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2024 GROUNDWATER MONITORING ANNUAL REPORT

FORMER HUTSONVILLE POWER STATION - ASH POND A



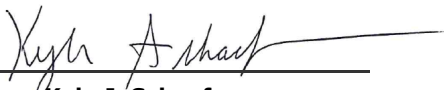
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2024 GROUNDWATER MONITORING ANNUAL REPORT FORMER HUTSONVILLE POWER STATION - ASH POND A

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ACRONYMS AND ABBREVIATIONS

Ameren	AmerenEnergy Medina Valley Cogen, LLC
CCW	Coal Combustion Waste
Collection Trench	Groundwater Collection System
EPA	Environmental Protection Agency
GMZ	Groundwater Management Zone
Hanson	Hanson Professional Services, Inc.
HDPE	High Density Polyethylene
Hutsonville	Former Hutsonville Power Station
IAC	Illinois Administrative Code
ILCS	Illinois Compiled Statutes
mg/L	milligrams per liter
NRT	Natural Resource Technology, Inc.
TDS	Total Dissolved Solids

1. INTRODUCTION

1.1 Background

This report has been prepared for AmerenEnergy Medina Valley Cogen, LLC (Ameren) to summarize 2024 groundwater monitoring results for closed Ash Pond A at the former Hutsonville Power Station (Hutsonville). Ash Pond A, originally constructed with an 80-mil high-density polyethylene (HDPE) liner, received sluiced fly ash between 1986-2011, and is located near the southwest portion of the former power station (**Figure 1-1**).

Closure activities for the Hutsonville coal combustion waste (CCW) ponds, consisting of Ash Ponds A, B, C, and the Bottom Ash Sluice Pond, were completed in June 2016 in accordance with Ash Ponds Closure, Closure Plan, dated September 15, 2014 (Closure Plan) (Hanson Professional Services, Inc. [Hanson], Natural Resource Technology [NRT], 2014a), and the site-specific rule for closure of Ash Pond D, Part 840 of Title 35 of the Illinois Administrative Code (35 IAC 840), to the extent feasible. Closure activities for Ash Pond A included placement of ash transferred from Ash Ponds B, C, the Bottom Ash Sluice Pond, and spoils from clean-up of the coal yard, and capping with a low permeability geomembrane (40-mil high density polyethylene [HDPE]) covered with protective soil. Ash Ponds B, C, and the Bottom Ash Sluice Pond were clean-closed by relocating accumulated ash to Ash Pond A and re-grading the former pond areas for proper drainage. The Ash Pond A Closure Completion Report (Ameren, 2017) was approved by the Illinois Environmental Protection Agency (EPA) in March 2017.

Ameren completed closure activities for Ash Pond D in 2013 in accordance with 35 IAC 840. These activities included placement of a 40-mil HDPE geomembrane cap covered with a three-foot thick vegetative soil layer, construction of surface water control structures, and construction of a groundwater collection system (i.e., Collection Trench). Operation of the Collection Trench began in April 2015 following discharge authorization under Hutsonville's renewed National Pollutant Discharge Elimination System (NPDES) permit (IL0004120).

Since Ash Ponds B, C, and the Bottom Ash Sluice Pond were clean-closed, the Ash Ponds Closure, Groundwater Monitoring Plan, dated September 15, 2014 (Groundwater Monitoring Plan) (Hanson, NRT, 2014b) and associated annual reports are for Ash Pond A. The Groundwater Monitoring Plan was prepared in accordance with 35 IAC 840.114 and 35 IAC 840.116 and outlines groundwater monitoring and sampling procedures, establishes the parameters and methods to be used for analyzing the groundwater samples, and describes evaluation methods to assess post-closure groundwater quality and trends to demonstrate compliance with the applicable groundwater standards. The Groundwater Monitoring Program Schedule is provided in **Table 1-1**. Monitoring well locations, installation dates, construction information, and the groundwater zone they monitor are provided in **Table 1-2**. Field and laboratory parameters for evaluating groundwater quality are shown in **Table 1-3**.

The groundwater monitoring system for Ash Pond A (**Figure 1-2**), as defined by the Groundwater Monitoring Plan, originally consisted of two background monitoring wells, MW-10 and MW-10D, and nine downgradient compliance monitoring wells MW-2R, MW-2D, MW-3, MW-3D, MW-4, MW-5, MW-12, MW-22S, and MW-22D. Background wells MW-10 and MW-10D were destroyed due to construction unrelated to Ameren operations after the first quarter 2016 monitoring period. No trace of the former background wells was found using a metal detector, probes, or digging. As a result, these wells were replaced with background monitoring wells

MW-23S and MW-23D in November 2017. In addition, several other monitoring wells and piezometers located at Hutsonville are measured for groundwater level so that groundwater elevation contour maps can be created for the entire site.

In conjunction with Ameren's request for approval of the Closure Plan, Ameren submitted a request to establish a groundwater management zone (GMZ) pursuant to 35 IAC 620.250(a)(2), Ash Ponds Closure, Groundwater Management Zone Application, dated September 8, 2014 (GMZ Application) (Hanson, NRT, 2014c), which was approved along with the Closure Plan. The GMZ is a three-dimensional region containing groundwater being managed to mitigate impacts from a potential release of leachate from the facility. Impacts observed during groundwater monitoring conducted 2011-2014 included concentrations for dissolved boron, dissolved sulfate, dissolved manganese, and Total Dissolved Solids (TDS) higher than 35 ICA 620.410 Class I groundwater quality standards within the GMZ. The GMZ is shown on **Figure 1-2**.

Post-closure groundwater monitoring began in 2016. Annual reporting according to the Groundwater Monitoring Plan and the Ash Ponds Closure, Post-Closure Care Plan, dated September 8, 2014 (Post-Closure Care Plan) (Hanson, NRT, 2014e), began after the Closure Completion Report was approved by Illinois EPA in March 2017. This annual report includes the following elements:

- A summary of groundwater monitoring data collected in 2023 and 2024 and used for annual trend and statistical analysis; data tables are included in **Appendix A**.
- Quarterly Site Inspection Forms, including observations and descriptions of any maintenance activities performed on the pond cap, embankment, and Collection Trench and discharge system (**Appendix B**).
- Methodology for the outlier and trend analyses, per Section 7.2.1 of the Groundwater Monitoring Plan, along with results for these analyses including an assessment of any statistically significant increasing trends (**Appendix C**).

1.2 Groundwater Quality Overview – 2017 to 2024

1.2.1 Summary of Cover System Construction and Maintenance

Ash Pond A was originally constructed with an 80-mil HDPE liner. Closure activities for Ash Pond A included grading according to the Closure Plan and capping with a low-permeability geomembrane (40-mil HDPE) covered with protective soil.

Inspections of the cover system are performed on a quarterly schedule. Routine maintenance activities are performed at Ash Pond A as needed and as soon as practicable after issues are identified. These activities include recontouring the ground surface, repairing drainage channels, repairing and replacing channel lining material, revegetating areas, and removing woody vegetation. Maintenance activities can be found in more detail in the Post-Closure Care Plan.

1.2.2 Summary of 2017 to 2024 Groundwater Quality Data Review

Groundwater quality data collected since the approval of the Ash Pond A Closure Completion Report in 2017 were reviewed to assess the overall condition of the groundwater and the performance of the cover system. This review was performed independently from the compliance evaluations required by the Groundwater Monitoring Plan, which are focused on specific

compliance criteria and proposed mitigation actions. This review is intended as a holistic view of groundwater quality over time since closure.

Dissolved boron and sulfate were identified as indicator constituents for coal ash leachate impacts to groundwater at Ash Pond A in the Closure Plan. As such, dissolved boron and sulfate were selected for this groundwater quality data review. Dissolved sulfate can have other anthropogenic sources for elevated concentrations in groundwater, and concentrations can decrease in groundwater under strongly reducing conditions. These caveats make dissolved sulfate a less reliable indicator for coal ash impacts than dissolved boron.

Time series plots of dissolved boron observed at each compliance monitoring well from 2017 through 2024 are presented in **Figures 1-3 through 1-7**. The lines through the concentration data represent the best fit linear regressions for dissolved boron concentrations in each well. Best fit linear regression lines are included in the figures to provide a convenient means of evaluating general concentration patterns since closure. It should be noted that the regression lines are not equivalent to the statistical trends discussed in the groundwater compliance section of this report (**Section 3.3**). Long term concentration patterns, identified by positive or negative Sen's estimate of slope, and trends, identified by statistically significant upward or downward Mann-Kendall analysis on positive or negative Sen's estimate of slope, are presented in **Appendix C4**.

Dissolved boron concentrations since 2017 are presented in **Figures 1-3 through 1-7**. Generally, dissolved boron concentrations in most compliance monitoring wells have been stable or decreasing since 2017 and are currently below the 35 IAC 620.410 Class I Groundwater Standard for the majority of the compliance groundwater monitoring wells, with the following exceptions:

- MW-3D – dissolved boron concentrations are above the Class I Groundwater Standard and currently exhibiting an increasing trend as predicted by groundwater modeling completed for the closure plan (see related content in **Section 4**)
- MW-22S – dissolved boron concentrations are just above the Class I Groundwater Standard, but exhibit a decreasing trend
- MW-22D – dissolved boron concentrations are above the Class I Groundwater Standard, but exhibit a decreasing trend

1.2.3 Conclusion

Trends observed in dissolved boron concentrations since the closure of Pond A support that the cover system is functioning to improve overall groundwater quality beneath Pond A and are consistent with the results of groundwater modeling performed to simulate changes in groundwater quality resulting from pond closure as discussed in the Ash Ponds Closure, Groundwater Model Report, dated September 8, 2014 (Hanson, NRT, 2014d). Modeling results suggested that dissolved boron concentrations would stabilize shortly after closure in monitoring wells with low concentrations (wells MW-5 and MW-9), while other wells were predicted to take as long as 40 years to stabilize (e.g., well MW-3D).

2. GROUNDWATER MONITORING PLAN COMPLIANCE

2.1 Applicable Groundwater Quality Standards

2.1.1 On-Site Groundwater Standards

A GMZ has been established around the maximum predicted area of on-site groundwater impacts associated with Ponds A, B, and C. As described in Section 7.1 of the Groundwater Monitoring Plan and pursuant to 35 IAC 840.16(a):

- Prior to the completion of the post-closure care period, the on-site applicable groundwater quality standards at Ash Pond A are the greater of either the actual groundwater monitoring result, or the Class I Potable Resource Groundwater standard set forth in 35 IAC 620.410.
- After completion of the post-closure care period, if the on-site concentrations of contaminants from Ash Pond A, as determined by groundwater monitoring, exceed the numeric standards for Class I Potable Resource Groundwater set forth in 35 IAC 620.410, the observed concentrations are the applicable groundwater standards at Ash Pond A if the following criteria are addressed to the satisfaction of the IEPA:
 - To the extent practicable, the exceedance has been minimized and beneficial use, as appropriate for the class of groundwater, has been returned on site.
 - Any threat to public health or the environment on site has been minimized.
 - An institutional control prohibiting potable uses of groundwater is placed on Ash Pond A in accordance with the Uniform Environmental Covenants Act (765 Illinois Compiled Statutes (ILCS) 122) or an alternative instrument authorized for environmental uses under Illinois law and approved by the IEPA. Existing potable uses of groundwater may be preserved as long as such uses remain fit for human consumption in accordance with accepted water supply principles.

2.1.2 Off-Site Groundwater Standards

For off-site groundwater compliance, the groundwater quality standards are the Class I potable resource groundwater standards [35 IAC 620.410]. Although the established GMZ does not extend south of the former Hutsonville Power Station's property boundary, an agreement¹ exists between Ameren and the south property owner regarding shallow well drilling. This restriction covers the first 25 feet of the water table and lies within a 500-ft offset south of the southern property boundary of the former Hutsonville Power Station.

2.2 Demonstration of Compliance

Compliance will be based on attainment of groundwater quality that meets the numeric standards for Class I potable resource groundwater as set forth in 35 IAC 620.410. Groundwater quality that does not meet the Class I standard will be considered in compliance when no statistically significant increasing trend can be attributed to the ash ponds at the compliance GMZ boundary for four (4) consecutive years, which must be approved by the IEPA. Post-closure groundwater

¹ Available at: <http://www.ipcb.state.il.us/documents/dsweb/Get/Document-65177> as Chapter 9 of the Rulemaking Technical Support Documents.

compliance monitoring will continue for a minimum of ten years from the IEPA's approval of the Closure Plan.

2.2.1 Compliance Determination

As described in Section 7.2.1 of the Groundwater Monitoring Plan:

- GMZ compliance is demonstrated by performing an annual trend analysis for each monitoring well located at the downgradient boundaries of the former Hutsonville Power Station (**Table 1-2**) for all constituents listed in **Table 1-3**. The analysis shall use Sen's Estimate of Slope and be performed on a minimum of four consecutive samples.
- If the results of the trend analysis show a positive slope at any compliance monitoring well located at the downgradient boundaries of the former Hutsonville Power Station, a Mann-Kendall test will be performed at 95 percent confidence to determine whether or not the increasing slope represents a statistically significant increasing trend. Ameren will investigate the cause of a statistically significant increasing trend as described below.
 - If the investigation attributes a statistically significant increasing trend to a superseding cause, Ameren will notify the IEPA in writing, stating the cause of the increasing trend and providing the rationale used in such a determination.
 - If there is no superseding cause and the statistically significant increasing trend continues to be observed over two or more consecutive years, a hydrogeologic investigation (and additional site investigation(s), if necessary) will be performed.

Based on the outcome of the investigation above, Ameren will take action to mitigate statistically significant increasing trends that are causing, threatening, or allowing exceedances of off-site groundwater quality standards. Such actions will be proposed as a modification to the post-closure care plan within 180 days after completion of the investigation activities described above.

3. DATA ANALYSIS

3.1 Groundwater Flow

Groundwater flow for 2024 is represented using groundwater elevation contour maps for each quarterly sampling event (**Figures 3-1 through 3-4**). Groundwater depth measurements occurred over a ten-day period during the Quarter 2 sampling event, therefore, the Quarter 2 groundwater elevation contour map (**Figure 3-2**) was generated using groundwater elevations from the date that the most sampling locations were gauged to avoid significant temporal variation in the data presented. As a result, the contours and groundwater water flow directions illustrated in the groundwater elevation contour map for Quarter 2 (**Figure 3-2**) are limited to areas near Ash Pond D. Groundwater in the upper (shallow) migration zone generally flowed from west to east and northeast towards the Wabash River during 2024, which is consistent with past evaluations. The Collection Trench began operation in April 2015, and following startup, groundwater elevations have exhibited localized flow toward the trench with groundwater elevations generally lower near the trench (**Figure 3-5**). In the depictions of groundwater elevation contours, dashed lines have been used to infer the localized drawdown of groundwater levels resulting from trench operation, which is necessary with a limited number of groundwater monitoring wells situated laterally along the length of the trench.

The horizontal hydraulic gradient in the upper migration zone beneath the northern extent of Ash Pond A was calculated for each quarterly monitoring event, with exception to Quarter 2 due to limited contemporaneous data discussed above, between adjacent contours along the northern boundary of Ash Pond A illustrated in **Figures 3-1, 3-3 and 3-4** and ranged from approximately 0.003 to 0.006 feet/feet during 2024. Horizontal hydraulic gradient was not calculated near the southern end of the pond due to the potential influence of the Collection Trench on groundwater flow.

Groundwater flow within the lower (deep alluvial) migration zone along the edge of the Wabash River valley was not contoured since all of the deep alluvial monitoring wells are within a narrow zone between Ash Pond D and the Wabash River. Groundwater within the lower zone generally flows from southwest to northeast towards the Wabash River.

3.2 Review of Analytical Data (2023-2024)

Groundwater samples from the most recent eight monitoring events were collected on February 20, 2023; June 5, 2023; August 28, 2023; October 23, 2023; March 18, 2024; June 17, 24, and 27, 2024; September 23 and 30, 2024; and November 11, 2024. All field and laboratory analytical results are tabulated in **Appendix A**. Sampling anomalies, such as wells that were dry, had water levels too low for sampling, or were not sampled during a sampling event for other reasons, are noted below:

- MW-3: Not sampled in all quarters in 2023 and 2024 due to insufficient water level.
- MW-4: Not sampled in the third and fourth quarter of 2023 or the first, third and fourth quarter of 2024 due to insufficient water level.

Results of groundwater monitoring for constituents that exceeded the 35 IAC 620.410 Class I Groundwater Standard when the GMZ was established (boron, sulfate, manganese, and TDS) are discussed below:

- Dissolved boron has been identified as the primary indicator constituent for coal ash impacts to groundwater at Ash Pond A (see **Section 1.2.2**). In the 2023-2024 monitoring period, dissolved boron concentrations ranged from <0.025 to 6.47 milligrams per liter (mg/L) in compliance monitoring wells (**Figures 3-6 and 3-7**). Dissolved boron concentrations were highest at MW-22D and MW-3D in 2023 and 2024. As discussed in **Sections 1.2.2 and 1.2.3**, dissolved boron concentrations have been stable or decreasing in the majority of compliance monitoring wells across the site since closure.
- Dissolved sulfate has also been identified as an indicator for coal ash impacts to groundwater at Ash Pond A (see **Section 1.2.2**). In the 2023-2024 monitoring period, dissolved sulfate concentrations ranged from <0.5 to 4,810 mg/L in compliance monitoring wells (**Figures 3--8 and 3-9**). Dissolved sulfate concentrations were highest at MW-22S, MW-22D, and MW-3D in 2023 and 2024; dissolved boron concentrations were also highest at MW-22D and MW-3D.
- Box-whisker plots and timeseries plots illustrating concentrations for the most recent eight monitoring events (2023-2024) were also developed for dissolved manganese and TDS (**Figures 3-10 through 3-13**). Similar to the indicator parameters referenced above, dissolved manganese and TDS concentration trends were generally stable during this reporting period with the exception of MW-12, for which the dissolved manganese trend was slightly increasing.

3.3 Statistical Analyses

Analytical data were evaluated to identify short-term (compliance) data trends in the 2023-2024 dataset. Trends were evaluated according to the procedure outlined in the Groundwater Monitoring Plan and summarized in **Section 2.2.1**.

3.3.1 Outlier Analysis

The Grubbs outlier test provides statistical evidence of potential outliers by identifying high or low observations that differ significantly from the other data. The test methodology and results are listed in **Appendices C1 and C2**, respectively. Outliers identified during the compliance period (2023-2024) by the Grubbs outlier test based on the date range of 1984-2024 were not eliminated from further statistical analysis due the lack of documentation indicating that they are not representative of actual field conditions. In addition, these identified outliers did not have any influence on the short-term compliance trends at compliance wells since no outliers greater than the Class I Groundwater Standard were identified at wells with statistically significant increasing trends.

3.3.2 Sen's Estimate of Slope

Sen's estimate of slope is a non-parametric estimator of trend. It is the median of all slopes between all possible unique pairs of individual data points in the time period being analyzed. The slopes represent the rate of change of the measured parameter, with the y-axis being the parameter value and the x-axis being calendar time. The method is robust and fairly insensitive to the presence of a small fraction of outliers and non-detect data values. The test methodology and results are listed in **Appendices C1 and C3**, respectively.

Data collected in 2023-2024 show 24 cases with positive slopes, 17 cases with negative slopes, and 184 cases with no slope (**Table 3-1**). Sen's Estimate of Slope requires a minimum of

four consecutive samples. Note that this analysis was not performed for MW-3 and MW-4 as this requirement was not met during 2023-2024 compliance period.

3.3.3 Mann-Kendall Trend Analysis

The 24 cases of positive Sen's slopes referenced above were further evaluated using the Mann-Kendall test to determine if the positive slopes represented statistically significant increasing trends. The Mann-Kendall test is a non-parametric, one-tailed test to determine whether a dataset has a statistically significant trend (increasing or decreasing). The test methodology and results are described in **Appendices C1** and **Appendix C3**, respectively. Increasing short-term (compliance) trends are identified in **Tables 3-1 and 3-2**.

The Mann-Kendall test detected eight cases of statistically significant increasing trend in the 2023-2024 dataset. These cases occurred for dissolved boron at MW-2D and MW-3D; dissolved sulfate at MW-2D; TDS at MW-2D; dissolved nitrate at MW-2D, MW-22S, and MW-23S; and dissolved manganese at MW-12. During this reporting period, dissolved boron, dissolved sulfate, TDS, and dissolved nitrate concentrations at MW-2D and dissolved nitrate concentrations at MW-22S and MW-23S were below their respective 35 IAC 620.410 Class I Groundwater Standards, whereas dissolved boron concentrations at MW-3D and dissolved manganese concentrations at MW-12 exceeded their respective Class I Groundwater Standard.

3.4 Site Inspection

The Post-Closure Care Plan requires quarterly inspections for a minimum of 10 years until completion of the post-closure care period. Inspections are also required after storm events defined as a 25-year, 24-hour event, or 5.37 inches of precipitation. Discontinuation of the site inspections will occur after IEPA approval of the certified Post-Closure Care Report.

Site inspections include assessment of the condition and need for repair of final cover and vegetation, as well as fencing, monitoring points, surface water control features, and the Collection Trench.

For 2024, the site inspections were performed on March 19, June 4, September 10, and November 8. Observations and subsequent actions are summarized in **Table A** below.

Table A. Summary of 2024 Quarterly Site Inspection Observations and Actions.

Inspection Month	Observation	Action Taken
March	Main gate destroyed by unknown driver.	Repair scheduled for early 2025.
March	Diver-Mate Data Collector connection issue for data download from the groundwater collection trench and discharge system.	Data was downloaded manually, investigation and repair scheduled.
June	Main gate destroyed by unknown driver.	Repair scheduled for early 2025.
June	Diver-Mate Data Collector connection issue for data download from the groundwater collection trench and discharge system.	Repairs completed in June.
September	Main gate destroyed by unknown driver.	Repair scheduled for early 2025.

Inspection Month	Observation	Action Taken
September	Leak observed in piping at Pump #1. Pump #2 did not turn on when the switch was flipped to the "Hand" position.	Repair scheduled in October 2024.
November	Main gate destroyed by unknown driver.	Repair scheduled for 2025.
November	Leaking observed in sump pit #2 when the pump was switched to the on position.	Following contractor inspection of the two pumps in October and due to a 6 – 8 week lead time on replacement pumps, Ameren directed the contractor to move the functional pump in sump pit #1 to sump pit #2. At the time of the Q4 inspection, there was no longer a pump in sump pit #1. At the end of December, the contractor conducted maintenance at sump pit #1, including clearing sediment buildup from the pit and discharge pipe, repairing the seals of the inlet and discharge pipes, and replacing the pump.

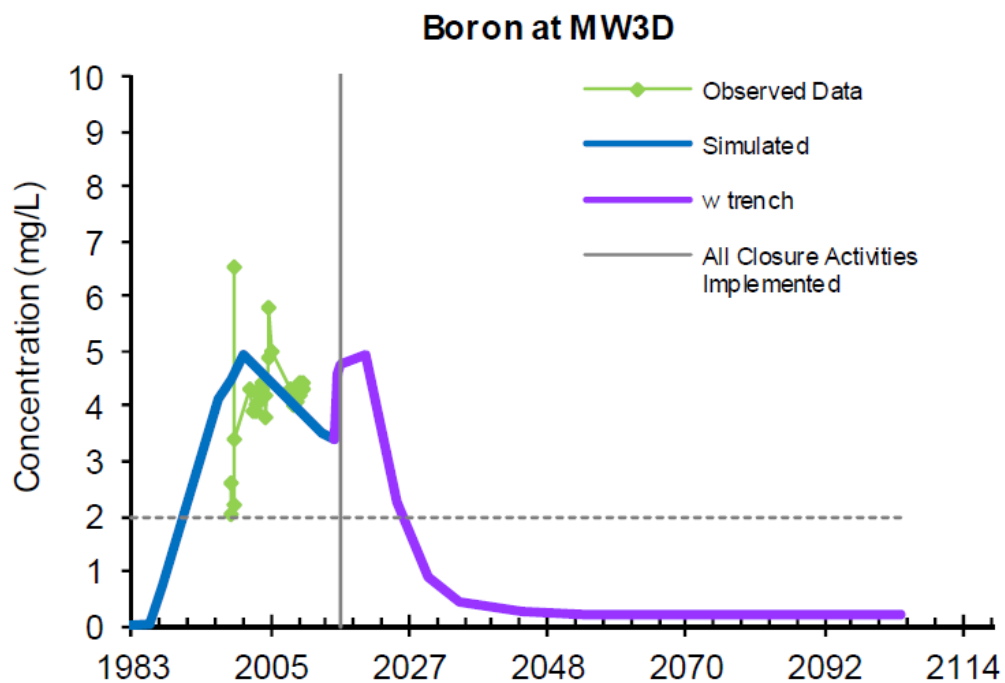
The other components of the closure system were in good condition. The inspection reports for 2024 are included in **Appendix B**.

4. EVALUATION OF COMPLIANCE

The parameters and wells with statistically significant increasing short-term trends and concentrations above the 35 IAC 620.410 Class I Groundwater Standards have been identified in **Section 3.3.3** and in **Table 3-1** for the most recent eight monitoring events (2023-2024). Dissolved boron at MW-3D and dissolved manganese at MW-12 both had a statistically significant increasing short-term trend and concentration above the Class I Groundwater Standard during the compliance period (2023-2024). The short-term increasing trend for dissolved manganese at MW-12 was isolated and not repeated from the 2022-2023 monitoring period; as such, no further action is required at this time. The short-term increasing trend for dissolved boron at MW-3D repeated over the 2022-2023 and 2023-2024 monitoring periods. As outlined below no further action is needed at this time.

As discussed in the Ash Ponds Closure, Groundwater Model Report, dated September 8, 2014 (Hanson, NRT, 2014d), and shown in **Figure A** below, current observed increasing trends in boron concentration at MW-3D are consistent with the initial post-closure trends in boron concentration predicted by the groundwater flow and transport model. The post-closure prediction simulation indicates decreasing trends in dissolved boron concentrations at well MW-3D will follow an initial, brief period of increasing trends. The observed short-term increases may be a result of localized changes to the groundwater flow direction near MW-3D caused by increased groundwater recharge in this area (resulting from removal of Ash Pond B) following completion of closure activities and implementation of groundwater collection trench operations, where boron concentrations associated with historic (pre-closure) impacts are now being drawn toward well MW-3D. The observed increasing trend in dissolved boron concentrations over the 2023-2024 compliance period at MW-3D follow those that are predicted by the groundwater flow and transport model developed to support the IEPA-approved closure plan for Ash Pond A, which included simulated increased recharge in the area of former Ash Pond B and operation of a collection trench. In other words, increasing trends in dissolved boron concentrations at MW-3D are anticipated due to the influence of the removal of Ash Pond B and the groundwater collection trench, and are not an indication of non-compliance with the Groundwater Monitoring Plan. At this time, and with the support of the model prediction as a superseding cause, no further action is required.

Figure A. Modeled Boron Concentrations at MW-3D from Calibration through the 90-Year Prediction Period (Hanson, NRT, 2014d).



5. CONCLUSIONS

Cover system construction and maintenance, as well as stable or decreasing dissolved boron concentrations in the majority of compliance monitoring wells across the site is a strong indication that the cover system is functioning to improve overall groundwater quality beneath the pond.

Statistical analyses of analytical results for groundwater samples collected during the 2023-2024 compliance period at the Hutsonville Ash Pond A identified both concentrations above the 35 IAC 620.410 Class I Groundwater Standard and a short-term increasing trend for dissolved boron at MW-3D and dissolved manganese at MW-12. The initial post-closure increasing trend in boron concentrations at MW-3D was predicted by the groundwater flow and transport model developed to support the IEPA-approved closure plan for Ash Pond A (**Figure A**; Hanson, NRT, 2014d). The groundwater flow and transport models also predicted that the increasing trends in boron concentrations at MW-3D will be followed by decreasing trends that will continue until concentrations achieve and maintain levels below the 35 IAC 620.410 Class I Groundwater Standard for boron. The concentrations at MW-12 were isolated and not repeated from the 2022-2023 monitoring period. As such, no further action is required at this time for short-term increasing trends observed in this 2023-2024 monitoring period for MW-3D and MW-12. The concentrations of indicator parameters will continue to be monitored and evaluated in 2025.

6. REFERENCES

Ameren, 2017. *Closure Completion Report*. March 30, 2017.

Hanson Professional Services, Inc. (Hanson), Natural Resource Technology, Inc. (NRT), 2014a. *Ash Ponds Closure, Closure Plan – Hutsonville Power Station*. September 15, 2014.

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Hanson Professional Services, Inc. (Hanson), Natural Resource Technology, Inc. (NRT), 2014d. *Ash Ponds Closure, Groundwater Model Report – Hutsonville Power Station*. September 8, 2014.

Hanson Professional Services, Inc. (Hanson), Natural Resource Technology, Inc. (NRT), 2014e. *Ash Ponds Closure, Post-Closure Care Plan – Hutsonville Power Station*. September 8, 2014.

TABLES

Table 1-1. Groundwater Monitoring Program Schedule
2024 Annual Report
Former Hutsonville Power Station - Ash Pond A

Frequency	Duration	Sampling Quarter	Report Due Date
Quarterly	Begins: January 2016	January- March (1)	May 31
	Ends: After successful completion of the post-closure activities required and approval of the Illinois EPA.	April - June (2) July - September (3) October - December (4)	August 31 November 30 February 28

Table 1-2. Groundwater Monitoring System Wells
2024 Annual Report
Former Hutsonville Power Station - Ash Pond A

Well	Installation Date	Surface Elevation ¹ (ft, MSL ²)	TOC ^{1, 3} Elevation (ft, MSL ²)	Top of Screen Elevation ⁴ (ft, MSL ²)	Bottom of Screen Elevation ⁴ (ft, MSL ²)	Total Well Depth ⁵ (ft, BGS ²)	Objective	Position	Monitoring Zone ⁶
Ash Pond A Groundwater Monitoring System Wells: Water Quality and Groundwater Elevations									
MW-2R	6/4/2012	453.0	455.37	446.0	435.3	17.8	Compliance	Downgradient	UZ - s&g
MW-2D	10/14/2015	452.9	455.42	435.1	430.4	23.1	Compliance	Downgradient	UZ - ss
MW-3	2/9/1984	453.7	454.84	447.7	442.7	11.0	Compliance	Downgradient	UZ - s&g
MW-3D	10/6/1998	453.57	455.01	433.6	428.6	25.0	Compliance	Downgradient	UZ - ss
MW-4	2/13/1984	454.0	456.76	449.4	441.9	12.1	Compliance	Downgradient	UZ - s&g, ss
MW-5	2/13/1984	452.1	454.67	447.3	434.3	17.8	Compliance	Downgradient	UZ - s&g, ss
MW-10 ⁷	10/7/1998	452.9	454.23	447.2	442.2	10.7	Background	Upgradient	UZ - si s&g, ss
MW-10D ⁷	10/7/1998	452.9	454.65	436.6	431.6	21.3	Background	Upgradient	UZ - ss
MW-23S ⁷	11/28/2017	453.4	456.03	444.2	438.9	14.5	Background	Upgradient	UZ - s si, si s, ss
MW-23D ⁷	11/28/2017	453.5	455.90	434.0	428.7	24.8	Background	Upgradient	UZ - ss, sh
MW-12	10/8/1998	455.5	456.74	448.6	438.6	16.9	Compliance	Downgradient	UZ - s&g
MW-22S	10/14/2015	449.2	451.48	441.9	437.2	12.7	Compliance	Downgradient	UZ - si s&g, ss
MW-22D	10/14/2015	449.1	451.36	431.7	427.0	22.7	Compliance	Downgradient	UZ - si s&g, ss
Other Monitoring Wells and Piezometers: Groundwater Elevations									
MW-6	2/9/1984	438.7	443.17	433.9	427.5	11.2	--	--	UZ - s&g, ss
MW-7	2/8/1984	439.9	442.28	422.9	412.9	27.0	--	--	UZ - si s&g
MW-7D	10/5/1998	438.9	442.75	398.2	393.2	45.7	--	--	LZ - si s&g
MW-8	2/8/1984	440.0	443.65	422.9	417.9	22.1	--	--	UZ - si sand
MW-9	2/14/1984	451.7	454.38	443.5	433.5	18.2	--	--	UZ - s&g
MW-11R	10/3/2001	440.4	443.01	435.4	425.4	15.0	--	--	UZ - s&g
MW-14	10/3/2001	440.1	442.89	412.9	407.9	32.2	--	--	LZ - s&g
MW-115S	5/1/2004	438.7	440.88	408.4	403.4	35.3	--	--	LZ - s&g
MW-115D	5/1/2004	439.1	441.39	356.4	351.4	87.7	--	--	LZ - s&g
MW-121	10/2/2001	439.2	440.23	403.8	398.8	40.3	--	--	LZ - s&g

Notes:

- Well survey data collected by Lamac Engineering November 30, 2017 to December 1, 2017.
 - BGS = below ground surface; MSL = mean sea level.
 - TOC = top of casing
 - Screen elevations presented in the table reflect values provided in boring logs or well construction forms and assume no changes to the screen elevations occurred after well installation.
 - The total well depth is assumed to be equal to the depth to the bottom of screen from ground surface when data is not available in boring logs or well construction forms.
 - UZ = Upper Zone, LZ = Lower Zone (deep alluvial aquifer); s = sand or sandy, s&g = sand and gravel, si = silt or silty, ss = sandstone, sh = shale
 - Background wells MW-10 and MW-10D were damaged and replaced with background wells MW-23D and MW-23S.
- Not applicable. Wells listed are for development of groundwater elevation contour maps only.

[O: JJW 4/22/19; C:EDP 4/22/19]

**Table 1-3. Groundwater Monitoring Program Parameters
2024 Annual Report
Former Hutsonville Power Station - Ash Pond A**

Field Parameters	STORET Code
pH ²	00400
Specific Conductance ²	00094
Temperature (Fahrenheit)	00011
Depth to Water (BMP)	72109
Elevation of GW Surface ²	71993
Depth of Well (BGS) ²	72008
Elevation of Measuring Point	72110
Laboratory Parameters ¹	STORET Code
Boron ²	01020
Iron ²	01046
Manganese ²	01056
Sulfate ²	00946
Total Dissolved Solids (TDS) ²	70300
Antimony	01095
Arsenic	01000
Barium	01005
Beryllium	01010
Cadmium	01025
Chloride	00941
Chromium	01030
Cobalt	01035
Copper	01040
Cyanide	00720
Fluoride	00950
Lead	01049
Mercury	71890
Nickel	01065
Nitrate as N	00618
Selenium	01145
Silver	01075
Thallium	01057
Vanadium	01085
Zinc	01090

[O: YD/SJC, C: YD/SJC]

Notes:

¹ Reported as dissolved (filtered) concentrations.

² Mandatory monitoring parameter per 35 IAC 840.114(a).

Table 3-1. Trend Analysis Results
2024 Annual Report
Former Hutsonville Power Station - Ash Pond A

	MW-2R	MW-2D	MW-3	MW-3D	MW-4	MW-5	MW-12	MW-22D	MW-22S	MW-23D	MW-23S
Number of Samples	8	8	0	8	3	8	8	8	8	8	8
Antimony, dissolved	None	None	ID	None	ID	None	None	None	None	None	None
Arsenic, dissolved	None	None	ID	None	ID	None	None	None	None	None	None
Barium, dissolved	None	None	ID	None	ID	None	None	None	None	None	None
Beryllium, dissolved	None	None	ID	None	ID	None	None	None	None	None	None
Boron, dissolved	-	Increase	ID	Increase	ID	None	None	None	None	None	None
Cadmium, dissolved	None	None	ID	None	ID	None	None	None	None	None	None
Chloride, dissolved	-	+	ID	+	ID	None	Decrease	None	+	None	+
Chromium, dissolved	None	None	ID	None	ID	None	None	None	None	None	None
Cobalt, dissolved	None	None	ID	None	ID	None	None	None	None	None	None
Copper, dissolved	None	None	ID	None	ID	None	None	None	None	None	None
Cyanide, total	None	None	ID	None	ID	None	None	None	None	None	None
Fluoride, dissolved	None	None	ID	None	ID	None	None	None	None	None	None
Iron, dissolved	None	None	ID	Decrease	ID	None	None	-	-	None	None
Lead, dissolved	None	None	ID	None	ID	None	None	None	None	None	None
Manganese, dissolved	None	None	ID	-	ID	None	Increase	+	Decrease	None	None
Mercury, dissolved	None	None	ID	None	ID	None	None	None	None	None	None
Nickel, dissolved	None	None	ID	None	ID	None	None	None	None	None	None
Nitrate nitrogen, dissolved	-	Increase	ID	-	ID	-	+	None	Increase	None	Increase
Selenium, dissolved	None	None	ID	None	ID	None	None	None	None	None	None
Silver, dissolved	None	None	ID	None	ID	None	None	None	None	None	None
Sulfate, dissolved	+	Increase	ID	-	ID	-	-	-	+	+	-
Thallium, dissolved	None	None	ID	None	ID	None	None	None	None	None	None
Total Dissolved Solids	+	Increase	ID	+	ID	+	+	+	-	+	+
Vanadium, dissolved	None	None	ID	None	ID	None	None	None	None	None	None
Zinc, dissolved	None	None	ID	None	ID	None	None	None	None	None	None

Notes:

- "+" indicates that the Sen's non-parametric estimate of the median slope is positive.
- "-" indicates that the Sen's non-parametric estimate of the median slope is negative.
- "Decrease" indicates a statistically significant decreasing trend
- "Increase" indicates a statistically significant increasing trend
- Mann Kendall Trend analysis done with non-detects at one half the reporting limit.
- The most recent eight sampling events were used for analysis; date range for this analysis is 1/1/2023-12/31/2024.
- Green shading indicates increasing trends as determined using the Mann-Kendall test at 95% confidence for constituents with maximum concentration lower than the Class I groundwater quality standard.
- Yellow shading indicates increasing trends as determined using the Mann-Kendall test at 95% confidence for constituents with maximum concentration higher than the Class I groundwater quality standard.
- ID indicated that there was insufficient data to perform Sen's Estimate of Slope.

[O:KJS 01/10/25 , C: KLT 1/15/25]

Table 3-2. Summary of Trend Analyses
2024 Annual Report
Former Hutsonville Power Station - Ash Pond A

Time Period	Short-Term Increasing Trends	Long-Term Decreasing Concentration Patterns
2016-2017	8	18
2017-2018	9	
2018-2019	10	
2019-2020	3	
2020-2021	4	
2021-2022	0	
2022-2023	8	
2023-2024	8	

[O:KJS 1/10/24, C: KLT 1/15/25]

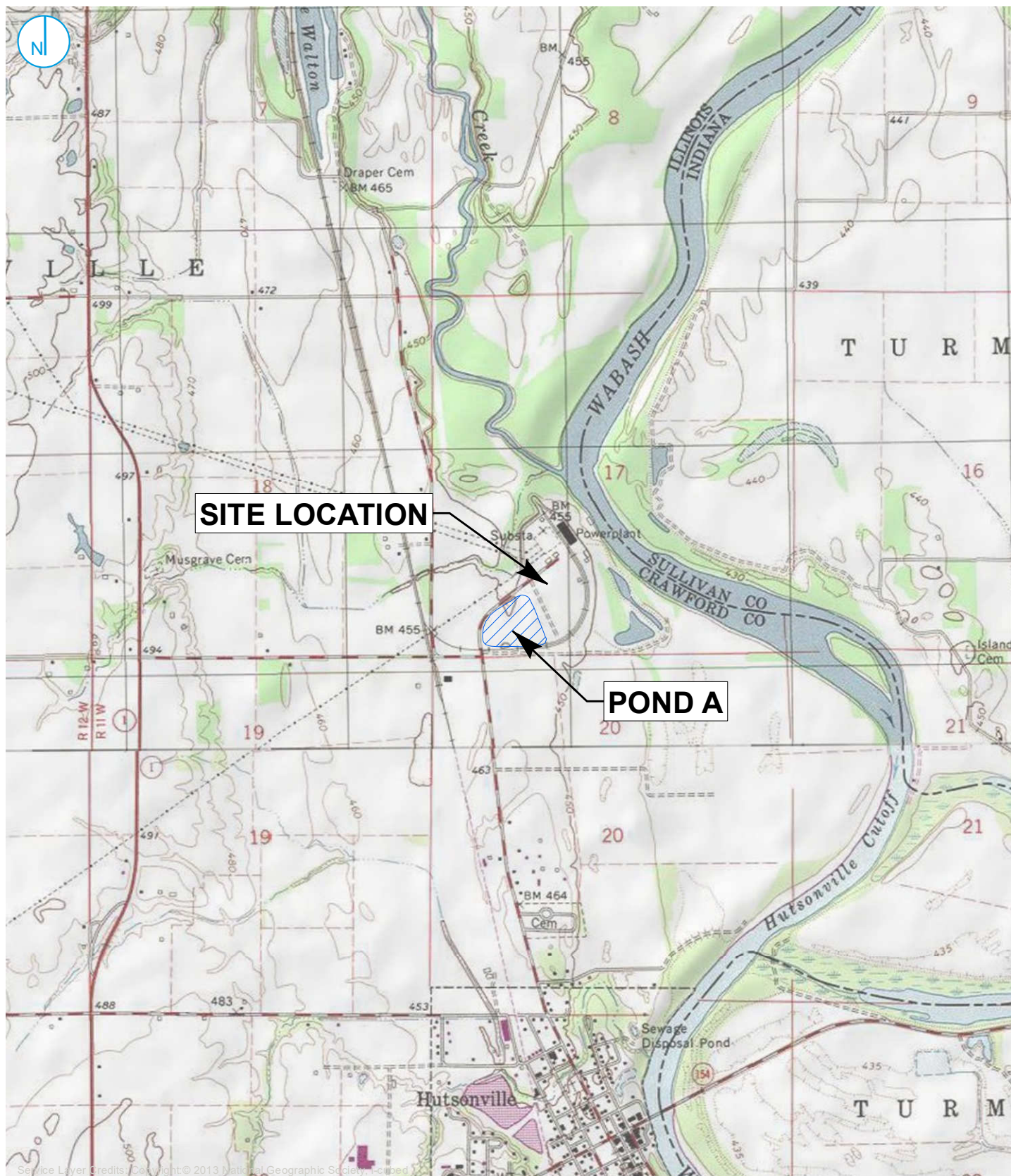
Notes:

Trends based on data collected during the specified periods.

The number of samples per well location for short-term trends are noted on Table 3-1.

Long-terms trends were calculated with data since completion of closure in March 2017.

FIGURES



Map Scale: 1:124,000;
Map Center: 87°39'45"W 39°7'53"N

0 1,000 2,000
Feet

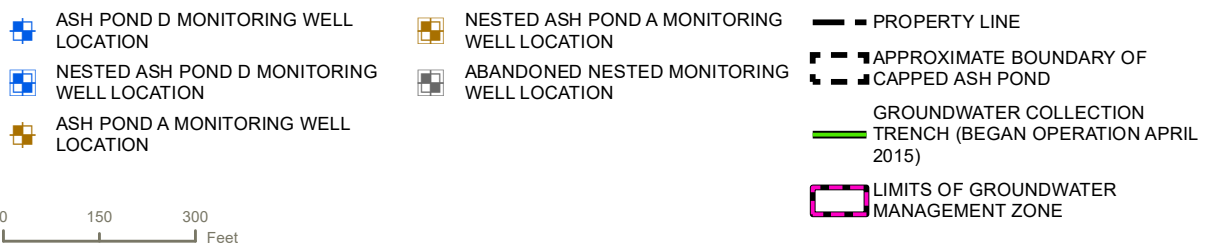
SITE LOCATION MAP

FIGURE 1-1

2024 ANNUAL REPORT
FORMER HUTSONVILLE
POWER STATION - ASH POND A
AMEREN ENERGY MEDINA VALLEY COGEN, LLC
HUTSONVILLE, IL

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC
A RAMBOLL COMPANY





MONITORING WELL LOCATION MAP

2024 ANNUAL REPORT
FORMER HUTSONVILLE POWER STATION - ASH POND A
AMEREN ENERGY MEDINA VALLEY COGEN, LLC
HUTSONVILLE, IL

FIGURE 1-2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC
A RAMBOLL COMPANY



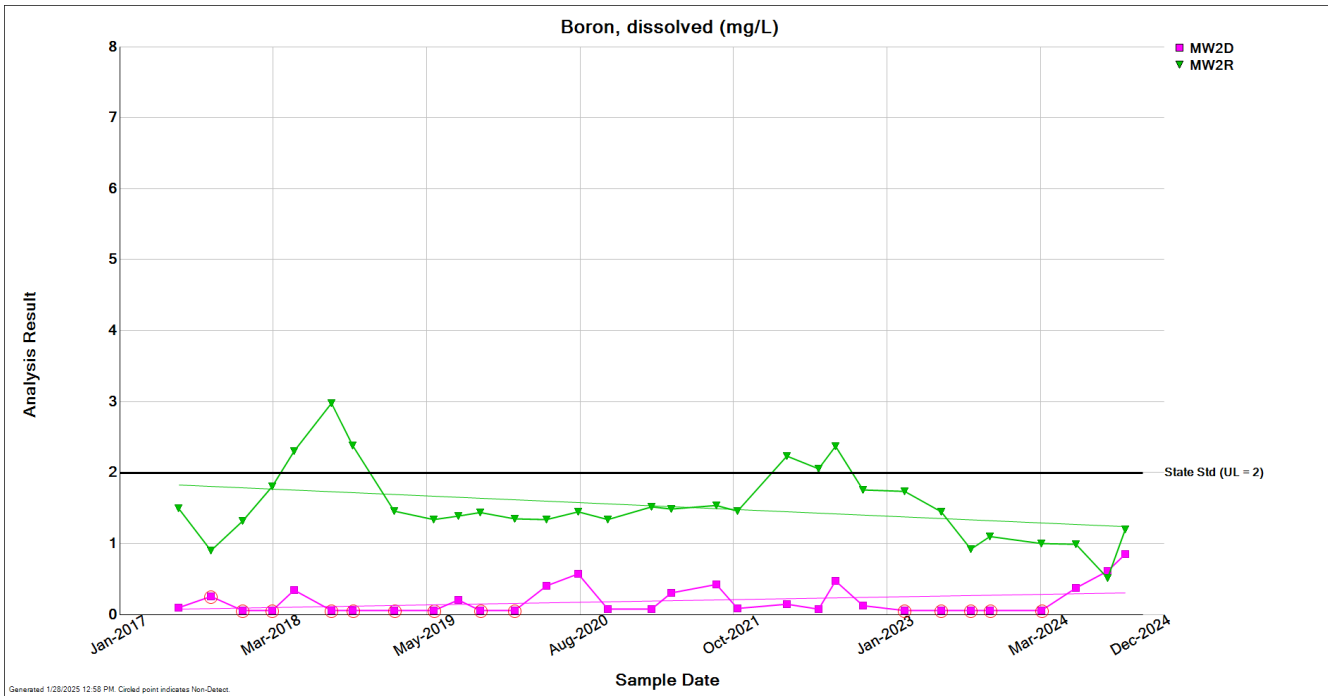


Figure 1-3. Boron concentrations since 2017 at compliance wells MW-2D and MW-2R. The Class I Groundwater Standard is not applicable within the GMZ and is shown for reference only. Circled results indicate non-detects.

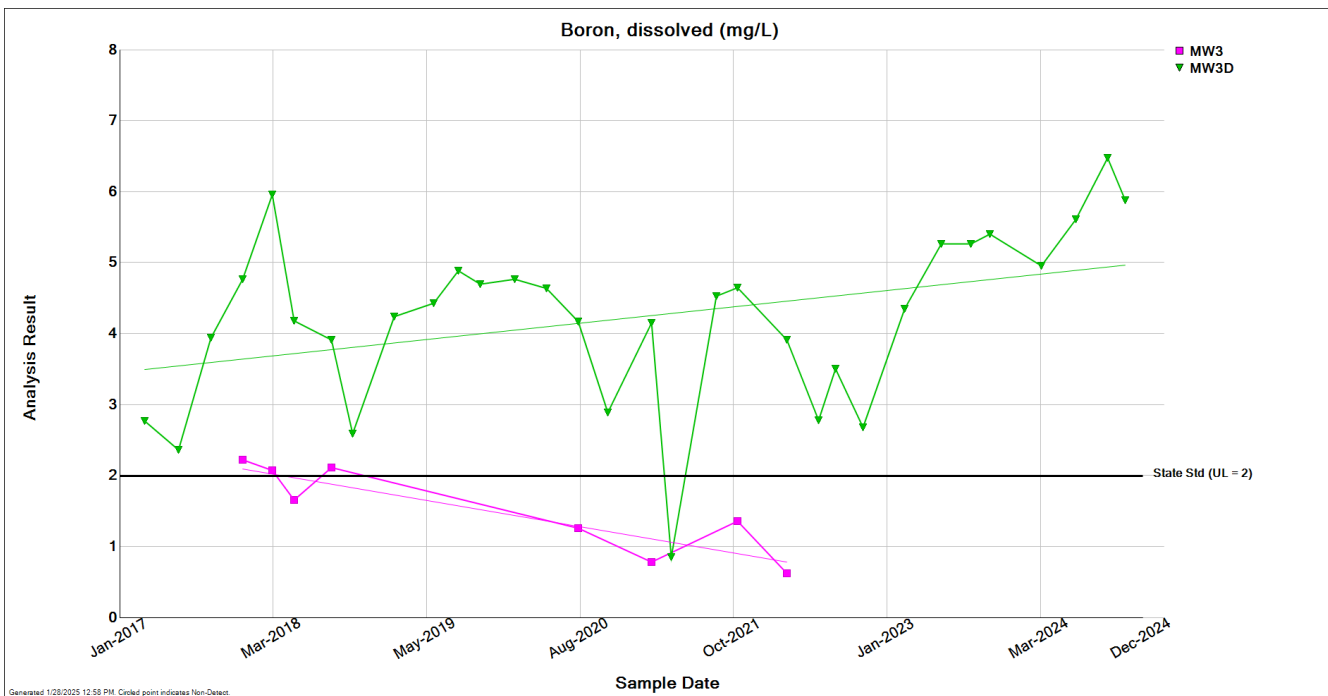


Figure 1-4. Boron concentrations since 2017 at compliance wells MW-3 and MW-3D. The Class I Groundwater Standard is not applicable within the GMZ and is shown for reference only.

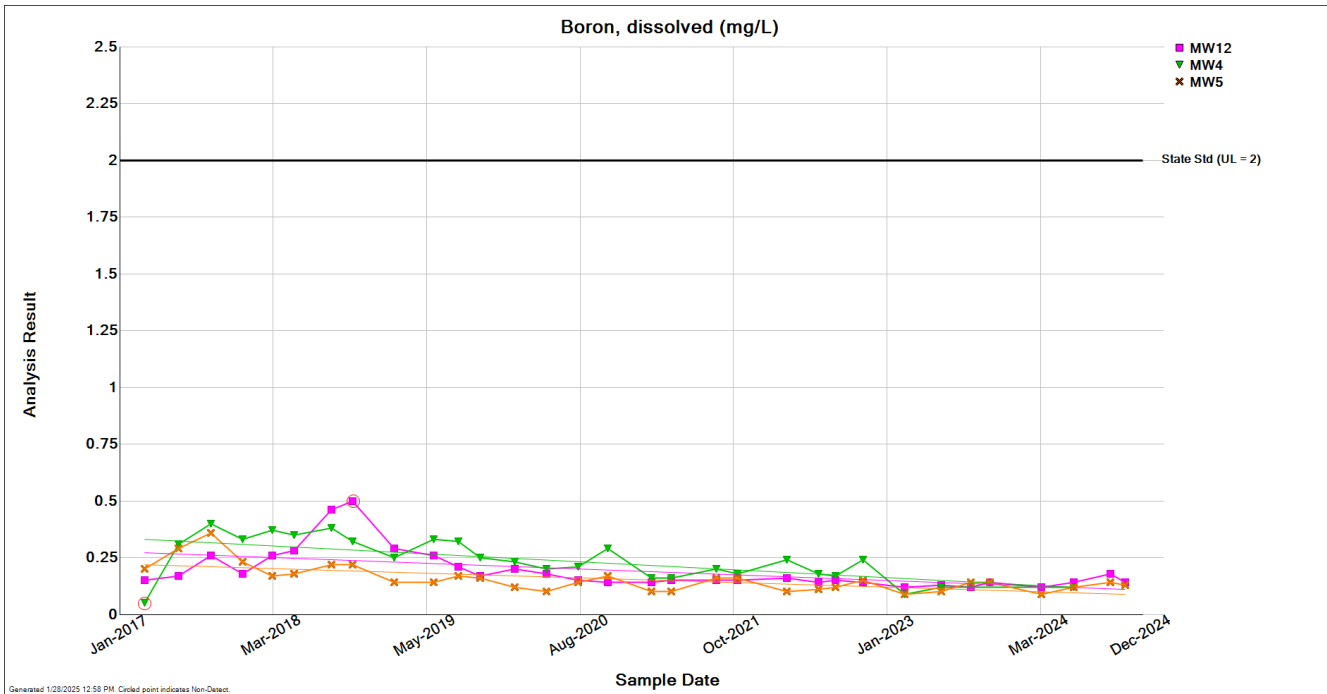


Figure 1-5. Boron concentrations since 2017 at compliance wells MW-4, MW-5, and MW-12. The Class I Groundwater Standard is not applicable within the GMZ and is shown for reference only. Circled results indicate non-detects.

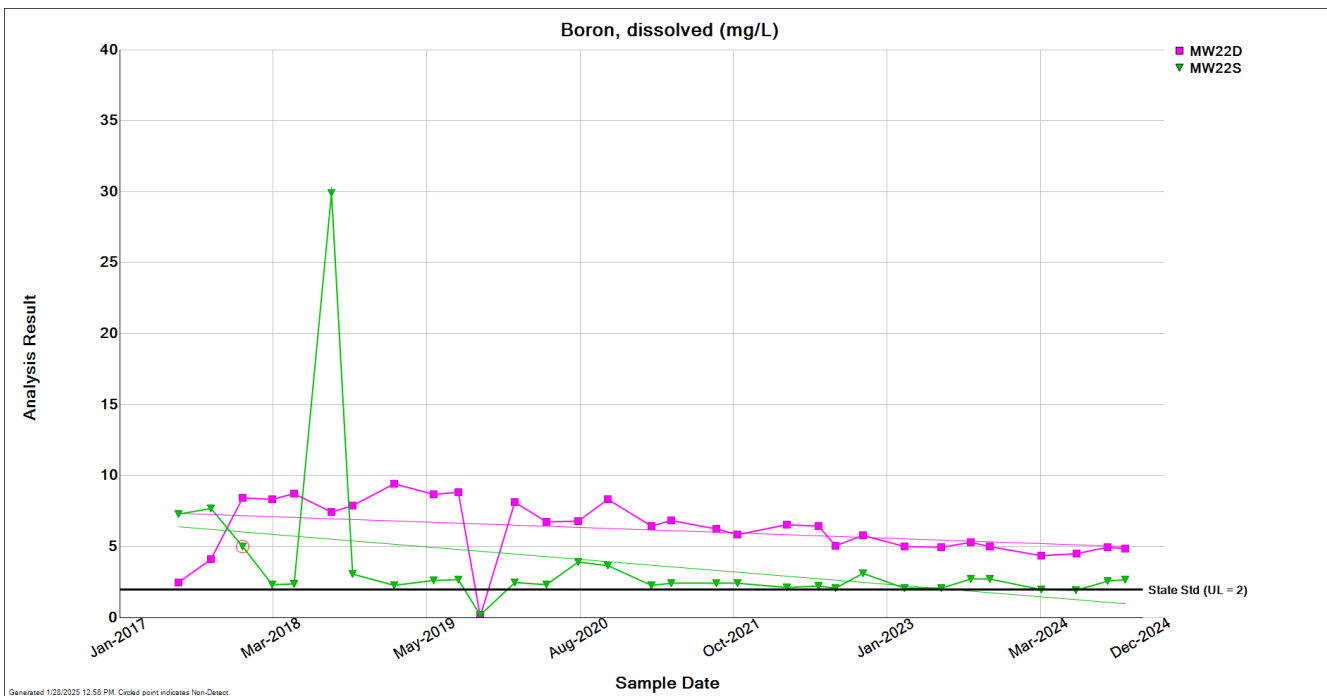


Figure 1-6. Boron concentrations since 2017 at compliance wells MW-22S and MW-22D. The Class I Groundwater Standard is not applicable within the GMZ and is shown for reference only. Circled results indicate non-detects.

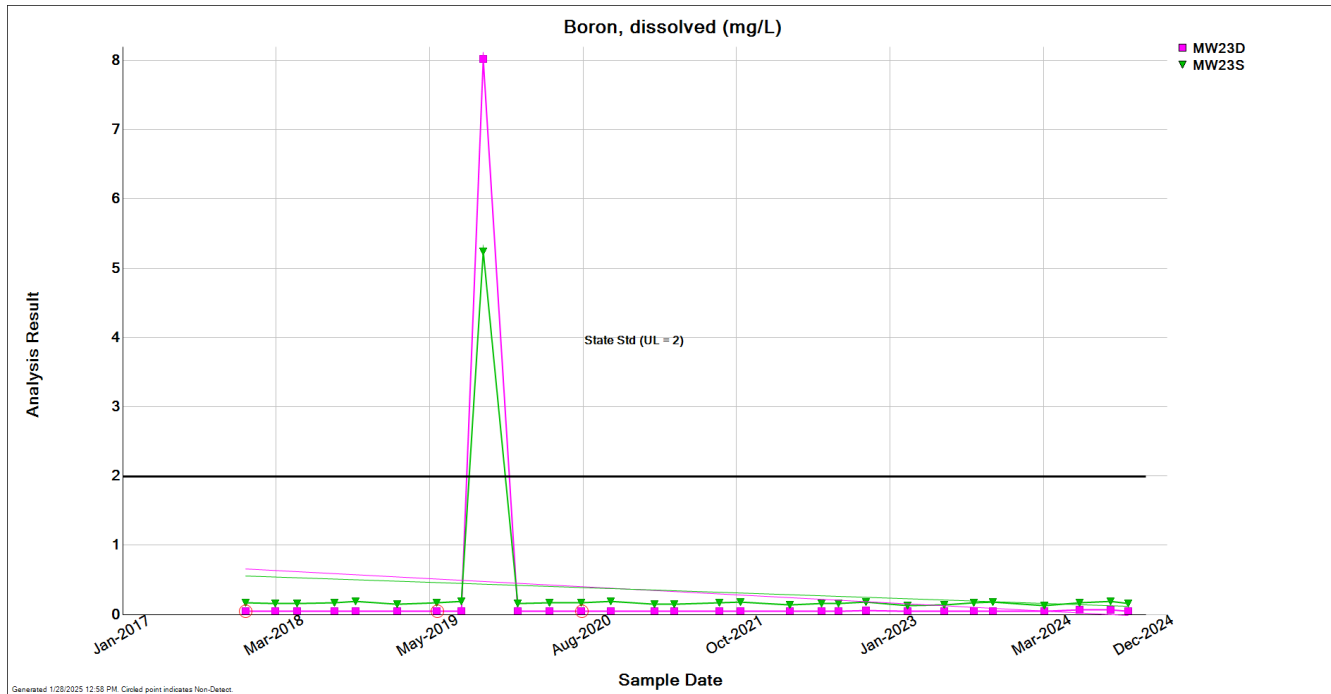
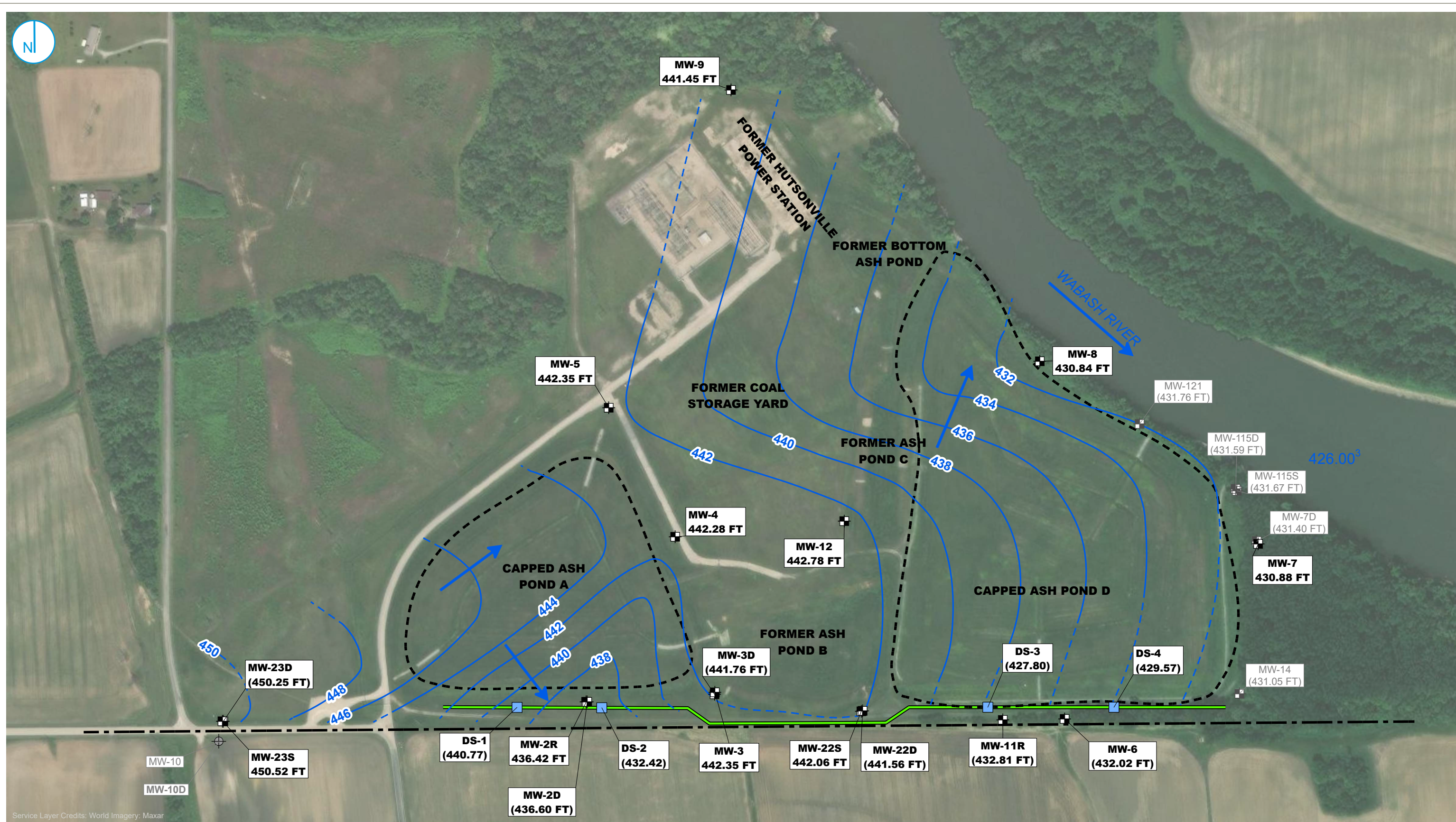


Figure 1-7. Boron concentrations since 2017 at compliance wells MW-23S and MW-23D. The Class I Groundwater Standard is not applicable within the GMZ and is shown for reference only. Circled results indicate non-detects.



- UPPER MIGRATION ZONE MONITORING WELL
- DEEP MIGRATION ZONE MONITORING WELL
- ABANDONED MONITORING WELL LOCATION
- DEWATERING SUMP
- PROPERTY LINE
- APPROXIMATE BOUNDARY OF CAPPED ASH POND
- GROUNDWATER COLLECTION TRENCH (BEGAN OPERATION APRIL 2015)
- GROUNDWATER ELEVATION CONTOUR (2-FT CONTOUR INTERVAL)
- GROUNDWATER FLOW DIRECTION
- INFERRED GROUNDWATER ELEVATION CONTOUR

Notes

- 1) GROUNDWATER AND RIVER ELEVATIONS REPORTED IN FEET NORTH AMERICAN VERTICAL DATUM OF 1988.
- 2) GROUNDWATER ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.
- 3) WABASH RIVER ELEVATIONS AS REPORTED BY USGS FROM USGS 03342000 WABASH RIVER AT RIVERTON, IN LOCATED APPROXIMATELY 12.5 RIVER MILES DOWNSTREAM.
- 4) WATER ELEVATIONS WERE COLLECTED FOR DEWATERING SUMP LOCATIONS ON THE SAME DAY GROUNDWATER ELEVATIONS WERE RECORDED AND REPRESENT THE MINIMUM RECORDED VALUE.

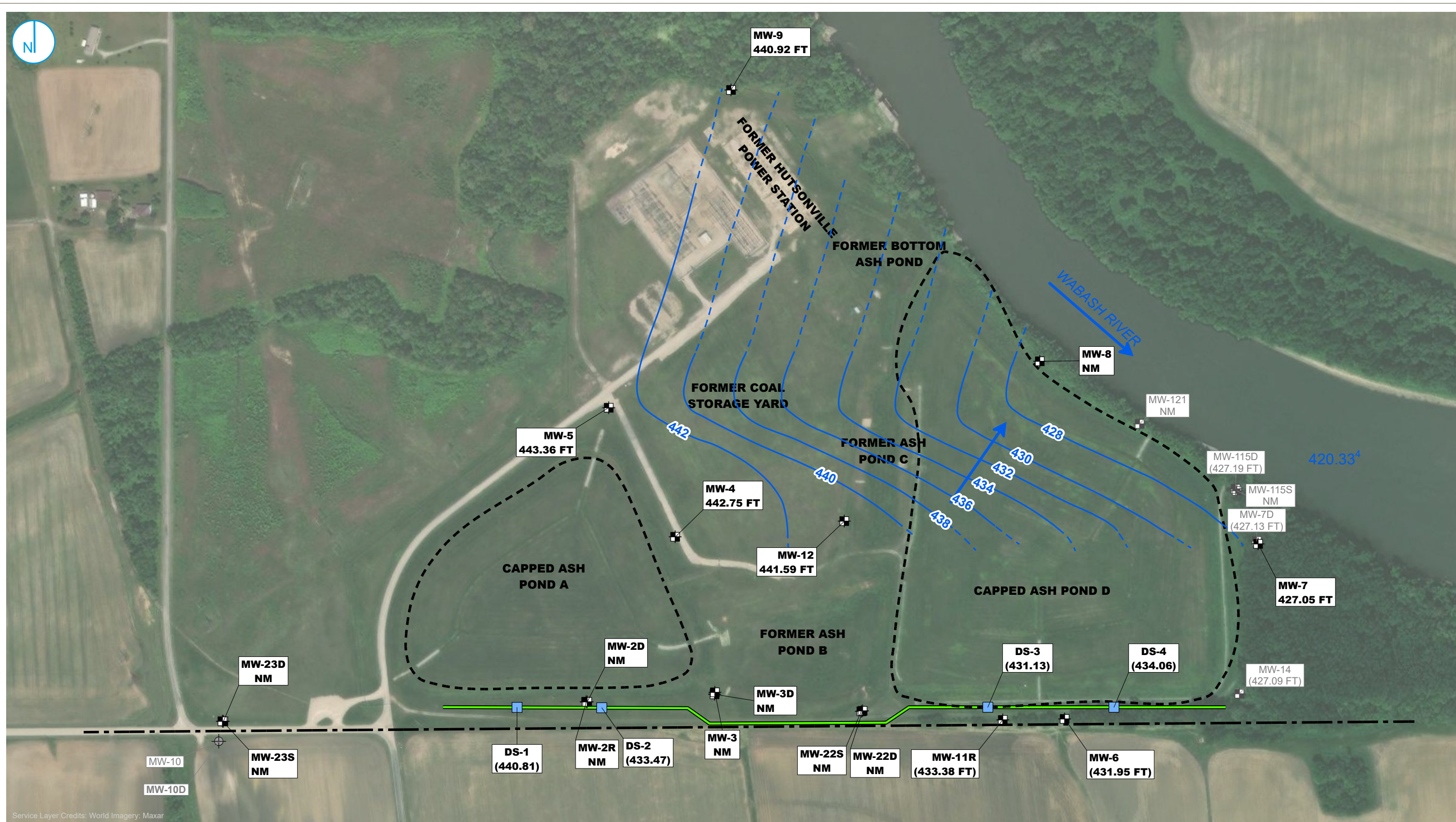
Q1 UPPER MIGRATION ZONE GROUNDWATER ELEVATION CONTOUR MAP
MARCH 18, 2024

2024 ANNUAL REPORT
FORMER HUTSONVILLE POWER STATION - ASH POND A
AMEREN ENERGY MEDINA VALLEY COGEN, LLC
HUTSONVILLE, IL

FIGURE 3-1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC
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UPPER MIGRATION ZONE MONITORING WELL

DEEP MIGRATION ZONE MONITORING WELL

ABANDONED MONITORING WELL LOCATION

DEWATERING SUMP

PROPERTY LINE

APPROXIMATE BOUNDARY OF CAPPED ASH POND

GROUNDWATER COLLECTION TRENCH (BEGAN OPERATION APRIL 2015)

GROUNDWATER ELEVATION CONTOUR (2-FT CONTOUR INTERVAL)

GROUNDWATER FLOW DIRECTION

INFERRED GROUNDWATER ELEVATION CONTOUR

Notes

1) NM= NOT MEASURED

2) GROUNDWATER AND RIVER ELEVATIONS REPORTED IN FEET NORTH AMERICAN VERTICAL DATUM OF 1988.

3) GROUNDWATER ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.

4) WABASH RIVER ELEVATIONS AS REPORTED BY USGS FROM USGS 03342000 WABASH RIVER AT RIVERTON, IN LOCATED APPROXIMATELY 12.5 RIVER MILES DOWNSTREAM.

5) WATER ELEVATIONS WERE COLLECTED FOR DEWATERING SUMP LOCATIONS ON THE SAME DAY GROUNDWATER ELEVATIONS WERE RECORDED AND REPRESENT THE MINIMUM RECORDED VALUE.

0150300

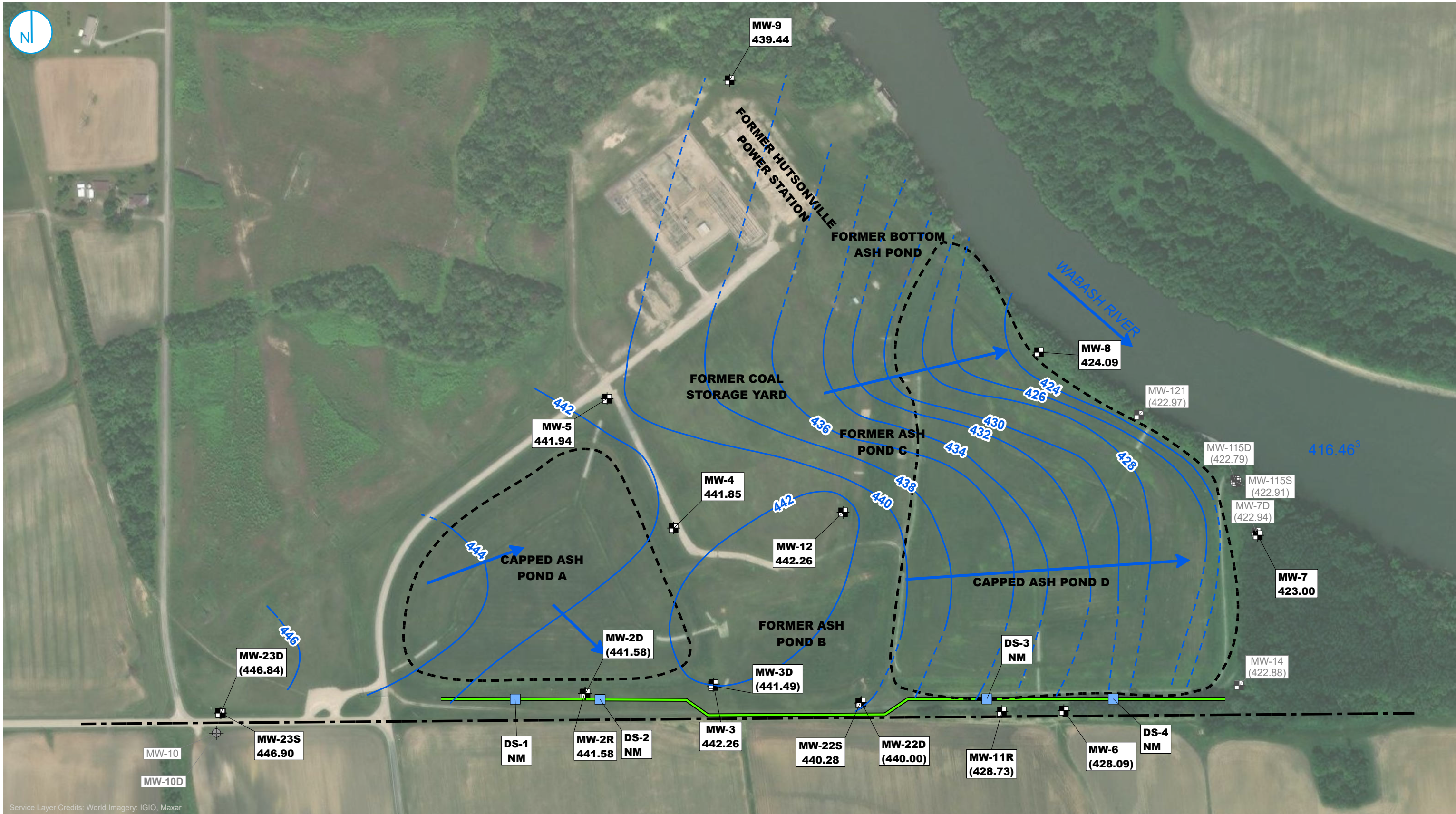
Feet

Q2 UPPER MIGRATION ZONE GROUNDWATER
ELEVATION CONTOUR MAP
JUNE 17, 2024

2024 ANNUAL REPORT
FORMER HUTSONVILLE POWER STATION - ASH POND A
AMEREN ENERGY MEDINA VALLEY COGEN, LLC
HUTSONVILLE, IL

FIGURE 3-2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC
A RAMBOLL COMPANY



UPPER MIGRATION ZONE MONITORING WELL

DEEP MIGRATION ZONE MONITORING WELL

ABANDONED MONITORING WELL LOCATION

DEWATERING SUMP

PROPERTY LINE

APPROXIMATE BOUNDARY OF CAPPED ASH POND

GROUNDWATER COLLECTION TRENCH (BEGAN OPERATION APRIL 2015)

GROUNDWATER ELEVATION CONTOUR (2-FT CONTOUR INTERVAL)

GROUNDWATER FLOW DIRECTION

INFERRED GROUNDWATER ELEVATION CONTOUR

0150300

Feet

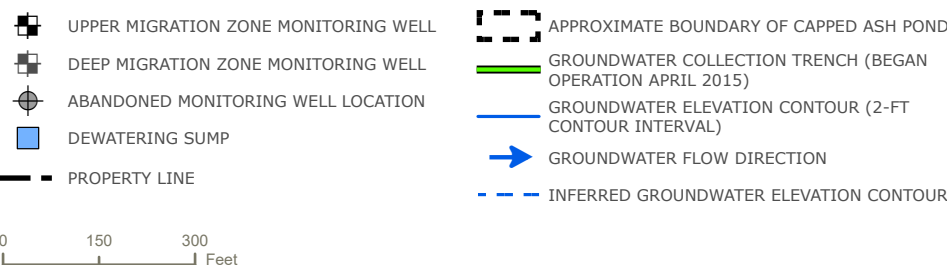
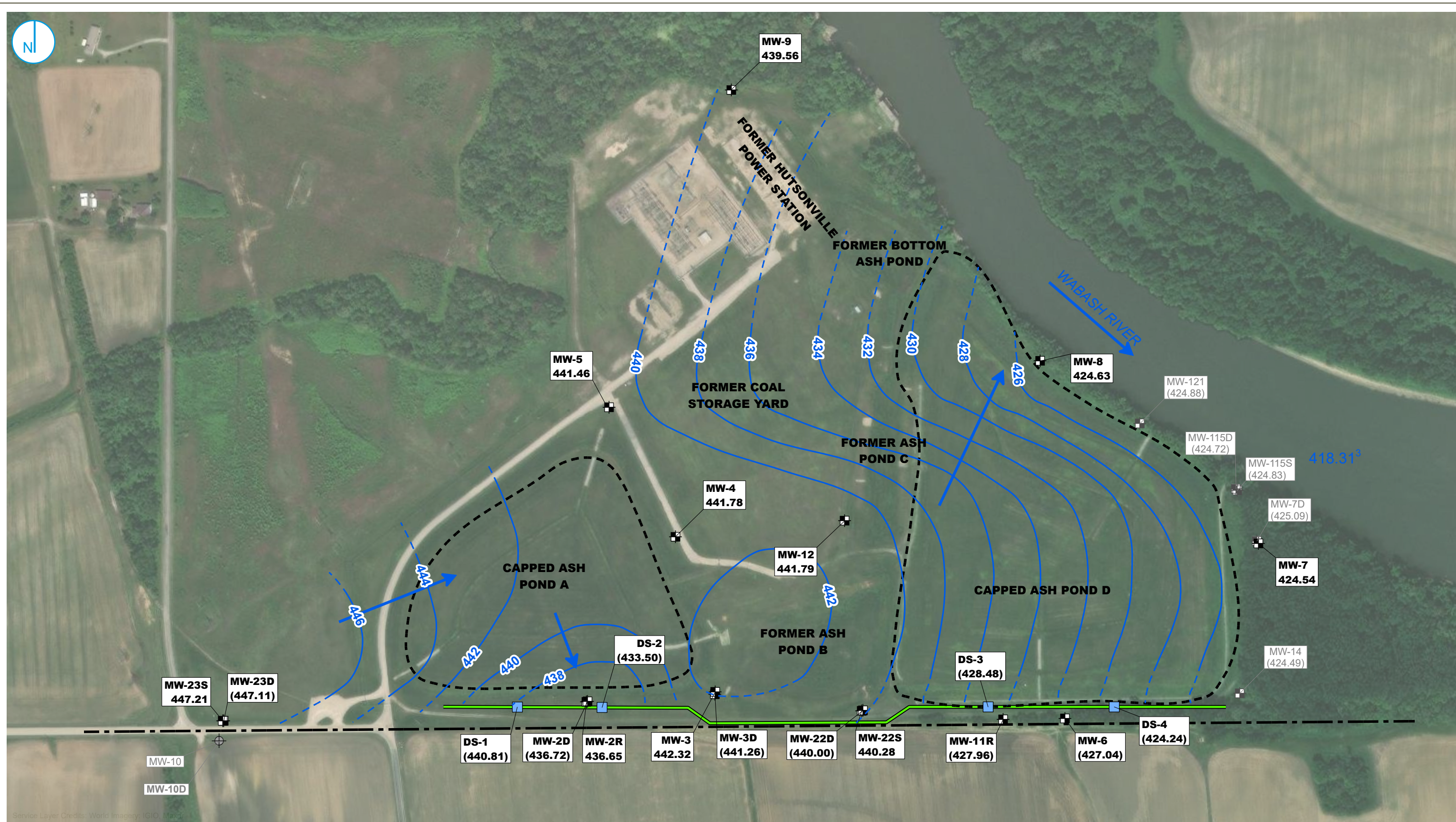
Notes
1) NM= NOT MEASURED
2) GROUNDWATER AND RIVER ELEVATIONS REPORTED IN FEET NORTH AMERICAN VERTICAL DATUM OF 1988.
3) GROUNDWATER ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.
4) WABASH RIVER ELEVATIONS AS REPORTED BY USGS FROM USGS 03342000 WABASH RIVER AT RIVERTON, IN LOCATED APPROXIMATELY 12.5 RIVER MILES DOWNSTREAM.
5) WATER ELEVATIONS WERE COLLECTED FOR DEWATERING SUMP LOCATIONS ON THE SAME DAY GROUNDWATER ELEVATIONS WERE RECORDED AND REPRESENT THE MINIMUM RECORDED VALUE.

Q3 UPPER MIGRATION ZONE GROUNDWATER
ELEVATION CONTOUR MAP
SEPTEMBER 23, 2024

2024 ANNUAL REPORT
FORMER HUTSONVILLE POWER STATION - ASH POND A
AMEREN ENERGY MEDINA VALLEY COGEN, LLC
HUTSONVILLE, IL

FIGURE 3-3

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC
A RAMBOLL COMPANY



Notes

- 1) NM= NOT MEASURED
- 2) GROUNDWATER AND RIVER ELEVATIONS REPORTED IN FEET NORTH AMERICAN VERTICAL DATUM OF 1988.
- 3) GROUNDWATER ELEVATIONS IN PARENTHESES WERE NOT USED FOR CONTOURING.
- 4) WABASH RIVER ELEVATIONS AS REPORTED BY USGS FROM USGS 03342000 WABASH RIVER AT RIVERTON, IN LOCATED APPROXIMATELY 12.5 RIVER MILES DOWNSTREAM.
- 5) WATER ELEVATIONS WERE COLLECTED FOR DEWATERING SUMP LOCATIONS ON THE SAME DAY. GROUNDWATER ELEVATIONS WERE RECORDED AND REPRESENT THE MINIMUM RECORDED VALUE.

Q4 UPPER MIGRATION ZONE GROUNDWATER ELEVATION CONTOUR MAP
NOVEMBER 11, 2024

2024 ANNUAL REPORT
FORMER HUTSONVILLE POWER STATION - ASH POND A
AMEREN ENERGY MEDINA VALLEY COGEN, LLC
HUTSONVILLE, IL

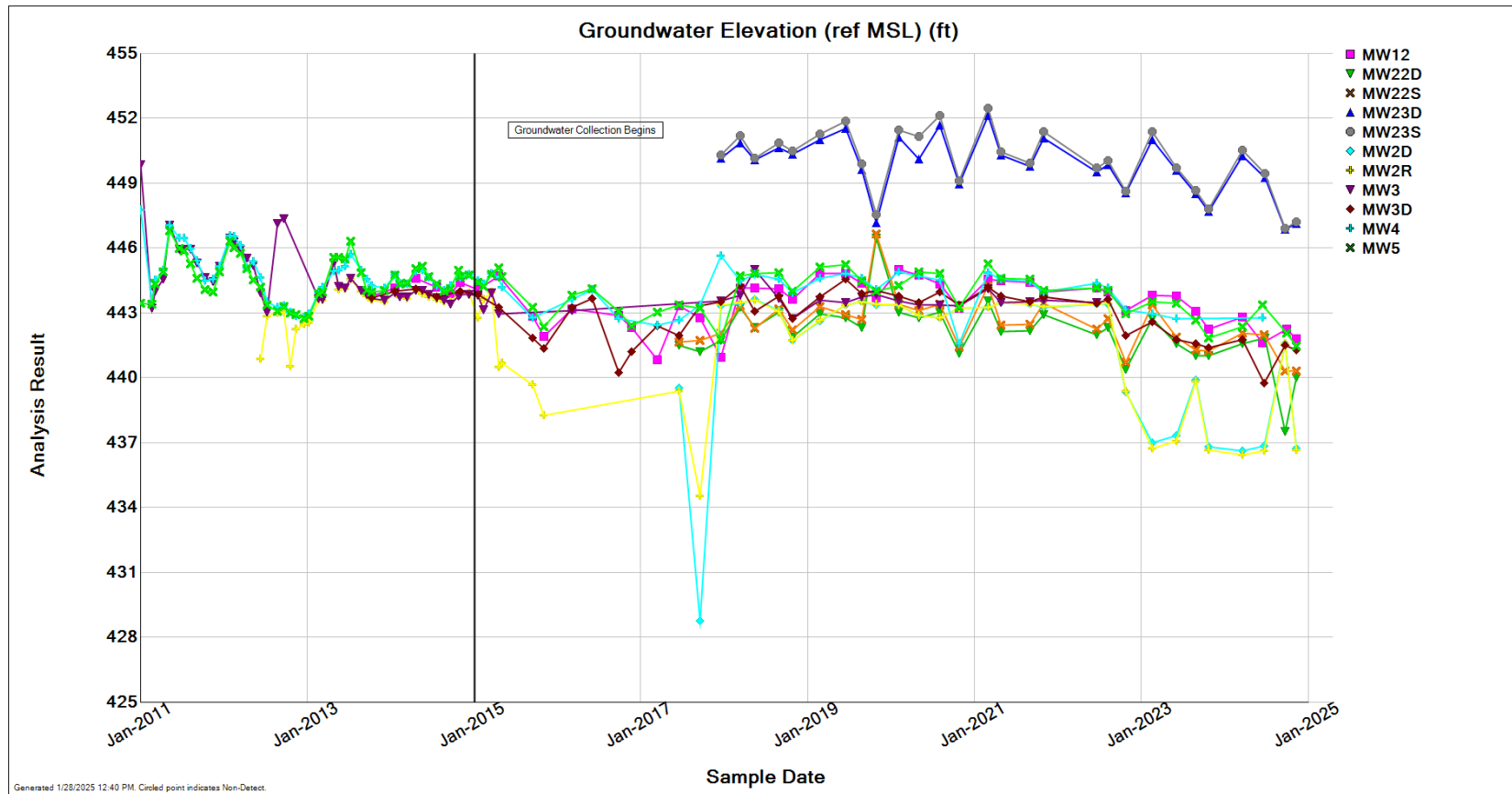


Figure 3-5. Groundwater elevations near groundwater collection trench.

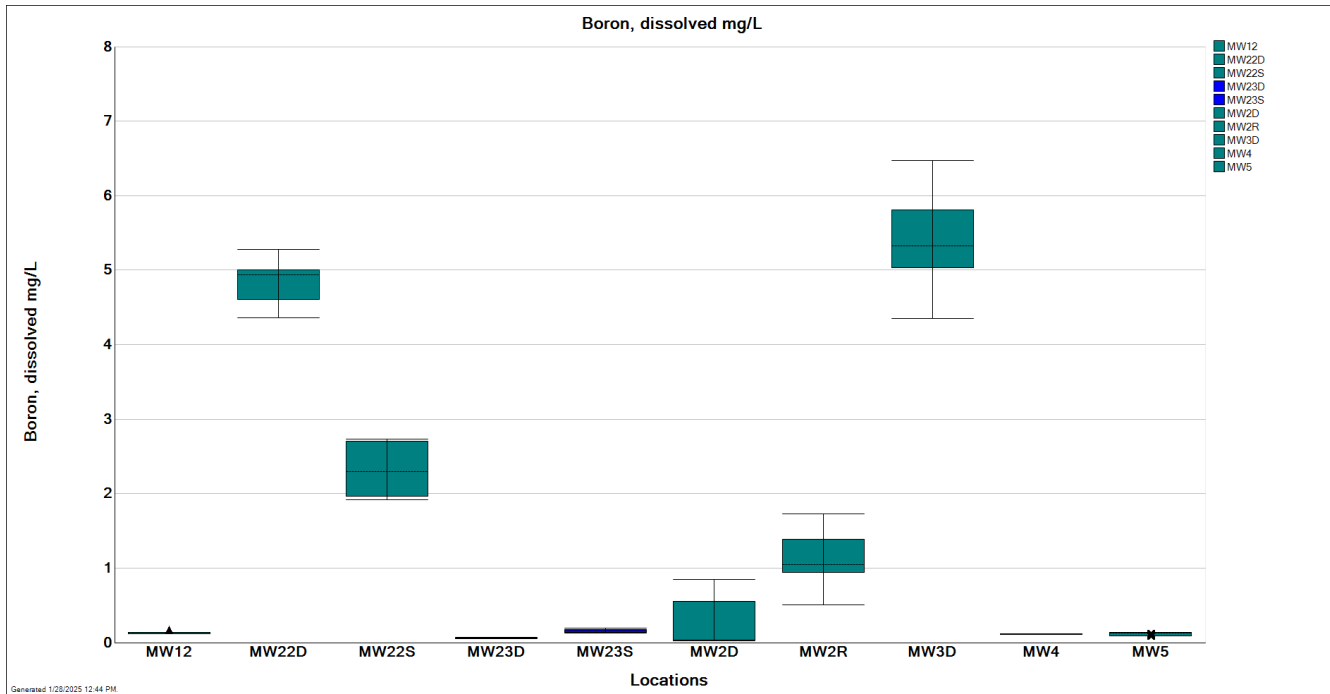


Figure 3-6. Box-whisker plot showing distribution of **boron** concentration by monitoring well for data collected in 2023 and 2024. Notes: Box-whisker plots for background wells are blue and box-whisker plots for compliance wells are green. MW-3 was dry during these sampling events and is not shown on this figure.

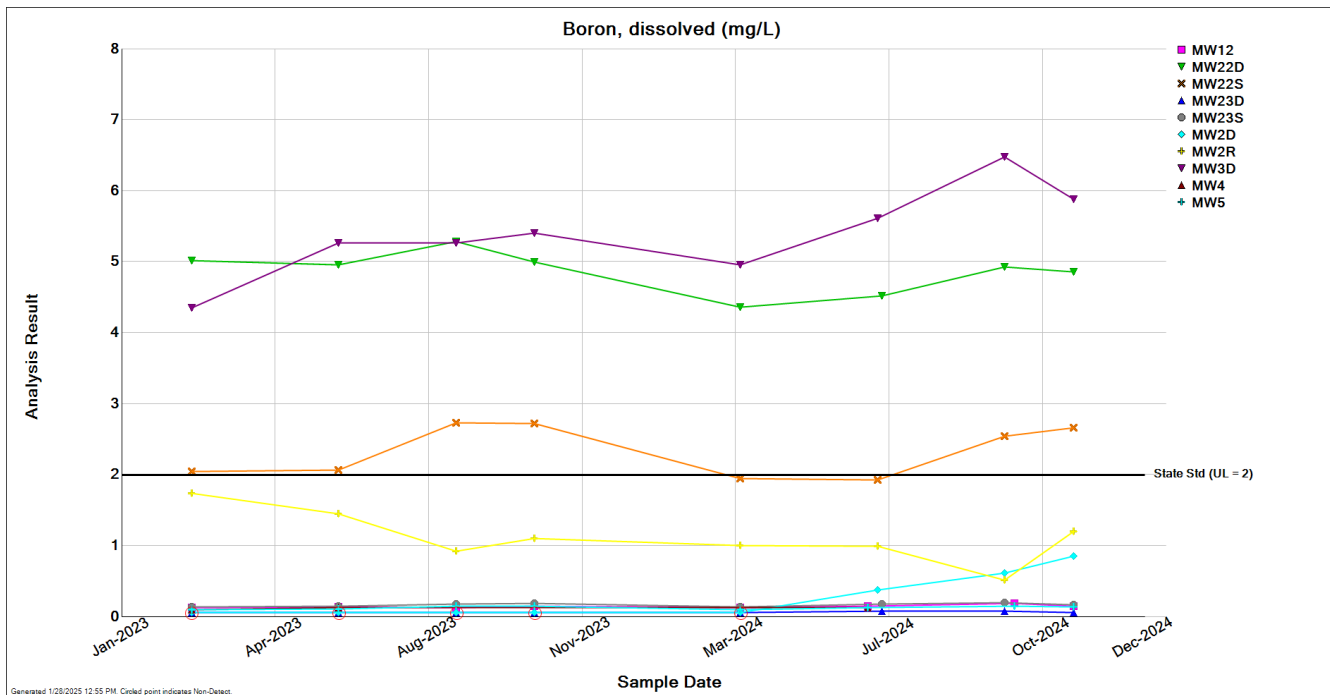


Figure 3-7. Boron concentrations during the reporting period (2023-2024) at all background and compliance wells. Notes: Circled results indicate non-detects. MW-3 was dry during these sampling events and is not shown on this figure.

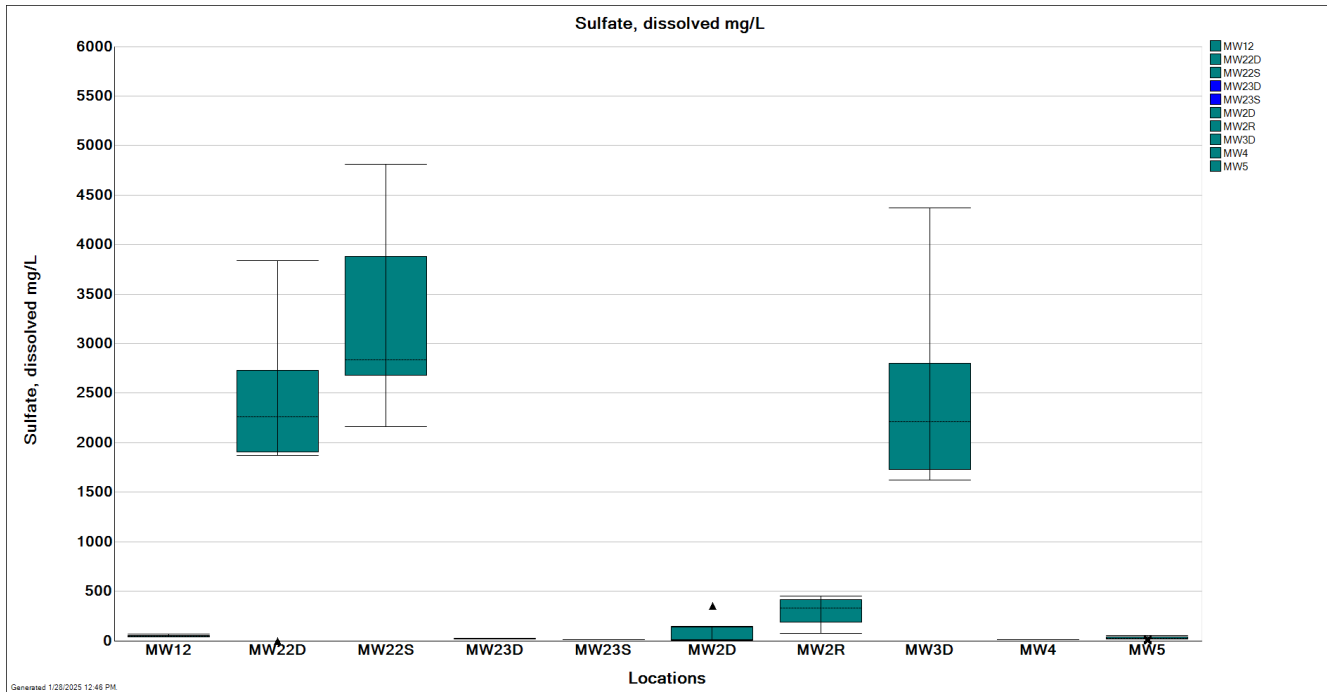


Figure 3-8. Box-whisker plot showing distribution of **sulfate** concentration by monitoring well for data collected in 2023 and 2024. Notes: Box-whisker plots for background wells are blue and box-whisker plots for compliance wells are green. MW-3 was dry during these sampling events and is not shown on this figure.

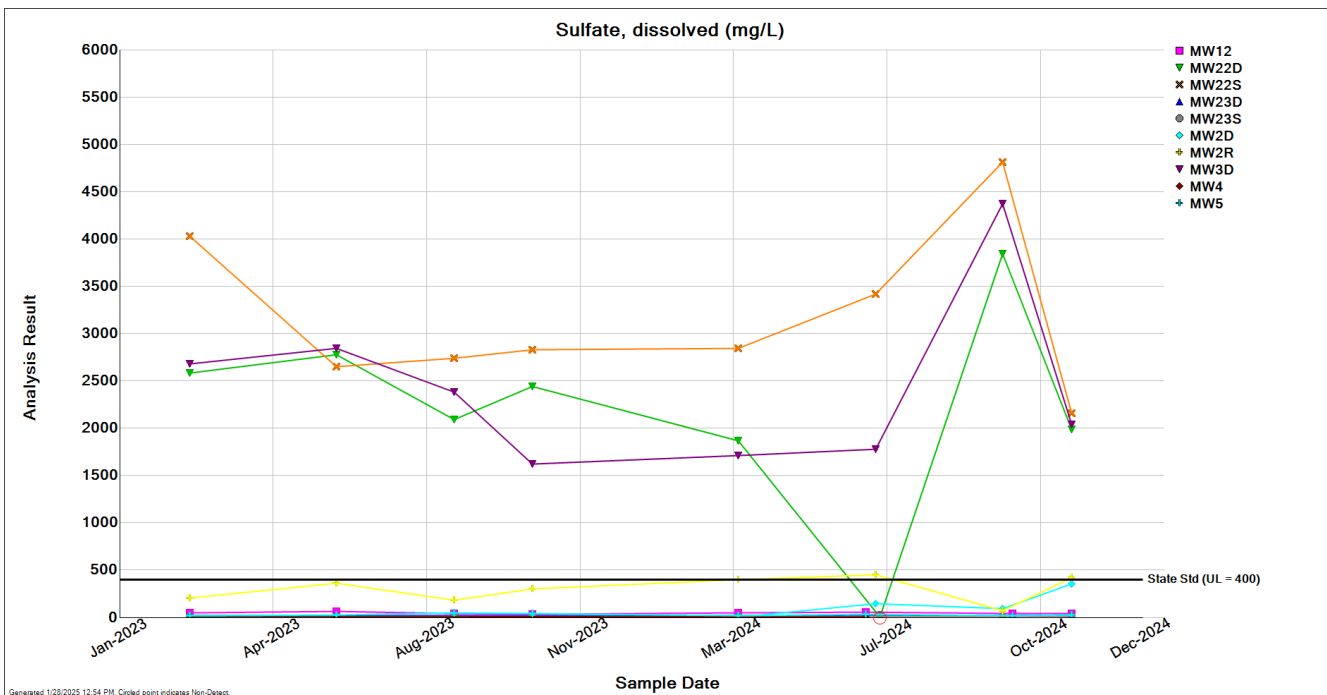


Figure 3-9. Sulfate concentrations during the reporting period (2023-2024) at all background and compliance wells. Notes: Circled results indicate non-detects. MW-3 was dry during these sampling events and is not shown on this figure.

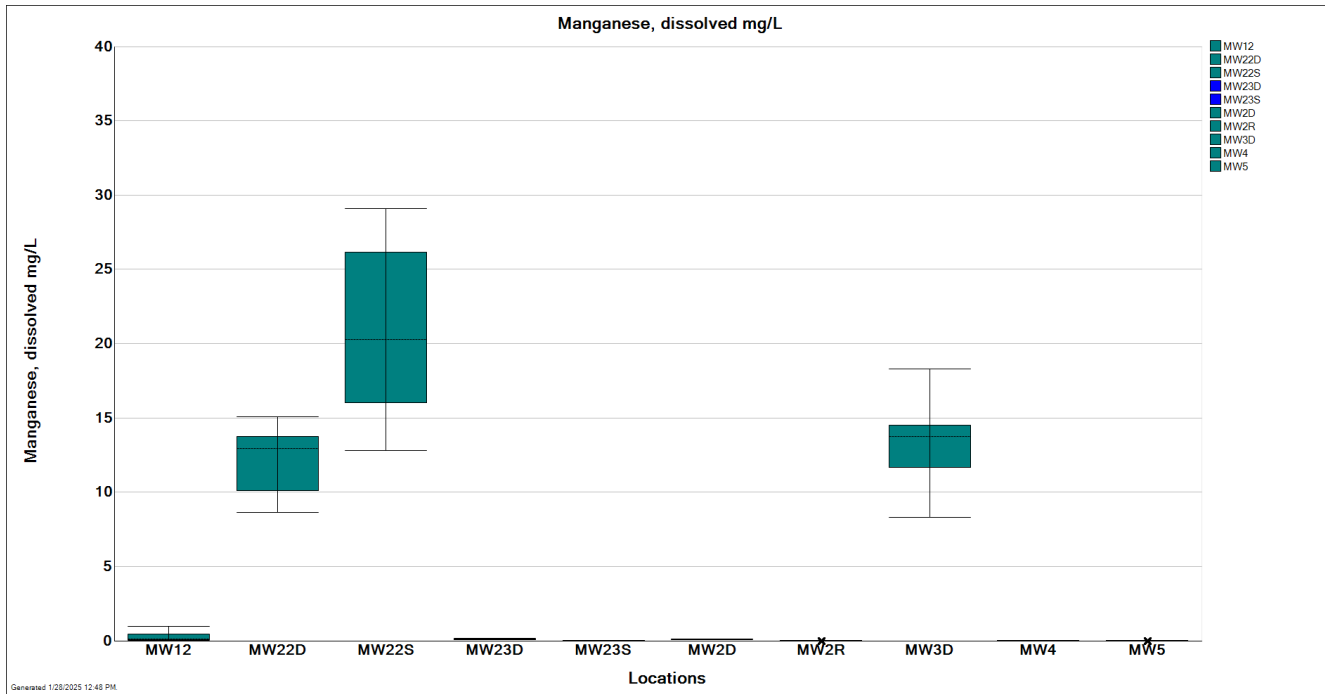


Figure 3-10A. Box-whisker plot showing distribution of **manganese** concentration by monitoring well for data collected in 2023 and 2024. Notes: Box-whisker plots for background wells are blue and box-whisker plots for compliance wells are green. MW-3 was dry during these sampling events and is not shown on this figure.

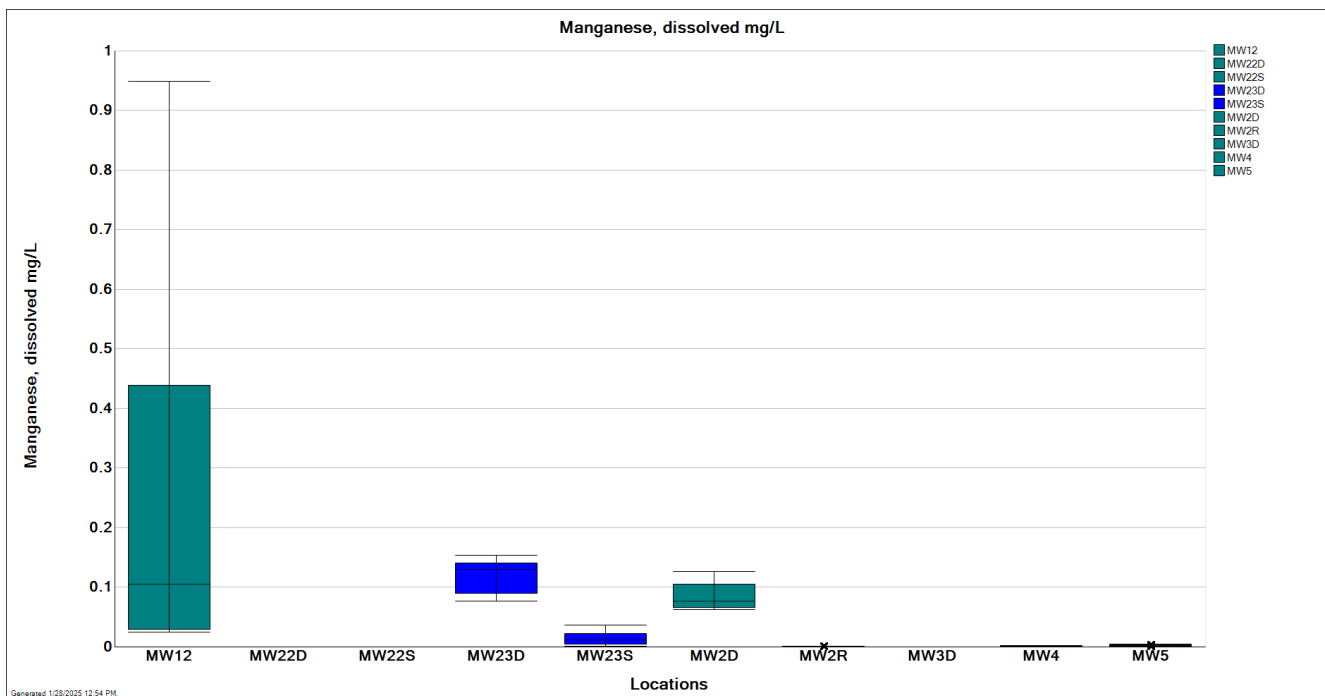


Figure 3-10B. Box-whisker plot showing distribution of **manganese** concentration by monitoring well for data collected in 2023 and 2024 (zoomed in). Notes: Box-whisker plots for background wells are blue and box-whisker plots for compliance wells are green. MW-3 was dry during these sampling events and is not shown on this figure.

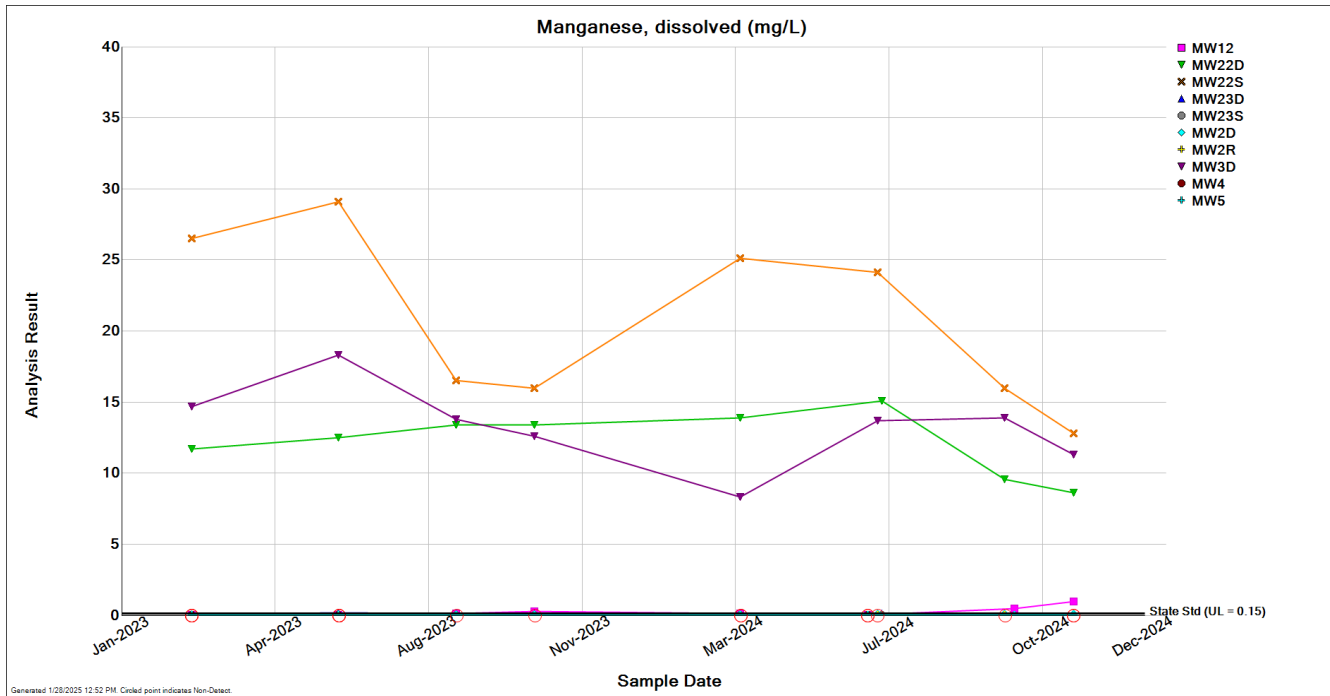


Figure 3-11A. Manganese concentrations during the reporting period (2023-2024) at all background and compliance wells. Notes: Circled results indicate non-detects. MW-3 was dry during these sampling events and is not shown on this figure.

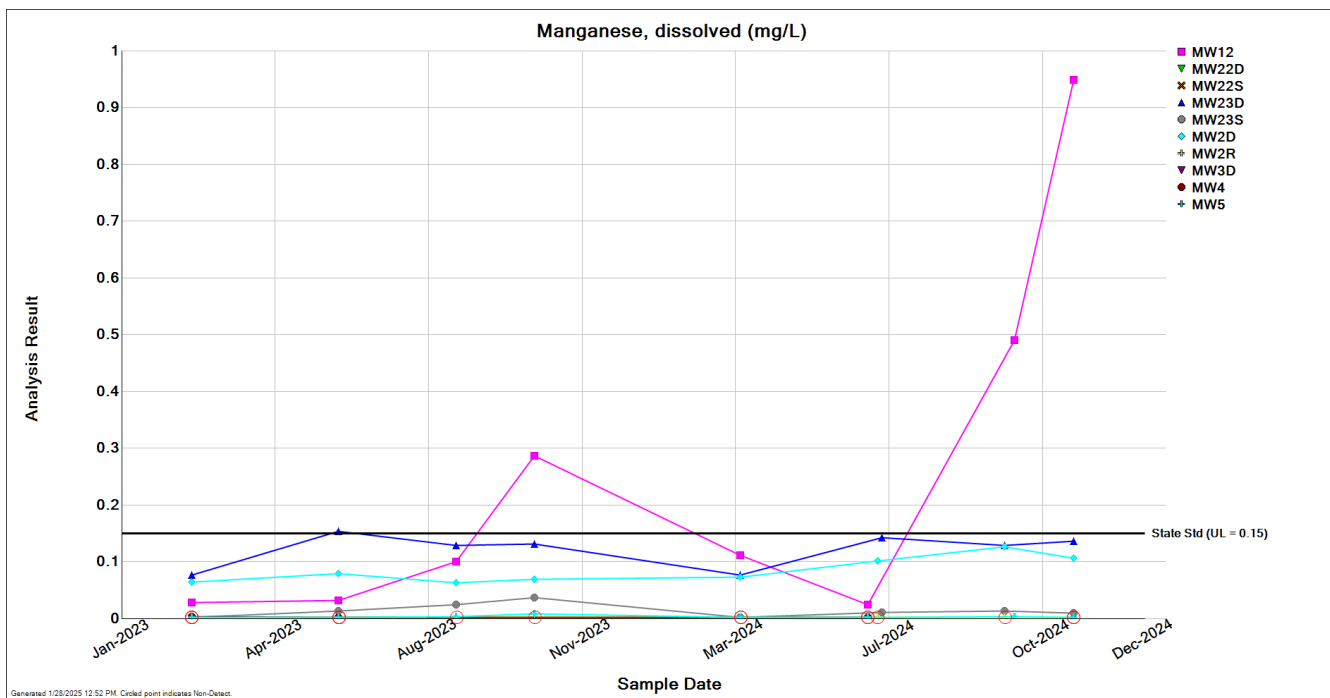


Figure 3-11B. Manganese concentrations during the reporting period (2023-2024) at all background and compliance wells. Zoomed in to show the Class I groundwater standard. Notes: Circled results indicate non-detects. MW-3 was dry during these sampling events and is not shown on this figure.

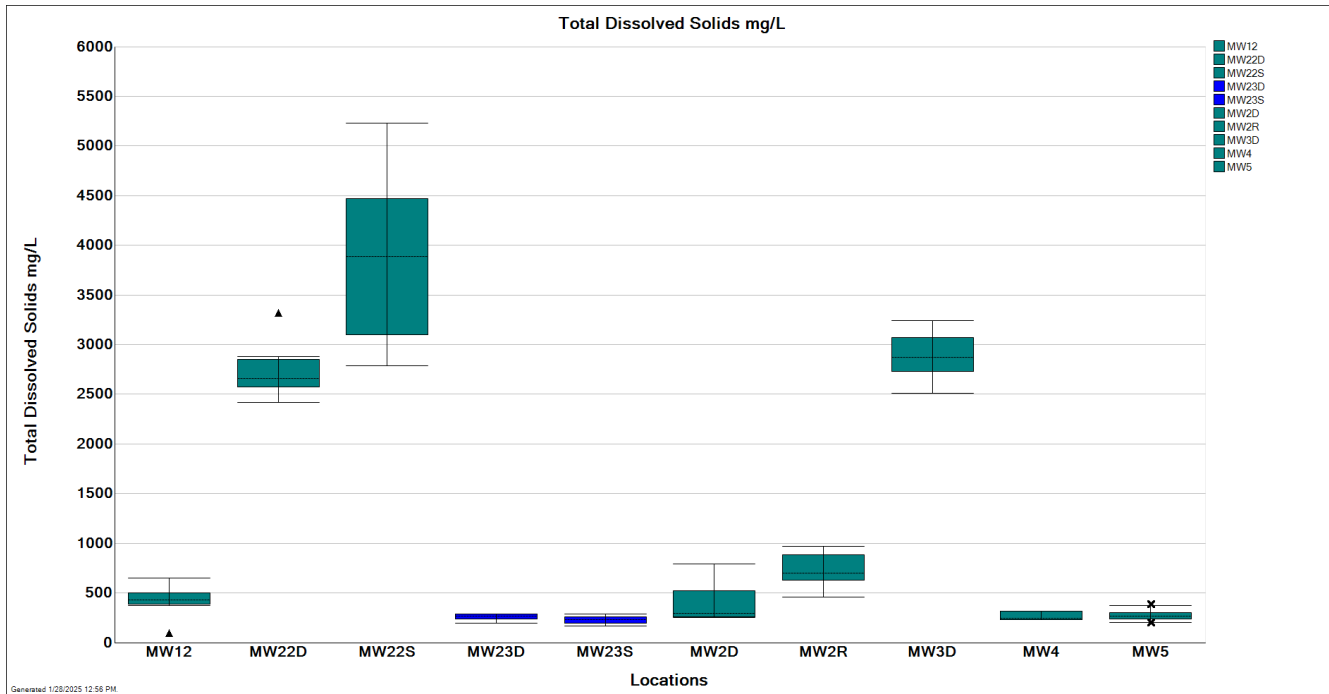


Figure 3-12. Box-whisker plot showing distribution of **total dissolved solids** concentration by monitoring well for data collected in 2023 and 2024. Note: Box-whisker plots for background wells are blue and box-whisker plots for compliance wells are green. MW-3 was dry during these sampling events and is not shown on this figure.

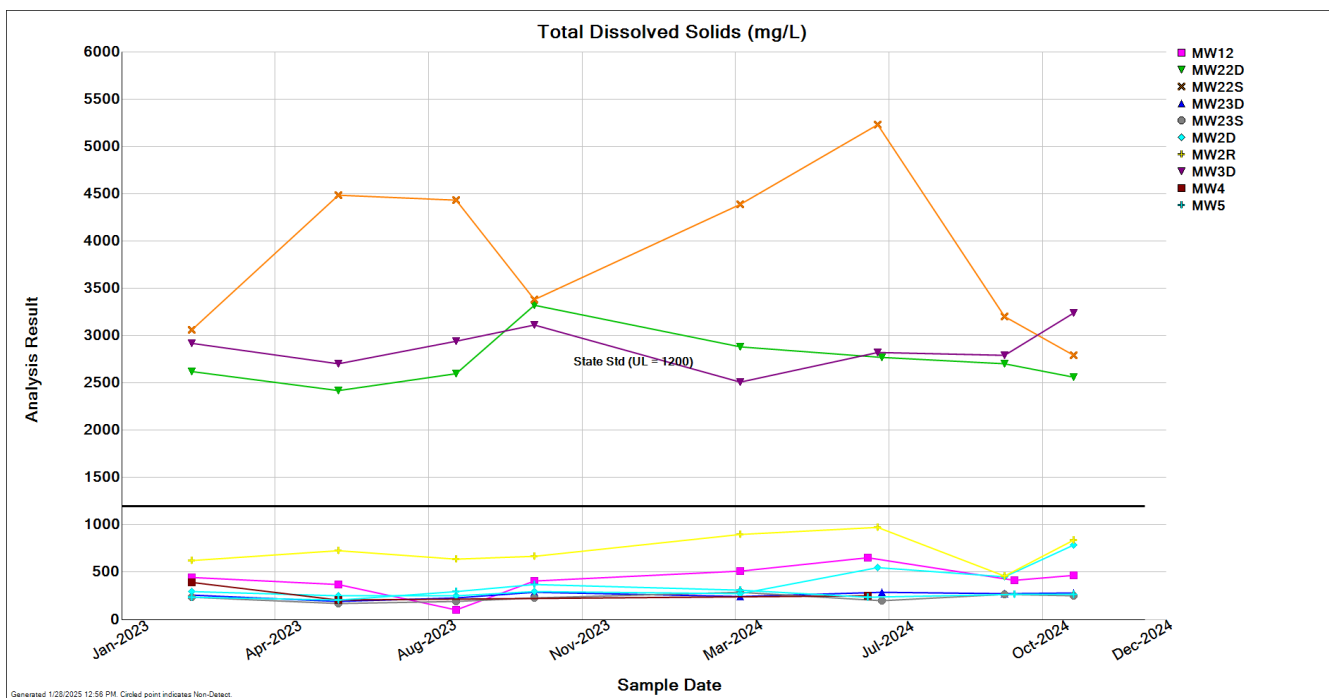


Figure 3-13. **Total Dissolved Solids** concentrations during the reporting period (2023-2024) at all background and compliance wells. Note: MW-3 was dry during these sampling events and is not shown on this figure.

APPENDIX A
GROUNDWATER MONITORING RESULTS 2023-2024

Well: MW2D

[illegible]

Hutsonville Ash Impoundment
Analysis Results by Date (column) and Parameter (row)

Date Range: 01/01/2023 to 12/30/2024

Well: MW2R

[illegible]

Hutsonville Ash Impoundment
Analysis Results by Date (column) and Parameter (row)

Date Range: 01/01/2023 to 12/30/2024

Well: MW3D

	2/20/2023	6/5/2023	8/28/2023	10/23/2023	3/18/2024	6/24/2024	9/23/2024	11/11/2024
Ag, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
As, diss, mg/L	0.0036	0.0006	<0.0003	<0.0003	0.0014	0.0011	<0.0003	0.0006
B, diss, mg/L	4.3500	5.2600	5.2600	5.4000	4.9500	5.6100	6.4700	5.8800
Ba, diss, mg/L	0.011	0.010	0.013	0.011	0.010	0.011	0.011	0.012
Be, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cd, diss, mg/L	0.0107	0.0033	0.0026	0.0020	0.0043	0.0038	0.0019	0.0041
Cl, diss, mg/L	13.9	13.8	17.8	19.0	14.0	16.7	20.1	16.8
CN, total, mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Co, diss, mg/L	0.296	0.092	0.039	0.029	0.112	0.124	0.061	0.133
Cr, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cu, diss, mg/L	0.0026	<0.0005	<0.0005	<0.0005	0.0013	<0.0005	<0.0005	<0.0005
F, diss, mg/L	1.4	0.5	<0.1	<0.1	0.4	0.4	0.2	0.2
Fe, diss, mg/L	12.300	11.100	7.220	6.460	2.230	1.850	2.010	1.420
GW Depth (TOC), ft	12.45	13.25	13.45	13.64	13.25	15.28	13.52	13.75
GW Elv, ft	442.56	441.76	441.56	441.37	441.76	439.73	441.49	441.26
Hg, diss, mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mn, diss, mg/L	14.7000	18.3000	13.8000	12.6000	8.3000	13.7000	13.9000	11.3000
Ni, diss, mg/L	0.3350	0.1520	0.1230	0.0902	0.1860	0.1730	0.1020	0.1680
NO3, diss, mg/L	1.250	1.080	0.294	<0.100	0.769	0.540	<0.100	0.575
Pb, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
pH (field), STD	4.60	5.71	5.89	6.04	5.69	6.10	6.21	6.05
Sb, diss, mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Se, diss, mg/L	<0.0200	<0.0020	<0.0005	<0.0005	<0.0050	<0.0025	<0.0005	<0.0050
SO4, diss, mg/L	2680.0	2840.0	2380.0	1620.0	1710.0	1780.0	4370.0	2040.0
Spec. Cond. (field), micromho	2210	2080	970	2550	1850	2510	2390	4
TDS, mg/L	2920	2700	2940	3110	2510	2820	2790	3240
Temp (Fahrenheit), degrees F	58.7	65.4	75.0	66.2	54.6	66.9	62.3	61.1
Tl, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
V, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Zn, diss, mg/L	0.07	0.02	0.01	0.01	0.04	0.03	0.02	0.03

Hutsonville Ash Impoundment
Analysis Results by Date (column) and Parameter (row)

Date Range: 01/01/2023 to 12/30/2024

Well: MW4

	2/20/2023	6/5/2023	6/17/2024
Ag, diss, mg/L	<0.0003	<0.0003	<0.0003
As, diss, mg/L	<0.0003	<0.0003	<0.0003
B, diss, mg/L	0.0900	0.1200	0.1200
Ba, diss, mg/L	0.010	0.010	0.009
Be, diss, mg/L	<0.0010	<0.0010	<0.0010
Cd, diss, mg/L	<0.0003	<0.0003	<0.0003
Cl, diss, mg/L	0.5	3.0	0.4
CN, total, mg/L	<0.01	<0.01	<0.01
Co, diss, mg/L	<0.001	<0.001	<0.001
Cr, diss, mg/L	0.0004	0.0005	0.0004
Cu, diss, mg/L	<0.0005	<0.0005	<0.0005
F, diss, mg/L	<0.1	<0.1	<0.1
Fe, diss, mg/L	<0.010	<0.010	<0.010
GW Depth (TOC), ft	13.82	14.04	14.01
GW Elv, ft	442.94	442.72	442.75
Hg, diss, mg/L	<0.0001	<0.0001	<0.0001
Mn, diss, mg/L	0.0030	<0.0010	<0.0010
Ni, diss, mg/L	0.0002	0.0008	0.0002
NO3, diss, mg/L	1.220	0.540	0.635
Pb, diss, mg/L	<0.001	<0.001	<0.001
pH (field), STD	7.08	7.27	7.63
Sb, diss, mg/L	<0.002	<0.002	<0.002
Se, diss, mg/L	0.0017	0.0013	0.0012
SO4, diss, mg/L	14.7	9.3	6.7
Spec. Cond. (field), micromho	251	405	354
TDS, mg/L	390	208	248
Temp (Fahrenheit), degrees F	51.7	63.8	67.7
Tl, diss, mg/L	<0.0003	<0.0003	<0.0003
V, diss, mg/L	<0.001	<0.001	<0.001
Zn, diss, mg/L	<0.01	<0.01	<0.01

Well: MW5

[illegible]

Hutsonville Ash Impoundment
Analysis Results by Date (column) and Parameter (row)

Date Range: 01/01/2023 to 12/30/2024

Well: MW12

[illegible]

Hutsonville Ash Impoundment
Analysis Results by Date (column) and Parameter (row)

Date Range: 01/01/2023 to 12/30/2024

Well: MW22D

	2/20/2023	6/5/2023	8/28/2023	10/23/2023	3/18/2024	6/27/2024	9/23/2024	11/11/2024
Ag, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
As, diss, mg/L	0.0023	0.0026	0.0027	0.0022	0.0032	0.0054	0.0045	0.0041
B, diss, mg/L	5.0100	4.9500	5.2800	4.9900	4.3600	4.5200	4.9200	4.8500
Ba, diss, mg/L	0.021	0.023	0.023	0.022	0.019	0.018	0.018	0.019
Be, diss, mg/L	0.0025	<0.0100	0.0027	0.0043	0.0041	0.0051	0.0034	0.0043
Cd, diss, mg/L	0.0018	0.0022	0.0023	0.0025	0.0026	0.0035	0.0025	0.0028
Cl, diss, mg/L	10.9	7.5	8.1	8.2	7.5	8.3	8.0	8.3
CN, total, mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Co, diss, mg/L	0.078	0.105	0.117	0.140	0.143	0.154	0.097	0.078
Cr, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cu, diss, mg/L	0.0032	0.0029	0.0026	0.0037	0.0079	0.0064	0.0067	0.0073
F, diss, mg/L	0.7	0.6	0.6	0.8	0.8	1.1	1.0	0.7
Fe, diss, mg/L	174.000	152.000	160.000	155.000	136.000	189.000	157.000	131.000
GW Depth (TOC), ft	8.64	9.78	10.35	10.35	9.80	9.55	13.84	11.36
GW Elv, ft	442.72	441.58	441.01	441.01	441.56	441.81	437.52	440.00
Hg, diss, mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mn, diss, mg/L	11.7000	12.5000	13.4000	13.4000	13.9000	15.1000	9.5800	8.6200
Ni, diss, mg/L	0.0685	0.0705	0.0764	0.0928	0.0937	0.1140	0.0911	0.0815
NO3, diss, mg/L	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Pb, diss, mg/L	0.012	0.009	0.012	0.015	0.013	0.012	0.011	0.015
pH (field), STD	4.85	4.88	4.81	4.87	4.83	4.61	4.87	4.74
Sb, diss, mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Se, diss, mg/L	<0.0100	<0.0100	<0.0100	<0.0050	<0.0500	<0.0250	<0.0250	<0.0500
SO4, diss, mg/L	2580.0	2780.0	2090.0	2440.0	1870.0	<0.5	3840.0	1990.0
Spec. Cond. (field), micromho	1900	1850	2290	2270	1890	1950	1960	3
TDS, mg/L	2620	2420	2600	3320	2880	2770	2700	2560
Temp (Fahrenheit), degrees F	64.5	67.2	76.0	66.0	54.3	62.9	63.9	64.4
Tl, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
V, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Zn, diss, mg/L	0.29	0.30	0.30	0.35	0.38	<0.01	0.36	0.33

Hutsonville Ash Impoundment
Analysis Results by Date (column) and Parameter (row)

Date Range: 01/01/2023 to 12/30/2024

Well: MW22S

	2/20/2023	6/5/2023	8/28/2023	10/23/2023	3/18/2024	6/24/2024	9/23/2024	11/11/2024
Ag, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
As, diss, mg/L	0.0062	0.0103	0.0126	0.0080	0.0085	0.0131	0.0134	0.0104
B, diss, mg/L	2.0400	2.0600	2.7300	2.7200	1.9400	1.9200	2.5400	2.6600
Ba, diss, mg/L	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.005
Be, diss, mg/L	0.0074	<0.0100	0.0120	0.0129	0.0146	0.0193	0.0090	0.0090
Cd, diss, mg/L	0.0041	0.0068	0.0077	0.0075	0.0098	0.0143	0.0068	0.0070
Cl, diss, mg/L	5.5	9.6	6.3	7.8	10.9	6.5	9.8	10.8
CN, total, mg/L	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01
Co, diss, mg/L	0.127	0.149	0.122	0.113	0.160	0.188	0.107	0.100
Cr, diss, mg/L	0.0006	0.0008	0.0004	0.0004	0.0008	0.0018	0.0005	<0.0010
Cu, diss, mg/L	0.0117	0.0133	0.0140	0.0148	0.0370	0.0502	0.0567	0.0408
F, diss, mg/L	0.6	0.8	1.0	1.2	0.6	0.4	0.9	1.1
Fe, diss, mg/L	500.000	620.000	415.000	413.000	482.000	634.000	224.000	183.000
GW Depth (TOC), ft	8.12	9.62	10.20	10.25	9.42	9.52	11.20	11.20
GW Elv, ft	443.36	441.86	441.28	441.23	442.06	441.96	440.28	440.28
Hg, diss, mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0001
Mn, diss, mg/L	26.5000	29.1000	16.5000	16.0000	25.1000	24.1000	16.0000	12.8000
Ni, diss, mg/L	0.1390	0.1960	0.2020	0.2020	0.2320	0.3240	0.1920	0.1630
NO3, diss, mg/L	<0.100	<0.100	<0.100	<0.100	0.492	<0.100	0.454	1.220
Pb, diss, mg/L	0.007	0.007	0.007	0.007	0.007	0.009	0.011	0.008
pH (field), STD	3.47	3.68	3.72	3.81	3.49	3.50	3.01	2.91
Sb, diss, mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Se, diss, mg/L	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0005	<0.0250	<0.0500
SO4, diss, mg/L	4030.0	2650.0	2740.0	2830.0	2840.0	3420.0	4810.0	2160.0
Spec. Cond. (field), micromho	2670	3010	2990	2700	2530	3390	2730	4
TDS, mg/L	3060	4480	4430	3380	4390	5230	3200	2790
Temp (Fahrenheit), degrees F	58.9	70.5	75.3	69.1	51.5	65.5	65.9	65.1
Tl, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0005	<0.0003
V, diss, mg/L	0.002	0.003	0.003	0.003	0.002	0.003	<0.001	<0.001
Zn, diss, mg/L	0.69	0.99	1.06	1.03	1.19	1.49	1.04	0.92

Hutsonville Ash Impoundment
Analysis Results by Date (column) and Parameter (row)

Date Range: 01/01/2023 to 12/30/2024

Well: MW23D

[illegible]

Hutsonville Ash Impoundment
Analysis Results by Date (column) and Parameter (row)

Date Range: 01/01/2023 to 12/30/2024

Well: MW23S

[illegible]

APPENDIX B

SITE INSPECTION REPORTS

Hutsonville Power Station**Ash Pond A Closure Cap - Post-Closure Care Plan**

Quarterly Site Inspection Checksheet

Date	03/19/2024
Inspector	AMM
Temperature	50 °F
Weather	Clear, Windy

	Item	Condition Code *	Comments
Pond Cap	Vent Pipes	GC	Vent holes clear of pipes inspected, no weed overgrowth inside cement vent barriers.
	Drainage Berms	GC	No excessive standing water; no eroded or scoured drainage channels.
	Vegetation	GC	Inspection occurred after second mowing and herbicide application which was completed in early September 2023.
	Erosion on Cap	GC	No erosion or gullies 6 inches or deeper on cap.
	Liner	GC	No exposed liner; no visual indication of rips, tears, punctures, or other damage to liner.
	Water Control Features (berms, vegetated flumes, etc.)	GC	Water control features in good condition.
	Other		
Embankment	Vegetation	GC	No overgrowth or bare patches on embankments.
	Liner	GC	No exposure
	Erosion	GC	No erosion or gullies 6 inches or deeper on embankments or toe.
	Fencing	MM	Main gate destroyed by unknown driver. Repairs scheduled through Dasenbrock Fence Company, Inc. Contacted Crawford County Hwy Dept. to install a "Sharp turn ahead" sign on the road before station.
	Drainage Channels (rip-rap, paved flumes, etc.)	GC	No overgrowth; Exposed fabric and dirt at North and Southwest Letdowns was repaired by Blankenship in September 2023.
	Other	GC	Animals borrows in east embankment were repaired during June 2023 mowing event. Small burrows were identified on the embankment but were not large enough to warrant concern at this time.
Groundwater Collection Trench and Discharge System	Control Panels	GC	Exterior of panels in good condition.
	Drainage Sumps / Manholes	GC	Lids are secure.
	Pumps	GC	Operational; Pump repairs completed by Freitag-Weihnardt in September 2023.
	Groundwater Monitoring Wells	GC	Accessible; no excessive weed growth; no flooding.
	Flow Meter Totalizer	GC	Operational.
	Diver-Mate Data Collector (data download)	MM	Unable to connect to the data download. Data will be downloaded manually until the issues with the data collector can be investigated and repaired.
	Other		

Condition Codes**IM** = Item needing Immediate Maintenance. Remediation should be completed within 1 month.**MM** = Item needing Minor Maintenance and/or repairs within the year.**OB** = Condition requires regular observation to ensure that the condition does not become worse.**GC** = Good Condition. Working properly.**NE** = No Evidence of a problem.**NI** = Not Inspected. Reason should be stated in comment

Hutsonville Power Station – Ash Pond **A**

North letdown (facing SW)



East embankment (facing S)



North embankment (facing SW)



West embankment (facing S)



Southwest letdown (facing NE)



South embankment (facing E)



East Embankment (facing N)



Cap Top

Facing North



Facing West



Facing South



Facing East



Hutsonville Power Station

Ash Pond A Closure Cap - Post-Closure Care Plan

Quarterly Site Inspection Checksheet

Date	06/04/2024
Inspector	AMM
Temperature	75 °F
Weather	Sunny

	Item	Condition Code *	Comments
Pond Cap	Vent Pipes	GC	Vent holes clear of pipes inspected, no weed overgrowth inside cement vent barriers.
	Drainage Berms	GC	No excessive standing water; no eroded or scoured drainage channels.
	Vegetation	GC	Inspection occurred after first mowing and herbicide application which was completed in mid-May 2024.
	Erosion on Cap	GC	No erosion or gullies 6 inches or deeper on cap.
	Liner	GC	No exposed liner; no visual indication of rips, tears, punctures, or other damage to liner.
	Water Control Features (berms, vegetated flumes, etc.)	GC	Water control features in good condition.
	Other		
Embankment	Vegetation	GC	No overgrowth or bare patches on embankments.
	Liner	GC	No exposure
	Erosion	GC	No erosion or gullies 6 inches or deeper on embankments or toe.
	Fencing	MM	Main gate destroyed by unknown driver. Repairs scheduled through Dasenbrock Fence Company, Inc. Contacted Crawford County Hwy Dept. to install a "Sharp turn ahead" sign on the road before station.
	Drainage Channels (rip-rap, paved flumes, etc.)	GC	No overgrowth; Exposed fabric and dirt at North and Southwest Letdowns was repaired by Blankenship in September 2023.
	Other	GC	No burrows observed.
Groundwater Collection Trench and Discharge System	Control Panels	GC	Exterior of panels in good condition.
	Drainage Sumps / Manholes	GC	Lids are secure.
	Pumps	GC	Leaks were observed in pipes in sump pits #1 and #2. Freitag-Weihnardt tightened pipe fittings on June 20, 2024.
	Groundwater Monitoring Wells	GC	Accessible; no excessive weed growth; no flooding.
	Flow Meter Totalizer	GC	Operational.
	Pump Station Data Collector (data download)	MM	Unable to connect to the data download. Data will be downloaded manually until the issues with the data collector can be investigated and repaired.
	Other		

Condition Codes

IM = Item needing Immediate Maintenance. Remediation should be completed within 1 month.

MM = Item needing Minor Maintenance and/or repairs within the year.

OB = Condition requires regular observation to ensure that the condition does not become worse.

GC = Good Condition. Working properly.

NE = No Evidence of a problem.

NI = Not Inspected. Reason should be stated in comment

Hutsonville Power Station – Ash Pond **A**

North letdown (facing SW)



East embankment (facing S)



North embankment (facing SW)



West embankment (facing S)



Southwest letdown (facing NE)



South embankment (facing E)



Cap Top

Facing North



Facing West



Facing South



Facing East



Hutsonville Power Station

Ash Pond A Closure Cap - Post-Closure Care Plan

Quarterly Site Inspection Checksheet

Date	09/10/2024
Inspector	AMM
Temperature	75 °F
Weather	Sunny

	Item	Condition Code *	Comments
Pond Cap	Vent Pipes	GC	Vent holes clear of pipes inspected, no weed overgrowth inside cement vent barriers.
	Drainage Berms	GC	No excessive standing water; no eroded or scoured drainage channels.
	Vegetation	GC	Inspection occurred after second mowing in July 2024.
	Erosion on Cap	GC	No erosion or gullies 6 inches or deeper on cap.
	Liner	GC	No exposed liner; no visual indication of rips, tears, punctures, or other damage to liner.
	Water Control Features (berms, vegetated flumes, etc.)	GC	Water control features in good condition.
	Other	GC	Very small animal burrows (likely snake holes) were observed on the top of the cap. Will monitor for issues.
Embankment	Vegetation	GC	No overgrowth or bare patches on embankments.
	Liner	GC	No exposure
	Erosion	GC	No erosion or gullies 6 inches or deeper on embankments or toe.
	Fencing	MM	Main gate destroyed by unknown driver. Repairs scheduled through Dasenbrock Fence Company, Inc.
	Drainage Channels (rip-rap, paved flumes, etc.)	GC	No overgrowth; Exposed fabric and dirt at North and Southwest Letdowns was repaired by Blankenship in September 2023.
	Other	GC	No burrows observed.
Groundwater Collection Trench and Discharge System	Control Panels	GC	Exterior of panels in good condition.
	Drainage Sumps / Manholes	GC	Lids are secure.
	Pumps	MM	A leak was observed in the piping of sump pit #1. The pump in sump pit #2 did not turn on when the switch was flipped to the "Hand" position. Freitag-Weinhardt Inc. has been contacted to make repairs.
	Groundwater Monitoring Wells	GC	Accessible; no excessive weed growth; no flooding.
	Flow Meter Totalizer	GC	Operational.
	Pump Station Data Collector (data download)	GC	Operational.
	Other		

Condition Codes

IM = Item needing Immediate Maintenance. Remediation should be completed within 1 month.

MM = Item needing Minor Maintenance and/or repairs within the year.

OB = Condition requires regular observation to ensure that the condition does not become worse.

GC = Good Condition. Working properly.

NE = No Evidence of a problem.

NI = Not Inspected. Reason should be stated in comment

Hutsonville Power Station – Ash Pond **A**

North letdown (facing SW)



East embankment (facing S)



North embankment (facing SW)



West embankment (facing S)



Southwest letdown (facing NE)



South embankment (facing E)



Cap Top

Facing North



Facing West



Facing South



Facing East



Small Animal Burrow Observed on Cap Top



Hutsonville Power Station

Ash Pond A Closure Cap - Post-Closure Care Plan

Quarterly Site Inspection Checksheet

Date	11/08/2024
Inspector	AMM
Temperature	60 °F
Weather	Sunny

	Item	Condition Code *	Comments
Pond Cap	Vent Pipes	GC	Vent holes clear of pipes inspected, no weed overgrowth inside cement vent barriers.
	Drainage Berms	GC	No excessive standing water; no eroded or scoured drainage channels.
	Vegetation	GC	Inspection occurred after third mowing in October 2024.
	Erosion on Cap	GC	A set of ruts that appear to be from equipment tires were observed on the eastern side of the cap. No liner is exposed. Ruts will continue to be monitored.
	Liner	GC	No exposed liner; no visual indication of rips, tears, punctures, or other damage to liner.
	Water Control Features (berms, vegetated flumes, etc.)	GC	Water control features in good condition.
	Other	GC	Very small animal burrows (likely snake holes) were observed on the top of the cap. Will monitor for issues.
Embankment	Vegetation	GC	No overgrowth or bare patches on embankments.
	Liner	GC	No exposure
	Erosion	GC	No erosion or gullies 6 inches or deeper on embankments or toe.
	Fencing	MM	Main gate destroyed by unknown driver. Repairs scheduled through Dasenbrock Fence Company, Inc.
	Drainage Channels (rip-rap, paved flumes, etc.)	GC	No overgrowth. Channels in good condition.
	Other	GC	No burrows observed.
Groundwater Collection Trench and Discharge System	Control Panels	GC	Exterior of panels in good condition.
	Drainage Sumps / Manholes	GC	Lids are secure.
	Pumps	MM	Frietag-Weinhardt Inc. mobilized to the site in October to repair the issues identified during the 3Q24 inspection (leak in sump pit #1 and sump pit #2 not turning on). Due to a 6 - 8 week lead time on replacement pumps, Ameren directed Frietag-Weinhardt Inc. to move the functional pump in sump pit #1 to sump pit #2. At the time of the Q4 inspection, there was no pump in sump pit #1. Leaking was observed in sump pit #2 when the pump was switched on. Frietag-Weinhardt Inc. has been contacted to make additional repairs.
	Groundwater Monitoring Wells	GC	Accessible; no excessive weed growth; no flooding.
	Flow Meter Totalizer	GC	Operational.
	Pump Station Data Collector (data download)	GC	A computing error was identified with the totalizer readings for DS-2. Yokogawa assisted with troubleshooting the issue, and all readings are now computing correctly.
	Other		

Condition Codes

IM = Item needing Immediate Maintenance. Remediation should be completed within 1 month.

MM = Item needing Minor Maintenance and/or repairs within the year.

OB = Condition requires regular observation to ensure that the condition does not become worse.

GC = Good Condition. Working properly.

NE = No Evidence of a problem.

NI = Not Inspected. Reason should be stated in comment

Hutsonville Power Station – Ash Pond **A**

North letdown (facing SW)



East embankment (facing S)



North embankment (facing SW)



West embankment (facing S)



Southwest letdown (facing NE)



South embankment (facing E)



Cap Top

Facing North



Facing West



Facing South



Facing East



Small Animal Burrow Observed on Cap Top



Ruts Observed on Cap Top



Ruts Observed on Cap Top



APPENDIX C

STATISTICAL OUTPUT

APPENDIX C1

TEST DESCRIPTIONS

MANAGES

Groundwater Data Management and Evaluation Software

Software Manual Product ID #1012581

Software Manual, February 2010

EPRI Project Manager
K. Ladwig

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10

STATISTICAL ANALYSIS

Stand-Alone Statistical Tests

Statistical Evaluation Report

The Statistical Evaluation Report is comprised of a series of subreports as described below.

User Selections:

- One location.
- Sample date range for data selection.
- Interval length: the length of the averaging period in months (1,2,3,4, or 6).
- One parameter.
- Non-detect processing: multiplier between 0 and 1.
- One-sided confidence ($1 - \alpha$) level – 0.90, 0.95 or 0.99.
- Limit type: used in the statistical overview to determine exceedances.

Mann-Kendall Trend and Seasonal Analysis Tests

The Mann-Kendall test for trend is insensitive to the presence or absence of seasonality. The test is non-parametric and does not assume any type of data distribution. Nonetheless, two forms of the test are provided in MANAGES, one ignoring data seasonality even if it is present, and one considering data seasonality. In the test, the null hypothesis, H_0 , is that the Sen trend is zero, and the alternate hypothesis, H_a , is that the trend is non-zero.

In general, the Mann-Kendall test considering seasonality indicates a larger range for allowable Sen estimate of trend when seasonality is actually present than the range indicated by the test performed ignoring seasonality.

In the Mann-Kendall Trend Analysis, available in under the Statistical Evaluation Report and in the Statistical Procedure for Detection Monitoring, and Mann-Kendall Seasonal Analysis, found under the Statistical Evaluation Report, MANAGES first calculates the Sen slope and the upper and lower confidence limits of the Sen slope, and then determines whether the Sen slope is statistically significant. Slope is statistically significant if it is non-zero.

Mann-Kendall Test for Sen Slope Significance – a two-sided, non-parametric method for data sets as small as 10, unless there are many tied (e.g., equal, NDs are treated as ties) values (Gilbert, 1987; p. 208)

Indicator Function

$$\text{sgn}(x_{ij} - x_{jk})$$

$$= 1 \text{ if } (x_{ij} - x_{jk}) > 0$$

$$= 0 \text{ if } (x_{ij} - x_{jk}) = 0$$

$$= -1 \text{ if } (x_{ij} - x_{jk}) < 0$$

where $x_{i1}, x_{i2}, \dots, x_{in}$ are the time ordered data (n_i is total of data in the i -th season).

Mann-Kendall Statistic, S_i

$$= \sum_{k=1}^{n_i-1} \sum_{j=k+1}^{n_i} \text{sgn}(x_{ij} - x_{jk})$$

Variance of S_i $\text{VAR}(S_i)$

$$\text{VAR}(S_i) =$$

$$\frac{1}{18} \left\{ n_i(n_i - 1)(2n_i + 5) - \sum_{p=1}^{g_i} t_{ip}(t_{ip} - 1)(2t_{ip} + 5) - \sum_{q=1}^{h_i} u_{iq}(u_{iq} - 1)(2u_{iq} + 5) \right\}$$

$$+ \frac{\sum_{p=1}^{g_i} t_{ip}(t_{ip} - 1)(t_{ip} - 2) \sum_{q=1}^{h_i} u_{iq}(u_{iq} - 1)(u_{iq} - 2)}{9n_i(n_i - 1)(n_i - 2)}$$

$$+ \frac{\sum_{p=1}^{g_i} t_{ip}(t_{ip} - 1) \sum_{q=1}^{h_i} u_{iq}(u_{iq} - 1)}{2n_i(n_i - 1)}.$$

The variable g_i is the number of tied groups (equal-valued) data in the i -th season, t_{ip} is the number of tied data in the p -th group for the i -th season, h_i is the number of sampling times (or time periods) in the i -th season that contain multiple data, u_{iq} is the number of multiple data in the q -th time period in the i -th season, and n_i is the number of data values in the i -th season.

Test Statistic, Z	<p>If $S' = \sum_{i=1}^K S_i$, where K is the number of seasons, then the test statistic Z is computed as:</p> $Z = \begin{cases} \frac{S'-1}{[\text{VAR}(S')]^{1/2}} & \text{iff } S' > 0 \\ 0 & \text{iff } S' = 0 \\ \frac{S'+1}{[\text{VAR}(S')]^{1/2}} & \text{iff } S' < 0 \end{cases}$ <p>Where “iff” is an acronym meaning: if-and-only-if. A positive Z value means an upward trend and a negative Z value means a negative trend.</p>
Hypothesis Test: H_0 = no trend H_a = trend present This is a two-sided test at the α significance level.	<p>Accept the null hypothesis H_0 of no trend</p> <p>if $Z \leq Z_{1-\alpha/2}$</p> <p>Reject the null hypothesis H_0</p> <p>if $Z > Z_{1-\alpha/2}$</p> <p>where $Z_{1-\alpha/2}$ is obtained from Table A1 in Gilbert (1987; p. 254).</p>

Kruskal-Wallis Analysis (Test for Seasonality)

To perform the Kruskal-Wallis test for data seasonality, data points are first segmented according to season (Gilbert, 1987). The null hypothesis, H_0 , is that all seasons have the same mean value. The alternative hypothesis, H_a , is that at least one season has a mean larger or smaller than the mean of at least one other season. Montgomery et al. (1987) provide additional information on groundwater data seasonality. This is a two-sided, non-parametric test.

In MANAGES, the Kruskal-Wallis Test for Seasonality is found under Data Review // Non-Parametric Methods // Kruskal-Wallis Analysis. It determines whether the seasonal means for the specified parameter at the specified location are statistically the same.

	or $Z_i \geq SCL$.
--	---------------------

Outlier Tests

Outlier tests are useful in detecting inconsistencies of measurement within a data set. An outlier is defined as an observation that appears to deviate markedly from other values of a sample set. There are many possible reasons for the presence of an outlier, including 1) the presence of a true but extreme value from a single population, resulting from random variability inherent in the data; 2) an improper identification of the underlying distribution describing the population from which the sample set comes from; 3) the occurrence of some unknown event(s) such as a spill, creating a mixture of two or more populations; 4) a gross deviation from prescribed sampling procedures or laboratory analysis; 5) a transcription error in the data value or data unit of measurement.

USEPA (1989; p. 8-11) states that the purpose of a test for outliers is to determine whether or not there is statistical evidence that an observation that appears extreme does not fit the distribution of the rest of the data. If an observation is identified as an outlier, then steps need to be taken to determine whether it is the result of an error or a valid extreme observation. If a true error, such as in transcription, dilution, or analytical procedure, can be identified, then the suspect value should be replaced with its corrected value. If the source of the error can be determined but no correction is possible, then the observation is deleted and the reason for deletion is reported along with any statistical analysis. If no source of error can be documented, then it must be assumed that the observation is a true but extreme value of the data set. If this is the case, the outlier observation(s) must not be altered or excluded from any statistical analysis. Identification of an observation as an outlier but with no error documented could be used to suggest resampling to confirm the value (USEPA, 1989; p. 8-13).

The outlier tests provided in MANAGES are based on either the single outlier test of Grubbs (1969), which is used by USEPA (1989; pp. 8-10 to 8-13) or the single outlier test of Dixon (1951, 1953), which is used by USEPA (2000; pp. 4-24) and by ASTM (1998). The outlier tests assume the data come from a normal distribution. Only one outlier, either an extreme low or an extreme high, can be detected during a single analysis of a data set. Additional outliers can be detected by temporarily removing a previously detected outlier from a data set and then repeating the test on the remaining, reduced, data set. During each pass of the outlier test, the sample mean, standard deviation, and sample size used in the test statistics are computed using only the data remaining in the set. The process can be continued until there is either an insufficient amount of data remaining (a minimum of 3 values) or when no additional outliers are found. When using MANAGES, the user will be asked how many outliers are to be checked and it will then automatically perform all of the recursive calls and data reductions with the Grubbs or Dixon routine. When done, a report can be generated that will show each outlier marked with a flag indicating the sequential order in which the outliers were identified.

Critical values used in the one-sided Grubbs test are taken directly from those in Grubbs and Beck (1972) for sample sizes smaller than 147 observations. Critical values for sample sizes larger than 147 were generated numerically using a Monte Carlo routine, where each sampling event was simulated 100,000 times. Sample sizes ranging from 148 to 5,000 were used and then their resultant test statistic T_n curve fitted at specific significance levels. By this method, it was possible to match Grubbs results to at least four significant digits for corresponding tabulated values.

Critical values used in the one-sided Dixon outlier test are taken directly from tables given in Dixon (1951), Dixon (1953; page 89), and USEPA (2000; p. A-5, Table A-3). The critical values were then curve fitted for every sample size between 3 and 25 as a function of the significance level. By this method, it was possible to match Dixon's results to at least four significant digits for corresponding tabulated values. Note that the Dixon test assumes the data are either normally or lognormally distributed. Hence, sample sizes can only range between 3 and 25, inclusive. Dixon never developed an outlier test for sample sizes larger than 25.

User Selections:

- One or up to 100 locations: a separate test is performed for each location.
- One or up to 100 parameters: a separate test is performed for each parameter.
- Evaluation date range.
- Confidence ($1 - \alpha$) level: 0.90, 0.95 or 0.99.
- Non-detect processing: multiplier between 0 and 1.
- Data transformation option: none and log (base e).
- Number of outliers: one, two, first 5%, first 10%. Selecting any option other than one causes MANAGES to rerun the test, with outliers from prior tests removed, until either no outliers are detected or the specified number of outliers are detected.

Technical Details

Grubbs Outlier Test – The Grubbs outlier test determines whether there is statistical evidence that an observation does not fit the remaining data (USEPA, 1989; p. 8-11). This significance test looks at either the highest or the lowest observation in normal samples.

The number of observations taken during a specified scoping period; n

n

Statistical Analysis

Mean of the observed data during the scoping period; \bar{X}	$\bar{X} = \frac{1}{n} \sum_{i=1}^n X_i$ <p>where X_i is the i-th observation.</p>
Standard deviation of observed data; S_x .	$S_x = \sqrt{\frac{1}{(n-1)} \sum_{i=1}^n (X_i - \bar{X})^2}$
Test statistics: T_l & T_n	<p>Sort the data into ascending order, then compute the statistics</p> $T_l = (\bar{X} - X_l) / S_x$ $T_n = (X_n - \bar{X}) / S_x$ <p>where X_l is the smallest value of the n observations and X_n is the largest value of the n observations.</p>
One-sided test with a $(1-\alpha)$ confidence level that there is a single extreme outlier within the n observations.	<p>Grubbs single, one-sided test of either an extreme low outlier :</p> $X_l \text{ is an outlier if } T_l \geq T_{cr(1-\alpha, n)}$ <p>or an extreme high outlier:</p> $X_n \text{ is an outlier if } T_n \geq T_{cr(1-\alpha, n)}.$ <p>The function $T_{cr(1-\alpha, n)}$ is the critical value, given in Grubbs and Beck (1972; Table 1) and USEPA (1989; p. B-11, Table 8) . Note that the critical value assumes that the mean and standard deviation are computed from the sample being tested.</p>

Dixon Outlier Test – The Dixon outlier test determines whether there is statistical evidence that an extreme observation does not fit the remaining data (USEPA, 2000; p. 4-24 and ASTM D6312, 1998). This significance test looks at both the highest and the

<p>lowest observations in a sample data set. However, the routine will only perform the outlier tests if several conditions are first satisfied. For example, the Dixon outlier algorithm checks the distribution of the sample data for both normality and lognormality using the Shapiro-Wilk W-test. The outlier routine will not proceed with a data set if the W-test fails. In addition, the Dixon outlier test is limited to a minimum of 3 and a maximum sample size n of 25 data values.</p>	
<p>The number of observations taken during a specified scoping period; n</p>	<p>Number of observations, n, where</p> $3 \leq n \leq 25.$
<p>Sorting the sample data</p>	<p>Sort the data into ascending order, with the minimum data value $X_{(1)}$ first and the maximum data value $X_{(n)}$ last. Use the natural log of the data values if data are lognormally distributed, i.e., $X_{(j)} = \text{Ln}[X_{(j)}]$.</p>
<p>Goodness-of fit tests</p>	<p>After temporarily excluding either the minimum or maximum value of the data set, the Shapiro-Wilk's W-test is used to determine if the remaining $n - 1$ values are normally or lognormally distributed. If not, the Dixon outlier test can't be used.</p>
<p>Test statistic, T_s, for the minimum data value</p>	<p>Compute the T_s test statistic for $X_{(1)}$ as an outlier:</p> $T_s = \frac{X_{(2)} - X_{(1)}}{X_{(n)} - X_{(1)}} \quad \text{for } 3 \leq n \leq 7$ $T_s = \frac{X_{(2)} - X_{(1)}}{X_{(n-1)} - X_{(1)}} \quad \text{for } 8 \leq n \leq 10$ $T_s = \frac{X_{(3)} - X_{(1)}}{X_{(n-1)} - X_{(1)}} \quad \text{for } 11 \leq n \leq 13$ $T_s = \frac{X_{(3)} - X_{(1)}}{X_{(n-2)} - X_{(1)}} \quad \text{for } 14 \leq n \leq 25.$
<p>Test statistic, T_s, for the maximum data value</p>	<p>Compute the T_s test statistic for $X_{(n)}$ as an outlier:</p>

	$T_s = \frac{X_{(n)} - X_{(n-1)}}{X_{(n)} - X_{(1)}} \quad \text{for } 3 \leq n \leq 7$ $T_s = \frac{X_{(n)} - X_{(n-1)}}{X_{(n)} - X_{(2)}} \quad \text{for } 8 \leq n \leq 10$ $T_s = \frac{X_{(n)} - X_{(n-2)}}{X_{(n)} - X_{(2)}} \quad \text{for } 11 \leq n \leq 13$ $T_s = \frac{X_{(n)} - X_{(n-2)}}{X_{(n)} - X_{(3)}} \quad \text{for } 14 \leq n \leq 25.$
Critical value T_c	USEPA (2000; p. A-5, Table A-3) lists the critical values of the Dixon test as a function of sample size for a one-sided extreme value test at the significance levels α of 0.1, 0.05, and 0.01.
One-sided test with a $(1 - \alpha)$ confidence level that there is a single extreme outlier within the n observations.	<p>Dixon's single, one-sided test for statistical evidence of either an extreme low-valued outlier:</p> <p>$X_{(1)}$ is an outlier if $T_s \geq T_c$</p> <p>or an extreme high-valued outlier:</p> <p>$X_{(n)}$ is an outlier if $T_s \geq T_c$.</p> <p>The function T_c is the critical value, given in Dixon (1953; page 89) and USEPA (2000; p. A-5, Table A-3). Note that the critical value assumes that the data are either normally or lognormally distributed.</p>

Other Statistical Calculations Used in MANAGES

Sen Estimate of Slope

The Sen estimate of slope is the median of all slopes between all possible unique pairs of individual data points in the time period being analyzed (Gilbert, 1987). The slopes represent the rate of change of the measured parameter, with the y-axis being the parameter value and the x-axis being calendar days. Sen's estimate of slope is a non-parametric estimator of trend. The method is robust, and fairly insensitive to the presence of a small fraction of outliers and non-detect data values. In contrast, linear regression and other least squares estimators of slope are significantly more sensitive, and more likely to give erroneous slope indications, even when only a few outlier values are present.

When data averaging is not activated, the Sen slope is calculated using individual data points and actual sampling dates. When data averaging is activated, multiple data points within each specified season period are reduced to one data point by arithmetic averaging over each of the season periods. These averaged values are then assigned to the day that corresponds to the middle of that season's period.

The approximate lower and upper confidence limits for the Sen slope can also be calculated using normal theory (Gilbert, 1987). It should be noted that confidence limits for the Sen slope are not necessarily symmetrical about the estimated slope since ranked values of slope are used in the calculation.

MANAGES calculates Sen slope in the Sen Slope Overlay Graph, Statistical Summary reports and in the two Mann-Kendall tests performed under the Statistical Evaluation Report.

Sen's Estimate of Slope – two-sided, non-parametric method that calculates the trend of a single data series. It is less sensitive to outliers and non-detect values than linear regression (Gilbert, 1987; p. 217).	
Slope, Q	$= \frac{X_{i'} - X_i}{i' - i}$ <p>where $X_{i'}$ and x_i are data values at times i' and i, respectively, and where $i' > i$. Typically, i' and i are expressed in units of either days for trend analysis or years for seasonal analysis.</p>
N'	<p>Number of unique data point pairs that can be made for the observations in the data set, for $i' > i$. For n monitoring events, N' is given as:</p> $N' = n(n-1)/2$

Sen's Slope Estimate	<p>Sen's slope estimator = median slope</p> <p>= $Q_{[(N'+1)/2]}$ if N' is odd</p> <p>= $\frac{1}{2}(Q_{[N'/2]} + Q_{[(N'+2)/2]})$ if N' is even</p> <p>where the Q values have first been ranked from smallest to largest.</p>
$Z_{1-\alpha/2}$	Statistic for the cumulative normal distribution (Gilbert, 1987; p. 254) for the two-sided, α significance level.
Variance estimate of the Mann-Kendall S Statistic, VAR(S)	<p>VAR(S)</p> <p>= $\frac{1}{18}[n(n-1)(2n+5) - \sum_{p=1}^g t_p(t_p-1)(2t_p+5)]$</p> <p>where g is the number of tied groups, t_p is the number of data in the pth group, and n is the number of data values.</p>
C_α	= $Z_{1-\alpha/2} \sqrt{\text{VAR}(S)}$
Sen's Slope, a two-sided test at the α significance level	<p>$M_1 = \frac{(N' - C_\alpha)}{2}$</p> <p>$M_2 = \frac{(N' + C_\alpha)}{2}$</p> <p>Lower limit of confidence interval is the M_1-th largest slope, and upper limit of confidence interval is the $(M_2 + 1)$-th largest of the N' ordered slope estimates.</p>

Coefficient of Skewness for Normality

The coefficient of skewness is another measure for data normality (Gilbert, 1987). MANAGES provides the value of the coefficient of skewness in the Statistical Evaluation Report, Statistical Overview. Additional information on data normality is given by Montgomery, et al. (1987).

APPENDIX C2

OUTLIER TEST

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Antimony, dissolved, mg/L**Location: MW12**

Mean of all data: 0.00176

Standard Deviation of all data: 0.00156

Largest Observation Concentration of all data: Xn = 0.0100

Test Statistic, high extreme of all data: Tn = 5.28

T Critical of all data: Tcr = 2.88

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/18/2017	<0.0100	True		1

Antimony, dissolved, mg/L**Location: MW22D**

Mean of all data: 0.00200

Standard Deviation of all data: 0.0

Largest Observation Concentration of all data: Xn = 0.00200

Test Statistic, high extreme of all data: Tn = 0.0

T Critical of all data: Tcr = 0.0

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
--------------------	--------------	-----------------	----------------------------	-----------------------------

No Outliers**Antimony, dissolved, mg/L****Location: MW22S**

Mean of all data: 0.00206

Standard Deviation of all data: 0.000359

Largest Observation Concentration of all data: Xn = 0.00400

Test Statistic, high extreme of all data: Tn = 5.39

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
11/01/2021	<0.00400	True		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Antimony, dissolved, mg/L**Location: MW23D**

Mean of all data: 0.00200

Standard Deviation of all data: 0.0

Largest Observation Concentration of all data: $X_n = 0.00200$ Test Statistic, high extreme of all data: $T_n = 0.0$ T Critical of all data: $T_{cr} = 0.0$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
--------------------	--------------	-----------------	-----------------------------	------------------------------

No Outliers**Antimony, dissolved, mg/L****Location: MW23S**

Mean of all data: 0.00200

Standard Deviation of all data: 0.0

Largest Observation Concentration of all data: $X_n = 0.00200$ Test Statistic, high extreme of all data: $T_n = 0.0$ T Critical of all data: $T_{cr} = 0.0$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
--------------------	--------------	-----------------	-----------------------------	------------------------------

No Outliers**Antimony, dissolved, mg/L****Location: MW2D**

Mean of all data: 0.00200

Standard Deviation of all data: 0.0

Largest Observation Concentration of all data: $X_n = 0.00200$ Test Statistic, high extreme of all data: $T_n = 0.0$ T Critical of all data: $T_{cr} = 0.0$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
--------------------	--------------	-----------------	-----------------------------	------------------------------

No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Antimony, dissolved, mg/L**Location: MW2R**

Mean of all data: 0.00213

Standard Deviation of all data: 0.00273

Largest Observation Concentration of all data: Xn = 0.0180

Test Statistic, high extreme of all data: Tn = 5.81

T Critical of all data: Tcr = 2.85

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
04/21/2014	0.0180	False		1

Antimony, dissolved, mg/L**Location: MW3**

Mean of all data: 0.00186

Standard Deviation of all data: 0.00225

Largest Observation Concentration of all data: Xn = 0.00900

Test Statistic, high extreme of all data: Tn = 3.18

T Critical of all data: Tcr = 2.37

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
04/21/2014	0.00900	False		1

Antimony, dissolved, mg/L**Location: MW3D**

Mean of all data: 0.00155

Standard Deviation of all data: 0.000832

Largest Observation Concentration of all data: Xn = 0.00200

Test Statistic, high extreme of all data: Tn = 0.544

T Critical of all data: Tcr = 2.89

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>

No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Antimony, dissolved, mg/L**Location: MW4**

Mean of all data: 0.00159

Standard Deviation of all data: 0.00104

Largest Observation Concentration of all data: Xn = 0.00500

Test Statistic, high extreme of all data: Tn = 3.28

T Critical of all data: Tcr = 2.84

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
04/21/2014	0.00500	False		1

Antimony, dissolved, mg/L**Location: MW5**

Mean of all data: 0.00152

Standard Deviation of all data: 0.000902

Largest Observation Concentration of all data: Xn = 0.00300

Test Statistic, high extreme of all data: Tn = 1.64

T Critical of all data: Tcr = 2.91

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers**Arsenic, dissolved, mg/L****Location: MW12**

Mean of all data: 0.000204

Standard Deviation of all data: 0.000122

Largest Observation Concentration of all data: Xn = 0.000600

Test Statistic, high extreme of all data: Tn = 3.24

T Critical of all data: Tcr = 2.88

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/13/2017	0.000600	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Arsenic, dissolved, mg/L**Location: MW22D**

Mean of all data: 0.00223

Standard Deviation of all data: 0.00156

Largest Observation Concentration of all data: $X_n = 0.00650$ Test Statistic, high extreme of all data: $T_n = 2.73$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Arsenic, dissolved, mg/L****Location: MW22S**

Mean of all data: 0.00744

Standard Deviation of all data: 0.00363

Largest Observation Concentration of all data: $X_n = 0.0160$ Test Statistic, high extreme of all data: $T_n = 2.36$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Arsenic, dissolved, mg/L****Location: MW23D**

Mean of all data: 0.00259

Standard Deviation of all data: 0.00164

Largest Observation Concentration of all data: $X_n = 0.00980$ Test Statistic, high extreme of all data: $T_n = 4.41$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
06/20/2022	0.00980	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Arsenic, dissolved, mg/L**Location: MW23S**

Mean of all data: 0.000559

Standard Deviation of all data: 0.00166

Largest Observation Concentration of all data: $X_n = 0.00920$ Test Statistic, high extreme of all data: $T_n = 5.20$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	0.00920	False		1

Arsenic, dissolved, mg/L**Location: MW2D**

Mean of all data: 0.00693

Standard Deviation of all data: 0.00253

Largest Observation Concentration of all data: $X_n = 0.0138$ Test Statistic, high extreme of all data: $T_n = 2.71$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers**Arsenic, dissolved, mg/L****Location: MW2R**

Mean of all data: 0.000332

Standard Deviation of all data: 0.000627

Largest Observation Concentration of all data: $X_n = 0.00400$ Test Statistic, high extreme of all data: $T_n = 5.85$ T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
07/21/2014	0.00400	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Arsenic, dissolved, mg/L**Location: MW3**

Mean of all data: 0.000214

Standard Deviation of all data: 0.000257

Largest Observation Concentration of all data: Xn = 0.00100

Test Statistic, high extreme of all data: Tn = 3.06

T Critical of all data: Tcr = 2.37

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
04/21/2014	0.00100	False		1

Arsenic, dissolved, mg/L**Location: MW3D**

Mean of all data: 0.00142

Standard Deviation of all data: 0.00207

Largest Observation Concentration of all data: Xn = 0.0112

Test Statistic, high extreme of all data: Tn = 4.73

T Critical of all data: Tcr = 2.89

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
11/01/2021	0.0112	False		1

Arsenic, dissolved, mg/L**Location: MW4**

Mean of all data: 0.000269

Standard Deviation of all data: 0.000477

Largest Observation Concentration of all data: Xn = 0.00300

Test Statistic, high extreme of all data: Tn = 5.73

T Critical of all data: Tcr = 2.84

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
07/21/2014	0.00300	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Arsenic, dissolved, mg/L**Location: MW5**

Mean of all data: 0.000232

Standard Deviation of all data: 0.000297

Largest Observation Concentration of all data: Xn = 0.00200

Test Statistic, high extreme of all data: Tn = 5.95

T Critical of all data: Tcr = 2.91

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
07/21/2014	0.00200	False		1

Barium, dissolved, mg/L**Location: MW12**

Mean of all data: 0.0175

Standard Deviation of all data: 0.00370

Largest Observation Concentration of all data: Xn = 0.0260

Test Statistic, high extreme of all data: Tn = 2.31

T Critical of all data: Tcr = 2.88

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers**Barium, dissolved, mg/L****Location: MW22D**

Mean of all data: 0.0247

Standard Deviation of all data: 0.00732

Largest Observation Concentration of all data: Xn = 0.0490

Test Statistic, high extreme of all data: Tn = 3.32

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	0.0490	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Barium, dissolved, mg/L**Location: MW22S**

Mean of all data: 0.00948

Standard Deviation of all data: 0.00812

Largest Observation Concentration of all data: $X_n = 0.0420$ Test Statistic, high extreme of all data: $T_n = 4.00$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	0.0420	False		1

Barium, dissolved, mg/L**Location: MW23D**

Mean of all data: 0.0452

Standard Deviation of all data: 0.00536

Largest Observation Concentration of all data: $X_n = 0.0560$ Test Statistic, high extreme of all data: $T_n = 2.01$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	0.0290	False	-1	

Barium, dissolved, mg/L**Location: MW23S**

Mean of all data: 0.0353

Standard Deviation of all data: 0.00745

Largest Observation Concentration of all data: $X_n = 0.0490$ Test Statistic, high extreme of all data: $T_n = 1.83$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	0.00900	False	-1	

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Barium, dissolved, mg/L**Location: MW2D**

Mean of all data: 0.0833

Standard Deviation of all data: 0.0426

Largest Observation Concentration of all data: $X_n = 0.252$ Test Statistic, high extreme of all data: $T_n = 3.96$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
11/11/2024	0.252	False		1

Barium, dissolved, mg/L**Location: MW2R**

Mean of all data: 0.0362

Standard Deviation of all data: 0.00771

Largest Observation Concentration of all data: $X_n = 0.0550$ Test Statistic, high extreme of all data: $T_n = 2.44$ T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers**Barium, dissolved, mg/L****Location: MW3**

Mean of all data: 0.00743

Standard Deviation of all data: 0.00440

Largest Observation Concentration of all data: $X_n = 0.0150$ Test Statistic, high extreme of all data: $T_n = 1.72$ T Critical of all data: $T_{cr} = 2.37$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Barium, dissolved, mg/L**Location: MW3D**

Mean of all data: 0.0127

Standard Deviation of all data: 0.00353

Largest Observation Concentration of all data: $X_n = 0.0210$ Test Statistic, high extreme of all data: $T_n = 2.34$ T Critical of all data: $T_{cr} = 2.89$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Barium, dissolved, mg/L****Location: MW4**

Mean of all data: 0.0185

Standard Deviation of all data: 0.00459

Largest Observation Concentration of all data: $X_n = 0.0270$ Test Statistic, high extreme of all data: $T_n = 1.85$ T Critical of all data: $T_{cr} = 2.84$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Barium, dissolved, mg/L****Location: MW5**

Mean of all data: 0.0300

Standard Deviation of all data: 0.0132

Largest Observation Concentration of all data: $X_n = 0.0710$ Test Statistic, high extreme of all data: $T_n = 3.10$ T Critical of all data: $T_{cr} = 2.91$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
09/26/2016	0.0710	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Beryllium, dissolved, mg/L**Location: MW12**

Mean of all data: 0.000976

Standard Deviation of all data: 0.00101

Largest Observation Concentration of all data: $X_n = 0.00500$ Test Statistic, high extreme of all data: $T_n = 3.98$ T Critical of all data: $T_{cr} = 2.88$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/18/2017	<0.00500	True		1

Beryllium, dissolved, mg/L**Location: MW22D**

Mean of all data: 0.00295

Standard Deviation of all data: 0.00250

Largest Observation Concentration of all data: $X_n = 0.0100$ Test Statistic, high extreme of all data: $T_n = 2.82$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
11/01/2021	<0.0100	True		1

Beryllium, dissolved, mg/L**Location: MW22S**

Mean of all data: 0.00861

Standard Deviation of all data: 0.00358

Largest Observation Concentration of all data: $X_n = 0.0193$ Test Statistic, high extreme of all data: $T_n = 2.99$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
06/24/2024	0.0193	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Beryllium, dissolved, mg/L**Location: MW23D**

Mean of all data: 0.00100

Standard Deviation of all data: 0.0

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 0.0$ T Critical of all data: $T_{cr} = 0.0$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Beryllium, dissolved, mg/L****Location: MW23S**

Mean of all data: 0.00125

Standard Deviation of all data: 0.00134

Largest Observation Concentration of all data: $X_n = 0.00820$ Test Statistic, high extreme of all data: $T_n = 5.20$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
10/28/2019	0.00820	False		1

Beryllium, dissolved, mg/L**Location: MW2D**

Mean of all data: 0.00113

Standard Deviation of all data: 0.000718

Largest Observation Concentration of all data: $X_n = 0.00500$ Test Statistic, high extreme of all data: $T_n = 5.39$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
11/01/2021	<0.00500	True		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Beryllium, dissolved, mg/L**Location: MW2R**

Mean of all data: 0.000816

Standard Deviation of all data: 0.000393

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 0.469$ T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Beryllium, dissolved, mg/L****Location: MW3**

Mean of all data: 0.000571

Standard Deviation of all data: 0.000514

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 0.835$ T Critical of all data: $T_{cr} = 2.37$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Beryllium, dissolved, mg/L****Location: MW3D**

Mean of all data: 0.000788

Standard Deviation of all data: 0.000477

Largest Observation Concentration of all data: $X_n = 0.00210$ Test Statistic, high extreme of all data: $T_n = 2.75$ T Critical of all data: $T_{cr} = 2.89$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Beryllium, dissolved, mg/L**Location: MW4**

Mean of all data: 0.000730

Standard Deviation of all data: 0.000450

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 0.600$ T Critical of all data: $T_{cr} = 2.84$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Beryllium, dissolved, mg/L****Location: MW5**

Mean of all data: 0.000727

Standard Deviation of all data: 0.000451

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 0.605$ T Critical of all data: $T_{cr} = 2.91$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Boron, dissolved, mg/L****Location: MW12**

Mean of all data: 0.173

Standard Deviation of all data: 0.0686

Largest Observation Concentration of all data: $X_n = 0.460$ Test Statistic, high extreme of all data: $T_n = 4.18$ T Critical of all data: $T_{cr} = 2.88$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
08/28/2018	0.460	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Boron, dissolved, mg/L**Location: MW22D**

Mean of all data: 6.20

Standard Deviation of all data: 2.05

Largest Observation Concentration of all data: $X_n = 9.43$ Test Statistic, high extreme of all data: $T_n = 1.58$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	0.0500	False	-1	

Boron, dissolved, mg/L**Location: MW22S**

Mean of all data: 3.64

Standard Deviation of all data: 5.07

Largest Observation Concentration of all data: $X_n = 29.9$ Test Statistic, high extreme of all data: $T_n = 5.18$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
08/28/2018	29.9	False		1

Boron, dissolved, mg/L**Location: MW23D**

Mean of all data: 0.324

Standard Deviation of all data: 1.48

Largest Observation Concentration of all data: $X_n = 8.02$ Test Statistic, high extreme of all data: $T_n = 5.20$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	8.02	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Boron, dissolved, mg/L**Location: MW23S**

Mean of all data: 0.340

Standard Deviation of all data: 0.943

Largest Observation Concentration of all data: $X_n = 5.24$ Test Statistic, high extreme of all data: $T_n = 5.20$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	5.24	False		1

Boron, dissolved, mg/L**Location: MW2D**

Mean of all data: 0.181

Standard Deviation of all data: 0.218

Largest Observation Concentration of all data: $X_n = 0.850$ Test Statistic, high extreme of all data: $T_n = 3.07$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
11/11/2024	0.850	False		1

Boron, dissolved, mg/L**Location: MW2R**

Mean of all data: 1.76

Standard Deviation of all data: 0.741

Largest Observation Concentration of all data: $X_n = 3.55$ Test Statistic, high extreme of all data: $T_n = 2.42$ T Critical of all data: $T_{cr} = 3.08$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Boron, dissolved, mg/L**Location: MW3**

Mean of all data: 3.03

Standard Deviation of all data: 1.95

Largest Observation Concentration of all data: $X_n = 7.78$ Test Statistic, high extreme of all data: $T_n = 2.43$ T Critical of all data: $T_{cr} = 3.00$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Boron, dissolved, mg/L****Location: MW3D**

Mean of all data: 3.85

Standard Deviation of all data: 1.32

Largest Observation Concentration of all data: $X_n = 6.47$ Test Statistic, high extreme of all data: $T_n = 1.99$ T Critical of all data: $T_{cr} = 2.89$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Boron, dissolved, mg/L****Location: MW4**

Mean of all data: 0.263

Standard Deviation of all data: 0.121

Largest Observation Concentration of all data: $X_n = 0.831$ Test Statistic, high extreme of all data: $T_n = 4.68$ T Critical of all data: $T_{cr} = 3.14$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
06/11/2012	0.831	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Boron, dissolved, mg/L**Location: MW5**

Mean of all data: 0.203

Standard Deviation of all data: 0.128

Largest Observation Concentration of all data: $X_n = 0.710$ Test Statistic, high extreme of all data: $T_n = 3.96$ T Critical of all data: $T_{cr} = 3.17$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/06/2011	0.710	False		1

Cadmium, dissolved, mg/L**Location: MW12**

Mean of all data: 0.000220

Standard Deviation of all data: 0.000195

Largest Observation Concentration of all data: $X_n = 0.00125$ Test Statistic, high extreme of all data: $T_n = 5.28$ T Critical of all data: $T_{cr} = 2.88$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/18/2017	<0.00125	True		1

Cadmium, dissolved, mg/L**Location: MW22D**

Mean of all data: 0.00196

Standard Deviation of all data: 0.000920

Largest Observation Concentration of all data: $X_n = 0.00450$ Test Statistic, high extreme of all data: $T_n = 2.76$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/18/2017	0.00450	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Cadmium, dissolved, mg/L

Location: MW22S

Mean of all data: 0.00467

Standard Deviation of all data: 0.00268

Largest Observation Concentration of all data: $X_n = 0.0143$

Test Statistic, high extreme of all data: $T_n = 3.60$

T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
06/24/2024	0.0143	False		1

Cadmium, dissolved, mg/L

Location: MW23D

Mean of all data: 0.000297

Standard Deviation of all data: 0.000251

Largest Observation Concentration of all data: $X_n = 0.00160$

Test Statistic, high extreme of all data: $T_n = 5.20$

T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	0.00160	False		1

Cadmium, dissolved, mg/L

Location: MW23S

Mean of all data: 0.000417

Standard Deviation of all data: 0.000901

Largest Observation Concentration of all data: $X_n = 0.00510$

Test Statistic, high extreme of all data: $T_n = 5.20$

T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	0.00510	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Cadmium, dissolved, mg/L**Location: MW2D**

Mean of all data: 0.000250

Standard Deviation of all data: 0.0

Largest Observation Concentration of all data: $X_n = 0.000250$ Test Statistic, high extreme of all data: $T_n = 0.0$ T Critical of all data: $T_{cr} = 0.0$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Cadmium, dissolved, mg/L****Location: MW2R**

Mean of all data: 0.000204

Standard Deviation of all data: 0.0000982

Largest Observation Concentration of all data: $X_n = 0.000250$ Test Statistic, high extreme of all data: $T_n = 0.469$ T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Cadmium, dissolved, mg/L****Location: MW3**

Mean of all data: 0.000143

Standard Deviation of all data: 0.000128

Largest Observation Concentration of all data: $X_n = 0.000250$ Test Statistic, high extreme of all data: $T_n = 0.835$ T Critical of all data: $T_{cr} = 2.37$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Cadmium, dissolved, mg/L**Location: MW3D**

Mean of all data: 0.00316

Standard Deviation of all data: 0.00278

Largest Observation Concentration of all data: $X_n = 0.0107$ Test Statistic, high extreme of all data: $T_n = 2.71$ T Critical of all data: $T_{cr} = 2.89$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Cadmium, dissolved, mg/L****Location: MW4**

Mean of all data: 0.000182

Standard Deviation of all data: 0.000113

Largest Observation Concentration of all data: $X_n = 0.000250$ Test Statistic, high extreme of all data: $T_n = 0.600$ T Critical of all data: $T_{cr} = 2.84$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Cadmium, dissolved, mg/L****Location: MW5**

Mean of all data: 0.000182

Standard Deviation of all data: 0.000113

Largest Observation Concentration of all data: $X_n = 0.000250$ Test Statistic, high extreme of all data: $T_n = 0.605$ T Critical of all data: $T_{cr} = 2.91$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Chloride, dissolved, mg/L**Location: MW12**

Mean of all data: 4.65

Standard Deviation of all data: 3.51

Largest Observation Concentration of all data: $X_n = 13.5$ Test Statistic, high extreme of all data: $T_n = 2.52$ T Critical of all data: $T_{cr} = 2.88$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Chloride, dissolved, mg/L****Location: MW22D**

Mean of all data: 8.10

Standard Deviation of all data: 1.38

Largest Observation Concentration of all data: $X_n = 14.2$ Test Statistic, high extreme of all data: $T_n = 4.42$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
05/14/2018	14.2	False		1

Chloride, dissolved, mg/L**Location: MW22S**

Mean of all data: 8.68

Standard Deviation of all data: 3.44

Largest Observation Concentration of all data: $X_n = 20.6$ Test Statistic, high extreme of all data: $T_n = 3.47$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
05/14/2018	20.6	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Chloride, dissolved, mg/L**Location: MW23D**

Mean of all data: 4.84

Standard Deviation of all data: 1.47

Largest Observation Concentration of all data: Xn = 9.70

Test Statistic, high extreme of all data: Tn = 3.31

T Critical of all data: Tcr = 2.73

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	9.70	False		1

Chloride, dissolved, mg/L**Location: MW23S**

Mean of all data: 3.11

Standard Deviation of all data: 2.40

Largest Observation Concentration of all data: Xn = 10.1

Test Statistic, high extreme of all data: Tn = 2.91

T Critical of all data: Tcr = 2.73

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	10.1	False		1

Chloride, dissolved, mg/L**Location: MW2D**

Mean of all data: 12.2

Standard Deviation of all data: 2.31

Largest Observation Concentration of all data: Xn = 19.5

Test Statistic, high extreme of all data: Tn = 3.16

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
06/20/2022	19.5	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Chloride, dissolved, mg/L**Location: MW2R**

Mean of all data: 18.0

Standard Deviation of all data: 6.26

Largest Observation Concentration of all data: $X_n = 32.1$ Test Statistic, high extreme of all data: $T_n = 2.25$ T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Chloride, dissolved, mg/L****Location: MW3**

Mean of all data: 6.60

Standard Deviation of all data: 6.14

Largest Observation Concentration of all data: $X_n = 21.9$ Test Statistic, high extreme of all data: $T_n = 2.49$ T Critical of all data: $T_{cr} = 2.37$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
07/21/2014	21.9	False		1

Chloride, dissolved, mg/L**Location: MW3D**

Mean of all data: 13.0

Standard Deviation of all data: 4.62

Largest Observation Concentration of all data: $X_n = 21.8$ Test Statistic, high extreme of all data: $T_n = 1.90$ T Critical of all data: $T_{cr} = 2.89$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Chloride, dissolved, mg/L**Location: MW4**

Mean of all data: 2.53

Standard Deviation of all data: 2.69

Largest Observation Concentration of all data: Xn = 12.4

Test Statistic, high extreme of all data: Tn = 3.67

T Critical of all data: Tcr = 2.84

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
11/01/2021	12.4	False		1

Chloride, dissolved, mg/L**Location: MW5**

Mean of all data: 3.45

Standard Deviation of all data: 3.21

Largest Observation Concentration of all data: Xn = 16.0

Test Statistic, high extreme of all data: Tn = 3.91

T Critical of all data: Tcr = 2.91

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
11/01/2021	16.0	False		1

Chromium, dissolved, mg/L**Location: MW12**

Mean of all data: 0.00101

Standard Deviation of all data: 0.00111

Largest Observation Concentration of all data: Xn = 0.00600

Test Statistic, high extreme of all data: Tn = 4.51

T Critical of all data: Tcr = 2.88

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/22/2014	0.00600	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Chromium, dissolved, mg/L**Location: MW22D**

Mean of all data: 0.00118

Standard Deviation of all data: 0.00116

Largest Observation Concentration of all data: $X_n = 0.00590$ Test Statistic, high extreme of all data: $T_n = 4.07$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
05/14/2018	0.00590	False		1

Chromium, dissolved, mg/L**Location: MW22S**

Mean of all data: 0.000861

Standard Deviation of all data: 0.000712

Largest Observation Concentration of all data: $X_n = 0.00410$ Test Statistic, high extreme of all data: $T_n = 4.55$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
05/14/2018	0.00410	False		1

Chromium, dissolved, mg/L**Location: MW23D**

Mean of all data: 0.000976

Standard Deviation of all data: 0.000130

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 0.186$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/01/2021	0.000300	False	-1	

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Chromium, dissolved, mg/L**Location: MW23S**

Mean of all data: 0.000952

Standard Deviation of all data: 0.000181

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 0.267$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	0.000300	False	-1	

Chromium, dissolved, mg/L**Location: MW2D**

Mean of all data: 0.000977

Standard Deviation of all data: 0.000126

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 0.180$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/21/2022	0.000300	False	-1	

Chromium, dissolved, mg/L**Location: MW2R**

Mean of all data: 0.00123

Standard Deviation of all data: 0.00222

Largest Observation Concentration of all data: $X_n = 0.0140$ Test Statistic, high extreme of all data: $T_n = 5.75$ T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
04/21/2014	0.0140	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Chromium, dissolved, mg/L**Location: MW3**

Mean of all data: 0.00211

Standard Deviation of all data: 0.00388

Largest Observation Concentration of all data: Xn = 0.0140

Test Statistic, high extreme of all data: Tn = 3.06

T Critical of all data: Tcr = 2.37

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
04/21/2014	0.0140	False		1

Chromium, dissolved, mg/L**Location: MW3D**

Mean of all data: 0.000800

Standard Deviation of all data: 0.000548

Largest Observation Concentration of all data: Xn = 0.00300

Test Statistic, high extreme of all data: Tn = 4.02

T Critical of all data: Tcr = 2.89

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
01/19/2015	0.00300	False		1

Chromium, dissolved, mg/L**Location: MW4**

Mean of all data: 0.00122

Standard Deviation of all data: 0.00254

Largest Observation Concentration of all data: Xn = 0.0140

Test Statistic, high extreme of all data: Tn = 5.04

T Critical of all data: Tcr = 2.84

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
04/21/2014	0.0140	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Chromium, dissolved, mg/L**Location: MW5**

Mean of all data: 0.000750

Standard Deviation of all data: 0.00111

Largest Observation Concentration of all data: Xn = 0.00700

Test Statistic, high extreme of all data: Tn = 5.65

T Critical of all data: Tcr = 2.91

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
04/21/2014	0.00700	False		1

Cobalt, dissolved, mg/L**Location: MW12**

Mean of all data: 0.000780

Standard Deviation of all data: 0.000419

Largest Observation Concentration of all data: Xn = 0.00100

Test Statistic, high extreme of all data: Tn = 0.524

T Critical of all data: Tcr = 2.88

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers**Cobalt, dissolved, mg/L****Location: MW22D**

Mean of all data: 0.0920

Standard Deviation of all data: 0.0285

Largest Observation Concentration of all data: Xn = 0.154

Test Statistic, high extreme of all data: Tn = 2.17

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	<0.00100	True	-1	

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Cobalt, dissolved, mg/L**Location: MW22S**

Mean of all data: 0.116

Standard Deviation of all data: 0.0326

Largest Observation Concentration of all data: Xn = 0.188

Test Statistic, high extreme of all data: Tn = 2.21

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	<0.00100	True	-1	

Cobalt, dissolved, mg/L**Location: MW23D**

Mean of all data: 0.00500

Standard Deviation of all data: 0.0193

Largest Observation Concentration of all data: Xn = 0.105

Test Statistic, high extreme of all data: Tn = 5.17

T Critical of all data: Tcr = 2.73

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	0.105	False		1

Cobalt, dissolved, mg/L**Location: MW23S**

Mean of all data: 0.00410

Standard Deviation of all data: 0.0167

Largest Observation Concentration of all data: Xn = 0.0910

Test Statistic, high extreme of all data: Tn = 5.20

T Critical of all data: Tcr = 2.73

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	0.0910	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Cobalt, dissolved, mg/L**Location: MW2D**

Mean of all data: 0.00100

Standard Deviation of all data: 0.0

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 0.0$ T Critical of all data: $T_{cr} = 0.0$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Cobalt, dissolved, mg/L****Location: MW2R**

Mean of all data: 0.000816

Standard Deviation of all data: 0.000393

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 0.469$ T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Cobalt, dissolved, mg/L****Location: MW3**

Mean of all data: 0.00121

Standard Deviation of all data: 0.00142

Largest Observation Concentration of all data: $X_n = 0.00600$ Test Statistic, high extreme of all data: $T_n = 3.36$ T Critical of all data: $T_{cr} = 2.37$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
04/20/2015	0.00600	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Cobalt, dissolved, mg/L**Location: MW3D**

Mean of all data: 0.0995

Standard Deviation of all data: 0.0825

Largest Observation Concentration of all data: $X_n = 0.332$ Test Statistic, high extreme of all data: $T_n = 2.82$ T Critical of all data: $T_{cr} = 2.89$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Cobalt, dissolved, mg/L****Location: MW4**

Mean of all data: 0.000730

Standard Deviation of all data: 0.000450

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 0.600$ T Critical of all data: $T_{cr} = 2.84$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Cobalt, dissolved, mg/L****Location: MW5**

Mean of all data: 0.000727

Standard Deviation of all data: 0.000451

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 0.605$ T Critical of all data: $T_{cr} = 2.91$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Copper, dissolved, mg/L

Location: MW12

Mean of all data: 0.000512

Standard Deviation of all data: 0.000362

Largest Observation Concentration of all data: $X_n = 0.00200$

Test Statistic, high extreme of all data: $T_n = 4.11$

T Critical of all data: $T_{cr} = 2.88$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
04/20/2015	0.00200	False		1

Copper, dissolved, mg/L

Location: MW22D

Mean of all data: 0.00315

Standard Deviation of all data: 0.00514

Largest Observation Concentration of all data: $X_n = 0.0273$

Test Statistic, high extreme of all data: $T_n = 4.70$

T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
06/19/2017	0.0273	False		1

Copper, dissolved, mg/L

Location: MW22S

Mean of all data: 0.0137

Standard Deviation of all data: 0.0136

Largest Observation Concentration of all data: $X_n = 0.0567$

Test Statistic, high extreme of all data: $T_n = 3.16$

T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/23/2024	0.0567	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Copper, dissolved, mg/L**Location: MW23D**

Mean of all data: 0.000500

Standard Deviation of all data: 0.0

Largest Observation Concentration of all data: $X_n = 0.000500$ Test Statistic, high extreme of all data: $T_n = 0.0$ T Critical of all data: $T_{cr} = 0.0$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Copper, dissolved, mg/L****Location: MW23S**

Mean of all data: 0.000955

Standard Deviation of all data: 0.00171

Largest Observation Concentration of all data: $X_n = 0.00780$ Test Statistic, high extreme of all data: $T_n = 4.00$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
10/28/2019	0.00780	False		1

Copper, dissolved, mg/L**Location: MW2D**

Mean of all data: 0.000500

Standard Deviation of all data: 0.0

Largest Observation Concentration of all data: $X_n = 0.000500$ Test Statistic, high extreme of all data: $T_n = 0.0$ T Critical of all data: $T_{cr} = 0.0$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Copper, dissolved, mg/L

Location: MW2R

Mean of all data: 0.000566

Standard Deviation of all data: 0.000389

Largest Observation Concentration of all data: $X_n = 0.00200$

Test Statistic, high extreme of all data: $T_n = 3.69$

T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
04/21/2014	0.00200	False		1

Copper, dissolved, mg/L

Location: MW3

Mean of all data: 0.00308

Standard Deviation of all data: 0.00468

Largest Observation Concentration of all data: $X_n = 0.0170$

Test Statistic, high extreme of all data: $T_n = 2.97$

T Critical of all data: $T_{cr} = 2.50$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
07/28/1994	0.0170	False		1

Copper, dissolved, mg/L

Location: MW3D

Mean of all data: 0.00110

Standard Deviation of all data: 0.00209

Largest Observation Concentration of all data: $X_n = 0.0130$

Test Statistic, high extreme of all data: $T_n = 5.68$

T Critical of all data: $T_{cr} = 2.89$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/07/2016	0.0130	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Copper, dissolved, mg/L**Location: MW4**

Mean of all data: 0.00555

Standard Deviation of all data: 0.0304

Largest Observation Concentration of all data: $X_n = 0.200$ Test Statistic, high extreme of all data: $T_n = 6.39$ T Critical of all data: $T_{cr} = 2.90$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
12/27/1991	0.200	False		1

Copper, dissolved, mg/L**Location: MW5**

Mean of all data: 0.000615

Standard Deviation of all data: 0.00107

Largest Observation Concentration of all data: $X_n = 0.00700$ Test Statistic, high extreme of all data: $T_n = 5.98$ T Critical of all data: $T_{cr} = 2.94$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
07/28/1994	0.00700	False		1

Cyanide, total, mg/L**Location: MW12**

Mean of all data: 0.00890

Standard Deviation of all data: 0.0136

Largest Observation Concentration of all data: $X_n = 0.0900$ Test Statistic, high extreme of all data: $T_n = 5.95$ T Critical of all data: $T_{cr} = 2.88$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
05/14/2018	0.0900	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Cyanide, total, mg/L**Location: MW22D**

Mean of all data: 0.0135

Standard Deviation of all data: 0.0148

Largest Observation Concentration of all data: $X_n = 0.0700$ Test Statistic, high extreme of all data: $T_n = 3.82$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/21/2022	0.0700	False		1

Cyanide, total, mg/L**Location: MW22S**

Mean of all data: 0.0108

Standard Deviation of all data: 0.00958

Largest Observation Concentration of all data: $X_n = 0.0600$ Test Statistic, high extreme of all data: $T_n = 5.13$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/21/2022	0.0600	False		1

Cyanide, total, mg/L**Location: MW23D**

Mean of all data: 0.0122

Standard Deviation of all data: 0.0121

Largest Observation Concentration of all data: $X_n = 0.0600$ Test Statistic, high extreme of all data: $T_n = 3.96$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/21/2022	0.0600	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Cyanide, total, mg/L**Location: MW23S**

Mean of all data: 0.00983

Standard Deviation of all data: 0.00433

Largest Observation Concentration of all data: $X_n = 0.0300$ Test Statistic, high extreme of all data: $T_n = 4.66$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
06/20/2022	0.0300	False		1

Cyanide, total, mg/L**Location: MW2D**

Mean of all data: 0.0100

Standard Deviation of all data: 0.00465

Largest Observation Concentration of all data: $X_n = 0.0300$ Test Statistic, high extreme of all data: $T_n = 4.30$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/18/2024	0.0300	False		1

Cyanide, total, mg/L**Location: MW2R**

Mean of all data: 0.00776

Standard Deviation of all data: 0.00541

Largest Observation Concentration of all data: $X_n = 0.0300$ Test Statistic, high extreme of all data: $T_n = 4.11$ T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/26/2020	0.0300	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Cyanide, total, mg/L**Location: MW3**

Mean of all data: 0.00429

Standard Deviation of all data: 0.00432

Largest Observation Concentration of all data: $X_n = 0.0100$ Test Statistic, high extreme of all data: $T_n = 1.32$ T Critical of all data: $T_{cr} = 2.37$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Cyanide, total, mg/L****Location: MW3D**

Mean of all data: 0.00667

Standard Deviation of all data: 0.00423

Largest Observation Concentration of all data: $X_n = 0.0100$ Test Statistic, high extreme of all data: $T_n = 0.788$ T Critical of all data: $T_{cr} = 2.89$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Cyanide, total, mg/L****Location: MW4**

Mean of all data: 0.00662

Standard Deviation of all data: 0.00442

Largest Observation Concentration of all data: $X_n = 0.0150$ Test Statistic, high extreme of all data: $T_n = 1.90$ T Critical of all data: $T_{cr} = 2.84$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Cyanide, total, mg/L**Location: MW5**

Mean of all data: 0.00832

Standard Deviation of all data: 0.0105

Largest Observation Concentration of all data: $X_n = 0.0700$ Test Statistic, high extreme of all data: $T_n = 5.89$ T Critical of all data: $T_{cr} = 2.91$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/26/2016	0.0700	False		1

Fluoride, dissolved, mg/L**Location: MW12**

Mean of all data: 0.109

Standard Deviation of all data: 0.0786

Largest Observation Concentration of all data: $X_n = 0.454$ Test Statistic, high extreme of all data: $T_n = 4.39$ T Critical of all data: $T_{cr} = 2.88$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
11/02/2015	0.454	False		1

Fluoride, dissolved, mg/L**Location: MW22D**

Mean of all data: 0.517

Standard Deviation of all data: 0.273

Largest Observation Concentration of all data: $X_n = 1.13$ Test Statistic, high extreme of all data: $T_n = 2.24$ T Critical of all data: $T_{cr} = 2.75$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Fluoride, dissolved, mg/L**Location: MW22S**

Mean of all data: 0.668

Standard Deviation of all data: 0.249

Largest Observation Concentration of all data: $X_n = 1.17$ Test Statistic, high extreme of all data: $T_n = 2.02$ T Critical of all data: $T_{cr} = 2.75$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Fluoride, dissolved, mg/L****Location: MW23D**

Mean of all data: 0.125

Standard Deviation of all data: 0.100

Largest Observation Concentration of all data: $X_n = 0.600$ Test Statistic, high extreme of all data: $T_n = 4.73$ T Critical of all data: $T_{cr} = 2.71$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
10/28/2019	0.600	False		1

Fluoride, dissolved, mg/L**Location: MW23S**

Mean of all data: 0.153

Standard Deviation of all data: 0.175

Largest Observation Concentration of all data: $X_n = 0.900$ Test Statistic, high extreme of all data: $T_n = 4.28$ T Critical of all data: $T_{cr} = 2.71$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
10/28/2019	0.900	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Fluoride, dissolved, mg/L**Location: MW2D**

Mean of all data: 0.192

Standard Deviation of all data: 0.0799

Largest Observation Concentration of all data: $X_n = 0.400$ Test Statistic, high extreme of all data: $T_n = 2.60$ T Critical of all data: $T_{cr} = 2.75$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Fluoride, dissolved, mg/L****Location: MW2R**

Mean of all data: 0.652

Standard Deviation of all data: 3.42

Largest Observation Concentration of all data: $X_n = 21.2$ Test Statistic, high extreme of all data: $T_n = 6.00$ T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
11/02/2015	21.2	False		1

Fluoride, dissolved, mg/L**Location: MW3**

Mean of all data: 0.252

Standard Deviation of all data: 0.253

Largest Observation Concentration of all data: $X_n = 0.984$ Test Statistic, high extreme of all data: $T_n = 2.89$ T Critical of all data: $T_{cr} = 2.37$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
04/20/2015	0.984	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Fluoride, dissolved, mg/L**Location: MW3D**

Mean of all data: 0.348

Standard Deviation of all data: 0.368

Largest Observation Concentration of all data: $X_n = 1.41$ Test Statistic, high extreme of all data: $T_n = 2.88$ T Critical of all data: $T_{cr} = 2.89$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Fluoride, dissolved, mg/L****Location: MW4**

Mean of all data: 0.202

Standard Deviation of all data: 0.107

Largest Observation Concentration of all data: $X_n = 0.484$ Test Statistic, high extreme of all data: $T_n = 2.64$ T Critical of all data: $T_{cr} = 2.84$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Fluoride, dissolved, mg/L****Location: MW5**

Mean of all data: 0.129

Standard Deviation of all data: 0.0824

Largest Observation Concentration of all data: $X_n = 0.418$ Test Statistic, high extreme of all data: $T_n = 3.51$ T Critical of all data: $T_{cr} = 2.91$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
11/02/2015	0.418	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Iron, dissolved, mg/L**Location: MW12**

Mean of all data: 0.102

Standard Deviation of all data: 0.179

Largest Observation Concentration of all data: Xn = 0.710

Test Statistic, high extreme of all data: Tn = 3.39

T Critical of all data: Tcr = 2.88

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
01/19/2015	0.710	False		1

Iron, dissolved, mg/L**Location: MW22D**

Mean of all data: 105.

Standard Deviation of all data: 77.5

Largest Observation Concentration of all data: Xn = 354.

Test Statistic, high extreme of all data: Tn = 3.22

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
06/19/2017	354.	False		1

Iron, dissolved, mg/L**Location: MW22S**

Mean of all data: 372.

Standard Deviation of all data: 181.

Largest Observation Concentration of all data: Xn = 634.

Test Statistic, high extreme of all data: Tn = 1.45

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Iron, dissolved, mg/L**Location: MW23D**

Mean of all data: 2.68

Standard Deviation of all data: 12.9

Largest Observation Concentration of all data: Xn = 70.0

Test Statistic, high extreme of all data: Tn = 5.20

T Critical of all data: Tcr = 2.73

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	70.0	False		1

Iron, dissolved, mg/L**Location: MW23S**

Mean of all data: 7.08

Standard Deviation of all data: 37.9

Largest Observation Concentration of all data: Xn = 204.

Test Statistic, high extreme of all data: Tn = 5.20

T Critical of all data: Tcr = 2.73

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	204.	False		1

Iron, dissolved, mg/L**Location: MW2D**

Mean of all data: 0.715

Standard Deviation of all data: 0.843

Largest Observation Concentration of all data: Xn = 3.56

Test Statistic, high extreme of all data: Tn = 3.38

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
06/17/2019	3.56	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Iron, dissolved, mg/L**Location: MW2R**

Mean of all data: 0.109

Standard Deviation of all data: 0.158

Largest Observation Concentration of all data: $X_n = 0.603$ Test Statistic, high extreme of all data: $T_n = 3.12$ T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
01/19/2015	0.603	False		1

Iron, dissolved, mg/L**Location: MW3**

Mean of all data: 0.276

Standard Deviation of all data: 0.707

Largest Observation Concentration of all data: $X_n = 2.89$ Test Statistic, high extreme of all data: $T_n = 3.70$ T Critical of all data: $T_{cr} = 2.92$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
01/19/2015	2.89	False		1

Iron, dissolved, mg/L**Location: MW3D**

Mean of all data: 4.02

Standard Deviation of all data: 4.44

Largest Observation Concentration of all data: $X_n = 15.0$ Test Statistic, high extreme of all data: $T_n = 2.47$ T Critical of all data: $T_{cr} = 2.89$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Iron, dissolved, mg/L**Location: MW4**

Mean of all data: 0.0867

Standard Deviation of all data: 0.146

Largest Observation Concentration of all data: $X_n = 0.751$ Test Statistic, high extreme of all data: $T_n = 4.54$ T Critical of all data: $T_{cr} = 3.08$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
01/30/2012	0.751	False		1

Iron, dissolved, mg/L**Location: MW5**

Mean of all data: 0.0680

Standard Deviation of all data: 0.132

Largest Observation Concentration of all data: $X_n = 0.840$ Test Statistic, high extreme of all data: $T_n = 5.85$ T Critical of all data: $T_{cr} = 3.11$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
01/22/1991	0.840	False		1

Lead, dissolved, mg/L**Location: MW12**

Mean of all data: 0.00110

Standard Deviation of all data: 0.00162

Largest Observation Concentration of all data: $X_n = 0.0100$ Test Statistic, high extreme of all data: $T_n = 5.48$ T Critical of all data: $T_{cr} = 2.88$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
08/26/2019	<0.0100	True		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Lead, dissolved, mg/L**Location: MW22D**

Mean of all data: 0.00816

Standard Deviation of all data: 0.00444

Largest Observation Concentration of all data: $X_n = 0.0160$ Test Statistic, high extreme of all data: $T_n = 1.77$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Lead, dissolved, mg/L****Location: MW22S**

Mean of all data: 0.00632

Standard Deviation of all data: 0.00224

Largest Observation Concentration of all data: $X_n = 0.0110$ Test Statistic, high extreme of all data: $T_n = 2.09$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Lead, dissolved, mg/L****Location: MW23D**

Mean of all data: 0.00103

Standard Deviation of all data: 0.000186

Largest Observation Concentration of all data: $X_n = 0.00200$ Test Statistic, high extreme of all data: $T_n = 5.20$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
10/28/2019	0.00200	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Lead, dissolved, mg/L**Location: MW23S**

Mean of all data: 0.00152

Standard Deviation of all data: 0.00198

Largest Observation Concentration of all data: $X_n = 0.0100$ Test Statistic, high extreme of all data: $T_n = 4.29$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
08/26/2019	<0.0100	True		1

Lead, dissolved, mg/L**Location: MW2D**

Mean of all data: 0.00100

Standard Deviation of all data: 0.0

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 0.0$ T Critical of all data: $T_{cr} = 0.0$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers**Lead, dissolved, mg/L****Location: MW2R**

Mean of all data: 0.000842

Standard Deviation of all data: 0.000370

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 0.427$ T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Lead, dissolved, mg/L**Location: MW3**

Mean of all data: 0.000571

Standard Deviation of all data: 0.000514

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 0.835$ T Critical of all data: $T_{cr} = 2.37$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Lead, dissolved, mg/L****Location: MW3D**

Mean of all data: 0.000762

Standard Deviation of all data: 0.000431

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 0.552$ T Critical of all data: $T_{cr} = 2.89$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Lead, dissolved, mg/L****Location: MW4**

Mean of all data: 0.000730

Standard Deviation of all data: 0.000450

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 0.600$ T Critical of all data: $T_{cr} = 2.84$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Lead, dissolved, mg/L**Location: MW5**

Mean of all data: 0.000727

Standard Deviation of all data: 0.000451

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 0.605$ T Critical of all data: $T_{cr} = 2.91$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Manganese, dissolved, mg/L****Location: MW12**

Mean of all data: 0.214

Standard Deviation of all data: 0.348

Largest Observation Concentration of all data: $X_n = 1.66$ Test Statistic, high extreme of all data: $T_n = 4.16$ T Critical of all data: $T_{cr} = 2.88$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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08/28/2018	1.66	False		1
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Manganese, dissolved, mg/L**Location: MW22D**

Mean of all data: 9.75

Standard Deviation of all data: 4.34

Largest Observation Concentration of all data: $X_n = 19.6$ Test Statistic, high extreme of all data: $T_n = 2.27$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Manganese, dissolved, mg/L**Location: MW22S**

Mean of all data: 23.9

Standard Deviation of all data: 16.5

Largest Observation Concentration of all data: Xn = 106.

Test Statistic, high extreme of all data: Tn = 4.96

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
06/19/2017	106.	False		1

Manganese, dissolved, mg/L**Location: MW23D**

Mean of all data: 0.415

Standard Deviation of all data: 1.57

Largest Observation Concentration of all data: Xn = 8.60

Test Statistic, high extreme of all data: Tn = 5.20

T Critical of all data: Tcr = 2.73

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	8.60	False		1

Manganese, dissolved, mg/L**Location: MW23S**

Mean of all data: 0.487

Standard Deviation of all data: 2.50

Largest Observation Concentration of all data: Xn = 13.5

Test Statistic, high extreme of all data: Tn = 5.20

T Critical of all data: Tcr = 2.73

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	13.5	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Manganese, dissolved, mg/L**Location: MW2D**

Mean of all data: 0.0768

Standard Deviation of all data: 0.0159

Largest Observation Concentration of all data: $X_n = 0.126$ Test Statistic, high extreme of all data: $T_n = 3.09$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/23/2024	0.126	False		1

Manganese, dissolved, mg/L**Location: MW2R**

Mean of all data: 0.00680

Standard Deviation of all data: 0.0116

Largest Observation Concentration of all data: $X_n = 0.0534$ Test Statistic, high extreme of all data: $T_n = 4.01$ T Critical of all data: $T_{cr} = 3.08$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
11/02/2015	0.0534	False		1

Manganese, dissolved, mg/L**Location: MW3**

Mean of all data: 0.0693

Standard Deviation of all data: 0.130

Largest Observation Concentration of all data: $X_n = 0.708$ Test Statistic, high extreme of all data: $T_n = 4.90$ T Critical of all data: $T_{cr} = 3.00$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
04/20/2015	0.708	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Manganese, dissolved, mg/L**Location: MW3D**

Mean of all data: 11.3

Standard Deviation of all data: 8.54

Largest Observation Concentration of all data: Xn = 43.7

Test Statistic, high extreme of all data: Tn = 3.79

T Critical of all data: Tcr = 2.89

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/13/2017	43.7	False		1

Manganese, dissolved, mg/L**Location: MW4**

Mean of all data: 0.0296

Standard Deviation of all data: 0.150

Largest Observation Concentration of all data: Xn = 1.25

Test Statistic, high extreme of all data: Tn = 8.12

T Critical of all data: Tcr = 3.14

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
07/09/2012	1.25	False		1

Manganese, dissolved, mg/L**Location: MW5**

Mean of all data: 0.00367

Standard Deviation of all data: 0.00696

Largest Observation Concentration of all data: Xn = 0.0380

Test Statistic, high extreme of all data: Tn = 4.93

T Critical of all data: Tcr = 3.17

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/27/2014	0.0380	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Mercury, dissolved, mg/L**Location: MW12**

Mean of all data: 0.000110

Standard Deviation of all data: 0.000162

Largest Observation Concentration of all data: Xn = 0.00100

Test Statistic, high extreme of all data: Tn = 5.48

T Critical of all data: Tcr = 2.88

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
08/26/2019	<0.00100	True		1

Mercury, dissolved, mg/L**Location: MW22D**

Mean of all data: 0.000100

Standard Deviation of all data: 0.00000000000376

Largest Observation Concentration of all data: Xn = 0.000100

Test Statistic, high extreme of all data: Tn = 0.0

T Critical of all data: Tcr = 0.0

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers**Mercury, dissolved, mg/L****Location: MW22S**

Mean of all data: 0.000135

Standard Deviation of all data: 0.000162

Largest Observation Concentration of all data: Xn = 0.00100

Test Statistic, high extreme of all data: Tn = 5.32

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
08/26/2019	<0.00100	True		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Mercury, dissolved, mg/L**Location: MW23D**

Mean of all data: 0.000100

Standard Deviation of all data: 0.00000000000364

Largest Observation Concentration of all data: $X_n = 0.000100$ Test Statistic, high extreme of all data: $T_n = 0.0$ T Critical of all data: $T_{cr} = 0.0$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Mercury, dissolved, mg/L****Location: MW23S**

Mean of all data: 0.000131

Standard Deviation of all data: 0.000167

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 5.20$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
08/26/2019	<0.00100	True		1

Mercury, dissolved, mg/L**Location: MW2D**

Mean of all data: 0.000100

Standard Deviation of all data: 0.00000000000376

Largest Observation Concentration of all data: $X_n = 0.000100$ Test Statistic, high extreme of all data: $T_n = 0.0$ T Critical of all data: $T_{cr} = 0.0$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Mercury, dissolved, mg/L**Location: MW2R**

Mean of all data: 0.0000842

Standard Deviation of all data: 0.0000437

Largest Observation Concentration of all data: $X_n = 0.000200$ Test Statistic, high extreme of all data: $T_n = 2.65$ T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Mercury, dissolved, mg/L****Location: MW3**

Mean of all data: 0.0000533

Standard Deviation of all data: 0.0000516

Largest Observation Concentration of all data: $X_n = 0.000100$ Test Statistic, high extreme of all data: $T_n = 0.904$ T Critical of all data: $T_{cr} = 2.41$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Mercury, dissolved, mg/L****Location: MW3D**

Mean of all data: 0.0000786

Standard Deviation of all data: 0.0000470

Largest Observation Concentration of all data: $X_n = 0.000200$ Test Statistic, high extreme of all data: $T_n = 2.58$ T Critical of all data: $T_{cr} = 2.89$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Mercury, dissolved, mg/L**Location: MW4**

Mean of all data: 0.0000757

Standard Deviation of all data: 0.0000495

Largest Observation Concentration of all data: Xn = 0.000200

Test Statistic, high extreme of all data: Tn = 2.51

T Critical of all data: Tcr = 2.84

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Mercury, dissolved, mg/L****Location: MW5**

Mean of all data: 0.0000932

Standard Deviation of all data: 0.000132

Largest Observation Concentration of all data: Xn = 0.000900

Test Statistic, high extreme of all data: Tn = 6.12

T Critical of all data: Tcr = 2.91

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
04/21/2014	0.000900	False		1

Nickel, dissolved, mg/L**Location: MW12**

Mean of all data: 0.00198

Standard Deviation of all data: 0.00207

Largest Observation Concentration of all data: Xn = 0.00780

Test Statistic, high extreme of all data: Tn = 2.81

T Critical of all data: Tcr = 2.88

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Nickel, dissolved, mg/L**Location: MW22D**

Mean of all data: 0.0596

Standard Deviation of all data: 0.0251

Largest Observation Concentration of all data: $X_n = 0.114$ Test Statistic, high extreme of all data: $T_n = 2.16$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Nickel, dissolved, mg/L****Location: MW22S**

Mean of all data: 0.132

Standard Deviation of all data: 0.0615

Largest Observation Concentration of all data: $X_n = 0.324$ Test Statistic, high extreme of all data: $T_n = 3.12$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
06/24/2024	0.324	False		1

Nickel, dissolved, mg/L**Location: MW23D**

Mean of all data: 0.00209

Standard Deviation of all data: 0.00857

Largest Observation Concentration of all data: $X_n = 0.0465$ Test Statistic, high extreme of all data: $T_n = 5.18$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
10/28/2019	0.0465	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Nickel, dissolved, mg/L**Location: MW23S**

Mean of all data: 0.00461

Standard Deviation of all data: 0.0220

Largest Observation Concentration of all data: $X_n = 0.119$ Test Statistic, high extreme of all data: $T_n = 5.20$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	0.119	False		1

Nickel, dissolved, mg/L**Location: MW2D**

Mean of all data: 0.000353

Standard Deviation of all data: 0.000282

Largest Observation Concentration of all data: $X_n = 0.00140$ Test Statistic, high extreme of all data: $T_n = 3.71$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/23/2024	0.00140	False		1

Nickel, dissolved, mg/L**Location: MW2R**

Mean of all data: 0.00118

Standard Deviation of all data: 0.00225

Largest Observation Concentration of all data: $X_n = 0.0120$ Test Statistic, high extreme of all data: $T_n = 4.81$ T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
11/03/2014	0.0120	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Nickel, dissolved, mg/L**Location: MW3**

Mean of all data: 0.00959

Standard Deviation of all data: 0.0116

Largest Observation Concentration of all data: $X_n = 0.0300$ Test Statistic, high extreme of all data: $T_n = 1.76$ T Critical of all data: $T_{cr} = 2.37$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Nickel, dissolved, mg/L****Location: MW3D**

Mean of all data: 0.155

Standard Deviation of all data: 0.0870

Largest Observation Concentration of all data: $X_n = 0.369$ Test Statistic, high extreme of all data: $T_n = 2.46$ T Critical of all data: $T_{cr} = 2.89$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Nickel, dissolved, mg/L****Location: MW4**

Mean of all data: 0.00188

Standard Deviation of all data: 0.00532

Largest Observation Concentration of all data: $X_n = 0.0310$ Test Statistic, high extreme of all data: $T_n = 5.47$ T Critical of all data: $T_{cr} = 2.84$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
01/30/2012	0.0310	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Nickel, dissolved, mg/L**Location: MW5**

Mean of all data: 0.00115

Standard Deviation of all data: 0.00173

Largest Observation Concentration of all data: Xn = 0.00800

Test Statistic, high extreme of all data: Tn = 3.97

T Critical of all data: Tcr = 2.91

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
04/21/2014	0.00800	False		1

Nitrate nitrogen, dissolved, mg/L**Location: MW12**

Mean of all data: 1.44

Standard Deviation of all data: 0.604

Largest Observation Concentration of all data: Xn = 3.03

Test Statistic, high extreme of all data: Tn = 2.63

T Critical of all data: Tcr = 2.88

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers**Nitrate nitrogen, dissolved, mg/L****Location: MW22D**

Mean of all data: 0.112

Standard Deviation of all data: 0.0737

Largest Observation Concentration of all data: Xn = 0.450

Test Statistic, high extreme of all data: Tn = 4.58

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/12/2018	0.450	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Nitrate nitrogen, dissolved, mg/L**Location: MW22S**

Mean of all data: 0.165

Standard Deviation of all data: 0.224

Largest Observation Concentration of all data: $X_n = 1.22$ Test Statistic, high extreme of all data: $T_n = 4.71$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
11/11/2024	1.22	False		1

Nitrate nitrogen, dissolved, mg/L**Location: MW23D**

Mean of all data: 0.0879

Standard Deviation of all data: 0.0218

Largest Observation Concentration of all data: $X_n = 0.100$ Test Statistic, high extreme of all data: $T_n = 0.554$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers**Nitrate nitrogen, dissolved, mg/L****Location: MW23S**

Mean of all data: 0.236

Standard Deviation of all data: 0.171

Largest Observation Concentration of all data: $X_n = 0.712$ Test Statistic, high extreme of all data: $T_n = 2.78$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/23/2024	0.712	False		1

Hutsonville Ash Impoundment Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Nitrate nitrogen, dissolved, mg/L**Location: MW2D**

Mean of all data: 0.150

Standard Deviation of all data: 0.197

Largest Observation Concentration of all data: $X_n = 0.883$ Test Statistic, high extreme of all data: $T_n = 3.71$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/23/2024	0.883	False		1

Nitrate nitrogen, dissolved, mg/L**Location: MW2R**

Mean of all data: 2.17

Standard Deviation of all data: 2.56

Largest Observation Concentration of all data: $X_n = 12.7$ Test Statistic, high extreme of all data: $T_n = 4.12$ T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/18/2017	12.7	False		1

Nitrate nitrogen, dissolved, mg/L**Location: MW3**

Mean of all data: 1.20

Standard Deviation of all data: 0.987

Largest Observation Concentration of all data: $X_n = 3.88$ Test Statistic, high extreme of all data: $T_n = 2.72$ T Critical of all data: $T_{cr} = 2.37$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/07/2016	3.88	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Nitrate nitrogen, dissolved, mg/L

Location: MW3D

Mean of all data: 0.630

Standard Deviation of all data: 0.618

Largest Observation Concentration of all data: Xn = 2.56

Test Statistic, high extreme of all data: Tn = 3.12

T Critical of all data: Tcr = 2.89

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	2.56	False		1

Nitrate nitrogen, dissolved, mg/L

Location: MW4

Mean of all data: 1.45

Standard Deviation of all data: 1.73

Largest Observation Concentration of all data: Xn = 7.34

Test Statistic, high extreme of all data: Tn = 3.40

T Critical of all data: Tcr = 2.84

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
06/17/2019	7.34	False		1

Nitrate nitrogen, dissolved, mg/L

Location: MW5

Mean of all data: 1.18

Standard Deviation of all data: 1.21

Largest Observation Concentration of all data: Xn = 5.06

Test Statistic, high extreme of all data: Tn = 3.20

T Critical of all data: Tcr = 2.91

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
06/19/2017	5.06	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

pH (field), STD

Location: MW12

Mean of all data: 6.96

Standard Deviation of all data: 0.30

Largest Observation Concentration of all data: Xn = 8.18

Test Statistic, high extreme of all data: Tn = 4.03

T Critical of all data: Tcr = 3.10

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/29/1999	8.18	False		1

pH (field), STD

Location: MW22D

Mean of all data: 5.12

Standard Deviation of all data: 0.55

Largest Observation Concentration of all data: Xn = 7.17

Test Statistic, high extreme of all data: Tn = 3.74

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	7.17	False		1

pH (field), STD

Location: MW22S

Mean of all data: 3.90

Standard Deviation of all data: 0.79

Largest Observation Concentration of all data: Xn = 6.99

Test Statistic, high extreme of all data: Tn = 3.92

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	6.99	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

pH (field), STD**Location: MW23D**

Mean of all data: 7.19

Standard Deviation of all data: 0.64

Largest Observation Concentration of all data: Xn = 8.40

Test Statistic, high extreme of all data: Tn = 1.89

T Critical of all data: Tcr = 2.73

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
08/08/2022	4.83	False	-1	

pH (field), STD**Location: MW23S**

Mean of all data: 6.87

Standard Deviation of all data: 0.62

Largest Observation Concentration of all data: Xn = 7.35

Test Statistic, high extreme of all data: Tn = 0.78

T Critical of all data: Tcr = 2.73

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	3.75	False	-1	

pH (field), STD**Location: MW2D**

Mean of all data: 7.41

Standard Deviation of all data: 0.28

Largest Observation Concentration of all data: Xn = 7.68

Test Statistic, high extreme of all data: Tn = 0.96

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/21/2022	6.01	False	-1	

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

pH (field), STD**Location: MW2R**

Mean of all data: 7.38

Standard Deviation of all data: 0.28

Largest Observation Concentration of all data: Xn = 8.92

Test Statistic, high extreme of all data: Tn = 5.47

T Critical of all data: Tcr = 3.08

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/21/2022	8.92	False		1

pH (field), STD**Location: MW3**

Mean of all data: 9.62

Standard Deviation of all data: 34.80

Largest Observation Concentration of all data: Xn = 440.00

Test Statistic, high extreme of all data: Tn = 12.37

T Critical of all data: Tcr = 3.54

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/14/2010	440.00	False		1

pH (field), STD**Location: MW3D**

Mean of all data: 6.01

Standard Deviation of all data: 0.57

Largest Observation Concentration of all data: Xn = 7.50

Test Statistic, high extreme of all data: Tn = 2.62

T Critical of all data: Tcr = 3.12

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

pH (field), STD**Location: MW4**

Mean of all data: 9.07

Standard Deviation of all data: 24.26

Largest Observation Concentration of all data: Xn = 320.00

Test Statistic, high extreme of all data: Tn = 12.81

T Critical of all data: Tcr = 3.55

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
08/17/2010	320.00	False		1

pH (field), STD**Location: MW5**

Mean of all data: 7.76

Standard Deviation of all data: 10.10

Largest Observation Concentration of all data: Xn = 150.00

Test Statistic, high extreme of all data: Tn = 14.08

T Critical of all data: Tcr = 3.56

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
08/17/2010	150.00	False		1

Selenium, dissolved, mg/L**Location: MW12**

Mean of all data: 0.00237

Standard Deviation of all data: 0.00186

Largest Observation Concentration of all data: Xn = 0.0112

Test Statistic, high extreme of all data: Tn = 4.76

T Critical of all data: Tcr = 2.88

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/12/2018	0.0112	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Selenium, dissolved, mg/L**Location: MW22D**

Mean of all data: 0.0114

Standard Deviation of all data: 0.0144

Largest Observation Concentration of all data: $X_n = 0.0500$ Test Statistic, high extreme of all data: $T_n = 2.68$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Selenium, dissolved, mg/L****Location: MW22S**

Mean of all data: 0.0207

Standard Deviation of all data: 0.0202

Largest Observation Concentration of all data: $X_n = 0.0504$ Test Statistic, high extreme of all data: $T_n = 1.47$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Selenium, dissolved, mg/L****Location: MW23D**

Mean of all data: 0.000655

Standard Deviation of all data: 0.000836

Largest Observation Concentration of all data: $X_n = 0.00500$ Test Statistic, high extreme of all data: $T_n = 5.20$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
10/28/2019	<0.00500	True		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Selenium, dissolved, mg/L

Location: MW23S

Mean of all data: 0.000655

Standard Deviation of all data: 0.000836

Largest Observation Concentration of all data: Xn = 0.00500

Test Statistic, high extreme of all data: Tn = 5.20

T Critical of all data: Tcr = 2.73

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	<0.00500	True		1

Selenium, dissolved, mg/L

Location: MW2D

Mean of all data: 0.000694

Standard Deviation of all data: 0.000610

Largest Observation Concentration of all data: Xn = 0.00290

Test Statistic, high extreme of all data: Tn = 3.62

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
11/11/2024	0.00290	False		1

Selenium, dissolved, mg/L

Location: MW2R

Mean of all data: 0.00521

Standard Deviation of all data: 0.00313

Largest Observation Concentration of all data: Xn = 0.0156

Test Statistic, high extreme of all data: Tn = 3.32

T Critical of all data: Tcr = 2.85

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
11/02/2015	0.0156	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Selenium, dissolved, mg/L

Location: MW3

Mean of all data: 0.0119

Standard Deviation of all data: 0.00875

Largest Observation Concentration of all data: Xn = 0.0365

Test Statistic, high extreme of all data: Tn = 2.81

T Critical of all data: Tcr = 2.37

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/07/2016	0.0365	False		1

Selenium, dissolved, mg/L

Location: MW3D

Mean of all data: 0.00531

Standard Deviation of all data: 0.0107

Largest Observation Concentration of all data: Xn = 0.0500

Test Statistic, high extreme of all data: Tn = 4.16

T Critical of all data: Tcr = 2.89

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/01/2021	<0.0500	True		1

Selenium, dissolved, mg/L

Location: MW4

Mean of all data: 0.00238

Standard Deviation of all data: 0.00198

Largest Observation Concentration of all data: Xn = 0.00970

Test Statistic, high extreme of all data: Tn = 3.70

T Critical of all data: Tcr = 2.84

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
05/14/2018	0.00970	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Selenium, dissolved, mg/L**Location: MW5**

Mean of all data: 0.00198

Standard Deviation of all data: 0.00127

Largest Observation Concentration of all data: Xn = 0.00480

Test Statistic, high extreme of all data: Tn = 2.21

T Critical of all data: Tcr = 2.91

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Silver, dissolved, mg/L****Location: MW12**

Mean of all data: 0.000220

Standard Deviation of all data: 0.000195

Largest Observation Concentration of all data: Xn = 0.00125

Test Statistic, high extreme of all data: Tn = 5.28

T Critical of all data: Tcr = 2.88

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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09/18/2017	<0.00125	True		1
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Silver, dissolved, mg/L**Location: MW22D**

Mean of all data: 0.000323

Standard Deviation of all data: 0.000404

Largest Observation Concentration of all data: Xn = 0.00250

Test Statistic, high extreme of all data: Tn = 5.39

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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08/03/2020	<0.00250	True		1
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Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Silver, dissolved, mg/L**Location: MW22S**

Mean of all data: 0.000258

Standard Deviation of all data: 0.0000449

Largest Observation Concentration of all data: Xn = 0.000500

Test Statistic, high extreme of all data: Tn = 5.39

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
11/01/2021	<0.000500	True		1

Silver, dissolved, mg/L**Location: MW23D**

Mean of all data: 0.000250

Standard Deviation of all data: 0.0

Largest Observation Concentration of all data: Xn = 0.000250

Test Statistic, high extreme of all data: Tn = 0.0

T Critical of all data: Tcr = 0.0

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers**Silver, dissolved, mg/L****Location: MW23S**

Mean of all data: 0.000250

Standard Deviation of all data: 0.0

Largest Observation Concentration of all data: Xn = 0.000250

Test Statistic, high extreme of all data: Tn = 0.0

T Critical of all data: Tcr = 0.0

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Silver, dissolved, mg/L**Location: MW2D**

Mean of all data: 0.000250

Standard Deviation of all data: 0.0

Largest Observation Concentration of all data: $X_n = 0.000250$ Test Statistic, high extreme of all data: $T_n = 0.0$ T Critical of all data: $T_{cr} = 0.0$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Silver, dissolved, mg/L****Location: MW2R**

Mean of all data: 0.000493

Standard Deviation of all data: 0.00120

Largest Observation Concentration of all data: $X_n = 0.00600$ Test Statistic, high extreme of all data: $T_n = 4.57$ T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
01/19/2015	0.00600	False		1

Silver, dissolved, mg/L**Location: MW3**

Mean of all data: 0.000271

Standard Deviation of all data: 0.000456

Largest Observation Concentration of all data: $X_n = 0.00180$ Test Statistic, high extreme of all data: $T_n = 3.35$ T Critical of all data: $T_{cr} = 2.37$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
01/19/2015	0.00180	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Silver, dissolved, mg/L**Location: MW3D**

Mean of all data: 0.000190

Standard Deviation of all data: 0.000108

Largest Observation Concentration of all data: $X_n = 0.000250$ Test Statistic, high extreme of all data: $T_n = 0.552$ T Critical of all data: $T_{cr} = 2.89$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Silver, dissolved, mg/L****Location: MW4**

Mean of all data: 0.000192

Standard Deviation of all data: 0.000132

Largest Observation Concentration of all data: $X_n = 0.000600$ Test Statistic, high extreme of all data: $T_n = 3.10$ T Critical of all data: $T_{cr} = 2.84$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
06/19/2017	0.000600	False		1

Silver, dissolved, mg/L**Location: MW5**

Mean of all data: 0.000188

Standard Deviation of all data: 0.000122

Largest Observation Concentration of all data: $X_n = 0.000500$ Test Statistic, high extreme of all data: $T_n = 2.56$ T Critical of all data: $T_{cr} = 2.91$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Specific Conductance @ 25C (field), micromhos/cm

Location: MW12

Mean of all data: 810

Standard Deviation of all data: 400

Largest Observation Concentration of all data: Xn = 3090

Test Statistic, high extreme of all data: Tn = 6

T Critical of all data: Tcr = 3

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/18/2017	3090	False		1

Specific Conductance @ 25C (field), micromhos/cm

Location: MW22D

Mean of all data: 1954

Standard Deviation of all data: 634

Largest Observation Concentration of all data: Xn = 3030

Test Statistic, high extreme of all data: Tn = 2

T Critical of all data: Tcr = 3

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
11/11/2024	3	False	-1	

Specific Conductance @ 25C (field), micromhos/cm

Location: MW22S

Mean of all data: 2871

Standard Deviation of all data: 918

Largest Observation Concentration of all data: Xn = 4090

Test Statistic, high extreme of all data: Tn = 1

T Critical of all data: Tcr = 3

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
11/11/2024	4	False	-1	

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Specific Conductance @ 25C (field), micromhos/cm

Location: MW23D

Mean of all data: 505

Standard Deviation of all data: 327

Largest Observation Concentration of all data: Xn = 2180

Test Statistic, high extreme of all data: Tn = 5

T Critical of all data: Tcr = 3

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	2180	False		1

Specific Conductance @ 25C (field), micromhos/cm

Location: MW23S

Mean of all data: 453

Standard Deviation of all data: 461

Largest Observation Concentration of all data: Xn = 2800

Test Statistic, high extreme of all data: Tn = 5

T Critical of all data: Tcr = 3

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	2800	False		1

Specific Conductance @ 25C (field), micromhos/cm

Location: MW2D

Mean of all data: 517

Standard Deviation of all data: 121

Largest Observation Concentration of all data: Xn = 957

Test Statistic, high extreme of all data: Tn = 4

T Critical of all data: Tcr = 3

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
11/11/2024	957	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Specific Conductance @ 25C (field), micromhos/cm

Location: MW2R

Mean of all data: 853

Standard Deviation of all data: 135

Largest Observation Concentration of all data: Xn = 1210

Test Statistic, high extreme of all data: Tn = 3

T Critical of all data: Tcr = 3

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers

Specific Conductance @ 25C (field), micromhos/cm

Location: MW3

Mean of all data: 2262

Standard Deviation of all data: 851

Largest Observation Concentration of all data: Xn = 3990

Test Statistic, high extreme of all data: Tn = 2

T Critical of all data: Tcr = 3

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers

Specific Conductance @ 25C (field), micromhos/cm

Location: MW3D

Mean of all data: 2140

Standard Deviation of all data: 814

Largest Observation Concentration of all data: Xn = 3230

Test Statistic, high extreme of all data: Tn = 1

T Critical of all data: Tcr = 3

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Specific Conductance @ 25C (field), micromhos/cm

Location: MW4

Mean of all data: 684

Standard Deviation of all data: 231

Largest Observation Concentration of all data: Xn = 1570

Test Statistic, high extreme of all data: Tn = 4

T Critical of all data: Tcr = 3

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
12/09/1987	1570	False		1

Specific Conductance @ 25C (field), micromhos/cm

Location: MW5

Mean of all data: 431

Standard Deviation of all data: 153

Largest Observation Concentration of all data: Xn = 925

Test Statistic, high extreme of all data: Tn = 3

T Critical of all data: Tcr = 3

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers

Sulfate, dissolved, mg/L

Location: MW12

Mean of all data: 88.9

Standard Deviation of all data: 73.4

Largest Observation Concentration of all data: Xn = 475.

Test Statistic, high extreme of all data: Tn = 5.26

T Critical of all data: Tcr = 2.88

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
05/14/2018	475.	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Sulfate, dissolved, mg/L**Location: MW22D**

Mean of all data: 1630.

Standard Deviation of all data: 745.

Largest Observation Concentration of all data: Xn = 3840.

Test Statistic, high extreme of all data: Tn = 2.97

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/23/2024	3840.	False		1

Sulfate, dissolved, mg/L**Location: MW22S**

Mean of all data: 2620.

Standard Deviation of all data: 1180.

Largest Observation Concentration of all data: Xn = 4810.

Test Statistic, high extreme of all data: Tn = 1.86

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers**Sulfate, dissolved, mg/L****Location: MW23D**

Mean of all data: 70.2

Standard Deviation of all data: 240.

Largest Observation Concentration of all data: Xn = 1320.

Test Statistic, high extreme of all data: Tn = 5.20

T Critical of all data: Tcr = 2.73

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	1320.	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Sulfate, dissolved, mg/L

Location: MW23S

Mean of all data: 83.6

Standard Deviation of all data: 380.

Largest Observation Concentration of all data: Xn = 2060.

Test Statistic, high extreme of all data: Tn = 5.20

T Critical of all data: Tcr = 2.73

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	2060.	False		1

Sulfate, dissolved, mg/L

Location: MW2D

Mean of all data: 26.8

Standard Deviation of all data: 67.9

Largest Observation Concentration of all data: Xn = 352.

Test Statistic, high extreme of all data: Tn = 4.79

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
11/11/2024	352.	False		1

Sulfate, dissolved, mg/L

Location: MW2R

Mean of all data: 199.

Standard Deviation of all data: 78.5

Largest Observation Concentration of all data: Xn = 452.

Test Statistic, high extreme of all data: Tn = 3.23

T Critical of all data: Tcr = 3.08

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
06/24/2024	452.	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Sulfate, dissolved, mg/L**Location: MW3**

Mean of all data: 951.

Standard Deviation of all data: 458.

Largest Observation Concentration of all data: $X_n = 1930$.Test Statistic, high extreme of all data: $T_n = 2.13$ T Critical of all data: $T_{cr} = 3.00$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Sulfate, dissolved, mg/L****Location: MW3D**

Mean of all data: 1950.

Standard Deviation of all data: 813.

Largest Observation Concentration of all data: $X_n = 4370$.Test Statistic, high extreme of all data: $T_n = 2.98$ T Critical of all data: $T_{cr} = 2.89$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
09/23/2024	4370.	False		1

Sulfate, dissolved, mg/L**Location: MW4**

Mean of all data: 53.8

Standard Deviation of all data: 47.1

Largest Observation Concentration of all data: $X_n = 288$.Test Statistic, high extreme of all data: $T_n = 4.97$ T Critical of all data: $T_{cr} = 3.14$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
06/11/2012	288.	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Sulfate, dissolved, mg/L**Location: MW5**

Mean of all data: 44.1

Standard Deviation of all data: 34.9

Largest Observation Concentration of all data: Xn = 180.

Test Statistic, high extreme of all data: Tn = 3.90

T Critical of all data: Tcr = 3.17

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
02/22/2011	180.	False		1

Thallium, dissolved, mg/L**Location: MW12**

Mean of all data: 0.000274

Standard Deviation of all data: 0.000406

Largest Observation Concentration of all data: Xn = 0.00250

Test Statistic, high extreme of all data: Tn = 5.48

T Critical of all data: Tcr = 2.88

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
08/26/2019	<0.00250	True		1

Thallium, dissolved, mg/L**Location: MW22D**

Mean of all data: 0.000250

Standard Deviation of all data: 0.0

Largest Observation Concentration of all data: Xn = 0.000250

Test Statistic, high extreme of all data: Tn = 0.0

T Critical of all data: Tcr = 0.0

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Thallium, dissolved, mg/L**Location: MW22S**

Mean of all data: 0.000339

Standard Deviation of all data: 0.000406

Largest Observation Concentration of all data: $X_n = 0.00250$ Test Statistic, high extreme of all data: $T_n = 5.32$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
08/26/2019	<0.00250	True		1

Thallium, dissolved, mg/L**Location: MW23D**

Mean of all data: 0.000250

Standard Deviation of all data: 0.0

Largest Observation Concentration of all data: $X_n = 0.000250$ Test Statistic, high extreme of all data: $T_n = 0.0$ T Critical of all data: $T_{cr} = 0.0$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers**Thallium, dissolved, mg/L****Location: MW23S**

Mean of all data: 0.000328

Standard Deviation of all data: 0.000418

Largest Observation Concentration of all data: $X_n = 0.00250$ Test Statistic, high extreme of all data: $T_n = 5.20$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
08/26/2019	<0.00250	True		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Thallium, dissolved, mg/L**Location: MW2D**

Mean of all data: 0.000250

Standard Deviation of all data: 0.0

Largest Observation Concentration of all data: $X_n = 0.000250$ Test Statistic, high extreme of all data: $T_n = 0.0$ T Critical of all data: $T_{cr} = 0.0$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Thallium, dissolved, mg/L****Location: MW2R**

Mean of all data: 0.000257

Standard Deviation of all data: 0.000305

Largest Observation Concentration of all data: $X_n = 0.00200$ Test Statistic, high extreme of all data: $T_n = 5.72$ T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
04/21/2014	0.00200	False		1

Thallium, dissolved, mg/L**Location: MW3**

Mean of all data: 0.000300

Standard Deviation of all data: 0.000359

Largest Observation Concentration of all data: $X_n = 0.00120$ Test Statistic, high extreme of all data: $T_n = 2.50$ T Critical of all data: $T_{cr} = 2.37$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
03/07/2016	0.00120	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Thallium, dissolved, mg/L**Location: MW3D**

Mean of all data: 0.000245

Standard Deviation of all data: 0.000230

Largest Observation Concentration of all data: $X_n = 0.00130$ Test Statistic, high extreme of all data: $T_n = 4.59$ T Critical of all data: $T_{cr} = 2.89$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/26/2016	0.00130	False		1

Thallium, dissolved, mg/L**Location: MW4**

Mean of all data: 0.000199

Standard Deviation of all data: 0.000128

Largest Observation Concentration of all data: $X_n = 0.000600$ Test Statistic, high extreme of all data: $T_n = 3.14$ T Critical of all data: $T_{cr} = 2.84$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/26/2016	0.000600	False		1

Thallium, dissolved, mg/L**Location: MW5**

Mean of all data: 0.000182

Standard Deviation of all data: 0.000113

Largest Observation Concentration of all data: $X_n = 0.000250$ Test Statistic, high extreme of all data: $T_n = 0.605$ T Critical of all data: $T_{cr} = 2.91$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>

No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Total Dissolved Solids, mg/L

Location: MW12

Mean of all data: 519.

Standard Deviation of all data: 134.

Largest Observation Concentration of all data: Xn = 933.

Test Statistic, high extreme of all data: Tn = 3.09

T Critical of all data: Tcr = 3.08

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
05/14/2018	933.	False		1

Total Dissolved Solids, mg/L

Location: MW22D

Mean of all data: 2190.

Standard Deviation of all data: 677.

Largest Observation Concentration of all data: Xn = 3650.

Test Statistic, high extreme of all data: Tn = 2.15

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	126.	False	-1	

Total Dissolved Solids, mg/L

Location: MW22S

Mean of all data: 3560.

Standard Deviation of all data: 977.

Largest Observation Concentration of all data: Xn = 5230.

Test Statistic, high extreme of all data: Tn = 1.71

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	164.	False	-1	

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Total Dissolved Solids, mg/L

Location: MW23D

Mean of all data: 315.

Standard Deviation of all data: 287.

Largest Observation Concentration of all data: $X_n = 1790$.

Test Statistic, high extreme of all data: $T_n = 5.13$

T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	1790.	False		1

Total Dissolved Solids, mg/L

Location: MW23S

Mean of all data: 349.

Standard Deviation of all data: 503.

Largest Observation Concentration of all data: $X_n = 2800$.

Test Statistic, high extreme of all data: $T_n = 4.87$

T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/28/2019	2800.	False		1

Total Dissolved Solids, mg/L

Location: MW2D

Mean of all data: 267.

Standard Deviation of all data: 150.

Largest Observation Concentration of all data: $X_n = 790$.

Test Statistic, high extreme of all data: $T_n = 3.49$

T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
11/11/2024	790.	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Total Dissolved Solids, mg/L**Location: MW2R**

Mean of all data: 549.

Standard Deviation of all data: 167.

Largest Observation Concentration of all data: Xn = 1010.

Test Statistic, high extreme of all data: Tn = 2.77

T Critical of all data: Tcr = 3.08

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
01/20/2014	10.0	False	-1	

Total Dissolved Solids, mg/L**Location: MW3**

Mean of all data: 2350.

Standard Deviation of all data: 677.

Largest Observation Concentration of all data: Xn = 4000.

Test Statistic, high extreme of all data: Tn = 2.43

T Critical of all data: Tcr = 3.54

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers**Total Dissolved Solids, mg/L****Location: MW3D**

Mean of all data: 2610.

Standard Deviation of all data: 408.

Largest Observation Concentration of all data: Xn = 3240.

Test Statistic, high extreme of all data: Tn = 1.54

T Critical of all data: Tcr = 3.09

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
04/26/2021	1180.	False	-1	

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Total Dissolved Solids, mg/L

Location: MW4

Mean of all data: 457.

Standard Deviation of all data: 222.

Largest Observation Concentration of all data: Xn = 1780.

Test Statistic, high extreme of all data: Tn = 5.94

T Critical of all data: Tcr = 3.55

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
12/09/1987	1780.	False		1

Total Dissolved Solids, mg/L

Location: MW5

Mean of all data: 314.

Standard Deviation of all data: 180.

Largest Observation Concentration of all data: Xn = 1010.

Test Statistic, high extreme of all data: Tn = 3.88

T Critical of all data: Tcr = 3.57

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
12/11/2014	1010.	False		1

Vanadium, dissolved, mg/L

Location: MW12

Mean of all data: 0.00121

Standard Deviation of all data: 0.00139

Largest Observation Concentration of all data: Xn = 0.00850

Test Statistic, high extreme of all data: Tn = 5.26

T Critical of all data: Tcr = 2.84

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
09/14/2015	0.00850	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Vanadium, dissolved, mg/L**Location: MW22D**

Mean of all data: 0.00103

Standard Deviation of all data: 0.000180

Largest Observation Concentration of all data: Xn = 0.00200

Test Statistic, high extreme of all data: Tn = 5.39

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
06/19/2017	0.00200	False		1

Vanadium, dissolved, mg/L**Location: MW22S**

Mean of all data: 0.00200

Standard Deviation of all data: 0.00100

Largest Observation Concentration of all data: Xn = 0.00500

Test Statistic, high extreme of all data: Tn = 3.00

T Critical of all data: Tcr = 2.76

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
06/20/2022	<0.00500	True		1

Vanadium, dissolved, mg/L**Location: MW23D**

Mean of all data: 0.00100

Standard Deviation of all data: 0.0

Largest Observation Concentration of all data: Xn = 0.00100

Test Statistic, high extreme of all data: Tn = 0.0

T Critical of all data: Tcr = 0.0

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Vanadium, dissolved, mg/L**Location: MW23S**

Mean of all data: 0.00100

Standard Deviation of all data: 0.0

Largest Observation Concentration of all data: Xn = 0.00100

Test Statistic, high extreme of all data: Tn = 0.0

T Critical of all data: Tcr = 0.0

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Vanadium, dissolved, mg/L****Location: MW2D**

Mean of all data: 0.00100

Standard Deviation of all data: 0.0

Largest Observation Concentration of all data: Xn = 0.00100

Test Statistic, high extreme of all data: Tn = 0.0

T Critical of all data: Tcr = 0.0

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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No Outliers**Vanadium, dissolved, mg/L****Location: MW2R**

Mean of all data: 0.000939

Standard Deviation of all data: 0.000242

Largest Observation Concentration of all data: Xn = 0.00100

Test Statistic, high extreme of all data: Tn = 0.250

T Critical of all data: Tcr = 2.79

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
09/14/2015	<0.0	True	-1	

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Vanadium, dissolved, mg/L**Location: MW3**

Mean of all data: 0.00172

Standard Deviation of all data: 0.00217

Largest Observation Concentration of all data: $X_n = 0.00750$ Test Statistic, high extreme of all data: $T_n = 2.67$ T Critical of all data: $T_{cr} = 2.11$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/07/2016	0.00750	False		1

Vanadium, dissolved, mg/L**Location: MW3D**

Mean of all data: 0.000842

Standard Deviation of all data: 0.000370

Largest Observation Concentration of all data: $X_n = 0.00100$ Test Statistic, high extreme of all data: $T_n = 0.427$ T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers**Vanadium, dissolved, mg/L****Location: MW4**

Mean of all data: 0.00106

Standard Deviation of all data: 0.000947

Largest Observation Concentration of all data: $X_n = 0.00590$ Test Statistic, high extreme of all data: $T_n = 5.11$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/07/2016	0.00590	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Vanadium, dissolved, mg/L**Location: MW5**

Mean of all data: 0.000955

Standard Deviation of all data: 0.000654

Largest Observation Concentration of all data: $X_n = 0.00430$ Test Statistic, high extreme of all data: $T_n = 5.12$ T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/07/2016	0.00430	False		1

Zinc, dissolved, mg/L**Location: MW12**

Mean of all data: 0.00510

Standard Deviation of all data: 0.00330

Largest Observation Concentration of all data: $X_n = 0.0170$ Test Statistic, high extreme of all data: $T_n = 3.60$ T Critical of all data: $T_{cr} = 2.88$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/07/2016	0.0170	False		1

Zinc, dissolved, mg/L**Location: MW22D**

Mean of all data: 0.223

Standard Deviation of all data: 0.111

Largest Observation Concentration of all data: $X_n = 0.500$ Test Statistic, high extreme of all data: $T_n = 2.49$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Zinc, dissolved, mg/L**Location: MW22S**

Mean of all data: 0.677

Standard Deviation of all data: 0.315

Largest Observation Concentration of all data: $X_n = 1.49$ Test Statistic, high extreme of all data: $T_n = 2.58$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
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*No Outliers***Zinc, dissolved, mg/L****Location: MW23D**

Mean of all data: 0.0114

Standard Deviation of all data: 0.0344

Largest Observation Concentration of all data: $X_n = 0.190$ Test Statistic, high extreme of all data: $T_n = 5.20$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
10/28/2019	0.190	False		1

Zinc, dissolved, mg/L**Location: MW23S**

Mean of all data: 0.0255

Standard Deviation of all data: 0.110

Largest Observation Concentration of all data: $X_n = 0.600$ Test Statistic, high extreme of all data: $T_n = 5.20$ T Critical of all data: $T_{cr} = 2.73$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	<u>Outlier Low Side</u>	<u>Outlier High Side</u>
10/28/2019	0.600	False		1

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Zinc, dissolved, mg/L**Location: MW2D**

Mean of all data: 0.00516

Standard Deviation of all data: 0.000898

Largest Observation Concentration of all data: $X_n = 0.0100$ Test Statistic, high extreme of all data: $T_n = 5.39$ T Critical of all data: $T_{cr} = 2.76$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
10/26/2020	0.0100	False		1

Zinc, dissolved, mg/L**Location: MW2R**

Mean of all data: 0.00670

Standard Deviation of all data: 0.00603

Largest Observation Concentration of all data: $X_n = 0.0280$ Test Statistic, high extreme of all data: $T_n = 3.53$ T Critical of all data: $T_{cr} = 2.85$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
04/21/2014	0.0280	False		1

Zinc, dissolved, mg/L**Location: MW3**

Mean of all data: 0.0704

Standard Deviation of all data: 0.0503

Largest Observation Concentration of all data: $X_n = 0.172$ Test Statistic, high extreme of all data: $T_n = 2.02$ T Critical of all data: $T_{cr} = 2.37$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
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No Outliers

Hutsonville Ash Impoundment

Outlier Analysis Results

User Supplied Information

Date Range: 01/17/1984 to 11/18/2024

LT Multiplier: x 0.50

Confidence Level: 95%

Number of Outliers: One Outlier

Transform: None

Zinc, dissolved, mg/L**Location: MW3D**

Mean of all data: 0.0265

Standard Deviation of all data: 0.0198

Largest Observation Concentration of all data: $X_n = 0.0900$ Test Statistic, high extreme of all data: $T_n = 3.21$ T Critical of all data: $T_{cr} = 2.89$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
03/12/2018	0.0900	False		1

Zinc, dissolved, mg/L**Location: MW4**

Mean of all data: 0.00576

Standard Deviation of all data: 0.00637

Largest Observation Concentration of all data: $X_n = 0.0390$ Test Statistic, high extreme of all data: $T_n = 5.22$ T Critical of all data: $T_{cr} = 2.84$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
04/21/2014	0.0390	False		1

Zinc, dissolved, mg/L**Location: MW5**

Mean of all data: 0.00565

Standard Deviation of all data: 0.00535

Largest Observation Concentration of all data: $X_n = 0.0330$ Test Statistic, high extreme of all data: $T_n = 5.11$ T Critical of all data: $T_{cr} = 2.91$

<u>Sample Date</u>	<u>Value</u>	<u>LT_Value</u>	Outlier <u>Low Side</u>	Outlier <u>High Side</u>
04/21/2014	0.0330	False		1

APPENDIX C3
SEN SLOPE AND MANN-KENDALL TEST RESULTS – SHORT TERM

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.284 mg/L per period

R-Squared error of fit: 0.175

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.181 mg/L per period

Lower Confidence Limit of Slope, M1: -.166 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.827 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 1.11

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00175	mg/L per period
R-Squared error of fit:	0.367	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00241	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000276	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00473	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.36
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0119	mg/L per period
R-Squared error of fit:	0.298	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00668	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0282	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.00110	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.86
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00973	mg/L per period
R-Squared error of fit:	0.0511	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00989	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0455	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0346	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.371
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000529	mg/L per period
R-Squared error of fit:	0.453	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000461	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000128	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.67
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):

0.0000559 mg/L per period

R-Squared error of fit:

0.416

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:

0.0000434 mg/L per period

Lower Confidence Limit of Slope, M1:

0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1:

0.000102 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:

1.71

Z test:

1.64

At the 95.0 % Confidence Level (two-tailed test):

Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000208	mg/L per period
R-Squared error of fit:	0.0732	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.436
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000997	mg/L per period
R-Squared error of fit:	0.499	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000875	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0000485	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00189	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.86
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):

0.00000190 mg/L per period

R-Squared error of fit:

0.446

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:

0.00000218 mg/L per period

Lower Confidence Limit of Slope, M1:

-.000000378 mg/L per period

Upper Confidence Limit of Slope, M2+1:

0.00000430 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:

1.61

Z test:

1.64

At the 95.0 % Confidence Level (two-tailed test):

None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):

-.000000711 mg/L per period

R-Squared error of fit:

0.0475

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:

-.00000144 mg/L per period

Lower Confidence Limit of Slope, M1:

-.00000441 mg/L per period

Upper Confidence Limit of Slope, M2+1:

0.00000193 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:

-.866

Z test:

1.64

At the 95.0 % Confidence Level (two-tailed test):

None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0852 mg/L per period

R-Squared error of fit: 0.00510

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0235 mg/L per period

Lower Confidence Limit of Slope, M1: -1.47 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.818 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00207	mg/L per period
R-Squared error of fit:	0.194	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000130	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.00447	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00194	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.126
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): -0.787 mg/L per period

R-Squared error of fit: 0.0278

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: -1.13 mg/L per period

Lower Confidence Limit of Slope, M1: -4.75 mg/L per period

Upper Confidence Limit of Slope, M2+1: 2.21 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: -0.866

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000465	mg/L per period
R-Squared error of fit:	0.299	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000433	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000227	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00103	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.25
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000417	mg/L per period
R-Squared error of fit:	0.676	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000302	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00000151	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000662	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.86
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000753	mg/L per period
R-Squared error of fit:	0.658	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.00000738	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.0000128	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.77
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000154	mg/L per period
R-Squared error of fit:	0.0223	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000130	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.00000883	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000624	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.499
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	-.000579	mg/L per period
R-Squared error of fit:	0.209	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	-.000309	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00158	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00103	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	-1.36	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000158	mg/L per period
R-Squared error of fit:	0.541	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000144	mg/L per period
Lower Confidence Limit of Slope, M1:	0.000000720	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000341	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.49
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.0000122	mg/L per period
R-Squared error of fit:	0.00908	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.0000446	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000112	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000150	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	0.499	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000822	mg/L per period
R-Squared error of fit:	0.744	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000818	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00000252	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000116	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.86
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0233	mg/L per period
R-Squared error of fit:	0.0815	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0479	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0942	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0273	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.866
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000306	mg/L per period
R-Squared error of fit:	0.124	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000338	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000553	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000118	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.642
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00359	mg/L per period
R-Squared error of fit:	0.139	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00123	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0112	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00679	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000406	mg/L per period
R-Squared error of fit:	0.387	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000403	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000112	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000899	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.61
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	-.0000542	mg/L per period
R-Squared error of fit:	0.0109	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.0000658	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000168	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000239	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	0.997	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000572	mg/L per period
R-Squared error of fit:	0.528	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000385	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000947	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.55
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): -0.405 mg/L per period

R-Squared error of fit: 0.0114

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: -0.482 mg/L per period

Lower Confidence Limit of Slope, M1: -5.39 mg/L per period

Upper Confidence Limit of Slope, M2+1: 3.13 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: -0.619

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00122	mg/L per period
R-Squared error of fit:	0.502	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000823	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00208	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.86
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):

0.00000171 mg/L per period

R-Squared error of fit:

0.0123

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:

0.0 mg/L per period

Lower Confidence Limit of Slope, M1:

0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1:

0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:

0.0

Z test:

1.64

At the 95.0 % Confidence Level (two-tailed test):

None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00530	mg/L per period
R-Squared error of fit:	0.322	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00668	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000124	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0181	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.61
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.138 mg/L per period

R-Squared error of fit: 0.00136

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.577 mg/L per period

Lower Confidence Limit of Slope, M1: -2.93 mg/L per period

Upper Confidence Limit of Slope, M2+1: 2.36 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.371

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000112	mg/L per period
R-Squared error of fit:	0.00929	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000405	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000651	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00215	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.499
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000642	mg/L per period
R-Squared error of fit:	0.316	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000637	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000316	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000154	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.61
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000816	mg/L per period
R-Squared error of fit:	0.281	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.31
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):

0.00000424 mg/L per period

R-Squared error of fit:

0.0641

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:

0.0000122 mg/L per period

Lower Confidence Limit of Slope, M1:

-.00000731 mg/L per period

Upper Confidence Limit of Slope, M2+1:

0.0000240 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:

0.748

Z test:

1.64

At the 95.0 % Confidence Level (two-tailed test):

None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000349	mg/L per period
R-Squared error of fit:	0.0477	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000173	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000399	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00294	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000585	mg/L per period
R-Squared error of fit:	0.203	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000482	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000188	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000177	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.997
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000816	mg/L per period
R-Squared error of fit:	0.165	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000000446	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000732	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000223	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.880
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000117	mg/L per period
R-Squared error of fit:	0.00798	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000363	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000154	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000116	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.866
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000730	mg/L per period
R-Squared error of fit:	0.824	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000695	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0000146	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000107	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.85
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.412	mg/L per period
R-Squared error of fit:	0.332	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.484	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.835	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.190	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.36
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000442	mg/L per period
R-Squared error of fit:	0.485	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000209	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000682	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.86
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0150	mg/L per period
R-Squared error of fit:	0.321	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0135	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0503	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.00220	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.99
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):

0.000000171 mg/L per period

R-Squared error of fit:

0.197

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:

0.0 mg/L per period

Lower Confidence Limit of Slope, M1:

0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1:

0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:

0.873

Z test:

1.64

At the 95.0 % Confidence Level (two-tailed test):

None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000795	mg/L per period
R-Squared error of fit:	0.110	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000571	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000781	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000302	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.499
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):

-0.00000228 mg/L per period

R-Squared error of fit:

0.348

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:

-.00000165 mg/L per period

Lower Confidence Limit of Slope, M1:

-.00000494 mg/L per period

Upper Confidence Limit of Slope, M2+1:

0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:

-1.22

Z test:

1.64

At the 95.0 % Confidence Level (two-tailed test):

None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.000461	mg/L per period
R-Squared error of fit:	0.216	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.000484	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000306	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00136	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	0.866	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000387	mg/L per period
R-Squared error of fit:	0.232	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.0000526	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.986
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000683	mg/L per period
R-Squared error of fit:	0.197	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.873
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0851	mg/L per period
R-Squared error of fit:	0.327	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.115	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0319	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.194	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.36
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):

0.000468 mg/L per period

R-Squared error of fit:

0.154

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:

0.000493 mg/L per period

Lower Confidence Limit of Slope, M1:

-.000463 mg/L per period

Upper Confidence Limit of Slope, M2+1:

0.00176 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:

0.899

Z test:

1.64

At the 95.0 % Confidence Level (two-tailed test):

None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00357	mg/L per period
R-Squared error of fit:	0.263	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00291	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00134	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0104	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.25
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000741	mg/L per period
R-Squared error of fit:	0.00490	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000150	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000946	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000933	mg/L per period
R-Squared error of fit:	0.0326	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.00000537	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000278	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.131
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000224	mg/L per period
R-Squared error of fit:	0.311	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000402	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.17
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000870	mg/L per period
R-Squared error of fit:	0.0391	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000667	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000484	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000395	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.385
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):

0.0000348 mg/L per period

R-Squared error of fit:

0.0756

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:

0.0000156 mg/L per period

Lower Confidence Limit of Slope, M1:

-.0000481 mg/L per period

Upper Confidence Limit of Slope, M2+1:

0.000139 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:

0.371

Z test:

1.64

At the 95.0 % Confidence Level (two-tailed test):

None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000627	mg/L per period
R-Squared error of fit:	0.239	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.000000271	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.00000149	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.07
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0846	mg/L per period
R-Squared error of fit:	0.215	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0922	mg/L per period
Lower Confidence Limit of Slope, M1:	-.114	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.383	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.11
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000974	mg/L per period
R-Squared error of fit:	0.733	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000769	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00131	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.26
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00220	mg/L per period
R-Squared error of fit:	0.0489	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00160	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.00557	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00298	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.748
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000883	mg/L per period
R-Squared error of fit:	0.115	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00123	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00299	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00160	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.866
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000513	mg/L per period
R-Squared error of fit:	0.306	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000603	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000126	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000136	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.27
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):

0.0000502 mg/L per period

R-Squared error of fit:

0.253

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:

0.0000642 mg/L per period

Lower Confidence Limit of Slope, M1:

-.0000293 mg/L per period

Upper Confidence Limit of Slope, M2+1:

0.000192 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:

1.13

Z test:

1.64

At the 95.0 % Confidence Level (two-tailed test):

None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000554	mg/L per period
R-Squared error of fit:	0.0116	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000000315	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.0000455	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000801	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000851	mg/L per period
R-Squared error of fit:	0.115	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000000794	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000881	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000249	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.385
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.661 mg/L per period

R-Squared error of fit: 0.623

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.516 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0376 mg/L per period

Upper Confidence Limit of Slope, M2+1: 1.03 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 1.86

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00125	mg/L per period
R-Squared error of fit:	0.713	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00108	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00180	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.15
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):

0.00000341 mg/L per period

R-Squared error of fit:

0.0123

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:

0.0 mg/L per period

Lower Confidence Limit of Slope, M1:

0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1:

0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:

0.0

Z test:

1.64

At the 95.0 % Confidence Level (two-tailed test):

None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00322	mg/L per period
R-Squared error of fit:	0.0690	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00272	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0139	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00878	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.124
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.406	mg/L per period
R-Squared error of fit:	0.573	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.246	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00503	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.627	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.74
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000137	mg/L per period
R-Squared error of fit:	0.314	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000334	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000289	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.22
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000968	mg/L per period
R-Squared error of fit:	0.730	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000982	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000125	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.00000436	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.24
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.000250	mg/L per period
R-Squared error of fit:	0.586	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.000154	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0000447	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000412	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	2.10	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	Upward	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00122	mg/L per period
R-Squared error of fit:	0.729	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00119	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00184	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.44
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000352	mg/L per period
R-Squared error of fit:	0.000153	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000145	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00176	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00193	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):

0.0000845 mg/L per period

R-Squared error of fit:

0.699

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:

0.0000863 mg/L per period

Lower Confidence Limit of Slope, M1:

0.0000254 mg/L per period

Upper Confidence Limit of Slope, M2+1:

0.000136 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:

2.10

Z test:

1.64

At the 95.0 % Confidence Level (two-tailed test):

Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.000000536	mg/L per period
R-Squared error of fit:	0.0888	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000822	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000170	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	0.0	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):

0.00000266 mg/L per period

R-Squared error of fit:

0.412

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:

0.0 mg/L per period

Lower Confidence Limit of Slope, M1:

0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1:

0.00000457 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:

1.64

Z test:

1.64

At the 95.0 % Confidence Level (two-tailed test):

None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.187 mg/L per period

R-Squared error of fit: 0.0651

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.398 mg/L per period

Lower Confidence Limit of Slope, M1: -.448 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.742 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.866

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.00125	mg/L per period
R-Squared error of fit:	0.00858	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	-.00139	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00642	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00941	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	-1.11	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00907	mg/L per period
R-Squared error of fit:	0.200	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0141	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0211	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00422	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.36
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.118	mg/L per period
R-Squared error of fit:	0.0401	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.270	mg/L per period
Lower Confidence Limit of Slope, M1:	-.260	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.585	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.866
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):

-.000000967 mg/L per period

R-Squared error of fit:

0.000643

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:

0.00000447 mg/L per period

Lower Confidence Limit of Slope, M1:

-.0000359 mg/L per period

Upper Confidence Limit of Slope, M2+1:

0.0000371 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:

0.249

Z test:

1.64

At the 95.0 % Confidence Level (two-tailed test):

None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00109	mg/L per period
R-Squared error of fit:	0.473	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.00112	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.00236	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000250	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.36
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000478	mg/L per period
R-Squared error of fit:	0.197	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.873
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000143	mg/L per period
R-Squared error of fit:	0.0153	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000879	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000122	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):

-0.0000101 mg/L per period

R-Squared error of fit:

0.641

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:

-.00000934 mg/L per period

Lower Confidence Limit of Slope, M1:

-.0000189 mg/L per period

Upper Confidence Limit of Slope, M2+1:

-.00000262 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:

-1.99

Z test:

1.64

At the 95.0 % Confidence Level (two-tailed test):

Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.141	mg/L per period
R-Squared error of fit:	0.0200	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.250	mg/L per period
Lower Confidence Limit of Slope, M1:	-.569	mg/L per period
Upper Confidence Limit of Slope, M2+1:	2.37	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.371
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00100	mg/L per period
R-Squared error of fit:	0.289	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.00116	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.00301	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000481	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.25
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):

0.00526 mg/L per period

R-Squared error of fit:

0.247

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:

0.00571 mg/L per period

Lower Confidence Limit of Slope, M1:

-.00180 mg/L per period

Upper Confidence Limit of Slope, M2+1:

0.0208 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:

1.36

Z test:

1.64

At the 95.0 % Confidence Level (two-tailed test):

None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.332 mg/L per period

R-Squared error of fit: 0.00707

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: -.893 mg/L per period

Lower Confidence Limit of Slope, M1: -3.11 mg/L per period

Upper Confidence Limit of Slope, M2+1: 1.74 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: -.124

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00104	mg/L per period
R-Squared error of fit:	0.314	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000481	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00209	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000315	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.13
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000235	mg/L per period
R-Squared error of fit:	0.227	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000162	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000531	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000107	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.642
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000493	mg/L per period
R-Squared error of fit:	0.0131	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000231	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000554	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.536
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00221	mg/L per period
R-Squared error of fit:	0.653	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00218	mg/L per period
Lower Confidence Limit of Slope, M1:	0.000946	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00380	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.24
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000595	mg/L per period
R-Squared error of fit:	0.234	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000236	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000136	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000346	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.619
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000118	mg/L per period
R-Squared error of fit:	0.103	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000602	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000434	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000181	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.124
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000174	mg/L per period
R-Squared error of fit:	0.278	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.00000333	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.986
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0182	mg/L per period
R-Squared error of fit:	0.910	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0178	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0244	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0124	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.09
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00621	mg/L per period
R-Squared error of fit:	0.249	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00553	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0199	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00151	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.36
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000144	mg/L per period
R-Squared error of fit:	0.188	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000903	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000427	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000113	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.619
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000226	mg/L per period
R-Squared error of fit:	0.0700	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000939	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000486	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000130	mg/L per period
R-Squared error of fit:	0.208	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.0000245	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000899	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.128
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0259 mg/L per period

R-Squared error of fit: 0.0134

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0599 mg/L per period

Lower Confidence Limit of Slope, M1: -.210 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.220 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.619

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00229	mg/L per period
R-Squared error of fit:	0.387	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.00195	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.00528	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-0.000116	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.61
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00291	mg/L per period
R-Squared error of fit:	0.0350	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0215	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00461	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0102	mg/L per period
R-Squared error of fit:	0.0377	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00190	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0607	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0716	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.00000472	mg/L per period
R-Squared error of fit:	0.0260	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.00000672	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000255	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000560	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	0.499	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):

0.0000437 mg/L per period

R-Squared error of fit:

0.202

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:

0.0000596 mg/L per period

Lower Confidence Limit of Slope, M1:

-.0000240 mg/L per period

Upper Confidence Limit of Slope, M2+1:

0.000177 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:

0.899

Z test:

1.64

At the 95.0 % Confidence Level (two-tailed test):

None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000898	mg/L per period
R-Squared error of fit:	0.383	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000000722	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000191	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.85
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000323	mg/L per period
R-Squared error of fit:	0.000829	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000457	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000618	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.133
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.000000412	mg/L per period
R-Squared error of fit:	0.162	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.000000369	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000518	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000130	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	1.01	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000212	mg/L per period
R-Squared error of fit:	0.432	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000224	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000418	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000446	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.61
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	01/01/2023 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data): 0.0 mg/L per period

R-Squared error of fit: 0.0

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope: 0.0 mg/L per period

Lower Confidence Limit of Slope, M1: 0.0 mg/L per period

Upper Confidence Limit of Slope, M2+1: 0.0 mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic: 0.0

Z test: 1.64

At the 95.0 % Confidence Level (two-tailed test): None

APPENDIX C4
SEN SLOPE AND MANN-KENDALL TEST RESULTS – LONG TERM

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0829	mg/L per period
R-Squared error of fit:	0.231	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0766	mg/L per period
Lower Confidence Limit of Slope, M1:	-.114	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0406	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.11
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000953	mg/L per period
R-Squared error of fit:	0.0153	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000946	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000150	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000335	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.568
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000172	mg/L per period
R-Squared error of fit:	0.0103	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.16
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000555	mg/L per period
R-Squared error of fit:	0.0166	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00133	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00223	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000457	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.24
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0506	mg/L per period
R-Squared error of fit:	0.276	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0312	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0422	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0205	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-5.08
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000180	mg/L per period
R-Squared error of fit:	0.122	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.94
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000216	mg/L per period
R-Squared error of fit:	0.0889	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.62
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000298	mg/L per period
R-Squared error of fit:	0.470	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000262	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000374	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.00000154	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-4.15
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000161	mg/L per period
R-Squared error of fit:	0.0195	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.740
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000490	mg/L per period
R-Squared error of fit:	0.348	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000345	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000585	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0000207	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-4.38
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000533	mg/L per period
R-Squared error of fit:	0.0665	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.41
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000000112	mg/L per period
R-Squared error of fit:	0.00310	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.272
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000277	mg/L per period
R-Squared error of fit:	0.0719	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.41
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000504	mg/L per period
R-Squared error of fit:	0.00324	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.622
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000412	mg/L per period
R-Squared error of fit:	0.0420	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.40
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000652	mg/L per period
R-Squared error of fit:	0.0216	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000000952	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000567	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000398	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0162
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000103	mg/L per period
R-Squared error of fit:	0.0420	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.40
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000101	mg/L per period
R-Squared error of fit:	0.190	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000000299	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000649	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000000582	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.02
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000533	mg/L per period
R-Squared error of fit:	0.0665	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.41
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000242	mg/L per period
R-Squared error of fit:	0.0195	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.711
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000426	mg/L per period
R-Squared error of fit:	0.0665	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.41
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000106	mg/L per period
R-Squared error of fit:	0.213	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000000829	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000113	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000000464	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.46
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW12	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000000412	mg/L per period
R-Squared error of fit:	0.0420	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.40
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.392	mg/L per period
R-Squared error of fit:	0.231	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.461	mg/L per period
Lower Confidence Limit of Slope, M1:	0.291	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.582	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.82
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000197	mg/L per period
R-Squared error of fit:	0.0492	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.223
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000170	mg/L per period
R-Squared error of fit:	0.00914	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.72
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000187	mg/L per period
R-Squared error of fit:	0.000126	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000158	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000410	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.37
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.395	mg/L per period
R-Squared error of fit:	0.193	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.381	mg/L per period
Lower Confidence Limit of Slope, M1:	0.191	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.605	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.14
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000244	mg/L per period
R-Squared error of fit:	0.529	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000269	mg/L per period
Lower Confidence Limit of Slope, M1:	0.000198	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000323	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.55
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.000000720	mg/L per period
R-Squared error of fit:	0.146	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.00000118	mg/L per period
Lower Confidence Limit of Slope, M1:	0.000000821	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000149	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	3.68	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	Upward	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000118	mg/L per period
R-Squared error of fit:	0.0180	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000274	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000436	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000000700	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.17
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000707	mg/L per period
R-Squared error of fit:	0.0551	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000000880	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000141	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.30
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000876	mg/L per period
R-Squared error of fit:	0.126	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00155	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00182	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.00117	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.74
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.000000202	mg/L per period
R-Squared error of fit:	0.0331	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.000000546	mg/L per period
Lower Confidence Limit of Slope, M1:	0.000000297	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000797	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	3.01	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	Upward	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000429	mg/L per period
R-Squared error of fit:	0.0943	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.467
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000138	mg/L per period
R-Squared error of fit:	0.162	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000101	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00000254	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000210	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.33
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000830	mg/L per period
R-Squared error of fit:	0.000179	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000138	mg/L per period
Lower Confidence Limit of Slope, M1:	0.000000656	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000201	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.63
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0453	mg/L per period
R-Squared error of fit:	0.235	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0651	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0500	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0750	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.35
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000363	mg/L per period
R-Squared error of fit:	0.462	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000376	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00000257	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000498	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.01
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00227	mg/L per period
R-Squared error of fit:	0.189	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00295	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00156	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00419	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.09
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000159	mg/L per period
R-Squared error of fit:	0.276	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000210	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0000140	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000269	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.74
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000221	mg/L per period
R-Squared error of fit:	0.00207	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.168
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000000651	mg/L per period
R-Squared error of fit:	0.0904	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.62
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.0000420	mg/L per period
R-Squared error of fit:	0.0983	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.0000840	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0000560	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000109	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	3.25	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	Upward	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range: 03/01/2017 to 12/31/2024			

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.000000000000000	mg/L per period
R-Squared error of fit:	0.000000000000000	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	0.0	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000455	mg/L per period
R-Squared error of fit:	0.0691	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000412	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.73
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22D	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.452	mg/L per period
R-Squared error of fit:	0.148	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.376	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0689	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.615	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.01
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000110	mg/L per period
R-Squared error of fit:	0.168	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000279	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.16
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000333	mg/L per period
R-Squared error of fit:	0.0833	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000198	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.96
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000376	mg/L per period
R-Squared error of fit:	0.00822	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000142	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00127	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000663	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.255
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.234	mg/L per period
R-Squared error of fit:	0.0271	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.261	mg/L per period
Lower Confidence Limit of Slope, M1:	-.174	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.703	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.12
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000159	mg/L per period
R-Squared error of fit:	0.271	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000138	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0000461	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000234	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.77
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.00000306	mg/L per period
R-Squared error of fit:	0.488	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.00000283	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00000181	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000380	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	4.25	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	Upward	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000398	mg/L per period
R-Squared error of fit:	0.165	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000000840	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000196	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.92
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000313	mg/L per period
R-Squared error of fit:	0.525	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000290	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00000204	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000377	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.64
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00188	mg/L per period
R-Squared error of fit:	0.0941	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.000243	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.000494	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-0.0000682	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.19
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.00000241	mg/L per period
R-Squared error of fit:	0.557	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.00000186	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00000126	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000243	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	4.88	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	Upward	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range: 03/01/2017 to 12/31/2024			

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	-.000000211	mg/L per period
R-Squared error of fit:	0.0603	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	-.000000109	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000254	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	-2.01	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000932	mg/L per period
R-Squared error of fit:	0.0561	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000770	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000122	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000179	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.43
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000113	mg/L per period
R-Squared error of fit:	0.477	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000605	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00000340	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000883	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.27
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0843	mg/L per period
R-Squared error of fit:	0.150	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0711	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00904	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.146	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.80
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000157	mg/L per period
R-Squared error of fit:	0.338	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000121	mg/L per period
Lower Confidence Limit of Slope, M1:	0.000000580	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000192	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.65
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00473	mg/L per period
R-Squared error of fit:	0.0562	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00298	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00241	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.0340
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000000406	mg/L per period
R-Squared error of fit:	0.00689	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.634
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000587	mg/L per period
R-Squared error of fit:	0.627	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000513	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0000404	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000658	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.15
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000000305	mg/L per period
R-Squared error of fit:	0.00318	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.280
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000298	mg/L per period
R-Squared error of fit:	0.0611	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000493	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.12
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000305	mg/L per period
R-Squared error of fit:	0.645	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000298	mg/L per period
Lower Confidence Limit of Slope, M1:	0.000231	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000375	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.10
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000244	mg/L per period
R-Squared error of fit:	0.00318	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.280
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.0000134	mg/L per period
R-Squared error of fit:	0.302	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.00000632	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000181	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	2.17	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	Upward	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW22S	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000000162	mg/L per period
R-Squared error of fit:	0.00689	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.634
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0472	mg/L per period
R-Squared error of fit:	0.0164	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000234	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0179	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0184	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.0563
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000205	mg/L per period
R-Squared error of fit:	0.539	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.90
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000341	mg/L per period
R-Squared error of fit:	0.0486	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.08
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00130	mg/L per period
R-Squared error of fit:	0.479	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.00124	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.00145	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-0.00102	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-5.02
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0476	mg/L per period
R-Squared error of fit:	0.0238	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00482	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00627	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.00341	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-4.07
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000357	mg/L per period
R-Squared error of fit:	0.0723	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.69
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000318	mg/L per period
R-Squared error of fit:	0.0230	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000000555	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000981	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000000616	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.88
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000321	mg/L per period
R-Squared error of fit:	0.217	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000201	mg/L per period
Lower Confidence Limit of Slope, M1:	0.000000787	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000361	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.65
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000261	mg/L per period
R-Squared error of fit:	0.0190	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.21
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000454	mg/L per period
R-Squared error of fit:	0.0199	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.657
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000000340	mg/L per period
R-Squared error of fit:	0.000416	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0598
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000437	mg/L per period
R-Squared error of fit:	0.0311	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.29
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00250	mg/L per period
R-Squared error of fit:	0.0226	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.000148	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.000296	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-0.0000438	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.37
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000336	mg/L per period
R-Squared error of fit:	0.0199	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.657
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000292	mg/L per period
R-Squared error of fit:	0.0210	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000395	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000153	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000450	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.657
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000172	mg/L per period
R-Squared error of fit:	0.0246	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.0000000260	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000440	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.233
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000622	mg/L per period
R-Squared error of fit:	0.0199	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.657
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000151	mg/L per period
R-Squared error of fit:	0.0199	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.657
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23D	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0639	mg/L per period
R-Squared error of fit:	0.00979	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00454	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.0174	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0300	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.413
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000392	mg/L per period
R-Squared error of fit:	0.0318	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000502	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000253	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.195
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000206	mg/L per period
R-Squared error of fit:	0.138	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.27
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000571	mg/L per period
R-Squared error of fit:	0.0344	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000685	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00101	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000235	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.63
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0738	mg/L per period
R-Squared error of fit:	0.0230	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00514	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00591	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.00438	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-6.23
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000555	mg/L per period
R-Squared error of fit:	0.0576	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.59
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000301	mg/L per period
R-Squared error of fit:	0.0199	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.657
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.00000429	mg/L per period
R-Squared error of fit:	0.202	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.00000364	mg/L per period
Lower Confidence Limit of Slope, M1:	0.000000976	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000587	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	2.17	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	Upward	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000242	mg/L per period
R-Squared error of fit:	0.0199	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.657
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000174	mg/L per period
R-Squared error of fit:	0.0208	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000129	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.766
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000163	mg/L per period
R-Squared error of fit:	0.0199	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.657
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000111	mg/L per period
R-Squared error of fit:	0.00231	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.215
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000302	mg/L per period
R-Squared error of fit:	0.0199	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.657
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000465	mg/L per period
R-Squared error of fit:	0.0450	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.03
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00687	mg/L per period
R-Squared error of fit:	0.0200	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.42
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000537	mg/L per period
R-Squared error of fit:	0.0451	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.12
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000475	mg/L per period
R-Squared error of fit:	0.0219	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000851	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000191	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.00000147	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.33
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000000839	mg/L per period
R-Squared error of fit:	0.0246	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.777
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000402	mg/L per period
R-Squared error of fit:	0.0203	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.000000315	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.000000195	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000344	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.854
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000200	mg/L per period
R-Squared error of fit:	0.0199	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.657
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000151	mg/L per period
R-Squared error of fit:	0.0199	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.657
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW23S	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000336	mg/L per period
R-Squared error of fit:	0.0246	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.777
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.103	mg/L per period
R-Squared error of fit:	0.324	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0517	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00477	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.114	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.07
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000127	mg/L per period
R-Squared error of fit:	0.285	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000207	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000333	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.57
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000227	mg/L per period
R-Squared error of fit:	0.163	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.18
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000564	mg/L per period
R-Squared error of fit:	0.0411	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00100	mg/L per period
Lower Confidence Limit of Slope, M1:	0.000481	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00151	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.40
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0374	mg/L per period
R-Squared error of fit:	0.209	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00207	mg/L per period
Lower Confidence Limit of Slope, M1:	0.000593	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00366	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.47
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000672	mg/L per period
R-Squared error of fit:	0.469	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000559	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000829	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0000106	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.23
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000935	mg/L per period
R-Squared error of fit:	0.0938	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000000969	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000177	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000249	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.34
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000220	mg/L per period
R-Squared error of fit:	0.183	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000503	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000874	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000124	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.26
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000488	mg/L per period
R-Squared error of fit:	0.00318	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.280
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000930	mg/L per period
R-Squared error of fit:	0.125	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000782	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.33
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	0.0	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000000133	mg/L per period
R-Squared error of fit:	0.00769	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.391
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000286	mg/L per period
R-Squared error of fit:	0.0792	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.000183	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.000399	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-0.00000132	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.70
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000936	mg/L per period
R-Squared error of fit:	0.237	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000749	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00000254	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000146	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.29
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000960	mg/L per period
R-Squared error of fit:	0.0798	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.169
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000288	mg/L per period
R-Squared error of fit:	0.000710	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.0559
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000277	mg/L per period
R-Squared error of fit:	0.142	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.07
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2D	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.000000000000000	mg/L per period
R-Squared error of fit:	0.000000000000000	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	0.0	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0746	mg/L per period
R-Squared error of fit:	0.230	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0631	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0189	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.113	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.35
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000204	mg/L per period
R-Squared error of fit:	0.00387	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000205	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000544	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000984	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.19
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000173	mg/L per period
R-Squared error of fit:	0.108	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.55
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00275	mg/L per period
R-Squared error of fit:	0.121	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.00229	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.00500	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000864	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.21
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0378	mg/L per period
R-Squared error of fit:	0.135	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0242	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00789	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0597	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.19
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000104	mg/L per period
R-Squared error of fit:	0.0582	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.29
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000000205	mg/L per period
R-Squared error of fit:	0.0359	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.950
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.00000276	mg/L per period
R-Squared error of fit:	0.0871	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.00000106	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000253	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000543	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	0.461	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000215	mg/L per period
R-Squared error of fit:	0.119	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.000156	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.000297	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000216	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.41
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000335	mg/L per period
R-Squared error of fit:	0.0174	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.702
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	0.0	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000751	mg/L per period
R-Squared error of fit:	0.00715	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.599
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000171	mg/L per period
R-Squared error of fit:	0.0116	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000187	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.634
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000108	mg/L per period
R-Squared error of fit:	0.212	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000000519	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000151	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.43
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000000167	mg/L per period
R-Squared error of fit:	0.00000239	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000219	mg/L per period
R-Squared error of fit:	0.00957	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000000115	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000489	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000702	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.494
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW2R	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000410	mg/L per period
R-Squared error of fit:	0.0359	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.950
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.559	mg/L per period
R-Squared error of fit:	0.800	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.593	mg/L per period
Lower Confidence Limit of Slope, M1:	-.757	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.289	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.35
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range: 03/01/2017 to 12/31/2024			

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.0000338	mg/L per period
R-Squared error of fit:	0.00260	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	-.0000375	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00126	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000514	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	0.0	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.00000397	mg/L per period
R-Squared error of fit:	0.916	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.00000347	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000430	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	2.17	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	Upward	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000446	mg/L per period
R-Squared error of fit:	0.0191	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000174	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00472	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00313	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.249
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.379	mg/L per period
R-Squared error of fit:	0.480	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.288	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.585	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.120	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.36
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000542	mg/L per period
R-Squared error of fit:	0.491	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000441	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000114	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.15
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000158	mg/L per period
R-Squared error of fit:	0.152	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000161	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000393	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.29
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000849	mg/L per period
R-Squared error of fit:	0.801	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000956	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00122	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000451	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.35
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000484	mg/L per period
R-Squared error of fit:	0.919	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.000000425	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.000000575	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.14
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000529	mg/L per period
R-Squared error of fit:	0.148	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.873
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000660	mg/L per period
R-Squared error of fit:	0.641	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000639	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000100	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.26
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000133	mg/L per period
R-Squared error of fit:	0.231	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.00000512	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.00000265	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000106	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.930
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000443	mg/L per period
R-Squared error of fit:	0.870	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000000458	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000586	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000000300	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.14
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000176	mg/L per period
R-Squared error of fit:	0.638	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000208	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000397	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.00000800	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.44
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000525	mg/L per period
R-Squared error of fit:	0.585	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.0000503	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.0000105	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-0.0000288	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.10
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.138	mg/L per period
R-Squared error of fit:	0.0406	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.109	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.352	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0459	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.18
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000654	mg/L per period
R-Squared error of fit:	0.00825	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000199	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000212	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000149	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.211
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000192	mg/L per period
R-Squared error of fit:	0.555	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.16
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000696	mg/L per period
R-Squared error of fit:	0.000154	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000103	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00185	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00157	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0649
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0633	mg/L per period
R-Squared error of fit:	0.00354	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0670	mg/L per period
Lower Confidence Limit of Slope, M1:	-.254	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.392	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.227
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	-.0000109	mg/L per period
R-Squared error of fit:	0.000639	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000109	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000898	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	0.0329	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000171	mg/L per period
R-Squared error of fit:	0.0000438	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.000000423	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000224	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.490
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000187	mg/L per period
R-Squared error of fit:	0.225	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000172	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000260	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000000611	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.54
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000501	mg/L per period
R-Squared error of fit:	0.0486	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.19
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000522	mg/L per period
R-Squared error of fit:	0.137	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000604	mg/L per period
Lower Confidence Limit of Slope, M1:	0.000222	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000969	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.37
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000676	mg/L per period
R-Squared error of fit:	0.000520	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.00000320	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.00000800	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000647	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.470
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000000168	mg/L per period
R-Squared error of fit:	0.00699	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.428
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000122	mg/L per period
R-Squared error of fit:	0.0156	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000137	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000456	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000177	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.762
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000139	mg/L per period
R-Squared error of fit:	0.000504	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.361
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00103	mg/L per period
R-Squared error of fit:	0.0513	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000366	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000417	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00100	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.09
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00213	mg/L per period
R-Squared error of fit:	0.0457	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000886	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00386	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00158	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.535
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000254	mg/L per period
R-Squared error of fit:	0.0625	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000270	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000560	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000283	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.43
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000256	mg/L per period
R-Squared error of fit:	0.0139	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.0000772	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.463
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.00000158	mg/L per period
R-Squared error of fit:	0.0131	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.00000146	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.31
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW3D	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000354	mg/L per period
R-Squared error of fit:	0.0293	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.866
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0178	mg/L per period
R-Squared error of fit:	0.0288	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0269	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0495	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0155	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.13
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000125	mg/L per period
R-Squared error of fit:	0.00237	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000117	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000239	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000452	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.08
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000244	mg/L per period
R-Squared error of fit:	0.601	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000230	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.01
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Upward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000497	mg/L per period
R-Squared error of fit:	0.0145	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000275	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000824	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000381	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.961
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0125	mg/L per period
R-Squared error of fit:	0.379	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0116	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0159	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.00810	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.88
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000762	mg/L per period
R-Squared error of fit:	0.293	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000543	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000101	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.41
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000000187	mg/L per period
R-Squared error of fit:	0.0779	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.555
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	-0.00000449	mg/L per period
R-Squared error of fit:	0.442	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	-.00000433	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000627	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.00000237	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	-3.29	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	Downward	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000770	mg/L per period
R-Squared error of fit:	0.355	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000974	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000125	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0000726	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-4.05
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000249	mg/L per period
R-Squared error of fit:	0.532	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000000226	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000293	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.95
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000000629	mg/L per period
R-Squared error of fit:	0.0484	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.09
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000255	mg/L per period
R-Squared error of fit:	0.000593	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000190	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000462	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.368
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000416	mg/L per period
R-Squared error of fit:	0.0782	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000000800	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000199	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.78
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000446	mg/L per period
R-Squared error of fit:	0.133	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000000901	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.43
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000266	mg/L per period
R-Squared error of fit:	0.0852	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.48
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000509	mg/L per period
R-Squared error of fit:	0.00153	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.193
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000000000	mg/L per period
R-Squared error of fit:	0.00000000000000	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000587	mg/L per period
R-Squared error of fit:	0.0518	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-0.000000218	mg/L per period
Lower Confidence Limit of Slope, M1:	-0.000000597	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000136	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.21
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW4	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000410	mg/L per period
R-Squared error of fit:	0.0248	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.706
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	00515
Location Class:		Parameter:	Total Dissolved Solids
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0379	mg/L per period
R-Squared error of fit:	0.0731	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0229	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0657	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0244	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.633
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	00618
Location Class:		Parameter:	Nitrate nitrogen, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000400	mg/L per period
R-Squared error of fit:	0.105	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000114	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000303	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000877	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.09
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	00720
Location Class:		Parameter:	Cyanide, total
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000192	mg/L per period
R-Squared error of fit:	0.555	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.16
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	00941
Location Class:		Parameter:	Chloride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000135	mg/L per period
R-Squared error of fit:	0.00125	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000462	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00121	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000215	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.20
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	00946
Location Class:		Parameter:	Sulfate, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0150	mg/L per period
R-Squared error of fit:	0.191	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00386	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00862	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000776	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.54
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	00950
Location Class:		Parameter:	Fluoride, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000369	mg/L per period
R-Squared error of fit:	0.314	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.28
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01000
Location Class:		Parameter:	Arsenic, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000000136	mg/L per period
R-Squared error of fit:	0.0662	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.467
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01005
Location Class:		Parameter:	Barium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	-0.0000369	mg/L per period
R-Squared error of fit:	0.0836	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	-.00000235	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000660	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000191	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:		-.976
Z test:		1.64
At the 95.0 % Confidence Level (two-tailed test):		None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01010
Location Class:		Parameter:	Beryllium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01020
Location Class:		Parameter:	Boron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000469	mg/L per period
R-Squared error of fit:	0.457	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000371	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000508	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0000236	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-4.07
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	Downward

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01025
Location Class:		Parameter:	Cadmium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01030
Location Class:		Parameter:	Chromium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000000705	mg/L per period
R-Squared error of fit:	0.0353	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.758
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01035
Location Class:		Parameter:	Cobalt, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01040
Location Class:		Parameter:	Copper, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.000000228	mg/L per period
R-Squared error of fit:	0.0486	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.19
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01046
Location Class:		Parameter:	Iron, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000728	mg/L per period
R-Squared error of fit:	0.00589	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-0.674
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01049
Location Class:		Parameter:	Lead, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01056
Location Class:		Parameter:	Manganese, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000548	mg/L per period
R-Squared error of fit:	0.0101	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000445	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.662
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01057
Location Class:		Parameter:	Thallium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01065
Location Class:		Parameter:	Nickel, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000294	mg/L per period
R-Squared error of fit:	0.0630	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000108	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000732	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.279
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01075
Location Class:		Parameter:	Silver, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-0.0000000143	mg/L per period
R-Squared error of fit:	0.0769	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.52
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01085
Location Class:		Parameter:	Vanadium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01090
Location Class:		Parameter:	Zinc, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000162	mg/L per period
R-Squared error of fit:	0.00872	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.453
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01095
Location Class:		Parameter:	Antimony, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	01145
Location Class:		Parameter:	Selenium, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	-.000000395	mg/L per period
R-Squared error of fit:	0.100	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	-.000000404	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000870	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000470	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	-1.46	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	MW5	Parameter Code:	71890
Location Class:		Parameter:	Mercury, dissolved
Location Type:		Units:	mg/L
Confidence Level:	95.00%		
Date Range:	03/01/2017 to 12/31/2024		

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0	mg/L per period
R-Squared error of fit:	0.0	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None