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AmerenEnergy Medina Valley CoGen, LLC

Date
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2024 GROUNDWATER MONITORING ANNUAL REPORT

FORMER HUTSONVILLE POWER STATION - ASH POND D

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FORMER HUTSONVILLE POWER STATION - ASH POND D

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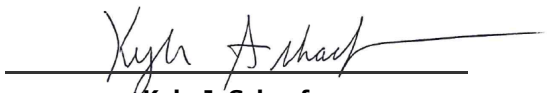

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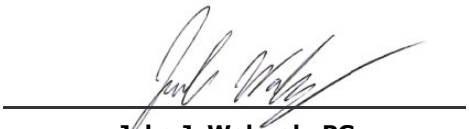

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CONTENTS

TABLES

FIGURES

APPENDICES

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
IEPA	Illinois Environmental Protection Agency
ILCS	Illinois Compiled Statutes
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 D at the former Hutsonville Power Station (Hutsonville). Ash Pond D is located near the southeast portion of the former power station (**Figure 1-1**) and received coal combustion waste (CCW) between 1968 and 2000.

Ameren completed closure activities for Ash Pond D in January 2013 in accordance with the site-specific closure requirements of Part 840 of Title 35 of the Illinois Administrative Code (35 IAC 840). Closure activities for Ash Pond D included placement of a 40-mil high density polyethylene (HDPE) 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 was not initiated until April 2015 when discharge authorization was received under Hutsonville's renewed National Pollutant Discharge Elimination System (NPDES) permit (IL0004120) with an effective date of March 1, 2015 and renewed June 1, 2020.

Hutsonville Ash Pond D post-closure care requirements were established in the Post-Closure Care Plan (Hanson Professional Services, Inc. [Hanson], Natural Resource Technology, Inc. [NRT], 2011a) and the Groundwater Monitoring Plan (Hanson, NRT, 2011b), both dated July 26, 2011. 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 D (**Figure 1-2**), as defined by the Groundwater Monitoring Plan, originally consisted of two background monitoring wells, MW-10 and MW-10D, and nine down-gradient compliance monitoring wells[1], MW-6, MW-7, MW-7D, MW-8, MW-11R, MW-14, MW-115S, MW-115D, and MW-121. 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 new 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.

Closure activities for Ash Ponds A, B, C, and the Bottom Ash Sluice Pond were subsequently completed in June 2016 in accordance with the Closure Plan (Hanson, NRT, 2014a), and 35 IAC 840 to the extent feasible. Ash Ponds B, C, and the Bottom Ash Sluice Pond were clean-closed by relocating accumulated ash to Ash Pond A. Closure activities for Ash Pond A included grading

[1] Note that in the 2017 Annual Report, Section 1.1, well MW-7D was mistakenly left off the list of compliance wells.

according to the Closure Plan and capping with a low permeability (40-mil HDPE) membrane covered with protective soil.

Post-closure groundwater monitoring and annual reporting for Ash Pond D according to the Groundwater Monitoring Plan and the Post-Closure Care Plan began in 2013. 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 groundwater collection trench and discharge system (**Appendix B**).
- Methodology for the outlier and trend analyses, per Section 5.2 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 – 2013 to 2024

1.2.1 Summary of Cover System Construction and Maintenance

The closure activities for Ash Pond D included placement of a cover system, which included a 40-mil HDPE geomembrane covered with a three-foot thick vegetative soil layer, construction of surface water control structures, and construction of the Collection Trench.

Inspections of the cover system are performed on a quarterly schedule. Routine maintenance activities are performed at Ash Pond D 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 are described in more detail in the Post-Closure Plan.

1.2.2 Summary of 2013 to 2024 Groundwater Quality Data Review

Groundwater quality data collected since Ameren completed closure activities for Ash Pond D in 2013 have been reviewed to assess the overall condition of the groundwater and the performance of the cover system. This review has been 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 was identified as the primary indicator parameter for coal ash leachate impacts to groundwater in the Pond D Closure Alternatives Report (NRT, 2009). As such, dissolved boron was selected for this groundwater quality data review. Dissolved sulfate was also identified as an indicator parameter for coal ash in the Pond D Closure Alternatives Report; however, dissolved sulfate can have other anthropogenic sources for elevated concentrations in groundwater, and dissolved sulfate 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 concentrations observed at each compliance monitoring well from 2013 through 2024 are presented in **Figures 1-3 through 1-8**. The lines through the

concentration data represent the best fit linear regressions for 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 in most compliance monitoring wells have been stable or decreasing since 2013 and are currently below the 35 IAC 620.410 Class I Groundwater Standard, with the exceptions of MW-8 and MW-11R, which have dissolved boron concentrations above the Class I Standard. As illustrated in **Figure 1-5**, periodic high dissolved boron concentrations have been observed at MW-11R since 2019. This monitoring well is located on the south side of the Collection Trench from Pond D. The fluctuations in dissolved boron concentrations at this well may be due to the influence of the Collection Trench and an irrigation pumping well located adjacent to the site to the south. Increasing trends in dissolved boron concentrations at MW-11R are anticipated due to the influence of the Collection Trench and are not an indication of non-compliance with the Groundwater Monitoring Plan. Boron concentration at MW-11R will continue to be monitored and evaluated in 2025.

1.2.3 Conclusion

The stable or decreasing dissolved boron concentrations in the majority of compliance monitoring wells across the site are a strong indication that the cover system is functioning to improve overall groundwater quality beneath the pond.

2. GROUNDWATER MONITORING PLAN COMPLIANCE

2.1 Applicable Groundwater Quality Standards

2.1.1 On-Site Groundwater Standards

As described in Section 5.1.1 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 D 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 D, 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 D if the following criteria are addressed to the satisfaction of the Illinois Environmental Protection Agency (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 D 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

As described in Section 5.1.2 of the Groundwater Monitoring Plan and pursuant to 35 IAC 840.116(b):

- Off-site groundwater quality standards are the 35 IAC 620.410 Class I Potable Resource standards for the upper zone (defined during rulemaking as the fine-grained sediments directly beneath Ash Pond D) and the 35 IAC 620 Subpart C non-degradation standards for the lower zone, unless a groundwater management zone (GMZ) has been established as provided in 35 IAC 620.250. Currently, no GMZ is established for Pond D. However, a GMZ is established for Ash Pond A (**Figure 1-2**). In conjunction with Ameren's request for approval of the Closure Plan for Ash Pond A, Ameren submitted a request to establish a GMZ at Ash Pond A pursuant to 35 IAC 620.250(a)(2): Ash Ponds Closure, Groundwater Management Zone Application, dated September 8, 2014 (Hanson, NRT, 2014b), which was approved along with the Closure Plan.

2.2 Demonstration of Compliance

2.2.1 On-Site Groundwater Compliance

As described in Section 5.2.1 of the Groundwater Monitoring Plan:

- Compliance with on-site groundwater quality standards will be achieved when no statistically significant increasing trend that can be attributed to Ash Pond D is detected in the

concentrations of all constituents monitored at the compliance (down-gradient) boundary of the site for four consecutive years after changing to an annual monitoring frequency (**Table 1-1**).

2.2.2 Off-Site Groundwater Compliance

As described in Section 5.2.1 of the Groundwater Monitoring Plan:

- For off-site groundwater, the following compliance criteria must be met:
  - Statistically significant decreasing trends in concentrations for all constituents monitored in accordance with 35 IAC 840.114 in the upper zone of the aquifer at the compliance boundary are detected for a period of four consecutive years after changing to annual monitoring (**Table 1-1**).
  - No statistically significant increasing trend that can be attributed to Ash Pond D is detected in the concentrations of all constituents monitored in accordance with 35 IAC 840.114 in the lower zone of the aquifer at the compliance boundary for a period of four consecutive years after changing to an annual monitoring frequency.
  - All concentrations of constituents monitored in accordance with 35 IAC 840.114 are at or below the applicable groundwater quality standard as provided in 35 IAC 840.116(b) (summarized above) at the down-gradient boundaries of Ash Pond D.

2.2.3 Compliance Determination

As described in Section 5.2.3 of the Groundwater Monitoring Plan:

- Compliance is demonstrated by performing an annual trend analysis for each monitoring well located at the down-gradient boundaries of Ash Pond D for all constituents monitored in accordance with 35 IAC 840.114. The analysis shall use Sen's Estimate of Slope and be performed on a minimum of four consecutive samples.
- If a GMZ is established for off-site groundwater in the future, the demonstration of compliance will remain consistent with the approved closure and post-closure care plan.
- If the results of sampling and analysis show a positive slope at any compliance monitoring well located at the down-gradient boundaries of Ash Pond D, 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 statistically significant increasing trend occurs during post-closure care, the investigation will include more frequent inspection of the surface of the cover system and evaluation of background concentrations.
  - If the investigation attributes a statistically significant increasing trend to a superseding cause, Ameren will notify 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 for the statistically significant increasing trend and sampling frequency has been reduced pursuant to semi-annual or annual sampling, a quarterly sampling schedule will be reestablished. After four consecutive quarterly samples show no statistically significant increasing trend, the frequency of groundwater monitoring will return to either semi-annual or annual, whichever frequency was utilized prior to the return to quarterly sampling.

  - Notifications concerning statistically significant increasing trends and revisions of the sampling frequency will be reported to IEPA in writing within 30 days after making the determinations.

- If a statistically significant increasing trend is observed to continue over a period of two or more consecutive years and there are no superseding causes for the trend, then Ameren will perform the following:
  - A hydrogeologic investigation
  - Additional site investigation, if necessary

Based on the outcome of the investigation above, Ameren may take action to mitigate statistically significant increasing trends. 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 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, as exhibited by measured groundwater elevations in MW-11R and MW-6 on **Figure 3-5**. Groundwater elevations in these wells located on the south side of the Collection Trench are generally lower than they were prior to April 2015 and exhibit less fluctuation than the other wells in the monitoring system. 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 D was calculated for each quarterly monitoring event along groundwater flow direction arrows illustrated in **Figures 3-1 through Figure 3-4** and ranged from approximately 0.009 to 0.028 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 alluvial migration zone along the edge of the Wabash River valley was not contoured since all 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, 2023; and November 11 and 18, 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-6: Not sampled in third and fourth quarters of 2023 and 2024 due to insufficient water level.

Results of groundwater monitoring for constituents that exceeded the 35 IAC 620.410 Class I Groundwater Standard during the 1999 hydrogeologic assessment (NRT, 2009) (dissolved boron, dissolved sulfate, dissolved 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 D (see **Section 1.2.2**). In the 2023-2024 monitoring period, dissolved boron concentrations ranged from <0.025 to 22.9 milligrams per liter (mg/L) in upper zone compliance monitoring wells. In lower zone compliance monitoring wells, dissolved boron concentrations ranged from <0.025 to 0.85 mg/L (**Figures 3-6 and 3-7**). As discussed in **Sections 1.2.2 and 1.2.3**, dissolved boron concentrations have been stable or decreasing in most Ash Pond D compliance monitoring wells since closure. As illustrated in **Figure 3-7**, fluctuations of dissolved boron concentrations above the 35 IAC 620.410 Class I Groundwater Standard were observed at MW-11R. During the current monitoring period (2023-2024), dissolved boron concentrations continue to be stable over time at compliance monitoring wells, with the exception of MW-11R, which is located on the south side of the Collection Trench opposite to Ash Pond D. The fluctuations in dissolved boron concentrations at this well may be due to the influence of the Collection Trench and an irrigation pumping well located adjacent to the site to the south. The stable dissolved boron concentration trends in the majority of the wells indicate the cover system is functioning to improve overall groundwater quality beneath the ponds and no further action is required at this time. Dissolved boron concentrations at MW-11R will continue to be monitored and evaluated in 2025.
- Dissolved sulfate has also been identified as an indicator for coal ash impacts to groundwater (see **Section 1.2.2**). In the 2023-2024 monitoring period, dissolved sulfate concentrations ranged from 7.5 to 1,510 mg/L in upper zone compliance monitoring wells. In lower zone compliance monitoring wells, dissolved sulfate concentrations ranged from 24.9 to 167 mg/L (**Figures 3-8 and 3-9**). Dissolved sulfate concentrations were highest at MW-11R in 2023 and 2024, where dissolved boron concentrations were also highest. As illustrated in **Figure 3-9**, fluctuations of dissolved sulfate concentrations above the 35 IAC 620.410 Class I Groundwater Standard were observed at MW-11R. The fluctuations in dissolved sulfate concentrations at this well may be due to the influence of the Collection Trench and an irrigation pumping well located adjacent to the site to the south. Overall, during this reporting period (2023-2024), the distribution of dissolved sulfate concentrations was similar to the distribution of dissolved boron concentrations at Ash Pond D. Dissolved sulfate concentrations at MW-11R will continue to be monitored and evaluated in 2025.
- Box-whisker plots and timeseries plots illustrating concentrations for the most recent eight monitoring events (2023-2024), were developed for additional parameters – dissolved manganese and TDS (**Figures 3-10 through 3-13**).

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.

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 18 cases with positive slopes, 18 cases with negative slopes, and 204 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-6 as this requirement was not met during 2023-2024 compliance period.

3.3.3 Mann-Kendall Trend Analysis

The 18 cases of positive Sen's slopes referenced above were further evaluated using the Mann-Kendall test to determine if the positive slopes represent 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 listed in **Appendices C1 and C3**, respectively. Increasing short-term (compliance) trends are identified in **Tables 3-1 and 3-2**.

The Mann-Kendall test detected five cases of statistically significant increasing trend in the 2023-2024 dataset. These cases occurred for dissolved iron at MW-115S, dissolved manganese at MW-7D and MW-115S, dissolved nitrate at MW-23S, and dissolved sulfate at MW-115D. During this reporting period, dissolved iron concentrations at MW-115S, dissolved nitrate concentrations at MW-23S, and dissolved sulfate concentrations at MW-115D were below their respective 35 IAC 620.410 Class I Groundwater Standards, whereas concentrations of dissolved manganese at MW-7D and MW-115S exceeded their respective Class I Groundwater Standard.

3.4 Site Inspection

The Post-Closure Maintenance Program requires quarterly inspections for the first five years after closure. After five years, the inspection frequency can be reduced to semi-annually provided that semi-annual groundwater monitoring has been approved by IEPA. After five years of semi-annual monitoring, the inspection frequency can be reduced to annually pending approval of annual groundwater monitoring. Inspections may be ceased 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 wells 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	Gate located between Ash Pond A and D was found on the ground.	Gate has been repaired and is operational.
March	Diver-Mate Data Collector connection issue for data download from the groundwater collection trench and discharge system.	Data was downloaded manually prior to these repairs, which occurred in 2024.
June	Bare spot in the rip-rap observed on the channel's south side of the embankment, exposing the soil beneath.	Repairs were made to the cover in July 2024.
September	Pump in sump pit #4 did not turn on when the switch was flipped to the "Hand" position.	Repairs were made and the unit was operational during the November 2024 inspection.

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 manganese at MW-7D and MW-115S both had a statistically significant increasing short-term trend and concentrations above the Class I Groundwater Standard during the compliance period (2023-2024). The short-term increasing trends for dissolved manganese at MW-7D and MW-115S were isolated and not repeated from the 2022-2023 monitoring period; as such, no further action is required at this time.

5. CONCLUSIONS

Cover system construction and maintenance, as well as stable or decreasing dissolved boron and sulfate concentrations in the majority of Ash Pond D compliance monitoring wells, are strong indications that the cover system is functioning to improve overall groundwater quality beneath the pond.

Statistical analyses of results for the most recent eight rounds of groundwater samples collected for the 2023 to 2024 compliance period at Hutsonville Ash Pond D identified both concentrations above the 35 IAC 620.410 Class I Groundwater Standard and a short-term increasing trend for dissolved manganese concentrations at MW-7D and MW-115S. The concentrations at MW-7D and MW-115S were isolated and not repeated from 2022-2023 monitoring period. As such, no further action is required at this time. The concentrations of indicator parameters will continue to be monitored and evaluated in 2025.

6. REFERENCES

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TABLES

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

Frequency	Duration	Sampling Quarter	Report Due Date
Quarterly	Begins: January 2013 Ends: 5 years after approval of closure plan and upon demonstration that monitoring effectiveness is not compromised and that there are no statistically significant increasing trends attributable to Ash Pond D.	January- March (1) April - June (2) July - September (3) October - December (4)	May 31 August 31 November 30 February 28
Semiannual	Begins: after IEPA approves that quarterly monitoring requirements have been satisfied. Ends: 5 years after initiation of semiannual monitoring and upon demonstration that monitoring effectiveness is not compromised and that there are no increasing trends attributable to the Ash Pond D.	April - June (2) October - December (4)	August 31 February 28
Annual	Begins: Five years after approval of semi-annual monitoring and after Illinois EPA approval. Ends: After successful completion of the post-closure activities required by 35 IAC 840.142 and approval of the Illinois EPA.	April - June (2)	August 31

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

Well	Installation Date	Surface Elevation (ft, MSL[2])	TOC[1] Elevation (ft, MSL)	Top of Screen Elev (ft)	Bottom of Screen Elevation (ft)	Total Well Depth (ft, BGS)	Objective	Position	Monitoring Zone[3]
Ash Pond D Groundwater Monitoring System Wells: Water Quality and Groundwater Elevations									
MW-6	2/9/1984	438.7	443.17	433.9	427.5	11.2	Compliance	Downgradient	UZ - s&g, ss
MW-7	2/8/1984	439.9	442.28	422.9	412.9	27.0	Compliance	Downgradient	UZ - si s&g
MW-7D	10/5/1998	438.9	442.75	398.2	393.2	45.7	Compliance	Downgradient	LZ - si s&g
MW-8	2/8/1984	440.0	443.65	422.9	417.9	22.1	Compliance	Downgradient	UZ - si s
MW-10[4]	10/7/1998	452.9	454.23	447.2	442.2	10.7	Background	Upgradient	UZ - si s&g, ss
MW-10D[4]	10/7/1998	452.9	454.65	436.6	431.6	21.3	Background	Upgradient	UZ - ss
MW-11R	10/3/2001	440.4	443.01	435.4	425.4	15.0	Compliance	Downgradient	UZ - s&g
MW-14	10/3/2001	440.1	442.89	412.9	407.9	32.2	Compliance	Downgradient	LZ - s&g
MW-23D[4]	11/28/2017	453.5	455.90	434.0	428.7	24.8	Background	Upgradient	UZ - ss, sh
MW-23S[4]	11/28/2017	453.4	456.03	444.2	438.9	14.5	Background	Upgradient	UZ - s si, si s, ss
MW-115S	5/1/2004	438.7	440.88	408.4	403.4	35.3	Compliance	Downgradient	LZ - s&g
MW-115D	5/1/2004	439.1	441.39	356.4	351.4	87.7	Compliance	Downgradient	LZ - s&g
MW-121	10/2/2001	439.2	440.23	403.8	398.8	40.3	Compliance	Downgradient	LZ - s&g
Other Monitoring Wells and Piezometers: Groundwater Elevations									
MW-2D	10/14/2015	452.9	455.42	435.1	430.4	23.1	- -	- -	UZ - ss
MW-2R	6/4/2012	453.0	455.37	446.0	435.3	17.8	- -	- -	UZ - s&g
MW-3	2/9/1984	453.7	454.84	447.7	442.7	11.0	- -	- -	UZ - s&g
MW-3D	10/6/1998	453.57	455.01	433.6	428.6	24.971	- -	- -	UZ - ss
MW-4	2/13/1984	454.0	456.76	449.4	441.9	12.1	- -	- -	UZ - s&g, ss
MW-5	2/13/1984	452.1	454.67	447.3	434.3	17.8	- -	- -	UZ - s&g, ss
MW-9	2/14/1984	451.7	454.38	443.5	433.5	18.2	- -	- -	UZ - s&g
MW-12	10/8/1998	455.5	456.74	448.6	438.6	16.9	- -	- -	UZ - s&g
MW-22S	10/14/2015	449.2	451.48	441.9	437.2	12.7	- -	- -	UZ - si s&g, ss
MW-22D	10/14/2015	449.1	451.36	431.7	427.0	22.7	- -	- -	UZ - si s&g, ss

Notes:

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

1. TOC = top of casing
2. BGS = below ground surface; MSL = mean sea level.
3. 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
4. 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.

RAMBOLL

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

Field Parameters	STORET Code
pH[2]	00400
Specific Conductance[2]	00094
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
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 D

	MW-6	MW-7	MW-7D	MW-8	MW-11R	MW-14	MW-23D	MW-23S	MW-115S	MW-115D	MW-121
Number of Samples	**4**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**
Antimony, dissolved	ID	None	None	None	None	None	None	None	None	None	None
Arsenic, dissolved	ID	None	None	None	None	None	None	None	None	None	None
Barium, dissolved	ID	None	None	None	None	None	None	None	None	None	None
Beryllium, dissolved	ID	None	None	None	None	None	None	None	None	None	None
Boron, dissolved	ID	None	None	-	+	None	None	None	None	None	None
Cadmium, dissolved	ID	None	None	None	None	None	None	None	None	None	None
Chloride, dissolved	ID	-	+	+	-	-	None	+	+	-	+
Chromium, dissolved	ID	None	None	None	None	None	None	None	None	None	None
Cobalt, dissolved	ID	None	None	None	None	None	None	None	None	None	None
Copper, dissolved	ID	None	None	None	None	None	None	None	None	None	None
Cyanide, total	ID	None	None	None	None	None	None	None	None	None	None
Fluoride, dissolved	ID	None	None	None	None	None	None	None	None	None	None
Iron, dissolved	ID	None	None	None	None	None	None	None	Increase	None	None
Lead, dissolved	ID	None	None	None	None	None	None	None	None	None	None
Manganese, dissolved	ID	None	Increase	+	None	None	None	None	Increase	None	None
Mercury, dissolved	ID	None	None	None	None	None	None	None	None	None	None
Nickel, dissolved	ID	None	None	None	None	None	None	None	None	None	None
Nitrate nitrogen, dissolved	ID	None	None	None	-	None	None	Increase	None	None	None
Selenium, dissolved	ID	None	None	None	None	None	None	None	None	None	None
Silver, dissolved	ID	None	None	None	None	None	None	None	None	None	None
Sulfate, dissolved	ID	-	Decrease	-	+	-	+	-	-	Increase	None
Thallium, dissolved	ID	None	None	None	None	None	None	None	None	None	None
Total Dissolved Solids	ID	-	-	-	+	-	+	+	-	-	+
Zinc, dissolved	ID	None	None	None	None	None	None	None	None	None	None

- "+" indicates that the Sen's non-parametric estimate of the median slope is positive. [O: KJS 1/13/2025, C: KLT 1/15/25]
- "-" 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.

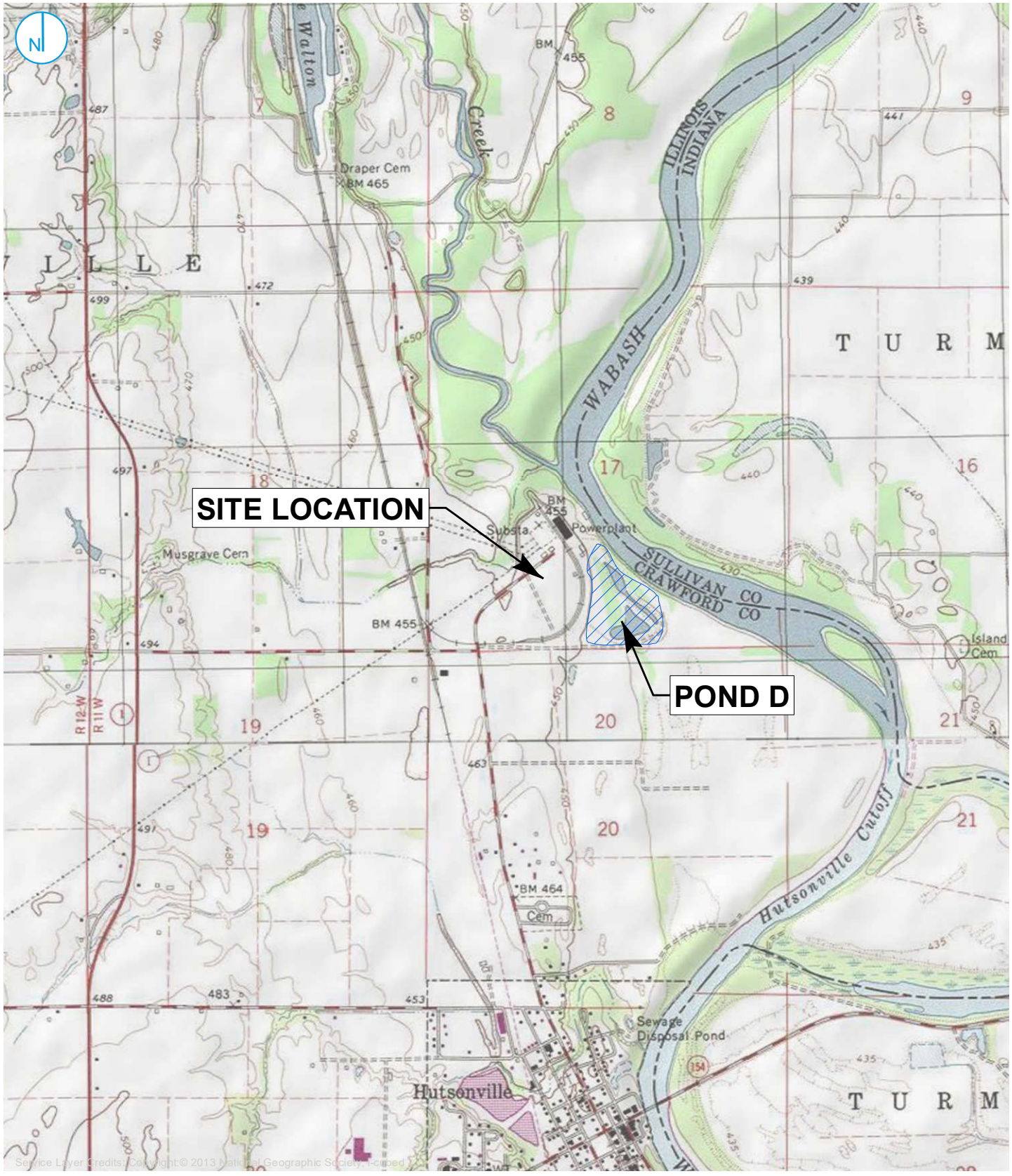
Table 3-2. Summary of Trend Analyses
2024 Annual Report
Former Hutsonville Power Station - Ash Pond D

Time Period	Short-Term Increasing Trends	Long-Term Decreasing Concentration Patterns
2013-2014	7	23
2014-2015	2	
2015-2016	1	
2016-2017	2	
2017-2018	8	
2018-2019	13	
2019-2020	1	
2020-2021	7	
2021-2022	5	
2022-2023	2	
2023-2024	5	

[O: KJS 1/13/2025, 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 January 2013.

FIGURES



Y:\Mapping\Projects\24\2420\MXDs\2020APD\Figure 1-1_Site Location Map Ash Pond D2.mxd

PROJECT: 72971 | DATED: 1/13/2021 | DESIGNER: galammc

KEY MAP

Map Scale: 1:1:24,000;
Map Center: 87°39'45"W 39°7'53"N

0 1,000 2,000 Feet

SITE LOCATION MAP

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

FIGURE 1-1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC
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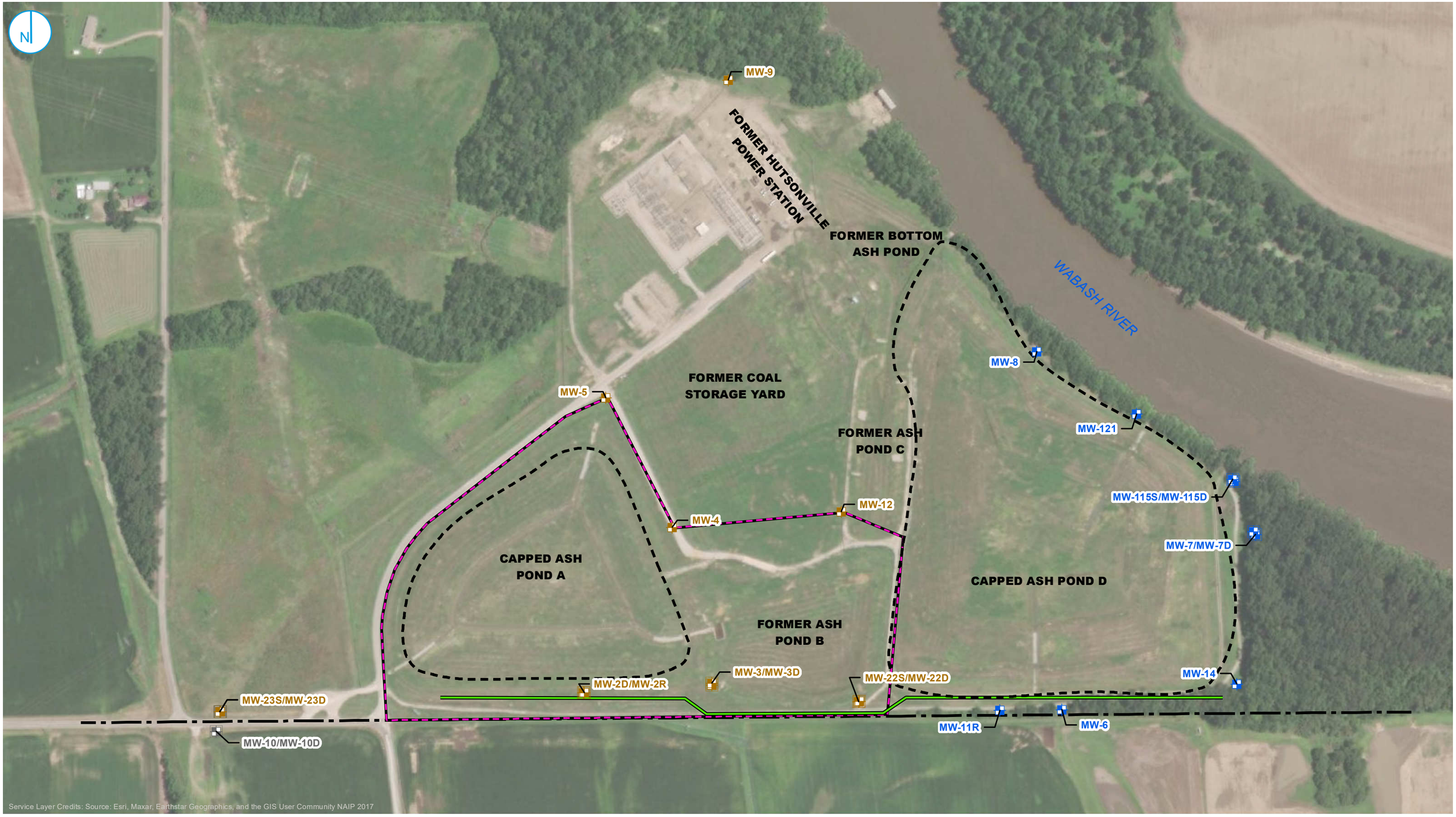
RAMBOLL

Y:\Mapping\Projects\2424201MXDs\2022APD\Figure 1-2_Monitoring Well Location Map.mxd



PROJECT: 169000XXXX | DATED: 1/24/2023 | DESIGNER: galamnc

- ASH POND D MONITORING WELL LOCATION
- NESTED ASH POND D MONITORING WELL LOCATION
- ASH POND A MONITORING WELL LOCATION
- NESTED ASH POND A MONITORING WELL LOCATION
- ABANDONED NESTED MONITORING WELL LOCATION
- PROPERTY LINE
- APPROXIMATE BOUNDARY OF CAPPED ASH POND
- GROUNDWATER COLLECTION TRENCH (BEGAN OPERATION APRIL 2015)
- LIMITS OF GROUNDWATER MANAGEMENT ZONE

0 150 300 Feet

MONITORING WELL LOCATION MAP

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

FIGURE 1-2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC
A RAMBOLL COMPANY

RAMBOLL

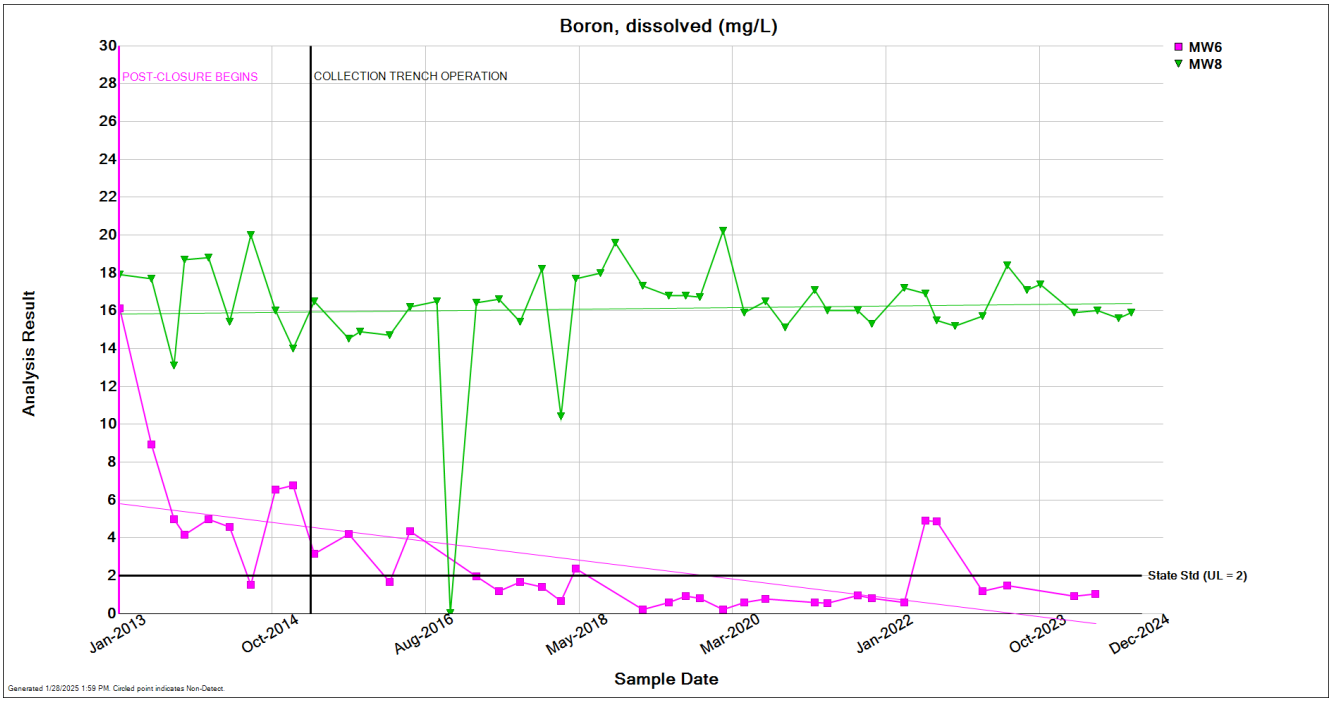


Figure 1-3. Boron concentrations over time since closure completion (2013) at compliance wells MW-6 and MW-8. (Note: Lines through the concentration data represent the best fit linear regressions)

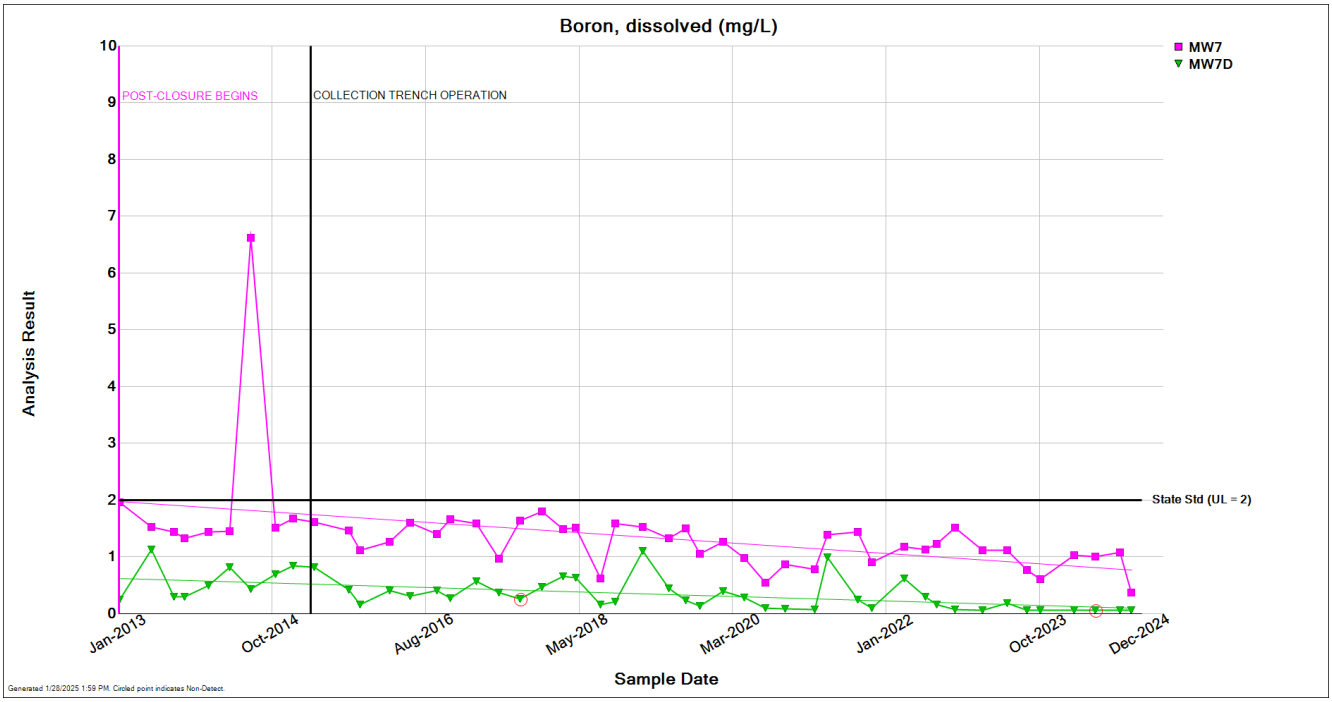


Figure 1-4. Boron concentrations over time since closure completion (2013) at compliance wells MW-7 and MW-7D. Circled results indicate non-detects. (Note: Lines through the concentration data represent the best fit linear regressions)

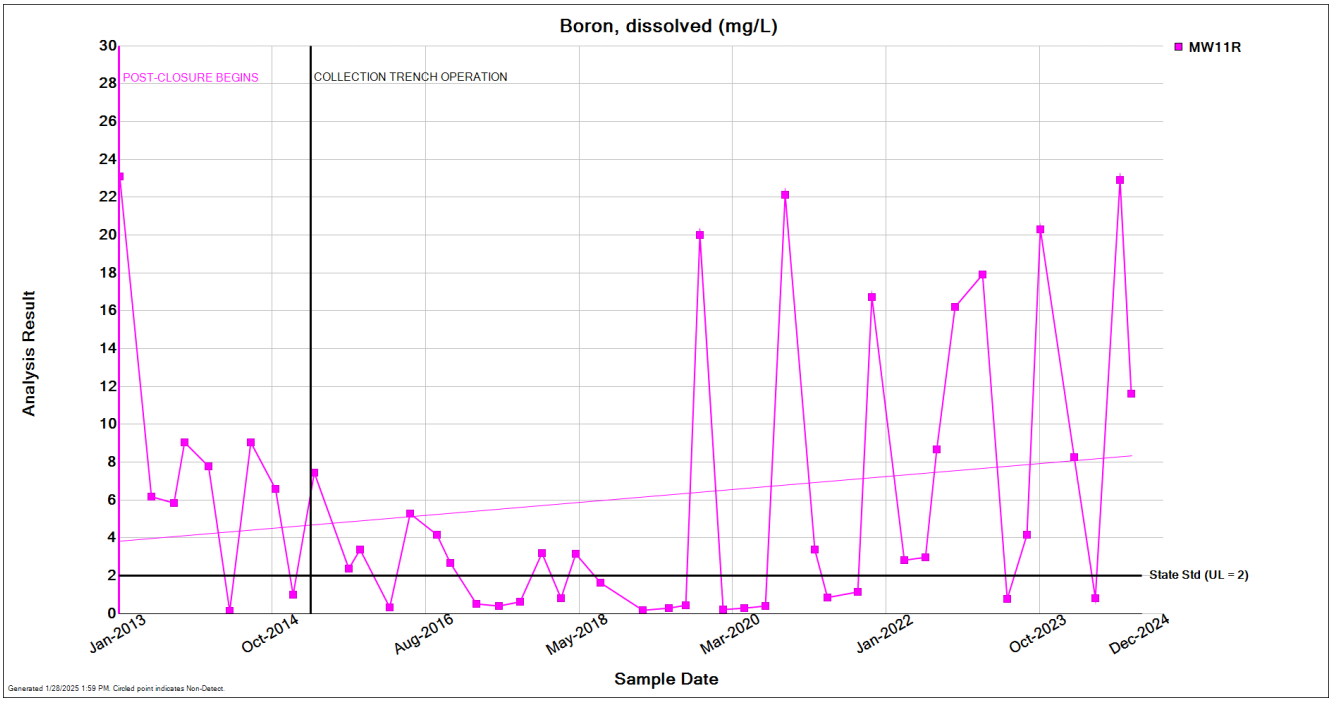


Figure 1-5. Boron concentrations over time since closure completion (2013) at compliance wells MW-11R. (Note: Lines through the concentration data represent the best fit linear regressions)

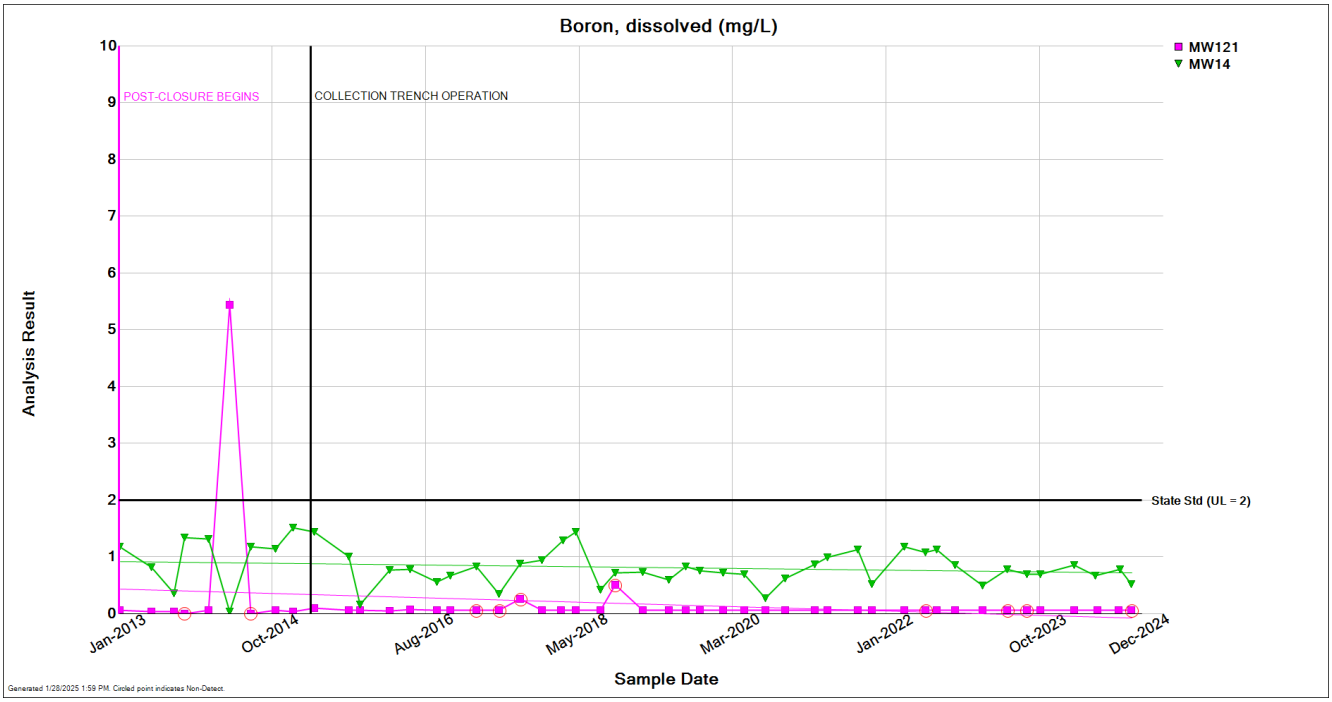


Figure 1-6. Boron concentrations over time since closure completion (2013) at compliance wells MW-121 and MW-14. Circled results indicate non-detects. (Note: Lines through the concentration data represent the best fit linear regressions)

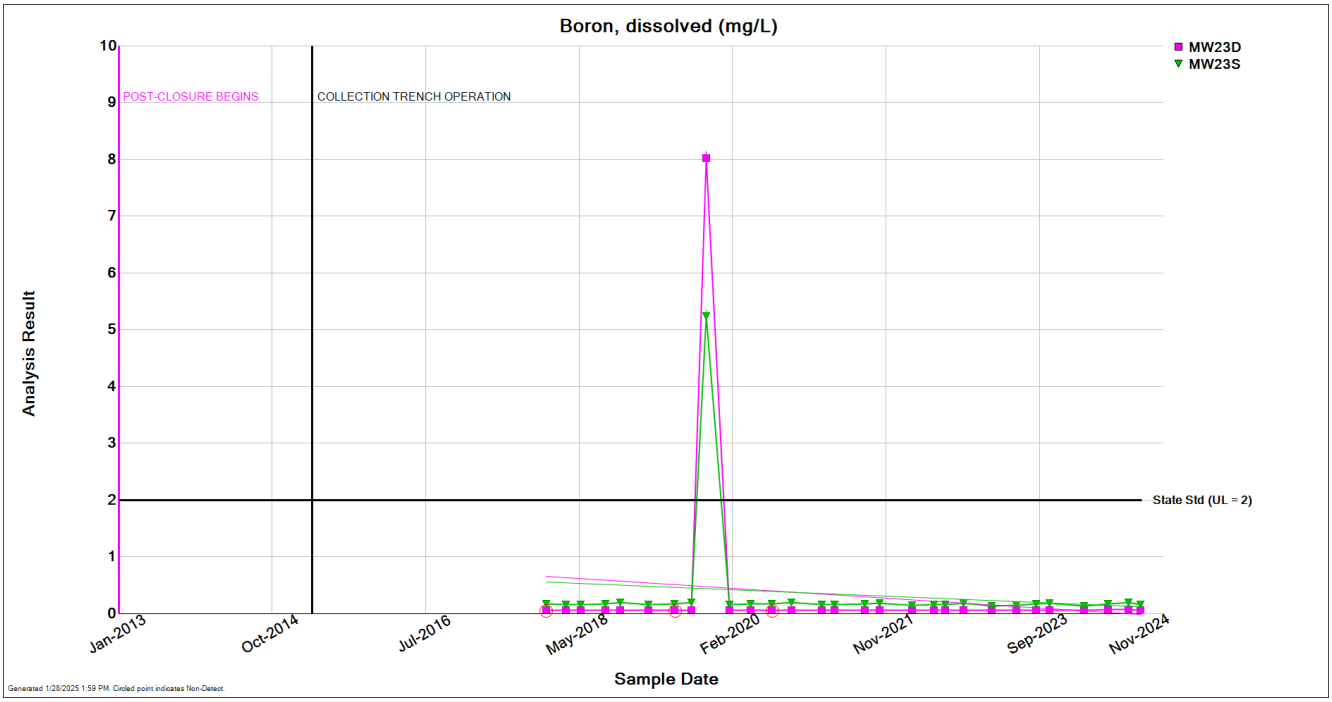


Figure 1-7. Boron concentrations over time since closure completion (2013) at background wells MW-23S and MW-23D. Circled results indicate non-detects. (Note: Lines through the concentration data represent the best fit linear regressions)

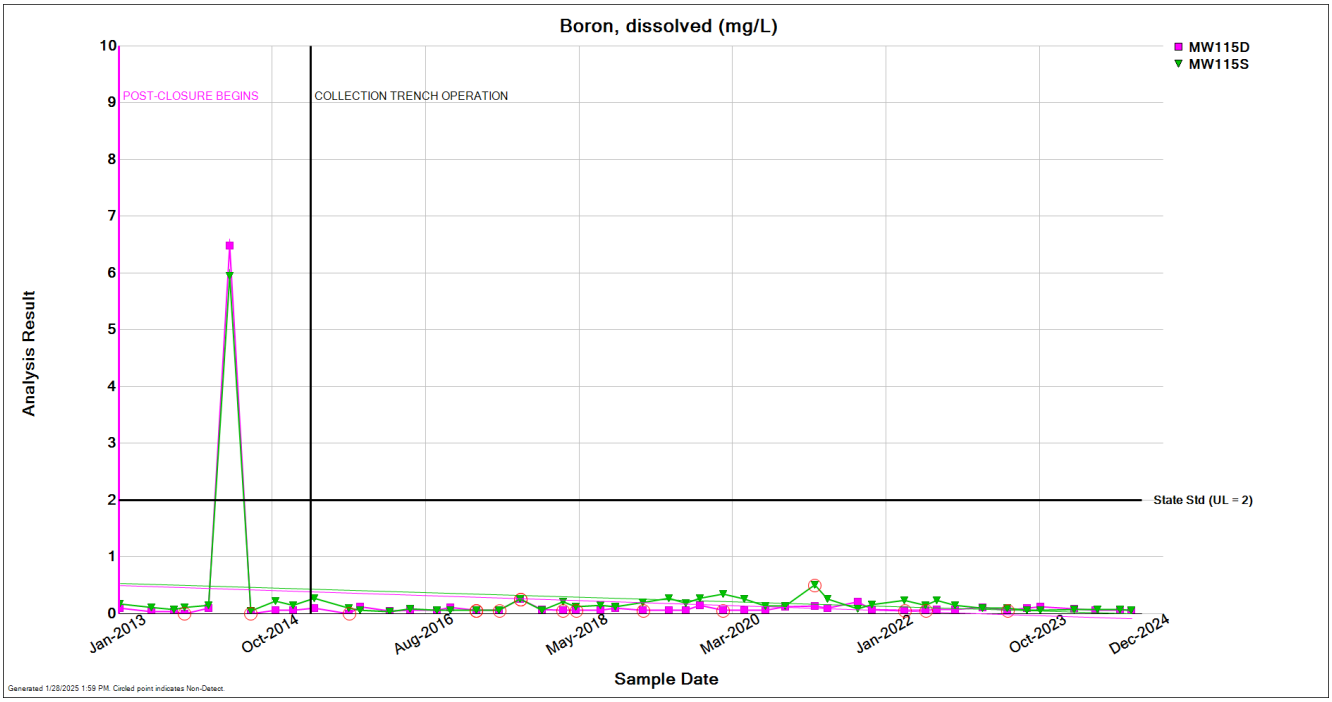
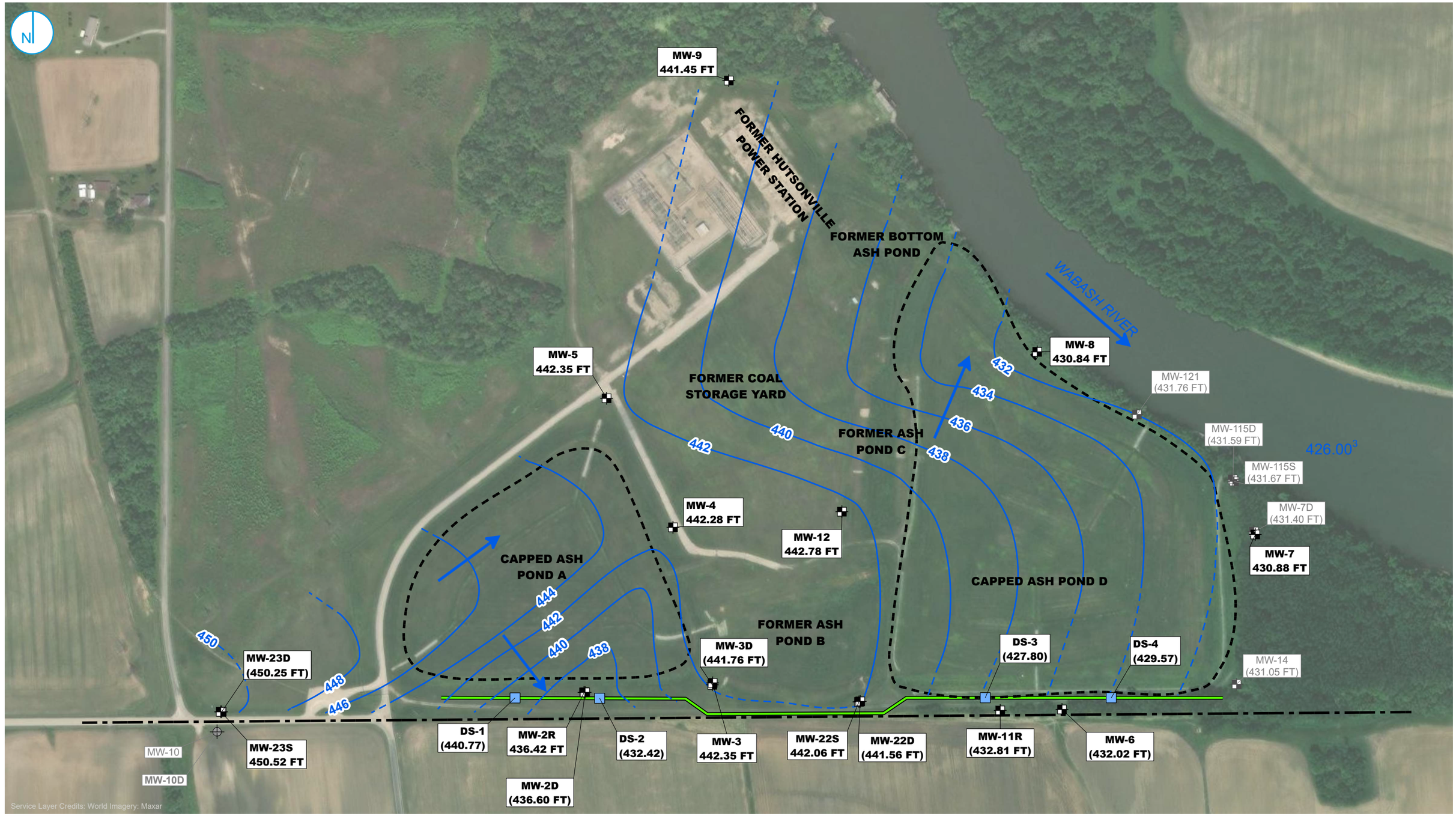


Figure 1-8. Boron concentrations over time since closure completion (2013) at compliance wells MW-115S and MW-115D. Circled results indicate non-detects. (Note: Lines through the concentration data represent the best fit linear regressions)

Y:\Mapping\Projects\6\678715\mxd\2024\Hutsonville_2024.aprx

PROJECT: 169000XXXX | DATED: 5/8/2024 | DESIGNER: egreaves



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

0 150 300 Feet

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.

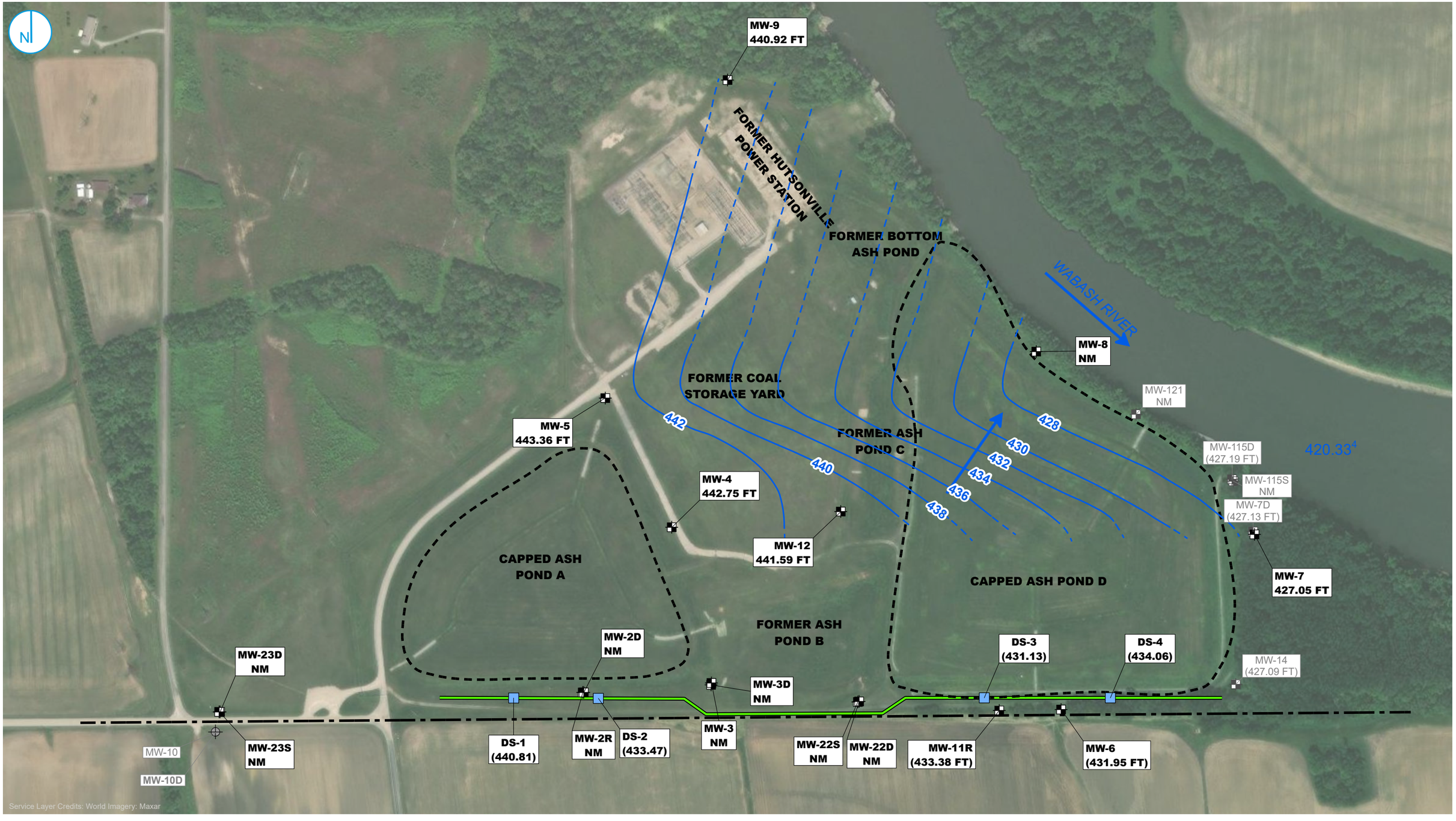
Q1 UPPER MIGRATION ZONE GROUNDWATER ELEVATION CONTOUR MAP MARCH 18, 2024

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

FIGURE 3-1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC
A RAMBOLL COMPANY

RAMBOLL



- 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

0 150 300 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.

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

2024 ANNUAL REPORT
FORMER HUTSONVILLE POWER STATION - ASH POND D

AMEREN ENERGY MEDINA VALLEY COGEN, LLC
HUTSONVILLE, IL

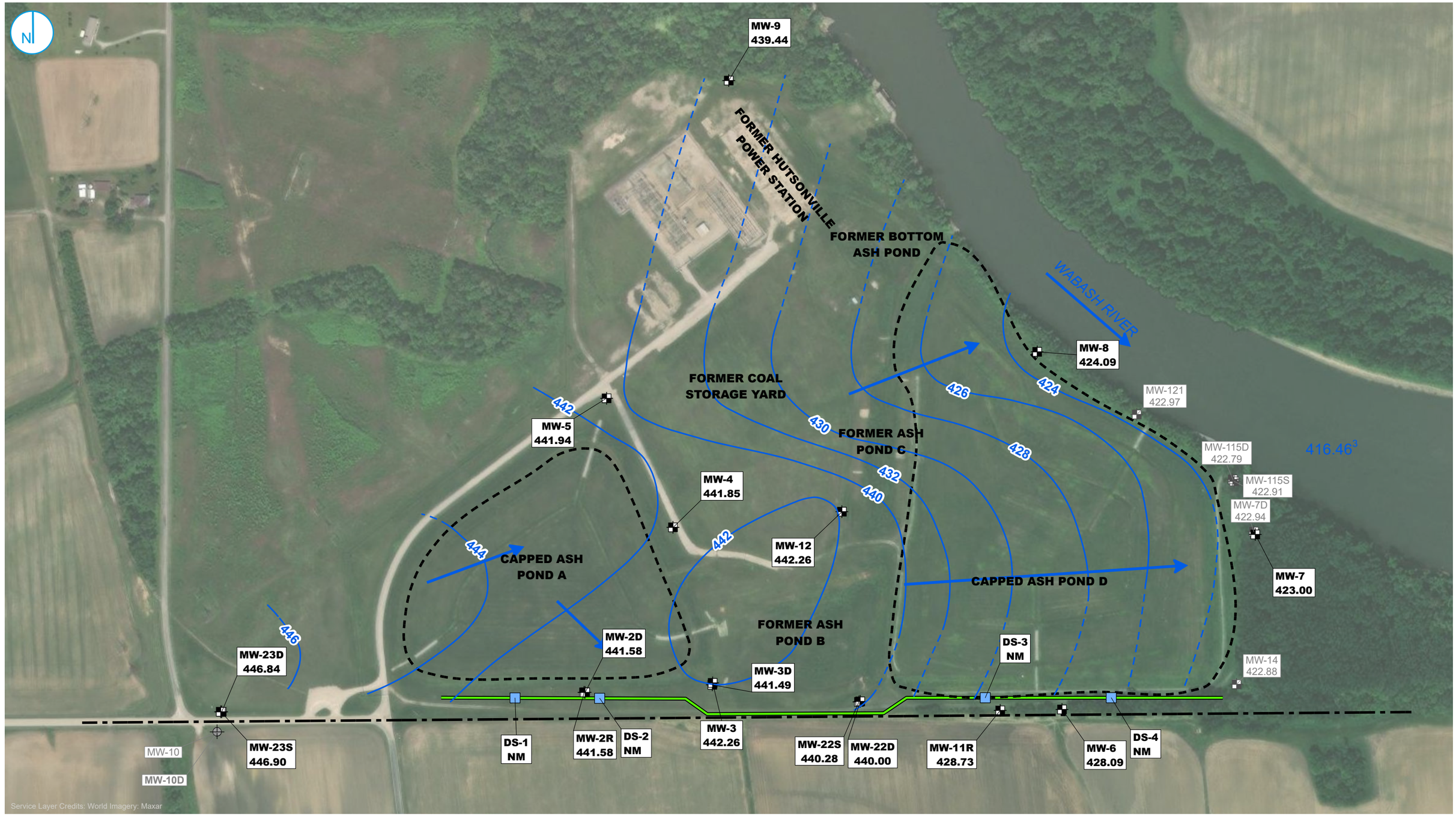
FIGURE 3-2

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC
A RAMBOLL COMPANY

RAMBOLL

Y:\Mapping\Projects\6\67815\mxd\2024\Hutsonville_2024.aprx

PROJECT: 169000XXXX | DATED: 11/26/2024 | DESIGNER: PWYSIATKO



- 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

0 150 300 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.

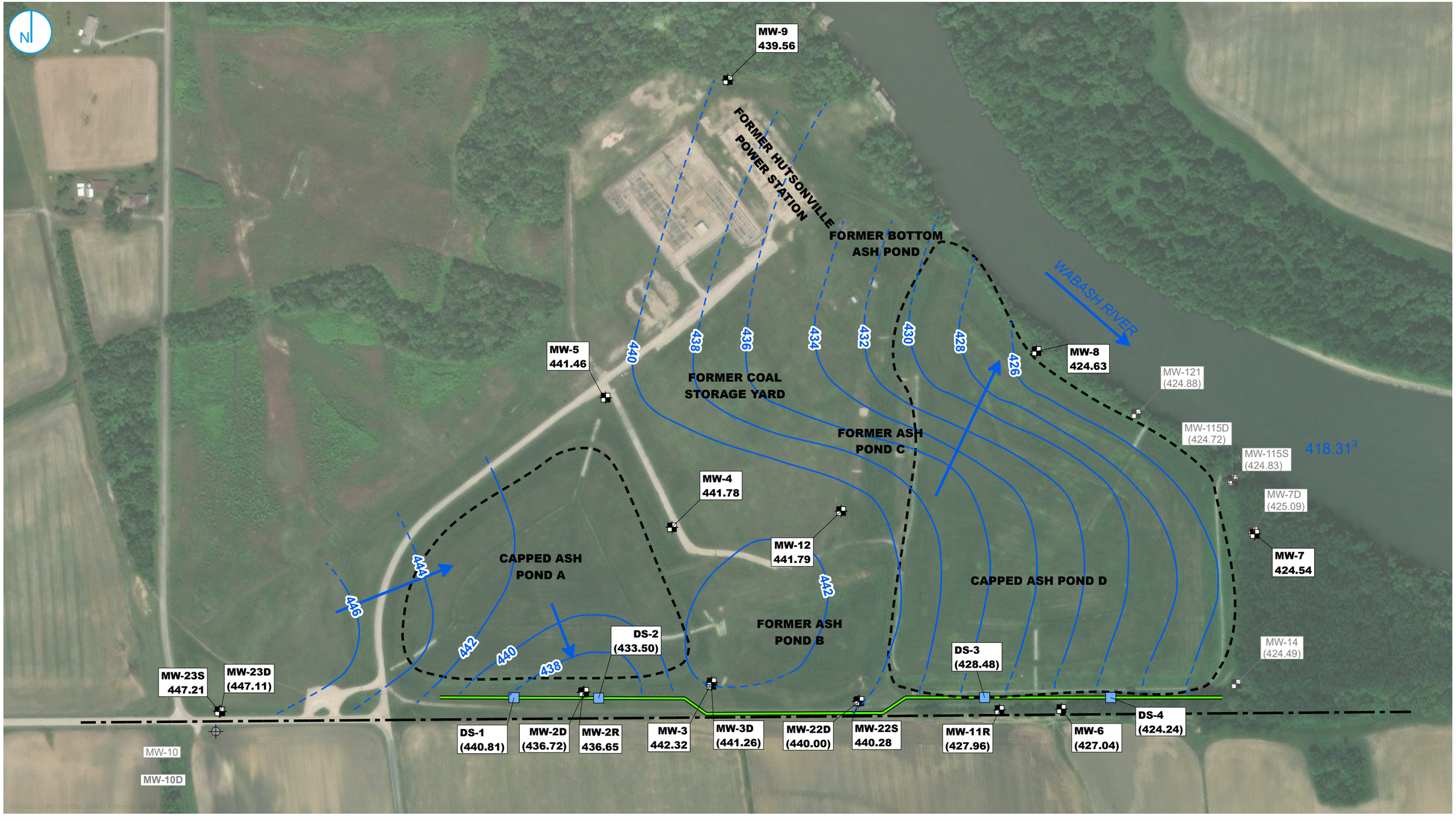
Q3 UPPER MIGRATION ZONE GROUNDWATER ELEVATION CONTOUR MAP SEPTEMBER 23, 2024

2024 ANNUAL REPORT
FORMER HUTSONVILLE POWER STATION - ASH POND D

AMEREN ENERGY MEDINA VALLEY COGEN, LLC
HUTSONVILLE, IL

FIGURE 3-3

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

0 150 300 Feet

- 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.

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

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

FIGURE 3-4

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC

RAMBOLL

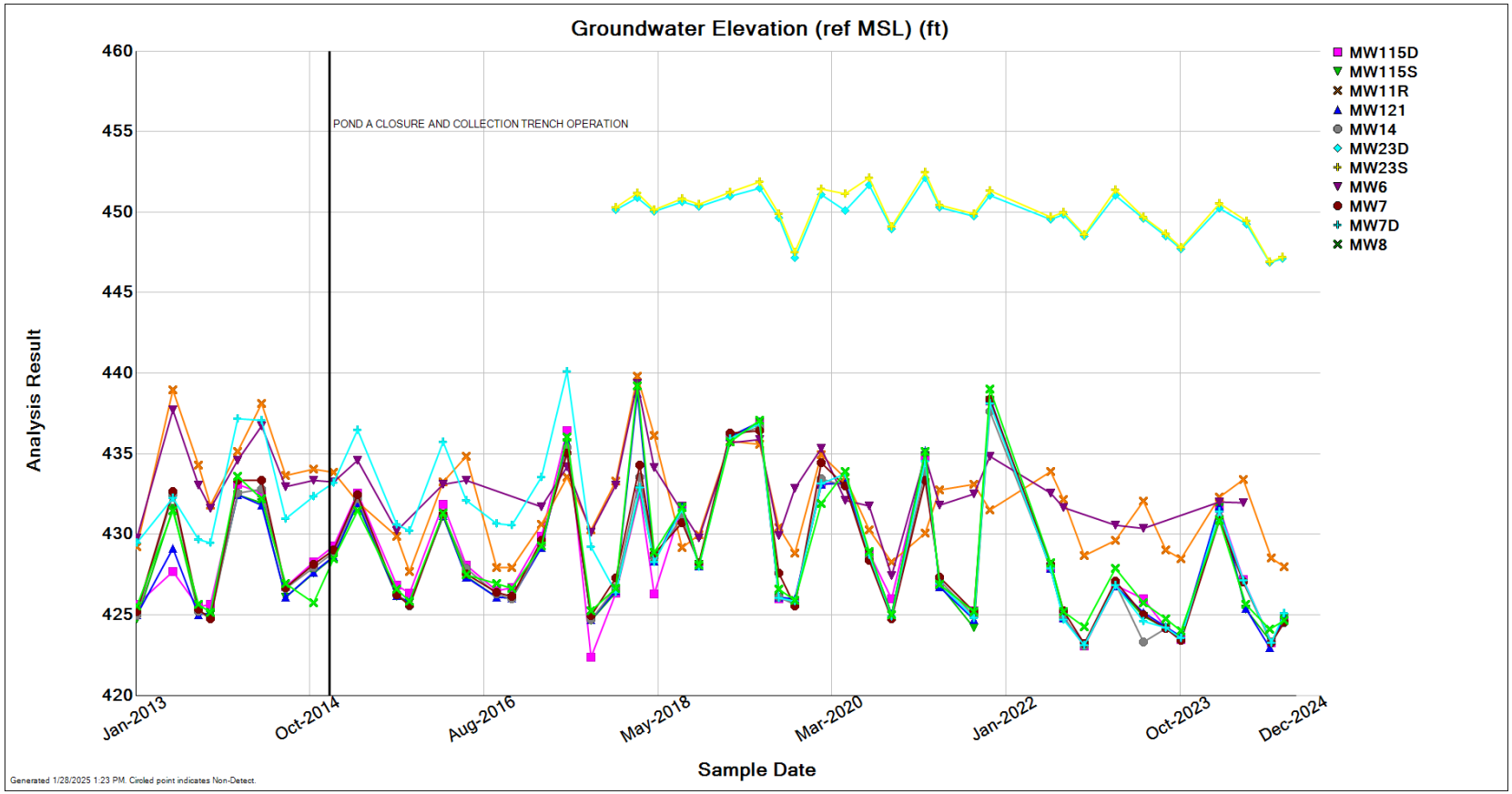


Figure 3-5. Groundwater elevations near groundwater collection trench.

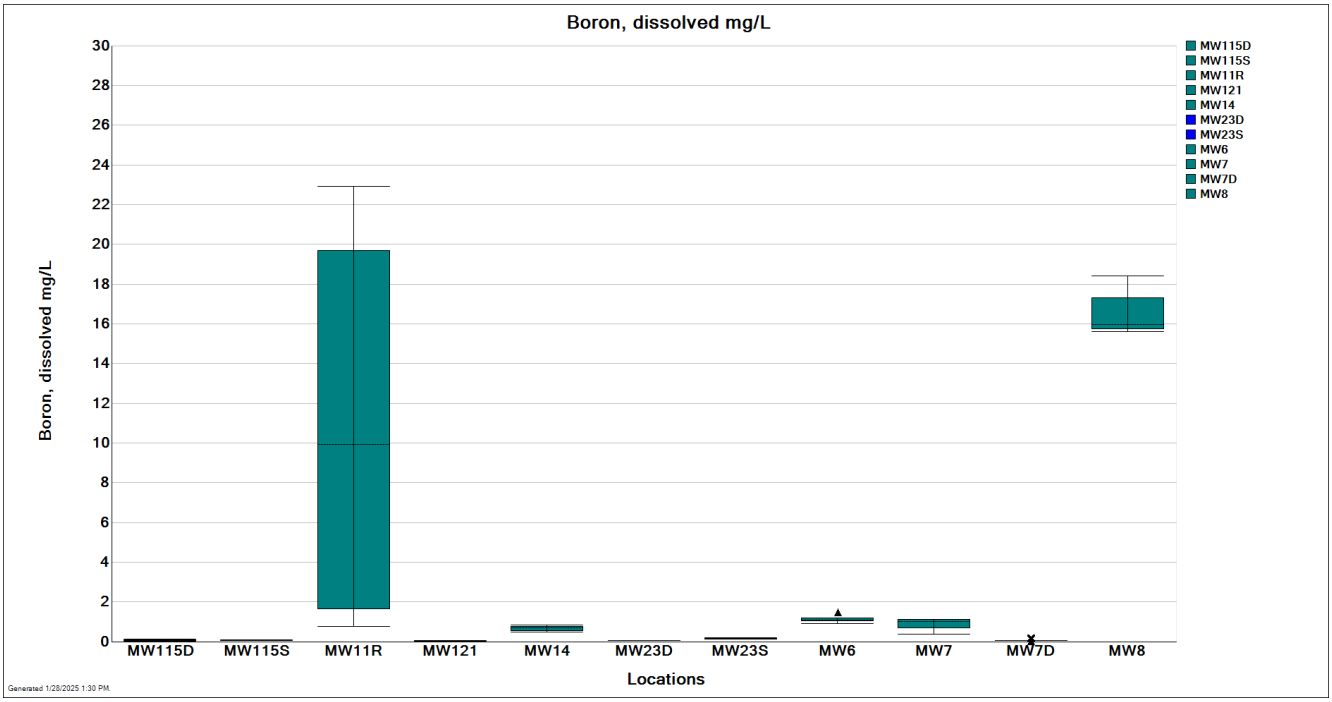


Figure 3-6. Box-whisker plot showing distribution of **boron** concentration by monitoring well for data collected in 2023 and 2024. Note: Box-whisker plots for background wells are blue and box-whisker plots for compliance wells are green.

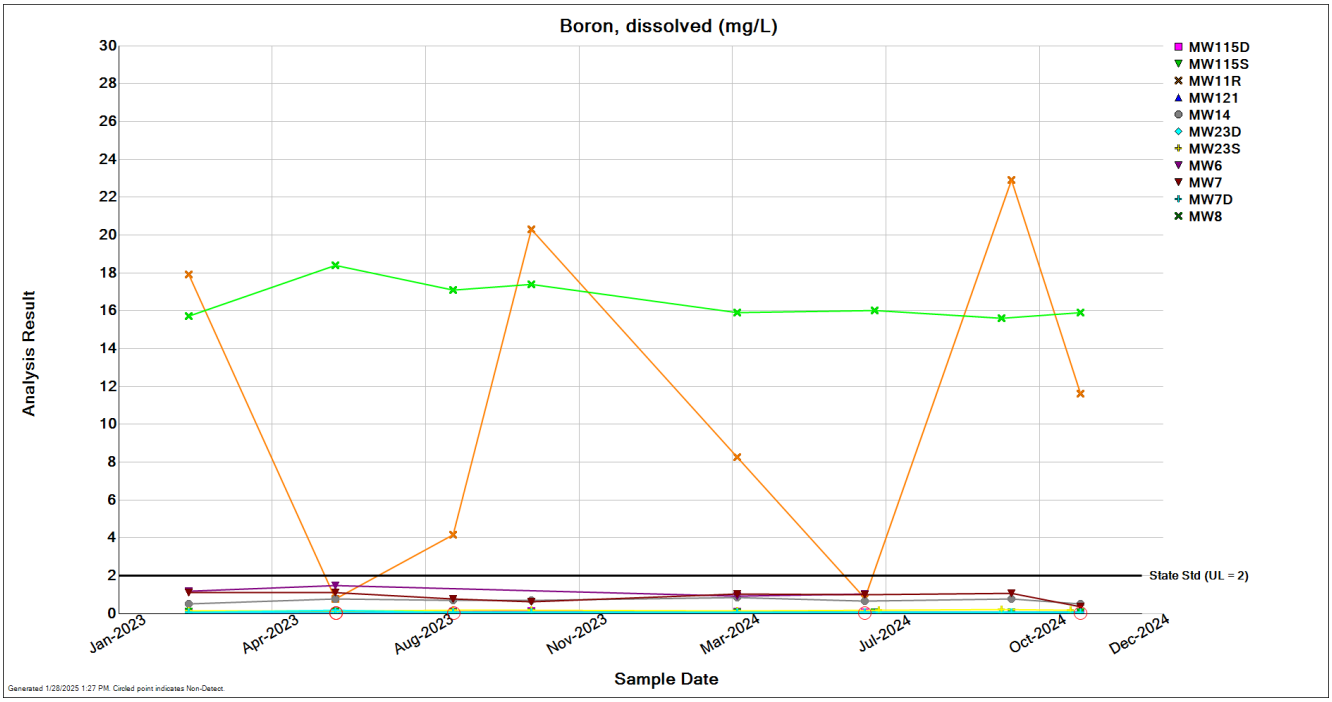


Figure 3-7. Boron concentrations during the reporting period (2023-2024) at all background and compliance wells. Circled results indicate non-detects.

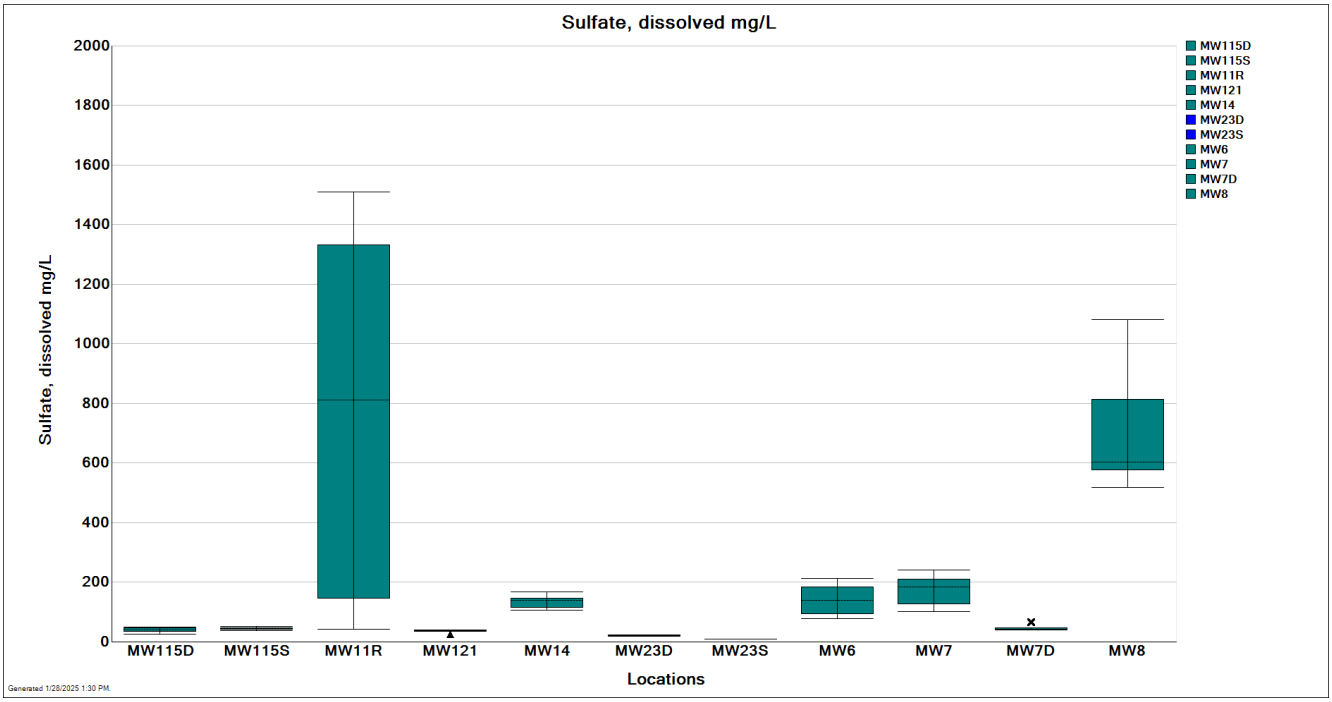


Figure 3-8. Box-whisker plot showing distribution of **sulfate** concentration by monitoring well for data collected in 2023 and 2024. Note: Box-whisker plots for background wells are blue and box-whisker plots for compliance wells are green.

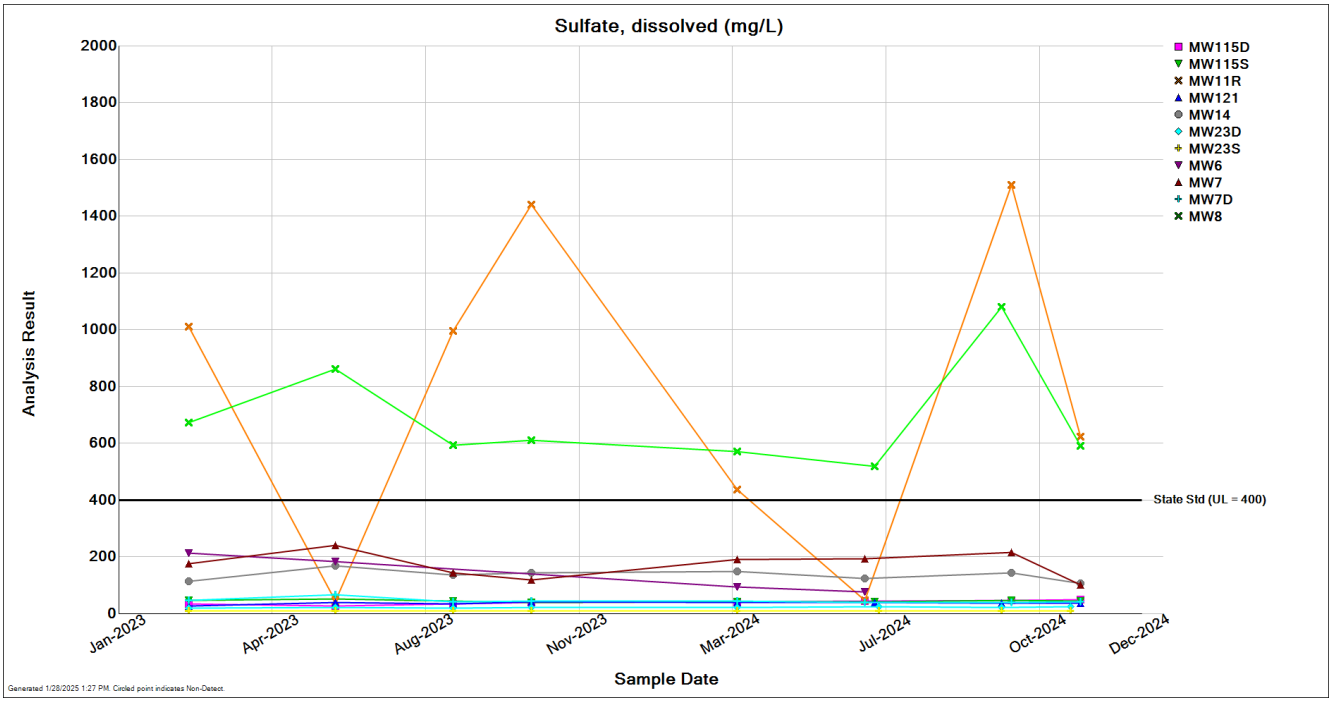


Figure 3-9. Sulfate concentrations during the reporting period (2023-2024) at all background and compliance wells. Circled results indicate non-detects.

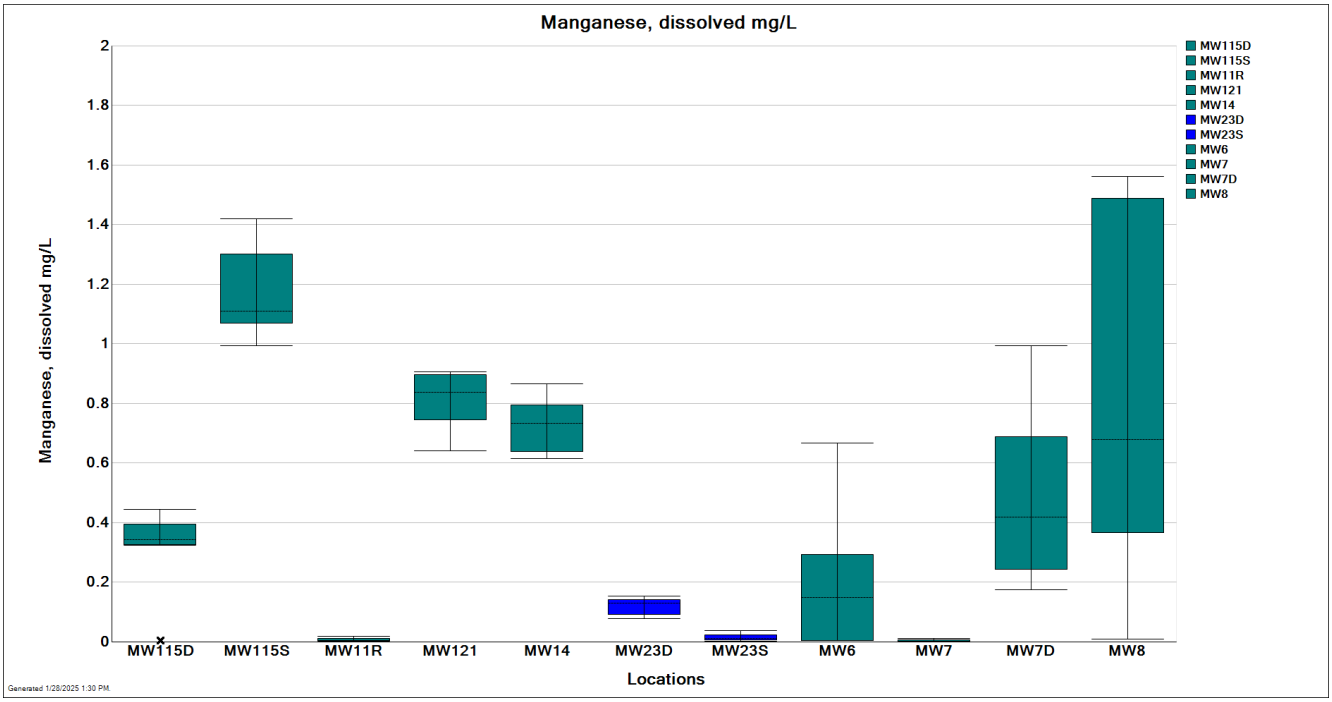


Figure 3-10. Box-whisker plot showing distribution of **manganese** concentration by monitoring well for data collected in 2023 and 2024. Note: Box-whisker plots for background wells are blue and box-whisker plots for compliance wells are green.

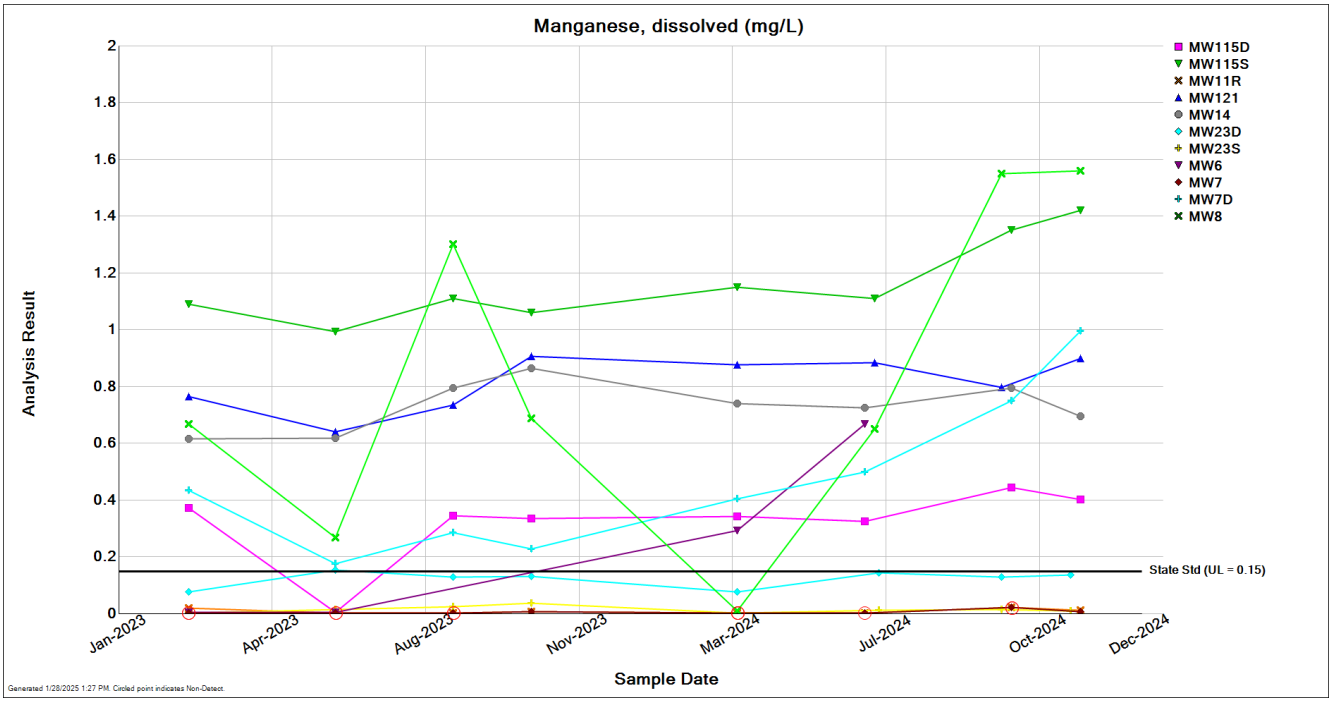


Figure 3-11. Manganese concentrations during the reporting period (2023-2024) at at all background and compliance wells. Circled results indicate non-detects.

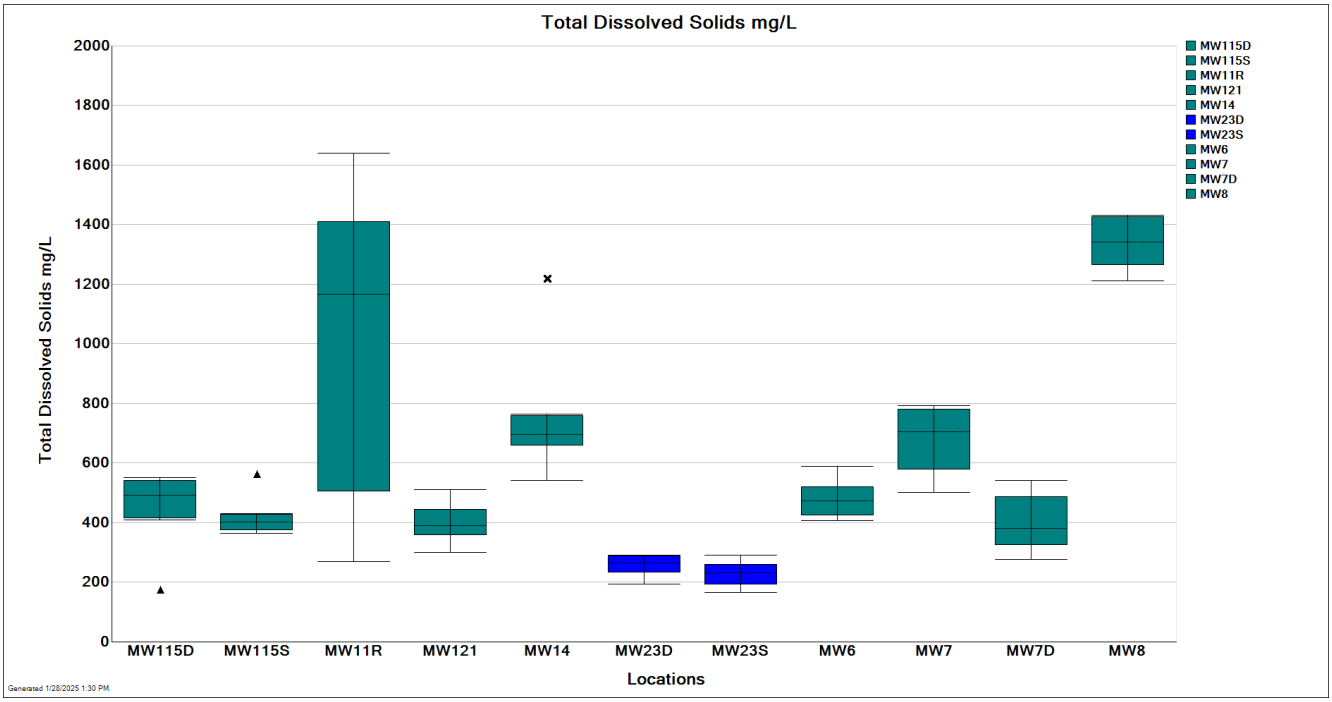


Figure 3-12. Box-whisker plot showing distribution of **total dissolved solids** concentration by monitoring well for data collected in 2023 and 2024. Note: Box-whisker plots for background wells are blue and box-whisker plots for compliance wells are green.

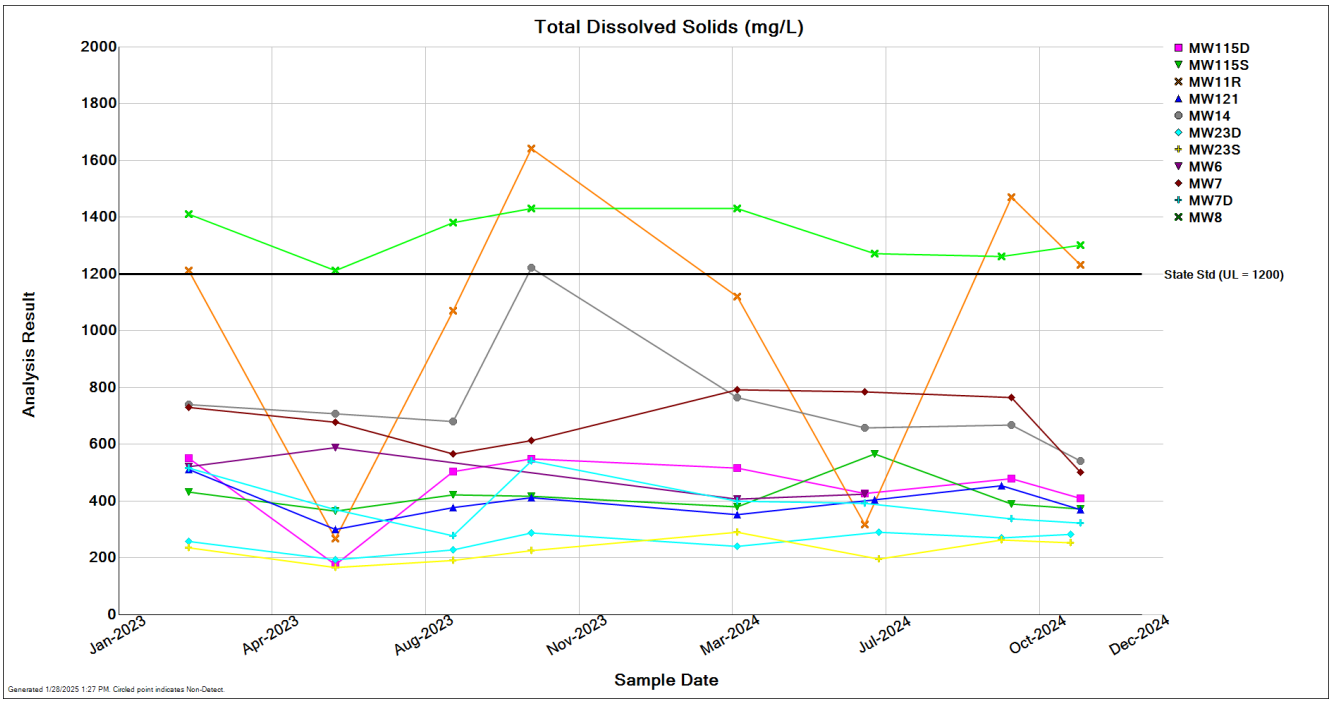


Figure 3-13. Total dissolved solids concentrations during the reporting period (2023-2024) at all background and compliance wells.

APPENDIX A
GROUNDWATER MONITORING RESULTS 2023-2024

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

Date Range: 01/01/2023 to 12/31/2024
Well: MW6

	2/20/2023	6/5/2023	3/18/2024	6/17/2024
Ag, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003
As, diss, mg/L	<0.0003	<0.0003	<0.0003	0.0005
B, diss, mg/L	1.1800	1.4800	0.9100	1.0100
Ba, diss, mg/L	0.034	0.033	0.028	0.027
Be, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Cd, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003
Cl, diss, mg/L	7.8	10.0	10.7	19.0
CN, total, mg/L	<0.01	<0.01	<0.01	<0.01
Co, diss, mg/L	<0.001	<0.001	<0.001	<0.001
Cr, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Cu, diss, mg/L	<0.0005	<0.0005	<0.0005	0.0010
F, diss, mg/L	<0.1	<0.1	<0.1	0.2
Fe, diss, mg/L	<0.010	<0.010	0.045	0.029
GW Depth (TOC), ft	12.63	12.80	11.15	11.22
GW Elv, ft	430.54	430.37	432.02	431.95
Hg, diss, mg/L	<0.0001	<0.0001	<0.0001	<0.0001
Mn, diss, mg/L	0.0034	0.0032	0.2930	0.6670
Ni, diss, mg/L	0.0007	0.0008	0.0008	0.0012
NO3, diss, mg/L	0.269	1.000	0.219	0.391
Pb, diss, mg/L	<0.001	<0.001	<0.001	<0.001
pH (field), STD	6.82	6.82	6.91	6.89
Sb, diss, mg/L	<0.002	<0.002	<0.002	<0.002
Se, diss, mg/L	0.0044	0.0038	0.0033	0.0019
SO4, diss, mg/L	212.0	183.0	92.6	76.3
Spec. Cond. (field), micromho	565	711	534	699
TDS, mg/L	520	588	406	424
Temp (Fahrenheit), degrees F	53.5	63.3	49.9	66.2
Tl, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003
Zn, diss, mg/L	0.01	<0.01	<0.01	<0.01

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

Date Range: 01/01/2023 to 12/31/2024
Well: MW7

	2/20/2023	6/5/2023	8/28/2023	10/23/2023	3/18/2024	6/17/2024	9/30/2024	11/18/2024
Ag, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
As, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
B, diss, mg/L	1.1100	1.1100	0.7700	0.6000	1.0300	1.0000	1.0800	0.3700
Ba, diss, mg/L	0.054	0.047	0.039	0.032	0.043	0.046	0.051	0.033
Be, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cd, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cl, diss, mg/L	11.6	16.7	19.5	18.4	15.9	13.6	11.1	18.8
CN, total, mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Co, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cr, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cu, diss, mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
F, diss, mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
Fe, diss, mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
GW Depth (TOC), ft	15.18	17.27	18.12	18.86	11.40	15.23	19.05	17.74
GW Elv, ft	427.10	425.01	424.16	423.42	430.88	427.05	423.23	424.54
Hg, diss, mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mn, diss, mg/L	<0.0010	<0.0010	<0.0010	0.0050	<0.0010	0.0024	<0.0100	0.0065
Ni, diss, mg/L	0.0007	0.0006	<0.0003	0.0012	0.0004	0.0004	0.0005	0.0014
NO3, diss, mg/L	0.204	0.997	0.349	<0.100	0.563	0.662	0.452	<0.100
Pb, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
pH (field), STD	6.80	6.82	6.91	6.97	6.79	8.45	6.75	7.11
Sb, diss, mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Se, diss, mg/L	0.0020	0.0040	0.0012	<0.0005	0.0040	0.0035	0.0016	<0.0005
SO4, diss, mg/L	176.0	240.0	142.0	119.0	189.0	193.0	214.0	99.5
Spec. Cond. (field), micromho	825	1080	914	734	935	1080	1130	814
TDS, mg/L	730	676	564	612	792	784	764	500
Temp (Fahrenheit), degrees F	57.1	60.5	65.0	53.5	57.2	65.5	58.6	57.7
Tl, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Zn, diss, mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

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

Date Range: 01/01/2023 to 12/31/2024
Well: MW7D

	2/20/2023	6/5/2023	8/28/2023	10/23/2023	3/18/2024	6/17/2024	9/30/2024	11/18/2024
Ag, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
As, diss, mg/L	0.0021	0.0017	0.0016	0.0014	0.0031	0.0029	0.0015	0.0011
B, diss, mg/L	0.0600	0.1800	0.0600	0.0600	0.0500	<0.0250	0.0500	0.0500
Ba, diss, mg/L	0.046	0.046	0.057	0.052	0.060	0.072	0.060	0.064
Be, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cd, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cl, diss, mg/L	15.1	12.5	10.1	16.6	18.3	12.9	16.8	16.2
CN, total, mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Co, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cr, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cu, diss, mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
F, diss, mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
Fe, diss, mg/L	<0.010	0.021	<0.010	<0.010	0.894	0.023	0.040	<0.010
GW Depth (TOC), ft	15.92	18.17	18.56	19.22	11.35	15.62	19.49	17.66
GW Elv, ft	426.83	424.58	424.19	423.53	431.40	427.13	423.26	425.09
Hg, diss, mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mn, diss, mg/L	0.4330	0.1750	0.2850	0.2270	0.4030	0.4980	0.7500	0.9940
Ni, diss, mg/L	0.0008	0.0006	<0.0003	0.0004	0.0006	0.0004	0.0009	0.0009
NO3, diss, mg/L	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Pb, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
pH (field), STD	7.19	7.30	7.42	7.30	7.29	7.75	7.44	7.45
Sb, diss, mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Se, diss, mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SO4, diss, mg/L	45.4	66.0	40.4	43.9	42.8	39.7	38.4	40.0
Spec. Cond. (field), micromho	471	629	606	547	573	615	610	642
TDS, mg/L	516	368	276	540	398	392	336	322
Temp (Fahrenheit), degrees F	57.2	62.5	62.4	54.1	56.6	69.6	58.9	57.7
Tl, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Zn, diss, mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

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

Date Range: 01/01/2023 to 12/31/2024
Well: MW8

	2/20/2023	6/5/2023	8/28/2023	10/23/2023	3/18/2024	6/24/2024	9/23/2024	11/18/2024
Ag, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
As, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0026	<0.0003	<0.0003
B, diss, mg/L	15.7000	18.4000	17.1000	17.4000	15.9000	16.0000	15.6000	15.9000
Ba, diss, mg/L	0.018	0.016	0.019	0.017	0.013	0.020	0.017	0.018
Be, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cd, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cl, diss, mg/L	11.4	11.0	13.2	9.4	15.1	12.0	12.3	12.2
CN, total, mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	0.17	<0.01	<0.01
Co, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	0.005	<0.001	<0.001
Cr, diss, mg/L	<0.0010	0.0029	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cu, diss, mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0014	0.0012	0.0010
F, diss, mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fe, diss, mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
GW Depth (TOC), ft	15.78	17.93	18.88	19.65	12.81	18.02	19.56	19.02
GW Elv, ft	427.87	425.72	424.77	424.00	430.84	425.63	424.09	424.63
Hg, diss, mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mn, diss, mg/L	0.6670	0.2680	1.3000	0.6880	0.0079	0.6500	1.5500	1.5600
Ni, diss, mg/L	0.0068	0.0058	0.0066	0.0063	0.0044	0.0196	0.0093	0.0120
NO3, diss, mg/L	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Pb, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
pH (field), STD	6.84	7.02	6.97	6.88	6.96	7.09	7.06	6.98
Sb, diss, mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	0.001	<0.002	<0.002
Se, diss, mg/L	<0.0005	<0.0005	<0.0005	0.0015	<0.0005	0.0015	<0.0005	0.0012
SO4, diss, mg/L	673.0	860.0	593.0	611.0	571.0	518.0	1080.0	591.0
Spec. Cond. (field), micromho	1230	1440	1580	1510	1380	1490	1210	1640
TDS, mg/L	1410	1210	1380	1430	1430	1270	1260	1300
Temp (Fahrenheit), degrees F	60.5	65.8	70.6	53.2	58.3	68.0	62.9	58.9
Tl, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Zn, diss, mg/L	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01

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

Date Range: 01/01/2023 to 12/31/2024
Well: MW11R

	2/20/2023	6/5/2023	8/28/2023	10/23/2023	3/18/2024	6/17/2024	9/30/2024	11/18/2024
Ag, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
As, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
B, diss, mg/L	17.9000	0.7600	4.1700	20.3000	8.2400	0.8100	22.9000	11.6000
Ba, diss, mg/L	0.064	0.023	0.130	0.100	0.046	0.025	0.090	0.071
Be, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cd, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cl, diss, mg/L	7.5	23.9	12.7	13.0	9.9	16.0	7.0	6.0
CN, total, mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Co, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cr, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cu, diss, mg/L	0.0058	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0011
F, diss, mg/L	<0.1	0.2	<0.1	<0.1	<0.1	0.2	<0.1	0.2
Fe, diss, mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.025	<0.010
GW Depth (TOC), ft	13.40	10.98	13.98	14.56	10.70	9.63	14.51	15.05
GW Elv, ft	429.61	432.03	429.03	428.45	432.31	433.38	428.50	427.96
Hg, diss, mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mn, diss, mg/L	0.0180	<0.0010	<0.0010	0.0051	<0.0010	<0.0010	<0.0100	0.0104
Ni, diss, mg/L	0.0034	0.0010	<0.0003	0.0015	0.0008	0.0004	0.0026	0.0009
NO3, diss, mg/L	1.530	5.150	0.249	<0.100	3.900	5.200	<0.100	<0.100
Pb, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
pH (field), STD	6.73	7.18	6.91	6.82	6.66	6.97	6.77	6.91
Sb, diss, mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Se, diss, mg/L	0.0019	0.0009	0.0014	<0.0005	0.0014	0.0025	<0.0005	<0.0005
SO4, diss, mg/L	1010.0	42.3	996.0	1440.0	437.0	47.2	1510.0	623.0
Spec. Cond. (field), micromho	1350	419	1720	1630	993	578	1760	1620
TDS, mg/L	1210	268	1070	1640	1120	316	1470	1230
Temp (Fahrenheit), degrees F	55.5	62.4	71.7	54.7	48.5	64.2	65.1	61.0
Tl, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Zn, diss, mg/L	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01

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

Date Range: 01/01/2023 to 12/31/2024
Well: MW14

	2/20/2023	6/5/2023	8/28/2023	10/23/2023	3/18/2024	6/17/2024	9/30/2024	11/18/2024
Ag, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
As, diss, mg/L	0.0012	0.0013	0.0008	0.0011	0.0019	0.0015	0.0015	0.0011
B, diss, mg/L	0.4900	0.7800	0.6900	0.6900	0.8500	0.6600	0.7800	0.5200
Ba, diss, mg/L	0.067	0.072	0.070	0.068	0.068	0.064	0.071	0.059
Be, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cd, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cl, diss, mg/L	19.5	18.9	23.6	25.0	15.9	16.5	19.2	18.2
CN, total, mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Co, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cr, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cu, diss, mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
F, diss, mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fe, diss, mg/L	<0.010	0.146	0.038	0.026	0.631	0.189	0.436	0.047
GW Depth (TOC), ft	15.95	19.60	18.74	19.51	11.84	15.80	19.60	18.40
GW Elv, ft	426.94	423.29	424.15	423.38	431.05	427.09	423.29	424.49
Hg, diss, mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mn, diss, mg/L	0.6150	0.6170	0.7940	0.8640	0.7400	0.7250	0.7950	0.6940
Ni, diss, mg/L	0.0010	0.0019	0.0003	0.0016	0.0014	0.0013	0.0012	0.0013
NO3, diss, mg/L	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Pb, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
pH (field), STD	6.91	6.93	6.98	6.95	6.83	7.19	7.00	7.08
Sb, diss, mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Se, diss, mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SO4, diss, mg/L	112.0	167.0	135.0	142.0	147.0	124.0	144.0	105.0
Spec. Cond. (field), micromho	716	972	997	931	886	939	992	936
TDS, mg/L	740	708	680	1220	764	656	666	540
Temp (Fahrenheit), degrees F	57.3	63.9	65.5	53.5	59.6	61.8	58.6	57.4
Tl, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Zn, diss, mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

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

Date Range: 01/01/2023 to 12/31/2024
Well: MW23D

	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	0.0016	0.0014	0.0021	0.0018	0.0018	0.0014	0.0015	0.0018
B, diss, mg/L	0.0500	0.0500	0.0500	0.0500	0.0500	0.0700	0.0700	0.0500
Ba, diss, mg/L	0.048	0.047	0.048	0.047	0.047	0.049	0.045	0.048
Be, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cd, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cl, diss, mg/L	3.2	3.5	2.8	3.2	3.4	3.7	3.2	3.5
CN, total, mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Co, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cr, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cu, diss, mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
F, diss, mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fe, diss, mg/L	<0.010	0.080	0.298	0.080	0.184	<0.010	<0.010	0.073
GW Depth (TOC), ft	4.89	6.32	7.42	8.22	5.65	6.64	9.06	8.79
GW Elv, ft	451.01	449.58	448.48	447.68	450.25	449.26	446.84	447.11
Hg, diss, mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mn, diss, mg/L	0.0763	0.1530	0.1280	0.1310	0.0761	0.1420	0.1290	0.1360
Ni, diss, mg/L	0.0004	0.0011	<0.0003	0.0006	<0.0003	<0.0003	0.0004	<0.0003
NO3, diss, mg/L	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Pb, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
pH (field), STD	8.40	7.24	7.24	7.26	7.17	7.27	7.32	7.42
Sb, diss, mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Se, diss, mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SO4, diss, mg/L	19.8	21.5	18.1	20.3	20.0	22.8	20.2	22.8
Spec. Cond. (field), micromho	334	413	473	440	412	338	360	464
TDS, mg/L	256	192	228	288	240	290	270	282
Temp (Fahrenheit), degrees F	57.5	64.1	71.6	64.1	56.8	62.3	64.5	60.3
Tl, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Zn, diss, mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

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

Date Range: 01/01/2023 to 12/31/2024
Well: MW23S

	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	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
B, diss, mg/L	0.1300	0.1400	0.1700	0.1800	0.1300	0.1700	0.1900	0.1600
Ba, diss, mg/L	0.035	0.036	0.039	0.038	0.035	0.041	0.038	0.039
Be, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cd, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cl, diss, mg/L	1.1	8.0	1.2	1.8	1.1	2.2	2.4	2.1
CN, total, mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Co, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cr, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cu, diss, mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
F, diss, mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fe, diss, mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
GW Depth (TOC), ft	4.65	6.35	7.37	8.24	5.51	6.60	9.13	8.82
GW Elv, ft	451.38	449.68	448.66	447.79	450.52	449.43	446.90	447.21
Hg, diss, mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mn, diss, mg/L	<0.0010	0.0133	0.0244	0.0361	<0.0010	0.0100	0.0136	0.0087
Ni, diss, mg/L	0.0004	0.0009	<0.0003	0.0005	0.0005	<0.0003	0.0020	0.0005
NO3, diss, mg/L	<0.100	<0.100	<0.100	<0.100	0.248	0.650	0.712	0.457
Pb, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
pH (field), STD	6.82	7.00	6.96	6.95	7.08	7.08	7.11	7.05
Sb, diss, mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Se, diss, mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SO4, diss, mg/L	9.2	9.1	7.5	8.7	8.0	9.0	8.2	8.3
Spec. Cond. (field), micromho	250	312	349	368	312	310	360	414
TDS, mg/L	236	164	190	226	290	194	262	252
Temp (Fahrenheit), degrees F	56.4	62.3	74.3	67.3	57.6	63.5	64.5	61.2
Tl, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Zn, diss, mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

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

Date Range: 01/01/2023 to 12/31/2024
Well: MW115D

	2/20/2023	6/5/2023	8/28/2023	10/23/2023	3/18/2024	6/17/2024	9/30/2024	11/18/2024
Ag, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
As, diss, mg/L	0.0039	0.0010	0.0008	0.0025	0.0017	0.0022	0.0023	0.0024
B, diss, mg/L	0.1100	<0.0250	0.0900	0.1200	0.0800	0.0500	0.0600	0.0500
Ba, diss, mg/L	0.062	0.040	0.071	0.067	0.070	0.072	0.072	0.068
Be, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cd, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cl, diss, mg/L	138.0	23.5	70.0	101.0	83.8	31.0	29.1	28.8
CN, total, mg/L	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01
Co, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cr, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cu, diss, mg/L	<0.0005	0.0025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
F, diss, mg/L	0.2	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.2
Fe, diss, mg/L	0.524	<0.010	<0.010	0.020	0.136	0.055	0.346	0.330
GW Depth (TOC), ft	14.56	15.42	17.18	17.92	9.80	14.20	18.14	16.67
GW Elv, ft	426.83	425.97	424.21	423.47	431.59	427.19	423.25	424.72
Hg, diss, mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mn, diss, mg/L	0.3720	0.0041	0.3440	0.3340	0.3410	0.3230	0.4430	0.4020
Ni, diss, mg/L	0.0008	0.0018	<0.0003	0.0005	0.0004	0.0005	0.0004	0.0005
NO3, diss, mg/L	<0.100	5.070	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Pb, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
pH (field), STD	7.26	7.41	7.43	7.38	7.34	7.43	7.40	7.39
Sb, diss, mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Se, diss, mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SO4, diss, mg/L	33.4	24.9	34.1	38.3	39.9	44.3	46.5	47.6
Spec. Cond. (field), micromho	765	388	800	858	763	727	706	735
TDS, mg/L	550	176	504	548	516	426	478	408
Temp (Fahrenheit), degrees F	57.0	62.9	64.5	54.1	56.6	78.2	59.6	58.2
Tl, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Zn, diss, mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

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

Date Range: 01/01/2023 to 12/31/2024
Well: MW115S

	2/20/2023	6/5/2023	8/28/2023	10/23/2023	3/18/2024	6/24/2024	9/30/2024	11/18/2024
Ag, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
As, diss, mg/L	0.0021	0.0022	0.0015	0.0015	0.0018	0.0017	0.0020	0.0016
B, diss, mg/L	0.0900	0.0900	0.0500	0.0600	0.0700	0.0700	0.0700	0.0500
Ba, diss, mg/L	0.055	0.051	0.053	0.051	0.052	0.055	0.051	0.051
Be, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cd, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cl, diss, mg/L	14.3	22.2	17.0	26.5	24.2	19.2	17.2	17.8
CN, total, mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Co, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cr, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cu, diss, mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
F, diss, mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fe, diss, mg/L	0.047	0.042	0.047	<0.010	0.074	0.253	0.889	0.374
GW Depth (TOC), ft	14.04	15.98	16.70	17.30	9.21	15.56	17.60	16.05
GW Elv, ft	426.84	424.90	424.18	423.58	431.67	425.32	423.28	424.83
Hg, diss, mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mn, diss, mg/L	1.0900	0.9920	1.1100	1.0600	1.1500	1.1100	1.3500	1.4200
Ni, diss, mg/L	0.0008	0.0014	<0.0003	0.0010	0.0011	0.0015	0.0011	0.0007
NO3, diss, mg/L	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Pb, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
pH (field), STD	7.25	7.40	7.43	7.41	7.27	7.36	7.41	7.42
Sb, diss, mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Se, diss, mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SO4, diss, mg/L	45.9	50.2	43.7	37.7	39.8	42.2	45.9	43.9
Spec. Cond. (field), micromho	521	620	627	575	594	573	634	631
TDS, mg/L	430	364	420	416	378	564	388	372
Temp (Fahrenheit), degrees F	56.4	61.7	63.4	55.3	56.1	59.4	59.8	58.1
Tl, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Zn, diss, mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

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

Date Range: 01/01/2023 to 12/31/2024
Well: MW121

	2/20/2023	6/5/2023	8/28/2023	10/23/2023	3/18/2024	6/24/2024	9/23/2024	11/18/2024
Ag, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
As, diss, mg/L	0.0048	0.0033	0.0042	0.0046	0.0041	0.0036	0.0025	0.0039
B, diss, mg/L	0.0500	<0.0250	<0.0250	0.0500	0.0500	0.0500	0.0500	<0.0250
Ba, diss, mg/L	0.036	0.061	0.048	0.054	0.054	0.057	0.040	0.045
Be, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cd, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Cl, diss, mg/L	15.6	20.2	16.4	16.6	17.0	15.9	17.3	16.2
CN, total, mg/L	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	<0.01
Co, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cr, diss, mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cu, diss, mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
F, diss, mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fe, diss, mg/L	0.071	0.137	<0.010	0.758	0.087	0.316	0.050	<0.010
GW Depth (TOC), ft	13.45	15.08	15.96	16.58	8.47	14.85	17.26	15.35
GW Elv, ft	426.78	425.15	424.27	423.65	431.76	425.38	422.97	424.88
Hg, diss, mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Mn, diss, mg/L	0.7630	0.6400	0.7350	0.9050	0.8760	0.8830	0.7960	0.8990
Ni, diss, mg/L	0.0005	0.0015	<0.0003	0.0010	0.0007	0.0010	0.0006	0.0006
NO3, diss, mg/L	<0.100	0.249	0.260	<0.100	<0.100	<0.100	<0.100	<0.100
Pb, diss, mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
pH (field), STD	7.19	7.30	7.31	7.30	7.15	7.27	7.28	7.24
Sb, diss, mg/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Se, diss, mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
SO4, diss, mg/L	25.4	39.6	34.4	39.8	37.9	37.8	36.4	37.2
Spec. Cond. (field), micromho	541	517	572	611	599	588	481	664
TDS, mg/L	510	300	376	410	352	404	454	370
Temp (Fahrenheit), degrees F	60.8	65.5	67.2	61.9	61.2	61.2	60.8	59.1
Tl, diss, mg/L	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Zn, diss, mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

APPENDIX B
SITE INSPECTION REPORTS

Hutsonville Power Station
Ash Pond D 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**	MM	Vent holes clear of pipes inspected. Minor weed growth was observed inside some of the cement vent barriers. Adress during the next cap vegetation maintenance event.
	Drainage Berms	GC	No excessive standing water; no eroded or scoured drainage channels.
	Vegetation	GC	No overgrowth or bare patches on pond cap.
	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	Gate located between pond A and D was found on the ground off its hinges.
	Drainage Channels (rip-rap, paved flumes, etc.)	GC	No overgrowth; rip-rap good condition.
	Other		
Groundwater Collection Trench and Discharge System	**Control Panels**	GC	Exterior of panels in generally good condition. Warping on the interior panel of pump #4 made closure difficult.
	Drainage Sumps / Manholes	GC	Lids are secure.
	Pumps	GC	Pumps replaced Oct 3, 2022.
	Groundwater Monitoring Wells	GC	Accessible; no excessive weed growth; no flooding.
	Flow Meter Totalizer	GC	Modem has been upgraded.
	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 collecter 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 D

West Embankment (facing S)

North end

Center

South end

East (river) embankment (facing N)

East (river) embankment (facing S)

Outfall drainage trench (facing N)

South embankment and outfall trench (facing E)

CAP Top (facing S)

Gate between Pond A and D (facing E)

Hutsonville Power Station
Ash Pond D 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**	**MM**	Vent holes clear of pipes inspected. Minor weed growth was observed inside some of the cement vent barriers. Adress during the next cap vegetation maintenance event.
	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 exposed liner; no visual indication of rips, tears, punctures, or other damage to liner.
	Erosion	**GC**	No erosion or gullies 6 inches or deeper on embankments or toe.
	Fencing	**MM**	Gate located between pond A and D was found on the ground off its hinges. Working with Dasenbrock to perform repairs.
	Drainage Channels (rip-rap, paved flumes, etc.)	**MM**	No overgrowth. A bare spot in the rip-rap was observed on the channel on the south side of the embankment, exposing the soil beneath. Working with Blankenship on repair.
	Other		
Groundwater Collection Trench and Discharge System	**Control Panels**	**GC**	Exterior of panels in generally good condition. Warping on the interior panel of pump #4 made closure difficult.
	Drainage Sumps / Manholes	**GC**	Lids are secure.
	Pumps	**GC**	Operation.
	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 collecter 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 D

West Embankment (facing S)

North end

Center

South end

East (river) embankment (facing N)

East (river) embankment (facing S)

Outfall drainage trench (facing N)

South embankment and outfall trench (facing E)

CAP Top (facing S)

Gate between Pond A and D (facing E)

Hutsonville Power Station
Ash Pond D 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**	**MM**	Vent holes clear of pipes inspected. Minor weed growth was observed inside some of the cement vent barriers. Address during the next cap vegetation maintenance event.
	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		
Embankment	**Vegetation**	**MM**	Bushy, thorny vegetation was observed growing around the pump control panels on the south embankment. Address during the next cap vegetation maintenance event.
	Liner	**GC**	No exposed liner; no visual indication of rips, tears, punctures, or other damage to liner.
	Erosion	**GC**	No erosion or gullies 6 inches or deeper on embankments or toe.
	Fencing	**MM**	Gate located between pond A and D was found on the ground off its hinges. Working with Dasenbrock to perform repairs.
	Drainage Channels (rip-rap, paved flumes, etc.)	**GC**	The bare rip-rap spot on the channel on the south side of the embankment identified during the 2Q24 cap inspection was repaired by Blankenship in July.
	Other		
Groundwater Collection Trench and Discharge System	**Control Panels**	**GC**	Exterior of panels in generally good condition. Warping on the interior panel of pump #4 made closure difficult.
	Drainage Sumps / Manholes	**GC**	Lids are secure.
	Pumps	**MM**	The pump in sump pit #4 did not turn on when the switch was flipped to the "Hand" position. Frietag-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 D

West Embankment (facing S)

North end

Center

South end

East (river) embankment (facing N)

East (river) embankment (facing S)

Outfall drainage trench (facing N)

South embankment and outfall trench (facing E)

CAP Top (facing S)

Vegetation Observed At Control Box

Vegetation Observed in Vent Pipe Cement Barrier

Hutsonville Power Station
Ash Pond D 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.
	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**	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**	The bushy, thorny vegetation observed around the pump control panels on the south embankment observed during the 3Q24 inspection has been removed.
	Liner	**GC**	No exposed liner; no visual indication of rips, tears, punctures, or other damage to liner.
	Erosion	**GC**	No erosion or gullies 6 inches or deeper on embankments or toe.
	Fencing	**GC**	The gate located between pond A and D has been repaired.
	Drainage Channels (rip-rap, paved flumes, etc.)	**GC**	Drainage channel features in good condition.
	Other		
Groundwater Collection Trench and Discharge System	**Control Panels**	**GC**	Exterior of panels in generally good condition. Warping on the interior panel of pump #4 made closure difficult.
	Drainage Sumps / Manholes	**GC**	Lids are secure.
	Pumps	**GC**	The pump in sump pit #4 did not turn on during the 3Q24 inspection, this has been repaired. Sump pit #3 is also functional.
	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 D

West Embankment (facing S)

North end

Center

South end

East (river) embankment (facing N)

East (river) embankment (facing S)

Outfall drainage trench (facing N)

South embankment and outfall trench (facing E)

CAP Top (facing S)

APPENDIX C
STATISTICAL OUTPUT

APPENDIX C1
TEST DESCRIPTIONS

ELECTRIC POWER RESEARCH INSTITUTE

MANAGES

Groundwater Data Management and Evaluation Software

Software Manual Product ID #1012581

Software Manual, February 2010

EPRI Project Manager
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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 tieds) values (Gilbert, 1987; p. 208)	
Indicator Function $\mathrm{sgn}(x_{ij} - x_{jk})$	= 1 if $(x_{ij} - x_{jk}) > 0$ = 0 if $(x_{ij} - x_{jk}) = 0$ = -1 if $(x_{ij} - x_{jk}) < 0$ where $x_{i1}, x_{i2}, \ldots, x_{in}$ are the time ordered data (n_i is total of data in the i-th season).
Mann-Kendall Statistic, S_i	$= \sum_{k=1}^{n_i-1} \sum_{j=k+1}^{n_i} \mathrm{sgn}(x_{ij} - x_{jk})$
Variance of S_i $VAR(S_i)$	$VAR(S_i) =$ $\frac{1}{18}\left\{ n_i(n_i-1)(2n_i+5) - \sum_{p=1}^{g_i} t_{ip}(t_{ip}-1)(2t_{ip}+5) - \sum_{q=1}^{h_i} u_{iq}(u_{iq}-1)(2u_{iq}+5) \right\}$ $+ \frac{\sum_{p=1}^{g_i} t_{ip}(t_{ip}-1)(t_{ip}-2) \sum_{q=1}^{h_i} u_{iq}(u_{iq}-1)(u_{iq}-2)}{9n_i(n_i-1)(n_i-2)}$ $+ \frac{\sum_{p=1}^{g_i} t_{ip}(t_{ip}-1) \sum_{q=1}^{h_i} u_{iq}(u_{iq}-1)}{2n_i(n_i-1)}.$ 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	If $S' = \sum_{i=1}^{K} S_i$, where K is the number of seasons, then the test statistic Z is computed as: $$Z = \begin{cases} \dfrac{S'-1}{[VAR(S')]^{1/2}} & \text{iff } S' > 0 \\ 0 & \text{iff } S' = 0 \\ \dfrac{S'+1}{[VAR(S')]^{1/2}} & \text{iff } S' < 0 \end{cases}$$ Where "iff" is an acroym meaning: if-and-only-if. A positive Z value means an upward trend and a negative Z value means a negative trend.
Hypothesis Test: H_0 = no trend H_a = trend present This is a two-sided test at the α significance level.	Accept the null hypothesis H_0 of no trend if $\lvert Z \rvert \leq Z_{1-\alpha/2}$ Reject the null hypothesis H_0 if $\lvert Z \rvert > Z_{1-\alpha/2}$ where $Z_{1-\alpha/2}$ is obtained from Table A1 in Gilbert (1987; p. 254).

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 where 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*

Mean of the observed data during the scoping period; $\overline{X}$	$\overline{X} = \frac{1}{n}\sum_{i=1}^{n} X_i$ where X_i is the i-th observation.
Standard deviation of observed data; S_x.	$S_x = \sqrt{\frac{1}{(n-1)}\sum_{i=1}^{n}(X_i - \overline{X})^2}$
Test statistics: T_l & T_n	Sort the data into ascending order, then compute the statistics $T_l = (\overline{X} - X_l)/S_x$ $T_n = (X_n - \overline{X})/S_x$ where X_l is the smallest value of the n observations and X_n is the largest value of the n observations.
One-sided test with a (1-α) confidence level that there is a single extreme outlier within the n observations.	Grubbs single, one-sided test of either an extreme low outlier : X_l *is an outlier if* $T_l \geq T_{cr(1-\alpha,n)}$ or an extreme high outlier: X_n *is an outlier if* $T_n \geq T_{cr(1-\alpha,n)}$. 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.

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

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.	
The number of observations taken during a specified scoping period; n	Number of observations, n, where $3 \le n \le 25$.
Sorting the sample data	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., $X_{(j)} = Ln[X_{(j)}]$.
Goodness-of fit tests	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.
Test statistic, T_s, for the minimum data value	Compute the T_s test statistic for $X_{(1)}$ as an outlier: $T_s = \frac{X_{(2)} - X_{(1)}}{X_{(n)} - X_{(1)}}$ *for* $3 \le n \le 7$ $T_s = \frac{X_{(2)} - X_{(1)}}{X_{(n-1)} - X_{(1)}}$ *for* $8 \le n \le 10$ $T_s = \frac{X_{(3)} - X_{(1)}}{X_{(n-1)} - X_{(1)}}$ *for* $11 \le n \le 13$ $T_s = \frac{X_{(3)} - X_{(1)}}{X_{(n-2)} - X_{(1)}}$ *for* $14 \le n \le 25.$
Test statistic, T_s, for the maximum data value	Compute the T_s test statistic for $X_{(n)}$ as an outlier:

	$T_s = \frac{X_{(n)} - X_{(n-1)}}{X_{(n)} - X_{(1)}}$ *for* $3 \le n \le 7$ $T_s = \frac{X_{(n)} - X_{(n-1)}}{X_{(n)} - X_{(2)}}$ *for* $8 \le n \le 10$ $T_s = \frac{X_{(n)} - X_{(n-2)}}{X_{(n)} - X_{(2)}}$ *for* $11 \le n \le 13$ $T_s = \frac{X_{(n)} - X_{(n-2)}}{X_{(n)} - X_{(3)}}$ *for* $14 \le n \le 25$.
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-α) confidence level that there is a single extreme outlier within the n observations.	Dixon's single, one-sided test for statistical evidence of either an extreme low-valued outlier: $X_{(1)}$ *is an outlier if* $T_s \ge T_c$ or an extreme high-valued outlier: $X_{(n)}$ *is an outlier if* $T_s \ge T_c$. 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.

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	$= \dfrac{x_{i'} - x_i}{i' - i}$ 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.
N′	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: N′ = n(n-1)/2

Sen's Slope Estimate	Sen's slope estimator = median slope $= Q_{[(N'+1)/2]}$ if N' is odd $= \frac{1}{2}(Q_{[N'/2]} + Q_{[(N'+2)/2]})$ if N' is even where the Q values have first been ranked from smallest to largest.
$Z_{1-\alpha/2}$	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)	VAR(S) $= \frac{1}{18}\left[n(n-1)(2n+5) - \sum_{p=1}^{g} t_p(t_p-1)(2t_p+5)\right]$ 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.
C_α	$= Z_{1-\alpha/2}\sqrt{VAR(S)}$
Sen's Slope , a two-sided test at the α significance level	$M_1 = \frac{(N'-C_\alpha)}{2}$ $M_2 = \frac{(N'+C_\alpha)}{2}$ 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.

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 Evalueation 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: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Antimony, dissolved, mg/L
Location: MW115D

Mean of all data: 0.00114
Standard Deviation of all data: 0.000999
Largest Observation Concentration of all data: Xn = 0.00200
Test Statistic, high extreme of all data: Tn = 0.858
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Antimony, dissolved, mg/L
Location: MW115S

Mean of all data: 0.00114
Standard Deviation of all data: 0.000999
Largest Observation Concentration of all data: Xn = 0.00200
Test Statistic, high extreme of all data: Tn = 0.858
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Antimony, dissolved, mg/L
Location: MW11R

Mean of all data: 0.00135
Standard Deviation of all data: 0.00146
Largest Observation Concentration of all data: Xn = 0.00900
Test Statistic, high extreme of all data: Tn = 5.26
T Critical of all data: Tcr = 2.99

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

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Antimony, dissolved, mg/L
Location: MW121

Mean of all data: 0.00121
Standard Deviation of all data: 0.00106
Largest Observation Concentration of all data: Xn = 0.00400
Test Statistic, high extreme of all data: Tn = 2.64
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Antimony, dissolved, mg/L
Location: MW14

Mean of all data: 0.00114
Standard Deviation of all data: 0.000999
Largest Observation Concentration of all data: Xn = 0.00200
Test Statistic, high extreme of all data: Tn = 0.858
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

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: Xn = 0.00200
Test Statistic, high extreme of all data: Tn = 0.0
T Critical of all data: Tcr = 0.0

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Antimony, dissolved, mg/L
Location: MW23S

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

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Antimony, dissolved, mg/L
Location: MW6

Mean of all data: 0.00113
Standard Deviation of all data: 0.00104
Largest Observation Concentration of all data: Xn = 0.00300
Test Statistic, high extreme of all data: Tn = 1.80
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Antimony, dissolved, mg/L
Location: MW7

Mean of all data: 0.00125
Standard Deviation of all data: 0.00118
Largest Observation Concentration of all data: Xn = 0.00600
Test Statistic, high extreme of all data: Tn = 4.03
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.00600	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Antimony, dissolved, mg/L
Location: MW7D

Mean of all data: 0.00116
Standard Deviation of all data: 0.000996
Largest Observation Concentration of all data: Xn = 0.00200
Test Statistic, high extreme of all data: Tn = 0.840
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Antimony, dissolved, mg/L
Location: MW8

Mean of all data: 0.00130
Standard Deviation of all data: 0.00154
Largest Observation Concentration of all data: Xn = 0.0100
Test Statistic, high extreme of all data: Tn = 5.66
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/18/2012	0.0100	False		1

Arsenic, dissolved, mg/L
Location: MW115D

Mean of all data: 0.00267
Standard Deviation of all data: 0.00303
Largest Observation Concentration of all data: Xn = 0.0150
Test Statistic, high extreme of all data: Tn = 4.07
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/18/2012	0.0150	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Arsenic, dissolved, mg/L
Location: MW115S

Mean of all data: 0.00244
Standard Deviation of all data: 0.00242
Largest Observation Concentration of all data: Xn = 0.0150
Test Statistic, high extreme of all data: Tn = 5.18
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/18/2012	0.0150	False		1

Arsenic, dissolved, mg/L
Location: MW11R

Mean of all data: 0.000574
Standard Deviation of all data: 0.00153
Largest Observation Concentration of all data: Xn = 0.00900
Test Statistic, high extreme of all data: Tn = 5.52
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
01/07/2013	0.00900	False		1

Arsenic, dissolved, mg/L
Location: MW121

Mean of all data: 0.00333
Standard Deviation of all data: 0.00247
Largest Observation Concentration of all data: Xn = 0.0120
Test Statistic, high extreme of all data: Tn = 3.51
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
01/07/2013	0.0120	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Arsenic, dissolved, mg/L
Location: MW14

Mean of all data: 0.00128
Standard Deviation of all data: 0.00156
Largest Observation Concentration of all data: Xn = 0.00900
Test Statistic, high extreme of all data: Tn = 4.94
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
01/07/2013	0.00900	False		1

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: Xn = 0.00980
Test Statistic, high extreme of all data: Tn = 4.41
T Critical of all data: Tcr = 2.73

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

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: Xn = 0.00920
Test Statistic, high extreme of all data: Tn = 5.20
T Critical of all data: Tcr = 2.73

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/28/2019	0.00920	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Arsenic, dissolved, mg/L
Location: MW6

Mean of all data: 0.000391
Standard Deviation of all data: 0.000596
Largest Observation Concentration of all data: Xn = 0.00210
Test Statistic, high extreme of all data: Tn = 2.87
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Arsenic, dissolved, mg/L
Location: MW7

Mean of all data: 0.000416
Standard Deviation of all data: 0.00112
Largest Observation Concentration of all data: Xn = 0.00800
Test Statistic, high extreme of all data: Tn = 6.77
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
01/07/2013	0.00800	False		1

Arsenic, dissolved, mg/L
Location: MW7D

Mean of all data: 0.00291
Standard Deviation of all data: 0.00308
Largest Observation Concentration of all data: Xn = 0.0140
Test Statistic, high extreme of all data: Tn = 3.61
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/18/2012	0.0140	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Arsenic, dissolved, mg/L
Location: MW8

Mean of all data: 0.000470
Standard Deviation of all data: 0.000966
Largest Observation Concentration of all data: Xn = 0.00610
Test Statistic, high extreme of all data: Tn = 5.83
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
12/18/2017	0.00610	False		1

Barium, dissolved, mg/L
Location: MW115D

Mean of all data: 0.0615
Standard Deviation of all data: 0.0182
Largest Observation Concentration of all data: Xn = 0.158
Test Statistic, high extreme of all data: Tn = 5.31
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.158	False		1

Barium, dissolved, mg/L
Location: MW115S

Mean of all data: 0.0578
Standard Deviation of all data: 0.0264
Largest Observation Concentration of all data: Xn = 0.206
Test Statistic, high extreme of all data: Tn = 5.60
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.206	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Barium, dissolved, mg/L
Location: MW11R

Mean of all data: 0.0459
Standard Deviation of all data: 0.0389
Largest Observation Concentration of all data: Xn = 0.204
Test Statistic, high extreme of all data: Tn = 4.07
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/28/2019	0.204	False		1

Barium, dissolved, mg/L
Location: MW121

Mean of all data: 0.0550
Standard Deviation of all data: 0.0233
Largest Observation Concentration of all data: Xn = 0.198
Test Statistic, high extreme of all data: Tn = 6.14
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.198	False		1

Barium, dissolved, mg/L
Location: MW14

Mean of all data: 0.0755
Standard Deviation of all data: 0.0177
Largest Observation Concentration of all data: Xn = 0.127
Test Statistic, high extreme of all data: Tn = 2.91
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Barium, dissolved, mg/L
Location: MW23D

Mean of all data: 0.0452
Standard Deviation of all data: 0.00536
Largest Observation Concentration of all data: Xn = 0.0560
Test Statistic, high extreme of all data: Tn = 2.01
T Critical of all data: Tcr = 2.73

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
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: Xn = 0.0490
Test Statistic, high extreme of all data: Tn = 1.83
T Critical of all data: Tcr = 2.73

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

Barium, dissolved, mg/L
Location: MW6

Mean of all data: 0.0233
Standard Deviation of all data: 0.0118
Largest Observation Concentration of all data: Xn = 0.0660
Test Statistic, high extreme of all data: Tn = 3.61
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
08/08/2022	0.0660	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Barium, dissolved, mg/L
Location: MW7

Mean of all data: 0.0497
Standard Deviation of all data: 0.0133
Largest Observation Concentration of all data: Xn = 0.119
Test Statistic, high extreme of all data: Tn = 5.19
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
07/09/2012	0.119	False		1

Barium, dissolved, mg/L
Location: MW7D

Mean of all data: 0.0497
Standard Deviation of all data: 0.0149
Largest Observation Concentration of all data: Xn = 0.0960
Test Statistic, high extreme of all data: Tn = 3.10
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
07/21/2014	0.0960	False		1

Barium, dissolved, mg/L
Location: MW8

Mean of all data: 0.0206
Standard Deviation of all data: 0.00523
Largest Observation Concentration of all data: Xn = 0.0330
Test Statistic, high extreme of all data: Tn = 2.37
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Beryllium, dissolved, mg/L
Location: MW115D

Mean of all data: 0.000643
Standard Deviation of all data: 0.000773
Largest Observation Concentration of all data: Xn = 0.00500
Test Statistic, high extreme of all data: Tn = 5.64
T Critical of all data: Tcr = 3.00

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

Beryllium, dissolved, mg/L
Location: MW115S

Mean of all data: 0.000643
Standard Deviation of all data: 0.000773
Largest Observation Concentration of all data: Xn = 0.00500
Test Statistic, high extreme of all data: Tn = 5.64
T Critical of all data: Tcr = 3.00

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

Beryllium, dissolved, mg/L
Location: MW11R

Mean of all data: 0.000636
Standard Deviation of all data: 0.000778
Largest Observation Concentration of all data: Xn = 0.00500
Test Statistic, high extreme of all data: Tn = 5.61
T Critical of all data: Tcr = 2.99

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

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Beryllium, dissolved, mg/L
Location: MW121

Mean of all data: 0.000679
Standard Deviation of all data: 0.000789
Largest Observation Concentration of all data: Xn = 0.00500
Test Statistic, high extreme of all data: Tn = 5.48
T Critical of all data: Tcr = 3.00

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

Beryllium, dissolved, mg/L
Location: MW14

Mean of all data: 0.000643
Standard Deviation of all data: 0.000773
Largest Observation Concentration of all data: Xn = 0.00500
Test Statistic, high extreme of all data: Tn = 5.64
T Critical of all data: Tcr = 3.00

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

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: Xn = 0.00100
Test Statistic, high extreme of all data: Tn = 0.0
T Critical of all data: Tcr = 0.0

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Beryllium, dissolved, mg/L
Location: MW23S

Mean of all data: 0.00125
Standard Deviation of all data: 0.00134
Largest Observation Concentration of all data: Xn = 0.00820
Test Statistic, high extreme of all data: Tn = 5.20
T Critical of all data: Tcr = 2.73

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

Beryllium, dissolved, mg/L
Location: MW6

Mean of all data: 0.000533
Standard Deviation of all data: 0.000505
Largest Observation Concentration of all data: Xn = 0.00100
Test Statistic, high extreme of all data: Tn = 0.925
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Beryllium, dissolved, mg/L
Location: MW7

Mean of all data: 0.000571
Standard Deviation of all data: 0.000499
Largest Observation Concentration of all data: Xn = 0.00100
Test Statistic, high extreme of all data: Tn = 0.858
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Beryllium, dissolved, mg/L
Location: MW7D

Mean of all data: 0.000582
Standard Deviation of all data: 0.000498
Largest Observation Concentration of all data: Xn = 0.00100
Test Statistic, high extreme of all data: Tn = 0.840
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Beryllium, dissolved, mg/L
Location: MW8

Mean of all data: 0.000571
Standard Deviation of all data: 0.000499
Largest Observation Concentration of all data: Xn = 0.00100
Test Statistic, high extreme of all data: Tn = 0.858
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Boron, dissolved, mg/L
Location: MW115D

Mean of all data: 0.184
Standard Deviation of all data: 0.858
Largest Observation Concentration of all data: Xn = 6.48
Test Statistic, high extreme of all data: Tn = 7.34
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	6.48	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Boron, dissolved, mg/L

Location: MW115S

Mean of all data: 0.230
Standard Deviation of all data: 0.782
Largest Observation Concentration of all data: Xn = 5.95
Test Statistic, high extreme of all data: Tn = 7.32
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	5.95	False		1

Boron, dissolved, mg/L

Location: MW11R

Mean of all data: 8.52
Standard Deviation of all data: 9.20
Largest Observation Concentration of all data: Xn = 35.0
Test Statistic, high extreme of all data: Tn = 2.88
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Boron, dissolved, mg/L

Location: MW121

Mean of all data: 0.150
Standard Deviation of all data: 0.719
Largest Observation Concentration of all data: Xn = 5.43
Test Statistic, high extreme of all data: Tn = 7.34
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	5.43	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Boron, dissolved, mg/L
Location: MW14

Mean of all data: 0.790
Standard Deviation of all data: 0.328
Largest Observation Concentration of all data: Xn = 1.51
Test Statistic, high extreme of all data: Tn = 2.19
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

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: Xn = 8.02
Test Statistic, high extreme of all data: Tn = 5.20
T Critical of all data: Tcr = 2.73

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

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: Xn = 5.24
Test Statistic, high extreme of all data: Tn = 5.20
T Critical of all data: Tcr = 2.73

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

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Boron, dissolved, mg/L
Location: MW6

Mean of all data: 5.66
Standard Deviation of all data: 7.13
Largest Observation Concentration of all data: Xn = 23.0
Test Statistic, high extreme of all data: Tn = 2.43
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Boron, dissolved, mg/L
Location: MW7

Mean of all data: 1.44
Standard Deviation of all data: 0.810
Largest Observation Concentration of all data: Xn = 6.61
Test Statistic, high extreme of all data: Tn = 6.38
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
07/21/2014	6.61	False		1

Boron, dissolved, mg/L
Location: MW7D

Mean of all data: 0.394
Standard Deviation of all data: 0.326
Largest Observation Concentration of all data: Xn = 1.30
Test Statistic, high extreme of all data: Tn = 2.78
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Boron, dissolved, mg/L
Location: MW8

Mean of all data: 16.3
Standard Deviation of all data: 2.88
Largest Observation Concentration of all data: Xn = 20.2
Test Statistic, high extreme of all data: Tn = 1.35
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
11/21/2016	0.0124	False	-1	

Cadmium, dissolved, mg/L
Location: MW115D

Mean of all data: 0.000143
Standard Deviation of all data: 0.000125
Largest Observation Concentration of all data: Xn = 0.000250
Test Statistic, high extreme of all data: Tn = 0.858
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Cadmium, dissolved, mg/L
Location: MW115S

Mean of all data: 0.000143
Standard Deviation of all data: 0.000125
Largest Observation Concentration of all data: Xn = 0.000250
Test Statistic, high extreme of all data: Tn = 0.858
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Cadmium, dissolved, mg/L
Location: MW11R

Mean of all data: 0.000195
Standard Deviation of all data: 0.000259
Largest Observation Concentration of all data: Xn = 0.00150
Test Statistic, high extreme of all data: Tn = 5.05
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
05/24/2011	0.00150	False		1

Cadmium, dissolved, mg/L
Location: MW121

Mean of all data: 0.000179
Standard Deviation of all data: 0.000277
Largest Observation Concentration of all data: Xn = 0.00200
Test Statistic, high extreme of all data: Tn = 6.58
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
11/03/2014	0.00200	False		1

Cadmium, dissolved, mg/L
Location: MW14

Mean of all data: 0.000143
Standard Deviation of all data: 0.000125
Largest Observation Concentration of all data: Xn = 0.000250
Test Statistic, high extreme of all data: Tn = 0.858
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
Confidence Level: 95%
Transform: None
LT Multiplier: x 0.50
Number of Outliers: One Outlier

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: Xn = 0.00160
Test Statistic, high extreme of all data: Tn = 5.20
T Critical of all data: Tcr = 2.73

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
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: Xn = 0.00510
Test Statistic, high extreme of all data: Tn = 5.20
T Critical of all data: Tcr = 2.73

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

Cadmium, dissolved, mg/L
Location: MW6

Mean of all data: 0.000133
Standard Deviation of all data: 0.000126
Largest Observation Concentration of all data: Xn = 0.000250
Test Statistic, high extreme of all data: Tn = 0.925
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Cadmium, dissolved, mg/L
Location: MW7

Mean of all data: 0.000143
Standard Deviation of all data: 0.000125
Largest Observation Concentration of all data: Xn = 0.000250
Test Statistic, high extreme of all data: Tn = 0.858
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Cadmium, dissolved, mg/L
Location: MW7D

Mean of all data: 0.000151
Standard Deviation of all data: 0.000123
Largest Observation Concentration of all data: Xn = 0.000250
Test Statistic, high extreme of all data: Tn = 0.802
T Critical of all data: Tcr = 2.98

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Cadmium, dissolved, mg/L
Location: MW8

Mean of all data: 0.000143
Standard Deviation of all data: 0.000125
Largest Observation Concentration of all data: Xn = 0.000250
Test Statistic, high extreme of all data: Tn = 0.858
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Chloride, dissolved, mg/L
Location: MW115D

Mean of all data: 48.2
Standard Deviation of all data: 39.5
Largest Observation Concentration of all data: Xn = 213.
Test Statistic, high extreme of all data: Tn = 4.17
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
11/02/2015	213.	False		1

Chloride, dissolved, mg/L
Location: MW115S

Mean of all data: 28.1
Standard Deviation of all data: 47.5
Largest Observation Concentration of all data: Xn = 373.
Test Statistic, high extreme of all data: Tn = 7.26
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
01/20/2014	373.	False		1

Chloride, dissolved, mg/L
Location: MW11R

Mean of all data: 14.0
Standard Deviation of all data: 4.70
Largest Observation Concentration of all data: Xn = 25.0
Test Statistic, high extreme of all data: Tn = 2.34
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Chloride, dissolved, mg/L

Location: MW121

Mean of all data: 23.6
Standard Deviation of all data: 28.5
Largest Observation Concentration of all data: Xn = 230.
Test Statistic, high extreme of all data: Tn = 7.25
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
01/20/2014	230.	False		1

Chloride, dissolved, mg/L

Location: MW14

Mean of all data: 19.7
Standard Deviation of all data: 5.22
Largest Observation Concentration of all data: Xn = 28.1
Test Statistic, high extreme of all data: Tn = 1.60
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

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

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

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Chloride, dissolved, mg/L

Location: 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

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

Chloride, dissolved, mg/L

Location: MW6

Mean of all data: 15.9
Standard Deviation of all data: 5.30
Largest Observation Concentration of all data: Xn = 28.0
Test Statistic, high extreme of all data: Tn = 2.28
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Chloride, dissolved, mg/L

Location: MW7

Mean of all data: 12.8
Standard Deviation of all data: 3.73
Largest Observation Concentration of all data: Xn = 21.3
Test Statistic, high extreme of all data: Tn = 2.28
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024 | **LT Multiplier: x 0.50**
Confidence Level: 95% | **Number of Outliers: One Outlier**
Transform: None

Chloride, dissolved, mg/L
Location: MW7D

Mean of all data: 17.1
Standard Deviation of all data: 6.40
Largest Observation Concentration of all data: Xn = 44.0
Test Statistic, high extreme of all data: Tn = 4.20
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/11/2011	44.0	False		1

Chloride, dissolved, mg/L
Location: MW8

Mean of all data: 12.6
Standard Deviation of all data: 2.71
Largest Observation Concentration of all data: Xn = 29.0
Test Statistic, high extreme of all data: Tn = 6.05
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/11/2011	29.0	False		1

Chromium, dissolved, mg/L
Location: MW115D

Mean of all data: 0.00196
Standard Deviation of all data: 0.00478
Largest Observation Concentration of all data: Xn = 0.0330
Test Statistic, high extreme of all data: Tn = 6.49
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.0330	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
Confidence Level: 95%
Transform: None
LT Multiplier: x 0.50
Number of Outliers: One Outlier

Chromium, dissolved, mg/L
Location: MW115S

Mean of all data: 0.00150
Standard Deviation of all data: 0.00327
Largest Observation Concentration of all data: Xn = 0.0220
Test Statistic, high extreme of all data: Tn = 6.27
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.0220	False		1

Chromium, dissolved, mg/L
Location: MW11R

Mean of all data: 0.000971
Standard Deviation of all data: 0.00192
Largest Observation Concentration of all data: Xn = 0.0130
Test Statistic, high extreme of all data: Tn = 6.27
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.0130	False		1

Chromium, dissolved, mg/L
Location: MW121

Mean of all data: 0.00122
Standard Deviation of all data: 0.00252
Largest Observation Concentration of all data: Xn = 0.0180
Test Statistic, high extreme of all data: Tn = 6.66
T Critical of all data: Tcr = 3.00

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

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Chromium, dissolved, mg/L
Location: MW14

Mean of all data: 0.00138
Standard Deviation of all data: 0.00222
Largest Observation Concentration of all data: Xn = 0.0100
Test Statistic, high extreme of all data: Tn = 3.89
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.0100	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: Xn = 0.00100
Test Statistic, high extreme of all data: Tn = 0.186
T Critical of all data: Tcr = 2.73

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

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: Xn = 0.00100
Test Statistic, high extreme of all data: Tn = 0.267
T Critical of all data: Tcr = 2.73

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

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Chromium, dissolved, mg/L
Location: MW6

Mean of all data: 0.00119
Standard Deviation of all data: 0.00291
Largest Observation Concentration of all data: Xn = 0.0140
Test Statistic, high extreme of all data: Tn = 4.41
T Critical of all data: Tcr = 2.90

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/13/2012	0.0140	False		1

Chromium, dissolved, mg/L
Location: MW7

Mean of all data: 0.00153
Standard Deviation of all data: 0.00313
Largest Observation Concentration of all data: Xn = 0.0190
Test Statistic, high extreme of all data: Tn = 5.59
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
08/26/2013	0.0190	False		1

Chromium, dissolved, mg/L
Location: MW7D

Mean of all data: 0.00226
Standard Deviation of all data: 0.00724
Largest Observation Concentration of all data: Xn = 0.0510
Test Statistic, high extreme of all data: Tn = 6.74
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
08/26/2013	0.0510	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Chromium, dissolved, mg/L
Location: MW8

Mean of all data: 0.00140
Standard Deviation of all data: 0.00275
Largest Observation Concentration of all data: Xn = 0.0160
Test Statistic, high extreme of all data: Tn = 5.31
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/13/2012	0.0160	False		1

Cobalt, dissolved, mg/L
Location: MW115D

Mean of all data: 0.000625
Standard Deviation of all data: 0.000524
Largest Observation Concentration of all data: Xn = 0.00200
Test Statistic, high extreme of all data: Tn = 2.62
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Cobalt, dissolved, mg/L
Location: MW115S

Mean of all data: 0.000643
Standard Deviation of all data: 0.000520
Largest Observation Concentration of all data: Xn = 0.00200
Test Statistic, high extreme of all data: Tn = 2.61
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Cobalt, dissolved, mg/L
Location: MW11R

Mean of all data: 0.00123
Standard Deviation of all data: 0.00220
Largest Observation Concentration of all data: Xn = 0.0150
Test Statistic, high extreme of all data: Tn = 6.25
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
01/20/2014	0.0150	False		1

Cobalt, dissolved, mg/L
Location: MW121

Mean of all data: 0.000661
Standard Deviation of all data: 0.000611
Largest Observation Concentration of all data: Xn = 0.00300
Test Statistic, high extreme of all data: Tn = 3.83
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
11/03/2014	0.00300	False		1

Cobalt, dissolved, mg/L
Location: MW14

Mean of all data: 0.000768
Standard Deviation of all data: 0.000660
Largest Observation Concentration of all data: Xn = 0.00300
Test Statistic, high extreme of all data: Tn = 3.38
T Critical of all data: Tcr = 3.00

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

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Cobalt, dissolved, mg/L
Location: 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

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
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

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

Cobalt, dissolved, mg/L
Location: MW6

Mean of all data: 0.000580
Standard Deviation of all data: 0.000549
Largest Observation Concentration of all data: Xn = 0.00210
Test Statistic, high extreme of all data: Tn = 2.77
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Cobalt, dissolved, mg/L
Location: MW7

Mean of all data: 0.000571
Standard Deviation of all data: 0.000499
Largest Observation Concentration of all data: Xn = 0.00100
Test Statistic, high extreme of all data: Tn = 0.858
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Cobalt, dissolved, mg/L
Location: MW7D

Mean of all data: 0.000698
Standard Deviation of all data: 0.000623
Largest Observation Concentration of all data: Xn = 0.00300
Test Statistic, high extreme of all data: Tn = 3.70
T Critical of all data: Tcr = 2.99

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

Cobalt, dissolved, mg/L
Location: MW8

Mean of all data: 0.000759
Standard Deviation of all data: 0.000991
Largest Observation Concentration of all data: Xn = 0.00500
Test Statistic, high extreme of all data: Tn = 4.28
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
06/24/2024	0.00500	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Copper, dissolved, mg/L
Location: MW115D

Mean of all data: 0.00101
Standard Deviation of all data: 0.00294
Largest Observation Concentration of all data: Xn = 0.0220
Test Statistic, high extreme of all data: Tn = 7.13
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.0220	False		1

Copper, dissolved, mg/L
Location: MW115S

Mean of all data: 0.00119
Standard Deviation of all data: 0.00327
Largest Observation Concentration of all data: Xn = 0.0190
Test Statistic, high extreme of all data: Tn = 5.45
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.0190	False		1

Copper, dissolved, mg/L
Location: MW11R

Mean of all data: 0.000838
Standard Deviation of all data: 0.00133
Largest Observation Concentration of all data: Xn = 0.00580
Test Statistic, high extreme of all data: Tn = 3.73
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
02/20/2023	0.00580	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Copper, dissolved, mg/L
Location: MW121

Mean of all data: 0.000779
Standard Deviation of all data: 0.00155
Largest Observation Concentration of all data: Xn = 0.0100
Test Statistic, high extreme of all data: Tn = 5.95
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.0100	False		1

Copper, dissolved, mg/L
Location: MW14

Mean of all data: 0.00139
Standard Deviation of all data: 0.00520
Largest Observation Concentration of all data: Xn = 0.0371
Test Statistic, high extreme of all data: Tn = 6.86
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
08/26/2019	0.0371	False		1

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: Xn = 0.000500
Test Statistic, high extreme of all data: Tn = 0.0
T Critical of all data: Tcr = 0.0

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Copper, dissolved, mg/L
Location: MW23S

Mean of all data: 0.000955
Standard Deviation of all data: 0.00171
Largest Observation Concentration of all data: Xn = 0.00780
Test Statistic, high extreme of all data: Tn = 4.00
T Critical of all data: Tcr = 2.73

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

Copper, dissolved, mg/L
Location: MW6

Mean of all data: 0.000644
Standard Deviation of all data: 0.000751
Largest Observation Concentration of all data: Xn = 0.00300
Test Statistic, high extreme of all data: Tn = 3.14
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.00300	False		1

Copper, dissolved, mg/L
Location: MW7

Mean of all data: 0.000643
Standard Deviation of all data: 0.000923
Largest Observation Concentration of all data: Xn = 0.00500
Test Statistic, high extreme of all data: Tn = 4.72
T Critical of all data: Tcr = 3.00

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

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Copper, dissolved, mg/L
Location: MW7D

Mean of all data: 0.000727
Standard Deviation of all data: 0.00150
Largest Observation Concentration of all data: Xn = 0.0100
Test Statistic, high extreme of all data: Tn = 6.20
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.0100	False		1

Copper, dissolved, mg/L
Location: MW8

Mean of all data: 0.00133
Standard Deviation of all data: 0.00417
Largest Observation Concentration of all data: Xn = 0.0307
Test Statistic, high extreme of all data: Tn = 7.05
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
03/13/2017	0.0307	False		1

Cyanide, total, mg/L
Location: MW115D

Mean of all data: 0.00510
Standard Deviation of all data: 0.00462
Largest Observation Concentration of all data: Xn = 0.0100
Test Statistic, high extreme of all data: Tn = 1.06
T Critical of all data: Tcr = 3.01

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Cyanide, total, mg/L
Location: MW115S

Mean of all data: 0.00647
Standard Deviation of all data: 0.0108
Largest Observation Concentration of all data: Xn = 0.0800
Test Statistic, high extreme of all data: Tn = 6.81
T Critical of all data: Tcr = 3.01

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
06/20/2022	0.0800	False		1

Cyanide, total, mg/L
Location: MW11R

Mean of all data: 0.00721
Standard Deviation of all data: 0.0102
Largest Observation Concentration of all data: Xn = 0.0700
Test Statistic, high extreme of all data: Tn = 6.13
T Critical of all data: Tcr = 3.01

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
06/19/2017	0.0700	False		1

Cyanide, total, mg/L
Location: MW121

Mean of all data: 0.00552
Standard Deviation of all data: 0.00560
Largest Observation Concentration of all data: Xn = 0.0300
Test Statistic, high extreme of all data: Tn = 4.38
T Critical of all data: Tcr = 3.01

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

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Cyanide, total, mg/L
Location: MW14

Mean of all data: 0.00757
Standard Deviation of all data: 0.0158
Largest Observation Concentration of all data: Xn = 0.120
Test Statistic, high extreme of all data: Tn = 7.11
T Critical of all data: Tcr = 3.01

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
11/21/2016	0.120	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: Xn = 0.0600
Test Statistic, high extreme of all data: Tn = 3.96
T Critical of all data: Tcr = 2.73

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

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: Xn = 0.0300
Test Statistic, high extreme of all data: Tn = 4.66
T Critical of all data: Tcr = 2.73

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

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Cyanide, total, mg/L
Location: MW6

Mean of all data: 0.00528
Standard Deviation of all data: 0.00492
Largest Observation Concentration of all data: Xn = 0.0180
Test Statistic, high extreme of all data: Tn = 2.58
T Critical of all data: Tcr = 2.93

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Cyanide, total, mg/L
Location: MW7

Mean of all data: 0.00603
Standard Deviation of all data: 0.00687
Largest Observation Concentration of all data: Xn = 0.0450
Test Statistic, high extreme of all data: Tn = 5.67
T Critical of all data: Tcr = 3.01

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
05/20/2013	0.0450	False		1

Cyanide, total, mg/L
Location: MW7D

Mean of all data: 0.00837
Standard Deviation of all data: 0.0197
Largest Observation Concentration of all data: Xn = 0.150
Test Statistic, high extreme of all data: Tn = 7.20
T Critical of all data: Tcr = 3.01

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
05/20/2013	0.150	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Cyanide, total, mg/L
Location: MW8

Mean of all data: 0.00843
Standard Deviation of all data: 0.0223
Largest Observation Concentration of all data: Xn = 0.170
Test Statistic, high extreme of all data: Tn = 7.26
T Critical of all data: Tcr = 3.01

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
06/24/2024	0.170	False		1

Fluoride, dissolved, mg/L
Location: MW115D

Mean of all data: 0.155
Standard Deviation of all data: 0.101
Largest Observation Concentration of all data: Xn = 0.466
Test Statistic, high extreme of all data: Tn = 3.09
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
03/13/2017	0.466	False		1

Fluoride, dissolved, mg/L
Location: MW115S

Mean of all data: 0.171
Standard Deviation of all data: 0.118
Largest Observation Concentration of all data: Xn = 0.571
Test Statistic, high extreme of all data: Tn = 3.39
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
11/02/2015	0.571	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Fluoride, dissolved, mg/L
Location: MW11R

Mean of all data: 0.128
Standard Deviation of all data: 0.133
Largest Observation Concentration of all data: Xn = 0.645
Test Statistic, high extreme of all data: Tn = 3.89
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
11/02/2015	0.645	False		1

Fluoride, dissolved, mg/L
Location: MW121

Mean of all data: 0.155
Standard Deviation of all data: 0.107
Largest Observation Concentration of all data: Xn = 0.504
Test Statistic, high extreme of all data: Tn = 3.27
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
11/02/2015	0.504	False		1

Fluoride, dissolved, mg/L
Location: MW14

Mean of all data: 0.0968
Standard Deviation of all data: 0.106
Largest Observation Concentration of all data: Xn = 0.534
Test Statistic, high extreme of all data: Tn = 4.12
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
11/02/2015	0.534	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Fluoride, dissolved, mg/L
Location: MW23D

Mean of all data: 0.125
Standard Deviation of all data: 0.100
Largest Observation Concentration of all data: Xn = 0.600
Test Statistic, high extreme of all data: Tn = 4.73
T Critical of all data: Tcr = 2.71

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
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: Xn = 0.900
Test Statistic, high extreme of all data: Tn = 4.28
T Critical of all data: Tcr = 2.71

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

Fluoride, dissolved, mg/L
Location: MW6

Mean of all data: 0.130
Standard Deviation of all data: 0.101
Largest Observation Concentration of all data: Xn = 0.400
Test Statistic, high extreme of all data: Tn = 2.67
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Fluoride, dissolved, mg/L
Location: MW7

Mean of all data: 0.396
Standard Deviation of all data: 2.31
Largest Observation Concentration of all data: Xn = 17.4
Test Statistic, high extreme of all data: Tn = 7.35
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
11/02/2015	17.4	False		1

Fluoride, dissolved, mg/L
Location: MW7D

Mean of all data: 0.151
Standard Deviation of all data: 0.112
Largest Observation Concentration of all data: Xn = 0.529
Test Statistic, high extreme of all data: Tn = 3.37
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
11/02/2015	0.529	False		1

Fluoride, dissolved, mg/L
Location: MW8

Mean of all data: 0.0719
Standard Deviation of all data: 0.0621
Largest Observation Concentration of all data: Xn = 0.300
Test Statistic, high extreme of all data: Tn = 3.67
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
03/12/2018	0.300	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Iron, dissolved, mg/L
Location: MW115D

Mean of all data: 1.08
Standard Deviation of all data: 1.43
Largest Observation Concentration of all data: Xn = 4.91
Test Statistic, high extreme of all data: Tn = 2.67
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Iron, dissolved, mg/L
Location: MW115S

Mean of all data: 1.36
Standard Deviation of all data: 2.74
Largest Observation Concentration of all data: Xn = 17.6
Test Statistic, high extreme of all data: Tn = 5.92
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/13/2012	17.6	False		1

Iron, dissolved, mg/L
Location: MW11R

Mean of all data: 0.363
Standard Deviation of all data: 0.732
Largest Observation Concentration of all data: Xn = 4.06
Test Statistic, high extreme of all data: Tn = 5.05
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	4.06	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Iron, dissolved, mg/L
Location: MW121

Mean of all data: 1.25
Standard Deviation of all data: 1.30
Largest Observation Concentration of all data: Xn = 5.40
Test Statistic, high extreme of all data: Tn = 3.18
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/20/2015	5.40	False		1

Iron, dissolved, mg/L
Location: MW14

Mean of all data: 0.637
Standard Deviation of all data: 0.691
Largest Observation Concentration of all data: Xn = 3.07
Test Statistic, high extreme of all data: Tn = 3.52
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
03/13/2017	3.07	False		1

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

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

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Iron, dissolved, mg/L

Location: 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

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

Iron, dissolved, mg/L

Location: MW6

Mean of all data: 0.310
Standard Deviation of all data: 0.450
Largest Observation Concentration of all data: Xn = 1.94
Test Statistic, high extreme of all data: Tn = 3.62
T Critical of all data: Tcr = 2.95

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/13/2012	1.94	False		1

Iron, dissolved, mg/L

Location: MW7

Mean of all data: 0.329
Standard Deviation of all data: 0.734
Largest Observation Concentration of all data: Xn = 4.96
Test Statistic, high extreme of all data: Tn = 6.31
T Critical of all data: Tcr = 3.03

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
07/09/2012	4.96	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Iron, dissolved, mg/L

Location: MW7D

Mean of all data: 1.12
Standard Deviation of all data: 1.16
Largest Observation Concentration of all data: Xn = 5.14
Test Statistic, high extreme of all data: Tn = 3.47
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
07/21/2014	5.14	False		1

Iron, dissolved, mg/L

Location: MW8

Mean of all data: 0.738
Standard Deviation of all data: 1.10
Largest Observation Concentration of all data: Xn = 5.25
Test Statistic, high extreme of all data: Tn = 4.11
T Critical of all data: Tcr = 3.03

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
07/09/2012	5.25	False		1

Lead, dissolved, mg/L

Location: MW115D

Mean of all data: 0.000661
Standard Deviation of all data: 0.000611
Largest Observation Concentration of all data: Xn = 0.00300
Test Statistic, high extreme of all data: Tn = 3.83
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.00300	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Lead, dissolved, mg/L
Location: MW115S

Mean of all data: 0.000946
Standard Deviation of all data: 0.00162
Largest Observation Concentration of all data: Xn = 0.0110
Test Statistic, high extreme of all data: Tn = 6.20
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/13/2012	0.0110	False		1

Lead, dissolved, mg/L
Location: MW11R

Mean of all data: 0.000673
Standard Deviation of all data: 0.000610
Largest Observation Concentration of all data: Xn = 0.00300
Test Statistic, high extreme of all data: Tn = 3.81
T Critical of all data: Tcr = 2.99

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

Lead, dissolved, mg/L
Location: MW121

Mean of all data: 0.00109
Standard Deviation of all data: 0.00291
Largest Observation Concentration of all data: Xn = 0.0220
Test Statistic, high extreme of all data: Tn = 7.18
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
08/26/2013	0.0220	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Lead, dissolved, mg/L
Location: MW14

Mean of all data: 0.000571
Standard Deviation of all data: 0.000499
Largest Observation Concentration of all data: Xn = 0.00100
Test Statistic, high extreme of all data: Tn = 0.858
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

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: Xn = 0.00200
Test Statistic, high extreme of all data: Tn = 5.20
T Critical of all data: Tcr = 2.73

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

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: Xn = 0.0100
Test Statistic, high extreme of all data: Tn = 4.29
T Critical of all data: Tcr = 2.73

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
08/26/2019	<0.0100	True		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Lead, dissolved, mg/L
Location: MW6

Mean of all data: 0.000578
Standard Deviation of all data: 0.000543
Largest Observation Concentration of all data: Xn = 0.00200
Test Statistic, high extreme of all data: Tn = 2.62
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Lead, dissolved, mg/L
Location: MW7

Mean of all data: 0.000786
Standard Deviation of all data: 0.00136
Largest Observation Concentration of all data: Xn = 0.0100
Test Statistic, high extreme of all data: Tn = 6.79
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
07/09/2012	0.0100	False		1

Lead, dissolved, mg/L
Location: MW7D

Mean of all data: 0.000709
Standard Deviation of all data: 0.000875
Largest Observation Concentration of all data: Xn = 0.00600
Test Statistic, high extreme of all data: Tn = 6.05
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
07/21/2014	0.00600	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Lead, dissolved, mg/L

Location: MW8

Mean of all data: 0.000748
Standard Deviation of all data: 0.000761
Largest Observation Concentration of all data: Xn = 0.00390
Test Statistic, high extreme of all data: Tn = 4.14
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/11/2011	0.00390	False		1

Manganese, dissolved, mg/L

Location: MW115D

Mean of all data: 0.339
Standard Deviation of all data: 0.225
Largest Observation Concentration of all data: Xn = 1.17
Test Statistic, high extreme of all data: Tn = 3.69
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
09/01/2021	1.17	False		1

Manganese, dissolved, mg/L

Location: MW115S

Mean of all data: 0.977
Standard Deviation of all data: 0.335
Largest Observation Concentration of all data: Xn = 1.78
Test Statistic, high extreme of all data: Tn = 2.40
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Manganese, dissolved, mg/L

Location: MW11R

Mean of all data: 0.430
Standard Deviation of all data: 1.06
Largest Observation Concentration of all data: Xn = 5.87
Test Statistic, high extreme of all data: Tn = 5.13
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/18/2012	5.87	False		1

Manganese, dissolved, mg/L

Location: MW121

Mean of all data: 0.827
Standard Deviation of all data: 0.358
Largest Observation Concentration of all data: Xn = 1.90
Test Statistic, high extreme of all data: Tn = 3.00
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Manganese, dissolved, mg/L

Location: MW14

Mean of all data: 0.627
Standard Deviation of all data: 0.261
Largest Observation Concentration of all data: Xn = 1.59
Test Statistic, high extreme of all data: Tn = 3.68
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
03/07/2016	1.59	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
Confidence Level: 95%
Transform: None
LT Multiplier: x 0.50
Number of Outliers: One Outlier

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

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
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

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

Manganese, dissolved, mg/L

Location: MW6

Mean of all data: 0.112
Standard Deviation of all data: 0.190
Largest Observation Concentration of all data: Xn = 0.840
Test Statistic, high extreme of all data: Tn = 3.82
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/11/2011	0.840	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Manganese, dissolved, mg/L

Location: MW7

Mean of all data: 0.0426
Standard Deviation of all data: 0.157
Largest Observation Concentration of all data: Xn = 1.16
Test Statistic, high extreme of all data: Tn = 7.11
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
07/09/2012	1.16	False		1

Manganese, dissolved, mg/L

Location: MW7D

Mean of all data: 0.512
Standard Deviation of all data: 0.500
Largest Observation Concentration of all data: Xn = 3.23
Test Statistic, high extreme of all data: Tn = 5.43
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
09/14/2015	3.23	False		1

Manganese, dissolved, mg/L

Location: MW8

Mean of all data: 1.55
Standard Deviation of all data: 1.34
Largest Observation Concentration of all data: Xn = 4.11
Test Statistic, high extreme of all data: Tn = 1.92
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Mercury, dissolved, mg/L

Location: MW115D

Mean of all data: 0.0000929
Standard Deviation of all data: 0.000264
Largest Observation Concentration of all data: Xn = 0.00200
Test Statistic, high extreme of all data: Tn = 7.22
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/10/2013	0.00200	False		1

Mercury, dissolved, mg/L

Location: MW115S

Mean of all data: 0.0000571
Standard Deviation of all data: 0.0000499
Largest Observation Concentration of all data: Xn = 0.000100
Test Statistic, high extreme of all data: Tn = 0.858
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Mercury, dissolved, mg/L

Location: MW11R

Mean of all data: 0.000102
Standard Deviation of all data: 0.000270
Largest Observation Concentration of all data: Xn = 0.00200
Test Statistic, high extreme of all data: Tn = 7.04
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/10/2013	0.00200	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Mercury, dissolved, mg/L
Location: MW121

Mean of all data: 0.0000571
Standard Deviation of all data: 0.0000499
Largest Observation Concentration of all data: Xn = 0.000100
Test Statistic, high extreme of all data: Tn = 0.858
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Mercury, dissolved, mg/L
Location: MW14

Mean of all data: 0.000102
Standard Deviation of all data: 0.000265
Largest Observation Concentration of all data: Xn = 0.00200
Test Statistic, high extreme of all data: Tn = 7.16
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/10/2013	0.00200	False		1

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: Xn = 0.000100
Test Statistic, high extreme of all data: Tn = 0.0
T Critical of all data: Tcr = 0.0

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Mercury, dissolved, mg/L
Location: MW23S

Mean of all data: 0.000131
Standard Deviation of all data: 0.000167
Largest Observation Concentration of all data: Xn = 0.00100
Test Statistic, high extreme of all data: Tn = 5.20
T Critical of all data: Tcr = 2.73

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

Mercury, dissolved, mg/L
Location: MW6

Mean of all data: 0.0000733
Standard Deviation of all data: 0.000136
Largest Observation Concentration of all data: Xn = 0.000900
Test Statistic, high extreme of all data: Tn = 6.10
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
07/21/2014	0.000900	False		1

Mercury, dissolved, mg/L
Location: MW7

Mean of all data: 0.0000625
Standard Deviation of all data: 0.0000590
Largest Observation Concentration of all data: Xn = 0.000300
Test Statistic, high extreme of all data: Tn = 4.03
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/13/2012	0.000300	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Mercury, dissolved, mg/L
Location: MW7D

Mean of all data: 0.0000618
Standard Deviation of all data: 0.0000527
Largest Observation Concentration of all data: Xn = 0.000200
Test Statistic, high extreme of all data: Tn = 2.62
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Mercury, dissolved, mg/L
Location: MW8

Mean of all data: 0.000471
Standard Deviation of all data: 0.00293
Largest Observation Concentration of all data: Xn = 0.0220
Test Statistic, high extreme of all data: Tn = 7.34
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.0220	False		1

Nickel, dissolved, mg/L
Location: MW115D

Mean of all data: 0.00213
Standard Deviation of all data: 0.00373
Largest Observation Concentration of all data: Xn = 0.0240
Test Statistic, high extreme of all data: Tn = 5.87
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.0240	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Nickel, dissolved, mg/L
Location: MW115S

Mean of all data: 0.00275
Standard Deviation of all data: 0.00379
Largest Observation Concentration of all data: Xn = 0.0180
Test Statistic, high extreme of all data: Tn = 4.02
T Critical of all data: Tcr = 3.00

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

Nickel, dissolved, mg/L
Location: MW11R

Mean of all data: 0.00672
Standard Deviation of all data: 0.00978
Largest Observation Concentration of all data: Xn = 0.0410
Test Statistic, high extreme of all data: Tn = 3.50
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
01/20/2014	0.0410	False		1

Nickel, dissolved, mg/L
Location: MW121

Mean of all data: 0.00227
Standard Deviation of all data: 0.00359
Largest Observation Concentration of all data: Xn = 0.0170
Test Statistic, high extreme of all data: Tn = 4.10
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
11/03/2014	0.0170	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Nickel, dissolved, mg/L
Location: MW14

Mean of all data: 0.00404
Standard Deviation of all data: 0.00448
Largest Observation Concentration of all data: Xn = 0.0170
Test Statistic, high extreme of all data: Tn = 2.89
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

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: Xn = 0.0465
Test Statistic, high extreme of all data: Tn = 5.18
T Critical of all data: Tcr = 2.73

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

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: Xn = 0.119
Test Statistic, high extreme of all data: Tn = 5.20
T Critical of all data: Tcr = 2.73

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

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Nickel, dissolved, mg/L
Location: MW6

Mean of all data: 0.00517
Standard Deviation of all data: 0.00795
Largest Observation Concentration of all data: Xn = 0.0300
Test Statistic, high extreme of all data: Tn = 3.12
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
08/26/2013	0.0300	False		1

Nickel, dissolved, mg/L
Location: MW7

Mean of all data: 0.00527
Standard Deviation of all data: 0.0142
Largest Observation Concentration of all data: Xn = 0.102
Test Statistic, high extreme of all data: Tn = 6.80
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
08/26/2013	0.102	False		1

Nickel, dissolved, mg/L
Location: MW7D

Mean of all data: 0.00735
Standard Deviation of all data: 0.0320
Largest Observation Concentration of all data: Xn = 0.238
Test Statistic, high extreme of all data: Tn = 7.21
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
08/26/2013	0.238	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Nickel, dissolved, mg/L
Location: MW8

Mean of all data: 0.0109
Standard Deviation of all data: 0.00861
Largest Observation Concentration of all data: Xn = 0.0370
Test Statistic, high extreme of all data: Tn = 3.03
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
02/16/2012	0.0370	False		1

Nitrate nitrogen, dissolved, mg/L
Location: MW115D

Mean of all data: 1.18
Standard Deviation of all data: 1.78
Largest Observation Concentration of all data: Xn = 5.32
Test Statistic, high extreme of all data: Tn = 2.33
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Nitrate nitrogen, dissolved, mg/L
Location: MW115S

Mean of all data: 0.286
Standard Deviation of all data: 0.573
Largest Observation Concentration of all data: Xn = 2.40
Test Statistic, high extreme of all data: Tn = 3.69
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
07/12/2011	2.40	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 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: MW11R

Mean of all data: 4.62
Standard Deviation of all data: 3.96
Largest Observation Concentration of all data: Xn = 17.0
Test Statistic, high extreme of all data: Tn = 3.12
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
09/14/2015	17.0	False		1

Nitrate nitrogen, dissolved, mg/L

Location: MW121

Mean of all data: 0.359
Standard Deviation of all data: 0.831
Largest Observation Concentration of all data: Xn = 3.72
Test Statistic, high extreme of all data: Tn = 4.04
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	3.72	False		1

Nitrate nitrogen, dissolved, mg/L

Location: MW14

Mean of all data: 0.221
Standard Deviation of all data: 0.445
Largest Observation Concentration of all data: Xn = 2.72
Test Statistic, high extreme of all data: Tn = 5.62
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
06/02/2016	2.72	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 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: MW23D

Mean of all data: 0.0879
Standard Deviation of all data: 0.0218
Largest Observation Concentration of all data: Xn = 0.100
Test Statistic, high extreme of all data: Tn = 0.554
T Critical of all data: Tcr = 2.73

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

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: Xn = 0.712
Test Statistic, high extreme of all data: Tn = 2.78
T Critical of all data: Tcr = 2.73

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
09/23/2024	0.712	False		1

Nitrate nitrogen, dissolved, mg/L
Location: MW6

Mean of all data: 3.00
Standard Deviation of all data: 2.98
Largest Observation Concentration of all data: Xn = 10.2
Test Statistic, high extreme of all data: Tn = 2.42
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 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: MW7

Mean of all data: 0.747
Standard Deviation of all data: 0.509
Largest Observation Concentration of all data: Xn = 1.95
Test Statistic, high extreme of all data: Tn = 2.36
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Nitrate nitrogen, dissolved, mg/L
Location: MW7D

Mean of all data: 0.222
Standard Deviation of all data: 0.470
Largest Observation Concentration of all data: Xn = 2.92
Test Statistic, high extreme of all data: Tn = 5.74
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/20/2015	2.92	False		1

Nitrate nitrogen, dissolved, mg/L
Location: MW8

Mean of all data: 0.0812
Standard Deviation of all data: 0.0867
Largest Observation Concentration of all data: Xn = 0.410
Test Statistic, high extreme of all data: Tn = 3.79
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
03/12/2018	0.410	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

pH (field), STD
Location: MW115D

Mean of all data: 7.40
Standard Deviation of all data: 0.32
Largest Observation Concentration of all data: Xn = 8.24
Test Statistic, high extreme of all data: Tn = 2.66
T Critical of all data: Tcr = 3.10

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
06/09/2009	6.30	False	-1	

pH (field), STD
Location: MW115S

Mean of all data: 7.40
Standard Deviation of all data: 0.29
Largest Observation Concentration of all data: Xn = 7.97
Test Statistic, high extreme of all data: Tn = 1.95
T Critical of all data: Tcr = 3.10

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
03/04/2009	6.00	False	-1	

pH (field), STD
Location: MW11R

Mean of all data: 6.82
Standard Deviation of all data: 0.37
Largest Observation Concentration of all data: Xn = 7.47
Test Statistic, high extreme of all data: Tn = 1.76
T Critical of all data: Tcr = 3.16

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
01/20/2014	5.31	False	-1	

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

pH (field), STD
Location: MW121

Mean of all data: 7.33
Standard Deviation of all data: 0.25
Largest Observation Concentration of all data: Xn = 7.90
Test Statistic, high extreme of all data: Tn = 2.30
T Critical of all data: Tcr = 3.16

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
03/11/2009	6.40	False	-1	

pH (field), STD
Location: MW14

Mean of all data: 6.99
Standard Deviation of all data: 0.28
Largest Observation Concentration of all data: Xn = 7.89
Test Statistic, high extreme of all data: Tn = 3.28
T Critical of all data: Tcr = 3.16

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
09/14/2015	7.89	False		1

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

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
08/08/2022	4.83	False	-1	

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

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

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/28/2019	3.75	False	-1	

pH (field), STD
Location: MW6

Mean of all data: 6.88
Standard Deviation of all data: 0.27
Largest Observation Concentration of all data: Xn = 7.60
Test Statistic, high extreme of all data: Tn = 2.71
T Critical of all data: Tcr = 3.24

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

pH (field), STD
Location: MW7

Mean of all data: 6.93
Standard Deviation of all data: 0.27
Largest Observation Concentration of all data: Xn = 8.45
Test Statistic, high extreme of all data: Tn = 5.71
T Critical of all data: Tcr = 3.27

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
06/17/2024	8.45	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

pH (field), STD
Location: MW7D

Mean of all data: 7.30
Standard Deviation of all data: 0.33
Largest Observation Concentration of all data: Xn = 8.64
Test Statistic, high extreme of all data: Tn = 4.07
T Critical of all data: Tcr = 3.17

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
08/26/2013	8.64	False		1

pH (field), STD
Location: MW8

Mean of all data: 7.07
Standard Deviation of all data: 0.25
Largest Observation Concentration of all data: Xn = 7.92
Test Statistic, high extreme of all data: Tn = 3.42
T Critical of all data: Tcr = 3.27

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
02/26/1999	7.92	False		1

Selenium, dissolved, mg/L
Location: MW115D

Mean of all data: 0.000654
Standard Deviation of all data: 0.00141
Largest Observation Concentration of all data: Xn = 0.0100
Test Statistic, high extreme of all data: Tn = 6.61
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/10/2013	0.0100	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Selenium, dissolved, mg/L
Location: MW115S

Mean of all data: 0.000566
Standard Deviation of all data: 0.00136
Largest Observation Concentration of all data: Xn = 0.0100
Test Statistic, high extreme of all data: Tn = 6.92
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/10/2013	0.0100	False		1

Selenium, dissolved, mg/L
Location: MW11R

Mean of all data: 0.00165
Standard Deviation of all data: 0.00339
Largest Observation Concentration of all data: Xn = 0.0170
Test Statistic, high extreme of all data: Tn = 4.52
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
07/12/2011	0.0170	False		1

Selenium, dissolved, mg/L
Location: MW121

Mean of all data: 0.000573
Standard Deviation of all data: 0.00147
Largest Observation Concentration of all data: Xn = 0.0110
Test Statistic, high extreme of all data: Tn = 7.08
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/10/2013	0.0110	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Selenium, dissolved, mg/L
Location: MW14

Mean of all data: 0.00128
Standard Deviation of all data: 0.00527
Largest Observation Concentration of all data: Xn = 0.0387
Test Statistic, high extreme of all data: Tn = 7.10
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/20/2015	0.0387	False		1

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: Xn = 0.00500
Test Statistic, high extreme of all data: Tn = 5.20
T Critical of all data: Tcr = 2.73

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/28/2019	<0.00500	True		1

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

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/28/2019	<0.00500	True		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Selenium, dissolved, mg/L
Location: MW6

Mean of all data: 0.00290
Standard Deviation of all data: 0.00291
Largest Observation Concentration of all data: Xn = 0.0120
Test Statistic, high extreme of all data: Tn = 3.12
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
08/26/2013	0.0120	False		1

Selenium, dissolved, mg/L
Location: MW7

Mean of all data: 0.00174
Standard Deviation of all data: 0.00211
Largest Observation Concentration of all data: Xn = 0.0100
Test Statistic, high extreme of all data: Tn = 3.92
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
07/12/2011	0.0100	False		1

Selenium, dissolved, mg/L
Location: MW7D

Mean of all data: 0.000878
Standard Deviation of all data: 0.00283
Largest Observation Concentration of all data: Xn = 0.0210
Test Statistic, high extreme of all data: Tn = 7.12
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
03/15/2012	0.0210	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Selenium, dissolved, mg/L

Location: MW8

Mean of all data: 0.00123
Standard Deviation of all data: 0.00283
Largest Observation Concentration of all data: Xn = 0.0160
Test Statistic, high extreme of all data: Tn = 5.23
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
07/21/2014	0.0160	False		1

Silver, dissolved, mg/L

Location: MW115D

Mean of all data: 0.000411
Standard Deviation of all data: 0.00173
Largest Observation Concentration of all data: Xn = 0.0130
Test Statistic, high extreme of all data: Tn = 7.26
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/10/2013	0.0130	False		1

Silver, dissolved, mg/L

Location: MW115S

Mean of all data: 0.000143
Standard Deviation of all data: 0.000125
Largest Observation Concentration of all data: Xn = 0.000250
Test Statistic, high extreme of all data: Tn = 0.858
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Silver, dissolved, mg/L
Location: MW11R

Mean of all data: 0.000400
Standard Deviation of all data: 0.00187
Largest Observation Concentration of all data: Xn = 0.0140
Test Statistic, high extreme of all data: Tn = 7.26
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/10/2013	0.0140	False		1

Silver, dissolved, mg/L
Location: MW121

Mean of all data: 0.000179
Standard Deviation of all data: 0.000277
Largest Observation Concentration of all data: Xn = 0.00200
Test Statistic, high extreme of all data: Tn = 6.58
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
11/03/2014	0.00200	False		1

Silver, dissolved, mg/L
Location: MW14

Mean of all data: 0.000321
Standard Deviation of all data: 0.00132
Largest Observation Concentration of all data: Xn = 0.0100
Test Statistic, high extreme of all data: Tn = 7.32
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/10/2013	0.0100	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Silver, dissolved, mg/L
Location: 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

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

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

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Silver, dissolved, mg/L
Location: MW6

Mean of all data: 0.000133
Standard Deviation of all data: 0.000126
Largest Observation Concentration of all data: Xn = 0.000250
Test Statistic, high extreme of all data: Tn = 0.925
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Silver, dissolved, mg/L
Location: MW7

Mean of all data: 0.000143
Standard Deviation of all data: 0.000125
Largest Observation Concentration of all data: Xn = 0.000250
Test Statistic, high extreme of all data: Tn = 0.858
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Silver, dissolved, mg/L
Location: MW7D

Mean of all data: 0.000145
Standard Deviation of all data: 0.000124
Largest Observation Concentration of all data: Xn = 0.000250
Test Statistic, high extreme of all data: Tn = 0.840
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Silver, dissolved, mg/L
Location: MW8

Mean of all data: 0.000143
Standard Deviation of all data: 0.000125
Largest Observation Concentration of all data: Xn = 0.000250
Test Statistic, high extreme of all data: Tn = 0.858
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 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: MW115D

Mean of all data: 667
Standard Deviation of all data: 221
Largest Observation Concentration of all data: Xn = 1180
Test Statistic, high extreme of all data: Tn = 2
T Critical of all data: Tcr = 3

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Specific Conductance @ 25C (field), micromhos/cm
Location: MW115S

Mean of all data: 613
Standard Deviation of all data: 161
Largest Observation Concentration of all data: Xn = 1390
Test Statistic, high extreme of all data: Tn = 5
T Critical of all data: Tcr = 3

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/20/2015	1390	False		1

Specific Conductance @ 25C (field), micromhos/cm
Location: MW11R

Mean of all data: 1173
Standard Deviation of all data: 542
Largest Observation Concentration of all data: Xn = 2340
Test Statistic, high extreme of all data: Tn = 2
T Critical of all data: Tcr = 3

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 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: MW121

Mean of all data: 595
Standard Deviation of all data: 92
Largest Observation Concentration of all data: Xn = 747
Test Statistic, high extreme of all data: Tn = 2
T Critical of all data: Tcr = 3

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Specific Conductance @ 25C (field), micromhos/cm
Location: MW14

Mean of all data: 1004
Standard Deviation of all data: 181
Largest Observation Concentration of all data: Xn = 1270
Test Statistic, high extreme of all data: Tn = 1
T Critical of all data: Tcr = 3

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
11/02/2015	457	False	-1	

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

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/28/2019	2180	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 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: 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

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/28/2019	2800	False		1

Specific Conductance @ 25C (field), micromhos/cm
Location: MW6

Mean of all data: 941
Standard Deviation of all data: 319
Largest Observation Concentration of all data: Xn = 1566
Test Statistic, high extreme of all data: Tn = 2
T Critical of all data: Tcr = 3

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Specific Conductance @ 25C (field), micromhos/cm
Location: MW7

Mean of all data: 1127
Standard Deviation of all data: 191
Largest Observation Concentration of all data: Xn = 1470
Test Statistic, high extreme of all data: Tn = 2
T Critical of all data: Tcr = 3

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 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: MW7D

Mean of all data: 752
Standard Deviation of all data: 240
Largest Observation Concentration of all data: Xn = 1340
Test Statistic, high extreme of all data: Tn = 2
T Critical of all data: Tcr = 3

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Specific Conductance @ 25C (field), micromhos/cm
Location: MW8

Mean of all data: 1357
Standard Deviation of all data: 359
Largest Observation Concentration of all data: Xn = 1899
Test Statistic, high extreme of all data: Tn = 2
T Critical of all data: Tcr = 3

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
01/07/2013	20	False	-1	

Sulfate, dissolved, mg/L
Location: MW115D

Mean of all data: 32.4
Standard Deviation of all data: 8.27
Largest Observation Concentration of all data: Xn = 51.2
Test Statistic, high extreme of all data: Tn = 2.28
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Sulfate, dissolved, mg/L
Location: MW115S

Mean of all data: 38.5
Standard Deviation of all data: 14.6
Largest Observation Concentration of all data: Xn = 99.8
Test Statistic, high extreme of all data: Tn = 4.20
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
03/01/2021	99.8	False		1

Sulfate, dissolved, mg/L
Location: MW11R

Mean of all data: 452.
Standard Deviation of all data: 384.
Largest Observation Concentration of all data: Xn = 1510.
Test Statistic, high extreme of all data: Tn = 2.76
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Sulfate, dissolved, mg/L
Location: MW121

Mean of all data: 27.5
Standard Deviation of all data: 12.8
Largest Observation Concentration of all data: Xn = 96.6
Test Statistic, high extreme of all data: Tn = 5.42
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
08/26/2013	96.6	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Sulfate, dissolved, mg/L
Location: MW14

Mean of all data: 172.
Standard Deviation of all data: 62.7
Largest Observation Concentration of all data: Xn = 361.
Test Statistic, high extreme of all data: Tn = 3.01
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
03/19/2018	361.	False		1

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

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/28/2019	1320.	False		1

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

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/28/2019	2060.	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Sulfate, dissolved, mg/L
Location: MW6

Mean of all data: 228.
Standard Deviation of all data: 190.
Largest Observation Concentration of all data: Xn = 610.
Test Statistic, high extreme of all data: Tn = 2.01
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Sulfate, dissolved, mg/L
Location: MW7

Mean of all data: 241.
Standard Deviation of all data: 86.3
Largest Observation Concentration of all data: Xn = 434.
Test Statistic, high extreme of all data: Tn = 2.23
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Sulfate, dissolved, mg/L
Location: MW7D

Mean of all data: 86.6
Standard Deviation of all data: 62.9
Largest Observation Concentration of all data: Xn = 274.
Test Statistic, high extreme of all data: Tn = 2.98
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Sulfate, dissolved, mg/L
Location: MW8

Mean of all data: 648.
Standard Deviation of all data: 138.
Largest Observation Concentration of all data: Xn = 1120.
Test Statistic, high extreme of all data: Tn = 3.43
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
05/14/2018	1120.	False		1

Thallium, dissolved, mg/L
Location: MW115D

Mean of all data: 0.000196
Standard Deviation of all data: 0.000401
Largest Observation Concentration of all data: Xn = 0.00300
Test Statistic, high extreme of all data: Tn = 6.99
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
01/07/2013	0.00300	False		1

Thallium, dissolved, mg/L
Location: MW115S

Mean of all data: 0.000143
Standard Deviation of all data: 0.000125
Largest Observation Concentration of all data: Xn = 0.000250
Test Statistic, high extreme of all data: Tn = 0.858
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Thallium, dissolved, mg/L
Location: MW11R

Mean of all data: 0.000212
Standard Deviation of all data: 0.000521
Largest Observation Concentration of all data: Xn = 0.00390
Test Statistic, high extreme of all data: Tn = 7.07
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
01/19/2015	0.00390	False		1

Thallium, dissolved, mg/L
Location: MW121

Mean of all data: 0.000196
Standard Deviation of all data: 0.000401
Largest Observation Concentration of all data: Xn = 0.00300
Test Statistic, high extreme of all data: Tn = 6.99
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
11/03/2014	0.00300	False		1

Thallium, dissolved, mg/L
Location: MW14

Mean of all data: 0.000196
Standard Deviation of all data: 0.000401
Largest Observation Concentration of all data: Xn = 0.00300
Test Statistic, high extreme of all data: Tn = 6.99
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
01/07/2013	0.00300	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Thallium, dissolved, mg/L
Location: 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

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

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: Xn = 0.00250
Test Statistic, high extreme of all data: Tn = 5.20
T Critical of all data: Tcr = 2.73

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
08/26/2019	<0.00250	True		1

Thallium, dissolved, mg/L
Location: MW6

Mean of all data: 0.000133
Standard Deviation of all data: 0.000126
Largest Observation Concentration of all data: Xn = 0.000250
Test Statistic, high extreme of all data: Tn = 0.925
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Thallium, dissolved, mg/L

Location: MW7

Mean of all data: 0.000196
Standard Deviation of all data: 0.000401
Largest Observation Concentration of all data: Xn = 0.00300
Test Statistic, high extreme of all data: Tn = 6.99
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
01/07/2013	0.00300	False		1

Thallium, dissolved, mg/L

Location: MW7D

Mean of all data: 0.000273
Standard Deviation of all data: 0.000932
Largest Observation Concentration of all data: Xn = 0.00700
Test Statistic, high extreme of all data: Tn = 7.22
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
03/15/2012	0.00700	False		1

Thallium, dissolved, mg/L

Location: MW8

Mean of all data: 0.000161
Standard Deviation of all data: 0.000168
Largest Observation Concentration of all data: Xn = 0.00100
Test Statistic, high extreme of all data: Tn = 4.99
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
07/21/2014	0.00100	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 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: MW115D

Mean of all data: 389.
Standard Deviation of all data: 154.
Largest Observation Concentration of all data: Xn = 920.
Test Statistic, high extreme of all data: Tn = 3.44
T Critical of all data: Tcr = 3.07

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
09/14/2015	920.	False		1

Total Dissolved Solids, mg/L
Location: MW115S

Mean of all data: 336.
Standard Deviation of all data: 115.
Largest Observation Concentration of all data: Xn = 688.
Test Statistic, high extreme of all data: Tn = 3.05
T Critical of all data: Tcr = 3.08

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Total Dissolved Solids, mg/L
Location: MW11R

Mean of all data: 989.
Standard Deviation of all data: 426.
Largest Observation Concentration of all data: Xn = 1830.
Test Statistic, high extreme of all data: Tn = 1.97
T Critical of all data: Tcr = 3.13

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 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: MW121

Mean of all data: 345.
Standard Deviation of all data: 91.5
Largest Observation Concentration of all data: Xn = 604.
Test Statistic, high extreme of all data: Tn = 2.83
T Critical of all data: Tcr = 3.13

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
01/20/2014	<0.0	True	-1	

Total Dissolved Solids, mg/L

Location: MW14

Mean of all data: 729.
Standard Deviation of all data: 137.
Largest Observation Concentration of all data: Xn = 1220.
Test Statistic, high extreme of all data: Tn = 3.60
T Critical of all data: Tcr = 3.14

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/23/2023	1220.	False		1

Total Dissolved Solids, mg/L

Location: MW23D

Mean of all data: 315.
Standard Deviation of all data: 287.
Largest Observation Concentration of all data: Xn = 1790.
Test Statistic, high extreme of all data: Tn = 5.13
T Critical of all data: Tcr = 2.73

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/28/2019	1790.	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 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: MW23S

Mean of all data: 349.
Standard Deviation of all data: 503.
Largest Observation Concentration of all data: Xn = 2800.
Test Statistic, high extreme of all data: Tn = 4.87
T Critical of all data: Tcr = 2.73

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
10/28/2019	2800.	False		1

Total Dissolved Solids, mg/L

Location: MW6

Mean of all data: 784.
Standard Deviation of all data: 322.
Largest Observation Concentration of all data: Xn = 1660.
Test Statistic, high extreme of all data: Tn = 2.72
T Critical of all data: Tcr = 3.23

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Total Dissolved Solids, mg/L

Location: MW7

Mean of all data: 829.
Standard Deviation of all data: 157.
Largest Observation Concentration of all data: Xn = 1320.
Test Statistic, high extreme of all data: Tn = 3.13
T Critical of all data: Tcr = 3.26

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
01/20/2014	230.	False	-1	

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 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: MW7D

Mean of all data: 459.
Standard Deviation of all data: 179.
Largest Observation Concentration of all data: Xn = 1010.
Test Statistic, high extreme of all data: Tn = 3.08
T Critical of all data: Tcr = 3.15

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Total Dissolved Solids, mg/L
Location: MW8

Mean of all data: 1260.
Standard Deviation of all data: 336.
Largest Observation Concentration of all data: Xn = 1960.
Test Statistic, high extreme of all data: Tn = 2.07
T Critical of all data: Tcr = 3.26

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side

No Outliers

Zinc, dissolved, mg/L
Location: MW115D

Mean of all data: 0.00701
Standard Deviation of all data: 0.0161
Largest Observation Concentration of all data: Xn = 0.119
Test Statistic, high extreme of all data: Tn = 6.96
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.119	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Zinc, dissolved, mg/L
Location: MW115S

Mean of all data: 0.00738
Standard Deviation of all data: 0.0145
Largest Observation Concentration of all data: Xn = 0.0880
Test Statistic, high extreme of all data: Tn = 5.57
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.0880	False		1

Zinc, dissolved, mg/L
Location: MW11R

Mean of all data: 0.0149
Standard Deviation of all data: 0.0223
Largest Observation Concentration of all data: Xn = 0.137
Test Statistic, high extreme of all data: Tn = 5.48
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
01/20/2014	0.137	False		1

Zinc, dissolved, mg/L
Location: MW121

Mean of all data: 0.00595
Standard Deviation of all data: 0.0110
Largest Observation Concentration of all data: Xn = 0.0740
Test Statistic, high extreme of all data: Tn = 6.19
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.0740	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Zinc, dissolved, mg/L
Location: MW14

Mean of all data: 0.00463
Standard Deviation of all data: 0.00614
Largest Observation Concentration of all data: Xn = 0.0420
Test Statistic, high extreme of all data: Tn = 6.08
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.0420	False		1

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: Xn = 0.190
Test Statistic, high extreme of all data: Tn = 5.20
T Critical of all data: Tcr = 2.73

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
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: Xn = 0.600
Test Statistic, high extreme of all data: Tn = 5.20
T Critical of all data: Tcr = 2.73

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

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Zinc, dissolved, mg/L
Location: MW6

Mean of all data: 0.00571
Standard Deviation of all data: 0.00609
Largest Observation Concentration of all data: Xn = 0.0290
Test Statistic, high extreme of all data: Tn = 3.82
T Critical of all data: Tcr = 2.91

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.0290	False		1

Zinc, dissolved, mg/L
Location: MW7

Mean of all data: 0.00495
Standard Deviation of all data: 0.00583
Largest Observation Concentration of all data: Xn = 0.0320
Test Statistic, high extreme of all data: Tn = 4.64
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.0320	False		1

Zinc, dissolved, mg/L
Location: MW7D

Mean of all data: 0.00557
Standard Deviation of all data: 0.00852
Largest Observation Concentration of all data: Xn = 0.0480
Test Statistic, high extreme of all data: Tn = 4.98
T Critical of all data: Tcr = 2.99

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
04/21/2014	0.0480	False		1

Based on Grubbs one-sided outlier test

Hutsonville Ash Impoundment
Outlier Analysis Results

User Supplied Information

Date Range: 01/01/1984 to 11/18/2024
LT Multiplier: x 0.50
Confidence Level: 95%
Number of Outliers: One Outlier
Transform: None

Zinc, dissolved, mg/L
Location: MW8

Mean of all data: 0.00745
Standard Deviation of all data: 0.00944
Largest Observation Concentration of all data: Xn = 0.0600
Test Statistic, high extreme of all data: Tn = 5.57
T Critical of all data: Tcr = 3.00

Sample Date	Value	LT_Value	Outlier Low Side	Outlier High Side
07/21/2014	0.0600	False		1

Based on Grubbs one-sided outlier test

APPENDIX C3
SEN SLOPE AND MANN-KENDALL TEST RESULTS – SHORT TERM

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115D**	**Parameter Code:**	**00515**
Location Class:	**Downgradient**	**Parameter:**	**Total Dissolved Solids**
Location Type:	**Alluvial Aq.**	**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):	0.0199	mg/L per period
R-Squared error of fit:	0.00141	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.158	mg/L per period
Lower Confidence Limit of Slope, M1:	-.262	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.474	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:	**MW115D**	**Parameter Code:**	**00618**
Location Class:	**Downgradient**	**Parameter:**	**Nitrate nitrogen, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.00298	mg/L per period
R-Squared error of fit:	0.154	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L 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:	**MW115D**	**Parameter Code:**	**00720**
Location Class:	**Downgradient**	**Parameter:**	**Cyanide, total**
Location Type:	**Alluvial Aq.**	**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:	**MW115D**	**Parameter Code:**	**00941**
Location Class:	**Downgradient**	**Parameter:**	**Chloride, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.115	mg/L per period
R-Squared error of fit:	0.395	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.125	mg/L per period
Lower Confidence Limit of Slope, M1:	-.217	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0110	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:	**MW115D**	**Parameter Code:**	**00946**
Location Class:	**Downgradient**	**Parameter:**	**Sulfate, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.0299	mg/L per period
R-Squared error of fit:	0.813	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.0269	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0217	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0440	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:	**MW115D**	**Parameter Code:**	**00950**
Location Class:	**Downgradient**	**Parameter:**	**Fluoride, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.0000310	mg/L per period
R-Squared error of fit:	0.0179	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000124	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000277	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:	**MW115D**	**Parameter Code:**	**01000**
Location Class:	**Downgradient**	**Parameter:**	**Arsenic, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.000000168	mg/L per period
R-Squared error of fit:	0.00160	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.00000167	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000260	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000343	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:	**MW115D**	**Parameter Code:**	**01005**
Location Class:	**Downgradient**	**Parameter:**	**Barium, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.0000259	mg/L per period
R-Squared error of fit:	0.312	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000158	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000294	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000373	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.50
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115D**	**Parameter Code:**	**01010**
Location Class:	**Downgradient**	**Parameter:**	**Beryllium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115D**	**Parameter Code:**	**01020**
Location Class:	**Downgradient**	**Parameter:**	**Boron, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.0000569	mg/L per period
R-Squared error of fit:	0.163	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000872	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000159	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000584	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.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:	**MW115D**	**Parameter Code:**	**01025**
Location Class:	**Downgradient**	**Parameter:**	**Cadmium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115D**	**Parameter Code:**	**01030**
Location Class:	**Downgradient**	**Parameter:**	**Chromium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115D**	**Parameter Code:**	**01035**
Location Class:	**Downgradient**	**Parameter:**	**Cobalt, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115D**	**Parameter Code:**	**01040**
Location Class:	**Downgradient**	**Parameter:**	**Copper, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.00000120	mg/L per period
R-Squared error of fit:	0.154	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L 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:	**MW115D**	**Parameter Code:**	**01046**
Location Class:	**Downgradient**	**Parameter:**	**Iron, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.0000783	mg/L per period
R-Squared error of fit:	0.00852	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000166	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000318	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000790	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:	**MW115D**	**Parameter Code:**	**01049**
Location Class:	**Downgradient**	**Parameter:**	**Lead, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115D**	**Parameter Code:**	**01056**
Location Class:	**Downgradient**	**Parameter:**	**Manganese, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.000288	mg/L per period
R-Squared error of fit:	0.248	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000125	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000936	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000668	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:	**MW115D**	**Parameter Code:**	**01057**
Location Class:	**Downgradient**	**Parameter:**	**Thallium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115D**	**Parameter Code:**	**01065**
Location Class:	**Downgradient**	**Parameter:**	**Nickel, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.00000104	mg/L per period
R-Squared error of fit:	0.237	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000000381	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000172	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000469	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:	**MW115D**	**Parameter Code:**	**01075**
Location Class:	**Downgradient**	**Parameter:**	**Silver, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115D**	**Parameter Code:**	**01090**
Location Class:	**Downgradient**	**Parameter:**	**Zinc, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115D**	**Parameter Code:**	**01095**
Location Class:	**Downgradient**	**Parameter:**	**Antimony, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115D**	**Parameter Code:**	**01145**
Location Class:	**Downgradient**	**Parameter:**	**Selenium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115D**	**Parameter Code:**	**71890**
Location Class:	**Downgradient**	**Parameter:**	**Mercury, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115S**	**Parameter Code:**	**00515**
Location Class:	**Downgradient**	**Parameter:**	**Total Dissolved Solids**
Location Type:	**Alluvial Aq.**	**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):	0.0189	mg/L per period
R-Squared error of fit:	0.00462	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	-.0643	mg/L per period
Lower Confidence Limit of Slope, M1:	-.125	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.195	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:	**MW115S**	**Parameter Code:**	**00618**
Location Class:	**Downgradient**	**Parameter:**	**Nitrate nitrogen, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115S**	**Parameter Code:**	**00720**
Location Class:	**Downgradient**	**Parameter:**	**Cyanide, total**
Location Type:	**Alluvial Aq.**	**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:	**MW115S**	**Parameter Code:**	**00941**
Location Class:	**Downgradient**	**Parameter:**	**Chloride, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.0000204	mg/L per period
R-Squared error of fit:	0.00000132	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00114	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0216	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0136	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:	**MW115S**	**Parameter Code:**	**00946**
Location Class:	**Downgradient**	**Parameter:**	**Sulfate, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.00406	mg/L per period
R-Squared error of fit:	0.0590	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00406	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0201	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0164	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.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:	**MW115S**	**Parameter Code:**	**00950**
Location Class:	**Downgradient**	**Parameter:**	**Fluoride, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115S**	**Parameter Code:**	**01000**
Location Class:	**Downgradient**	**Parameter:**	**Arsenic, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.000000390	mg/L per period
R-Squared error of fit:	0.110	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	-.000000547	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000123	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000897	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	-.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:	**MW115S**	**Parameter Code:**	**01005**
Location Class:	**Downgradient**	**Parameter:**	**Barium, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.00000241	mg/L per period
R-Squared error of fit:	0.100	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000204	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000692	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000474	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.804
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115S**	**Parameter Code:**	**01010**
Location Class:	**Downgradient**	**Parameter:**	**Beryllium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115S**	**Parameter Code:**	**01020**
Location Class:	**Downgradient**	**Parameter:**	**Boron, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.0000360	mg/L per period
R-Squared error of fit:	0.289	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	-.0000374	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000775	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000103	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	-1.04	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115S**	**Parameter Code:**	**01025**
Location Class:	**Downgradient**	**Parameter:**	**Cadmium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115S**	**Parameter Code:**	**01030**
Location Class:	**Downgradient**	**Parameter:**	**Chromium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115S**	**Parameter Code:**	**01035**
Location Class:	**Downgradient**	**Parameter:**	**Cobalt, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115S**	**Parameter Code:**	**01040**
Location Class:	**Downgradient**	**Parameter:**	**Copper, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115S**	**Parameter Code:**	**01046**
Location Class:	**Downgradient**	**Parameter:**	**Iron, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.000943	mg/L per period
R-Squared error of fit:	0.533	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000586	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0000633	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00135	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):	Upward

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115S**	**Parameter Code:**	**01049**
Location Class:	**Downgradient**	**Parameter:**	**Lead, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115S**	**Parameter Code:**	**01056**
Location Class:	**Downgradient**	**Parameter:**	**Manganese, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.000522	mg/L per period
R-Squared error of fit:	0.676	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000534	mg/L per period
Lower Confidence Limit of Slope, M1:	0.000125	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000889	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:	**MW115S**	**Parameter Code:**	**01057**
Location Class:	**Downgradient**	**Parameter:**	**Thallium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115S**	**Parameter Code:**	**01065**
Location Class:	**Downgradient**	**Parameter:**	**Nickel, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.000000270	mg/L per period
R-Squared error of fit:	0.0245	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000000276	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000150	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000179	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:	**MW115S**	**Parameter Code:**	**01075**
Location Class:	**Downgradient**	**Parameter:**	**Silver, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115S**	**Parameter Code:**	**01090**
Location Class:	**Downgradient**	**Parameter:**	**Zinc, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115S**	**Parameter Code:**	**01095**
Location Class:	**Downgradient**	**Parameter:**	**Antimony, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115S**	**Parameter Code:**	**01145**
Location Class:	**Downgradient**	**Parameter:**	**Selenium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW115S**	**Parameter Code:**	**71890**
Location Class:	**Downgradient**	**Parameter:**	**Mercury, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW11R**	**Parameter Code:**	**00515**
Location Class:	**Downgradient**	**Parameter:**	**Total Dissolved Solids**
Location Type:	**Upper Zone**	**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):	0.336	mg/L per period
R-Squared error of fit:	0.0243	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.302	mg/L per period
Lower Confidence Limit of Slope, M1:	-1.57	mg/L per period
Upper Confidence Limit of Slope, M2+1:	2.25	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:	**MW11R**	**Parameter Code:**	**00618**
Location Class:	**Downgradient**	**Parameter:**	**Nitrate nitrogen, dissolved**
Location Type:	**Upper Zone**	**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):	-.00163	mg/L per period
R-Squared error of fit:	0.0263	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00131	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00993	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00676	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.764
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**00720**
Location Class:	**Downgradient**	**Parameter:**	**Cyanide, total**
Location Type:	**Upper Zone**	**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:	**MW11R**	**Parameter Code:**	**00941**
Location Class:	**Downgradient**	**Parameter:**	**Chloride, dissolved**
Location Type:	**Upper Zone**	**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):	-.0107	mg/L per period
R-Squared error of fit:	0.177	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0149	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0292	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00943	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:	**MW11R**	**Parameter Code:**	**00946**
Location Class:	**Downgradient**	**Parameter:**	**Sulfate, dissolved**
Location Type:	**Upper Zone**	**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):	0.0274	mg/L per period
R-Squared error of fit:	0.000123	

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:	-2.52	mg/L per period
Upper Confidence Limit of Slope, M2+1:	2.59	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:	**MW11R**	**Parameter Code:**	**00950**
Location Class:	**Downgradient**	**Parameter:**	**Fluoride, dissolved**
Location Type:	**Upper Zone**	**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):	0.0000669	mg/L per period
R-Squared error of fit:	0.0835	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000226	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.579
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**01000**
Location Class:	**Downgradient**	**Parameter:**	**Arsenic, dissolved**
Location Type:	**Upper Zone**	**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:	**MW11R**	**Parameter Code:**	**01005**
Location Class:	**Downgradient**	**Parameter:**	**Barium, dissolved**
Location Type:	**Upper Zone**	**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):	-.00000364	mg/L per period
R-Squared error of fit:	0.000509	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000119	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000285	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000144	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:	**MW11R**	**Parameter Code:**	**01010**
Location Class:	**Downgradient**	**Parameter:**	**Beryllium, dissolved**
Location Type:	**Upper Zone**	**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:	**MW11R**	**Parameter Code:**	**01020**
Location Class:	**Downgradient**	**Parameter:**	**Boron, dissolved**
Location Type:	**Upper Zone**	**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):	0.00460	mg/L per period
R-Squared error of fit:	0.0147	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00915	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0316	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0440	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:	**MW11R**	**Parameter Code:**	**01025**
Location Class:	**Downgradient**	**Parameter:**	**Cadmium, dissolved**
Location Type:	**Upper Zone**	**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:	**MW11R**	**Parameter Code:**	**01030**
Location Class:	**Downgradient**	**Parameter:**	**Chromium, dissolved**
Location Type:	**Upper Zone**	**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:	**MW11R**	**Parameter Code:**	**01035**
Location Class:	**Downgradient**	**Parameter:**	**Cobalt, dissolved**
Location Type:	**Upper Zone**	**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:	**MW11R**	**Parameter Code:**	**01040**
Location Class:	**Downgradient**	**Parameter:**	**Copper, dissolved**
Location Type:	**Upper Zone**	**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):	-.00000417	mg/L per period
R-Squared error of fit:	0.271	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L 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:	**MW11R**	**Parameter Code:**	**01046**
Location Class:	**Downgradient**	**Parameter:**	**Iron, dissolved**
Location Type:	**Upper Zone**	**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):	0.0000103	mg/L per period
R-Squared error of fit:	0.203	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L 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:	**MW11R**	**Parameter Code:**	**01049**
Location Class:	**Downgradient**	**Parameter:**	**Lead, dissolved**
Location Type:	**Upper Zone**	**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:	**MW11R**	**Parameter Code:**	**01056**
Location Class:	**Downgradient**	**Parameter:**	**Manganese, dissolved**
Location Type:	**Upper Zone**	**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):	-.00000199	mg/L per period
R-Squared error of fit:	0.00530	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000143	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000213	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	0.399	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**01057**
Location Class:	**Downgradient**	**Parameter:**	**Thallium, dissolved**
Location Type:	**Upper Zone**	**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:	**MW11R**	**Parameter Code:**	**01065**
Location Class:	**Downgradient**	**Parameter:**	**Nickel, dissolved**
Location Type:	**Upper Zone**	**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):	-.00000120	mg/L per period
R-Squared error of fit:	0.0635	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000103	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000570	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000323	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:	**MW11R**	**Parameter Code:**	**01075**
Location Class:	**Downgradient**	**Parameter:**	**Silver, dissolved**
Location Type:	**Upper Zone**	**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:	**MW11R**	**Parameter Code:**	**01090**
Location Class:	**Downgradient**	**Parameter:**	**Zinc, dissolved**
Location Type:	**Upper Zone**	**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):	-.00000287	mg/L per period
R-Squared error of fit:	0.00916	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.167
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**01095**
Location Class:	**Downgradient**	**Parameter:**	**Antimony, dissolved**
Location Type:	**Upper Zone**	**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:	**MW11R**	**Parameter Code:**	**01145**
Location Class:	**Downgradient**	**Parameter:**	**Selenium, dissolved**
Location Type:	**Upper Zone**	**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):	-.000000844	mg/L per period
R-Squared error of fit:	0.0699	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	-.00000105	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000319	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000145	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	-.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:	**MW11R**	**Parameter Code:**	**71890**
Location Class:	**Downgradient**	**Parameter:**	**Mercury, dissolved**
Location Type:	**Upper Zone**	**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:	**MW121**	**Parameter Code:**	**00515**
Location Class:	**Background**	**Parameter:**	**Total Dissolved Solids**
Location Type:	**Alluvial Aq.**	**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):	-.0248	mg/L per period
R-Squared error of fit:	0.00797	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.0300	mg/L per period
Lower Confidence Limit of Slope, M1:	-.227	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.305	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:	**MW121**	**Parameter Code:**	**00618**
Location Class:	**Background**	**Parameter:**	**Nitrate nitrogen, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.000150	mg/L per period
R-Squared error of fit:	0.235	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000313	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	-.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:	**MW121**	**Parameter Code:**	**00720**
Location Class:	**Background**	**Parameter:**	**Cyanide, total**
Location Type:	**Alluvial Aq.**	**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):	0.00000333	mg/L per period
R-Squared error of fit:	0.0118	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L 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:	**MW121**	**Parameter Code:**	**00941**
Location Class:	**Background**	**Parameter:**	**Chloride, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.00130	mg/L per period
R-Squared error of fit:	0.0434	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.000777	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00702	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00295	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:	**MW121**	**Parameter Code:**	**00946**
Location Class:	**Background**	**Parameter:**	**Sulfate, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.00928	mg/L per period
R-Squared error of fit:	0.213	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000204	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00669	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0188	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:	**MW121**	**Parameter Code:**	**00950**
Location Class:	**Background**	**Parameter:**	**Fluoride, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW121**	**Parameter Code:**	**01000**
Location Class:	**Background**	**Parameter:**	**Arsenic, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.00000174	mg/L per period
R-Squared error of fit:	0.296	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	-.00000173	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000404	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000100	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:	**MW121**	**Parameter Code:**	**01005**
Location Class:	**Background**	**Parameter:**	**Barium, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.00000158	mg/L per period
R-Squared error of fit:	0.00178	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	-.00000335	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000397	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000379	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:	**MW121**	**Parameter Code:**	**01010**
Location Class:	**Background**	**Parameter:**	**Beryllium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW121**	**Parameter Code:**	**01020**
Location Class:	**Background**	**Parameter:**	**Boron, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.00000393	mg/L per period
R-Squared error of fit:	0.00491	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000272	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:	**MW121**	**Parameter Code:**	**01025**
Location Class:	**Background**	**Parameter:**	**Cadmium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW121**	**Parameter Code:**	**01030**
Location Class:	**Background**	**Parameter:**	**Chromium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW121**	**Parameter Code:**	**01035**
Location Class:	**Background**	**Parameter:**	**Cobalt, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW121**	**Parameter Code:**	**01040**
Location Class:	**Background**	**Parameter:**	**Copper, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW121**	**Parameter Code:**	**01046**
Location Class:	**Background**	**Parameter:**	**Iron, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.000129	mg/L per period
R-Squared error of fit:	0.0139	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	-.000135	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00119	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000486	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	-.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:	**MW121**	**Parameter Code:**	**01049**
Location Class:	**Background**	**Parameter:**	**Lead, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW121**	**Parameter Code:**	**01056**
Location Class:	**Background**	**Parameter:**	**Manganese, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.000257	mg/L per period
R-Squared error of fit:	0.387	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.000229	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000635	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000613	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:	**MW121**	**Parameter Code:**	**01057**
Location Class:	**Background**	**Parameter:**	**Thallium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW121**	**Parameter Code:**	**01065**
Location Class:	**Background**	**Parameter:**	**Nickel, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.000000224	mg/L per period
R-Squared error of fit:	0.0180	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	-.000000204	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000180	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000962	mg/L per period

Non-parametric Mann-Kendall Test for Trend	
S Statistic:	-.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:	**MW121**	**Parameter Code:**	**01075**
Location Class:	**Background**	**Parameter:**	**Silver, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW121**	**Parameter Code:**	**01090**
Location Class:	**Background**	**Parameter:**	**Zinc, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW121**	**Parameter Code:**	**01095**
Location Class:	**Background**	**Parameter:**	**Antimony, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW121**	**Parameter Code:**	**01145**
Location Class:	**Background**	**Parameter:**	**Selenium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW121**	**Parameter Code:**	**71890**
Location Class:	**Background**	**Parameter:**	**Mercury, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW14**	**Parameter Code:**	**00515**
Location Class:	**Downgradient**	**Parameter:**	**Total Dissolved Solids**
Location Type:	**Alluvial Aq.**	**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):	-.312	mg/L per period
R-Squared error of fit:	0.127	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.309	mg/L per period
Lower Confidence Limit of Slope, M1:	-.858	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:	-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:	**MW14**	**Parameter Code:**	**00618**
Location Class:	**Downgradient**	**Parameter:**	**Nitrate nitrogen, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW14**	**Parameter Code:**	**00720**
Location Class:	**Downgradient**	**Parameter:**	**Cyanide, total**
Location Type:	**Alluvial Aq.**	**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:	**MW14**	**Parameter Code:**	**00941**
Location Class:	**Downgradient**	**Parameter:**	**Chloride, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.00552	mg/L per period
R-Squared error of fit:	0.161	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00388	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0152	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0148	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:	**MW14**	**Parameter Code:**	**00946**
Location Class:	**Downgradient**	**Parameter:**	**Sulfate, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.0214	mg/L per period
R-Squared error of fit:	0.0605	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0264	mg/L per period
Lower Confidence Limit of Slope, M1:	-.116	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0575	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:	**MW14**	**Parameter Code:**	**00950**
Location Class:	**Downgradient**	**Parameter:**	**Fluoride, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW14**	**Parameter Code:**	**01000**
Location Class:	**Downgradient**	**Parameter:**	**Arsenic, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.000000476	mg/L per period
R-Squared error of fit:	0.109	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.000000462	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000176	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000172	mg/L per period

Non-parametric Mann-Kendall Test for Trend	
S Statistic:	0.377
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW14**	**Parameter Code:**	**01005**
Location Class:	**Downgradient**	**Parameter:**	**Barium, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.00000922	mg/L per period
R-Squared error of fit:	0.257	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	-.0000132	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000245	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:	-.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:	**MW14**	**Parameter Code:**	**01010**
Location Class:	**Downgradient**	**Parameter:**	**Beryllium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW14**	**Parameter Code:**	**01020**
Location Class:	**Downgradient**	**Parameter:**	**Boron, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.0000590	mg/L per period
R-Squared error of fit:	0.0117	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000464	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000654	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:	**MW14**	**Parameter Code:**	**01025**
Location Class:	**Downgradient**	**Parameter:**	**Cadmium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW14**	**Parameter Code:**	**01030**
Location Class:	**Downgradient**	**Parameter:**	**Chromium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW14**	**Parameter Code:**	**01035**
Location Class:	**Downgradient**	**Parameter:**	**Cobalt, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW14**	**Parameter Code:**	**01040**
Location Class:	**Downgradient**	**Parameter:**	**Copper, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW14**	**Parameter Code:**	**01046**
Location Class:	**Downgradient**	**Parameter:**	**Iron, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.000404	mg/L per period
R-Squared error of fit:	0.170	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000131	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000631	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00113	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:	**MW14**	**Parameter Code:**	**01049**
Location Class:	**Downgradient**	**Parameter:**	**Lead, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW14**	**Parameter Code:**	**01056**
Location Class:	**Downgradient**	**Parameter:**	**Manganese, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.000130	mg/L per period
R-Squared error of fit:	0.117	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000134	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000215	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000407	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:	**MW14**	**Parameter Code:**	**01057**
Location Class:	**Downgradient**	**Parameter:**	**Thallium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW14**	**Parameter Code:**	**01065**
Location Class:	**Downgradient**	**Parameter:**	**Nickel, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.000000160	mg/L per period
R-Squared error of fit:	0.00621	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000000587	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000132	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000215	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.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:	**MW14**	**Parameter Code:**	**01075**
Location Class:	**Downgradient**	**Parameter:**	**Silver, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW14**	**Parameter Code:**	**01090**
Location Class:	**Downgradient**	**Parameter:**	**Zinc, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW14**	**Parameter Code:**	**01095**
Location Class:	**Downgradient**	**Parameter:**	**Antimony, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW14**	**Parameter Code:**	**01145**
Location Class:	**Downgradient**	**Parameter:**	**Selenium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW14**	**Parameter Code:**	**71890**
Location Class:	**Downgradient**	**Parameter:**	**Mercury, dissolved**
Location Type:	**Alluvial Aq.**	**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:**	**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):	-.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:	-.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:	-.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):	-.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):	-.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:	-.000000271	mg/L per period
Lower Confidence Limit of Slope, M1:	-.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:**	**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):	-.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:	-.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):	-.00000554	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:	-.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:**	**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:	**MW7**	**Parameter Code:**	**00515**
Location Class:	**Downgradient**	**Parameter:**	**Total Dissolved Solids**
Location Type:	**Upper Zone**	**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):	-.0112	mg/L per period
R-Squared error of fit:	0.000564	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.115	mg/L per period
Lower Confidence Limit of Slope, M1:	-.473	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.429	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:	**MW7**	**Parameter Code:**	**00618**
Location Class:	**Downgradient**	**Parameter:**	**Nitrate nitrogen, dissolved**
Location Type:	**Upper Zone**	**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):	-.000175	mg/L per period
R-Squared error of fit:	0.0171	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000294	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00181	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000995	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.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:	**MW7**	**Parameter Code:**	**00720**
Location Class:	**Downgradient**	**Parameter:**	**Cyanide, total**
Location Type:	**Upper Zone**	**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:	**MW7**	**Parameter Code:**	**00941**
Location Class:	**Downgradient**	**Parameter:**	**Chloride, dissolved**
Location Type:	**Upper Zone**	**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):	-.000484	mg/L per period
R-Squared error of fit:	0.00117	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00121	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0199	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0120	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:	**MW7**	**Parameter Code:**	**00946**
Location Class:	**Downgradient**	**Parameter:**	**Sulfate, dissolved**
Location Type:	**Upper Zone**	**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):	-.0401	mg/L per period
R-Squared error of fit:	0.0375	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0518	mg/L per period
Lower Confidence Limit of Slope, M1:	-.253	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.178	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:	**MW7**	**Parameter Code:**	**00950**
Location Class:	**Downgradient**	**Parameter:**	**Fluoride, dissolved**
Location Type:	**Upper Zone**	**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):	0.0000902	mg/L per period
R-Squared error of fit:	0.288	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L 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:	**MW7**	**Parameter Code:**	**01000**
Location Class:	**Downgradient**	**Parameter:**	**Arsenic, dissolved**
Location Type:	**Upper Zone**	**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:	**MW7**	**Parameter Code:**	**01005**
Location Class:	**Downgradient**	**Parameter:**	**Barium, dissolved**
Location Type:	**Upper Zone**	**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):	-.00000955	mg/L per period
R-Squared error of fit:	0.0765	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000137	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000749	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:	-.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:	**MW7**	**Parameter Code:**	**01010**
Location Class:	**Downgradient**	**Parameter:**	**Beryllium, dissolved**
Location Type:	**Upper Zone**	**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:	**MW7**	**Parameter Code:**	**01020**
Location Class:	**Downgradient**	**Parameter:**	**Boron, dissolved**
Location Type:	**Upper Zone**	**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):	-.000442	mg/L per period
R-Squared error of fit:	0.137	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000285	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00197	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000557	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:	**MW7**	**Parameter Code:**	**01025**
Location Class:	**Downgradient**	**Parameter:**	**Cadmium, dissolved**
Location Type:	**Upper Zone**	**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:	**MW7**	**Parameter Code:**	**01030**
Location Class:	**Downgradient**	**Parameter:**	**Chromium, dissolved**
Location Type:	**Upper Zone**	**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:	**MW7**	**Parameter Code:**	**01035**
Location Class:	**Downgradient**	**Parameter:**	**Cobalt, dissolved**
Location Type:	**Upper Zone**	**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:	**MW7**	**Parameter Code:**	**01040**
Location Class:	**Downgradient**	**Parameter:**	**Copper, dissolved**
Location Type:	**Upper Zone**	**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:	**MW7**	**Parameter Code:**	**01046**
Location Class:	**Downgradient**	**Parameter:**	**Iron, dissolved**
Location Type:	**Upper Zone**	**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:	**MW7**	**Parameter Code:**	**01049**
Location Class:	**Downgradient**	**Parameter:**	**Lead, dissolved**
Location Type:	**Upper Zone**	**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:	**MW7**	**Parameter Code:**	**01056**
Location Class:	**Downgradient**	**Parameter:**	**Manganese, dissolved**
Location Type:	**Upper Zone**	**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):	0.0000104	mg/L per period
R-Squared error of fit:	0.506	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000949	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000194	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):	Upward

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7**	**Parameter Code:**	**01057**
Location Class:	**Downgradient**	**Parameter:**	**Thallium, dissolved**
Location Type:	**Upper Zone**	**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:	**MW7**	**Parameter Code:**	**01065**
Location Class:	**Downgradient**	**Parameter:**	**Nickel, dissolved**
Location Type:	**Upper Zone**	**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):	0.000000380	mg/L per period
R-Squared error of fit:	0.0462	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.000000510	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000738	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000182	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:	**MW7**	**Parameter Code:**	**01075**
Location Class:	**Downgradient**	**Parameter:**	**Silver, dissolved**
Location Type:	**Upper Zone**	**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:	**MW7**	**Parameter Code:**	**01090**
Location Class:	**Downgradient**	**Parameter:**	**Zinc, dissolved**
Location Type:	**Upper Zone**	**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:	**MW7**	**Parameter Code:**	**01095**
Location Class:	**Downgradient**	**Parameter:**	**Antimony, dissolved**
Location Type:	**Upper Zone**	**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:	**MW7**	**Parameter Code:**	**01145**
Location Class:	**Downgradient**	**Parameter:**	**Selenium, dissolved**
Location Type:	**Upper Zone**	**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):	-.00000112	mg/L per period
R-Squared error of fit:	0.0307	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000196	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000124	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000316	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.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:	**MW7**	**Parameter Code:**	**71890**
Location Class:	**Downgradient**	**Parameter:**	**Mercury, dissolved**
Location Type:	**Upper Zone**	**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:	**MW7D**	**Parameter Code:**	**00515**
Location Class:	**Background**	**Parameter:**	**Total Dissolved Solids**
Location Type:	**Alluvial Aq.**	**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):	-.180	mg/L per period
R-Squared error of fit:	0.204	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.293	mg/L per period
Lower Confidence Limit of Slope, M1:	-.548	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.101	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:	**MW7D**	**Parameter Code:**	**00618**
Location Class:	**Background**	**Parameter:**	**Nitrate nitrogen, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW7D**	**Parameter Code:**	**00720**
Location Class:	**Background**	**Parameter:**	**Cyanide, total**
Location Type:	**Alluvial Aq.**	**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:	**MW7D**	**Parameter Code:**	**00941**
Location Class:	**Background**	**Parameter:**	**Chloride, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.00480	mg/L per period
R-Squared error of fit:	0.165	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00451	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00825	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0157	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:	**MW7D**	**Parameter Code:**	**00946**
Location Class:	**Background**	**Parameter:**	**Sulfate, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.0222	mg/L per period
R-Squared error of fit:	0.326	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0116	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0314	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.00331	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:	**MW7D**	**Parameter Code:**	**00950**
Location Class:	**Background**	**Parameter:**	**Fluoride, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.0000820	mg/L per period
R-Squared error of fit:	0.288	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L 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:	**MW7D**	**Parameter Code:**	**01000**
Location Class:	**Background**	**Parameter:**	**Arsenic, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.000000154	mg/L per period
R-Squared error of fit:	0.00242	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	-.00000112	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000332	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000224	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:	**MW7D**	**Parameter Code:**	**01005**
Location Class:	**Background**	**Parameter:**	**Barium, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.0000319	mg/L per period
R-Squared error of fit:	0.680	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.0000298	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0000152	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000542	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	2.39	
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:	**MW7D**	**Parameter Code:**	**01010**
Location Class:	**Background**	**Parameter:**	**Beryllium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW7D**	**Parameter Code:**	**01020**
Location Class:	**Background**	**Parameter:**	**Boron, dissolved**
Location Type:	**Alluvial Aq.**	**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):	-.000103	mg/L per period
R-Squared error of fit:	0.256	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000255	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000173	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.97
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:	**MW7D**	**Parameter Code:**	**01025**
Location Class:	**Background**	**Parameter:**	**Cadmium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW7D**	**Parameter Code:**	**01030**
Location Class:	**Background**	**Parameter:**	**Chromium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW7D**	**Parameter Code:**	**01035**
Location Class:	**Background**	**Parameter:**	**Cobalt, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW7D**	**Parameter Code:**	**01040**
Location Class:	**Background**	**Parameter:**	**Copper, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW7D**	**Parameter Code:**	**01046**
Location Class:	**Background**	**Parameter:**	**Iron, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.000166	mg/L per period
R-Squared error of fit:	0.0153	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000265	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000317	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000775	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.664
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7D**	**Parameter Code:**	**01049**
Location Class:	**Background**	**Parameter:**	**Lead, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW7D**	**Parameter Code:**	**01056**
Location Class:	**Background**	**Parameter:**	**Manganese, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.000957	mg/L per period
R-Squared error of fit:	0.636	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00109	mg/L per period
Lower Confidence Limit of Slope, M1:	0.000431	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:	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:	**MW7D**	**Parameter Code:**	**01057**
Location Class:	**Background**	**Parameter:**	**Thallium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW7D**	**Parameter Code:**	**01065**
Location Class:	**Background**	**Parameter:**	**Nickel, dissolved**
Location Type:	**Alluvial Aq.**	**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):	0.000000372	mg/L per period
R-Squared error of fit:	0.123	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.000000340	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000677	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000145	mg/L per period

Non-parametric Mann-Kendall Test for Trend	
S Statistic:	0.760
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7D**	**Parameter Code:**	**01075**
Location Class:	**Background**	**Parameter:**	**Silver, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW7D**	**Parameter Code:**	**01090**
Location Class:	**Background**	**Parameter:**	**Zinc, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW7D**	**Parameter Code:**	**01095**
Location Class:	**Background**	**Parameter:**	**Antimony, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW7D**	**Parameter Code:**	**01145**
Location Class:	**Background**	**Parameter:**	**Selenium, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW7D**	**Parameter Code:**	**71890**
Location Class:	**Background**	**Parameter:**	**Mercury, dissolved**
Location Type:	**Alluvial Aq.**	**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:	**MW8**	**Parameter Code:**	**00515**
Location Class:	**Downgradient**	**Parameter:**	**Total Dissolved Solids**
Location Type:	**Upper Zone**	**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):	-.121	mg/L per period
R-Squared error of fit:	0.104	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.134	mg/L per period
Lower Confidence Limit of Slope, M1:	-.352	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:	-.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:	**MW8**	**Parameter Code:**	**00618**
Location Class:	**Downgradient**	**Parameter:**	**Nitrate nitrogen, dissolved**
Location Type:	**Upper Zone**	**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:	**MW8**	**Parameter Code:**	**00720**
Location Class:	**Downgradient**	**Parameter:**	**Cyanide, total**
Location Type:	**Upper Zone**	**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):	0.0000686	mg/L per period
R-Squared error of fit:	0.0785	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L 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:	**MW8**	**Parameter Code:**	**00941**
Location Class:	**Downgradient**	**Parameter:**	**Chloride, dissolved**
Location Type:	**Upper Zone**	**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):	0.00215	mg/L per period
R-Squared error of fit:	0.0899	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00145	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00392	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00910	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:	**MW8**	**Parameter Code:**	**00946**
Location Class:	**Downgradient**	**Parameter:**	**Sulfate, dissolved**
Location Type:	**Upper Zone**	**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):	0.0545	mg/L per period
R-Squared error of fit:	0.00443	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.189	mg/L per period
Lower Confidence Limit of Slope, M1:	-.477	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.484	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:	**MW8**	**Parameter Code:**	**00950**
Location Class:	**Downgradient**	**Parameter:**	**Fluoride, dissolved**
Location Type:	**Upper Zone**	**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:	**MW8**	**Parameter Code:**	**01000**
Location Class:	**Downgradient**	**Parameter:**	**Arsenic, dissolved**
Location Type:	**Upper Zone**	**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):	0.00000101	mg/L per period
R-Squared error of fit:	0.0785	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L 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:	**MW8**	**Parameter Code:**	**01005**
Location Class:	**Downgradient**	**Parameter:**	**Barium, dissolved**
Location Type:	**Upper Zone**	**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):	0.000000408	mg/L per period
R-Squared error of fit:	0.00197	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.00000105	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000117	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000891	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:	**MW8**	**Parameter Code:**	**01010**
Location Class:	**Downgradient**	**Parameter:**	**Beryllium, dissolved**
Location Type:	**Upper Zone**	**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:	**MW8**	**Parameter Code:**	**01020**
Location Class:	**Downgradient**	**Parameter:**	**Boron, dissolved**
Location Type:	**Upper Zone**	**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):	-.00228	mg/L per period
R-Squared error of fit:	0.270	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00317	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00581	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000571	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.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:	**MW8**	**Parameter Code:**	**01025**
Location Class:	**Downgradient**	**Parameter:**	**Cadmium, dissolved**
Location Type:	**Upper Zone**	**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:	**MW8**	**Parameter Code:**	**01030**
Location Class:	**Downgradient**	**Parameter:**	**Chromium, dissolved**
Location Type:	**Upper Zone**	**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):	-.00000114	mg/L per period
R-Squared error of fit:	0.155	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L 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:	**MW8**	**Parameter Code:**	**01035**
Location Class:	**Downgradient**	**Parameter:**	**Cobalt, dissolved**
Location Type:	**Upper Zone**	**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):	0.00000172	mg/L per period
R-Squared error of fit:	0.0785	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L 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:	**MW8**	**Parameter Code:**	**01040**
Location Class:	**Downgradient**	**Parameter:**	**Copper, dissolved**
Location Type:	**Upper Zone**	**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):	0.00000127	mg/L per period
R-Squared error of fit:	0.601	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000000862	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000182	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.58
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW8**	**Parameter Code:**	**01046**
Location Class:	**Downgradient**	**Parameter:**	**Iron, dissolved**
Location Type:	**Upper Zone**	**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:	**MW8**	**Parameter Code:**	**01049**
Location Class:	**Downgradient**	**Parameter:**	**Lead, dissolved**
Location Type:	**Upper Zone**	**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:	**MW8**	**Parameter Code:**	**01056**
Location Class:	**Downgradient**	**Parameter:**	**Manganese, dissolved**
Location Type:	**Upper Zone**	**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):	0.00121	mg/L per period
R-Squared error of fit:	0.233	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00120	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000642	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00323	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:	**MW8**	**Parameter Code:**	**01057**
Location Class:	**Downgradient**	**Parameter:**	**Thallium, dissolved**
Location Type:	**Upper Zone**	**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:	**MW8**	**Parameter Code:**	**01065**
Location Class:	**Downgradient**	**Parameter:**	**Nickel, dissolved**
Location Type:	**Upper Zone**	**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):	0.0000118	mg/L per period
R-Squared error of fit:	0.307	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000776	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000519	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000261	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:	**MW8**	**Parameter Code:**	**01075**
Location Class:	**Downgradient**	**Parameter:**	**Silver, dissolved**
Location Type:	**Upper Zone**	**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:	**MW8**	**Parameter Code:**	**01090**
Location Class:	**Downgradient**	**Parameter:**	**Zinc, dissolved**
Location Type:	**Upper Zone**	**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):	0.00000110	mg/L per period
R-Squared error of fit:	0.0121	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.167
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW8**	**Parameter Code:**	**01095**
Location Class:	**Downgradient**	**Parameter:**	**Antimony, dissolved**
Location Type:	**Upper Zone**	**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):	-.000000429	mg/L per period
R-Squared error of fit:	0.0785	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.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:	**MW8**	**Parameter Code:**	**01145**
Location Class:	**Downgradient**	**Parameter:**	**Selenium, dissolved**
Location Type:	**Upper Zone**	**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):	0.000000777	mg/L per period
R-Squared error of fit:	0.143	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000242	mg/L per period
Non-parametric Mann-Kendall Test for Trend		
S Statistic:	0.869	
Z test:	1.64	
At the 95.0 % Confidence Level (two-tailed test):	None	

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW8**	**Parameter Code:**	**71890**
Location Class:	**Downgradient**	**Parameter:**	**Mercury, dissolved**
Location Type:	**Upper Zone**	**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:	**MW115D**	**Parameter Code:**	**00515**
Location Class:	**Downgradient**	**Parameter:**	**Total Dissolved Solids**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0183	mg/L per period
R-Squared error of fit:	0.0194	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0315	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00470	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0585	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.75
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:	**MW115D**	**Parameter Code:**	**00618**
Location Class:	**Downgradient**	**Parameter:**	**Nitrate nitrogen, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000169	mg/L per period
R-Squared error of fit:	0.0161	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000392	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.975
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115D**	**Parameter Code:**	**00720**
Location Class:	**Downgradient**	**Parameter:**	**Cyanide, total**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000293	mg/L per period
R-Squared error of fit:	0.703	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000281	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00000219	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000321	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	6.37
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:	**MW115D**	**Parameter Code:**	**00941**
Location Class:	**Downgradient**	**Parameter:**	**Chloride, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00368	mg/L per period
R-Squared error of fit:	0.0135	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00315	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000355	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00776	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:	**MW115D**	**Parameter Code:**	**00946**
Location Class:	**Downgradient**	**Parameter:**	**Sulfate, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00390	mg/L per period
R-Squared error of fit:	0.322	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00407	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00269	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00539	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):	Upward

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115D**	**Parameter Code:**	**00950**
Location Class:	**Downgradient**	**Parameter:**	**Fluoride, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000502	mg/L per period
R-Squared error of fit:	0.0000415	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000122	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.373
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115D**	**Parameter Code:**	**01000**
Location Class:	**Downgradient**	**Parameter:**	**Arsenic, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000237	mg/L per period
R-Squared error of fit:	0.0182	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000000134	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000183	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000449	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.730
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115D**	**Parameter Code:**	**01005**
Location Class:	**Downgradient**	**Parameter:**	**Barium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000237	mg/L per period
R-Squared error of fit:	0.000257	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000187	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000372	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:	**MW115D**	**Parameter Code:**	**01010**
Location Class:	**Downgradient**	**Parameter:**	**Beryllium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000356	mg/L per period
R-Squared error of fit:	0.340	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000281	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.55
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:	**MW115D**	**Parameter Code:**	**01020**
Location Class:	**Downgradient**	**Parameter:**	**Boron, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000135	mg/L per period
R-Squared error of fit:	0.0349	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000438	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000127	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.04
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115D**	**Parameter Code:**	**01025**
Location Class:	**Downgradient**	**Parameter:**	**Cadmium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000758	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000658	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW115D**	**Parameter Code:**	**01030**
Location Class:	**Downgradient**	**Parameter:**	**Chromium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000635	mg/L per period
R-Squared error of fit:	0.0299	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.66
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115D**	**Parameter Code:**	**01035**
Location Class:	**Downgradient**	**Parameter:**	**Cobalt, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000246	mg/L per period
R-Squared error of fit:	0.408	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.63
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115D**	**Parameter Code:**	**01040**
Location Class:	**Downgradient**	**Parameter:**	**Copper, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000459	mg/L per period
R-Squared error of fit:	0.0351	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.722
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115D**	**Parameter Code:**	**01046**
Location Class:	**Downgradient**	**Parameter:**	**Iron, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000343	mg/L per period
R-Squared error of fit:	0.168	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000136	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000292	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0000356	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.51
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:	**MW115D**	**Parameter Code:**	**01049**
Location Class:	**Downgradient**	**Parameter:**	**Lead, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000210	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:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.18
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:	**MW115D**	**Parameter Code:**	**01056**
Location Class:	**Downgradient**	**Parameter:**	**Manganese, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000470	mg/L per period
R-Squared error of fit:	0.000763	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000122	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000371	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000896	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.898
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115D**	**Parameter Code:**	**01057**
Location Class:	**Downgradient**	**Parameter:**	**Thallium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000874	mg/L per period
R-Squared error of fit:	0.000699	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.70
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115D**	**Parameter Code:**	**01065**
Location Class:	**Downgradient**	**Parameter:**	**Nickel, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000868	mg/L per period
R-Squared error of fit:	0.0968	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000000243	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000446	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000000107	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.59
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:	**MW115D**	**Parameter Code:**	**01075**
Location Class:	**Downgradient**	**Parameter:**	**Silver, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000283	mg/L per period
R-Squared error of fit:	0.0381	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.03
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:	**MW115D**	**Parameter Code:**	**01090**
Location Class:	**Downgradient**	**Parameter:**	**Zinc, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000270	mg/L per period
R-Squared error of fit:	0.0417	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.01
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:	**MW115D**	**Parameter Code:**	**01095**
Location Class:	**Downgradient**	**Parameter:**	**Antimony, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000606	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000526	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW115D**	**Parameter Code:**	**01145**
Location Class:	**Downgradient**	**Parameter:**	**Selenium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000179	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:	3.25
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:	**MW115D**	**Parameter Code:**	**71890**
Location Class:	**Downgradient**	**Parameter:**	**Mercury, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000189	mg/L per period
R-Squared error of fit:	0.00740	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.77
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115S**	**Parameter Code:**	**00515**
Location Class:	**Downgradient**	**Parameter:**	**Total Dissolved Solids**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0348	mg/L per period
R-Squared error of fit:	0.111	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0313	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0169	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0490	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):	Upward

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115S**	**Parameter Code:**	**00618**
Location Class:	**Downgradient**	**Parameter:**	**Nitrate nitrogen, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000961	mg/L per period
R-Squared error of fit:	0.104	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000212	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:	**MW115S**	**Parameter Code:**	**00720**
Location Class:	**Downgradient**	**Parameter:**	**Cyanide, total**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000407	mg/L per period
R-Squared error of fit:	0.204	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000288	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00000234	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000332	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	6.34
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:	**MW115S**	**Parameter Code:**	**00941**
Location Class:	**Downgradient**	**Parameter:**	**Chloride, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00999	mg/L per period
R-Squared error of fit:	0.0629	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00181	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00265	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000824	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.84
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:	**MW115S**	**Parameter Code:**	**00946**
Location Class:	**Downgradient**	**Parameter:**	**Sulfate, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00585	mg/L per period
R-Squared error of fit:	0.266	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00505	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00362	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00677	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.59
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:	**MW115S**	**Parameter Code:**	**00950**
Location Class:	**Downgradient**	**Parameter:**	**Fluoride, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000249	mg/L per period
R-Squared error of fit:	0.0695	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000125	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000239	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.54
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:	**MW115S**	**Parameter Code:**	**01000**
Location Class:	**Downgradient**	**Parameter:**	**Arsenic, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 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:	0.0642	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000000269	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000513	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:	**MW115S**	**Parameter Code:**	**01005**
Location Class:	**Downgradient**	**Parameter:**	**Barium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000612	mg/L per period
R-Squared error of fit:	0.103	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000180	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000380	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.60
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115S**	**Parameter Code:**	**01010**
Location Class:	**Downgradient**	**Parameter:**	**Beryllium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000356	mg/L per period
R-Squared error of fit:	0.340	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000281	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.55
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:	**MW115S**	**Parameter Code:**	**01020**
Location Class:	**Downgradient**	**Parameter:**	**Boron, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000126	mg/L per period
R-Squared error of fit:	0.0370	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000184	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000112	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.196
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115S**	**Parameter Code:**	**01025**
Location Class:	**Downgradient**	**Parameter:**	**Cadmium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000758	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000657	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW115S**	**Parameter Code:**	**01030**
Location Class:	**Downgradient**	**Parameter:**	**Chromium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000441	mg/L per period
R-Squared error of fit:	0.0301	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.07
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:	**MW115S**	**Parameter Code:**	**01035**
Location Class:	**Downgradient**	**Parameter:**	**Cobalt, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 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:	0.367	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.38
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115S**	**Parameter Code:**	**01040**
Location Class:	**Downgradient**	**Parameter:**	**Copper, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000374	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:	2.60
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115S**	**Parameter Code:**	**01046**
Location Class:	**Downgradient**	**Parameter:**	**Iron, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000319	mg/L per period
R-Squared error of fit:	0.187	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000201	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000358	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0000678	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.73
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:	**MW115S**	**Parameter Code:**	**01049**
Location Class:	**Downgradient**	**Parameter:**	**Lead, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000246	mg/L per period
R-Squared error of fit:	0.408	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.63
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW115S**	**Parameter Code:**	**01056**
Location Class:	**Downgradient**	**Parameter:**	**Manganese, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000306	mg/L per period
R-Squared error of fit:	0.0134	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000779	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0000224	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000125	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:	**MW115S**	**Parameter Code:**	**01057**
Location Class:	**Downgradient**	**Parameter:**	**Thallium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000758	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000657	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW115S**	**Parameter Code:**	**01065**
Location Class:	**Downgradient**	**Parameter:**	**Nickel, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000827	mg/L per period
R-Squared error of fit:	0.138	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000000200	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000474	mg/L 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:	**MW115S**	**Parameter Code:**	**01075**
Location Class:	**Downgradient**	**Parameter:**	**Silver, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000758	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000657	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW115S**	**Parameter Code:**	**01090**
Location Class:	**Downgradient**	**Parameter:**	**Zinc, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000154	mg/L per period
R-Squared error of fit:	0.0247	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.90
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:	**MW115S**	**Parameter Code:**	**01095**
Location Class:	**Downgradient**	**Parameter:**	**Antimony, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000606	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000525	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW115S**	**Parameter Code:**	**01145**
Location Class:	**Downgradient**	**Parameter:**	**Selenium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000143	mg/L per period
R-Squared error of fit:	0.0162	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.07
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:	**MW115S**	**Parameter Code:**	**71890**
Location Class:	**Downgradient**	**Parameter:**	**Mercury, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000303	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000263	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW11R**	**Parameter Code:**	**00515**
Location Class:	**Downgradient**	**Parameter:**	**Total Dissolved Solids**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0173	mg/L per period
R-Squared error of fit:	0.00193	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0121	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0892	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.116	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.229
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**00618**
Location Class:	**Downgradient**	**Parameter:**	**Nitrate nitrogen, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00108	mg/L per period
R-Squared error of fit:	0.119	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00114	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00174	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000416	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:	**MW11R**	**Parameter Code:**	**00720**
Location Class:	**Downgradient**	**Parameter:**	**Cyanide, total**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000214	mg/L per period
R-Squared error of fit:	0.0658	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000259	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000306	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.22
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:	**MW11R**	**Parameter Code:**	**00941**
Location Class:	**Downgradient**	**Parameter:**	**Chloride, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000988	mg/L per period
R-Squared error of fit:	0.0853	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00113	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00200	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000258	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.12
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:	**MW11R**	**Parameter Code:**	**00946**
Location Class:	**Downgradient**	**Parameter:**	**Sulfate, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0565	mg/L per period
R-Squared error of fit:	0.0321	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00467	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0494	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0896	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.183
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**00950**
Location Class:	**Downgradient**	**Parameter:**	**Fluoride, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000120	mg/L per period
R-Squared error of fit:	0.00000141	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000161	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):	Upward

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**01000**
Location Class:	**Downgradient**	**Parameter:**	**Arsenic, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000178	mg/L per period
R-Squared error of fit:	0.0319	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.67
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**01005**
Location Class:	**Downgradient**	**Parameter:**	**Barium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 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:	0.197	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000143	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00000981	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000182	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.41
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:	**MW11R**	**Parameter Code:**	**01010**
Location Class:	**Downgradient**	**Parameter:**	**Beryllium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000357	mg/L per period
R-Squared error of fit:	0.341	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000285	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.51
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**01020**
Location Class:	**Downgradient**	**Parameter:**	**Boron, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00105	mg/L per period
R-Squared error of fit:	0.0374	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000168	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000551	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00109	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.486
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**01025**
Location Class:	**Downgradient**	**Parameter:**	**Cadmium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000818	mg/L per period
R-Squared error of fit:	0.619	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000720	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.58
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**01030**
Location Class:	**Downgradient**	**Parameter:**	**Chromium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000203	mg/L per period
R-Squared error of fit:	0.0169	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000155	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:	**MW11R**	**Parameter Code:**	**01035**
Location Class:	**Downgradient**	**Parameter:**	**Cobalt, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000273	mg/L per period
R-Squared error of fit:	0.0267	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.75
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**01040**
Location Class:	**Downgradient**	**Parameter:**	**Copper, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000352	mg/L per period
R-Squared error of fit:	0.00117	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L 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):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**01046**
Location Class:	**Downgradient**	**Parameter:**	**Iron, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000266	mg/L per period
R-Squared error of fit:	0.247	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000355	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000116	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.00000899	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.97
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:	**MW11R**	**Parameter Code:**	**01049**
Location Class:	**Downgradient**	**Parameter:**	**Lead, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000172	mg/L per period
R-Squared error of fit:	0.145	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.66
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**01056**
Location Class:	**Downgradient**	**Parameter:**	**Manganese, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000251	mg/L per period
R-Squared error of fit:	0.183	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000352	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000739	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.00000628	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):	Downward

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**01057**
Location Class:	**Downgradient**	**Parameter:**	**Thallium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000000317	mg/L per period
R-Squared error of fit:	0.0000549	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000612	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.85
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**01065**
Location Class:	**Downgradient**	**Parameter:**	**Nickel, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000337	mg/L per period
R-Squared error of fit:	0.302	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000000824	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000158	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000000296	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):	Downward

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**01075**
Location Class:	**Downgradient**	**Parameter:**	**Silver, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000266	mg/L per period
R-Squared error of fit:	0.0292	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000661	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.71
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**01090**
Location Class:	**Downgradient**	**Parameter:**	**Zinc, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000674	mg/L per period
R-Squared error of fit:	0.145	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.849
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**01095**
Location Class:	**Downgradient**	**Parameter:**	**Antimony, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000352	mg/L per period
R-Squared error of fit:	0.0984	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.07
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:	**MW11R**	**Parameter Code:**	**01145**
Location Class:	**Downgradient**	**Parameter:**	**Selenium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	-.0000000706	mg/L per period
R-Squared error of fit:	0.00291	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.000000141	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000212	mg/L per period

Non-parametric Mann-Kendall Test for Trend	
S Statistic:	2.58
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW11R**	**Parameter Code:**	**71890**
Location Class:	**Downgradient**	**Parameter:**	**Mercury, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000176	mg/L per period
R-Squared error of fit:	0.00639	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000264	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.71
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW121**	**Parameter Code:**	**00515**
Location Class:	**Background**	**Parameter:**	**Total Dissolved Solids**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0182	mg/L per period
R-Squared error of fit:	0.0527	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0113	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00140	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0289	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:	**MW121**	**Parameter Code:**	**00618**
Location Class:	**Background**	**Parameter:**	**Nitrate nitrogen, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000162	mg/L per period
R-Squared error of fit:	0.0641	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000118	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000320	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.56
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW121**	**Parameter Code:**	**00720**
Location Class:	**Background**	**Parameter:**	**Cyanide, total**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000342	mg/L per period
R-Squared error of fit:	0.606	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000299	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00000247	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:	6.48
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:	**MW121**	**Parameter Code:**	**00941**
Location Class:	**Background**	**Parameter:**	**Chloride, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00616	mg/L per period
R-Squared error of fit:	0.0664	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000902	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00141	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000359	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.71
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:	**MW121**	**Parameter Code:**	**00946**
Location Class:	**Background**	**Parameter:**	**Sulfate, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line		
Slope (fitted to data):	0.00112	mg/L per period
R-Squared error of fit:	0.0126	
Sen's Non-parametric estimate of the slope (two-tailed test)		
Median Slope:	0.00258	mg/L per period
Lower Confidence Limit of Slope, M1:	0.000699	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00447	mg/L per period

Non-parametric Mann-Kendall Test for Trend	
S Statistic:	2.32
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:	**MW121**	**Parameter Code:**	**00950**
Location Class:	**Background**	**Parameter:**	**Fluoride, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000234	mg/L per period
R-Squared error of fit:	0.0797	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000368	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000240	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.39
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:	**MW121**	**Parameter Code:**	**01000**
Location Class:	**Background**	**Parameter:**	**Arsenic, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000156	mg/L per period
R-Squared error of fit:	0.00829	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000000410	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000784	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.63
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW121**	**Parameter Code:**	**01005**
Location Class:	**Background**	**Parameter:**	**Barium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000705	mg/L per period
R-Squared error of fit:	0.137	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000470	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000697	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.00000245	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):	Downward

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW121**	**Parameter Code:**	**01010**
Location Class:	**Background**	**Parameter:**	**Beryllium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000317	mg/L per period
R-Squared error of fit:	0.261	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000262	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.85
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW121**	**Parameter Code:**	**01020**
Location Class:	**Background**	**Parameter:**	**Boron, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000119	mg/L per period
R-Squared error of fit:	0.0390	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000272	mg/L 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:	**MW121**	**Parameter Code:**	**01025**
Location Class:	**Background**	**Parameter:**	**Cadmium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000366	mg/L per period
R-Squared error of fit:	0.0265	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.85
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW121**	**Parameter Code:**	**01030**
Location Class:	**Background**	**Parameter:**	**Chromium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000358	mg/L per period
R-Squared error of fit:	0.0301	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.19
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:	**MW121**	**Parameter Code:**	**01035**
Location Class:	**Background**	**Parameter:**	**Cobalt, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000200	mg/L per period
R-Squared error of fit:	0.189	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.09
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:	**MW121**	**Parameter Code:**	**01040**
Location Class:	**Background**	**Parameter:**	**Copper, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000295	mg/L per period
R-Squared error of fit:	0.0613	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.924
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW121**	**Parameter Code:**	**01046**
Location Class:	**Background**	**Parameter:**	**Iron, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000407	mg/L per period
R-Squared error of fit:	0.184	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000241	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000420	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000145	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.32
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:	**MW121**	**Parameter Code:**	**01049**
Location Class:	**Background**	**Parameter:**	**Lead, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000389	mg/L per period
R-Squared error of fit:	0.0258	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.56
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW121**	**Parameter Code:**	**01056**
Location Class:	**Background**	**Parameter:**	**Manganese, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 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:	0.0178	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000186	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000661	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000159	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.853
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW121**	**Parameter Code:**	**01057**
Location Class:	**Background**	**Parameter:**	**Thallium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000170	mg/L per period
R-Squared error of fit:	0.00263	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.85
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW121**	**Parameter Code:**	**01065**
Location Class:	**Background**	**Parameter:**	**Nickel, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000103	mg/L per period
R-Squared error of fit:	0.148	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000000379	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000619	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000000162	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.67
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:	**MW121**	**Parameter Code:**	**01075**
Location Class:	**Background**	**Parameter:**	**Silver, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000366	mg/L per period
R-Squared error of fit:	0.0265	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.85
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW121**	**Parameter Code:**	**01090**
Location Class:	**Background**	**Parameter:**	**Zinc, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000205	mg/L per period
R-Squared error of fit:	0.0516	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.18
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:	**MW121**	**Parameter Code:**	**01095**
Location Class:	**Background**	**Parameter:**	**Antimony, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000528	mg/L per period
R-Squared error of fit:	0.454	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.85
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW121**	**Parameter Code:**	**01145**
Location Class:	**Background**	**Parameter:**	**Selenium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000158	mg/L per period
R-Squared error of fit:	0.0169	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.03
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:	**MW121**	**Parameter Code:**	**71890**
Location Class:	**Background**	**Parameter:**	**Mercury, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000303	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000263	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW14**	**Parameter Code:**	**00515**
Location Class:	**Downgradient**	**Parameter:**	**Total Dissolved Solids**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0197	mg/L per period
R-Squared error of fit:	0.0260	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0237	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0500	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.65
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:	**MW14**	**Parameter Code:**	**00618**
Location Class:	**Downgradient**	**Parameter:**	**Nitrate nitrogen, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000847	mg/L per period
R-Squared error of fit:	0.0531	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.341
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW14**	**Parameter Code:**	**00720**
Location Class:	**Downgradient**	**Parameter:**	**Cyanide, total**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000164	mg/L per period
R-Squared error of fit:	0.0153	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000265	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000309	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.39
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:	**MW14**	**Parameter Code:**	**00941**
Location Class:	**Downgradient**	**Parameter:**	**Chloride, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00193	mg/L per period
R-Squared error of fit:	0.234	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00212	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00117	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00335	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):	Upward

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW14**	**Parameter Code:**	**00946**
Location Class:	**Downgradient**	**Parameter:**	**Sulfate, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0197	mg/L per period
R-Squared error of fit:	0.154	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0183	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0285	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0106	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.13
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:	**MW14**	**Parameter Code:**	**00950**
Location Class:	**Downgradient**	**Parameter:**	**Fluoride, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000487	mg/L per period
R-Squared error of fit:	0.00338	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L 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:	**MW14**	**Parameter Code:**	**01000**
Location Class:	**Downgradient**	**Parameter:**	**Arsenic, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000640	mg/L per period
R-Squared error of fit:	0.00254	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000000246	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000353	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.96
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW14**	**Parameter Code:**	**01005**
Location Class:	**Downgradient**	**Parameter:**	**Barium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000703	mg/L per period
R-Squared error of fit:	0.257	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000779	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000102	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.00000554	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.91
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:	**MW14**	**Parameter Code:**	**01010**
Location Class:	**Downgradient**	**Parameter:**	**Beryllium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000356	mg/L per period
R-Squared error of fit:	0.340	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000281	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.55
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:	**MW14**	**Parameter Code:**	**01020**
Location Class:	**Downgradient**	**Parameter:**	**Boron, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000460	mg/L per period
R-Squared error of fit:	0.0306	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000527	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000122	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000867	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:	**MW14**	**Parameter Code:**	**01025**
Location Class:	**Downgradient**	**Parameter:**	**Cadmium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000758	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000658	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW14**	**Parameter Code:**	**01030**
Location Class:	**Downgradient**	**Parameter:**	**Chromium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000261	mg/L per period
R-Squared error of fit:	0.0292	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.57
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW14**	**Parameter Code:**	**01035**
Location Class:	**Downgradient**	**Parameter:**	**Cobalt, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000125	mg/L per period
R-Squared error of fit:	0.0659	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.25
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:	**MW14**	**Parameter Code:**	**01040**
Location Class:	**Downgradient**	**Parameter:**	**Copper, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000414	mg/L per period
R-Squared error of fit:	0.0000989	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.02
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW14**	**Parameter Code:**	**01046**
Location Class:	**Downgradient**	**Parameter:**	**Iron, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000208	mg/L per period
R-Squared error of fit:	0.169	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000156	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000263	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0000460	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.86
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:	**MW14**	**Parameter Code:**	**01049**
Location Class:	**Downgradient**	**Parameter:**	**Lead, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000303	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000263	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW14**	**Parameter Code:**	**01056**
Location Class:	**Downgradient**	**Parameter:**	**Manganese, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000311	mg/L per period
R-Squared error of fit:	0.0221	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0000242	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000978	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000701	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.02
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW14**	**Parameter Code:**	**01057**
Location Class:	**Downgradient**	**Parameter:**	**Thallium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000874	mg/L per period
R-Squared error of fit:	0.000699	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.70
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW14**	**Parameter Code:**	**01065**
Location Class:	**Downgradient**	**Parameter:**	**Nickel, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000129	mg/L per period
R-Squared error of fit:	0.244	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000000454	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000858	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000000195	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):	Downward

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW14**	**Parameter Code:**	**01075**
Location Class:	**Downgradient**	**Parameter:**	**Silver, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000170	mg/L per period
R-Squared error of fit:	0.0237	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.77
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW14**	**Parameter Code:**	**01090**
Location Class:	**Downgradient**	**Parameter:**	**Zinc, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000359	mg/L per period
R-Squared error of fit:	0.0000516	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L 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:	**MW14**	**Parameter Code:**	**01095**
Location Class:	**Downgradient**	**Parameter:**	**Antimony, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000606	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000526	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW14**	**Parameter Code:**	**01145**
Location Class:	**Downgradient**	**Parameter:**	**Selenium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000770	mg/L per period
R-Squared error of fit:	0.0303	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.09
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:	**MW14**	**Parameter Code:**	**71890**
Location Class:	**Downgradient**	**Parameter:**	**Mercury, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000246	mg/L per period
R-Squared error of fit:	0.0125	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L 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:**	**00515**
Location Class:		**Parameter:**	**Total Dissolved Solids**
Location Type:		**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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: 01/01/2013 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: 01/01/2013 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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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:	-.00124	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00145	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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: 01/01/2013 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: 01/01/2013 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:	-.0000000616	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: 01/01/2013 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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000000000	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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000454	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:	**MW23D**	**Parameter Code:**	**01030**
Location Class:		**Parameter:**	**Chromium, dissolved**
Location Type:		**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000000000	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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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:	-.000148	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000296	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000336	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:	**MW23D**	**Parameter Code:**	**01056**
Location Class:		**Parameter:**	**Manganese, dissolved**
Location Type:		**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000000000	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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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:	-.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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000000000	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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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:	-.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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000000000	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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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:	-.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: 01/01/2013 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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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:	-.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: 01/01/2013 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: 01/01/2013 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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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: 01/01/2013 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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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:	-.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: 01/01/2013 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: 01/01/2013 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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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:	-.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: 01/01/2013 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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000302	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: 01/01/2013 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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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:	-.0000000315	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000195	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000344	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000000000	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: 01/01/2013 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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000000000	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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.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:	-.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: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000336	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:	**MW6**	**Parameter Code:**	**00515**
Location Class:	**Downgradient**	**Parameter:**	**Total Dissolved Solids**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0854	mg/L per period
R-Squared error of fit:	0.190	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0888	mg/L per period
Lower Confidence Limit of Slope, M1:	-.147	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0128	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-2.13
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:	**MW6**	**Parameter Code:**	**00618**
Location Class:	**Downgradient**	**Parameter:**	**Nitrate nitrogen, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00171	mg/L per period
R-Squared error of fit:	0.492	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00162	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00227	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000835	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-4.26
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:	**MW6**	**Parameter Code:**	**00720**
Location Class:	**Downgradient**	**Parameter:**	**Cyanide, total**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000288	mg/L per period
R-Squared error of fit:	0.664	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000280	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00000131	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000335	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.24
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:	**MW6**	**Parameter Code:**	**00941**
Location Class:	**Downgradient**	**Parameter:**	**Chloride, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00179	mg/L per period
R-Squared error of fit:	0.302	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00198	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00281	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:	-3.49
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:	**MW6**	**Parameter Code:**	**00946**
Location Class:	**Downgradient**	**Parameter:**	**Sulfate, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0570	mg/L per period
R-Squared error of fit:	0.329	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0594	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0900	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0256	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.13
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:	**MW6**	**Parameter Code:**	**00950**
Location Class:	**Downgradient**	**Parameter:**	**Fluoride, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000207	mg/L per period
R-Squared error of fit:	0.000781	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000434	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.325
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW6**	**Parameter Code:**	**01000**
Location Class:	**Downgradient**	**Parameter:**	**Arsenic, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000449	mg/L per period
R-Squared error of fit:	0.0203	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000838	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.45
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW6**	**Parameter Code:**	**01005**
Location Class:	**Downgradient**	**Parameter:**	**Barium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000211	mg/L per period
R-Squared error of fit:	0.0435	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000207	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:	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:	**MW6**	**Parameter Code:**	**01010**
Location Class:	**Downgradient**	**Parameter:**	**Beryllium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000326	mg/L per period
R-Squared error of fit:	0.711	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000299	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.95
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:	**MW6**	**Parameter Code:**	**01020**
Location Class:	**Downgradient**	**Parameter:**	**Boron, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00151	mg/L per period
R-Squared error of fit:	0.364	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00104	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00157	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000592	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.93
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:	**MW6**	**Parameter Code:**	**01025**
Location Class:	**Downgradient**	**Parameter:**	**Cadmium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000815	mg/L per period
R-Squared error of fit:	0.711	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000747	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.95
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:	**MW6**	**Parameter Code:**	**01030**
Location Class:	**Downgradient**	**Parameter:**	**Chromium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000196	mg/L per period
R-Squared error of fit:	0.0113	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000121	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.45
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW6**	**Parameter Code:**	**01035**
Location Class:	**Downgradient**	**Parameter:**	**Cobalt, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000326	mg/L per period
R-Squared error of fit:	0.711	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000299	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.95
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:	**MW6**	**Parameter Code:**	**01040**
Location Class:	**Downgradient**	**Parameter:**	**Copper, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000405	mg/L per period
R-Squared error of fit:	0.00608	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.49
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW6**	**Parameter Code:**	**01046**
Location Class:	**Downgradient**	**Parameter:**	**Iron, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000160	mg/L per period
R-Squared error of fit:	0.400	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000117	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000189	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0000240	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.05
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:	**MW6**	**Parameter Code:**	**01049**
Location Class:	**Downgradient**	**Parameter:**	**Lead, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000271	mg/L per period
R-Squared error of fit:	0.427	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000273	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.12
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:	**MW6**	**Parameter Code:**	**01056**
Location Class:	**Downgradient**	**Parameter:**	**Manganese, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000101	mg/L per period
R-Squared error of fit:	0.0000680	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000420	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000204	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000392	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:	**MW6**	**Parameter Code:**	**01057**
Location Class:	**Downgradient**	**Parameter:**	**Thallium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000815	mg/L per period
R-Squared error of fit:	0.711	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000747	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.95
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:	**MW6**	**Parameter Code:**	**01065**
Location Class:	**Downgradient**	**Parameter:**	**Nickel, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000208	mg/L per period
R-Squared error of fit:	0.237	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000000380	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000126	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0000000298	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:	**MW6**	**Parameter Code:**	**01075**
Location Class:	**Downgradient**	**Parameter:**	**Silver, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000815	mg/L per period
R-Squared error of fit:	0.711	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000747	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.95
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:	**MW6**	**Parameter Code:**	**01090**
Location Class:	**Downgradient**	**Parameter:**	**Zinc, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000321	mg/L per period
R-Squared error of fit:	0.00605	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000787	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.82
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW6**	**Parameter Code:**	**01095**
Location Class:	**Downgradient**	**Parameter:**	**Antimony, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000570	mg/L per period
R-Squared error of fit:	0.529	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000546	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.12
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:	**MW6**	**Parameter Code:**	**01145**
Location Class:	**Downgradient**	**Parameter:**	**Selenium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000152	mg/L per period
R-Squared error of fit:	0.00506	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000000289	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000134	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000646	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.10
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW6**	**Parameter Code:**	**71890**
Location Class:	**Downgradient**	**Parameter:**	**Mercury, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000000956	mg/L per period
R-Squared error of fit:	0.00682	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000273	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):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7**	**Parameter Code:**	**00515**
Location Class:	**Downgradient**	**Parameter:**	**Total Dissolved Solids**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0568	mg/L per period
R-Squared error of fit:	0.125	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0633	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0965	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0317	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.06
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:	**MW7**	**Parameter Code:**	**00618**
Location Class:	**Downgradient**	**Parameter:**	**Nitrate nitrogen, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000861	mg/L per period
R-Squared error of fit:	0.0577	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000775	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000174	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.63
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7**	**Parameter Code:**	**00720**
Location Class:	**Downgradient**	**Parameter:**	**Cyanide, total**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 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:	0.0984	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000270	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000315	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.60
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:	**MW7**	**Parameter Code:**	**00941**
Location Class:	**Downgradient**	**Parameter:**	**Chloride, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000598	mg/L per period
R-Squared error of fit:	0.0404	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000501	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000304	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00127	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.996
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7**	**Parameter Code:**	**00946**
Location Class:	**Downgradient**	**Parameter:**	**Sulfate, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0333	mg/L per period
R-Squared error of fit:	0.225	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0329	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0487	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0195	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.39
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:	**MW7**	**Parameter Code:**	**00950**
Location Class:	**Downgradient**	**Parameter:**	**Fluoride, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000242	mg/L per period
R-Squared error of fit:	0.0155	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	1.44
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7**	**Parameter Code:**	**01000**
Location Class:	**Downgradient**	**Parameter:**	**Arsenic, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000194	mg/L per period
R-Squared error of fit:	0.0463	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.73
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7**	**Parameter Code:**	**01005**
Location Class:	**Downgradient**	**Parameter:**	**Barium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000197	mg/L per period
R-Squared error of fit:	0.0661	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000231	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000404	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000000620	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:	**MW7**	**Parameter Code:**	**01010**
Location Class:	**Downgradient**	**Parameter:**	**Beryllium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000303	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000263	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW7**	**Parameter Code:**	**01020**
Location Class:	**Downgradient**	**Parameter:**	**Boron, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000278	mg/L per period
R-Squared error of fit:	0.178	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000180	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000230	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000117	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-4.54
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:	**MW7**	**Parameter Code:**	**01025**
Location Class:	**Downgradient**	**Parameter:**	**Cadmium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000758	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000658	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW7**	**Parameter Code:**	**01030**
Location Class:	**Downgradient**	**Parameter:**	**Chromium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000675	mg/L per period
R-Squared error of fit:	0.0734	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L 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:	**MW7**	**Parameter Code:**	**01035**
Location Class:	**Downgradient**	**Parameter:**	**Cobalt, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000303	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000263	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW7**	**Parameter Code:**	**01040**
Location Class:	**Downgradient**	**Parameter:**	**Copper, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000000711	mg/L per period
R-Squared error of fit:	0.0117	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.82
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7**	**Parameter Code:**	**01046**
Location Class:	**Downgradient**	**Parameter:**	**Iron, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000171	mg/L per period
R-Squared error of fit:	0.419	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000366	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000154	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.00000707	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-3.59
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:	**MW7**	**Parameter Code:**	**01049**
Location Class:	**Downgradient**	**Parameter:**	**Lead, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000259	mg/L per period
R-Squared error of fit:	0.437	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.81
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7**	**Parameter Code:**	**01056**
Location Class:	**Downgradient**	**Parameter:**	**Manganese, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000125	mg/L per period
R-Squared error of fit:	0.147	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000188	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000611	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.39
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7**	**Parameter Code:**	**01057**
Location Class:	**Downgradient**	**Parameter:**	**Thallium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000000874	mg/L per period
R-Squared error of fit:	0.000699	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.70
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7**	**Parameter Code:**	**01065**
Location Class:	**Downgradient**	**Parameter:**	**Nickel, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000361	mg/L per period
R-Squared error of fit:	0.0984	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000000943	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000337	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000342	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.05
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7**	**Parameter Code:**	**01075**
Location Class:	**Downgradient**	**Parameter:**	**Silver, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000758	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000658	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW7**	**Parameter Code:**	**01090**
Location Class:	**Downgradient**	**Parameter:**	**Zinc, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000279	mg/L per period
R-Squared error of fit:	0.00484	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.98
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7**	**Parameter Code:**	**01095**
Location Class:	**Downgradient**	**Parameter:**	**Antimony, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000473	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:	4.81
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7**	**Parameter Code:**	**01145**
Location Class:	**Downgradient**	**Parameter:**	**Selenium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000304	mg/L per period
R-Squared error of fit:	0.0762	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.000000231	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000413	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):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7**	**Parameter Code:**	**71890**
Location Class:	**Downgradient**	**Parameter:**	**Mercury, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000303	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000263	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW7D**	**Parameter Code:**	**00515**
Location Class:	**Background**	**Parameter:**	**Total Dissolved Solids**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0466	mg/L per period
R-Squared error of fit:	0.104	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0485	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0757	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0165	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:	**MW7D**	**Parameter Code:**	**00618**
Location Class:	**Background**	**Parameter:**	**Nitrate nitrogen, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0000571	mg/L per period
R-Squared error of fit:	0.0281	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000221	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:	**MW7D**	**Parameter Code:**	**00720**
Location Class:	**Background**	**Parameter:**	**Cyanide, total**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000116	mg/L per period
R-Squared error of fit:	0.00497	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000247	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000305	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.41
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:	**MW7D**	**Parameter Code:**	**00941**
Location Class:	**Background**	**Parameter:**	**Chloride, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00126	mg/L per period
R-Squared error of fit:	0.0941	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00103	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00189	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000306	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):	Downward

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7D**	**Parameter Code:**	**00946**
Location Class:	**Background**	**Parameter:**	**Sulfate, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0135	mg/L per period
R-Squared error of fit:	0.0779	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0102	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0204	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.00351	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):	Downward

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7D**	**Parameter Code:**	**00950**
Location Class:	**Background**	**Parameter:**	**Fluoride, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000771	mg/L per period
R-Squared error of fit:	0.00907	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0000124	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.30
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7D**	**Parameter Code:**	**01000**
Location Class:	**Background**	**Parameter:**	**Arsenic, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000285	mg/L per period
R-Squared error of fit:	0.0270	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000000481	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000428	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000216	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.383
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7D**	**Parameter Code:**	**01005**
Location Class:	**Background**	**Parameter:**	**Barium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000305	mg/L per period
R-Squared error of fit:	0.000768	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000270	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000291	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.0356
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7D**	**Parameter Code:**	**01010**
Location Class:	**Background**	**Parameter:**	**Beryllium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000303	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000263	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW7D**	**Parameter Code:**	**01020**
Location Class:	**Background**	**Parameter:**	**Boron, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000119	mg/L per period
R-Squared error of fit:	0.275	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000109	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000150	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0000679	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-4.99
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:	**MW7D**	**Parameter Code:**	**01025**
Location Class:	**Background**	**Parameter:**	**Cadmium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000734	mg/L per period
R-Squared error of fit:	0.651	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000231	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.34
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:	**MW7D**	**Parameter Code:**	**01030**
Location Class:	**Background**	**Parameter:**	**Chromium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000137	mg/L per period
R-Squared error of fit:	0.0560	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.09
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:	**MW7D**	**Parameter Code:**	**01035**
Location Class:	**Background**	**Parameter:**	**Cobalt, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000225	mg/L per period
R-Squared error of fit:	0.261	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.61
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:	**MW7D**	**Parameter Code:**	**01040**
Location Class:	**Background**	**Parameter:**	**Copper, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000273	mg/L per period
R-Squared error of fit:	0.0498	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.03
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:	**MW7D**	**Parameter Code:**	**01046**
Location Class:	**Background**	**Parameter:**	**Iron, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000434	mg/L per period
R-Squared error of fit:	0.293	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000321	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000453	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000226	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-4.78
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:	**MW7D**	**Parameter Code:**	**01049**
Location Class:	**Background**	**Parameter:**	**Lead, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000155	mg/L per period
R-Squared error of fit:	0.0502	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.52
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:	**MW7D**	**Parameter Code:**	**01056**
Location Class:	**Background**	**Parameter:**	**Manganese, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000101	mg/L per period
R-Squared error of fit:	0.0685	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000684	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000150	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.0000103	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:	**MW7D**	**Parameter Code:**	**01057**
Location Class:	**Background**	**Parameter:**	**Thallium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000758	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000658	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW7D**	**Parameter Code:**	**01065**
Location Class:	**Background**	**Parameter:**	**Nickel, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000718	mg/L per period
R-Squared error of fit:	0.0728	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000000512	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000000789	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000000275	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):	Downward

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7D**	**Parameter Code:**	**01075**
Location Class:	**Background**	**Parameter:**	**Silver, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000758	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000658	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW7D**	**Parameter Code:**	**01090**
Location Class:	**Background**	**Parameter:**	**Zinc, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000886	mg/L per period
R-Squared error of fit:	0.0178	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.57
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7D**	**Parameter Code:**	**01095**
Location Class:	**Background**	**Parameter:**	**Antimony, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000606	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000526	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW7D**	**Parameter Code:**	**01145**
Location Class:	**Background**	**Parameter:**	**Selenium, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000130	mg/L per period
R-Squared error of fit:	0.113	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000137	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.58
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW7D**	**Parameter Code:**	**71890**
Location Class:	**Background**	**Parameter:**	**Mercury, dissolved**
Location Type:	**Alluvial Aq.**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000303	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000263	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW8**	**Parameter Code:**	**00515**
Location Class:	**Downgradient**	**Parameter:**	**Total Dissolved Solids**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.0285	mg/L per period
R-Squared error of fit:	0.0507	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0272	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0577	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-1.45
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW8**	**Parameter Code:**	**00618**
Location Class:	**Downgradient**	**Parameter:**	**Nitrate nitrogen, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000104	mg/L per period
R-Squared error of fit:	0.0229	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000247	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.87
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:	**MW8**	**Parameter Code:**	**00720**
Location Class:	**Downgradient**	**Parameter:**	**Cyanide, total**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.00000723	mg/L per period
R-Squared error of fit:	0.147	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.00000299	mg/L per period
Lower Confidence Limit of Slope, M1:	0.00000234	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000348	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	6.28
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:	**MW8**	**Parameter Code:**	**00941**
Location Class:	**Downgradient**	**Parameter:**	**Chloride, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000351	mg/L per period
R-Squared error of fit:	0.00000998	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000519	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000345	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000242	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.356
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW8**	**Parameter Code:**	**00946**
Location Class:	**Downgradient**	**Parameter:**	**Sulfate, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00150	mg/L per period
R-Squared error of fit:	0.000186	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0153	mg/L per period
Lower Confidence Limit of Slope, M1:	-.0358	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00791	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:	**MW8**	**Parameter Code:**	**00950**
Location Class:	**Downgradient**	**Parameter:**	**Fluoride, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000217	mg/L per period
R-Squared error of fit:	0.265	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.00000189	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:	**MW8**	**Parameter Code:**	**01000**
Location Class:	**Downgradient**	**Parameter:**	**Arsenic, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000694	mg/L per period
R-Squared error of fit:	0.00889	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000708	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.21
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:	**MW8**	**Parameter Code:**	**01005**
Location Class:	**Downgradient**	**Parameter:**	**Barium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000242	mg/L per period
R-Squared error of fit:	0.439	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.00000203	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000273	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.00000136	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-4.65
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:	**MW8**	**Parameter Code:**	**01010**
Location Class:	**Downgradient**	**Parameter:**	**Beryllium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000303	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000263	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW8**	**Parameter Code:**	**01020**
Location Class:	**Downgradient**	**Parameter:**	**Boron, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000124	mg/L per period
R-Squared error of fit:	0.00297	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.0000328	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000393	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000312	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:	**MW8**	**Parameter Code:**	**01025**
Location Class:	**Downgradient**	**Parameter:**	**Cadmium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000758	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000657	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW8**	**Parameter Code:**	**01030**
Location Class:	**Downgradient**	**Parameter:**	**Chromium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000177	mg/L per period
R-Squared error of fit:	0.0134	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000166	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.37
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:	**MW8**	**Parameter Code:**	**01035**
Location Class:	**Downgradient**	**Parameter:**	**Cobalt, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000386	mg/L per period
R-Squared error of fit:	0.248	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000299	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.40
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:	**MW8**	**Parameter Code:**	**01040**
Location Class:	**Downgradient**	**Parameter:**	**Copper, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000403	mg/L per period
R-Squared error of fit:	0.0135	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.28
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:	**MW8**	**Parameter Code:**	**01046**
Location Class:	**Downgradient**	**Parameter:**	**Iron, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000488	mg/L per period
R-Squared error of fit:	0.529	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000296	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000446	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000167	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-6.21
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:	**MW8**	**Parameter Code:**	**01049**
Location Class:	**Downgradient**	**Parameter:**	**Lead, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000207	mg/L per period
R-Squared error of fit:	0.186	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.76
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW8**	**Parameter Code:**	**01056**
Location Class:	**Downgradient**	**Parameter:**	**Manganese, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000665	mg/L per period
R-Squared error of fit:	0.406	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000666	mg/L per period
Lower Confidence Limit of Slope, M1:	-.000876	mg/L per period
Upper Confidence Limit of Slope, M2+1:	-.000400	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):	Downward

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW8**	**Parameter Code:**	**01057**
Location Class:	**Downgradient**	**Parameter:**	**Thallium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000548	mg/L per period
R-Squared error of fit:	0.178	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	4.83
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW8**	**Parameter Code:**	**01065**
Location Class:	**Downgradient**	**Parameter:**	**Nickel, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000152	mg/L per period
R-Squared error of fit:	0.104	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	-.000000229	mg/L per period
Lower Confidence Limit of Slope, M1:	-.00000173	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000507	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	-.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:	**MW8**	**Parameter Code:**	**01075**
Location Class:	**Downgradient**	**Parameter:**	**Silver, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.0000000758	mg/L per period
R-Squared error of fit:	0.669	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0000000657	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.59
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:	**MW8**	**Parameter Code:**	**01090**
Location Class:	**Downgradient**	**Parameter:**	**Zinc, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.00000150	mg/L per period
R-Squared error of fit:	0.0394	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	0.687
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW8**	**Parameter Code:**	**01095**
Location Class:	**Downgradient**	**Parameter:**	**Antimony, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	0.000000580	mg/L per period
R-Squared error of fit:	0.618	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000507	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	5.19
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:	**MW8**	**Parameter Code:**	**01145**
Location Class:	**Downgradient**	**Parameter:**	**Selenium, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000439	mg/L per period
R-Squared error of fit:	0.0434	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.000000138	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	2.89
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None

Hutsonville Ash Impoundment
Mann-Kendall Trend Analysis

User Supplied Information

Location ID:	**MW8**	**Parameter Code:**	**71890**
Location Class:	**Downgradient**	**Parameter:**	**Mercury, dissolved**
Location Type:	**Upper Zone**	**Units:**	**mg/L**
Confidence Level:	**95.00%**		

Date Range: 01/01/2013 to 12/31/2024

Trend Analysis

Trend of the least squares straight line

Slope (fitted to data):	-.000000478	mg/L per period
R-Squared error of fit:	0.0376	

Sen's Non-parametric estimate of the slope (two-tailed test)

Median Slope:	0.0	mg/L per period
Lower Confidence Limit of Slope, M1:	0.0	mg/L per period
Upper Confidence Limit of Slope, M2+1:	0.0	mg/L per period

Non-parametric Mann-Kendall Test for Trend

S Statistic:	3.46
Z test:	1.64
At the 95.0 % Confidence Level (two-tailed test):	None