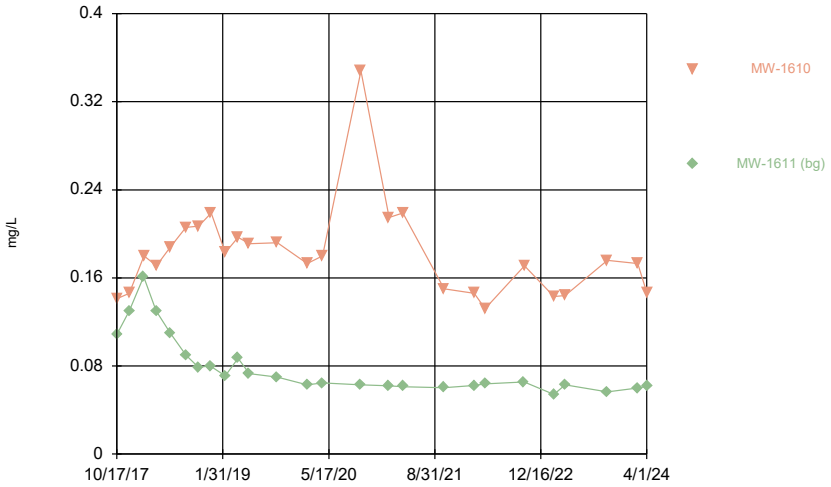
Time Series



Constituent: Lead total Analysis Run 5/31/2024 2:42 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Sanitas™ v.10.0.16e Software licensed to . UG

Time Series



Constituent: Lithium total Analysis Run 5/31/2024 2:42 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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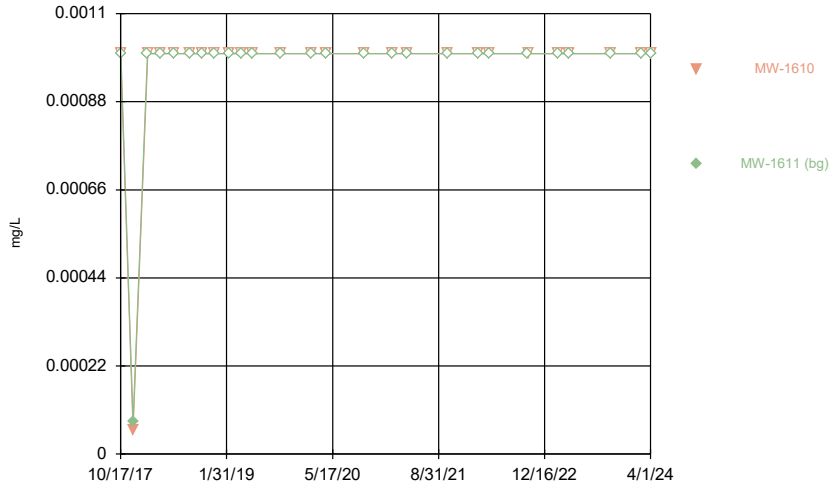
Hollow symbols indicate censored values.

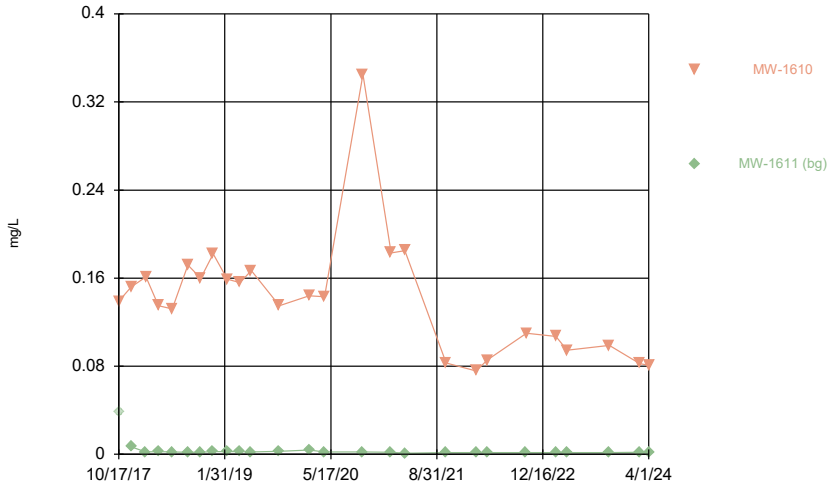
Time Series



Constituent: Mercury total Analysis Run 5/31/2024 2:42 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Sanitas™ v.10.0.16e Software licensed to . UG

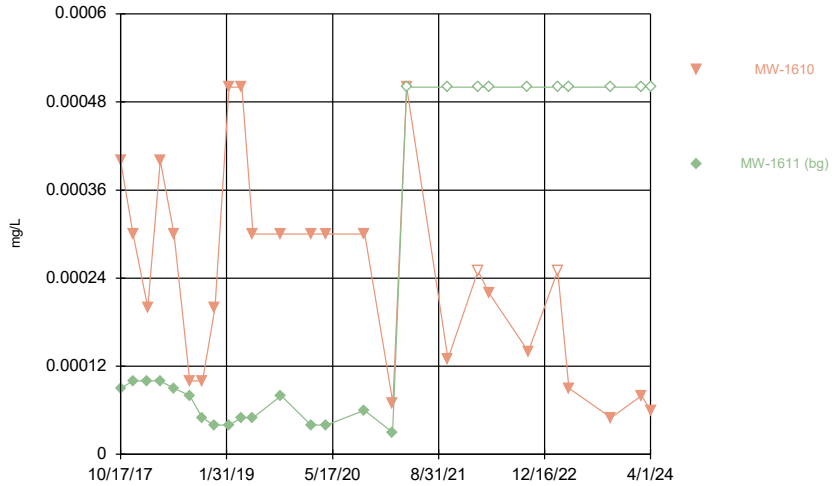
Time Series



Constituent: Molybdenum total Analysis Run 5/31/2024 2:42 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Sanitas™ v.10.0.16e Software licensed to . UG
Hollow symbols indicate censored values.

Time Series



Constituent: Selenium total Analysis Run 5/31/2024 2:42 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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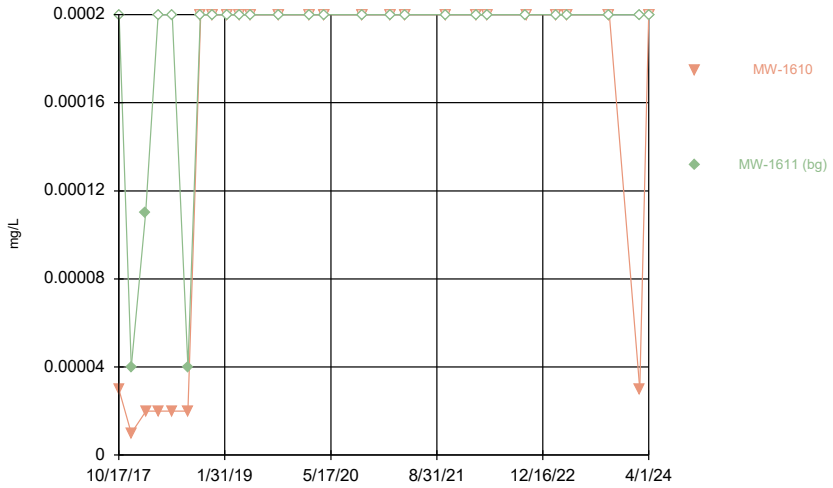
Hollow symbols indicate censored values.

Time Series

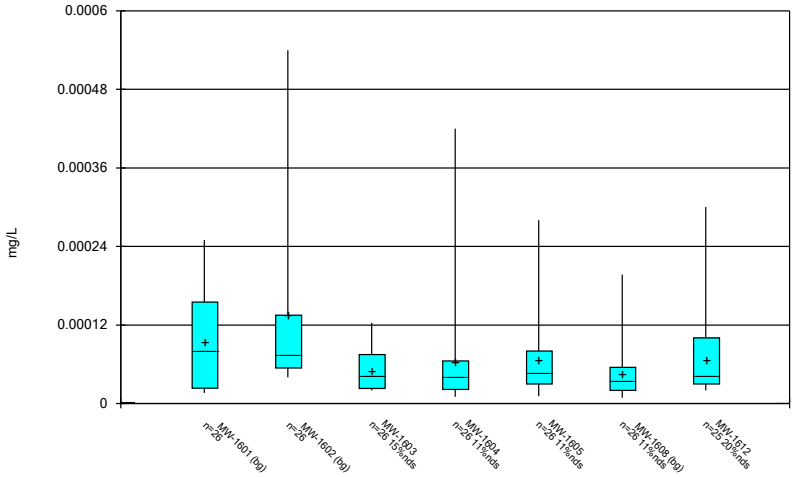


Constituent: Thallium total Analysis Run 5/31/2024 2:42 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

FIGURE B.

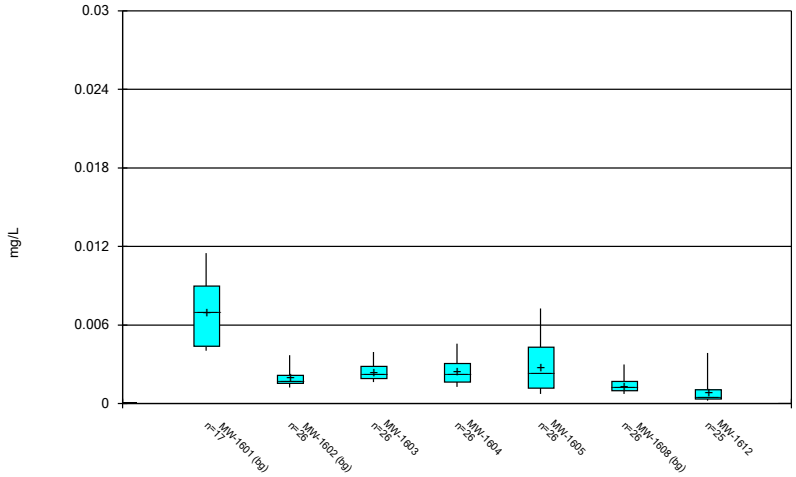
Box Plots - Chattanooga Shale

Box & Whiskers Plot



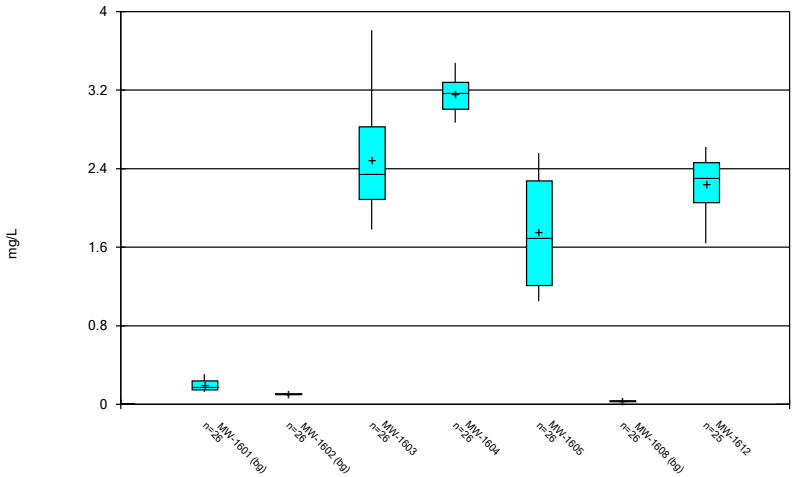
Constituent: Antimony total Analysis Run 5/31/2024 1:56 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



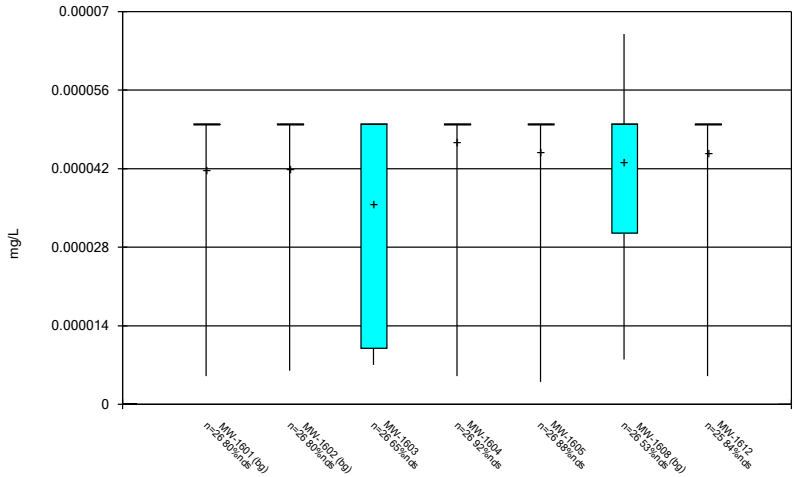
Constituent: Arsenic total Analysis Run 5/31/2024 1:56 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



Constituent: Barium total Analysis Run 5/31/2024 1:56 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



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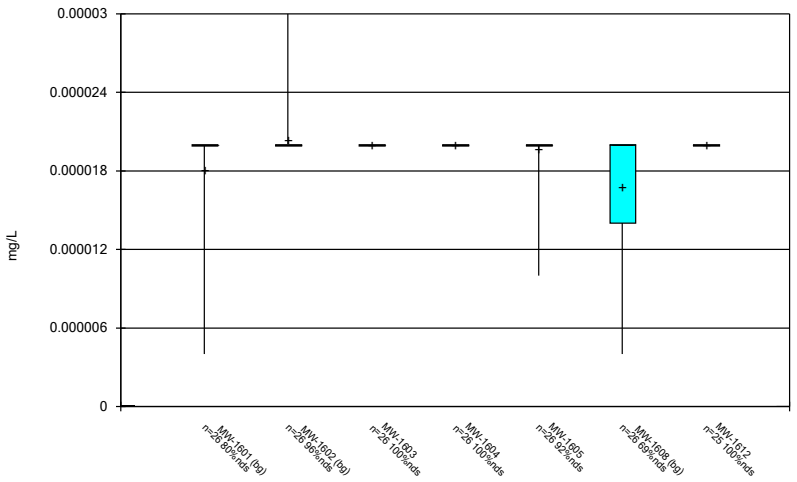
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



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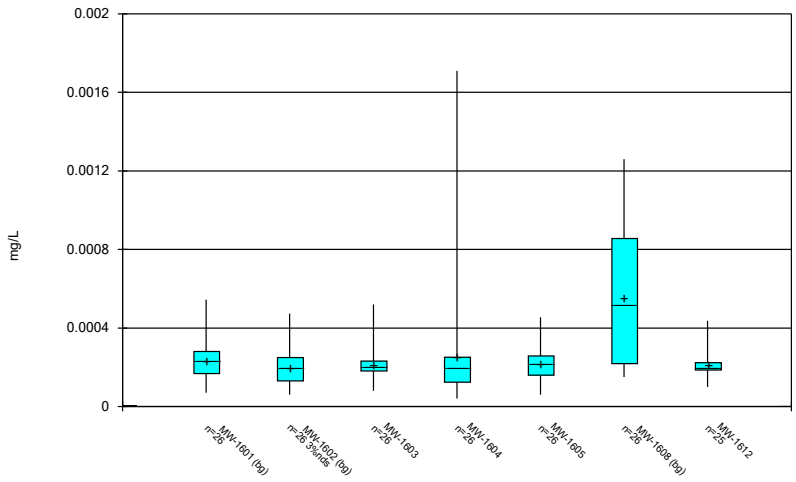
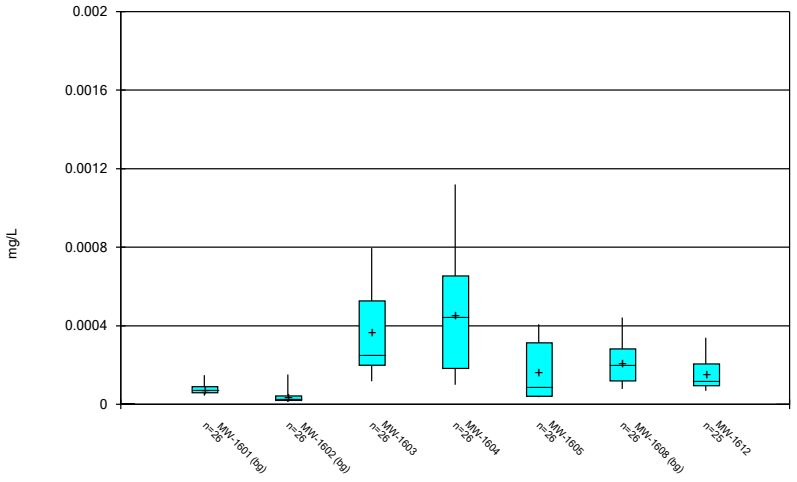
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



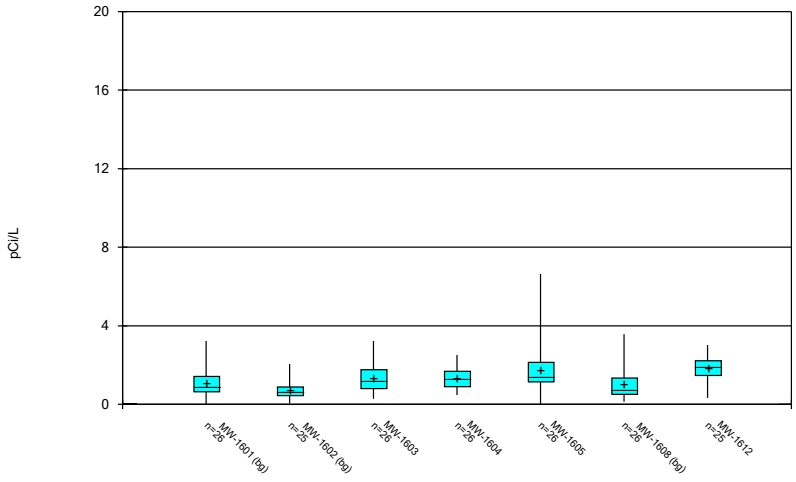
Constituent: Chromium total Analysis Run 5/31/2024 1:56 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



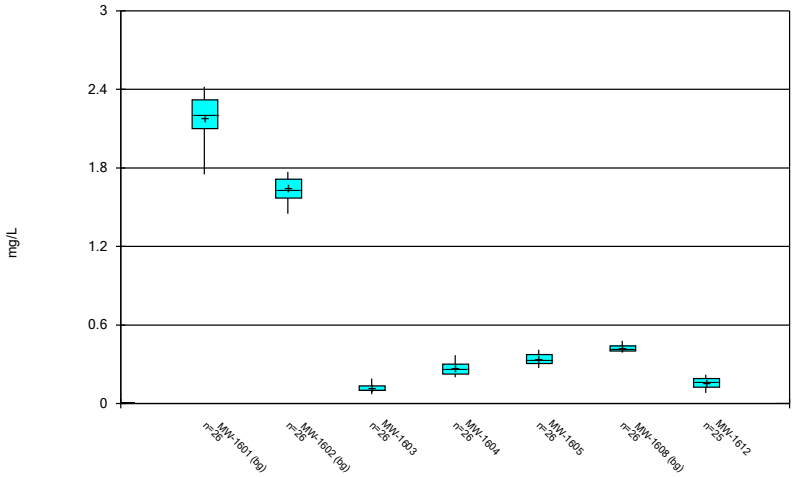
Constituent: Cobalt total Analysis Run 5/31/2024 1:56 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



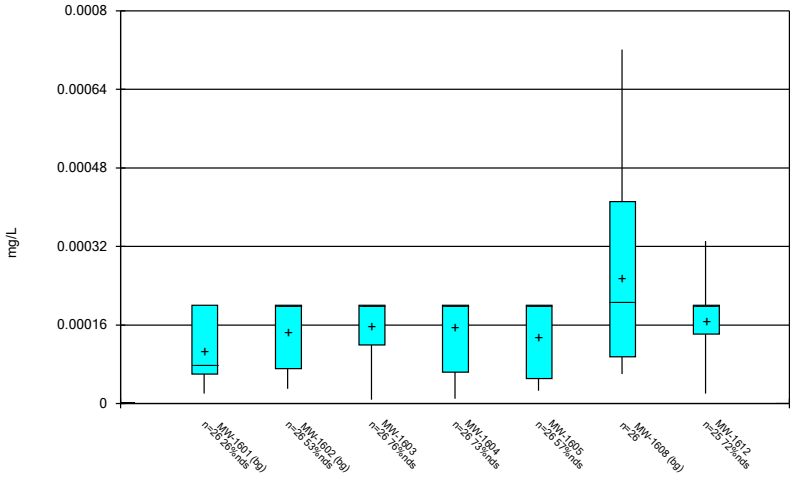
Constituent: Combined Radium 226 and 228 Analysis Run 5/31/2024 1:56 PM View: Chattanooga Shale -
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



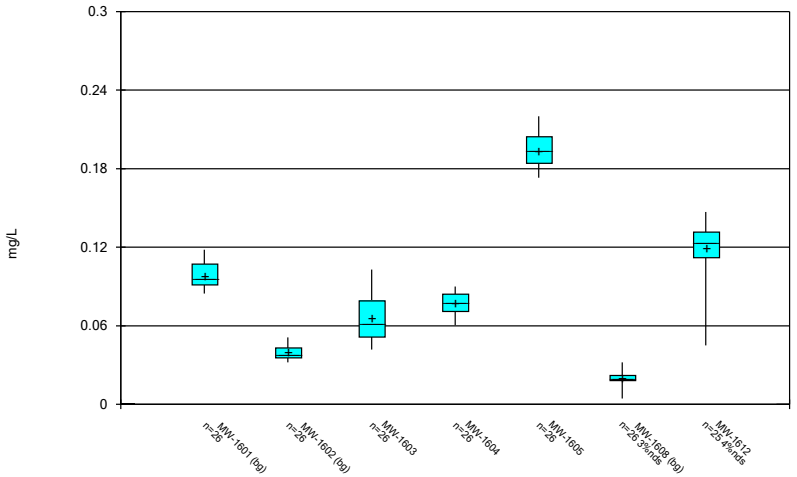
Constituent: Fluoride total Analysis Run 5/31/2024 1:56 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



Constituent: Lead total Analysis Run 5/31/2024 1:56 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



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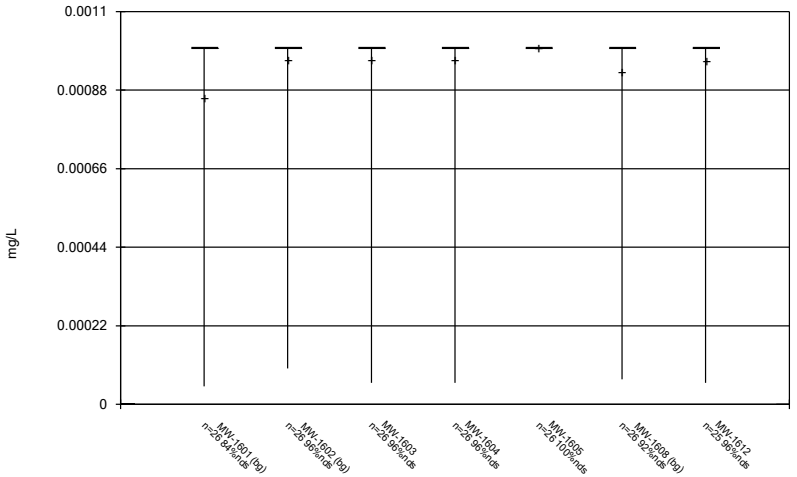
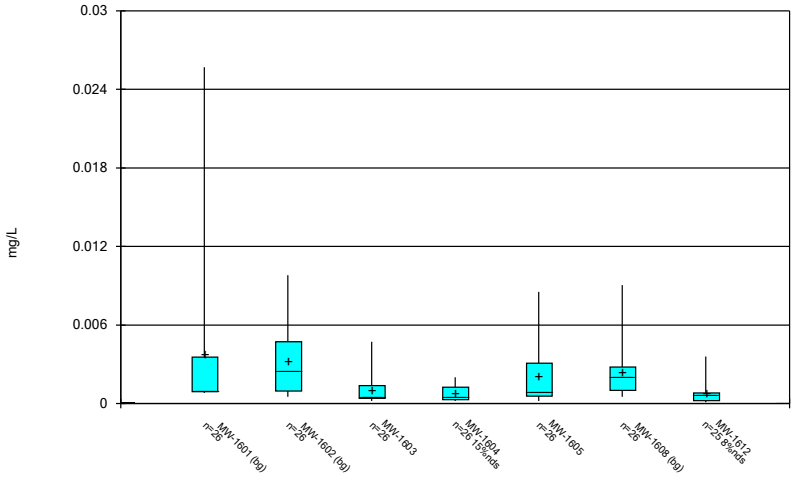
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



Constituent: Mercury total Analysis Run 5/31/2024 1:56 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



Constituent: Molybdenum total Analysis Run 5/31/2024 1:56 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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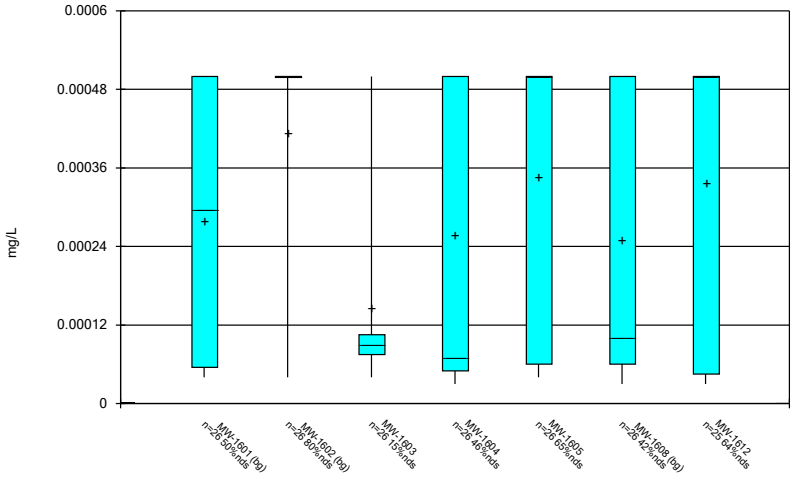
Box & Whiskers Plot



Constituent: Selenium total Analysis Run 5/31/2024 1:56 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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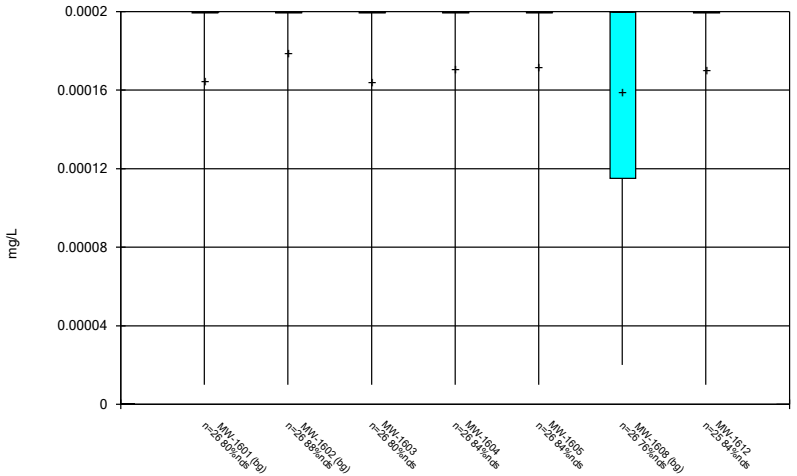
Box & Whiskers Plot



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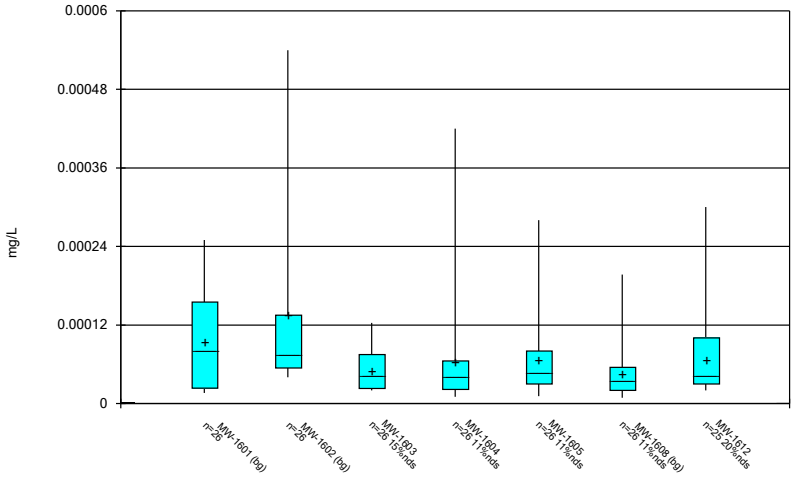
Clinch River Client: AEP Data: Clinch River Pond 1

Box Plots - Rome Limestone

Box & Whiskers Plot



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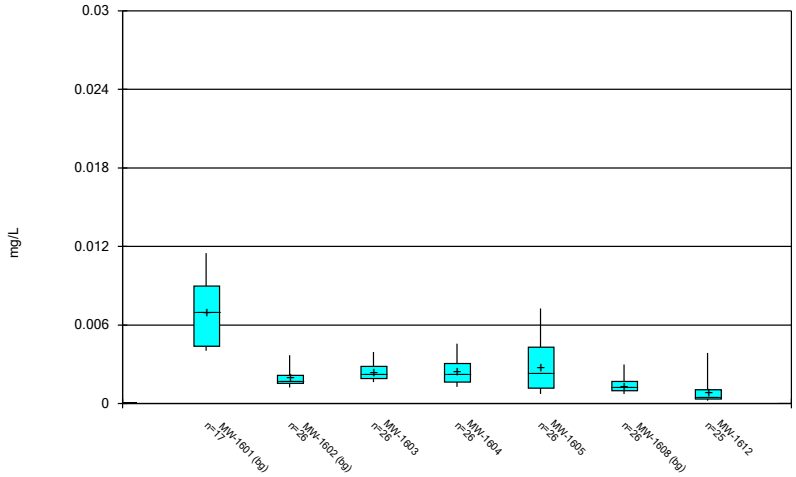
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



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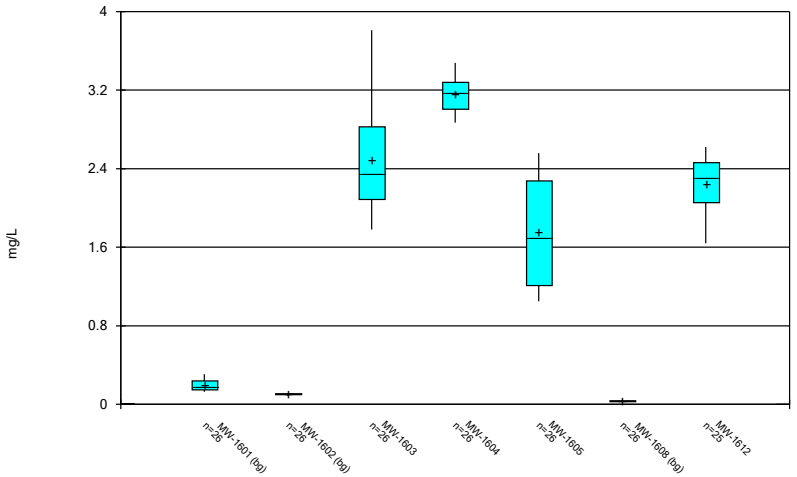
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



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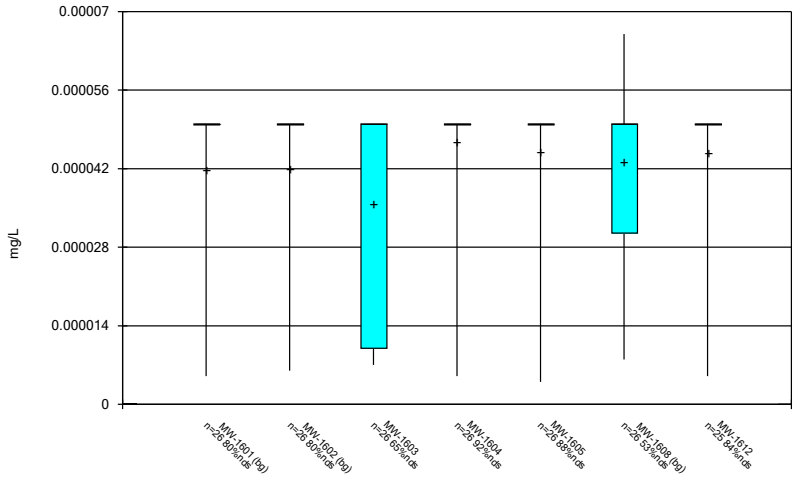
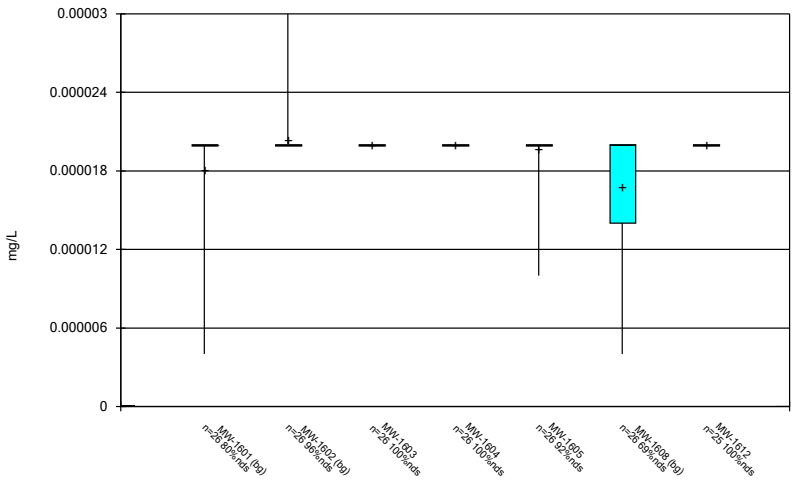
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



Constituent: Beryllium total Analysis Run 5/31/2024 1:56 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



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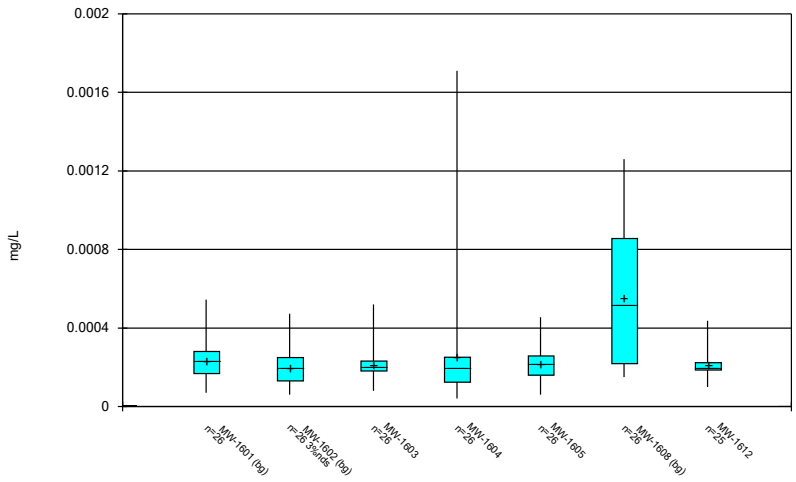
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



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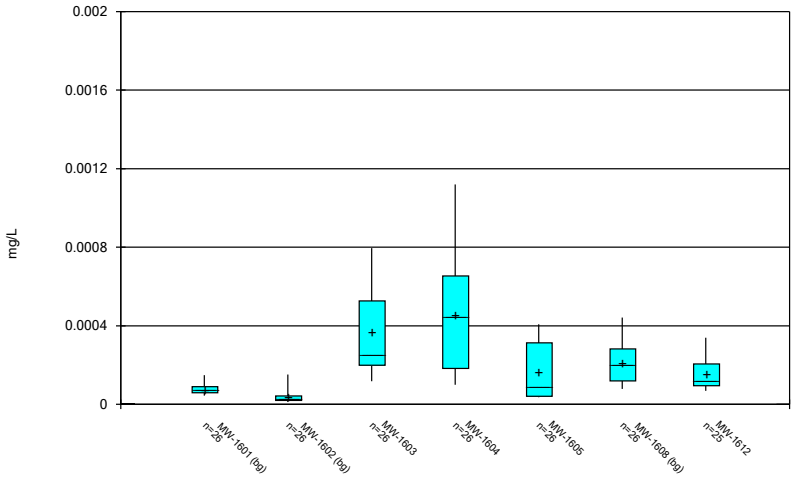
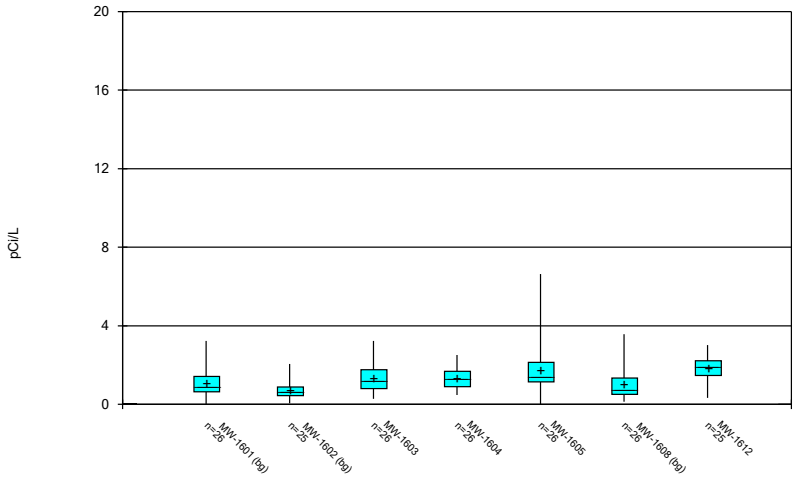
Box & Whiskers Plot



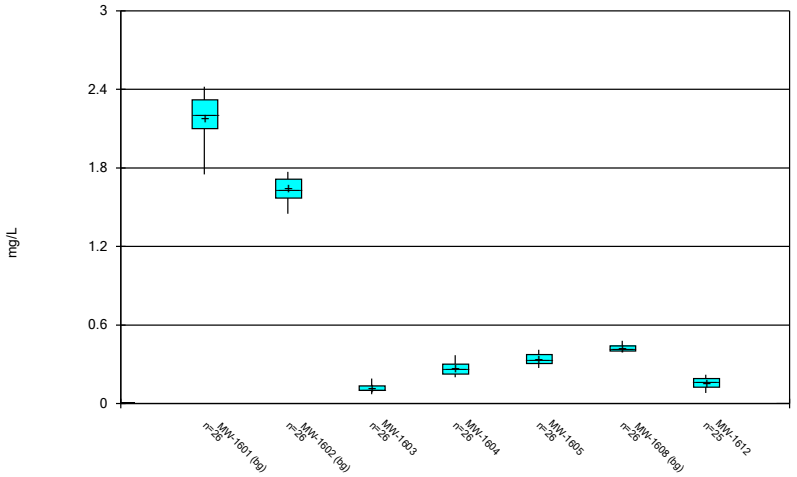
Constituent: Cobalt total Analysis Run 5/31/2024 1:56 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



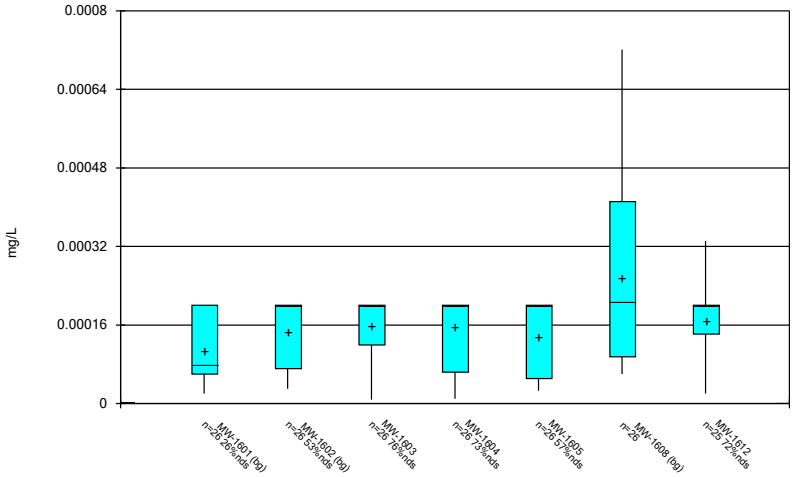
Constituent: Combined Radium 226 and 228 Analysis Run 5/31/2024 1:56 PM View: Chattanooga Shale -
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



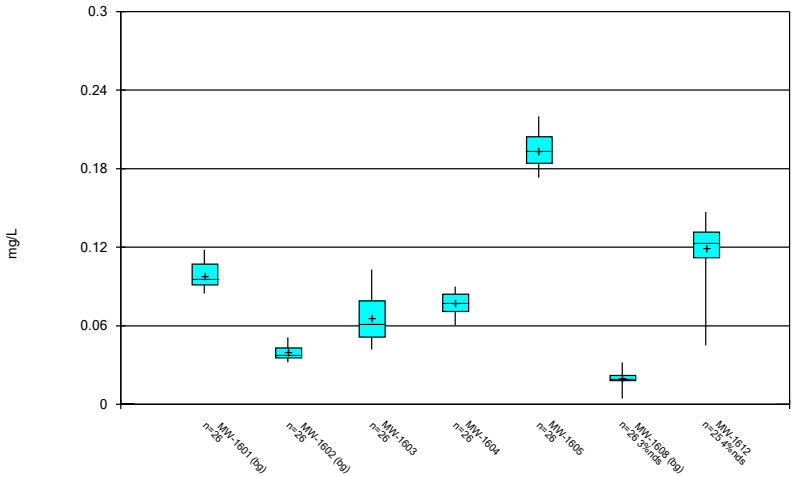
Constituent: Fluoride total Analysis Run 5/31/2024 1:56 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



Constituent: Lead total Analysis Run 5/31/2024 1:56 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



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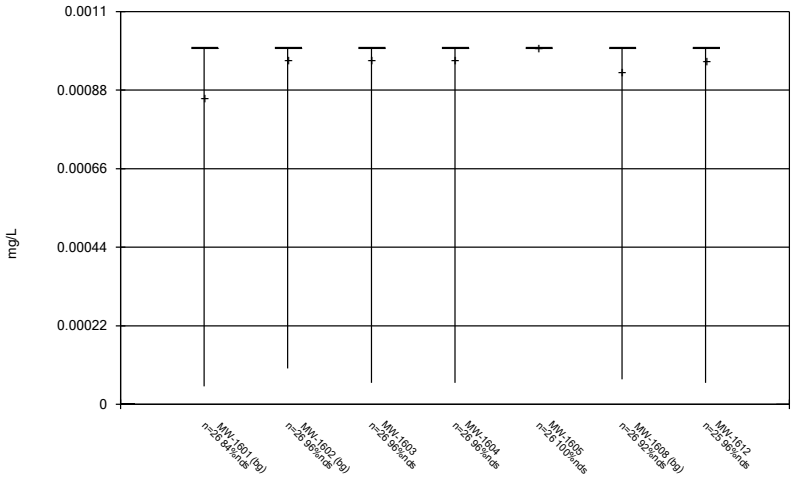
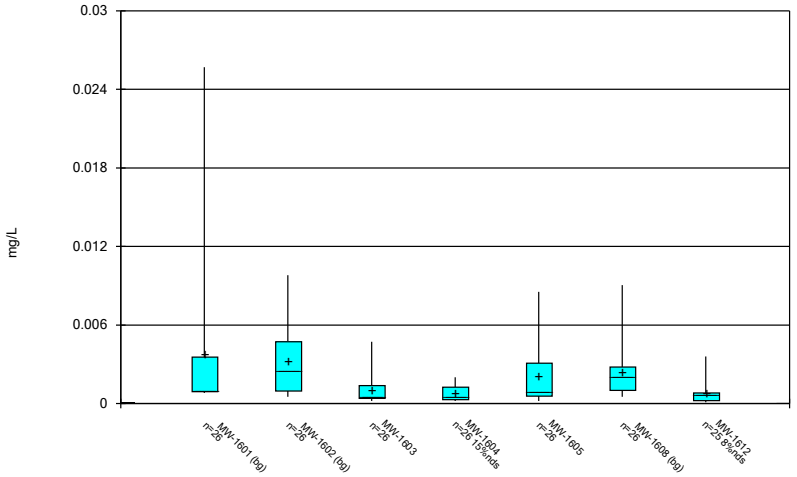
Box & Whiskers Plot



Constituent: Mercury total Analysis Run 5/31/2024 1:56 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



Constituent: Molybdenum total Analysis Run 5/31/2024 1:56 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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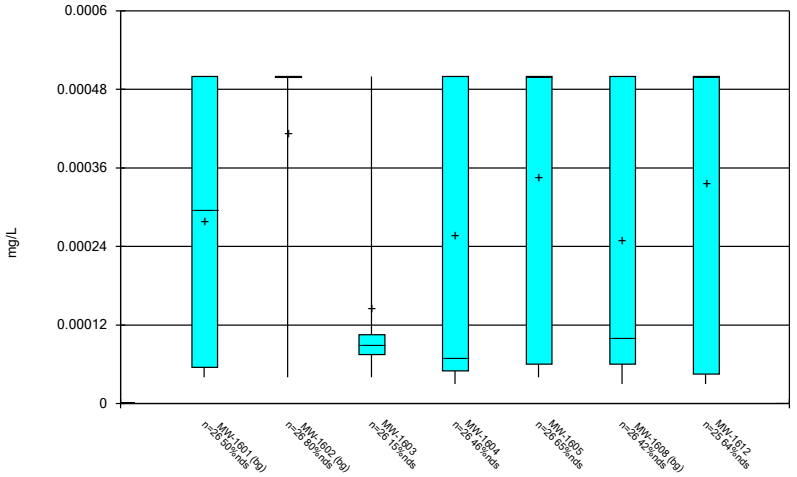
Box & Whiskers Plot



Constituent: Selenium total Analysis Run 5/31/2024 1:56 PM View: Chattanooga Shale - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

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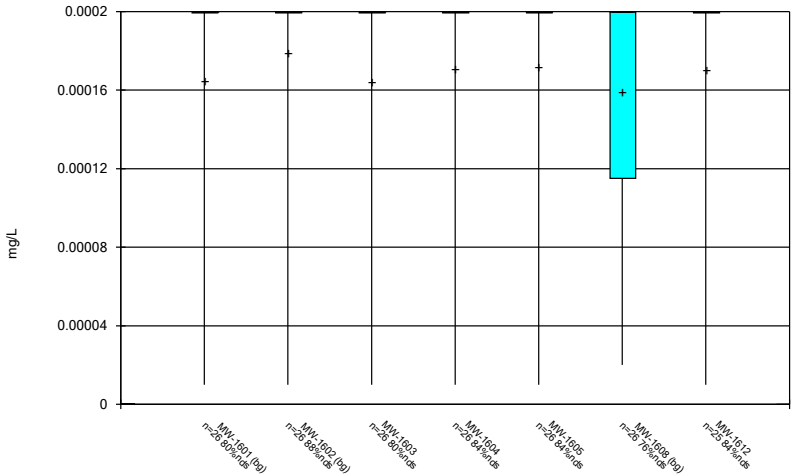
Box & Whiskers Plot



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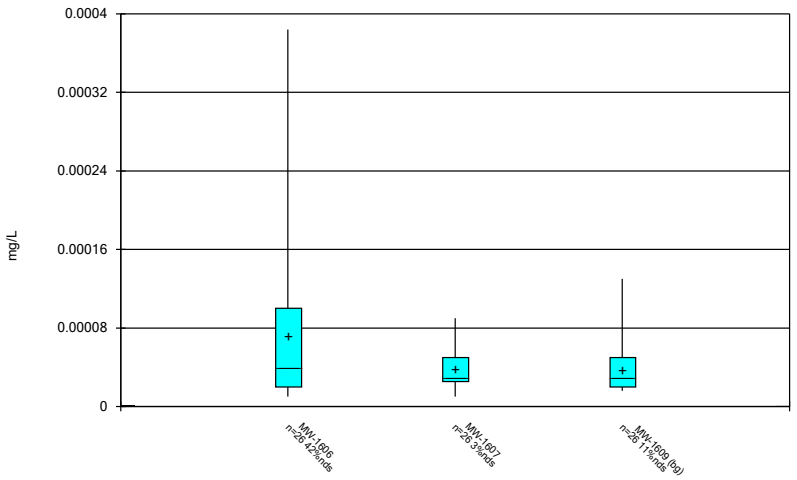
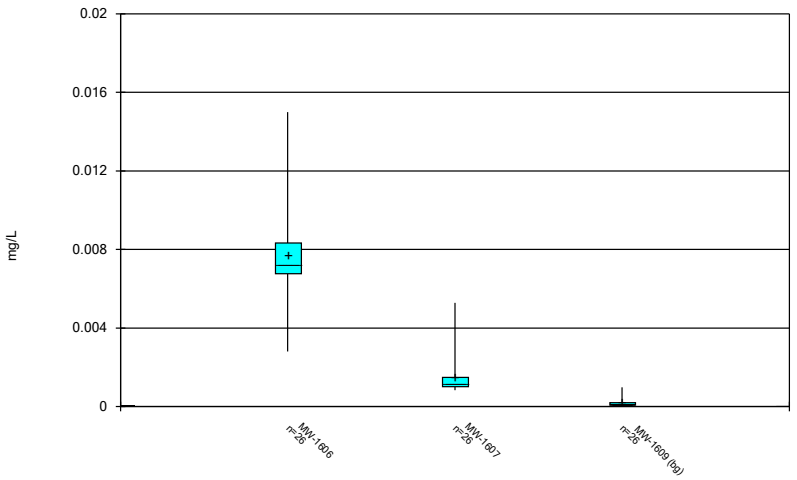
Box & Whiskers Plot



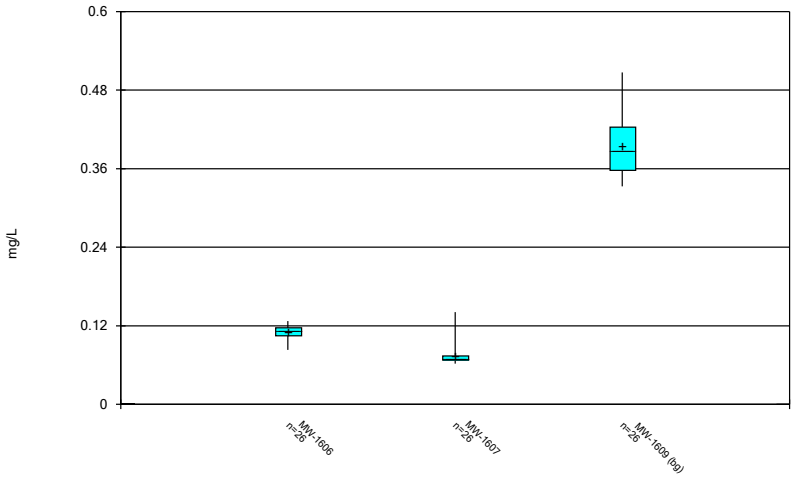
Constituent: Antimony total Analysis Run 5/31/2024 2:29 PM View: Rome Limestone - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



Constituent: Arsenic total Analysis Run 5/31/2024 2:29 PM View: Rome Limestone - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



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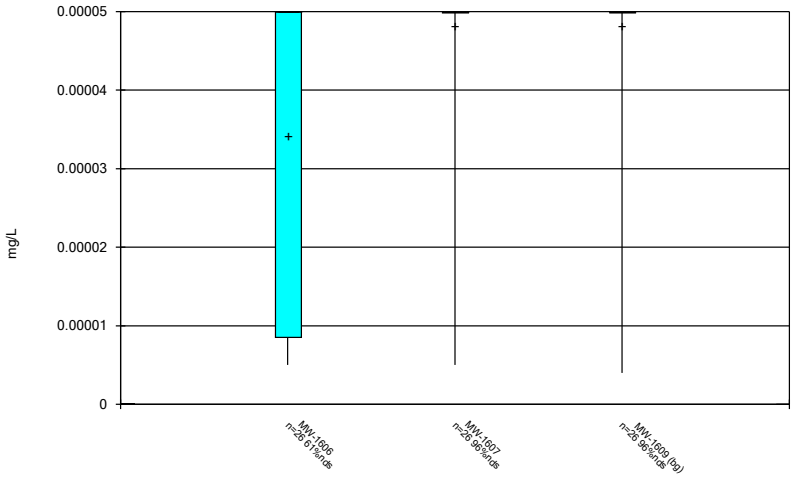
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



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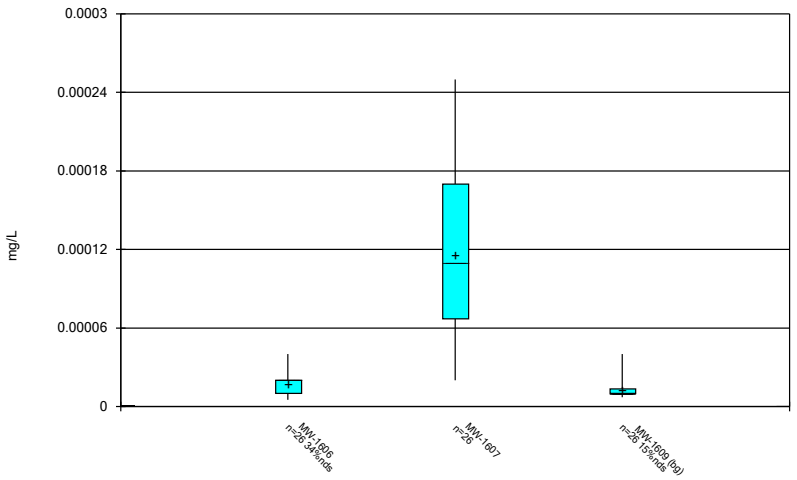
Box & Whiskers Plot



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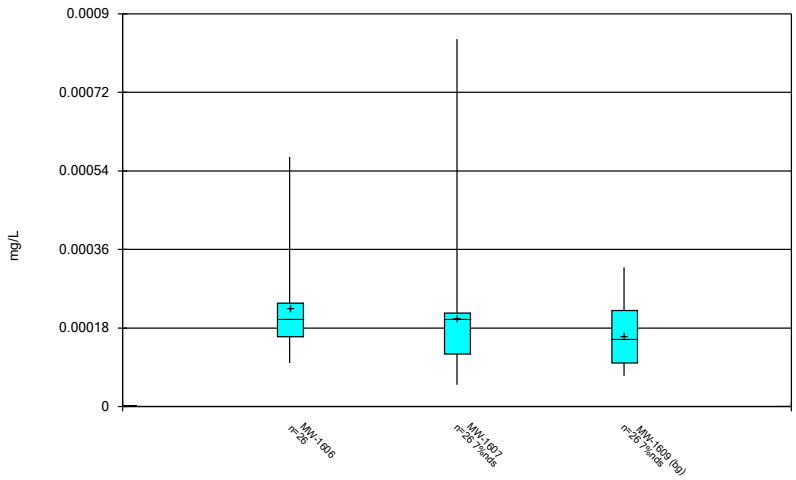
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



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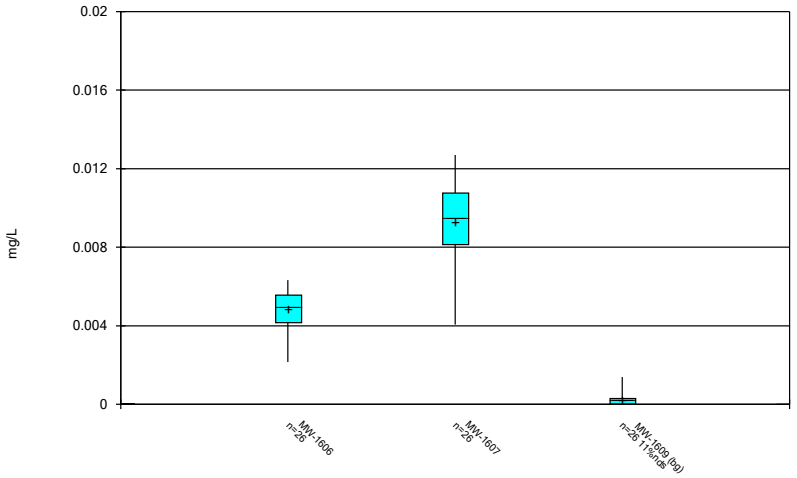
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



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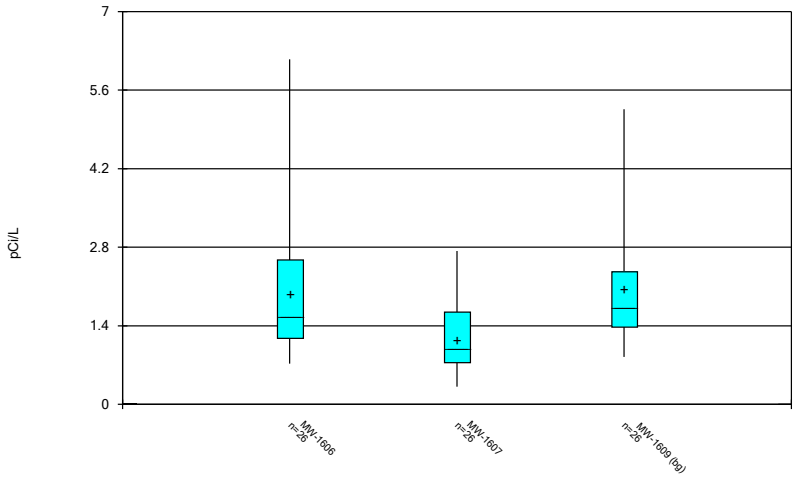
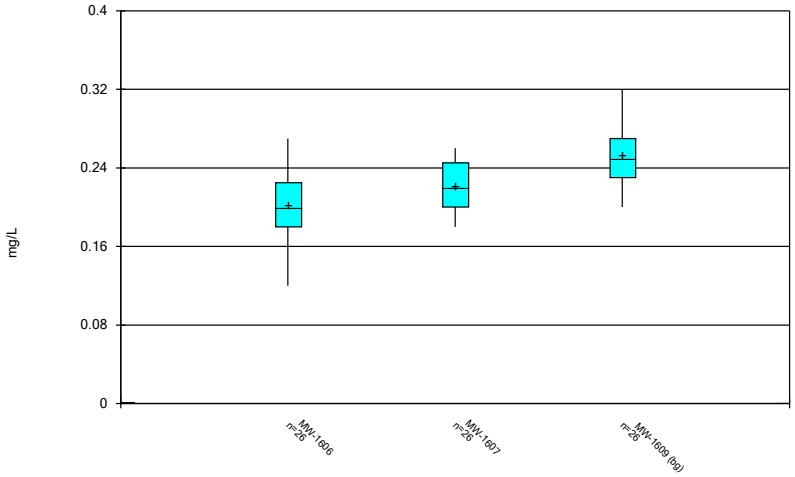
Box & Whiskers Plot



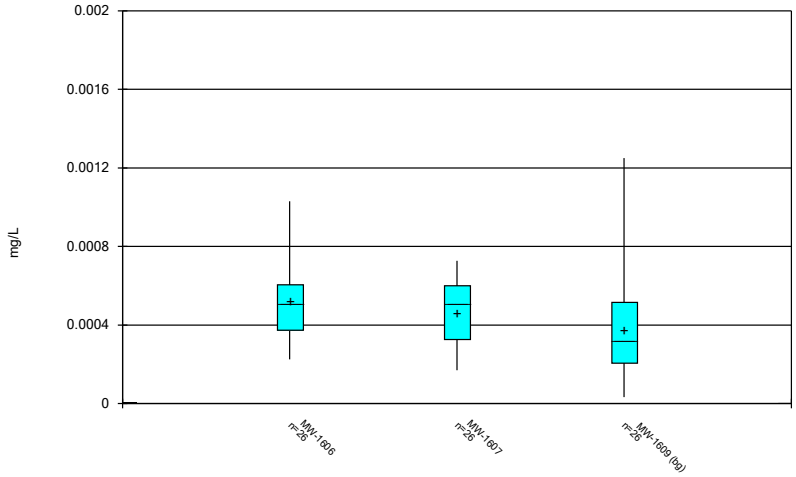
Constituent: Combined Radium 226 and 228 Analysis Run 5/31/2024 2:29 PM View: Rome Limestone - P
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



Constituent: Fluoride total Analysis Run 5/31/2024 2:29 PM View: Rome Limestone - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



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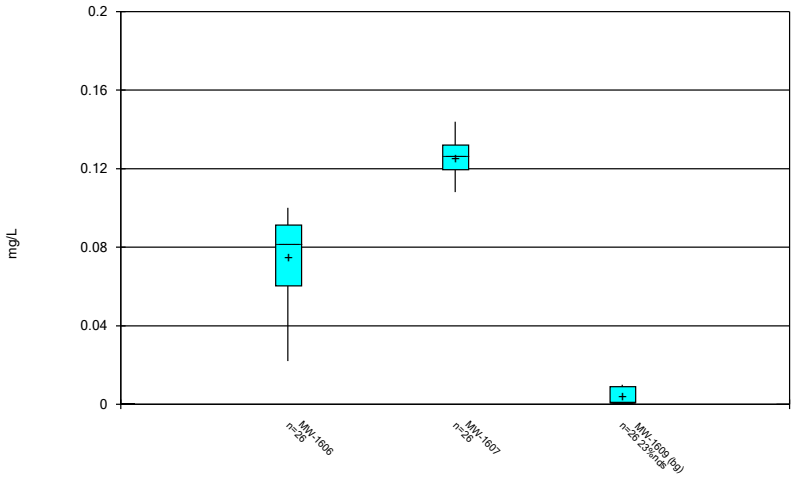
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



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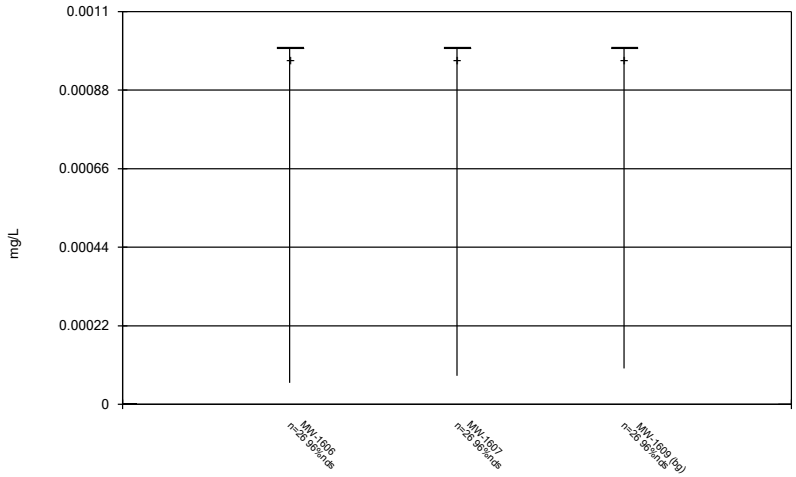
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



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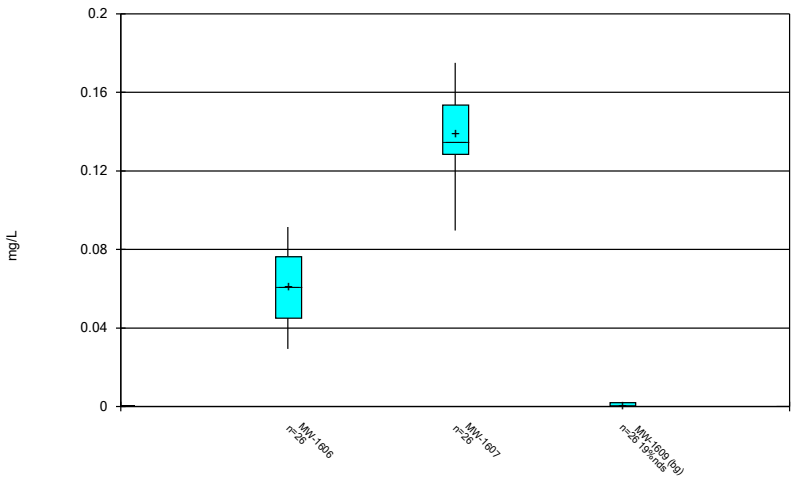
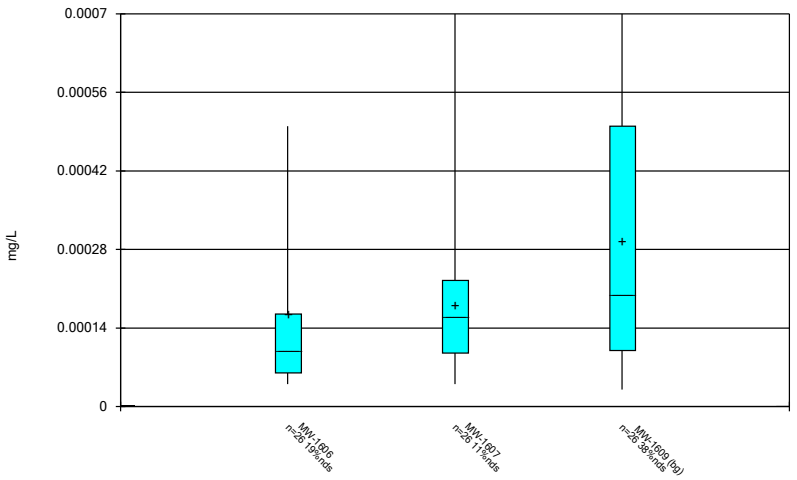
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



Constituent: Molybdenum total Analysis Run 5/31/2024 2:29 PM View: Rome Limestone - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



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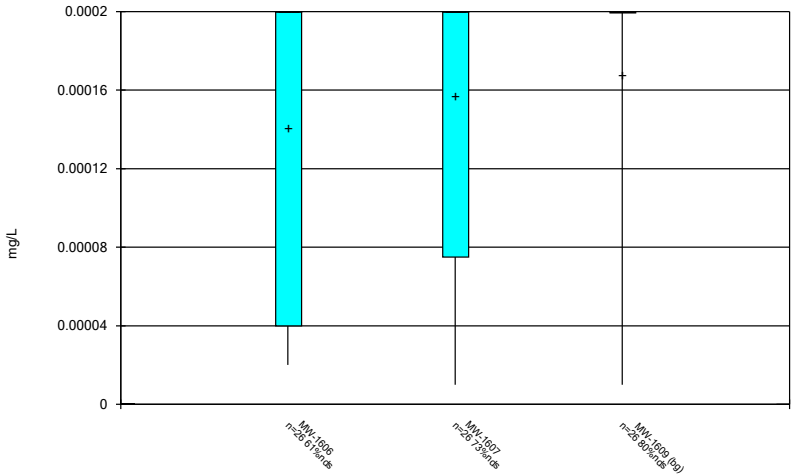
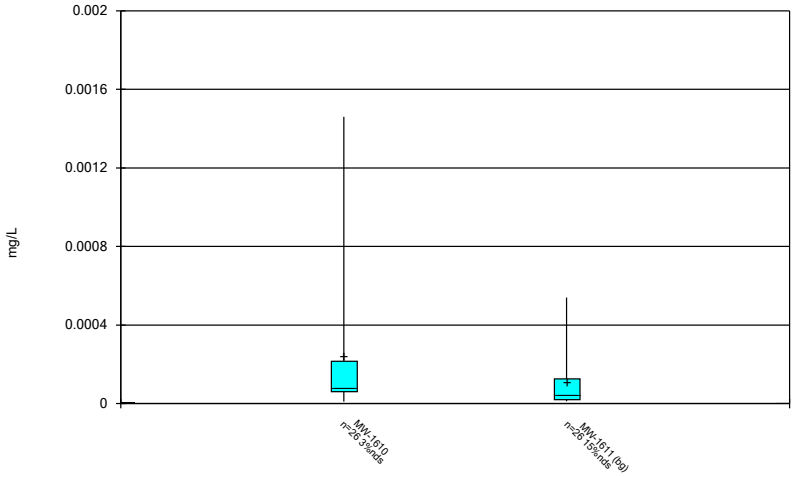
Box & Whiskers Plot



Constituent: Thallium total Analysis Run 5/31/2024 2:29 PM View: Rome Limestone - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

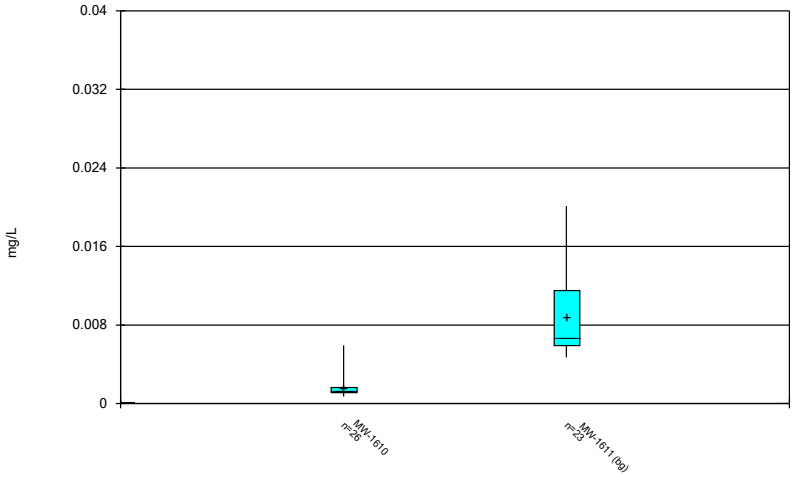
Box Plots - Dumps Fault

Box & Whiskers Plot



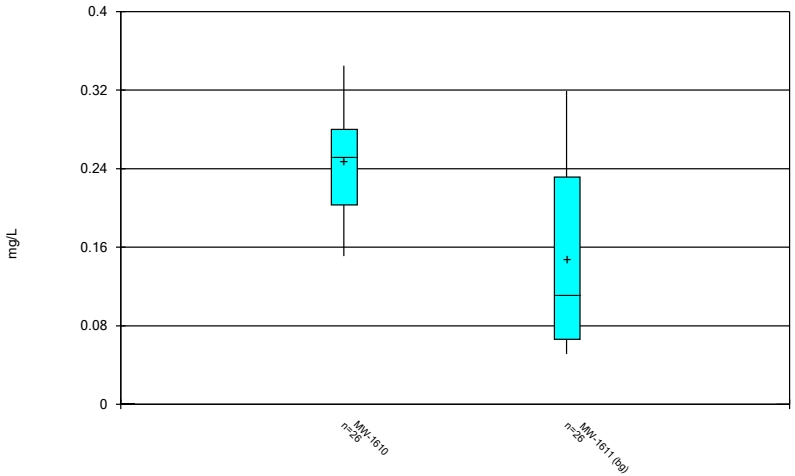
Constituent: Antimony total Analysis Run 5/31/2024 2:43 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



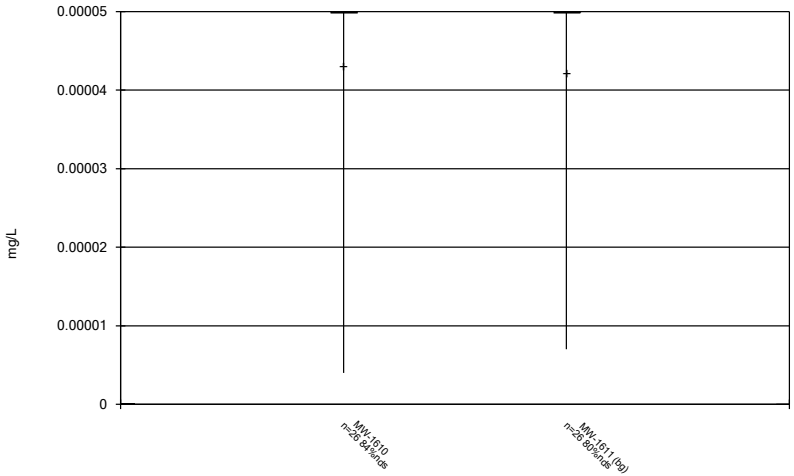
Constituent: Arsenic total Analysis Run 5/31/2024 2:43 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



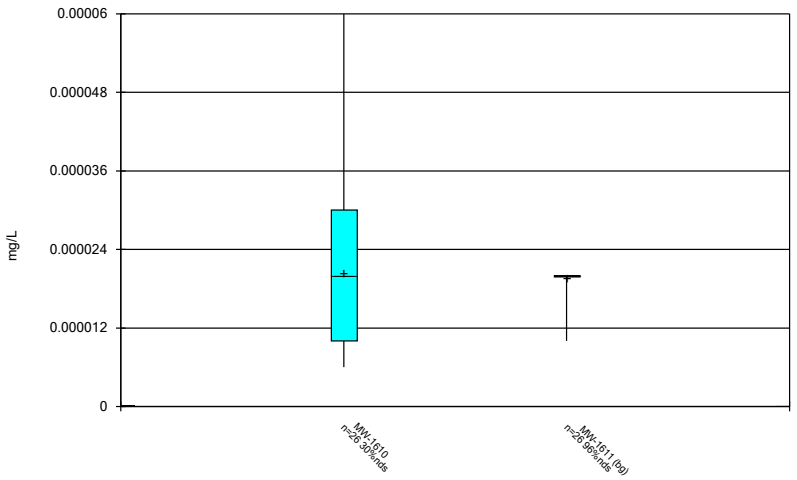
Constituent: Barium total Analysis Run 5/31/2024 2:43 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



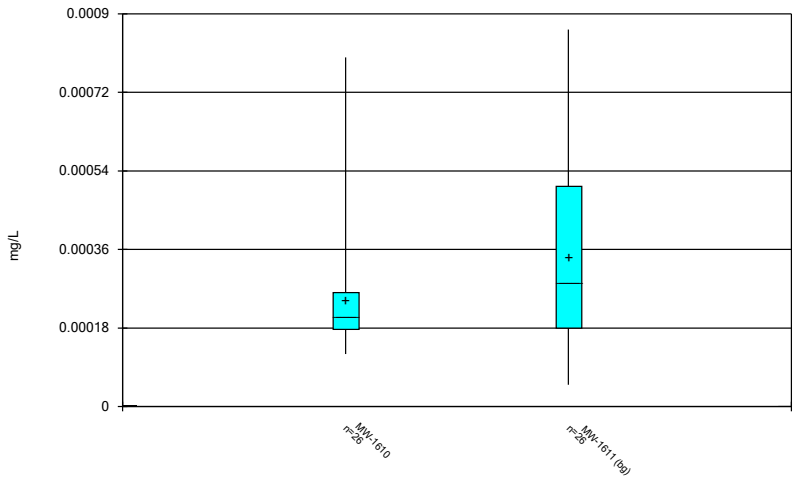
Constituent: Beryllium total Analysis Run 5/31/2024 2:43 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



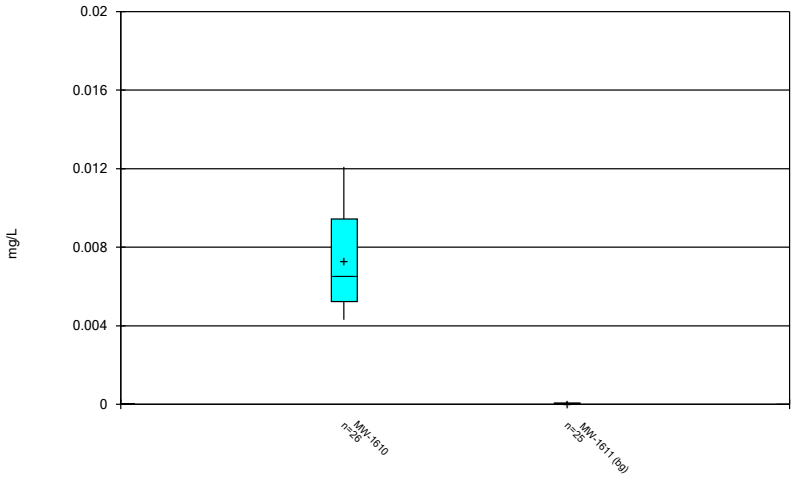
Constituent: Cadmium total Analysis Run 5/31/2024 2:43 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



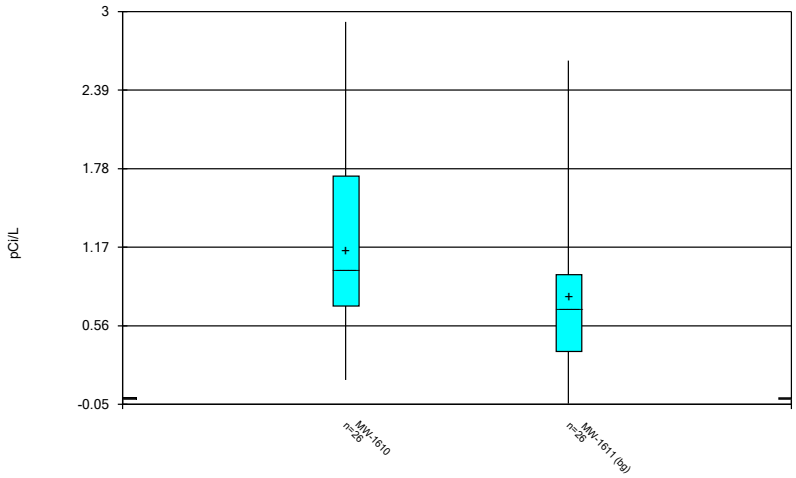
Constituent: Chromium total Analysis Run 5/31/2024 2:43 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



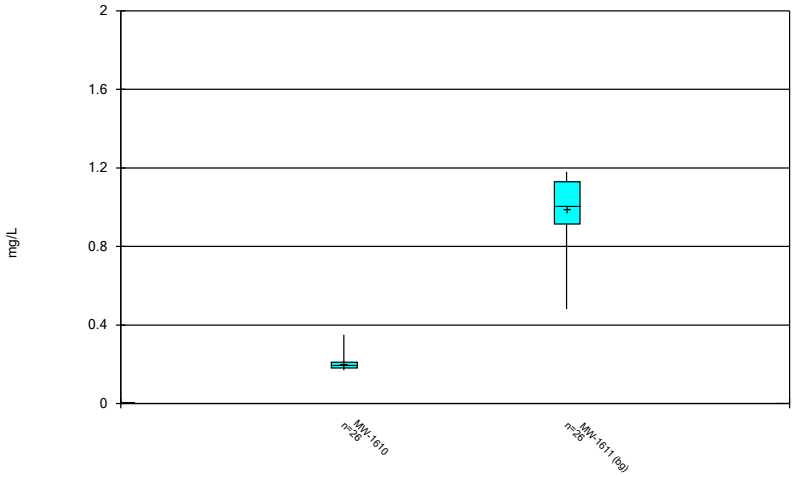
Constituent: Cobalt total Analysis Run 5/31/2024 2:43 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



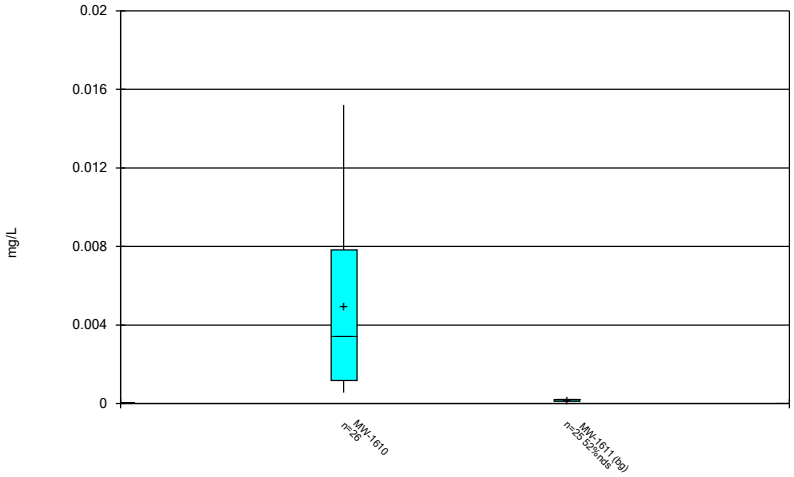
Constituent: Combined Radium 226 and 228 Analysis Run 5/31/2024 2:43 PM View: Dumps Fault - Pond
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



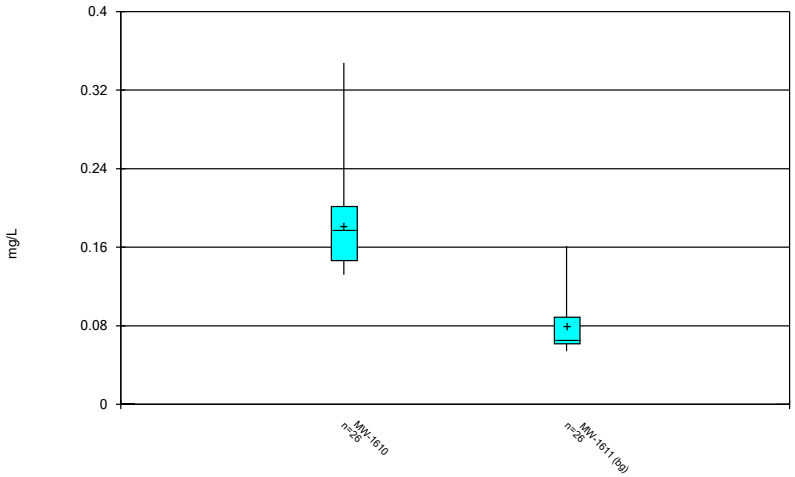
Constituent: Fluoride total Analysis Run 5/31/2024 2:43 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



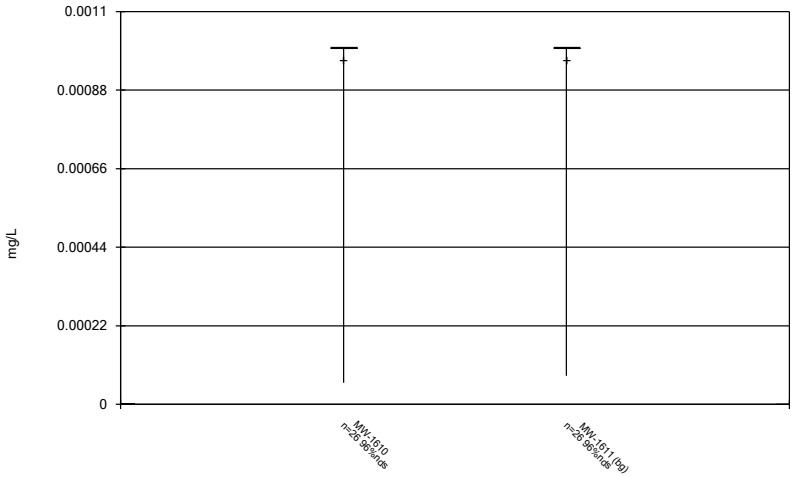
Constituent: Lead total Analysis Run 5/31/2024 2:43 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



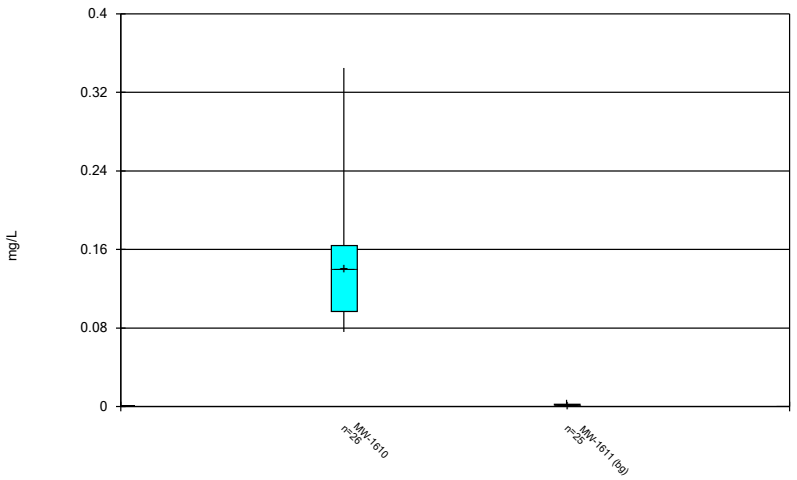
Constituent: Lithium total Analysis Run 5/31/2024 2:43 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



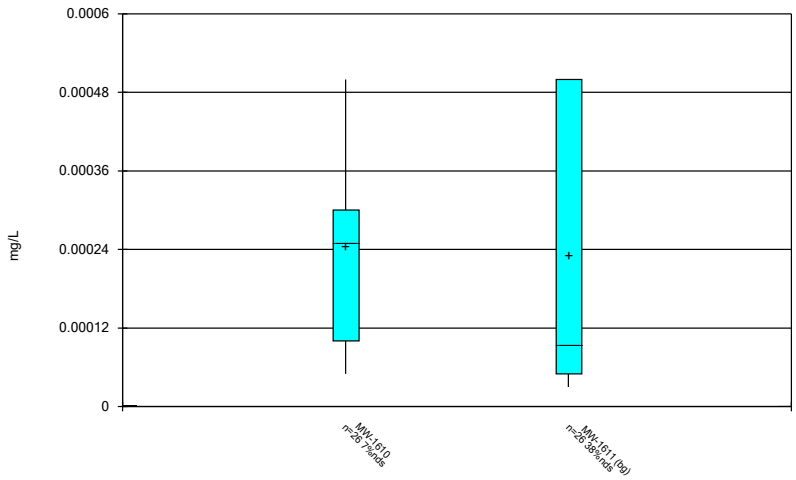
Constituent: Mercury total Analysis Run 5/31/2024 2:43 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



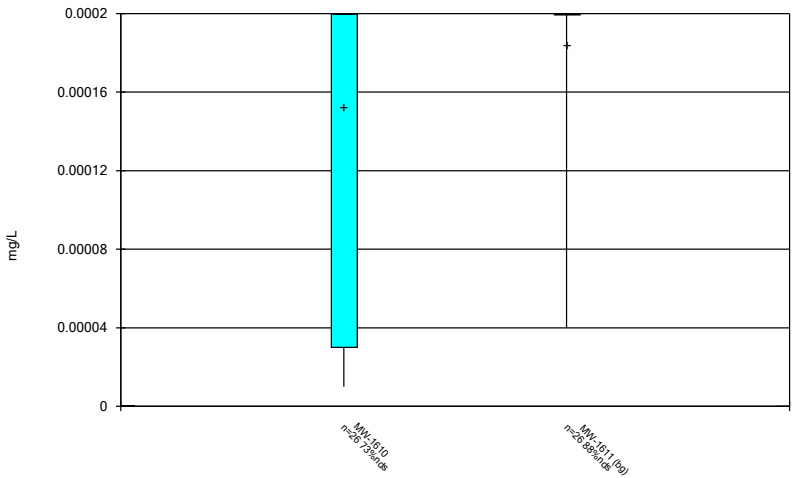
Constituent: Molybdenum total Analysis Run 5/31/2024 2:43 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



Constituent: Selenium total Analysis Run 5/31/2024 2:43 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

Box & Whiskers Plot



Constituent: Thallium total Analysis Run 5/31/2024 2:43 PM View: Dumps Fault - Pond 1
Clinch River Client: AEP Data: Clinch River Pond 1

FIGURE C.

Outlier Summary - Chattanooga Shale

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 1:58 PM

	MW-1601 Arsenic total (mg/L)	MW-1602 Combined Radium 226 and 228 (pCi/L)
4/11/2018	0.0149 (o)	
6/7/2018	0.017 (o)	
8/20/2018	0.0258 (o)	
10/17/2018	0.0247 (o)	
12/6/2018	0.0178 (o)	
2/7/2019	0.0178 (o)	
4/8/2019	0.0217 (o)	
5/28/2019	0.0184 (o)	
10/1/2019	0.0211 (o)	
2/13/2023		15.74 (o)

Outlier Summary - Rome Limestone

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 2:30 PM

No values were flagged as outliers.

Outlier Summary - Dumps Fault

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 2:45 PM

	MW-1611 Arsenic total (mg/L)	MW-1611 Cobalt total (mg/L)	MW-1611 Lead total (mg/L)	MW-1611 Molybdenum total (mg/L)
10/19/2017		0.000311 (o)	0.00105 (o)	0.038 (o)
2/13/2018	0.0365 (o)			
4/10/2018	0.0395 (o)			
6/11/2018	0.0275 (o)			

FIGURE D.

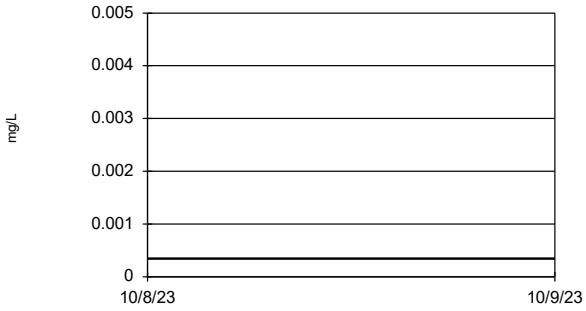
Upper Tolerance Limits Summary Table - Chattanooga Shale

Clinch River Data: Clinch River Printed 2/7/2024, 11:55 AM

Constituent	Upper Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony total (mg/L)	0.0003457	72	-9.603	0.8245	4.167	None	ln(x)	0.05	Inter
Arsenic total (mg/L)	0.0115	63	n/a	n/a	0	n/a	n/a	0.0395	NP Inter(normality)
Barium total (mg/L)	0.306	72	n/a	n/a	0	n/a	n/a	0.02489	NP Inter(normality)
Beryllium total (mg/L)	0.000066	72	n/a	n/a	69.44	n/a	n/a	0.02489	NP Inter(NDs)
Cadmium total (mg/L)	0.00003	72	n/a	n/a	81.94	n/a	n/a	0.02489	NP Inter(NDs)
Chromium total (mg/L)	0.001031	72	-8.231	0.6832	1.389	None	ln(x)	0.05	Inter
Cobalt total (mg/L)	0.000355	72	0.04457	0.01325	0	None	x^(1/3)	0.05	Inter
Combined Radium 226 and 228 (pCi/L)	2.563	71	0.9097	0.3486	0	None	sqrt(x)	0.05	Inter
Fluoride total (mg/L)	2.42	72	n/a	n/a	0	n/a	n/a	0.02489	NP Inter(normality)
Lead total (mg/L)	0.0005228	72	-9.563	1.013	26.39	Kaplan-Meier	ln(x)	0.05	Inter
Lithium total (mg/L)	0.118	72	n/a	n/a	1.389	n/a	n/a	0.02489	NP Inter(normality)
Mercury total (mg/L)	0.001	72	n/a	n/a	90.28	n/a	n/a	0.02489	NP Inter(NDs)
Molybdenum total (mg/L)	0.0257	72	n/a	n/a	0	n/a	n/a	0.02489	NP Inter(normality)
Selenium total (mg/L)	0.0005	72	n/a	n/a	55.56	n/a	n/a	0.02489	NP Inter(NDs)
Thallium total (mg/L)	0.0002	72	n/a	n/a	80.56	n/a	n/a	0.02489	NP Inter(NDs)

Tolerance Limit

Interwell Parametric

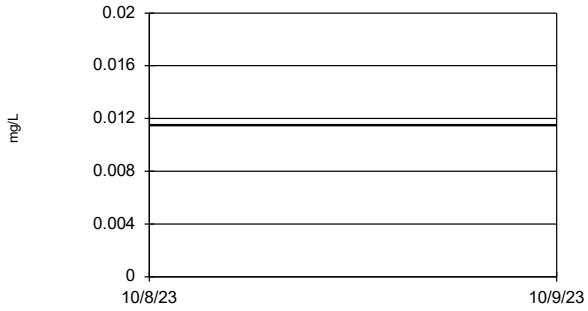


95% coverage. Background Data Summary (based on natural log transformation): Mean=-9.603, Std. Dev.=0.8245, n=72, 4.167% NDs. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.971, critical = 0.954. Report alpha = 0.05.

Constituent: Antimony total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

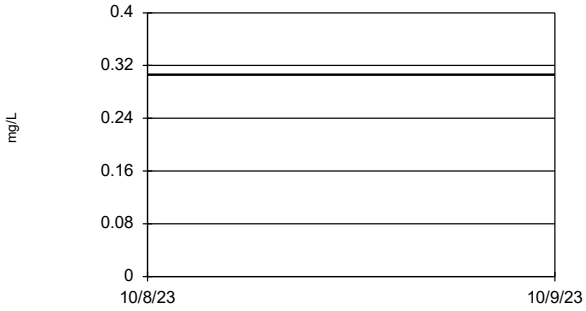


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 63 background values. 92.77% coverage at alpha=0.01; 95.51% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.0395.

Constituent: Arsenic total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

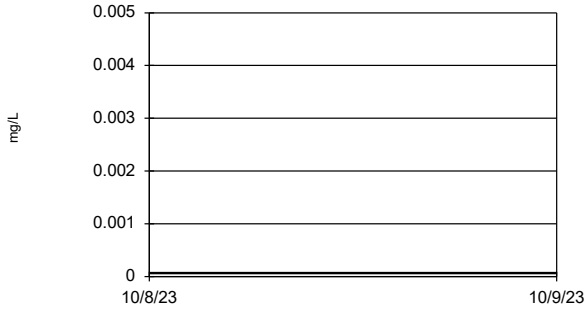


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 72 background values. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02489.

Constituent: Barium total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 72 background values. 69.44% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02489.

Constituent: Beryllium total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

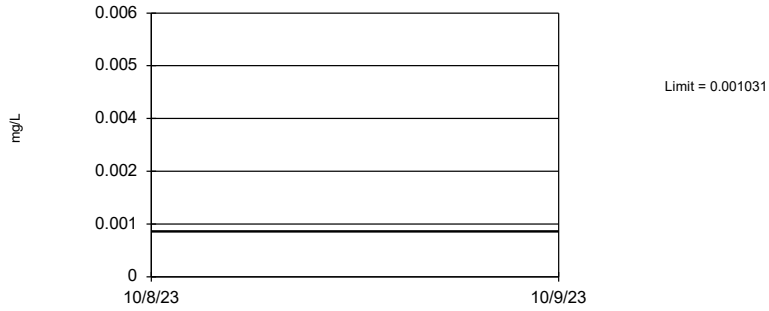
Interwell Non-parametric

Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 72 background values. 81.94% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02489.

Constituent: Cadmium total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

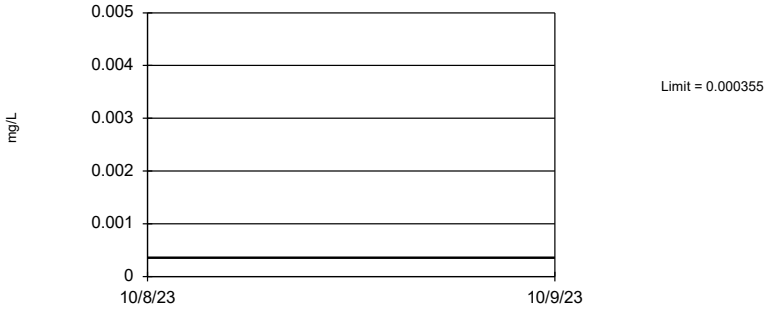


95% coverage. Background Data Summary (based on natural log transformation): Mean=-8.231, Std. Dev.=0.6832, n=72, 1.389% NDs. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9615, critical = 0.954. Report alpha = 0.05.

Constituent: Chromium total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

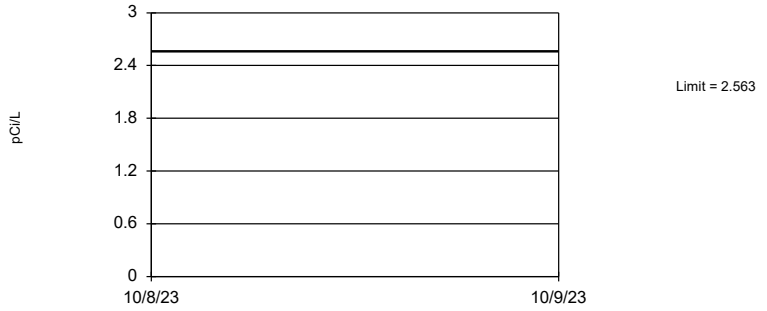


95% coverage. Background Data Summary (based on cube root transformation): Mean=0.04457, Std. Dev.=0.01325, n=72. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9589, critical = 0.954. Report alpha = 0.05.

Constituent: Cobalt total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric



95% coverage. Background Data Summary (based on square root transformation): Mean=0.9097, Std. Dev.=0.3486, n=71. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9541, critical = 0.953. Report alpha = 0.05.

Constituent: Combined Radium 226 and 228 Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale -
Clinch River Data: Clinch River

Tolerance Limit

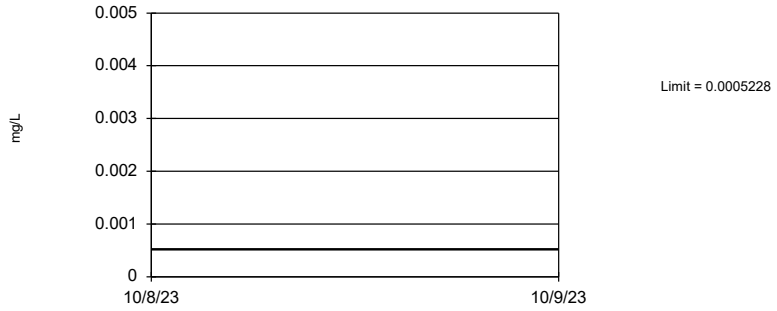
Interwell Non-parametric

Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 72 background values. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02489.

Constituent: Fluoride total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric



95% coverage. Background Data Summary (based on natural log transformation) (after Kaplan-Meier Adjustment): Mean=-9.563, Std. Dev.=1.013, n=72, 26.39% NDs. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9696, critical = 0.954. Report alpha = 0.05.

Constituent: Lead total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 72 background values. 1.389% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02489.

Constituent: Lithium total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

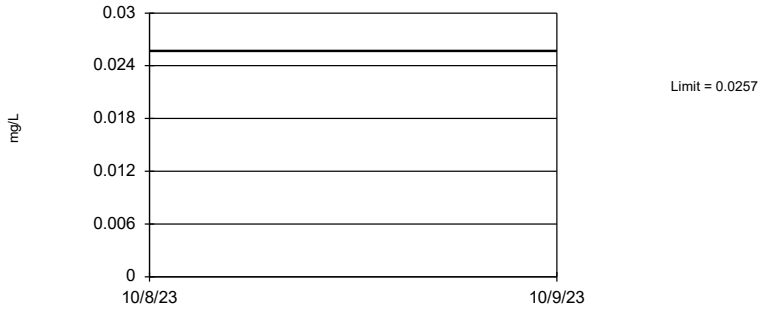
Interwell Non-parametric

Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 72 background values. 90.28% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02489.

Constituent: Mercury total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 72 background values. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02489.

Constituent: Molybdenum total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

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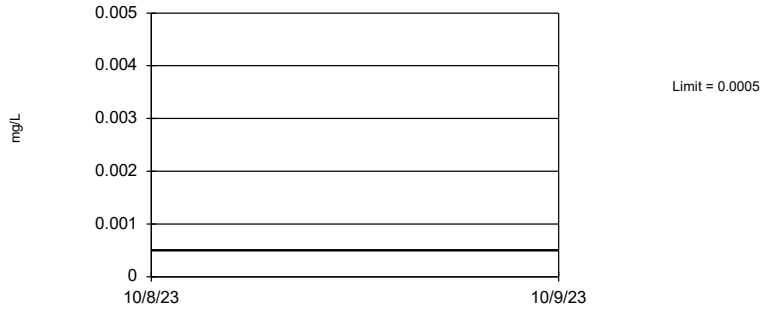
Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 72 background values. 55.56% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02489.

Constituent: Selenium total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

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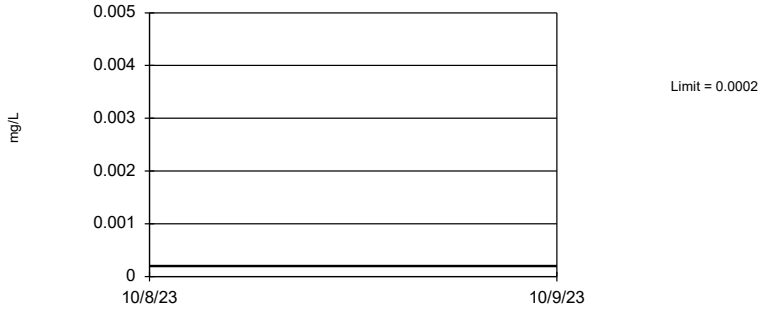
Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 72 background values. 80.56% NDs. 93.95% coverage at alpha=0.01; 95.9% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.02489.

Constituent: Thallium total Analysis Run 2/7/2024 11:55 AM View: Chattanooga Shale - Pond 1 UTLs
Clinch River Data: Clinch River

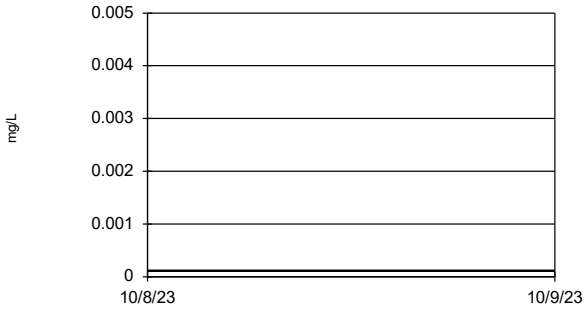
Upper Tolerance Limits Summary Table - Rome Limestone

Clinch River Data: Clinch River Printed 2/8/2024, 9:10 AM

Constituent	Upper Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony total (mg/L)	0.0001132	24	-10.31	0.5309	12.5	None	ln(x)	0.05	Inter
Arsenic total (mg/L)	0.00097	24	n/a	n/a	0	n/a	n/a	0.292	NP Inter(normality)
Barium total (mg/L)	0.5026	24	0.3947	0.04675	0	None	No	0.05	Inter
Beryllium total (mg/L)	0.00005	24	n/a	n/a	95.83	n/a	n/a	0.292	NP Inter(NDs)
Cadmium total (mg/L)	0.00004	24	n/a	n/a	16.67	n/a	n/a	0.292	NP Inter(normality)
Chromium total (mg/L)	0.0003189	24	0.0001632	0.00006744	8.333	None	No	0.05	Inter
Cobalt total (mg/L)	0.001126	24	0.01338	0.008735	12.5	None	sqrt(x)	0.05	Inter
Combined Radium 226 and 228 (pCi/L)	4.722	24	1.411	0.3302	0	None	sqrt(x)	0.05	Inter
Fluoride total (mg/L)	0.3298	24	0.2538	0.03294	0	None	No	0.05	Inter
Lead total (mg/L)	0.001084	24	0.01866	0.006179	0	None	sqrt(x)	0.05	Inter
Lithium total (mg/L)	0.0100	24	n/a	n/a	25	n/a	n/a	0.292	NP Inter(normality)
Mercury total (mg/L)	0.001	24	n/a	n/a	95.83	n/a	n/a	0.292	NP Inter(NDs)
Molybdenum total (mg/L)	0.00222	24	n/a	n/a	20.83	n/a	n/a	0.292	NP Inter(normality)
Selenium total (mg/L)	0.0004203	24	0.008499	0.005199	33.33	Kaplan-Meier	sqrt(x)	0.05	Inter
Thallium total (mg/L)	0.0002	24	n/a	n/a	79.17	n/a	n/a	0.292	NP Inter(NDs)

Tolerance Limit

Interwell Parametric

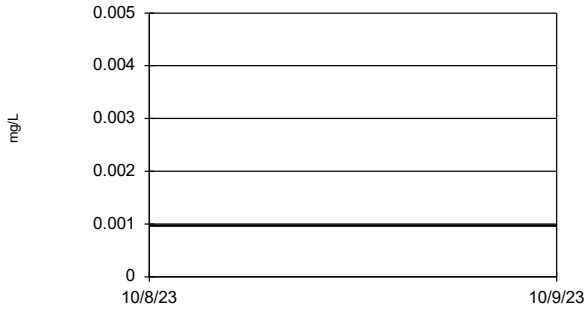


95% coverage. Background Data Summary (based on natural log transformation): Mean=-10.31, Std. Dev.=0.5309, n=24, 12.5% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8937, critical = 0.884. Report alpha = 0.05.

Constituent: Antimony total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

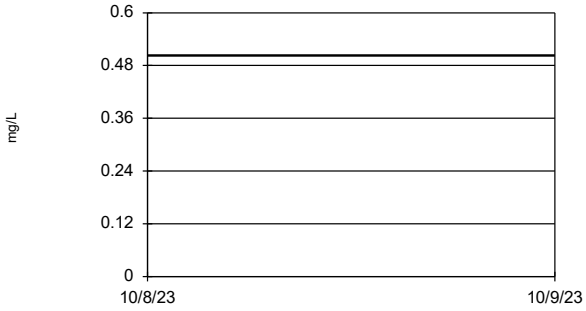


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 24 background values. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Arsenic total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

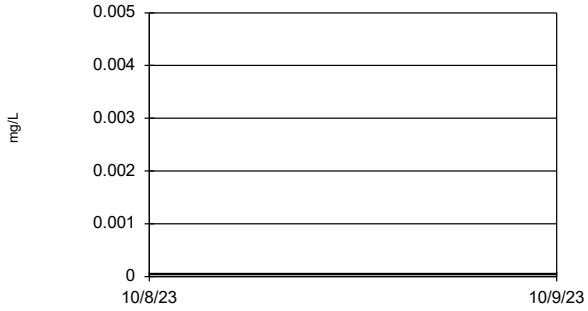


95% coverage. Background Data Summary: Mean=0.3947, Std. Dev.=0.04675, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9414, critical = 0.884. Report alpha = 0.05.

Constituent: Barium total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 24 background values. 95.83% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Beryllium total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

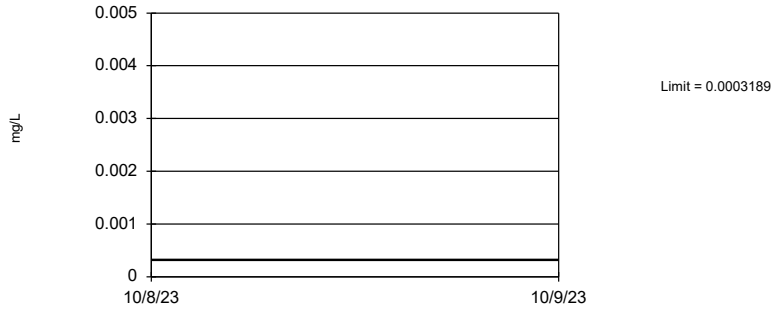
Interwell Non-parametric

Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 24 background values. 16.67% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Cadmium total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

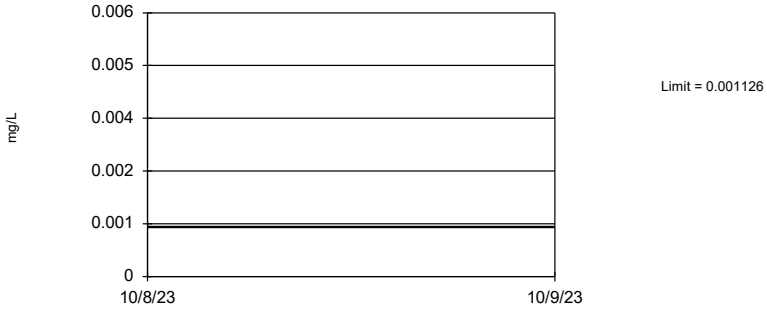


95% coverage. Background Data Summary: Mean=0.0001632, Std. Dev.=0.00006744, n=24, 8.333% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9268, critical = 0.884. Report alpha = 0.05.

Constituent: Chromium total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

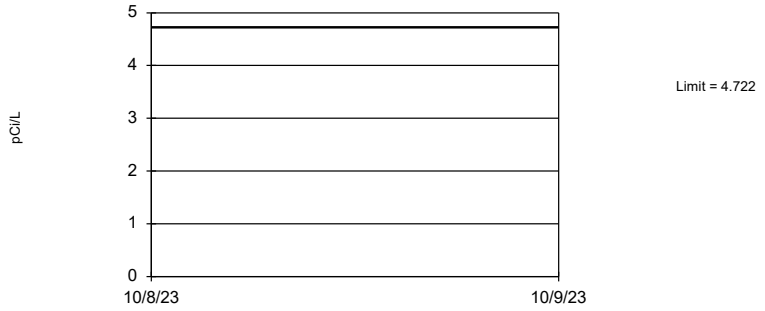


95% coverage. Background Data Summary (based on square root transformation): Mean=0.01338, Std. Dev.=0.008735, n=24, 12.5% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9198, critical = 0.884. Report alpha = 0.05.

Constituent: Cobalt total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

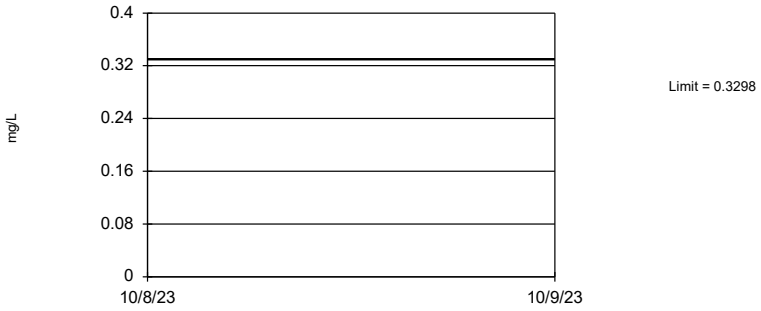


95% coverage. Background Data Summary (based on square root transformation): Mean=1.411, Std. Dev.=0.3302, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9038, critical = 0.884. Report alpha = 0.05.

Constituent: Combined Radium 226 and 228 Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Po
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

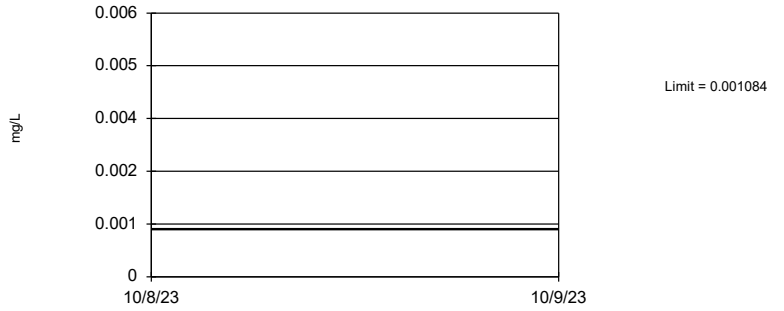


95% coverage. Background Data Summary: Mean=0.2538, Std. Dev.=0.03294, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9483, critical = 0.884. Report alpha = 0.05.

Constituent: Fluoride total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

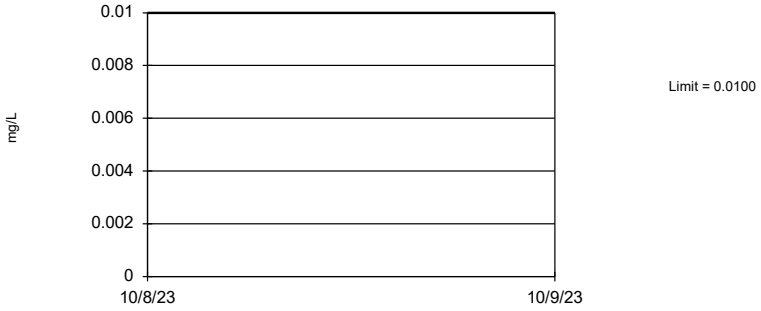


95% coverage. Background Data Summary (based on square root transformation): Mean=0.01866, Std. Dev.=0.006179, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9446, critical = 0.884. Report alpha = 0.05.

Constituent: Lead total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

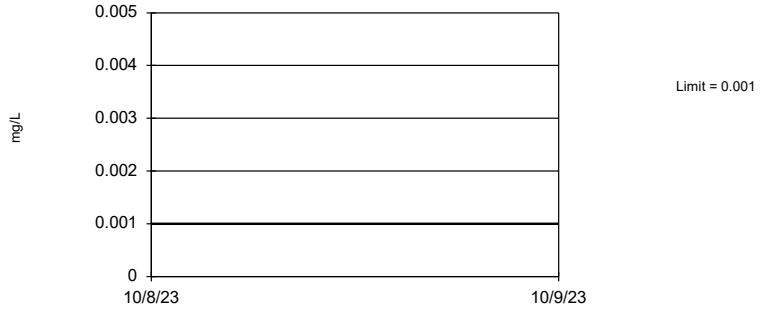


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 24 background values. 25% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Lithium total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

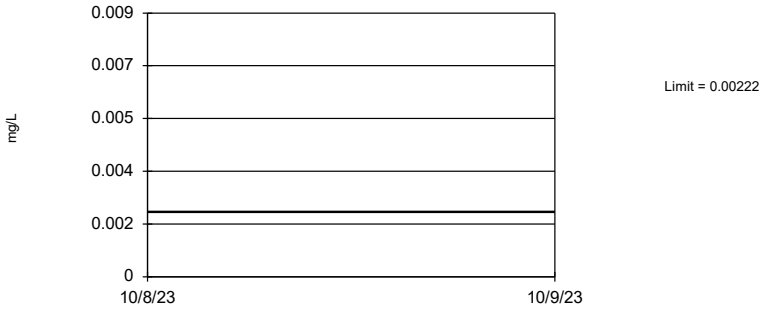


Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 24 background values. 95.83% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Mercury total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 24 background values. 20.83% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Molybdenum total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

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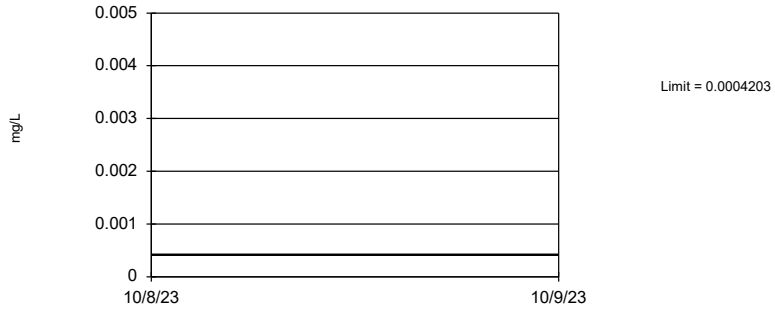
Tolerance Limit

Interwell Parametric



95% coverage. Background Data Summary (based on square root transformation) (after Kaplan-Meier Adjustment): Mean=0.008499, Std. Dev.=0.005199, n=24, 33.33% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8867, critical = 0.884. Report alpha = 0.05.

Constituent: Selenium total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

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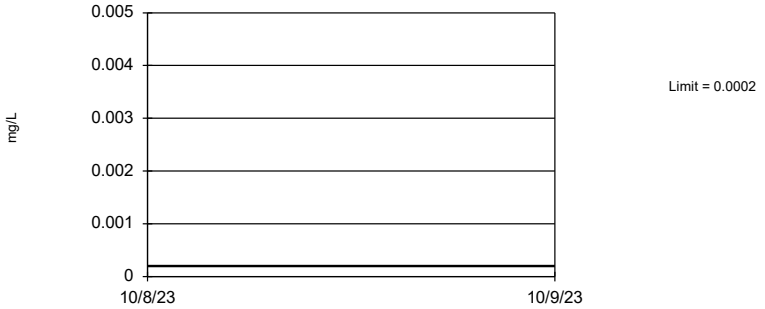
Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 24 background values. 79.17% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Thallium total Analysis Run 2/8/2024 9:09 AM View: Rome Limestone - Pond 1 UTLs
Clinch River Data: Clinch River

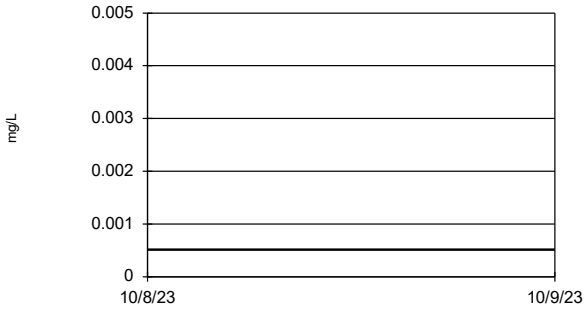
Upper Tolerance Limits Summary Table - Dumps Fault

Clinch River Data: Clinch River Printed 2/8/2024, 2:07 PM

Constituent	Upper Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony total (mg/L)	0.0005128	24	0.03753	0.01841	16.67	Kaplan-Meier	x^(1/3)	0.05	Inter
Arsenic total (mg/L)	0.02299	21	-4.78	0.4249	0	None	ln(x)	0.05	Inter
Barium total (mg/L)	0.3548	24	0.3526	0.1053	0	None	sqrt(x)	0.05	Inter
Beryllium total (mg/L)	0.00005	24	n/a	n/a	79.17	n/a	n/a	0.292	NP Inter(NDs)
Cadmium total (mg/L)	0.00002	24	n/a	n/a	95.83	n/a	n/a	0.292	NP Inter(NDs)
Chromium total (mg/L)	0.000874	24	0.0003578	0.0002236	0	None	No	0.05	Inter
Cobalt total (mg/L)	0.0001491	23	0.006197	0.002581	0	None	sqrt(x)	0.05	Inter
Combined Radium 226 and 228 (pCi/L)	2.62	24	n/a	n/a	0	n/a	n/a	0.292	NP Inter(normality)
Fluoride total (mg/L)	1.309	24	0.9928	0.3124	0	None	x^2	0.05	Inter
Lead total (mg/L)	0.0002	23	n/a	n/a	47.83	n/a	n/a	0.3074	NP Inter(normality)
Lithium total (mg/L)	0.161	24	n/a	n/a	0	n/a	n/a	0.292	NP Inter(normality)
Mercury total (mg/L)	0.001	24	n/a	n/a	95.83	n/a	n/a	0.292	NP Inter(NDs)
Molybdenum total (mg/L)	0.004992	23	-6.169	0.3731	0	None	ln(x)	0.05	Inter
Selenium total (mg/L)	0.0005	24	n/a	n/a	33.33	n/a	n/a	0.292	NP Inter(normality)
Thallium total (mg/L)	0.0002	24	n/a	n/a	87.5	n/a	n/a	0.292	NP Inter(NDs)

Tolerance Limit

Interwell Parametric

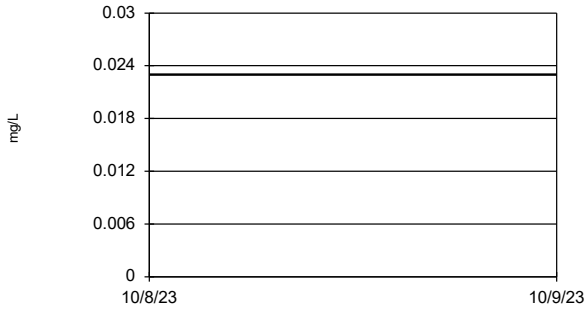


95% coverage. Background Data Summary (based on cube root transformation) (after Kaplan-Meier Adjustment): Mean=0.03753, Std. Dev.=0.01841, n=24, 16.67% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9009, critical = 0.884. Report alpha = 0.05.

Constituent: Antimony total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

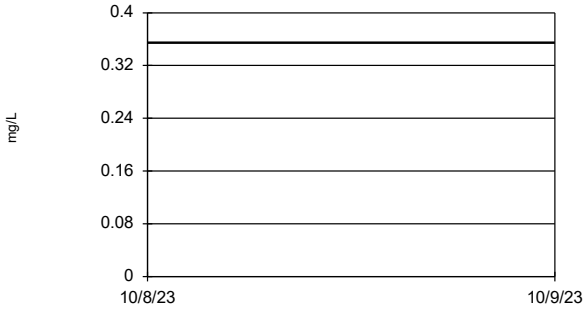


95% coverage. Background Data Summary (based on natural log transformation): Mean=-4.78, Std. Dev.=0.4249, n=21. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8895, critical = 0.873. Report alpha = 0.05.

Constituent: Arsenic total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

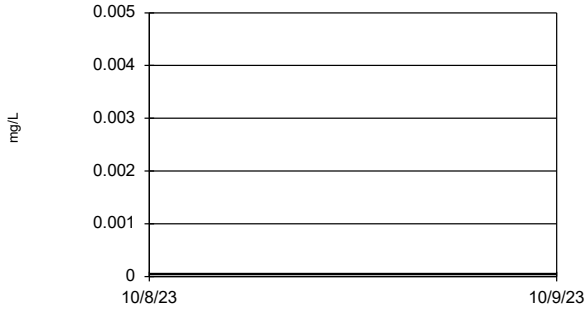


95% coverage. Background Data Summary (based on square root transformation): Mean=0.3526, Std. Dev.=0.1053, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8926, critical = 0.884. Report alpha = 0.05.

Constituent: Barium total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 24 background values. 79.17% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Beryllium total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

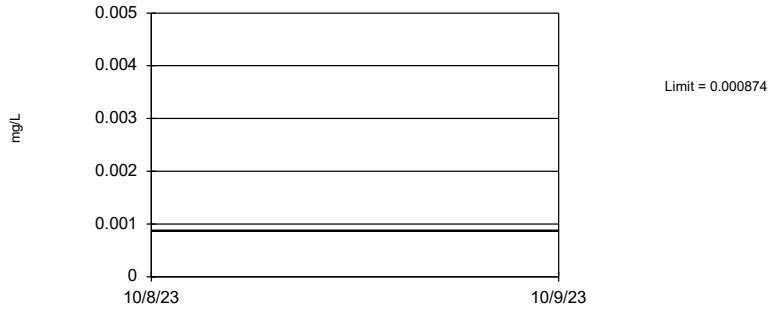
Interwell Non-parametric

Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 24 background values. 95.83% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Cadmium total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

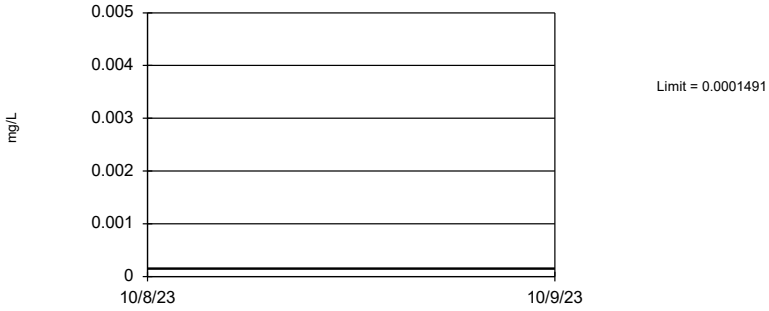


95% coverage. Background Data Summary: Mean=0.0003578, Std. Dev.=0.0002236, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9092, critical = 0.884. Report alpha = 0.05.

Constituent: Chromium total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

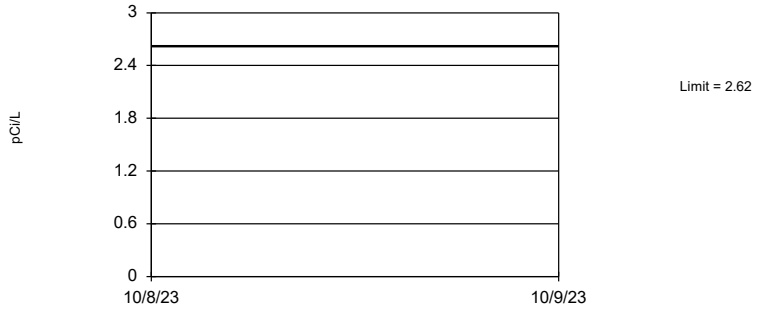


95% coverage. Background Data Summary (based on square root transformation): Mean=0.006197, Std. Dev.=0.002581, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9045, critical = 0.881. Report alpha = 0.05.

Constituent: Cobalt total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

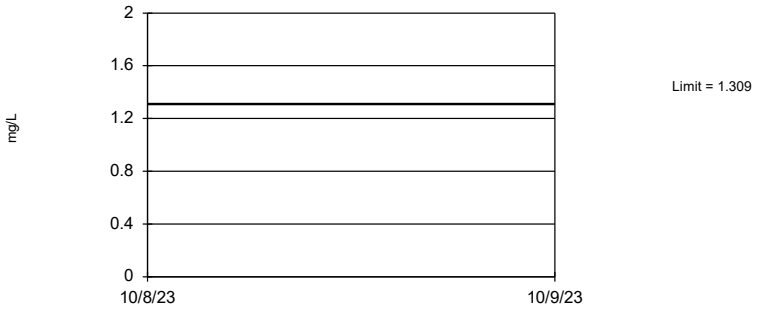


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 24 background values. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Combined Radium 226 and 228 Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1
Clinch River Data: Clinch River

Tolerance Limit

Interwell Parametric

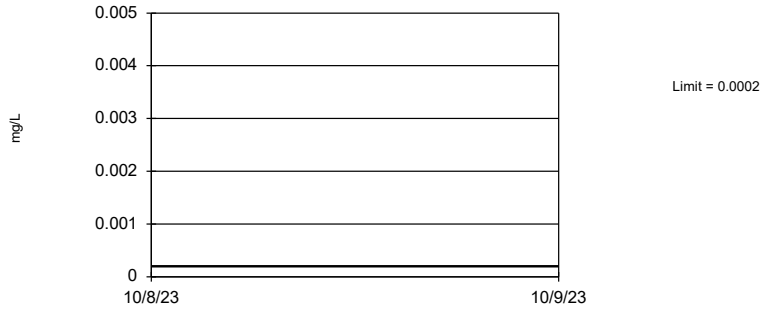


95% coverage. Background Data Summary (based on square transformation): Mean=0.9928, Std. Dev.=0.3124, n=24. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9245, critical = 0.884. Report alpha = 0.05.

Constituent: Fluoride total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

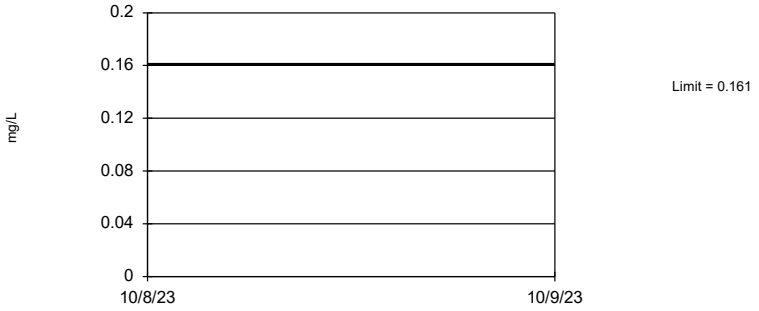


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 23 background values. 47.83% NDs. 81.84% coverage at alpha=0.01; 87.7% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.3074.

Constituent: Lead total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

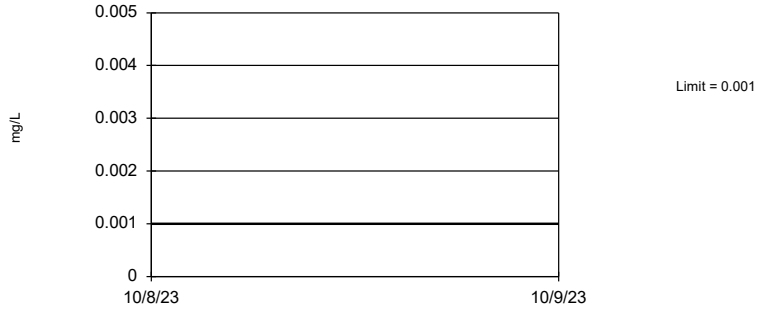


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 24 background values. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Lithium total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 24 background values. 95.83% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Mercury total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

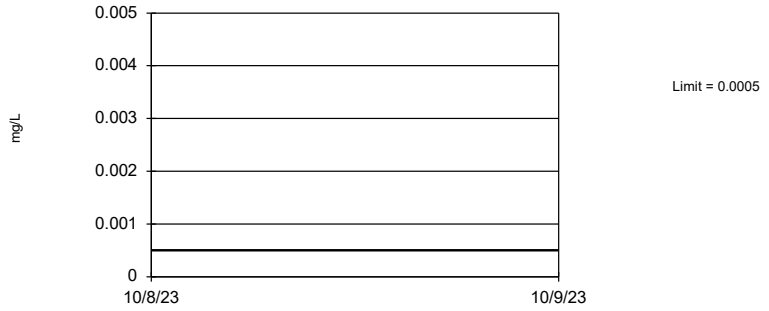
Interwell Parametric

95% coverage. Background Data Summary (based on natural log transformation): Mean=-6.169, Std. Dev.=0.3731, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8938, critical = 0.881. Report alpha = 0.05.

Constituent: Molybdenum total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric

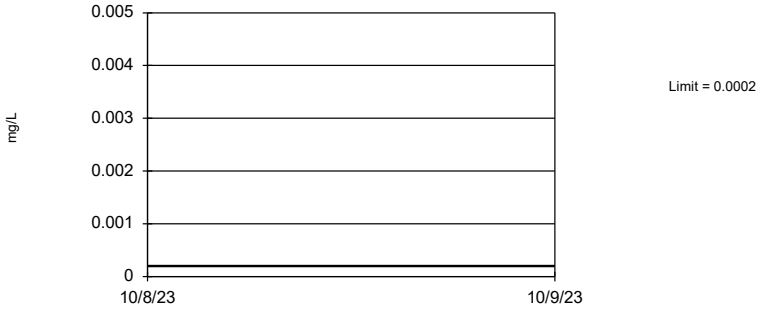


Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 24 background values. 33.33% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Selenium total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 24 background values. 87.5% NDs. 82.62% coverage at alpha=0.01; 88.09% coverage at alpha=0.05; 97.07% coverage at alpha=0.5. Report alpha = 0.292.

Constituent: Thallium total Analysis Run 2/8/2024 2:07 PM View: Dumps Fault - Pond 1 UTLs
Clinch River Data: Clinch River

FIGURE E.

CLINCH RIVER GWPS - CHATTANOOGA SHALE				
Constituent Name	**MCL**	**CCR Rule Specified**	**Background Limit**	**GWPS**
Antimony, Total (mg/L)	0.006		0.00035	0.006
Arsenic, Total (mg/L)	0.01		0.012	0.012
Barium, Total (mg/L)	2		0.31	2
Beryllium, Total (mg/L)	0.004		0.000066	0.004
Cadmium, Total (mg/L)	0.005		0.00003	0.005
Chromium, Total (mg/L)	0.1		0.001	0.1
Cobalt, Total (mg/L)		0.006	0.00036	0.006
Combined Radium, Total (pCi/L)	5		2.56	5
Fluoride, Total (mg/L)	4		2.42	4
Lead, Total (mg/L)		0.015	0.00052	0.015
Lithium, Total (mg/L)		0.04	0.118	0.118
Mercury, Total (mg/L)	0.002		0.001	0.002
Molybdenum, Total (mg/L)		0.1	0.026	0.1
Selenium, Total (mg/L)	0.05		0.0005	0.05
Thallium, Total (mg/L)	0.002		0.0002	0.002

**Grey cell indicates background is higher than MCL or CCR Rule*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residual*

**GWPS = Groundwater Protection Standard*

CLINCH RIVER GWPS - ROME LIMESTONE				
Constituent Name	**MCL**	**CCR Rule Specified**	**Background Limit**	**GWPS**
Antimony, Total (mg/L)	0.006		0.00011	0.006
Arsenic, Total (mg/L)	0.01		0.00097	0.01
Barium, Total (mg/L)	2		0.5	2
Beryllium, Total (mg/L)	0.004		0.00005	0.004
Cadmium, Total (mg/L)	0.005		0.00004	0.005
Chromium, Total (mg/L)	0.1		0.00032	0.1
Cobalt, Total (mg/L)		0.006	0.0011	0.006
Combined Radium, Total (pCi/L)	5		4.72	5
Fluoride, Total (mg/L)	4		0.33	4
Lead, Total (mg/L)		0.015	0.0011	0.015
Lithium, Total (mg/L)		0.04	0.01	0.04
Mercury, Total (mg/L)	0.002		0.001	0.002
Molybdenum, Total (mg/L)		0.1	0.0022	0.1
Selenium, Total (mg/L)	0.05		0.00042	0.05
Thallium, Total (mg/L)	0.002		0.0002	0.002

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residual*

**GWPS = Groundwater Protection Standard*

CLINCH RIVER GWPS - DUMPS FAULT				
Constituent Name	**MCL**	**CCR Rule Specified**	**Background Limit**	**GWPS**
Antimony, Total (mg/L)	0.006		0.00051	0.006
Arsenic, Total (mg/L)	0.01		0.023	0.023
Barium, Total (mg/L)	2		0.35	2
Beryllium, Total (mg/L)	0.004		0.00005	0.004
Cadmium, Total (mg/L)	0.005		0.00002	0.005
Chromium, Total (mg/L)	0.1		0.00087	0.1
Cobalt, Total (mg/L)		0.006	0.00015	0.006
Combined Radium, Total (pCi/L)	5		2.62	5
Fluoride, Total (mg/L)	4		1.31	4
Lead, Total (mg/L)		0.015	0.0002	0.015
Lithium, Total (mg/L)		0.04	0.161	0.161
Mercury, Total (mg/L)	0.002		0.001	0.002
Molybdenum, Total (mg/L)		0.1	0.005	0.1
Selenium, Total (mg/L)	0.05		0.0005	0.05
Thallium, Total (mg/L)	0.002		0.0002	0.002

**Grey cell indicates background is higher than MCL or CCR Rule*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residual*

**GWPS = Groundwater Protection Standard*

FIGURE F.

Confidence Intervals - Chattanooga Shale - Significant Results

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 2:11 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Barium total (mg/L)	**MW-1603**	**2.75**	**2.246**	**2**	**Yes**	**26**	**2.498**	**0.5173**	**0**	**None**	**No**	**0.01**	**Param.**
Barium total (mg/L)	**MW-1604**	**3.242**	**3.076**	**2**	**Yes**	**26**	**3.159**	**0.1701**	**0**	**None**	**No**	**0.01**	**Param.**
Barium total (mg/L)	**MW-1605**	**2.404**	**2.196**	**2**	**Yes**	**11**	**2.3**	**0.1249**	**0**	**None**	**No**	**0.01**	**Param.**
Barium total (mg/L)	**MW-1612**	**2.379**	**2.117**	**2**	**Yes**	**25**	**2.248**	**0.2631**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium total (mg/L)	**MW-1605**	**0.1998**	**0.1882**	**0.118**	**Yes**	**26**	**0.194**	**0.01189**	**0**	**None**	**No**	**0.01**	**Param.**

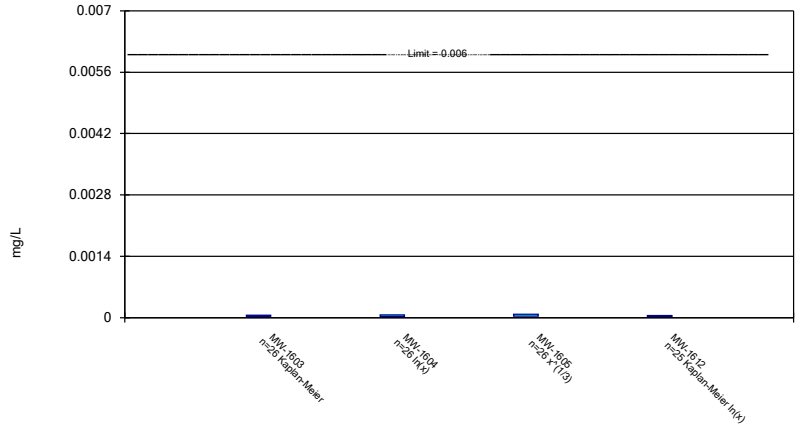
Confidence Intervals - Chattanooga Shale - All Results

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 2:11 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony total (mg/L)	MW-1603	0.00005157	0.00002597	0.006	No	26	0.00005015	0.00002812	15.38	Kaplan-Meier	No	0.01	Param.
Antimony total (mg/L)	MW-1604	0.00006283	0.00002649	0.006	No	26	0.00006323	0.00008271	11.54	None	ln(x)	0.01	Param.
Antimony total (mg/L)	MW-1605	0.00007843	0.00003528	0.006	No	26	0.00006646	0.00006169	11.54	None	x^(1/3)	0.01	Param.
Antimony total (mg/L)	MW-1612	0.00005106	0.00002455	0.006	No	25	0.00006724	0.00006091	20	Kaplan-Meier	ln(x)	0.01	Param.
Arsenic total (mg/L)	MW-1603	0.002689	0.002132	0.012	No	26	0.00241	0.0005719	0	None	No	0.01	Param.
Arsenic total (mg/L)	MW-1604	0.003023	0.002022	0.012	No	26	0.002522	0.001027	0	None	No	0.01	Param.
Arsenic total (mg/L)	MW-1605	0.003673	0.001926	0.012	No	26	0.0028	0.001792	0	None	No	0.01	Param.
Arsenic total (mg/L)	MW-1612	0.0009466	0.0004361	0.012	No	25	0.0008972	0.0008886	0	None	ln(x)	0.01	Param.
Barium total (mg/L)	**MW-1603**	**2.75**	**2.246**	**2**	**Yes**	**26**	**2.498**	**0.5173**	**0**	**None**	**No**	**0.01**	**Param.**
Barium total (mg/L)	**MW-1604**	**3.242**	**3.076**	**2**	**Yes**	**26**	**3.159**	**0.1701**	**0**	**None**	**No**	**0.01**	**Param.**
Barium total (mg/L)	**MW-1605**	**2.404**	**2.196**	**2**	**Yes**	**11**	**2.3**	**0.1249**	**0**	**None**	**No**	**0.01**	**Param.**
Barium total (mg/L)	**MW-1612**	**2.379**	**2.117**	**2**	**Yes**	**25**	**2.248**	**0.2631**	**0**	**None**	**No**	**0.01**	**Param.**
Beryllium total (mg/L)	MW-1603	0.00005	0.00001	0.004	No	26	0.00003577	0.00001996	65.38	None	No	0.01	NP (NDs)
Beryllium total (mg/L)	MW-1604	0.00005	0.000007	0.004	No	26	0.00004662	0.00001196	92.31	None	No	0.01	NP (NDs)
Beryllium total (mg/L)	MW-1605	0.00005	0.00001	0.004	No	26	0.00004496	0.00001426	88.46	None	No	0.01	NP (NDs)
Beryllium total (mg/L)	MW-1612	0.00005	0.000045	0.004	No	25	0.00004464	0.00001424	84	None	No	0.01	NP (NDs)
Cadmium total (mg/L)	MW-1605	0.00002	0.00001	0.005	No	26	0.00001962	0.000001961	92.31	None	No	0.01	NP (NDs)
Chromium total (mg/L)	MW-1603	0.000231	0.00018	0.1	No	26	0.0002074	0.00008211	0	None	No	0.01	NP (normality)
Chromium total (mg/L)	MW-1604	0.000266	0.0001348	0.1	No	26	0.0002537	0.0003094	0	None	ln(x)	0.01	Param.
Chromium total (mg/L)	MW-1605	0.0002561	0.0001749	0.1	No	26	0.0002155	0.00008336	0	None	No	0.01	Param.
Chromium total (mg/L)	MW-1612	0.000218	0.00018	0.1	No	25	0.0002066	0.00007713	0	None	No	0.01	NP (normality)
Cobalt total (mg/L)	MW-1603	0.0004325	0.0002436	0.006	No	26	0.0003663	0.0002132	0	None	x^(1/3)	0.01	Param.
Cobalt total (mg/L)	MW-1604	0.0005882	0.0003145	0.006	No	26	0.0004513	0.0002809	0	None	No	0.01	Param.
Cobalt total (mg/L)	MW-1605	0.000309	0.00004	0.006	No	26	0.0001628	0.0001386	0	None	No	0.01	NP (normality)
Cobalt total (mg/L)	MW-1612	0.0001865	0.0001119	0.006	No	25	0.000156	0.00008225	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 and 228 (pCi/L)	MW-1603	1.656	0.9965	5	No	26	1.326	0.6771	0	None	No	0.01	Param.
Combined Radium 226 and 228 (pCi/L)	MW-1604	1.584	1.083	5	No	26	1.333	0.5146	0	None	No	0.01	Param.
Combined Radium 226 and 228 (pCi/L)	MW-1605	2.122	1.134	5	No	26	1.704	1.237	0	None	No	0.01	NP (normality)
Combined Radium 226 and 228 (pCi/L)	MW-1612	2.189	1.495	5	No	25	1.842	0.6965	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1603	0.1325	0.1059	4	No	26	0.1192	0.02727	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1604	0.2855	0.2445	4	No	26	0.265	0.04198	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1605	0.3588	0.3189	4	No	26	0.3388	0.04102	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1612	0.1751	0.1393	4	No	25	0.1572	0.036	0	None	No	0.01	Param.
Lead total (mg/L)	MW-1603	0.0002	0.000038	0.015	No	26	0.0001579	0.00007851	76.92	None	No	0.01	NP (NDs)
Lead total (mg/L)	MW-1604	0.0002	0.000068	0.015	No	26	0.0001552	0.00007622	73.08	None	No	0.01	NP (NDs)
Lead total (mg/L)	MW-1605	0.0002	0.000051	0.015	No	26	0.0001368	0.00007608	57.69	None	No	0.01	NP (NDs)
Lead total (mg/L)	MW-1612	0.0002	0.000083	0.015	No	25	0.0001683	0.00007568	72	None	No	0.01	NP (NDs)
Lithium total (mg/L)	MW-1603	0.07467	0.05707	0.118	No	26	0.06587	0.01806	0	None	No	0.01	Param.
Lithium total (mg/L)	MW-1604	0.08074	0.07313	0.118	No	26	0.07693	0.0078	0	None	No	0.01	Param.
Lithium total (mg/L)	**MW-1605**	**0.1998**	**0.1882**	**0.118**	**Yes**	**26**	**0.194**	**0.01189**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium total (mg/L)	MW-1612	0.1284	0.1125	0.118	No	25	0.1192	0.01927	4	None	x^2	0.01	Param.
Mercury total (mg/L)	MW-1603	0.001	0.00006	0.002	No	26	0.0009638	0.0001843	96.15	None	No	0.01	NP (NDs)
Mercury total (mg/L)	MW-1604	0.001	0.00006	0.002	No	26	0.0009638	0.0001843	96.15	None	No	0.01	NP (NDs)
Mercury total (mg/L)	MW-1612	0.001	0.00006	0.002	No	25	0.0009624	0.000188	96	None	No	0.01	NP (NDs)
Molybdenum total (mg/L)	MW-1603	0.000994	0.0004441	0.1	No	26	0.0009585	0.001002	0	None	ln(x)	0.01	Param.
Molybdenum total (mg/L)	MW-1604	0.00092	0.0003	0.1	No	26	0.0007742	0.0006802	15.38	None	No	0.01	NP (normality)
Molybdenum total (mg/L)	MW-1605	0.002443	0.0007724	0.1	No	26	0.002133	0.002358	0	None	x^(1/3)	0.01	Param.
Molybdenum total (mg/L)	MW-1612	0.0009681	0.0003463	0.1	No	25	0.0007692	0.0008017	8	None	sqrt(x)	0.01	Param.
Selenium total (mg/L)	MW-1603	0.0001	0.00007	0.05	No	26	0.000145	0.0001556	15.38	None	No	0.01	NP (normality)
Selenium total (mg/L)	MW-1604	0.0005	0.00005	0.05	No	26	0.0002573	0.0002293	46.15	None	No	0.01	NP (normality)
Selenium total (mg/L)	MW-1605	0.0005	0.00007	0.05	No	26	0.0003465	0.0002152	65.38	None	No	0.01	NP (NDs)
Selenium total (mg/L)	MW-1612	0.0005	0.00005	0.05	No	25	0.0003364	0.000223	64	None	No	0.01	NP (NDs)
Thallium total (mg/L)	MW-1603	0.0002	0.00002	0.002	No	26	0.0001638	0.00007558	80.77	None	No	0.01	NP (NDs)
Thallium total (mg/L)	MW-1604	0.0002	0.00002	0.002	No	26	0.0001712	0.00006901	84.62	None	No	0.01	NP (NDs)
Thallium total (mg/L)	MW-1605	0.0002	0.00002	0.002	No	26	0.0001715	0.0000681	84.62	None	No	0.01	NP (NDs)
Thallium total (mg/L)	MW-1612	0.0002	0.00003	0.002	No	25	0.0001704	0.00006931	84	None	No	0.01	NP (NDs)

Parametric Confidence Interval

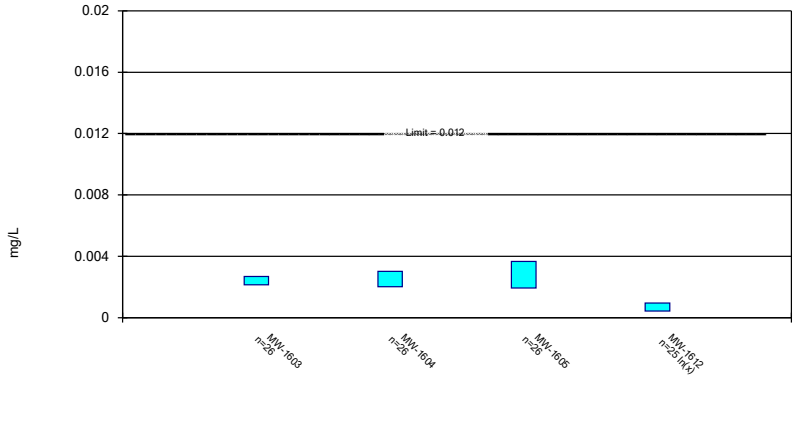
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Antimony total Analysis Run 5/31/2024 2:08 PM View: Chattanooga Shale - Pond 1 Confiden
Clinch River Client: AEP Data: Clinch River Pond 1

Parametric Confidence Interval

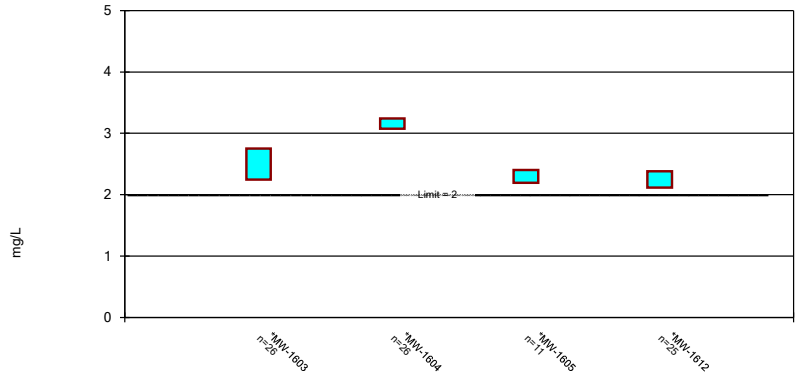
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic total Analysis Run 5/31/2024 2:08 PM View: Chattanooga Shale - Pond 1 Confidence
Clinch River Client: AEP Data: Clinch River Pond 1

Parametric Confidence Interval

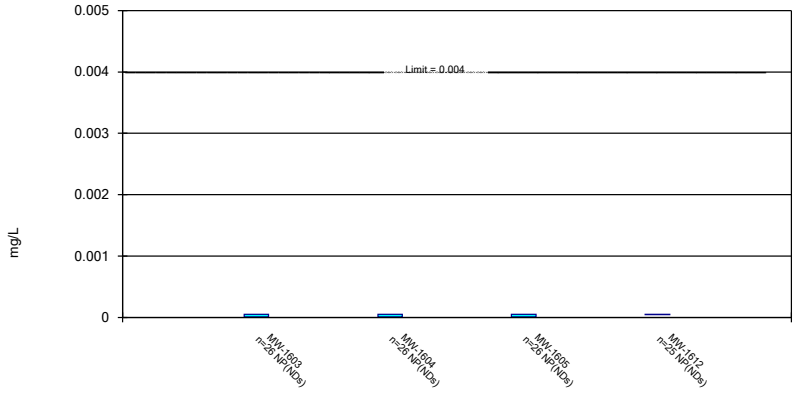
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium total Analysis Run 5/31/2024 2:08 PM View: Chattanooga Shale - Pond 1 Confidence
Clinch River Client: AEP Data: Clinch River Pond 1

Non-Parametric Confidence Interval

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



Constituent: Beryllium total Analysis Run 5/31/2024 2:08 PM View: Chattanooga Shale - Pond 1 Confiden
Clinch River Client: AEP Data: Clinch River Pond 1

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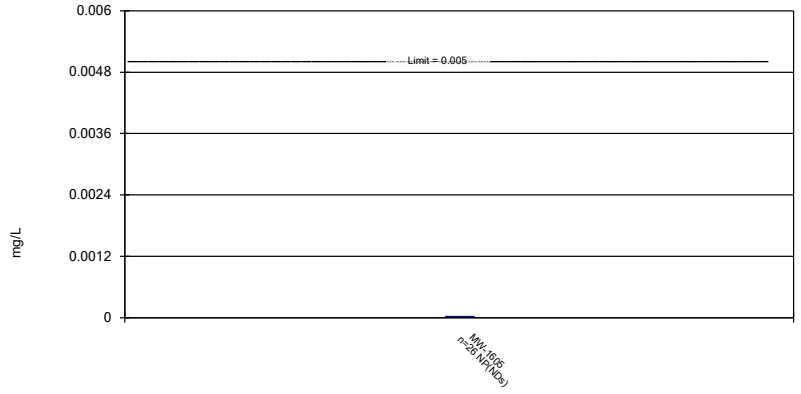
Non-Parametric Confidence Interval

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



Constituent: Cadmium total Analysis Run 5/31/2024 2:08 PM View: Chattanooga Shale - Pond 1 Confiden
Clinch River Client: AEP Data: Clinch River Pond 1

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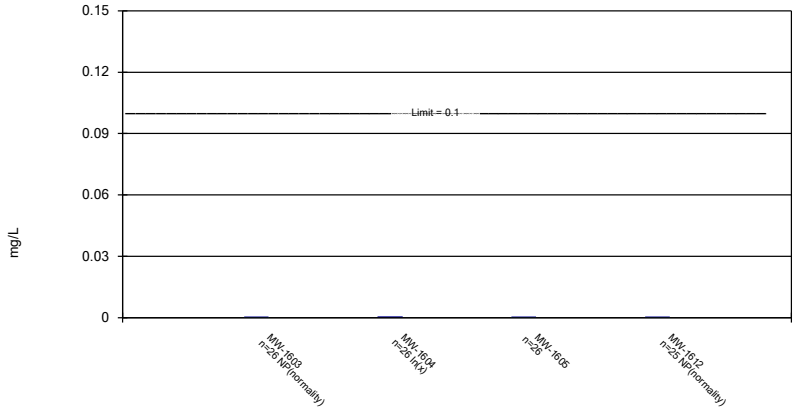
Parametric and Non-Parametric (NP) Confidence Interval

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



Constituent: Chromium total Analysis Run 5/31/2024 2:08 PM View: Chattanooga Shale - Pond 1 Confide
Clinch River Client: AEP Data: Clinch River Pond 1

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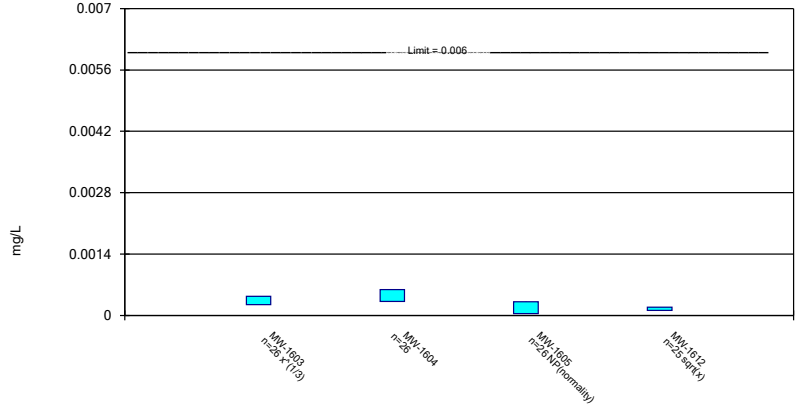
Parametric and Non-Parametric (NP) Confidence Interval

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



Constituent: Cobalt total Analysis Run 5/31/2024 2:08 PM View: Chattanooga Shale - Pond 1 Confidence I
Clinch River Client: AEP Data: Clinch River Pond 1

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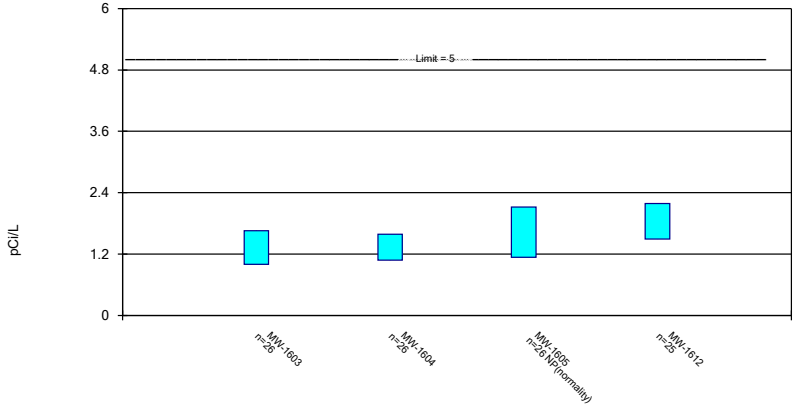
Parametric and Non-Parametric (NP) Confidence Interval

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



Constituent: Combined Radium 226 and 228 Analysis Run 5/31/2024 2:08 PM View: Chattanooga Shale -
Clinch River Client: AEP Data: Clinch River Pond 1

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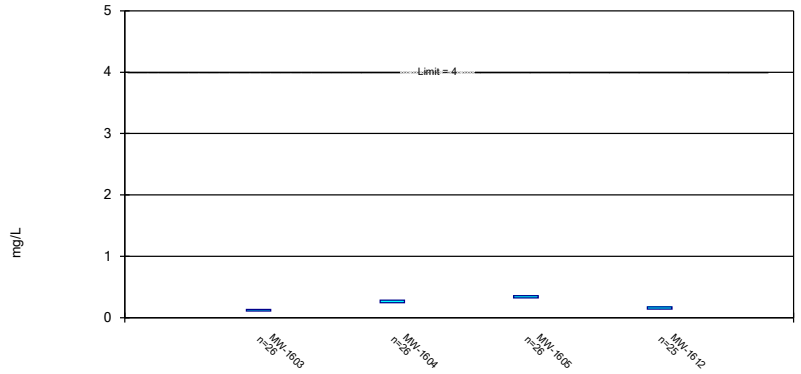
Parametric Confidence Interval

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

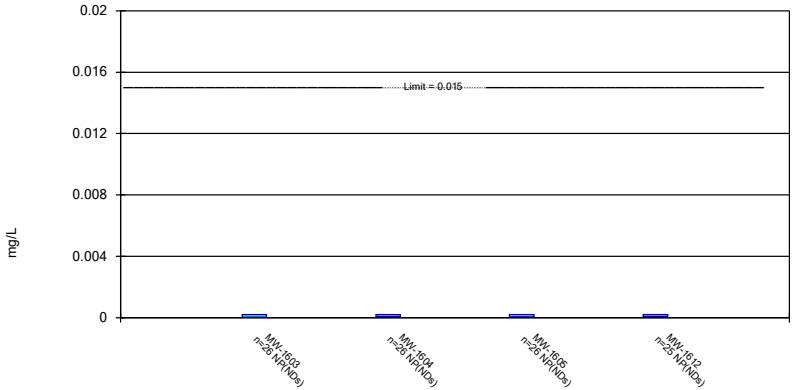


Constituent: Fluoride total Analysis Run 5/31/2024 2:08 PM View: Chattanooga Shale - Pond 1 Confidenc
Clinch River Client: AEP Data: Clinch River Pond 1

Sanitas™ v.10.0.16e Software licensed to . UG

Non-Parametric Confidence Interval

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



Constituent: Lead total Analysis Run 5/31/2024 2:08 PM View: Chattanooga Shale - Pond 1 Confidence In
Clinch River Client: AEP Data: Clinch River Pond 1

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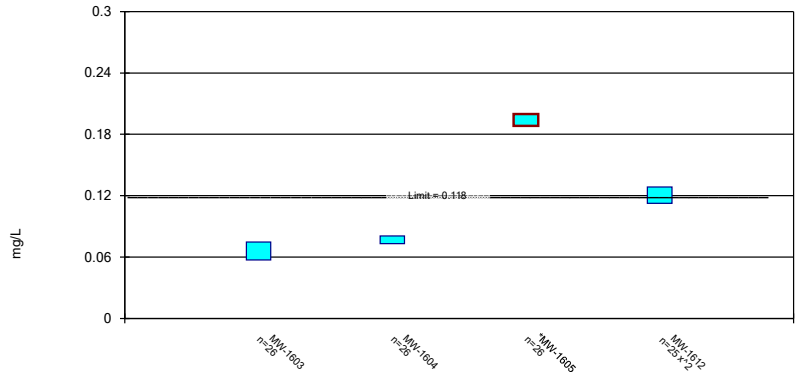
Parametric Confidence Interval

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

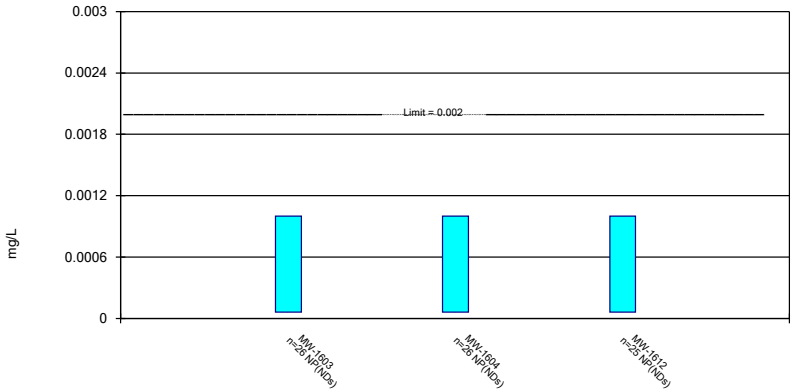


Constituent: Lithium total Analysis Run 5/31/2024 2:08 PM View: Chattanooga Shale - Pond 1 Confidence
Clinch River Client: AEP Data: Clinch River Pond 1

Sanitas™ v.10.0.16e Software licensed to . UG

Non-Parametric Confidence Interval

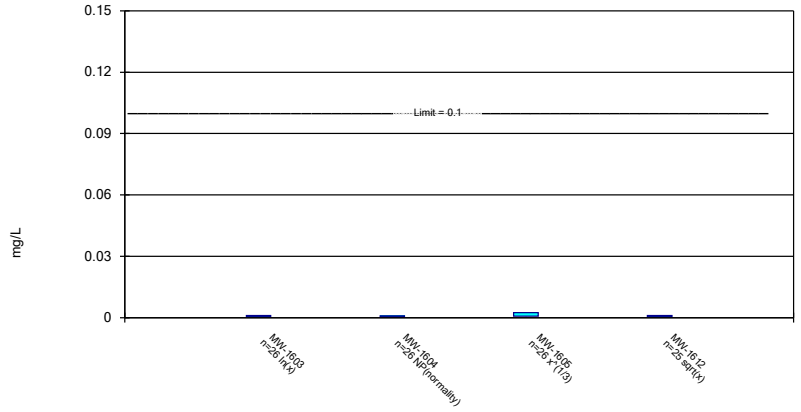
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Mercury total Analysis Run 5/31/2024 2:08 PM View: Chattanooga Shale - Pond 1 Confidenc
Clinch River Client: AEP Data: Clinch River Pond 1

Parametric and Non-Parametric (NP) Confidence Interval

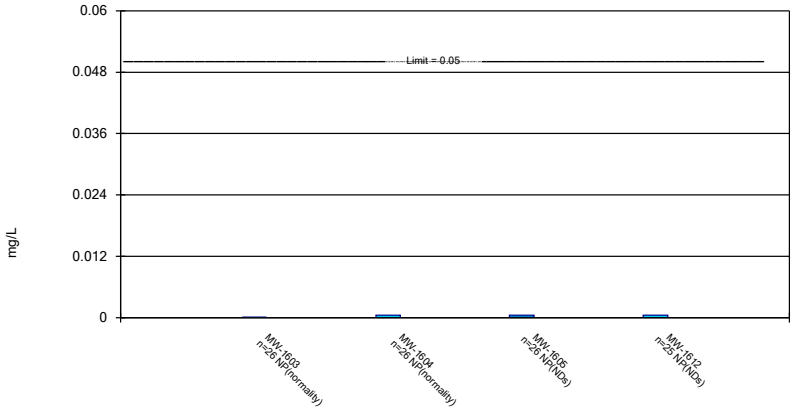
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum total Analysis Run 5/31/2024 2:08 PM View: Chattanooga Shale - Pond 1 Confi
Clinch River Client: AEP Data: Clinch River Pond 1

Non-Parametric Confidence Interval

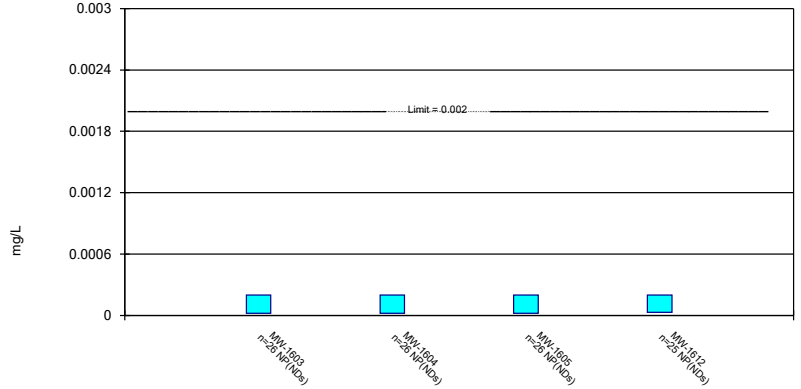
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Selenium total Analysis Run 5/31/2024 2:08 PM View: Chattanooga Shale - Pond 1 Confiden
Clinch River Client: AEP Data: Clinch River Pond 1

Non-Parametric Confidence Interval

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



Constituent: Thallium total Analysis Run 5/31/2024 2:08 PM View: Chattanooga Shale - Pond 1 Confidenc
Clinch River Client: AEP Data: Clinch River Pond 1

Confidence Intervals - Rome Limestone - Significant Results

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 2:34 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Cobalt total (mg/L)	**MW-1607**	**0.01024**	**0.008362**	**0.006**	**Yes**	**26**	**0.0093**	**0.001925**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium total (mg/L)	**MW-1606**	**0.08545**	**0.06357**	**0.04**	**Yes**	**26**	**0.07451**	**0.02245**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium total (mg/L)	**MW-1607**	**0.1298**	**0.1208**	**0.04**	**Yes**	**26**	**0.1253**	**0.009173**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum total (mg/L)	**MW-1607**	**0.148**	**0.1303**	**0.1**	**Yes**	**26**	**0.1391**	**0.01822**	**0**	**None**	**No**	**0.01**	**Param.**

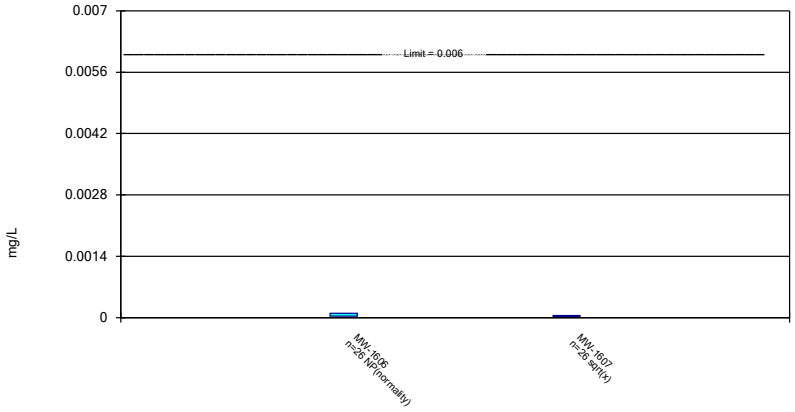
Confidence Intervals - Rome Limestone - All Results

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 2:34 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony total (mg/L)	MW-1606	0.0001	0.00003	0.006	No	26	0.00007131	0.0000738	42.31	None	No	0.01	NP (normality)
Antimony total (mg/L)	MW-1607	0.00004605	0.00002775	0.006	No	26	0.00003865	0.00002028	3.846	None	sqrt(x)	0.01	Param.
Arsenic total (mg/L)	MW-1606	0.008689	0.006489	0.01	No	26	0.007711	0.00233	0	None	sqrt(x)	0.01	Param.
Arsenic total (mg/L)	MW-1607	0.00146	0.00101	0.01	No	26	0.001485	0.001019	0	None	No	0.01	NP (normality)
Barium total (mg/L)	MW-1606	0.1152	0.1052	2	No	26	0.1102	0.01032	0	None	No	0.01	Param.
Barium total (mg/L)	MW-1607	0.0731	0.0678	2	No	26	0.07327	0.01497	0	None	No	0.01	NP (normality)
Beryllium total (mg/L)	MW-1606	0.00005	0.000009	0.004	No	26	0.00003412	0.00002064	61.54	None	No	0.01	NP (NDs)
Beryllium total (mg/L)	MW-1607	0.00005	0.000005	0.004	No	26	0.00004827	0.000008825	96.15	None	No	0.01	NP (NDs)
Cadmium total (mg/L)	MW-1606	0.00002	0.00001	0.005	No	26	0.00001769	0.000008064	34.62	None	No	0.01	NP (normality)
Cadmium total (mg/L)	MW-1607	0.0001427	0.00008812	0.005	No	26	0.0001154	0.00005603	0	None	No	0.01	Param.
Chromium total (mg/L)	MW-1606	0.0002532	0.0001745	0.1	No	26	0.0002273	0.0001055	0	None	ln(x)	0.01	Param.
Chromium total (mg/L)	MW-1607	0.000229	0.0001355	0.1	No	26	0.0002048	0.0001444	7.692	None	ln(x)	0.01	Param.
Cobalt total (mg/L)	MW-1606	0.005307	0.00437	0.006	No	26	0.004838	0.0009617	0	None	No	0.01	Param.
Cobalt total (mg/L)	**MW-1607**	**0.01024**	**0.008362**	**0.006**	**Yes**	**26**	**0.0093**	**0.001925**	**0**	**None**	**No**	**0.01**	**Param.**
Combined Radium 226 and 228 (pCi/L)	MW-1606	2.279	1.419	5	No	26	1.959	1.085	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 and 228 (pCi/L)	MW-1607	1.439	0.879	5	No	26	1.159	0.5749	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1606	0.2181	0.185	4	No	26	0.2015	0.03402	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1607	0.2339	0.2107	4	No	26	0.2223	0.02372	0	None	No	0.01	Param.
Lead total (mg/L)	MW-1606	0.0006233	0.0004218	0.015	No	26	0.0005225	0.0002068	0	None	No	0.01	Param.
Lead total (mg/L)	MW-1607	0.0005425	0.0003825	0.015	No	26	0.0004625	0.0001641	0	None	No	0.01	Param.
Lithium total (mg/L)	**MW-1606**	**0.08545**	**0.06357**	**0.04**	**Yes**	**26**	**0.07451**	**0.02245**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium total (mg/L)	**MW-1607**	**0.1298**	**0.1208**	**0.04**	**Yes**	**26**	**0.1253**	**0.009173**	**0**	**None**	**No**	**0.01**	**Param.**
Mercury total (mg/L)	MW-1606	0.001	0.00006	0.002	No	26	0.0009638	0.0001843	96.15	None	No	0.01	NP (NDs)
Mercury total (mg/L)	MW-1607	0.001	0.00008	0.002	No	26	0.0009646	0.0001804	96.15	None	No	0.01	NP (NDs)
Molybdenum total (mg/L)	MW-1606	0.07004	0.05311	0.1	No	26	0.06158	0.01736	0	None	No	0.01	Param.
Molybdenum total (mg/L)	**MW-1607**	**0.148**	**0.1303**	**0.1**	**Yes**	**26**	**0.1391**	**0.01822**	**0**	**None**	**No**	**0.01**	**Param.**
Selenium total (mg/L)	MW-1606	0.00013	0.00007	0.05	No	26	0.000165	0.0001696	19.23	None	No	0.01	NP (normality)
Selenium total (mg/L)	MW-1607	0.0002203	0.0001102	0.05	No	26	0.0001796	0.0001375	11.54	None	sqrt(x)	0.01	Param.
Thallium total (mg/L)	MW-1606	0.0002	0.00005	0.002	No	26	0.0001408	0.0000774	61.54	None	No	0.01	NP (NDs)
Thallium total (mg/L)	MW-1607	0.0002	0.0001	0.002	No	26	0.0001569	0.00007396	73.08	None	No	0.01	NP (NDs)

Parametric and Non-Parametric (NP) Confidence Interval

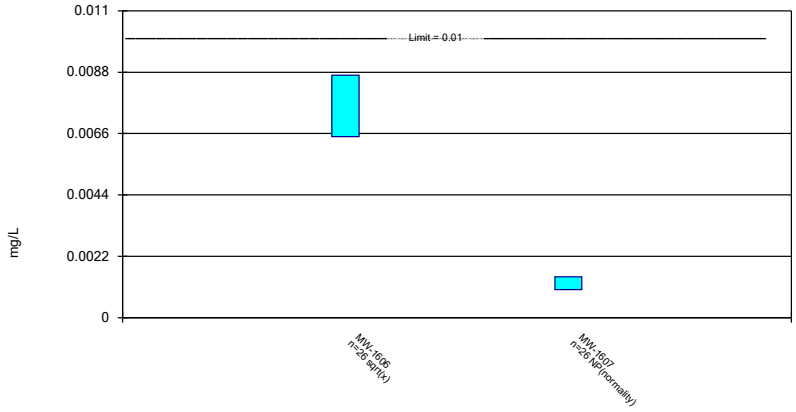
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Antimony total Analysis Run 5/31/2024 2:32 PM View: Rome Limestone - Pond 1 Confidence
Clinch River Client: AEP Data: Clinch River Pond 1

Parametric and Non-Parametric (NP) Confidence Interval

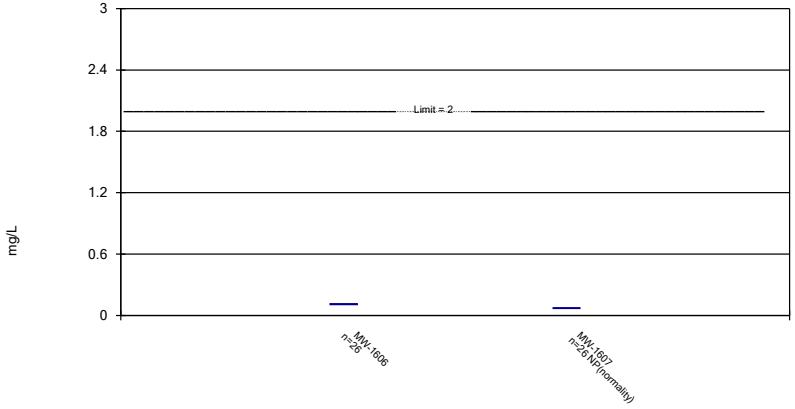
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic total Analysis Run 5/31/2024 2:32 PM View: Rome Limestone - Pond 1 Confidence In
Clinch River Client: AEP Data: Clinch River Pond 1

Parametric and Non-Parametric (NP) Confidence Interval

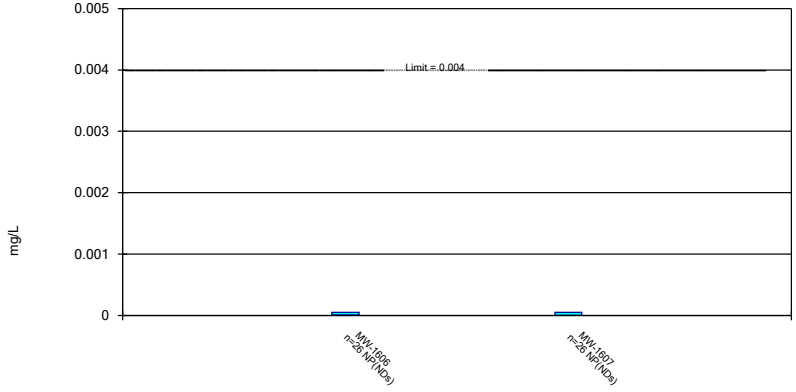
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium total Analysis Run 5/31/2024 2:32 PM View: Rome Limestone - Pond 1 Confidence In
Clinch River Client: AEP Data: Clinch River Pond 1

Non-Parametric Confidence Interval

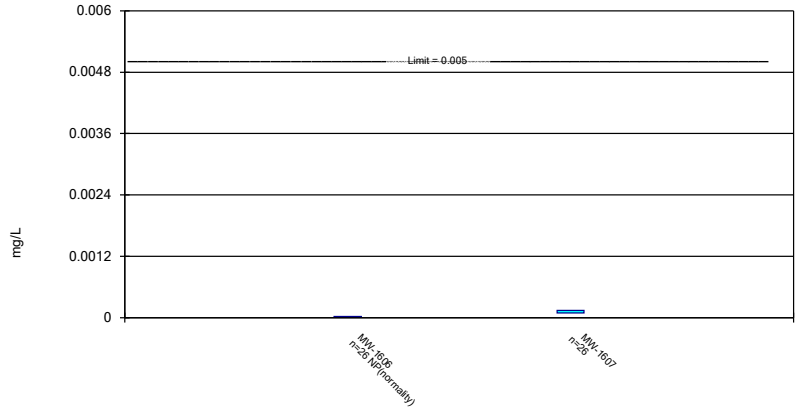
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Beryllium total Analysis Run 5/31/2024 2:32 PM View: Rome Limestone - Pond 1 Confidence
Clinch River Client: AEP Data: Clinch River Pond 1

Parametric and Non-Parametric (NP) Confidence Interval

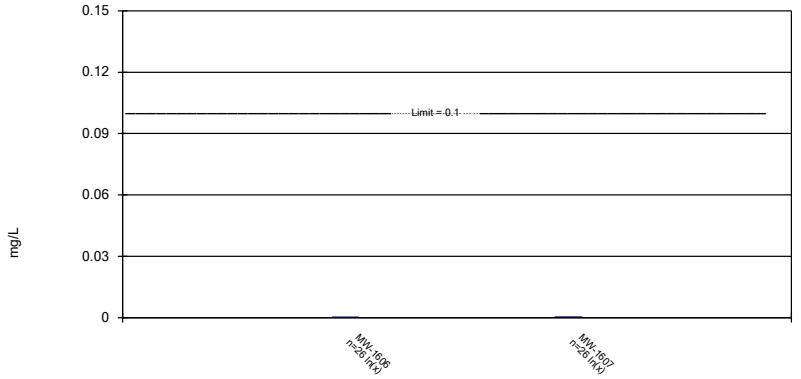
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cadmium total Analysis Run 5/31/2024 2:32 PM View: Rome Limestone - Pond 1 Confidence
Clinch River Client: AEP Data: Clinch River Pond 1

Parametric Confidence Interval

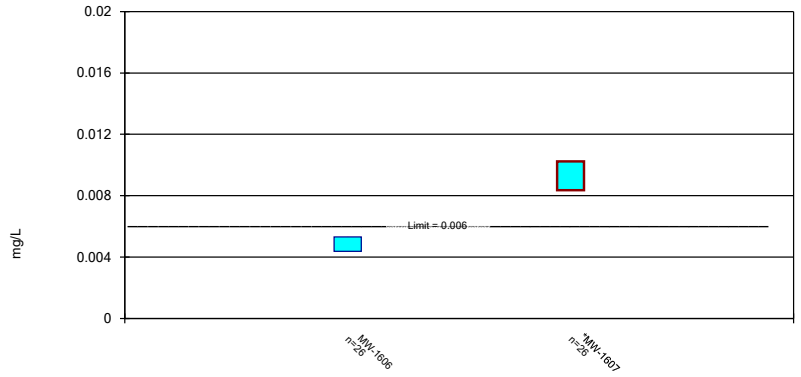
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Chromium total Analysis Run 5/31/2024 2:32 PM View: Rome Limestone - Pond 1 Confidenc
Clinch River Client: AEP Data: Clinch River Pond 1

Parametric Confidence Interval

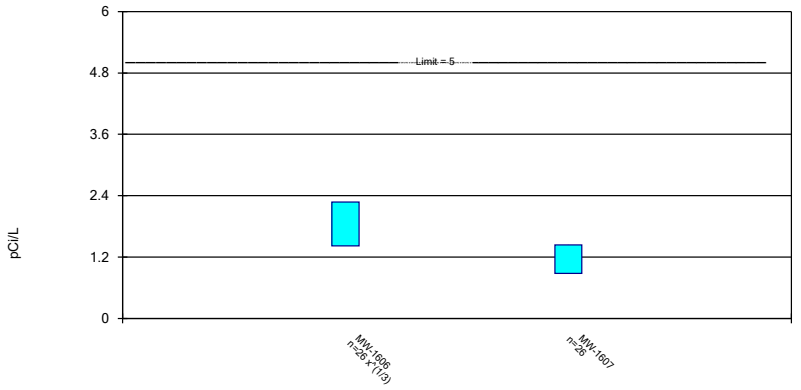
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt total Analysis Run 5/31/2024 2:32 PM View: Rome Limestone - Pond 1 Confidence Int
Clinch River Client: AEP Data: Clinch River Pond 1

Parametric Confidence Interval

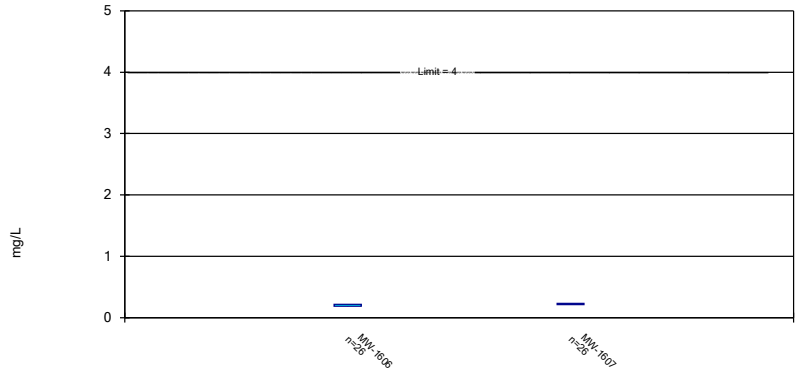
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 and 228 Analysis Run 5/31/2024 2:32 PM View: Rome Limestone - P
Clinch River Client: AEP Data: Clinch River Pond 1

Parametric Confidence Interval

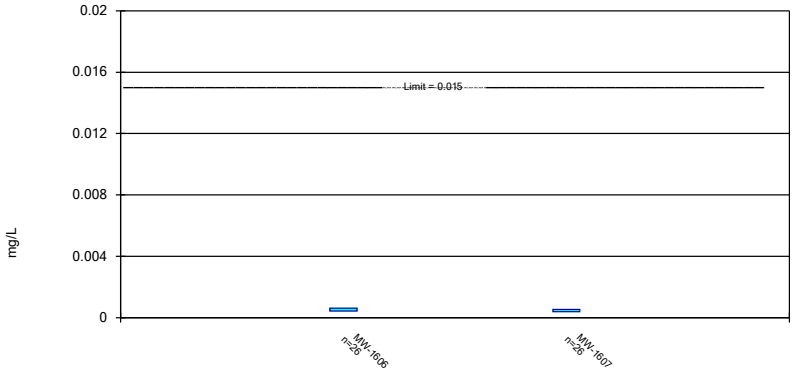
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride total Analysis Run 5/31/2024 2:32 PM View: Rome Limestone - Pond 1 Confidence I
Clinch River Client: AEP Data: Clinch River Pond 1

Parametric Confidence Interval

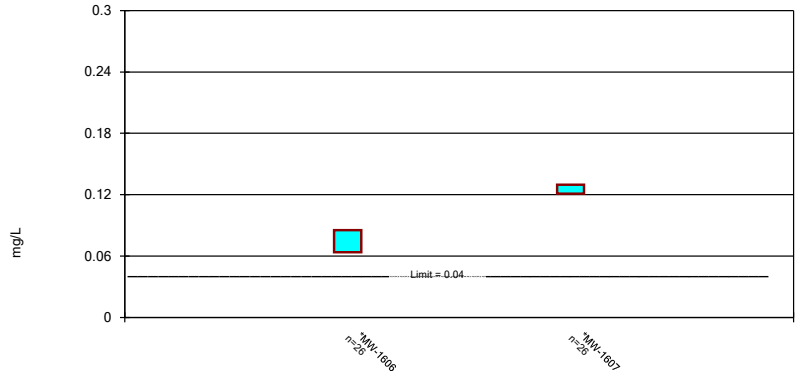
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lead total Analysis Run 5/31/2024 2:33 PM View: Rome Limestone - Pond 1 Confidence Inter
Clinch River Client: AEP Data: Clinch River Pond 1

Parametric Confidence Interval

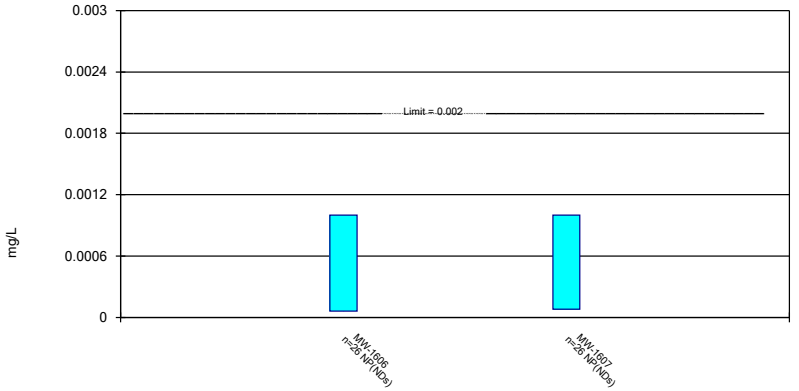
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium total Analysis Run 5/31/2024 2:33 PM View: Rome Limestone - Pond 1 Confidence In
Clinch River Client: AEP Data: Clinch River Pond 1

Non-Parametric Confidence Interval

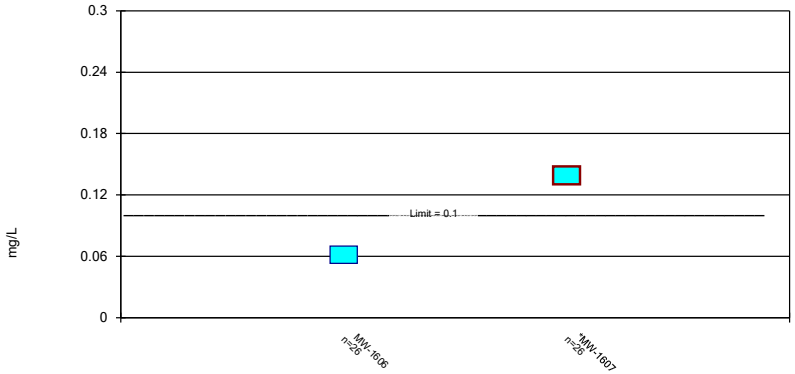
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Mercury total Analysis Run 5/31/2024 2:33 PM View: Rome Limestone - Pond 1 Confidence I
Clinch River Client: AEP Data: Clinch River Pond 1

Parametric Confidence Interval

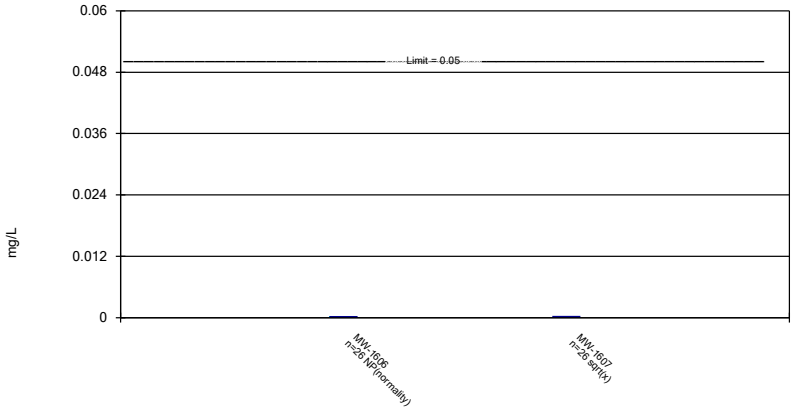
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum total Analysis Run 5/31/2024 2:33 PM View: Rome Limestone - Pond 1 Confide
Clinch River Client: AEP Data: Clinch River Pond 1

Parametric and Non-Parametric (NP) Confidence Interval

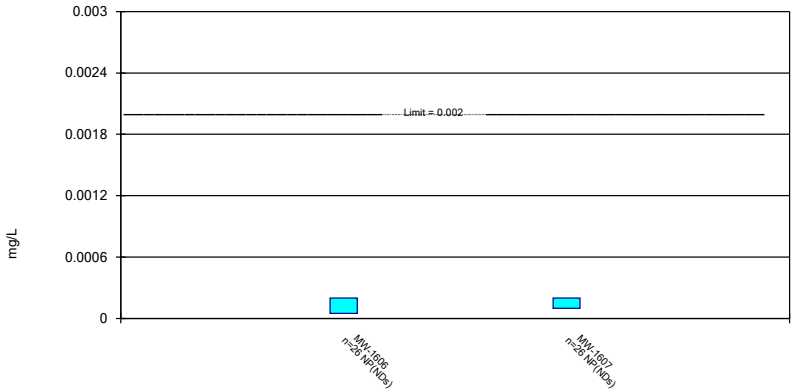
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium total Analysis Run 5/31/2024 2:33 PM View: Rome Limestone - Pond 1 Confidence
Clinch River Client: AEP Data: Clinch River Pond 1

Non-Parametric Confidence Interval

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



Constituent: Thallium total Analysis Run 5/31/2024 2:33 PM View: Rome Limestone - Pond 1 Confidence I
Clinch River Client: AEP Data: Clinch River Pond 1

Confidence Intervals - Dumps Fault - All Results (No Significant)

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 3:12 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony total (mg/L)	MW-1610	0.0001956	0.00006154	0.006	No	26	0.0002393	0.0003875	3.846	None	ln(x)	0.01	Param.
Arsenic total (mg/L)	MW-1610	0.00161	0.00114	0.023	No	26	0.001513	0.0009557	0	None	No	0.01	NP (normality)
Barium total (mg/L)	MW-1610	0.2703	0.2267	2	No	26	0.2485	0.04473	0	None	No	0.01	Param.
Beryllium total (mg/L)	MW-1610	0.00005	0.000007	0.004	No	26	0.00004304	0.00001666	84.62	None	No	0.01	NP (NDs)
Cadmium total (mg/L)	MW-1610	0.00001433	0.00000572	0.005	No	26	0.00002038	0.00001211	30.77	Kaplan-Meier	sqrt(x)	0.01	Param.
Chromium total (mg/L)	MW-1610	0.00026	0.00018	0.1	No	26	0.0002423	0.0001332	0	None	No	0.01	NP (normality)
Cobalt total (mg/L)	MW-1610	0.006554	0.005193	0.006	No	17	0.005874	0.001086	0	None	No	0.01	Param.
Combined Radium 226 and 228 (pCi/L)	MW-1610	1.443	0.8486	5	No	26	1.146	0.6097	0	None	No	0.01	Param.
Fluoride total (mg/L)	MW-1610	0.21	0.18	4	No	26	0.2058	0.03711	0	None	No	0.01	NP (normality)
Lead total (mg/L)	MW-1610	0.006222	0.002365	0.015	No	26	0.00499	0.004517	0	None	sqrt(x)	0.01	Param.
Lithium total (mg/L)	MW-1610	0.1687	0.1384	0.161	No	9	0.1536	0.01568	0	None	No	0.01	Param.
Mercury total (mg/L)	MW-1610	0.001	0.00006	0.002	No	26	0.0009638	0.0001843	96.15	None	No	0.01	NP (NDs)
Molybdenum total (mg/L)	MW-1610	0.1027	0.07913	0.1	No	9	0.0909	0.01219	0	None	No	0.01	Param.
Selenium total (mg/L)	MW-1610	0.000312	0.0001757	0.05	No	26	0.0002438	0.0001399	7.692	None	No	0.01	Param.
Thallium total (mg/L)	MW-1610	0.0002	0.00003	0.002	No	26	0.0001519	0.00008085	73.08	None	No	0.01	NP (NDs)

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Parametric Confidence Interval

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

Constituent: Antimony total Analysis Run 5/31/2024 3:11 PM View: Dumps Fault - Pond 1 Confidence Inte
Clinch River Client: AEP Data: Clinch River Pond 1

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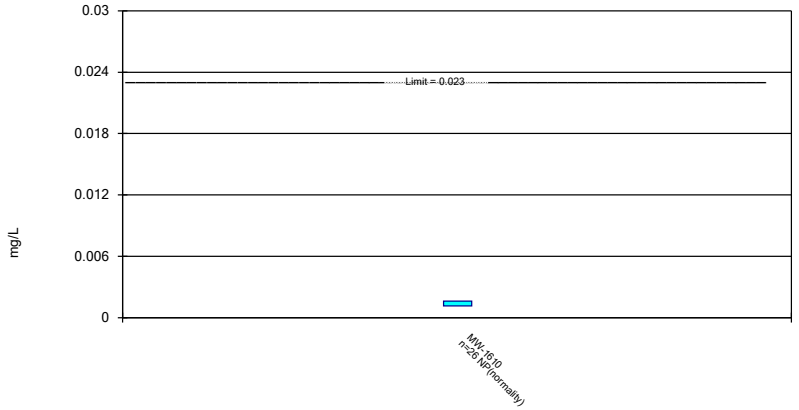
Non-Parametric Confidence Interval

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



Constituent: Arsenic total Analysis Run 5/31/2024 3:11 PM View: Dumps Fault - Pond 1 Confidence Interv
Clinch River Client: AEP Data: Clinch River Pond 1

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Parametric Confidence Interval

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

Constituent: Barium total Analysis Run 5/31/2024 3:11 PM View: Dumps Fault - Pond 1 Confidence Interv
Clinch River Client: AEP Data: Clinch River Pond 1

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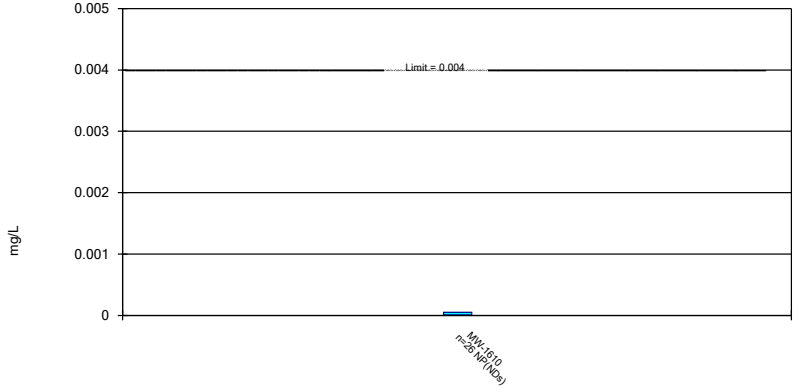
Non-Parametric Confidence Interval

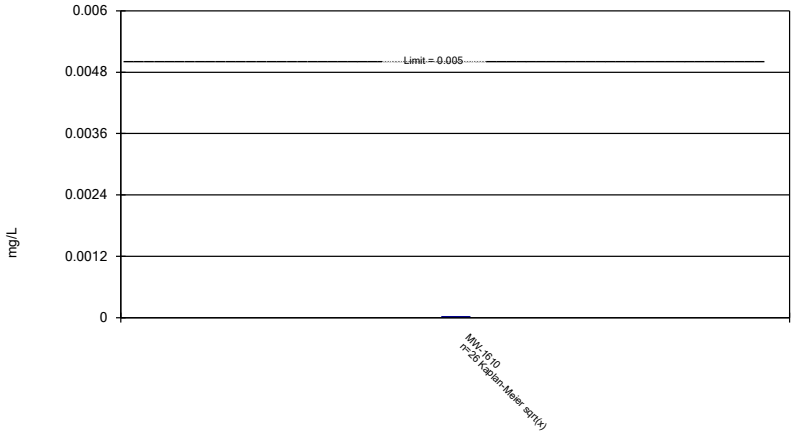
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Beryllium total Analysis Run 5/31/2024 3:11 PM View: Dumps Fault - Pond 1 Confidence Inte
Clinch River Client: AEP Data: Clinch River Pond 1

Parametric Confidence Interval

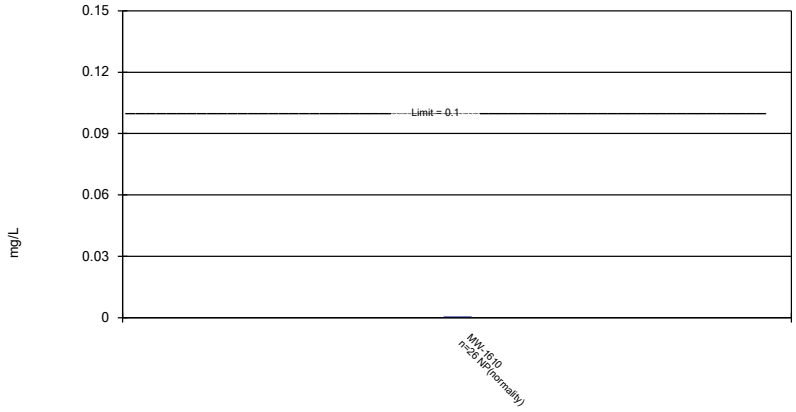
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cadmium total Analysis Run 5/31/2024 3:11 PM View: Dumps Fault - Pond 1 Confidence Inte
Clinch River Client: AEP Data: Clinch River Pond 1

Non-Parametric Confidence Interval

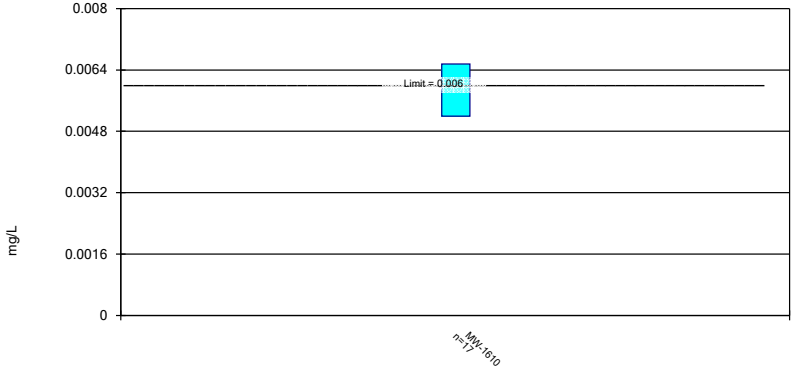
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Chromium total Analysis Run 5/31/2024 3:11 PM View: Dumps Fault - Pond 1 Confidence Int
Clinch River Client: AEP Data: Clinch River Pond 1

Parametric Confidence Interval

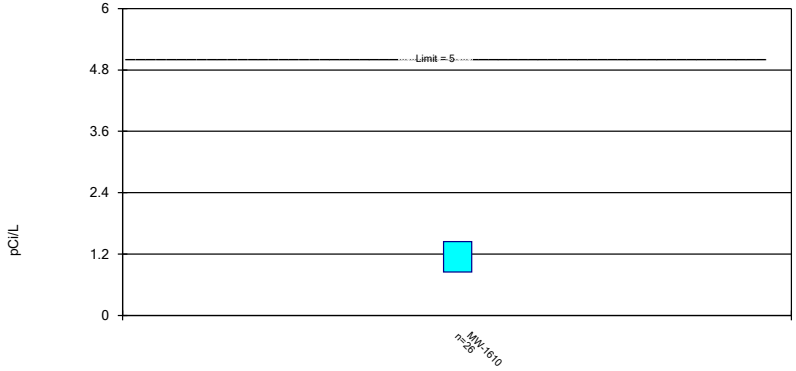
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt total Analysis Run 5/31/2024 3:11 PM View: Dumps Fault - Pond 1 Confidence Interva
Clinch River Client: AEP Data: Clinch River Pond 1

Parametric Confidence Interval

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



Constituent: Combined Radium 226 and 228 Analysis Run 5/31/2024 3:11 PM View: Dumps Fault - Pond
Clinch River Client: AEP Data: Clinch River Pond 1

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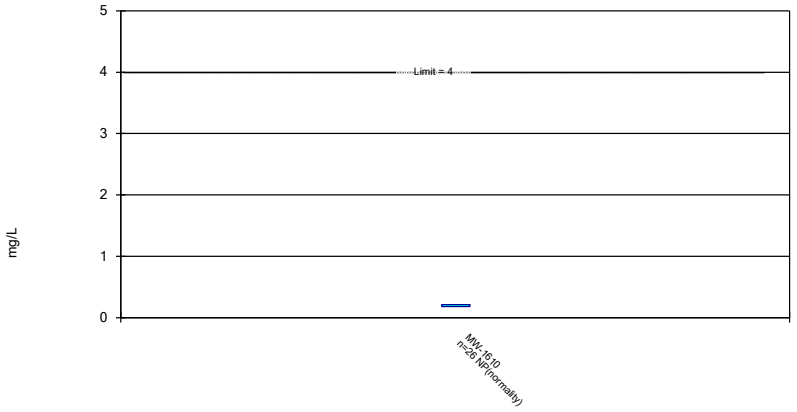
Non-Parametric Confidence Interval

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



Constituent: Fluoride total Analysis Run 5/31/2024 3:11 PM View: Dumps Fault - Pond 1 Confidence Interv
Clinch River Client: AEP Data: Clinch River Pond 1

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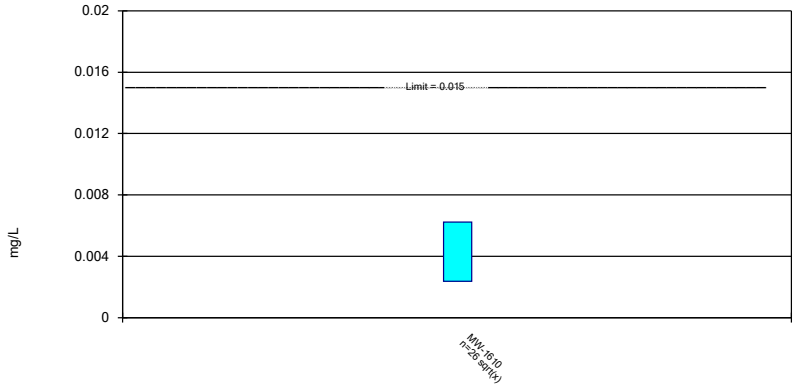
Parametric Confidence Interval

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



Constituent: Lead total Analysis Run 5/31/2024 3:11 PM View: Dumps Fault - Pond 1 Confidence Intervals
Clinch River Client: AEP Data: Clinch River Pond 1

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Parametric Confidence Interval

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

Constituent: Lithium total Analysis Run 5/31/2024 3:11 PM View: Dumps Fault - Pond 1 Confidence Interv
Clinch River Client: AEP Data: Clinch River Pond 1

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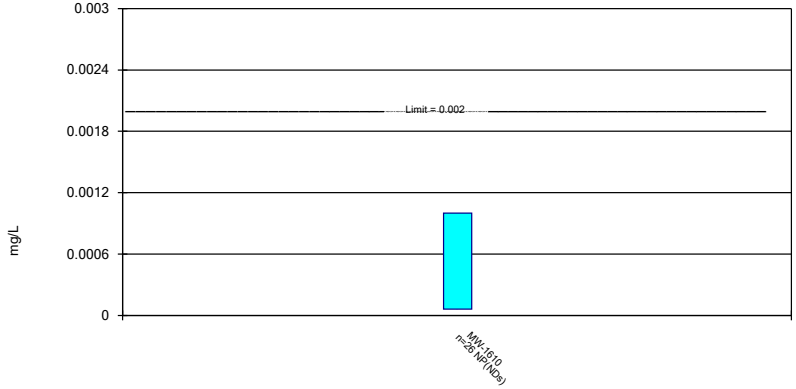
Non-Parametric Confidence Interval

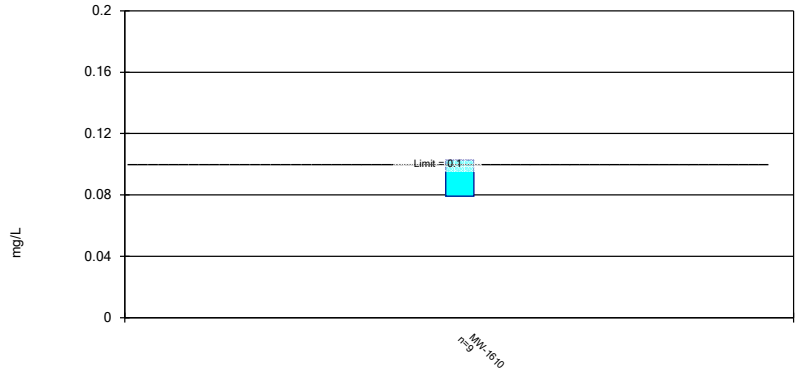
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Mercury total Analysis Run 5/31/2024 3:11 PM View: Dumps Fault - Pond 1 Confidence Interv
Clinch River Client: AEP Data: Clinch River Pond 1

Parametric Confidence Interval

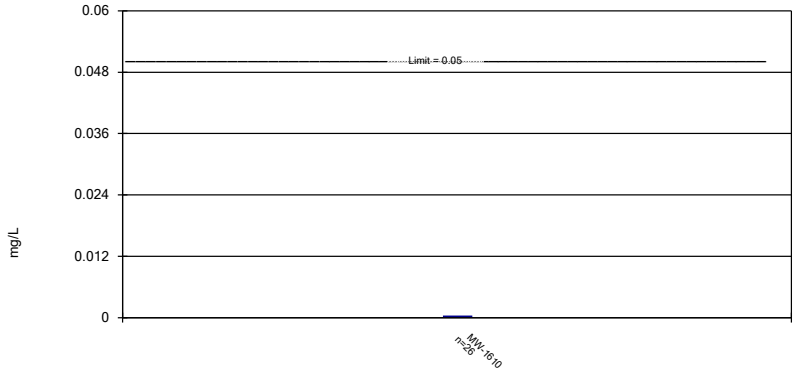
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum total Analysis Run 5/31/2024 3:11 PM View: Dumps Fault - Pond 1 Confidence I
Clinch River Client: AEP Data: Clinch River Pond 1

Parametric Confidence Interval

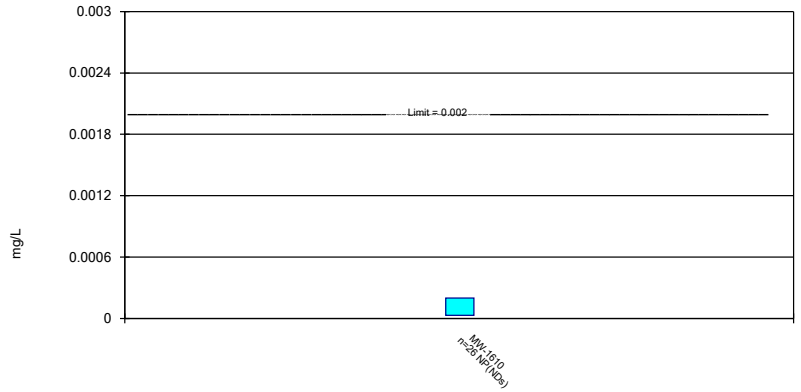
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium total Analysis Run 5/31/2024 3:11 PM View: Dumps Fault - Pond 1 Confidence Inte
Clinch River Client: AEP Data: Clinch River Pond 1

Non-Parametric Confidence Interval

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



Constituent: Thallium total Analysis Run 5/31/2024 3:11 PM View: Dumps Fault - Pond 1 Confidence Inter
Clinch River Client: AEP Data: Clinch River Pond 1

FIGURE G.

Appendix IV Trend Tests - Chattanooga Shale - Significant Results

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 2:19 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Barium total (mg/L)	**MW-1601 (bg)**	**-0.02077**	**-231**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1602 (bg)**	**-0.003209**	**-226**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1603**	**0.1417**	**137**	**90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1605**	**0.1908**	**148**	**90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1608 (bg)**	**-0.003303**	**-275**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1612**	**0.07282**	**98**	**85**	**Yes**	**25**	**0**	**n/a**	**0.05**	**NP**
Lithium total (mg/L)	**MW-1602 (bg)**	**-0.001271**	**-132**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Lithium total (mg/L)	**MW-1608 (bg)**	**-0.0008442**	**-167**	**-90**	**Yes**	**26**	**3.846**	**n/a**	**0.05**	**NP**

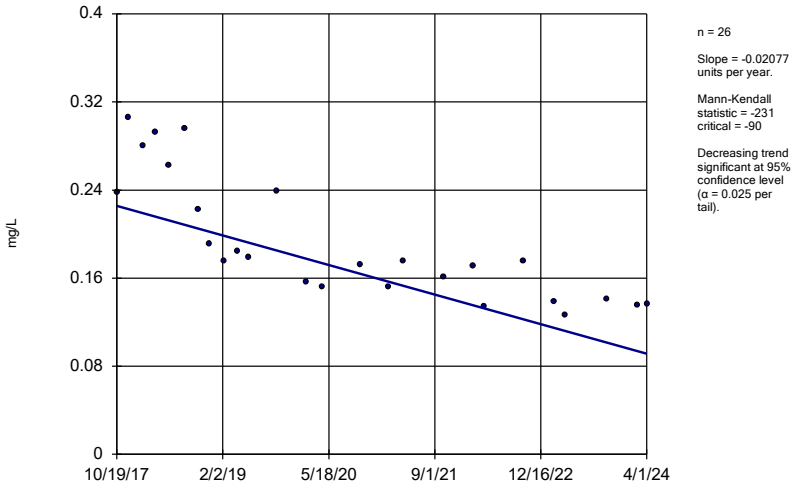
Appendix IV Trend Tests - Chattanooga Shale - All Results

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 2:19 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Barium total (mg/L)	**MW-1601 (bg)**	**-0.02077**	**-231**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1602 (bg)**	**-0.003209**	**-226**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1603**	**0.1417**	**137**	**90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	MW-1604	-0.02397	-64	-90	No	26	0	n/a	0.05	NP
Barium total (mg/L)	**MW-1605**	**0.1908**	**148**	**90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1608 (bg)**	**-0.003303**	**-275**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Barium total (mg/L)	**MW-1612**	**0.07282**	**98**	**85**	**Yes**	**25**	**0**	**n/a**	**0.05**	**NP**
Lithium total (mg/L)	MW-1601 (bg)	-0.0008778	-66	-90	No	26	0	n/a	0.05	NP
Lithium total (mg/L)	**MW-1602 (bg)**	**-0.001271**	**-132**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Lithium total (mg/L)	MW-1605	-0.001426	-56	-90	No	26	0	n/a	0.05	NP
Lithium total (mg/L)	**MW-1608 (bg)**	**-0.0008442**	**-167**	**-90**	**Yes**	**26**	**3.846**	**n/a**	**0.05**	**NP**

Sen's Slope Estimator

MW-1601 (bg)



n = 26

Slope = -0.02077 units per year.

Mann-Kendall statistic = -231 critical = -90

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

Constituent: Barium total Analysis Run 5/31/2024 2:17 PM View: Chattanooga Shale - Pond 1 Appendix IV
Clinch River Client: AEP Data: Clinch River Pond 1

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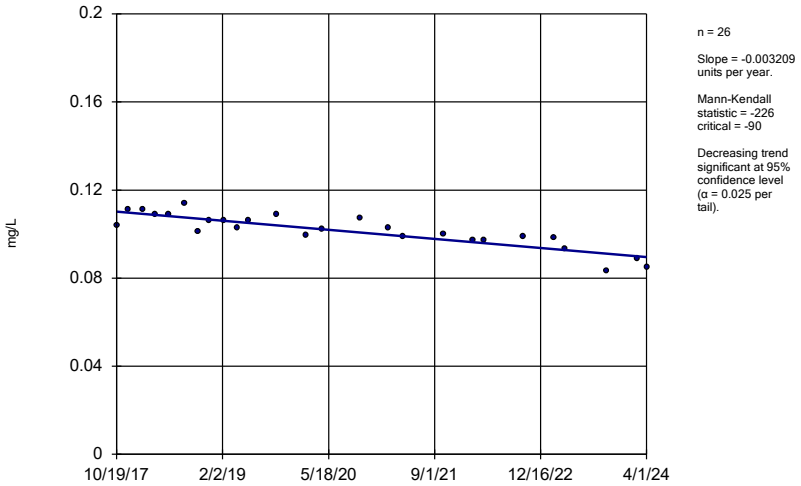
Sen's Slope Estimator

MW-1602 (bg)



n = 26

Slope = -0.003209 units per year.

Mann-Kendall statistic = -226 critical = -90

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

Constituent: Barium total Analysis Run 5/31/2024 2:17 PM View: Chattanooga Shale - Pond 1 Appendix IV
Clinch River Client: AEP Data: Clinch River Pond 1

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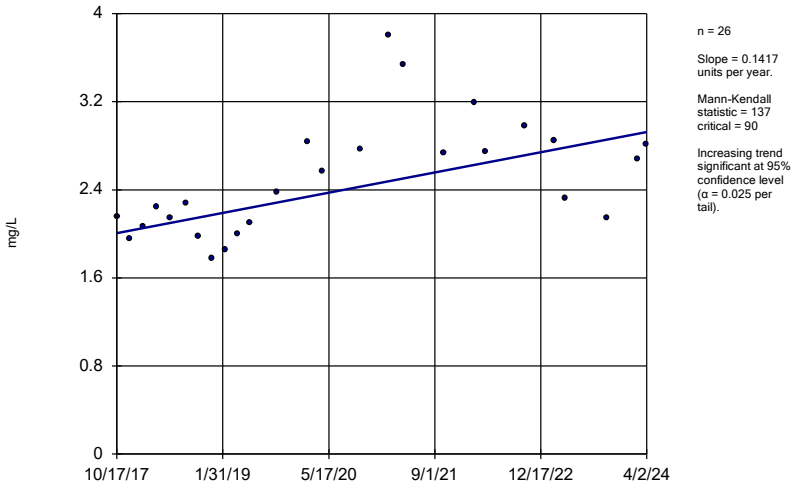
Sen's Slope Estimator

MW-1603



n = 26

Slope = 0.1417 units per year.

Mann-Kendall statistic = 137 critical = 90

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

Constituent: Barium total Analysis Run 5/31/2024 2:17 PM View: Chattanooga Shale - Pond 1 Appendix IV
Clinch River Client: AEP Data: Clinch River Pond 1

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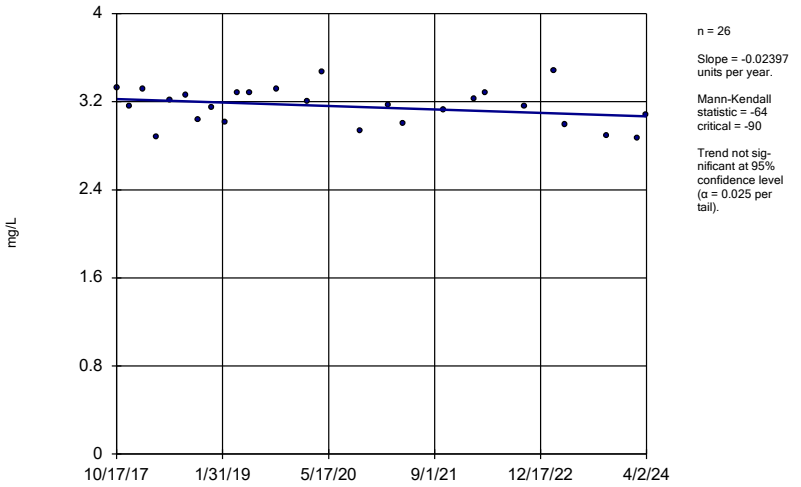
Sen's Slope Estimator

MW-1604



n = 26

Slope = -0.02397 units per year.

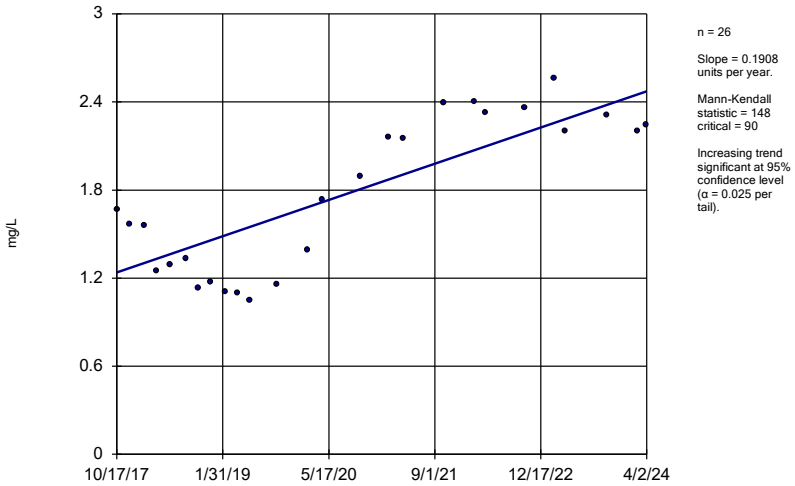
Mann-Kendall statistic = -64 critical = -90

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

Constituent: Barium total Analysis Run 5/31/2024 2:17 PM View: Chattanooga Shale - Pond 1 Appendix IV
Clinch River Client: AEP Data: Clinch River Pond 1

Sen's Slope Estimator

MW-1605



n = 26

Slope = 0.1908 units per year.

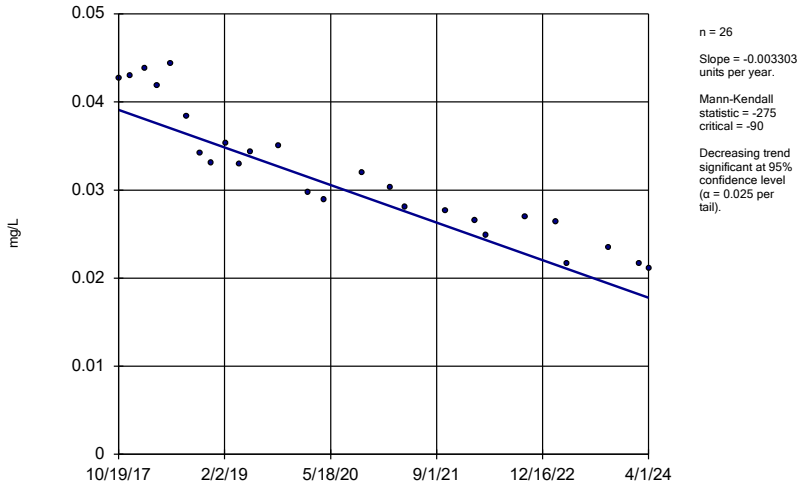
Mann-Kendall statistic = 148
critical = 90

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

Constituent: Barium total Analysis Run 5/31/2024 2:17 PM View: Chattanooga Shale - Pond 1 Appendix IV
Clinch River Client: AEP Data: Clinch River Pond 1

Sen's Slope Estimator

MW-1608 (bg)



n = 26

Slope = -0.003303 units per year.

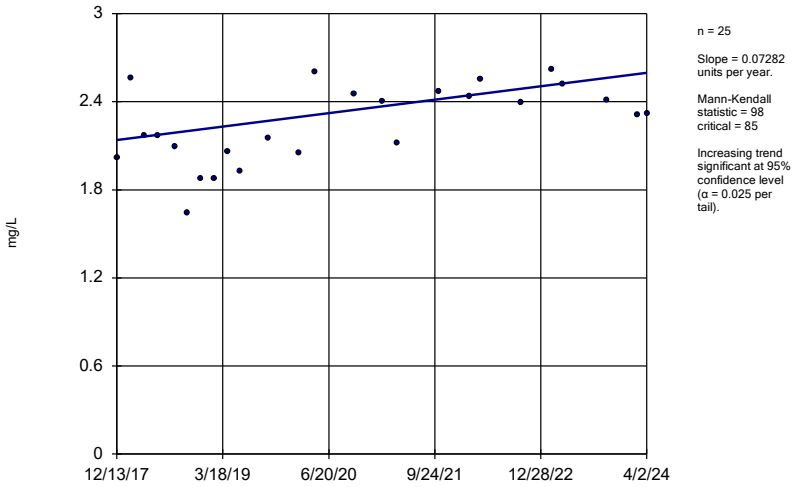
Mann-Kendall statistic = -275
critical = -90

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

Constituent: Barium total Analysis Run 5/31/2024 2:17 PM View: Chattanooga Shale - Pond 1 Appendix IV
Clinch River Client: AEP Data: Clinch River Pond 1

Sen's Slope Estimator

MW-1612



n = 25

Slope = 0.07282 units per year.

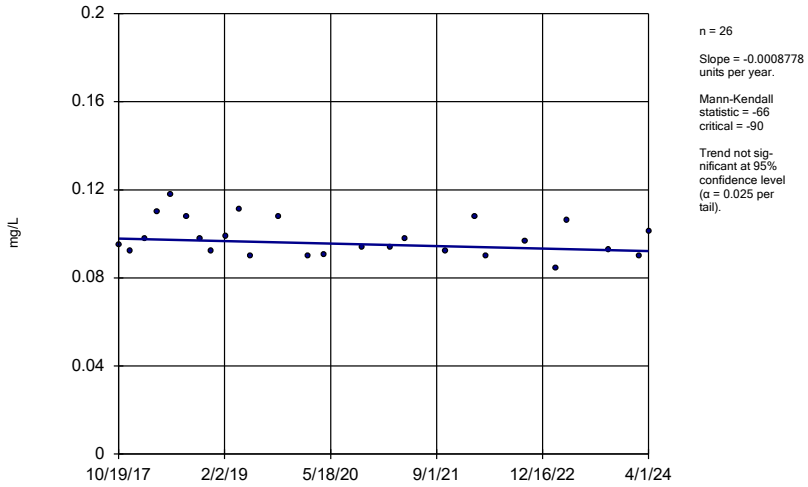
Mann-Kendall statistic = 98
critical = 85

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

Constituent: Barium total Analysis Run 5/31/2024 2:17 PM View: Chattanooga Shale - Pond 1 Appendix IV
Clinch River Client: AEP Data: Clinch River Pond 1

Sen's Slope Estimator

MW-1601 (bg)



n = 26

Slope = -0.0008778 units per year.

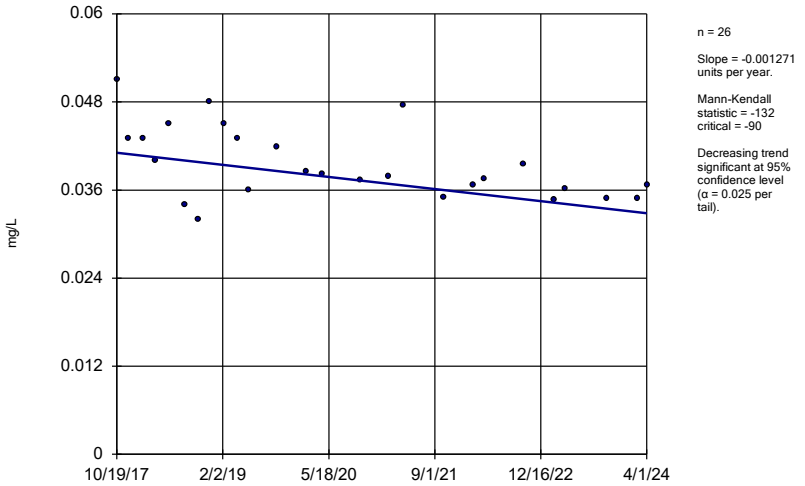
Mann-Kendall statistic = -66
critical = -90

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

Constituent: Lithium total Analysis Run 5/31/2024 2:17 PM View: Chattanooga Shale - Pond 1 Appendix I
Clinch River Client: AEP Data: Clinch River Pond 1

Sen's Slope Estimator

MW-1602 (bg)



n = 26

Slope = -0.001271 units per year.

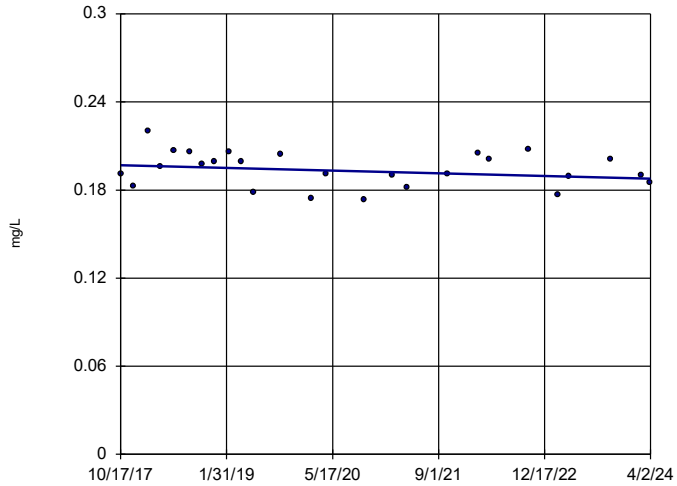
Mann-Kendall statistic = -132
critical = -90

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

Constituent: Lithium total Analysis Run 5/31/2024 2:17 PM View: Chattanooga Shale - Pond 1 Appendix I
Clinch River Client: AEP Data: Clinch River Pond 1

Sen's Slope Estimator

MW-1605



n = 26

Slope = -0.001426 units per year.

Mann-Kendall statistic = -56
critical = -90

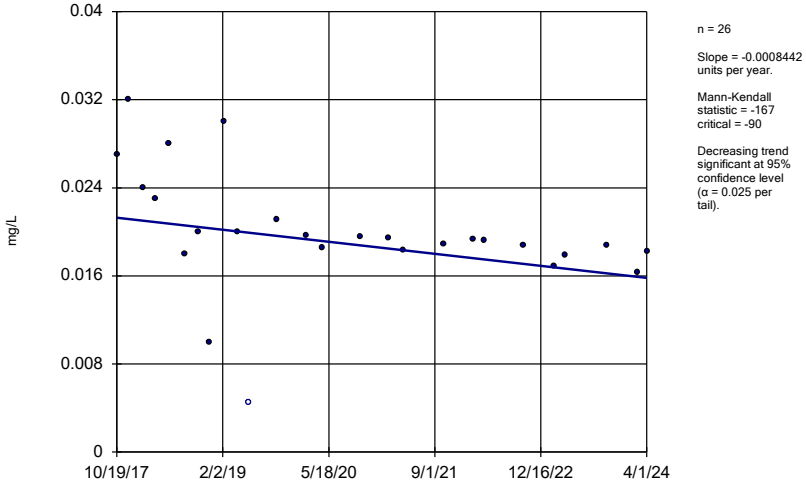
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium total Analysis Run 5/31/2024 2:17 PM View: Chattanooga Shale - Pond 1 Appendix I
Clinch River Client: AEP Data: Clinch River Pond 1

Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-1608 (bg)



n = 26

Slope = -0.0008442 units per year.

Mann-Kendall statistic = -167
critical = -90

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

Constituent: Lithium total Analysis Run 5/31/2024 2:17 PM View: Chattanooga Shale - Pond 1 Appendix I
Clinch River Client: AEP Data: Clinch River Pond 1

Appendix IV Trend Tests - Rome Limestone - Significant Results

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 2:39 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Lithium total (mg/L)	**MW-1609 (bg)**	**-0.0007503**	**-126**	**-90**	**Yes**	**26**	**23.08**	**n/a**	**0.05**	**NP**
Molybdenum total (mg/L)	**MW-1607**	**-0.0043**	**-115**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Molybdenum total (mg/L)	**MW-1609 (bg)**	**-0.0001134**	**-161**	**-90**	**Yes**	**26**	**19.23**	**n/a**	**0.05**	**NP**

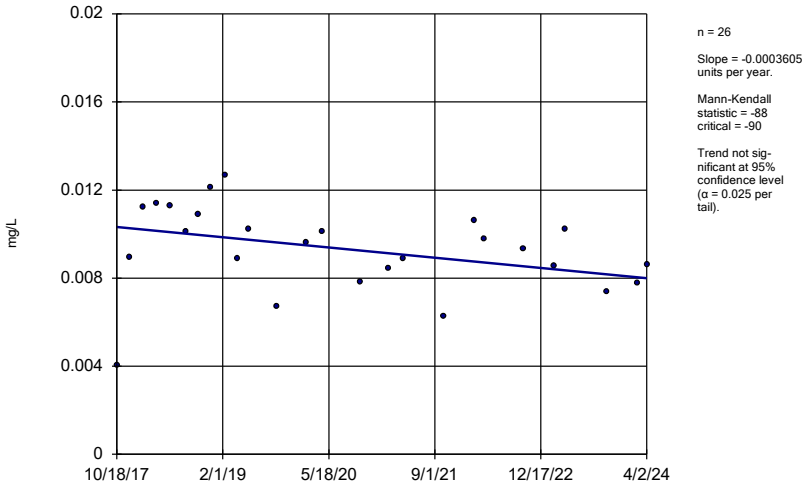
Appendix IV Trend Tests - Rome Limestone - All Results

Clinch River Client: AEP Data: Clinch River Pond 1 Printed 5/31/2024, 2:39 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Alpha	Method
Cobalt total (mg/L)	MW-1607	-0.0003605	-88	-90	No	26	0	n/a	0.05	NP
Cobalt total (mg/L)	MW-1609 (bg)	-0.00001905	-72	-90	No	26	11.54	n/a	0.05	NP
Lithium total (mg/L)	MW-1606	-0.0008878	-21	-90	No	26	0	n/a	0.05	NP
Lithium total (mg/L)	MW-1607	0.001003	65	90	No	26	0	n/a	0.05	NP
Lithium total (mg/L)	**MW-1609 (bg)**	**-0.0007503**	**-126**	**-90**	**Yes**	**26**	**23.08**	**n/a**	**0.05**	**NP**
Molybdenum total (mg/L)	**MW-1607**	**-0.0043**	**-115**	**-90**	**Yes**	**26**	**0**	**n/a**	**0.05**	**NP**
Molybdenum total (mg/L)	**MW-1609 (bg)**	**-0.0001134**	**-161**	**-90**	**Yes**	**26**	**19.23**	**n/a**	**0.05**	**NP**

Sen's Slope Estimator

MW-1607



n = 26

Slope = -0.0003605 units per year.

Mann-Kendall statistic = -88
critical = -90

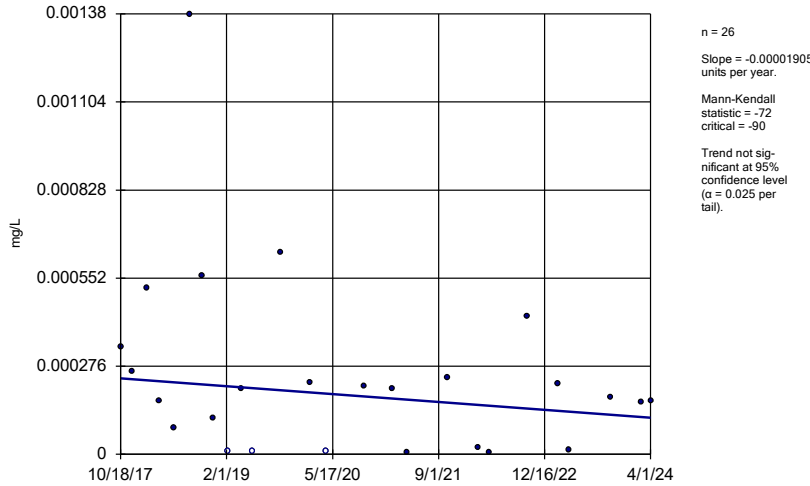
Trend not significant at 95% confidence level (α = 0.025 per tail).

Constituent: Cobalt total Analysis Run 5/31/2024 2:38 PM View: Rome Limestone - Pond 1 Appendix IV Tr
Clinch River Client: AEP Data: Clinch River Pond 1

Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-1609 (bg)



n = 26

Slope = -0.00001905 units per year.

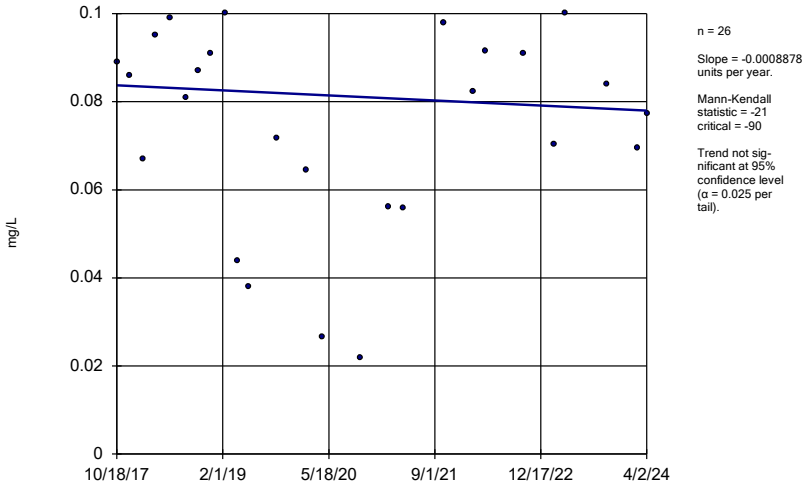
Mann-Kendall statistic = -72
critical = -90

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

Constituent: Cobalt total Analysis Run 5/31/2024 2:38 PM View: Rome Limestone - Pond 1 Appendix IV Tr
Clinch River Client: AEP Data: Clinch River Pond 1

Sen's Slope Estimator

MW-1606



n = 26

Slope = -0.0008878 units per year.

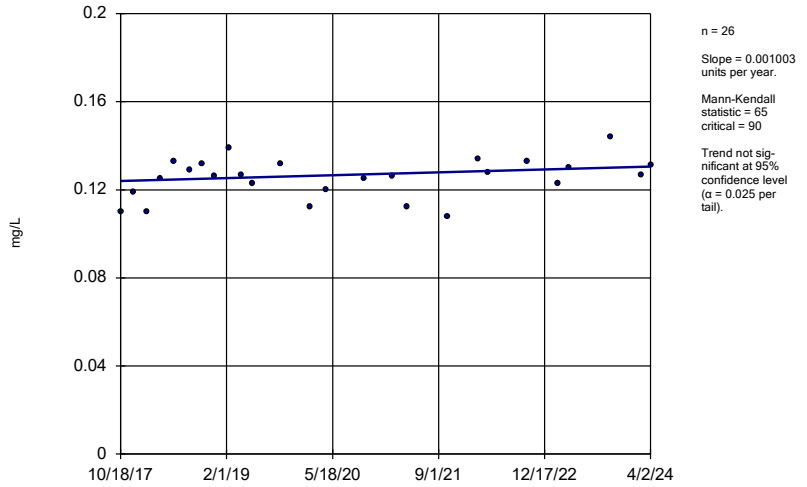
Mann-Kendall statistic = -21
critical = -90

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

Constituent: Lithium total Analysis Run 5/31/2024 2:38 PM View: Rome Limestone - Pond 1 Appendix IV T
Clinch River Client: AEP Data: Clinch River Pond 1

Sen's Slope Estimator

MW-1607



n = 26

Slope = 0.001003 units per year.

Mann-Kendall statistic = 65
critical = 90

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

Constituent: Lithium total Analysis Run 5/31/2024 2:38 PM View: Rome Limestone - Pond 1 Appendix IV T
Clinch River Client: AEP Data: Clinch River Pond 1

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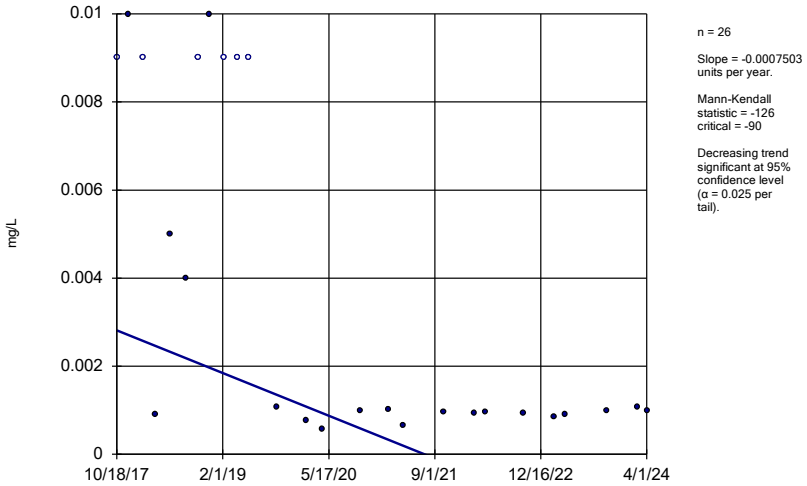
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-1609 (bg)



n = 26

Slope = -0.0007503 units per year.

Mann-Kendall statistic = -126
critical = -90

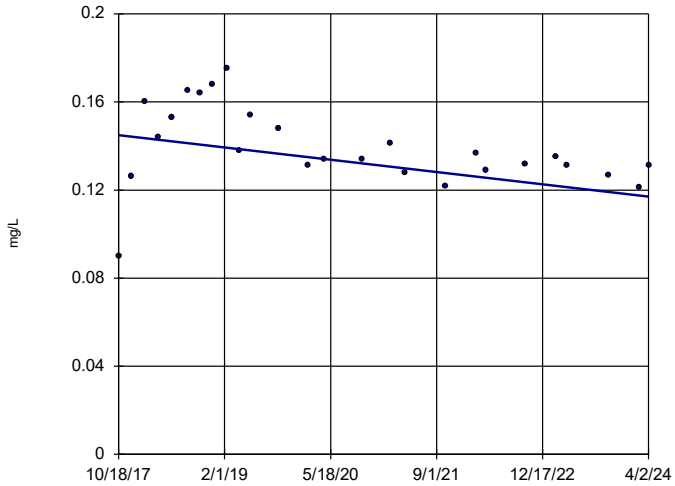
Decreasing trend significant at 95% confidence level (α = 0.025 per tail).

Constituent: Lithium total Analysis Run 5/31/2024 2:39 PM View: Rome Limestone - Pond 1 Appendix IV T
Clinch River Client: AEP Data: Clinch River Pond 1

Sanitas™ v.10.0.16e Software licensed to . UG

Sen's Slope Estimator

MW-1607



n = 26

Slope = -0.0043 units per year.

Mann-Kendall statistic = -115
critical = -90

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

Constituent: Molybdenum total Analysis Run 5/31/2024 2:39 PM View: Rome Limestone - Pond 1 Appendi
Clinch River Client: AEP Data: Clinch River Pond 1

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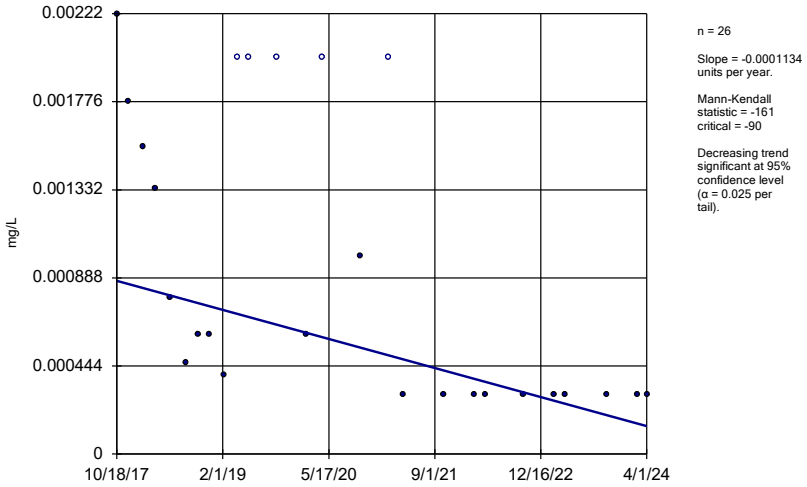
Hollow symbols indicate censored values.

Sen's Slope Estimator

MW-1609 (bg)



n = 26

Slope = -0.0001134 units per year.

Mann-Kendall statistic = -161
critical = -90

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

Constituent: Molybdenum total Analysis Run 5/31/2024 2:39 PM View: Rome Limestone - Pond 1 Appendi
Clinch River Client: AEP Data: Clinch River Pond 1

FIGURE H.

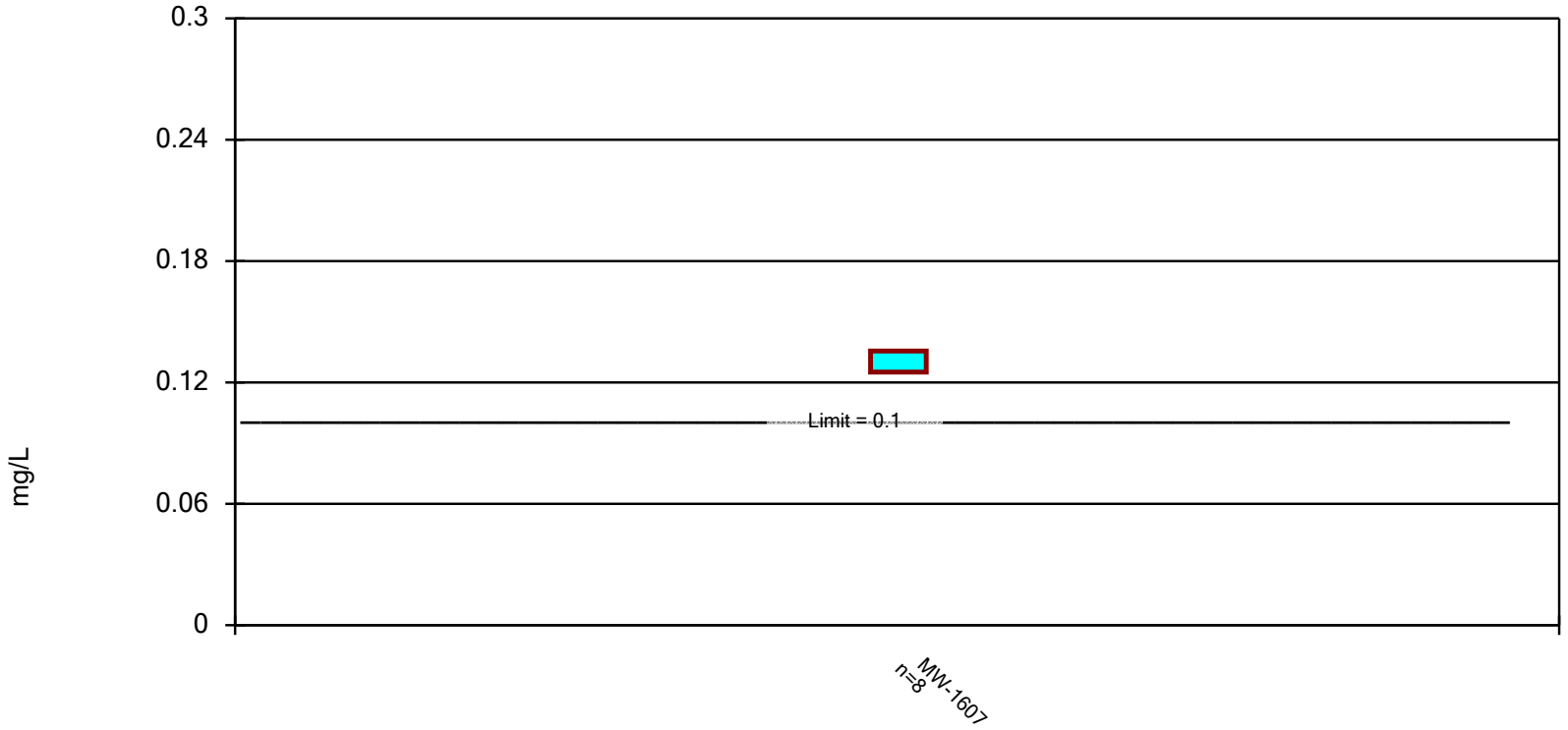
Confidence Interval (Most Recent 8) - Rome Limestone - All/Significant Results

Clinch River Data: Clinch River Pond 1 Printed 6/3/2024, 10:04 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Molybdenum total (mg/L)	**MW-1607**	**0.1356**	**0.1252**	**0.1**	**Yes**	**8**	**0.1304**	**0.004926**	**0**	**None**	**No**	**0.01**	**Param.**

Parametric Confidence Interval

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



Constituent: Molybdenum total Analysis Run 6/3/2024 10:03 AM View: Rome Limestone - Pond 1 Confide

Clinch River Data: Clinch River Pond 1

APPENDIX 3 – Alternate Source Demonstrations

No new alternate source demonstrations have been completed.

APPENDIX 4 – Notices for Monitoring Program Transitions

The notification that an assessment monitoring program and assessment of corrective measure was initiated follows.

Clinch River Plant
Notice of Assessment Monitoring Program Establishment
Pond 1 CCR Management Unit

On July 15, 2019, it was determined that Clinch River Plant's Pond 1 had statistically significant increases over background for calcium, chloride and sulfate and a statistically significant decrease for pH.

Clinch River Pond 1 was officially closed on August 6, 2018 under a Solid Waste Permit issued by Virginia Department of Environmental Quality. The State solid waste permit included a groundwater monitoring program that required the groundwater to be sampled and analyzed for Appendix III, Appendix IV and additional State parameters immediately following the collection of background. Under the State statistical methods, the statistical analysis of the first compliance sampling event indicated statistical significant increases above groundwater protection standards for cobalt, lithium, molybdenum, nickel, lead and barium. Nickel and lead are State-only parameters.

Based on the results of the State statistical analysis, Appalachian Power Company made the decision to statistically evaluate Appendix IV parameters during the first Federal CCR detection monitoring event. This evaluation following Federal statistical analysis methods, indicated statistical significant increases above groundwater protection standards for barium, cobalt, lithium and molybdenum. This evaluation can be found as Appendix 2 of the Annual Groundwater Report dated August 1, 2019.

At this point, no alternate source demonstration (ASD) for Appendix III parameters will be completed in accordance with §257.94(e)(2), prompting the initiation of an assessment monitoring program, which was established on July 15, 2019. Therefore this notice is being placed in the operating record in accordance with the requirement of 257.94(e)(3). If a successful ASD is completed for the Appendix IV exceedances then an ASD will be completed for the Appendix III parameters.

APPENDIX 5 – Well Installation/Decommissioning Logs

No new wells were installed or decommissioned during the reporting period.