2024 ANNUAL GROUNDWATER QUALITY REPORT

FOR THE
FREMONT COUNTY SANITARY LANDFILL
36-SDP-01-74P
SIDNEY, IOWA

by:
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January, 2025

HLW
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Engineering *Management*

6046-23A.320

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Certification

Prepared by: ___________________________________ Date: 1-21-2025

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Section 1.0 Background Information

1.1 Report Format

Table 1 through Table 13 are attached to this report and satisfy the IDNR requirement to provide the tables to meet the IDNR format requirements included in Special Provision 4.i. of the Revised Permit, dated October 31, 2024 (Doc #111237).

1.2 Report Priority

No requests are made herein for priority review of this document.

1.3 Period of Report Coverage

Water quality data evaluation is based on a running compilation of data beginning on September 18, 2014. Statistical evaluations herein are based on the most recent water quality data collected September 25, 2024.

1.4 Current Site Map

Figure 1 is attached illustrating the current site features, monitoring well locations, and subsurface gas probe locations.

1.5 Site Status and Applicable Rules

Site Location

The Fremont County Sanitary Landfill is located in the SE¼ of Section 22, T68N, R24W, Fremont County, Iowa. The site encompasses approximately 90 acres. The facility is situated at 2879 250th Street, Sidney, Iowa 51652. The facility operates under the Iowa Department of Natural Resources (IDNR) Permit Number 36-SDP-01-74P.

The landfill was originally developed by excavating trenches (expanding ravines) in the Pleistocene loess that mantles the site. The loess, which generally is 60 or more feet thick (Terracon Environmental, 1991), is windblown silt that was derived from the Missouri River valley in late Pleistocene time. Most of the loess is Wisconsinan in age (Peorian loess), but somewhat older Illinoian age loess (Loveland loess) was penetrated by drilling at the site. The Loveland loess in turn is underlain by glacial till and intratill glacial sands.

The uppermost bedrock unit consists of cyclic shale and limestone sequences which, as a whole, is typically over 1,000 feet thick.

Landfill Layout

The site is situated in the uplands south of a small stream that arcs around the east, west, and north sides of the landfill.

As illustrated in Figure 1, the site is described as the original landfill with abutment landfill cells north of the original.

During 2007, a Subtitle D composite-lined cell was constructed. The landfill began depositing waste in the new Subtitle D cell late in September 2007 and formally ceased using the unlined areas for waste on October 1, 2007. Permit amendment #3 approved the placement of flood debris on a portion of the non-lined site in 2012. The unlined area was again reopened for flood debris during the spring of 2019 (#94763). During the summer of 2013, Phase 4S was constructed and approved for waste in October 2013. At the direction of IDNR staff, a separate groundwater discharge sampling location, GWD-2, was installed. Phase 5 was constructed in 2019 and approved for waste August 30, 2019. With the construction of Phase 5, MW-22 was abandoned and a new well, MW-23, constructed May 13, 2019.

Figure 1 shows the general area of landfilling, and locations of monitoring wells. Figure 2 shows the groundwater contours using fall 2024 static water and leachate piezometer measurements. Landfilling, conducted under Iowa Department of Natural Resources (IDNR) Permit No. 36-SDP-1-74P, began in 1975.

Applicable Rules
Iowa Administrative Code (IAC) 567-113 is applicable to the site.

1.6 Summary of Hydrologic Monitoring System Plan (HMSP)

The HMSP includes background monitoring points MW-2, MW-14, MW-18, and MW-19. There are eight(8) downgradient monitoring points designated MW-3, MW-9, MW-12, MW-15, MW-21, MW-23, GWD-1, and GWD-2.

The current HMSP is summarized in Table 1. The HMSP Implementation Schedule for 2025 is itemized in Table 2.

MONITORING WELL MAINTENANCE PERFORMANCE REEVALUATION

Table 3 outlines the status of well performance and maintenance activities performed as required by IAC 567-113.10(2) f.

High & Low Water Levels
Current year water elevation data is included on Table 4. Historic water elevation data (2010-present) is included in Table 4A. A Water Table Contour Map (Figure 2) dated September, 2024 is included with this report and illustrates the water table surface and the effects of the topography.

Review of the 2024 water elevation data does not indicate any remarkable water elevation conditions.

Well Depth & Sedimentation
Well depth measurements were made September 25, 2024. Review of the well depth data included on Table 4 indicate that well sedimentation is estimated to be one (1) foot, or less, at all site monitoring wells.

Well Recharge Rates & Chemistry
The most recent measured horizontal hydraulic conductivity testing results (2004) for site monitoring wells are included on Table 4. Horizontal hydraulic conductivities ranged between 10^{-3} cm/sec and 10^{-6} cm/sec.

Field recovery data recorded on March 20, 2024 (also on Table 4) indicates that the monitoring wells recover to at least 90% recovery within 0 to 24 hours after purging. Well recovery information indicates that recharge to the individual wells remained sufficient to promote collection of representative water quality samples and the wells were functioning as intended. Monitoring well recharge reevaluation is due biennially according to 113.10(2)"f", and should be evaluated again in 2026.

Based on the apparent static condition of the water surfaces across the site, it appears that the semi-annual water elevation data is sufficient to adequately monitor the hydrologic condition of the site. Further, the wells are interpreted to be appropriately located to detect any impact, should it occur.

Section 2.0 Reporting Period Monitoring Activities

A summary of the planned 2025 sample collection events at each well is included in Table 2. A comprehensive summary of sampling episodes from 2016 to present is included in Table 2A.

Field sampling information for March 20, 2024; June 14, 2024; and September 25, 2024 sampling episodes is included on the field forms (IDNR Form 542-1322) in Appendix A.

A comprehensive summary of Analytical Data for the episodes between September 18, 2014 and September 25, 2024 is included on Table 9.

2.1 Current Detection Monitoring Activities

Background wells are currently MW-2, MW-14, MW-18, and MW-19.

Downgradient monitoring points include MW-3, MW-9, MW-12, MW-15, MW-21, MW-23, GWD-1, and GWD-2.

MW-9, MW-21, MW-23, and GWD-1 remain in the detection monitoring system.

2.2 Current Assessment Monitoring Activities

MW-3, MW-12, and MW-15 are in the assessment monitoring system. A five (5) year frequency for full Appendix II sampling was approved in Special Provision X.4.f of the Revised Permit, dated October 31, 2024 (Doc #111237).

A minimum of two (2) rounds of full Appendix II sampling are completed at MW-3, MW-12, and MW-15.

The groundwater underdrains (GWD-1 and GWD-2) are evaluated by intrawell statistical methods and remain in the detection monitoring system, as no control limits are exceeded at GWD-1 or GWD-2.

2.3 Current Corrective Action Activities
There are no wells in the corrective action monitoring system.

Assessment of Corrective Measures (ACM) is not required.

Section 3.0 Data Evaluation and Summary

Statistical Evaluations are prepared by Otter Creek Environmental Services for each monitoring episode. The Groundwater Statistics Report for the Fremont County Sanitary Landfill, First Semi-Annual Monitoring Event in 2024, dated April, 2024 is included in Appendix B.1. The Groundwater Statistics Report for the Fremont County Sanitary Landfill, Second Semi-Annual Monitoring Event in 2024, dated October, 2024 is included in Appendix B.2.

The Keystone Analytical Reports for the laboratory testing on samples collected March 20, 2024; June 14, 2024; and September 25, 2024 are included in Appendix C.

QUALITY ASSURANCE/QUALITY CONTROL

A blind duplicate sample was collected at MW-14 during the March 20, 2024sampling episode. A blind duplicate sample was collected at MW-15 during the September 25, 2024 sampling episode.

The purpose of the field duplicate is to evaluate the precision of sample collection and analysis process from the field through the laboratory. The calculation of the Relative Percent Difference (RPD) for duplicate pair results is used as a means to evaluate the precision.

The Quality Control (QC) limit for the RPD on field duplicates is established at thirty percent (30%) for duplicate pairs that have reported concentrations five (5) times greater than the laboratory Reporting Limit. For samples and respective duplicates with reported analyte concentrations nearer the Reporting Limit, the RPD calculations demonstrate greater variability and the RPD can be very large. RPD values are considered non-representative in the following conditions:

a) Both the original and the duplicate results are less than five (5) times the Reporting Limit.
b) One or both results are qualified, flagged, or estimated.
c) One or both results are non-detected.

The results of the blind duplicate and the monitoring well results for March 20, 2024 and September 25, 2024 were within the limits established and indicate that the data quality is acceptable without restriction.

BACKGROUND DATA VALIDATION

On July 10, 2014 an unnumbered Permit Amendment and Memo was issued by the IDNR regarding turbidity (Doc # 80712). A TSS and Field Turbidity Evaluation Report was prepared and submitted on December 12, 2017 (Doc# 91109) and was approved by IDNR on December 27, 2017 (Doc #91170). A summary table of field measured turbidity is included in Appendix D.

The background data utilized herein has been restricted to include only sample results that have been collected by "No Purge" methods in order to avoid turbidity related issues that may have been associated with historic sample collection methods. No-purge sampling has been performed at the facility beginning with the September 17, 2014 sampling episode.

Monitoring Wells
Monitoring wells included in the HMSP are evaluated by interwell statistical methods. The prediction limits are based on the background water quality collected at background wells MW-2, MW-14, MW-18, and MW-19.

Upgradient Data, Table 1, Attachment B, to the October, 2024 Statistical Evaluation Report (Appendix B.2) includes a summary of the most current background data. Any water quality results tagged with an asterisk is a statistical outlier and is excluded from use in calculating the Prediction Limits. The calculated Prediction Limits are summarized on Table 5.

Groundwater Underdrains
Groundwater underdrains included in the HMSP are designated as GWD-1 and GWD-2 and are evaluated by intrawell statistical methods. The control limits are based on the initial 13 data points established as the background water quality. The water quality for each sample collection episode at GWD-1 and GWD-2 is compared to the background control limits.

Suumary Statistics for Combined Shewhart-CUSUM Control Charts, Table 1, Attachment C, to the October, 2024 Statistical Evaluation Report (Appendix B.2) includes a summary of the current background data. The calculated Control Limits are summarized on Table 5A.

SITE SPECIFIC GWPS

Review of the information included on Table 5 indicates that the prediction limit for cobalt (14.4 ug/L) calculated from the background data exceeds the published IAC 567, Chapter 137 Statewide Standard (2.1 ug/L). The Site-Specific GWPS should not be set lower than the Site Prediction Limit calculated from the site background data. For this report, the prediction limits for cobalt (14.4 ug/L) is utilized as the Site-Specific GWPS for the interwell evaluations of monitoring wells.

Review of the information included on Table 5A indicates that the Control limit for arsenic (12.40 ug/L) at GWD-1 calculated from the background data exceeds the published IAC 567, Chapter 137 Statewide Standard (10.0 ug/L). The Well-Specific GWPS should not be set lower than the Control Limit calculated from the background data. For this report, the control limit for arsenic (12.40 ug/L) at GWD-1 is utilized as the Well-Specific GWPS for the intrawell evaluations of GWD-1.

Review of the information included on Table 5A indicates that the Control limit for cobalt (25.17 ug/L) at GWD-1 calculated from the background data exceeds the published IAC 567, Chapter 137 Statewide Standard (2.1 ug/L). Review of the information included on Table 5A indicates that the Control limit for cobalt (35.7 ug/L) at GWD-2 calculated from the background data exceeds the published IAC 567, Chapter 137 Statewide Standard (2.1 ug/L). The Well-Specific GWPS should not be set lower than the Control Limit calculated from the background data. For this report, the control limit for cobalt (25.17 ug/L) at GWD-1 and (35.7 ug/L) at GWD-2 are utilized as the Well-Specific GWPS for the intrawell evaluations of GWD-1 and GWD-2.

For all other compounds the published IAC 567, Chapter 137 Statewide Standard are utilized as the GWPS.

STATISTICALLY SIGNIFICANT INCREASES (SSI)

Groundwater Underdrains – Intrawell Statistical Evaluations
The detected concentration of each compound is compared to the well-specific control limit for each respective compound. A detected concentration for a compound that is in excess of the calculated control limit is recorded as a Statistically Significant Increase (SSI) at a detection monitoring groundwater underdrain.

Since the Control Limit for VOC is set at the laboratory Reporting Level, any VOC detection in an underdrain is recorded as an SSI.

Table 6 is a summary of all *current* prediction limit in 2024. There are *no verified control limit exceedances* recorded in the current *detection* groundwater underdrains (GWD-1 or GWD-2).

Table 7 includes an on-going summary of compound detections and the associated intrawell control limits over time (highlighted in light brown) for compounds of interest.

Monitoring Wells – Interwell Statistical Evaluations
The detected concentration of each compound is compared to the current site prediction limit for each respective compound calculated based on the background data set. A detected concentration for a compound that is in excess of the calculated site prediction limit is recorded as a Statistically Significant Increase (SSI) at detection monitoring wells.

Since the Prediction limit for VOC is set at the laboratory Reporting Level, any VOC detection is recorded as an SSI. Table 6 is a summary of all compounds at site monitoring wells that have exceeded a *current* prediction limit in 2024. There are *no verified prediction limit exceedances* recorded in the current *detection* monitoring system wells.

Prediction limit exceedances are again recorded at wells that are currently included in the assessment monitoring system (MW-3, MW-12, MW-15). Table 7 includes an on-going summary of compound detections that exceed the prediction limits (highlighted in light brown).

Exceedances of the Prediction Limit at a well that is in the assessment monitoring system is not an SSI, instead the exceedance is further evaluated by Confidence Interval Statistics.

Exceedance of the Prediction Limits for the current year is summarized on Table 1. A running summary of recorded Prediction Limit exceedances by year since 2022 is included in Appendix E.

This report serves as notice to the operating record in accordance with IAC 567-113.10(5)c.

ASSESSMENT MONITORING SUMMARY

A five (5) year frequency for full Appendix II sampling was approved in Special Provision X.4.f of the Permit, dated October 31, 2024 (Doc #111237).

The full Appendix II (assessment) monitoring is current. A minimum of two (2) rounds of full Appendix II sampling are completed at MW-3, MW-12, and MW-15.

Compounds detected to date beyond the Appendix I list are limited to bis(2-ethylhexyl) phthalate at a single well (MW-15) during a single sample collection episode (9/1/2022).

The summary of assessment monitoring detections 2009 to date is presented in Appendix F. The full Appendix II sampling episodes are highlighted in green in the tables in Appendix F.

Based on the results to date, bis (2-ethylhexyl) phthalate will continue to be monitored as appropriate to findings during assessment monitoring episodes at assessment monitoring wells (see Table 2).

STATISTICALLY SIGNIFICANT LEVELS (SSL)

The compounds with detections that exceed site prediction limits in monitoring wells or the control limits in groundwater underdrains (see summary in Tables 1 & 7) are utilized to calculate the Confidence Interval (the 95% lower confidence limits (LCL) and the 95% upper control limits (UCL)) in accordance with the 2009 Unified Guidance for Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities by US EPA. The 95% LCL values are compared to applicable GWPS. Any 95% LCL value that exceeds an applicable GWPS is recorded as an SSL. All wells with a recorded SSL required the plume of impact to be defined in the horizontal and vertical directions and required completion of an Assessment of Corrective Measures (ACM).

The SSL Evaluation is based on data collected since September 17, 2014. The Confidence Intervals (95% LCL and 95% UCL) are calculated during each statistical evaluation based on the most recent four (4) data points. The 95% LCL evaluation is presented in Table 7. Any 95% LCL that exceeds the GWPS would be highlighted in yellow. *There are no SSL recorded to date*

ASSESSMENT OF CORRECTIVE MEASURES (ACM)

Not Required.

CORRECTIVE MEASURES MONITORING

Not Required.

Section 4.0 Leachate Collection System Performance Evaluation

The Fremont County Sanitary Landfill initially was constructed as a trench type fill. An area fill method is now being used as documented in the previously approved design plans.

The Fremont County Sanitary Landfill was originally permitted in 1974. The site was initially constructed and operated as a ravine-type fill. In 1998, Barker-Lemar and Associates conducted a leachate control study and submitted a *Leachate Control System Plan* for IDNR approval.

The collection system installed in 1999 includes a toe drain in the south fill area with three laterals extending into the adjoining cells. The toe drain was designed to gravity flow into an underground storage tank system located on the east end. Two 1,000-gallon polyethylene storage tanks were installed into the waste. The collection line flows directly into the west storage tank and can overflow into the east storage tank if additional capacity is needed. The levels in the tanks were checked semi-annually through 2022. To date, the east storage tank has never had any leachate in it and only minimal liquid in the west tank.

Originally, four leachate wells/piezometers were installed in the unlined fill areas. LW-2 was abandoned during new cell construction. LW-1 shifted or broke in May 2019 and is no longer able to be measured. An IDNR letter dated November 16, 2017 (#90857) approved a reduced monitoring frequency for the leachate piezometers to semi-annually at LW-3 and LW-4.

In 2007, a Subtitle D expansion was constructed which included a composite liner, leachate collection system, and groundwater dewatering system. A 10,000-gallon storage tank was also installed adjacent to the Phase 1 and Phase 2 expansion cells for storage of the leachate from the Subtitle D cells.

Waste was initially placed in the new Subtitle D cells late in September 2007. A leachate piezometer (PZ-1) was installed in the new cell to measure any accumulated leachate.

During 2010, an abutment FML composite liner was installed on the north-facing slope of the old unlined area and directly adjacent to Phase 1 and Phase 2. Leachate from this area drains directly into the collection system of Phase 1 and Phase 2.

During 2013, Phase 4S was construction as a new Subtitle D cell. Leachate from this cell flows into the existing lines in Phase 1 and 2. No additional storage was required.

During 2019, Phase 5 Expansion was constructed adjacent to Phase 4S and an old waste cell. As part of the approved construction plans (#94347) dated February 5, 2019, the existing and future leachate generation quantities were recalculated. Based upon the engineer's calculations, even with the construction of Phase 5, the available leachate storage capacity is adequate and complies with the IDNR regulations.

A renewed treatment agreement was approved with the Shenandoah POTW on August 23, 2021. A copy of the Treatment Agreement is included in Appendix G.1. Currently, all the leachate is transported to the Shenandoah POTW.

Between January 1, 2024, and December 31, 2024, approximately 517,860 gallons of leachate were hauled to treatment. Fremont County Landfill transported 501,060 gallons to the Shenandoah POTW, while 16,800 gallons were hauled to the City of Coin POTW. A summary of the leachate volume hauled by month is included in Appendix G.2. Note that the leachate hauled to Coin was due to the fact that Shenandoah was not accepting truck-hauled waste for several weeks based on loads received at the Shenandoah POTW. Shenandoah and Coin share the same plant operator and the IDNR Field Office has been informed of the temporary disposal at Coin.

As required by the treatment agreement Shenandoah leachate is tested monthly for BOD, total suspended solids, and ammonia nitrogen; and annually (in March) for a more comprehensive list of constituents. A summary table and a copy of the Monthly Laboratory Reports are included in Appendix G.3. A copy of the Annual Testing Results is included in Appendix G.4.

Leachate Line Cleaning

IAC 567-113.7(5)b(5) requires that the leachate system be cleaned every three (3) years at a minimum. The landfill manager reports that the leachate gravity collection lines were cleaned in the summer of 2022. All leachate lines should be cleaned again in 2025 in accordance with regulations.

Leachate Level Monitoring

The permit requires semi-annual monitoring of the leachate piezometers LW-3 and LW-4 in the unlined areas.

Appendix D of the 2021 Annual Water Quality Report (Doc # 102297 dated 1-30-2022) included a request to abandon of LW-3, LW-4., and to remove the leachate holding tanks north of the old landfill. The request was based on the absence of flow to the tanks and the static nature of the levels in the leachate wells.

The August 8, 2022 IDNR Letter (Doc #103881) indicates that the Department is “open to discussion” about the matter.

Appendix D of the 2022 Annual Water Quality Report (Doc # 105615 dated 1-19-2023) again requested the abandonment of LW-3, LW-4., and removal of the leachate holding tanks north of the old landfill. This request was also based on the absence of flow to the tanks and the static levels in the leachate wells.

The same request(s) were made in Section 4.0 of the 2023 Annual Water Quality Report submitted to IDNR on January 29, 2024 (Doc #108891).

The landfill manager reports that leachate level measurements in LW-3 and LW-4 were intentionally terminated and were not performed in 2023 based on a telephone called he received from Turkle-Clark Environmental Consulting indicating that cessation of monitoring at LW-3 and LW-4 was approved by IDNR and that the tanks could also be removed.

We infer from the information presented above that the request was approved by IDNR in early, 2023. However, documentation of IDNR’s approval to discontinue monitoring of LW-3 and LW-4 and abandonment of the East and West Tanks cannot be found in the IDNR document retrieval system.

We request that IDNR instruct us further regarding the fate of LW-3, LW-4, and the leachate tanks in the Old Landfill.

Monitoring of the leachate piezometer in the lined Subtitle D cells (LPZ-1) is conducted monthly. Table 12 provides the results of the 2024 monitoring events.

Section 5.0 Gas Monitoring

Explosive gas monitoring per 113.9(2) and the approved GMSP in Special Provision X.5. of the Revised Permit, dated October 31, 2024 (Doc #111237) was conducted quarterly during the last reporting period (2024). The monitoring includes both indoor ambient air monitoring in buildings and subsurface monitoring in dedicated gas probes.

Monitoring points currently include four (4) buildings, four (4) subsurface gas probes, and two (2) underdrain line outfalls. Figure 1 illustrate the monitoring points.

Explosive gas concentrations (%LEL) were undetected *and/or* were below action levels during the monitoring episodes   A summary table of gas monitoring is included as Table 13.

Section 6.0 Recommendations

It is recommended that the detection monitoring and assessment monitoring continue to be performed on a semi-annual basis at the monitoring points listed in Table 1 and Table 2.

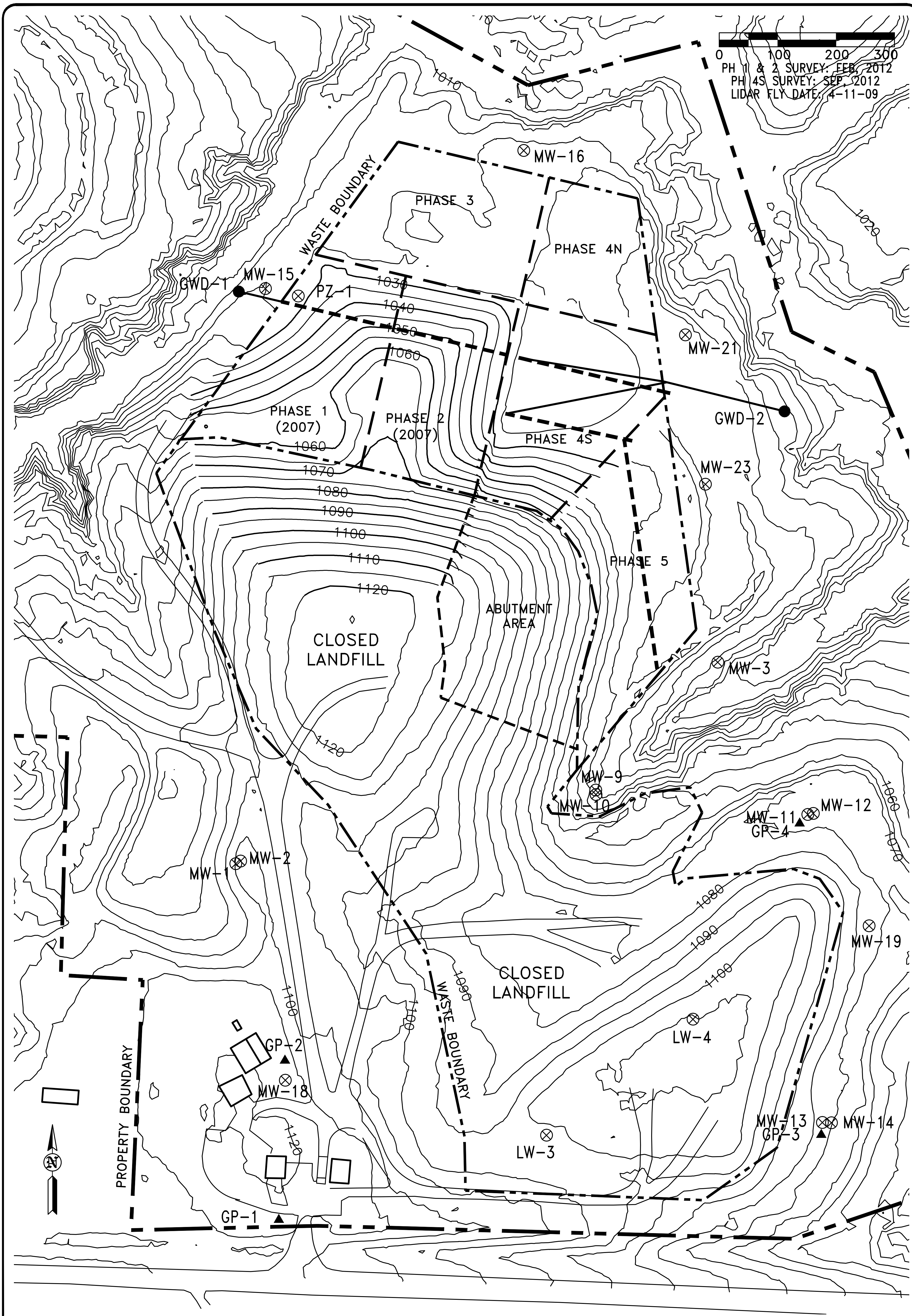
It is recommended that the prediction limits for cobalt (14.4 ug/L) be utilized as the Site-Specific GWPS in the *interwell* evaluations at monitoring wells. It is also recommended that the following well-specific GWPS be applied to GWD-1 and GWD-2 during *intrawell* statistical evaluations:

GWD-1 arsenic (12.49 ug/L)
GWD-1 cobalt (25.17 ug/L)
GWD-2 cobalt (35.7 ug/L)

For all other compounds, it is recommended that the published IAC 567, Chapter 137 Statewide Standard be utilized as the GWPS.

We are requesting that IDNR instruct us further regarding the fate of the approvals related to monitoring at LW-3, LW-4, and the removal of the leachate tanks in the Old Landfill.

Figures



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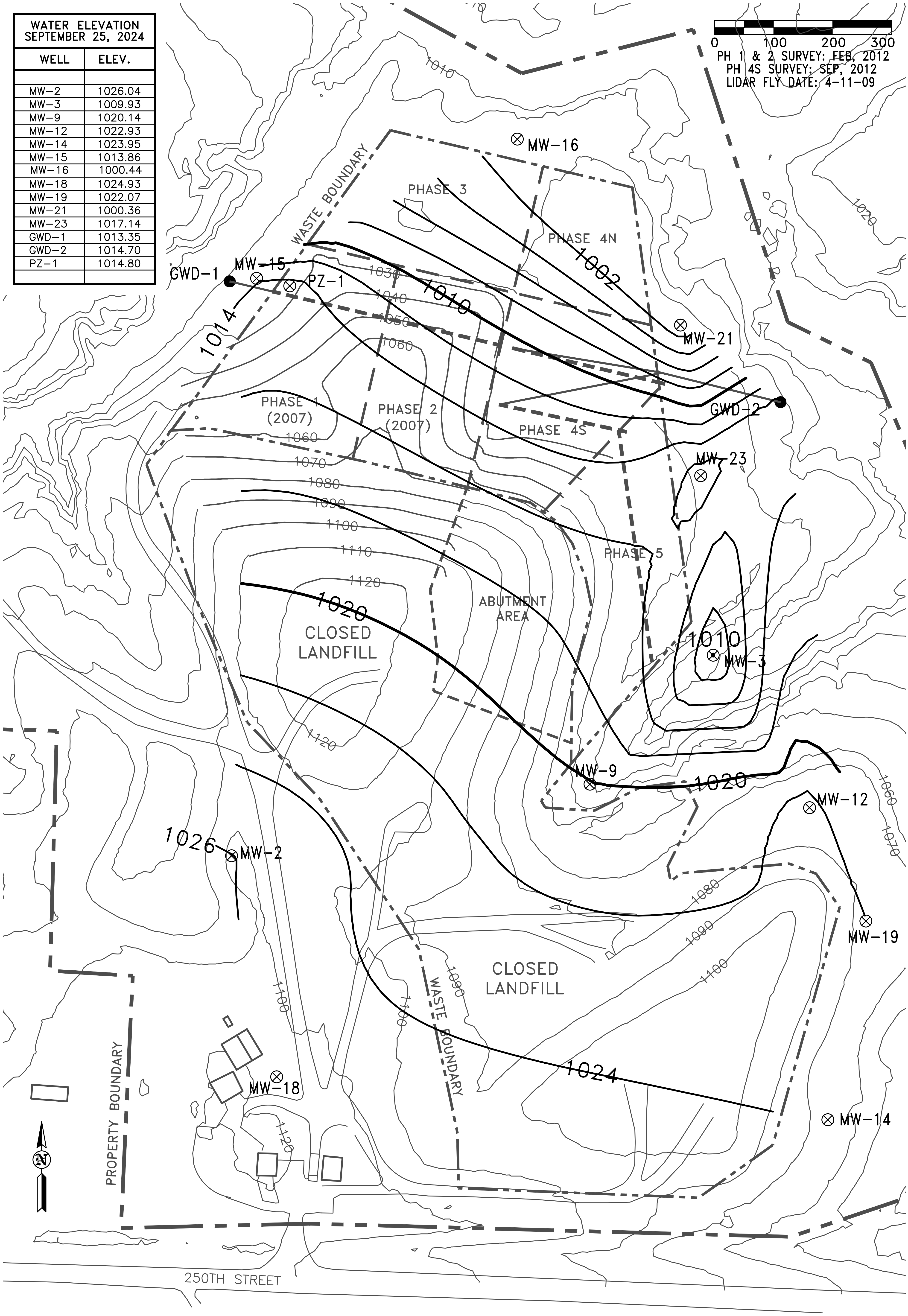
SITE PLAN

FREMONT COUNTY SANITARY LANDFILL
SIDNEY, IOWA

FIGURE:	1	
REVISION	NO.	DATE
DRAWN DRA	PROJECT NO. 6046	DATE 12-2-24

WATER ELEVATION SEPTEMBER 25, 2024	
WELL	ELEV.
MW-2	1026.04
MW-3	1009.93
MW-9	1020.14
MW-12	1022.93
MW-14	1023.95
MW-15	1013.86
MW-16	1000.44
MW-18	1024.93
MW-19	1022.07
MW-21	1000.36
MW-23	1017.14
GWD-1	1013.35
GWD-2	1014.70
PZ-1	1014.80



GROUNDWATER CONTOURS

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FIGURE:	2	
REVISION	NO.	DATE
DRAWN DRA	PROJECT NO. 6046	DATE 12-2-24

Tables
(in IDNR Format)

Table 1 – Monitoring Program Summary

Table 1
Monitoring Program Summary
Annual Water Quality Report
Fremont County Sanitary Landfill
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Monitoring Well	Formation	Current Monitoring Program	Change for next sampling event	Historic - Constituents w/ SSI	Spring 2024 - Constituents w/ SSI	Fall 2024 - Constituents w/ SSI	Historic - Constituents w/ SSL	Spring 2024 - Constituents w/ SSL	Fall 2024 - Constituents w/ SSL	Total # of Samples in each monitoring program since September 18, 2014		
										Detection	Assessment	Corrective Action
MW-2	Loess	Background	NC	None	None	None	None	None	None	21	0	0
MW-14	Glacial Till	Background	NC	None	None	None	None	None	None	21	0	0
MW-18	Glacial Till	Background	NC	None	None	None	None	None	None	21	0	0
MW-19	Glacial Till	Background	NC	None	None	None	None	None	None	21	0	0
MW-3	Glacial Till	Assessment	NC	**barium**	**barium**	**barium**	None	None	None	0	21	0
MW-9	Loess	Detection	NC	None	None	None	None	None	None	21	0	0
MW-12	Glacial Till	Assessment	NC	**arsenic, nickel**	**arsenic, nickel**	None	None	None	None	0	21	0
MW-15	Glacial Till	Assessment	NC	**barium**	None	None	None	None	None	0	21	0
MW-21	Loess	Detection	NC	None	None	None	None	None	None	21	0	0
MW-23	Glacial Till	Detection	NC	None	None	None	None	None	None	21	0	0
GWD-1	Glacial Till	Detection	NC	None	None	None	None	None	None	21	0	0
GWD-2	Glacial Till	Detection	NC	None	None	None	None	None	None	21	0	0

Table 2 – Monitoring Program Implementation Schedule

Table 2
Monitoring Program Implementation Schedule
Annual Water Quality Report
Fremont County Sanitary Landfill
Permit No. 36-SDP-01-74P

Monitoring Well	Recent Sampling Dates and Constituents	Upcoming Sampling Dates and Constituents		Full Appendix II Sample Dates	
		March, 2025	September, 2025	Previously Collected	Next Event
MW-2		Appendix I	Appendix I		N/A
MW-14		Appendix I	Appendix I		N/A
MW-18		Appendix I	Appendix I		N/A
MW-19		Appendix I	Appendix I		N/A
MW-3	**See Table 2A**	Appendix I	Appendix I	6/1/2010, 10/11/2011, 9/19/2016, 9/9/2021	9/2026
MW-9		Appendix I	Appendix I		N/A
MW-12		Appendix I	Appendix I	10/10/2013, 9/1/2022, 9/8/2023	9/2028
MW-15		Appendix I	Appendix I	6/1/2010, 10/11/2011, 10/10/2013, 9/1/2022, 9/8/2023	9/2028
MW-21		Appendix I	Appendix I		N/A
MW-23		Appendix I	Appendix I		N/A
GWD-1		Appendix I	Appendix I	9/23/2009, 10/11/2011	N/A
GWD-2		Appendix I	Appendix I	9/8/2023	N/A

Table 2A – Monitoring Program Summary

Table 2A -- Itemized Summary of Hydrologic Monitoring (2018-present)

WELL	10/6/2015	4/19/2016	9/19/2016	3/21/2017
MW-2 (b)	Appendix I	Appendix I	Appendix I	Appendix I
MW-18 (b)	Appendix I	Appendix I	Appendix I	Appendix I
MW-3	Appendix I	Appendix I	**Appendix II**	Appendix I
MW-9	Appendix I	Appendix I	Appendix I	Appendix I
MW-12	Appendix I	Appendix I	Appendix I	Appendix I
MW-14	Appendix I	Appendix I	Appendix I	Appendix I
MW-15	Appendix I	Appendix I	Appendix I	Appendix I
MW-18	Appendix I	Appendix I	Appendix I	Appendix I
MW-19	Appendix I	Appendix I	Appendix I	Appendix I
MW-21	Appendix I	Appendix I	Appendix I	Appendix I
MW-23	DNE	DNE	DNE	DNE
GWD-1	Appendix I	Appendix I	Appendix I	Appendix I
GWD-2	Appendix I	Appendix I	Appendix I	Appendix I
Duplicate				

(1) Appendix I plus dichlorodifluoromethane (R) = Resample
(2) Appendix I plus bis(2ethylhexyl)phthalate

WELL	10/12/2017	3/8/2018	9/6/2018	5/13/2019
MW-2 (b)	Appendix I	Appendix I	Appendix I	Appendix I
MW-18 (b)	Appendix I	Appendix I	Appendix I	Appendix I
MW-3	Appendix I	Appendix I	Appendix I	Appendix I
MW-9	Appendix I	Appendix I	Appendix I	Appendix I
MW-12	Appendix I	Appendix I	Appendix I	Appendix I
MW-14	Appendix I	Appendix I	Appendix I	Appendix I
MW-15	Appendix I	Appendix I	Appendix I	Appendix I
MW-18	Appendix I	Appendix I	Appendix I	Appendix I
MW-19	Appendix I	Appendix I	Appendix I	Appendix I
MW-21	Appendix I	Appendix I	Appendix I	Appendix I
MW-23	DNE	DNE	DNE	DNE
GWD-1	Appendix I	Appendix I	Appendix I	Appendix I
GWD-2	Appendix I	Appendix I	Appendix I	Appendix I
Duplicate		At GWD-2	At MW-15	At GWD-1

(1) Appendix I plus dichlorodifluoromethane (R) = Resample
(2) Appendix I plus bis(2ethylhexyl)phthalate DNE – Did Not Exist

WELL	9/26/2019	11/14/2019	3/30/2020	6/25/2020
MW-2 (b)	Appendix I		Appendix I	
MW-18 (b)	Appendix I		Appendix I	
MW-3	Appendix I		Appendix I	
MW-9	Appendix I		Appendix I	
MW-12	Appendix I	R - Cd	Appendix I	R - Ni
MW-14	Appendix I		Appendix I	R - Cu
MW-15	Appendix I		Appendix I	
MW-18	Appendix I		Appendix I	
MW-19	Appendix I	R - Zn	Appendix I	
MW-21	Appendix I		Appendix I	
MW-23	Appendix I		Appendix I	
GWD-1	Appendix I		Appendix I	
GWD-2	Appendix I		Appendix I	
Duplicate	At MW-23		At MW-15	

(1) Appendix I plus dichlorodifluoromethane (R) = Resample
(2) Appendix I plus bis(2ethylhexyl)phthalate

WELL	9/17/2020	12/3/2020	3/9/2021	6/3/2021
MW-2 (b)	Appendix I		Appendix I	
MW-18 (b)	Appendix I		Appendix I	
MW-3	Appendix I		Appendix I	
MW-9	Appendix I		Appendix I	
MW-12	Appendix I		Appendix I	
MW-14	Appendix I	R - Se	Appendix I	
MW-15	Appendix I		Appendix I	
MW-18	Appendix I		Appendix I	R - Cd
MW-19	Appendix I		Appendix I	
MW-21	Appendix I		Appendix I	R - Ba
MW-23	Appendix I		Appendix I	
GWD-1	Appendix I		Appendix I	R - Ba
GWD-2	Appendix I	R – As, Ba, Co	Appendix I	
Duplicate	At GWD-2		At MW-21	

(1) Appendix I plus dichlorodifluoromethane (R) = Resample
(2) Appendix I plus bis(2ethylhexyl)phthalate

WELL	9/9/2021	12/8/2021	3/14/2022	6/14/2022
MW-2 (b)	Appendix I		Appendix I	
MW-18 (b)	Appendix I		Appendix I	
MW-3	**Appendix II**		Appendix I(1)	
MW-9	Appendix I		Appendix I	
MW-12	Appendix I	R - Ni	Appendix I	
MW-14	Appendix I		Appendix I	
MW-15	Appendix I	R - Ba	Appendix I	
MW-18	Appendix I		Appendix I	
MW-19	Appendix I		Appendix I	
MW-21	Appendix I		Appendix I	R – cis-1,2DCE
MW-23	Appendix I		Appendix I	
GWD-1	Appendix I		NT	
GWD-2	Appendix I		NT	
Duplicate	At GWD-2		At MW-15	

(1) Appendix I plus dichlorodifluoromethane (R) = Resample
(2) Appendix I plus bis(2ethylhexyl)phthalate

WELL	9/1/2022	3/6/2023	5/9/2023	9/8/2023
MW-2 (b)	Appendix I	Appendix I		Appendix I
MW-18 (b)	Appendix I	Appendix I		Appendix I
MW-3	Appendix I(1)	Appendix I(1)		Appendix I
MW-9	Appendix I	Appendix I		Appendix I
MW-12	**Appendix II**	Appendix I		**Appendix II**
MW-14	Appendix I	Appendix I		Appendix I
MW-15	**Appendix II**	Appendix I	R-bis(2EH)P	**Appendix II**
MW-18	Appendix I	Appendix I		Appendix I
MW-19	Appendix I	Appendix I		Appendix I
MW-21	Appendix I	Appendix I		Appendix I
MW-23	Appendix I	Appendix I		Appendix I
GWD-1	NT	Appendix I		Appendix I
GWD-2	NT	Appendix I	R- Ba	**Appendix II**
Duplicate	At MW-21	At GWD-1		At MW-21

(1) Appendix I plus dichlorodifluoromethane (R) = Resample
(2) Appendix I plus bis(2ethylhexyl)phthalate

WELL	3/20/2024	6/14/2024	9/25/2024	11/25/2024
MW-2 (b)	Appendix I		Appendix I	
MW-14 (b)	Appendix I		Appendix I	
MW-18 (b)	Appendix I		Appendix I	
MW-19 (b)	Appendix I		Appendix I	
MW-3	Appendix I		Appendix I	
MW-9	Appendix I		Appendix I	
MW-12	Appendix I		Appendix I	
MW-15	Appendix I		Appendix I	
MW-21	Appendix I	**R- As, Ba**	Appendix I	
MW-23	Appendix I		Appendix I	
GWD-1	Appendix I	Submerged	Appendix I	Submerged
GWD-2	Appendix I	**R- As, Ba**	Appendix I	
Duplicate	At MW-14		At MW-14	

(1) Appendix I plus dichlorodifluoromethane (R) = Resample
(2) Appendix I plus bis(2ethylhexyl)phthalate

Table 3 – Monitoring Well Maintenance Performance Reevaluation Schedule

Table 3
Monitoring Well Maintenance and Performance Revaluation Schedule
Annual Water Quality Report
Fremont County Sanitary Landfill
Permit No. 36-SDP-01-74P

Compliance with:	Monitoring Calendar Years									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
567 IAC 113.10(2)"f"(1) high and low water levels (biennial)	X	X	X	X	X	X	P	P	P	P
567 IAC 113.10(2)"f"(2) changes in the hydrologic setting and flow paths (biennial)		X		X		X		P		P
567 IAC 113.10(2)"f"(3) well depths (annual)		X	X	X	X	X	P	P	P	P
567 IAC 113.10(2)"f"(4) well recharge rates and chemistry (biennial)		X		X		X		P		P
Waste separation from ground water 113.6(2)"I"						X	P	P	P	P

Compliance with:	Monitoring Calendar Years									
	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
567 IAC 113.10(2)"f"(1) high and low water levels (biennial)	P	P	P	P	P	P	P	P	P	P
567 IAC 113.10(2)"f"(2) changes in the hydrologic setting and flow paths (biennial)		P		P		P		P		P
567 IAC 113.10(2)"f"(3) well depths (annual)	P	P	P	P	P	P	P	P	P	P
567 IAC 113.10(2)"f"(4) well recharge rates and chemistry (biennial)		P		P		P		P		P
Waste separation from ground water 113.6(2)"I"	P	P	P	P	P	P	P	P	P	P

X = completed
P = Planned
N/A = Not Applicable

Table 4 – Monitoring Well Maintenance Performance Reevaluation Summary

Table 4
Monitoring Well Maintenance and Performance Summary
Annual Water Quality Report
Fremont County Sanitary Landfill
Permit No. 36-SDP-01-74C

Well	Top of casing	Top of Screen	Total Depth		Date of Measurements		Maximum Depth	Hydraulic Cond.	Most Recent Recharge Rate	
					3/20/2024	9/25/2024	Discrepancy (ft)	(cm/sec)/date	**3/20/2024**	Change
MW-2	1114.14	1018.04	102.2	Groundwater Level (ft)	87.68	88.1			No Drawdown	None percieved
				Groundwater Elevation (Ft MSL)	1026.46	1026.04	0	0.006		
				Measured Well Depth (ft)	102.2	102.2		2004		
				Submerged (+) or Exposed screen (-)	8.42	8				
MW-3	1031.78	1009.78	33.1	Groundwater Level (ft)	20.96	21.85			No Drawdown	None percieved
				Groundwater Elevation (Ft MSL)	1010.82	1009.93	0	0.00007		
				Measured Well Depth (ft)	33.1	33.1		2004		
				Submerged (+) or Exposed screen (-)	1.04	0.15				
MW-9	1040.72	1004.92	46.15	Groundwater Level (ft)	20.18	20.58			Full recovery in 2 hour	None percieved
				Groundwater Elevation (Ft MSL)	1020.54	1020.14	0	0.0001		
				Measured Well Depth (ft)	46.15	46.15		2004		
				Submerged (+) or Exposed screen (-)	15.62	15.22				
MW-12	1074.98	1035.5	55.3	Groundwater Level (ft)	51.71	52.05			No Drawdown	None percieved
				Groundwater Elevation (Ft MSL)	1023.27	1022.93	0	0.004		
				Measured Well Depth (ft)	55.3	55.3		2004		
				Submerged (+) or Exposed screen (-)	-12.23	-12.57				
MW-14	1076.25	1000.6	81.6	Groundwater Level (ft)	51.83	52.3			Full recovery in 24 hour	None percieved
				Groundwater Elevation (Ft MSL)	1024.42	1023.95	0	0.000002		
				Measured Well Depth (ft)	81.6	81.6		2004		
				Submerged (+) or Exposed screen (-)	23.82	23.35				
MW-15	1025.26	1007.56	27.7	Groundwater Level (ft)	8.68	11.4			Full recovery in 2 hour	None percieved
				Groundwater Elevation (Ft MSL)	1016.58	1013.86	0	0.004		
				Measured Well Depth (ft)	27.7	27.7		2004		
				Submerged (+) or Exposed screen (-)	9.02	6.3				
MW-18	1118.78	1034.78	99	Groundwater Level (ft)	93.41	93.85			No Drawdown	None percieved
				Groundwater Elevation (Ft MSL)	1025.37	1024.93	1.0	0.004		
				Measured Well Depth (ft)	98	98		2004		
				Submerged (+) or Exposed screen (-)	-9.41	-9.85				
MW-19	1078.92	1032.22	61.65	Groundwater Level (ft)	56.55	56.85			Full recovery in 3 hour	None percieved
				Groundwater Elevation (Ft MSL)	1022.37	1022.07	0	0.004		
				Measured Well Depth (ft)	61.65	61.65		2004		
				Submerged (+) or Exposed screen (-)	-9.85	-10.15				
MW-21	1029.39	1000.59	38.8	Groundwater Level (ft)	27.46	29.03			Full recovery in 2 hour	None percieved
				Groundwater Elevation (Ft MSL)	1001.93	1000.36	0	0.004		
				Measured Well Depth (ft)	38.8	38.8		2004		
				Submerged (+) or Exposed screen (-)	1.34	-0.23				
MW-23	1031.83	1015.03	26.8	Groundwater Level (ft)	14.13	14.69			Full recovery in 24 hour	None percieved
				Groundwater Elevation (Ft MSL)	1017.7	1017.14	0	0.000002		
				Measured Well Depth (ft)	26.8	26.8		2004		
				Submerged (+) or Exposed screen (-)	2.67	2.11				

Groundwater Underdrain Piezometer

Well		Date of Measurements	
		3/20/2024	9/25/2024
GPZ-1	Top PVC Casing	1024.8	1024.8
	Depth to water from Top PVC	6.5	14.5
	Elevation Water	1018.3	1010.3
	Base of Waste Elevation	1021.4	1021.4
	Separation (ft)	3.1	11.1

Table 4A – Summary of Water Elevation Data over Time

Table 4A.--- Water-level measurements, Fremont County Sanitary Landfill. TOC, top of casing.

Monitor Well/ TOC Elev. (ft)	Screened Interval Depth (ft)	Screened Interval Elev. (ft)	Water Level	DATE 4/12/2010	9/28/2010	5/3/2011	10/10/2011	4/23/2012	9/10/2012	4/4/2013	10/10/2013	Mean/ Std. Dev.	
MW-2	77.04	1037.10	**Depth (ft)**	88.02	87.37	87.21	87.42	87.79	88.09	88.52	88.45	87.86	MW-2
1114.14	82.04	1032.10	**Elev. (ft)**	1026.12	1026.77	1026.93	1026.72	1026.35	1026.05	1025.62	1025.69	0.50	
MW-3	15.50	1009.78	**Depth (ft)**	15.20	15.63	15.46	15.86	15.60	16.40	15.84	16.00	15.75	MW-3
1025.28	25.50	999.78	**Elev. (ft)**	1010.08	1009.65	1009.82	1009.42	1009.68	1008.88	1009.44	1009.28	0.36	
MW-8	29.00	1029.26	**Depth (ft)**	35.66	35.34	35.19	35.66	35.80				35.53	MW-8
1058.26	39.00	1019.26	**Elev. (ft)**	1022.60	1022.92	1023.07	1022.60	1022.46				0.25	
MW-9	35.80	1004.92	**Depth (ft)**	19.76	20.05	19.95	20.39	20.32	20.90	20.98	21.42	20.47	MW-9
1040.72	45.80	994.92	**Elev. (ft)**	1020.96	1020.67	1020.77	1020.33	1020.40	1019.82	1019.74	1019.30	0.58	
MW-12	39.48	1035.50	**Depth (ft)**	51.62	51.05	50.99	51.32	51.60	52.00	52.37	52.63	51.70	MW-12
1074.98	54.48	1020.50	**Elev. (ft)**	1023.36	1023.93	1023.99	1023.66	1023.38	1022.98	1022.61	1022.35	0.60	
MW-14	75.65	1000.60	**Depth (ft)**	52.51	52.04	51.72	51.73	52.10	52.40	53.01	52.31	52.23	MW-14
1076.25	80.65	995.60	**Elev. (ft)**	1023.74	1024.21	1024.53	1024.52	1024.15	1023.85	1023.24	1023.94	0.43	
MW-15	15.00	1010.26	**Depth (ft)**	10.63	11.37	11.06	11.86	10.85	12.68	11.25	11.40	11.39	MW-15
1025.26	25.00	1000.26	**Elev. (ft)**	1014.63	1013.89	1014.20	1013.40	1014.41	1012.58	1014.01	1013.86	0.64	
MW-18	82.85	1035.93	**Depth (ft)**	93.51	92.65	92.52	92.80	93.24	93.58	94.10	94.32	93.34	MW-18
1118.78	97.85	1020.93	**Elev. (ft)**	1025.27	1026.13	1026.26	1025.98	1025.54	1025.20	1024.68	1024.46	0.66	
MW-19	46.70	1032.22	**Depth (ft)**	56.66	56.20	56.01	56.38	56.61	56.90	57.35	57.23	56.67	MW-19
1078.92	61.70	1017.22	**Elev. (ft)**	1022.26	1022.72	1022.91	1022.54	1022.31	1022.02	1021.57	1021.69	0.47	
MW-20	11.69	1026.14	**Depth (ft)**	15.59	15.46	15.30	15.51	15.60				15.49	MW-20
1037.83	21.69	1016.14	**Elev. (ft)**	1022.24	1022.37	1022.53	1022.32	1022.23				0.12	
MW-21	26.50	1002.89	**Depth (ft)**							28.55	28.23	28.39	MW-21
1029.39	36.50	992.89	**Elev. (ft)**							1000.84	1001.16	0.23	
MW-22	9.50	1021.81	**Depth (ft)**							10.17	11.56	10.87	MW-22
1031.31	19.50	1011.81	**Elev. (ft)**							1021.14	1019.75	0.98	

Table 4A Ct'd.--- Water-level measurements, Fremont County Sanitary Landfill. TOC, top of casing.

Monitor Well/ TOC Elev. (ft)	Screened Interval Depth (ft)	Screened Interval Elev. (ft)	Water Level	4/22/2014	9/17/2014	4/28/2015	10/7/2015	4/19/2016	9/19/16	3/21/2017	10/12/2017	Mean/ Std. Dev.	
MW-2	77.04	1037.10	**Depth (ft)**	89.15	89.36	89.35	88.49	87.72	85.48	84.42	84.90	87.36	MW-2
1114.14	82.04	1032.10	**Elev. (ft)**	1024.99	1024.78	1024.79	1025.65	1026.42	1028.66	1029.72	1029.24	2.10	
MW-3	15.50	1016.28	**Depth (ft)**	15.87	22.10	22.04	21.78	21.66	21.18	21.58	21.25	20.93	MW-3
1031.78	25.50	1006.28	**Elev. (ft)**	1009.41	1009.68	1009.74	1010.00	1010.12	1010.60	1010.20	1010.53	2.07	
MW-9	35.80	1004.92	**Depth (ft)**	21.37	21.48	20.78	20.91	20.24	19.02	18.71	18.45	20.12	MW-9
1040.72	45.80	994.92	**Elev. (ft)**	1019.35	1019.24	1019.94	1019.81	1020.48	1021.70	1022.01	1022.27	1.22	
MW-12	39.48	1035.50	**Depth (ft)**	52.80	53.02	52.99	52.56	51.67	50.04	48.65	48.33	51.26	MW-12
1074.98	54.48	1020.50	**Elev. (ft)**	1022.18	1021.96	1021.99	1022.42	1023.31	1024.94	1026.33	1026.65	1.97	
MW-14	75.65	1000.60	**Depth (ft)**	53.72	53.78	53.55	52.87	52.11	49.94	48.56	48.17	51.59	MW-14
1076.25	80.65	995.60	**Elev. (ft)**	1022.53	1022.47	1022.70	1023.38	1024.14	1026.31	1027.69	1028.08	2.35	
MW-15	15.00	1010.26	**Depth (ft)**	9.79	10.12	9.90	11.70	12.16	10.76	11.02	10.45	10.74	MW-15
1025.26	25.00	1000.26	**Elev. (ft)**	1015.47	1015.14	1015.36	1013.56	1013.10	1014.50	1014.24	1014.81	0.85	
MW-18	82.85	1035.93	**Depth (ft)**	94.73	94.94	94.95	94.06	92.92	90.01	89.20	88.21	92.38	MW-18
1118.78	97.85	1020.93	**Elev. (ft)**	1024.05	1023.84	1023.83	1024.72	1025.86	1028.77	1029.58	1030.57	2.80	
MW-19	46.70	1032.22	**Depth (ft)**	57.66	57.84	57.80	57.35	56.49	54.79	53.24	53.00	56.02	MW-19
1078.92	61.70	1017.22	**Elev. (ft)**	1021.26	1021.08	1021.12	1021.57	1022.43	1024.13	1025.68	1025.92	2.05	
MW-21	26.50	1002.89	**Depth (ft)**	27.85	28.94	28.39	28.56	28.32	27.80	27.85	27.39	28.14	MW-21
1029.39	36.50	992.89	**Elev. (ft)**	1001.54	1000.45	1001.00	1000.83	1001.07	1001.59	1001.54	1002.00	0.50	
MW-22	9.50	1021.81	**Depth (ft)**	11.89	11.89	11.65	11.58	11.21	10.30	9.79	8.85	10.90	MW-22
1031.31	19.50	1011.81	**Elev. (ft)**	1019.42	1019.42	1019.66	1019.73	1020.10	1021.01	1021.52	1022.46	1.13	

NOTE: The TOC elevation for MW-3 changed due to adding additional casing during summer of 2014

Table 4A Ct'd.--- Water-level measurements, Fremont County Sanitary Landfill. TOC, top of casing.

Monitor Well/ TOC Elev. (ft)	Screened Interval Depth (ft)	Screened Interval Elev. (ft)	Water Level	3/8/2018	DATE 9/6/2018	5/13/2019	9/26/2019	3/30/2020	9/17/20	3/9/2021	9/9/2021	Mean/ Std. Dev.	
MW-2	77.04	1037.10	**Depth (ft)**	84.15	85.20	84.28	82.87	82.77	83.78	84.36	85.37	84.10	MW-2
1114.14	82.04	1032.10	**Elev. (ft)**	1029.99	1028.94	1029.86	1031.27	1031.37	1030.36	1029.78	1028.77	0.95	
MW-3	15.50	1016.28	**Depth (ft)**	21.42	21.06	21.05	21.08	20.95	21.27	20.90	21.08	21.10	MW-3
1031.78	25.50	1006.28	**Elev. (ft)**	1010.36	1010.72	1010.73	1010.70	1010.83	1010.51	1010.88	1010.70	0.17	
MW-9	35.80	1004.92	**Depth (ft)**	18.43	18.94	19.81	17.55	17.35	18.25	18.51	18.20	18.38	MW-9
1040.72	45.80	994.92	**Elev. (ft)**	1022.29	1021.78	1020.91	1023.17	1023.37	1022.47	1022.21	1022.52	0.77	
MW-12	39.48	1035.50	**Depth (ft)**	48.52	49.42	48.15	47.18	47.25	48.20	48.88	49.50	48.39	MW-12
1074.98	54.48	1020.50	**Elev. (ft)**	1026.46	1025.56	1026.83	1027.80	1027.73	1026.78	1026.10	1025.48	0.88	
MW-14	75.65	1000.60	**Depth (ft)**	48.41	49.28	47.82	46.75	46.70	47.85	48.67	49.40	48.11	MW-14
1076.25	80.65	995.60	**Elev. (ft)**	1027.84	1026.97	1028.43	1029.50	1029.55	1028.40	1027.58	1026.85	1.03	
MW-15	15.00	1010.26	**Depth (ft)**	11.14	9.86	10.15	10.82	9.80	11.98	9.42	11.75	10.62	MW-15
1025.26	25.00	1000.26	**Elev. (ft)**	1014.12	1015.40	1015.11	1014.44	1015.46	1013.28	1015.84	1013.51	0.95	
MW-18	82.85	1035.93	**Depth (ft)**	88.42	90.30	89.02	87.37	87.27	88.58	89.37	90.55	88.86	MW-18
1118.78	97.85	1020.93	**Elev. (ft)**	1030.36	1028.48	1029.76	1031.41	1031.51	1030.20	1029.41	1028.23	1.21	
MW-19	46.70	1032.22	**Depth (ft)**	53.15	54.03	52.85	51.82	51.65	52.88	53.49	54.24	53.01	MW-19
1078.92	61.70	1017.22	**Elev. (ft)**	1025.77	1024.89	1026.07	1027.10	1027.27	1026.04	1025.43	1024.68	0.93	
MW-21	26.50	1002.89	**Depth (ft)**	27.54	26.98	26.8	27.19	27.00	27.37	26.91	27.49	27.16	MW-21
1029.39	36.50	992.89	**Elev. (ft)**	1001.85	1002.41	1002.59	1002.20	1002.39	1002.02	1002.48	1001.90	0.28	
MW-22	9.50	1021.82	**Depth (ft)**	9.13	8.08							8.61	MW-22
1031.32	19.50	1011.82	**Elev. (ft)**	1022.18	1023.23				`			0.74	
MW-23	16.80	1015.03	**Depth (ft)**				13.96	13.78	14.06	13.46	14.10	13.87	MW-23
1031.83	26.80	1005.03	**Elev. (ft)**				1017.87	1018.05	1017.77	1018.37	1017.73	0.26	

NOTE: MW-22 was abandoned May 13, 2019
MW-23 was constructed May 13, 2019

Table 4A Ct'd.--- Water-level measurements, Fremont County Sanitary Landfill. TOC, top of casing.

Monitor Well/ TOC Elev. (ft)	Screened Interval Depth (ft)	Screened Interval Elev. (ft)	Water Level	3/14/2022	DATE 9/1/2022	3/6/2023	9/8/2023	3/20/2024	9/25/2024	Mean/ Std. Dev.	
MW-2	77.04	1037.10	**Depth (ft)**	86.00	86.51	87.18	87.47	87.68	88.1	87.16	MW-2
1114.14	82.04	1032.10	**Elev. (ft)**	1028.14	1027.63	1026.96	1026.67	1026.46	1026.04	0.78	
MW-3	15.50	1016.28	**Depth (ft)**	20.85	21.27	20.73	21.85	20.96	21.85	21.25	MW-3
1031.78	25.50	1006.28	**Elev. (ft)**	1010.93	1010.51	1011.05	1009.93	1010.82	1009.93	0.50	
MW-9	35.80	1004.92	**Depth (ft)**	19.50	19.75	19.91	20.21	20.18	20.58	20.02	MW-9
1040.72	45.80	994.92	**Elev. (ft)**	1021.22	1020.97	1020.81	1020.51	1020.54	1020.14	0.38	
MW-12	39.48	1035.50	**Depth (ft)**	50.15	50.49	51.15	51.53	51.71	52.05	51.18	MW-12
1074.98	54.48	1020.50	**Elev. (ft)**	1024.83	1024.49	1023.83	1023.45	1023.27	1022.93	0.73	
MW-14	75.65	1000.60	**Depth (ft)**	51.10	50.60	51.26	51.57	51.83	52.3	51.44	MW-14
1076.25	80.65	995.60	**Elev. (ft)**	1025.15	1025.65	1024.99	1024.68	1024.42	1023.95	0.59	
MW-15	15.00	1010.26	**Depth (ft)**	10.95	12.10	9.73	9.04	8.68	11.40	10.32	MW-15
1025.26	25.00	1000.26	**Elev. (ft)**	1014.31	1013.16	1015.53	1016.22	1016.58	1013.86	1.37	
MW-16	23.37	1004.06	**Depth (ft)**	20.51	22.29	20.90	22.64	20.55	24.82	21.95	MW-16
1027.43	33.37	994.06	**Elev. (ft)**	1004.75	1002.97	1004.36	1002.62	1004.71	1000.44	1.67	
MW-18	82.85	1035.93	**Depth (ft)**	91.23	91.95	92.65	93.09	93.41	93.85	92.70	MW-18
1118.78	97.85	1020.93	**Elev. (ft)**	1027.55	1026.83	1026.13	1025.69	1025.37	1024.93	0.97	
MW-19	46.70	1032.22	**Depth (ft)**	54.89		55.92	56.31	56.55	56.85	56.10	MW-19
1078.92	61.70	1017.22	**Elev. (ft)**	1024.03		1023.00	1022.61	1022.37	1022.07	0.76	
MW-21	26.50	1002.89	**Depth (ft)**	27.32	27.84	27.25	28.35	27.46	29.03	27.88	MW-21
1029.39	36.50	992.89	**Elev. (ft)**	1002.07	1001.55	1002.14	1001.04	1001.93	1000.36	0.70	
MW-23	16.80	1015.03	**Depth (ft)**	14.28	14.35	14.03	14.14	14.13	14.69	14.27	MW-23
1031.83	26.80	1005.03	**Elev. (ft)**	1017.55	1017.48	1017.8	1017.69	1017.7	1017.14	0.24	

NOTE: MW-22 was abandoned May 13, 2019
MW-23 was constructed May 13, 2019

Table 5 – Interwell (Monitoring Well) Background and GWPS Summary

Table 5
Background and GWPS Summary - Interwell for Monitoring Wells
Annual Water Quality Report
Fremont County Sanitary Landfill
Permit No. 36-SDP-01-74P

Interwell Background Wells (MW-14, MW-18, MW-19, and MW-2)

Inorganics - Appendix I										
Constituent	**Units**	**Model Type**	**Samples - N**	**Detections**	**Mean**	**SD**	**Prediction Limit**	**Confidence**	**GWPS**	**Source**
Antimony (Sb)	µg/l	nonparametric	82	0			2.0000	0.99	6	SS
Arsenic (As)	µg/l	nonparametric	81	3			6.1000	0.99	10	SS
Barium (Ba)	µg/l	nonparametric	81	**81**			614.0000	0.99	2000	SS
Beryllium (Be)	µg/l	nonparametric	82	0			4.0000	0.99	4	SS
Cadmium (Cd)	µg/l	nonparametric	82	11			1.0000	0.99	5	SS
Chromium (Cr)	µg/l	nonparametric	81	8			17.2000	0.99	100	SS
Cobalt (Co)	µg/l	nonparametric	81	35			**14.4000**	0.99	**14.4**	**Site**
Copper (Cu)	µg/l	nonparametric	81	7			10.8000	0.99	1300	SS
Lead (Pb)	µg/l	nonparametric	81	5			8.7000	0.99	15	SS
Nickel (Ni)	µg/l	nonparametric	80	19			20.7000	0.99	100	SS
Selenium (Se)	µg/l	nonparametric	83	14			7.4000	0.99	50	SS
Silver (Ag)	µg/l	nonparametric	82	0			4.0000	0.99	100	SS
Thallium (Tl)	µg/l	nonparametric	82	0			2.0000	0.99	2	SS
Vanadium (V)	µg/l	nonparametric	81	3			27.5000	0.99	35	SS
Zinc (Zn)	µg/l	nonparametric	82	29			68.3000	0.99	2000	SS

VOC - Appendix I										
Constituent	**Units**	**Model Type**	**Samples - N**	**Detections**	**Mean**	**SD**	**Prediction Limit**	**Confidence**	**GWPS**	**Source**
All	µg/l	DQR	82	0	<1	<1	<1	<1	various	SS

(yellow highlight) = Prediction limit exceeds the GWPS. A Site-Specific GWPS is warranted

Table 5A – Intrawell (Groundwater Underdrains) Background and GWPS Summary

Table 5A
Background and GWPS Summary - Intrawell for Groundwater Underdrains
Annual Water Quality Report
Fremont County Sanitary Landfill
Permit No. 36-SDP-01-74P

Monitoring Point	Compound	Units	IAC 567-137 Statewide Standards	Intrawell Statistical Control Limit	Well-Specific GWPS Utilized
GWD-1	Antimony, total	ug/L	6	2.00	6
GWD-1	Arsenic, total	ug/L	10	12.49	12.49
GWD-1	Barium, total	ug/L	2000	832.78	2000
GWD-1	Beryllium, total	ug/L	4	4.00	4
GWD-1	Cadmium, totall	ug/L	5	0.80	5
GWD-1	Chromium, total	ug/L	100	8.00	100
GWD-1	Cobalt, total	ug/L	2.1	25.17	25.17
GWD-1	Copper, total	ug/L	1300	6.60	1300
GWD-1	Lead, total	ug/L	15	4.00	15
GWD-1	Nickel, total	ug/L	100	9.40	100
GWD-1	Selenium, total	ug/L	50	4.00	50
GWD-1	Silver, total	ug/L	100	4.00	100
GWD-1	Thallium, total	ug/L	2	2.00	2
GWD-1	Vanadium, total	ug/L	35	20.00	35
GWD-1	Zinc, total	ug/L	2000	28.60	2000.00
GWD-2	Antimony, total	ug/L	6	2.00	6
GWD-2	Arsenic, total	ug/L	10		10
GWD-2	Barium, total	ug/L	2000	1290.93	2000
GWD-2	Beryllium, total	ug/L	4	4.00	4
GWD-2	Cadmium, totall	ug/L	5	0.80	5
GWD-2	Chromium, total	ug/L	100	8.00	100
GWD-2	Cobalt, total	ug/L	2.1	35.70	35.7
GWD-2	Copper, total	ug/L	1300	4.00	1300
GWD-2	Lead, total	ug/L	15	4.00	15
GWD-2	Nickel, total	ug/L	100	28.43	100
GWD-2	Selenium, total	ug/L	50	4.00	50
GWD-2	Silver, total	ug/L	100	4.00	100
GWD-2	Thallium, total	ug/L	2	4.00	2
GWD-2	Vanadium, total	ug/L	35	20.00	35
GWD-2	Zinc, total	ug/L	2000	46.61	2000

Table 6 – Summary of Detections

Table 6
Summary of Well/Detected Constituent Pairs that Exceed the Background Standard
Annual Water Quality Report
Fremont County Sanitary Landfill
Permit No. 36-SDP-01-74P

2024

Interwell Statistics

Well	System	Constituent	Date	Units	Result	Prediction Limit	GWPS
MW-3	Till	Barium	3/20/2024	ug/L	747.0	614.0	**2000**
MW-3	Till	Barium	9/25/2024	ug/L	755.0	614.0	**2000**
MW-12	Till	Arsenic	3/20/2024	ug/L	15.9	6.1	**10**
MW-12	Till	Barium**	3/20/2024	ug/L	856.0	614.0	**2000**
MW-12	Till	Chromium**	3/20/2024	ug/L	22.7	15.4	**100**
MW-12	Till	Cobalt**	3/20/2024	ug/L	21.3	10.6	**14.4***
MW-12	Till	Copper**	3/20/2024	ug/L	18.0	10.8	**1300**
MW-12	Till	Lead**	3/20/2024	ug/L	8.9	8.7	**15**
MW-12	Till	Nickel	3/20/2024	ug/L	63.1	13.6	**100**
MW-12	Till	Vanadium**	3/20/2024	ug/L	38.6	27.5	**35**

**** = Site-Specific GWPS***
***** = not verified***

2024

Intrawell Statistics

Well	System	Constituent	Date	Units	Result	Control Limits	GWPS
GWD-1	Till	None	2024				
GWD-2	Till	None	2024				

Table 7 – Summary of Ongoing and Newly Identified SSI

Table 7

Summary of Ongoing & Newly Identified SSI

Annual Water Quality Report

Fremont County Sanitary Landfill

Permit No. 36-SDP-01-74P

KEY:	SSI	SSL LCL>GWPS

Note: The absence of shading indicates that the condition does not exist.

Monitoring Well	Compound	Sample Date	Each Result (ug/L)	INTRAWELL Control Limit (ug/L)	95% LCL (ug/L)	GWPS Limit (ug/L)	SSI Initial Exceedance	Resamples Due	5th Background Sample
GWD-1	Barium	9/11/2012	297.00	832.8	---	2000	NA	NA	9/19/2016
GWD-1	Barium	4/5/2013	318.00	832.8	---	2000	NA	NA	9/19/2016
GWD-1	Barium	10/7/2015	405.00	832.8	---	2000	NA	NA	9/19/2016
GWD-1	Barium	4/19/2016	415.00	832.8	---	2000	NA	NA	9/19/2016
GWD-1	Barium	9/19/2016	445.00	832.8	---	2000	NA	NA	9/19/2016
GWD-1	Barium	3/21/2017	436.00	832.8	---	2000	NA	NA	9/19/2016
GWD-1	Barium	10/12/2017	465.00	832.8	---	2000	NA	NA	9/19/2016
GWD-1	Barium	3/8/2018	471.00	832.8	---	2000	NA	NA	9/19/2016
GWD-1	Barium	9/6/2018	495.00	832.8	---	2000	NA	NA	9/19/2016
GWD-1	Barium	5/13/2019	472.00	832.8	---	2000	NA	NA	9/19/2016
GWD-1	Barium	9/26/2019	489.00	832.8	---	2000	NA	NA	9/19/2016
GWD-1	Barium	3/30/2020	524.00	832.8	---	2000	NA	NA	9/19/2016
GWD-1	Barium	9/17/2020	592.00	832.8	---	2000	NA	NA	9/19/2016
GWD-1	Barium	3/9/2021	566.00	832.8	---	2000	NA	NA	9/19/2016
GWD-1	Barium	6/3/2021	518.00	832.8	---	2000	NA	NA	9/19/2016
GWD-1	Barium	9/9/2021	503.00	832.8	---	2000	NA	NA	9/19/2016
GWD-1	Barium	3/6/2023	458.00	832.8	---	2000	NA	NA	9/19/2016
GWD-1	Barium	3/20/2024	387.00	832.8	377.239	2000	NA	NA	9/19/2016
GWD-1	Barium	9/25/2024	619.00	832.8	377.239	2000	NA	NA	9/19/2016

Bold GWPS *= A Site Specific GWPS that is equal to the Prediction Limit. All other GWPS are IAC 567-137 Statewide Standards for Protected Groundwater.*

Table 7
Summary of Ongoing & Newly Identified SSI
Annual Water Quality Report
Fremont County Sanitary Landfill
Permit No. 36-SDP-01-74P

KEY:	SSI	SSL LCL>GWPS

Note: The absence of shading indicates that the condition does not exist.

Monitoring Well	Compound	Sample Date	Each Result (ug/L)	INTRAWELL Control Limit (ug/L)	95% LCL (ug/L)	GWPS Limit (ug/L)	SSI Initial Exceedance	Resamples Due	5th Background Sample
GWD-2	Barium	9/18/2014	307.00	1290.9	---	2000	NA	NA	9/19/2016
GWD-2	Barium	4/29/2015	341.00	1290.9	---	2000	NA	NA	9/19/2016
GWD-2	Barium	10/7/2015	316.00	1290.9	---	2000	NA	NA	9/19/2016
GWD-2	Barium	4/19/2016	329.00	1290.9	310.359	2000	NA	NA	9/19/2016
GWD-2	Barium	9/19/2016	321.00	1290.9	317.306	2000	NA	NA	9/19/2016
GWD-2	Barium	3/21/2017	330.00	1290.9	318.212	2000	NA	NA	9/19/2016
GWD-2	Barium	10/12/2017	354.00	1290.9	321.161	2000	NA	NA	9/19/2016
GWD-2	Barium	3/8/2018	357.00	1290.9	325.130	2000	NA	NA	9/19/2016
GWD-2	Barium	9/6/2018	333.00	1290.9	331.407	2000	NA	NA	9/19/2016
GWD-2	Barium	5/13/2019	385.00	1290.9	338.752	2000	NA	NA	9/19/2016
GWD-2	Barium	9/26/2019	405.00	1290.9	342.669	2000	NA	NA	9/19/2016
GWD-2	Barium	3/30/2020	484.00	1290.9	347.476	2000	NA	NA	9/19/2016
GWD-2	Barium	9/17/2020	824.00	1290.9	347.666	2000	NA	NA	9/19/2016
GWD-2	Barium	12/3/2020	534.00	1290.9	403.509	2000	NA	NA	9/19/2016
GWD-2	Barium	3/9/2021	544.00	1290.9	463.201	2000	NA	NA	9/19/2016
GWD-2	Barium	9/9/2021	554.00	1290.9	492.550	2000	NA	NA	9/19/2016
GWD-2	Barium	3/6/2023	574.00	1290.9	536.710	2000	NA	NA	9/19/2016
GWD-2	Barium	5/9/2023	565.00	1290.9	531.411	2000	NA	NA	9/19/2016
GWD-2	Barium	9/8/2023	825.00	1290.9	475.889	2000	NA	NA	9/19/2016
GWD-2	Barium	3/20/2024	665.00	1290.9	515.377	2000	NA	NA	9/19/2016
GWD-2	Barium	6/14/2024	870.00	1290.9	514.167	2000	NA	NA	9/19/2016
GWD-2	Barium	9/25/2024	496.00	1290.9	514.167	2000	NA	NA	9/19/2016

Bold GWPS *= A Site Specific GWPS that is equal to the Prediction Limit. All other GWPS are IAC 567-137 Statewaide Standards for Protected Groundwater.*

Table 7
Summary of Ongoing & Newly Identified SSI
Annual Water Quality Report
Fremont County Sanitary Landfill
Permit No. 36-SDP-01-74P

KEY:	SSI	SSL LCL>GWPS

Note: The absence of shading indicates that the condition does not exist.

Monitoring Well	Compound	Sample Date	Each Result (ug/L)	Prediction Limit (ug/L)	95% LCL (ug/L)	GWPS Limit (ug/L)	SSI Initial Exceedance	Resamples Due	5th Background Sample
MW-3	Barium	9/18/2014	655.00	554.0	---	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	4/29/2015	761.00	554.0	---	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	10/7/2015	640.00	554.0	---	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	4/19/2016	748.00	554.0	647.042	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	9/19/2016	784.00	554.0	677.89	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	3/21/2017	710.00	554.0	667.164	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	10/12/2017	743.00	554.0	720.017	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	3/8/2018	1020.00	554.0	692.602	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	9/6/2018	796.00	554.0	696.239	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	5/13/2019	865.00	554.0	751.901	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	9/26/2019	951.00	554.0	823.168	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	3/30/2020	867.00	554.0	814.817	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	9/17/2020	884.00	554.0	856.754	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	3/9/2021	1090.00	554.0	860.208	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	9/9/2021	785.00	554.0	794.138	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	3/14/2022	843.00	554.0	785.577	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	9/1/2022	783.00	554.0	748.944	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	3/6/2023	785.00	554.0	764.478	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	9/8/2023	730.00	554.0	730.95	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	3/202/2024	747.00	614.0	729.275	2000	9/6/2016	NA	9/5/2017
MW-3	Barium	9/25/2024	755.00	614.0	727.197	2000	9/6/2016	NA	9/5/2017

Bold GWPS *= A Site Specific GWPS that is equal to the Prediction Limit. All other GWPS are IAC 567-137 Statewide Standards for Protected Groundwater.*

Table 7
Summary of Ongoing & Newly Identified SSI
Annual Water Quality Report
Fremont County Sanitary Landfill
Permit No. 36-SDP-01-74P

KEY:	SSI	SSL LCL>GWPS

Note: The absence of shading indicates that the condition does not exist.

Monitoring Well	Compound	Sample Date	Each Result (ug/L)	Prediction Limit (ug/L)	95% LCL (ug/L)	GWPS Limit (ug/L)	SSI Initial Exceedance	Resamples Due	5th Background Sample
MW-12	Arsenic	9/18/2014	**4.1**	4.4	---	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	4/29/2015	**4.6**	4.4	---	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	10/7/2015	<4.0	4.4	---	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	4/19/2016	<4.0	4.4	---	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	9/19/2016	**4.3**	4.4	---	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	3/21/2017	<4.0	4.4	---	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	10/12/2017	<4.0	4.4	---	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	3/8/2018	<4.0	4.4	---	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	9/6/2018	<4.0	4.4	2.000	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	5/13/2019	<4.0	4.4	2.000	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	9/26/2019	<4.0	4.4	2.000	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	3/30/2020	<4.0	4.4	2.000	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	9/17/2020	<4.0	4.4	2.000	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	3/9/2021	<4.0	4.4	2.000	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	9/9/2021	<4.0	4.4	2.000	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	3/14/2022	<4.0	4.4	2.000	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	9/1/2022	<4.0	4.4	2.000	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	3/6/2023	**7.30**	6.1	0.208	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	9/8/2023	<4.0	6.1	0.208	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	3/20/2024	**15.90**	6.1	0.000	10	4/29/2015	N/A	9/19/2016
MW-12	Arsenic	9/25/2024	<4.0	6.1	0.000	10	4/29/2015	N/A	9/19/2016

Table 7
Summary of Ongoing & Newly Identified SSI
Annual Water Quality Report
Fremont County Sanitary Landfill
Permit No. 36-SDP-01-74P

KEY:	SSI	SSL LCL>GWPS

Note: The absence of shading indicates that the condition does not exist.

Monitoring Well	Compound	Sample Date	Each Result (ug/L)	Prediction Limit (ug/L)	95% LCL (ug/L)	GWPS Limit (ug/L)	SSI Initial Exceedance	Resamples Due	5th Background Sample
MW-12	Nickel	9/18/2014	**5.8**	13.60	---	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	4/29/2015	**4.6**	13.60	---	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	10/7/2015	<4.0	13.60	---	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	4/19/2016	**4.1**	13.60	---	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	9/19/2016	<4.0	13.60	---	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	3/21/2017	<4.0	13.60	---	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	10/12/2017	<4.0	13.60	---	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	3/8/2018	<4.0	13.60	2.000	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	9/6/2018	<4.0	13.60	2.000	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	5/13/2019	<4.0	13.60	2.000	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	9/26/2019	**5.2**	13.60	1.414	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	3/30/2020	**15.7**	13.60	0.601	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	6/25/2020	**7.9**	13.60	2.631	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	9/17/2020	**5.9**	13.60	4.500	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	3/9/2021	**11.9**	13.60	6.581	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	9/9/2021	**15.6**	13.60	6.591	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	12/8/2021	**31.60**	13.60	6.736	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	3/14/2022	**12.30**	13.60	9.783	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	9/1/2022	**6.70**	13.60	7.297	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	3/6/2023	**27.60**	13.60	5.505	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	9/8/2023	**11.60**	13.60	3.905	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	3/20/2024	**63.10**	13.60	0.000	100	9/9/2021	N/A	9/19/2016
MW-12	Nickel	9/25/2024	**10.20**	13.60	0.000	100	9/9/2021	N/A	9/19/2016

Bold Result *= Detected above the MRL*
Bold GWPS *= A Site Specific GWPS that is equal to the Prediction Limit. All other GWPS are IAC 567-137 Statewide Standards for Protected Groundwater.*

Table 7
Summary of Ongoing & Newly Identified SSI
Annual Water Quality Report
Fremont County Sanitary Landfill
Permit No. 36-SDP-01-74P

KEY:	SSI	SSL LCL>GWPS

Note: The absence of shading indicates that the condition does not exist.

Monitoring Well	Compound	Sample Date	Each Result (ug/L)	Prediction Limit (ug/L)	95% LCL (ug/L)	GWPS Limit (ug/L)	SSI Initial Exceedance	Resamples Due	5th Background Sample
MW-15	Barium	9/18/2014	359.00	554.0	---	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	4/29/2015	374.00	554.0	---	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	10/7/2015	315.00	554.0	---	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	4/19/2016	341.00	554.0	325.268	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	9/19/2016	311.00	554.0	310.087	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	3/21/2017	330.00	554.0	312.263	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	10/12/2017	318.00	554.0	313.533	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	3/8/2018	339.00	554.0	313.718	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	9/6/2018	306.00	554.0	310.813	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	5/13/2019	365.00	554.0	309.583	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	9/26/2019	664.00	554.0	275.227	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	3/30/2020	434.00	554.0	306.444	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	9/17/2020	686.00	554.0	397.14	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	3/9/2021	390.00	554.0	410.855	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	9/9/2021	741.00	554.0	409.957	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	3/14/2022	751.00	554.0	494.418	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	9/1/2022	392.00	554.0	390.963	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	3/6/2023	431.00	554.0	297.811	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	9/8/2023	430.00	554.0	395.874	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	3/20/2024	549.00	614.0	383.516	2000	9/26/2019	NA	9/19/2016
MW-15	Barium	9/25/2024	509.00	614.0	409.607	2000	9/26/2019	NA	9/19/2016

Bold GWPS *= A Site Specific GWPS that is equal to the Prediction Limit. All other GWPS are IAC 567-137 Statewide Standards for Protected Groundwater.*

Table 8 - Summary of Ongoing and Newly Identified SSL
(NOT REQUIRED)

Table 9 – Analytical Data Summary

Table 9

Analytical Data Summary for GWD-1

Constituents	Units	10/7/2015	1/18/2016	4/19/2016	9/19/2016	3/21/2017	10/12/2017	3/8/2018	9/6/2018	5/13/2019
1,1,1,2-tetrachloroethane	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
1,2-dibromoethane	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	ug/L	<5		<5	<5	<5	<5	<5	<5	<5
2-hexanone (mbk)	ug/L	<5		<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	ug/L	<5		<5	<5	<5	<5	<5	<5	<5
Acetone	ug/L	<10		<10	<10	<10	<10	<10	<10	<10
Acrylonitrile	ug/L	<5		<5	<5	<5	<5	<5	<5	<5
Aluminum, total	ug/L									
Antimony, total	ug/L	<2		<2	<2	<2	<2	<2	<2	<2
Arsenic, total	ug/L	8.1	5.0	6.4	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Barium, total	ug/L	405		415	445	436	465	471	495	472
Benzene	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Beryllium, total	ug/L	<4		<4	<4	<4	<4	<4	<4	<4
Bod (5 day)	mg/L									
Boron, total	ug/L									
Bromochloromethane	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Cadmium, total	ug/L	<.8		<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Chloride	mg/L									
Chlorobenzene	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Chromium, total	ug/L	<8		<8	<8	<8	<8	<8	<8	<8
Cis-1,2-dichloroethylene	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	6.9		9.5	9.6	6.7	2.0	<2.0	.8	2.4
Copper, total	ug/L	<4.0		<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Dibromochloromethane	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Fluoride	mg/L									
Iron, total	ug/L									
Lead, total	ug/L	<4		<4	<4	<4	<4	<4	<4	<4
Lithium, total	ug/L									
Manganese, total	ug/L									
Methyl iodide	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/L	<5		<5	<5	<5	<5	<5	<5	<5
Molybdenum, total	ug/L									
Nickel, total	ug/L	9.4		8.2	<4.0	5.4	<4.0	<4.0	<8.0	<4.0
Nitrogen, ammonia	mg/L									
Nitrogen, Kjeldahl, total	mg/L									
Nitrogen, Nitrate+Nitrite	mg/L									
Selenium, total	ug/L	<4		<4	<4	<4	<4	<4	<4	<4
Silica, dissolved	mg/L									
Silver, total	ug/L	<4		<4	<4	<4	<4	<4	<8	<4
Solids, total suspended	mg/L	3		<2	<2	2	<2			
Styrene	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Sulfate	mg/L									
Tetrachloroethylene	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<4		<4	<4	<4	<4	<4	<4	<2
Toluene	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5		<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20		<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	ug/L	<5		<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1		<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2		<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	<8.0		<8.0	<8.0	<8.0	<8.0	<8.0	28.6	<8.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for GWD-1

Constituents	9/26/2019	3/30/2020	9/17/2020	3/9/2021	6/3/2021	9/9/2021	3/14/2022	3/6/2023	3/20/2024	9/25/2024
1,1,1,2-tetrachloroethane	<1	<1	<1	<1		<1		<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1	<1		<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1		<1		<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1	<1		<1		<1	<1	<1
1,1-dichloroethane	<1	<1	<1	<1		<1		<1	<1	<1
1,1-dichloroethylene	<1	<1	<1	<1		<1	<1	<1	<1	<1
1,2,3-trichloropropane	<1	<1	<1	<1		<1		<1	<1	<1
1,2-dibromo-3-chloropropane	<1	<5	<5	<5		<5		<5	<5	<5
1,2-dibromoethane	<1	<1	<1	<1		<1		<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1	<1		<1		<1	<1	<1
1,2-dichloroethane	<1	<1	<1	<1		<1	<1	<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1		<1	<1	<1	<1	<1
1,4-dichlorobenzene	<1	<1	<1	<1		<1		<1	<1	<1
2-butanone (mek)	<5	<5	<5	<5		<5		<10	<10	<10
2-hexanone (mbk)	<5	<5	<5	<5		<5		<5	<5	<5
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5		<5		<5	<5	<5
Acetone	<10	<10	<10	<10		<10		<10	<10	<10
Acrylonitrile	<5	<5	<5	<5		<5		<5	<5	<5
Aluminum, total							<50			
Antimony, total	<2	<2	<2	<2		<2		<2	<2	<2
Arsenic, total	4.1	<4.0	<4.0	<4.0		<4.0	<4.0	<4.0	11.4	<4.0
Barium, total	489	524	592	566	518	503		458	387	619
Benzene	<1	<1	<1	<1		<1	<1	<1	<1	<1
Beryllium, total	<4	<4	<4	<4		<4	<4	<4	<4	<4
Bod (5 day)							<5			
Boron, total							<100			
Bromochloromethane	<1	<1	<1	<1		<1		<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1		<1	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1		<1	<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1		<1		<1	<1	<1
Cadmium, total	<.8	<.8	<.8	<.8		<.8	<.8	<.8	<.8	<.8
Carbon disulfide	<1	<1	<1	<1		<1		<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<1		<1	<1	<1	<1	<1
Chloride							109			
Chlorobenzene	<1	<1	<1	<1		<1	<1	<1	<1	<1
Chloroethane	<1	<1	<1	<1		<1		<1	<1	<1
Chloroform	<1	<1	<1	<1		<1	<1	<1	<1	<1
Chloromethane	<1	<1	<1	<1		<1		<1	<1	<1
Chromium, total	<8	<8	<8	<8		<8		<8	<8	<8
Cis-1,2-dichloroethylene	<1	<1	<1	<1		<1		<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1	<1		<1		<1	<1	<1
Cobalt, total	2.1	1.6	1.1	1.5		.5	.7	.7	3.6	2.3
Copper, total	6.6	<4.0	<4.0	<4.0		<4.0	<4.0	<4.0	<4.0	<4.0
Dibromochloromethane	<1	<1	<1	<1		<1	<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1		<1		<1	<1	<1
Ethylbenzene	<1	<1	<1	<1		<1	<1	<1	<1	<1
Fluoride							.2			
Iron, total							368			
Lead, total	<4	<4	<4	<4		<4	<4	<4	<4	<4
Lithium, total							<50			
Manganese, total							525			
Methyl iodide	<1	<2	<1	<1		<1		<1	<1	<1
Methylene chloride	<5	<5	<5	<5		<5		<5	<5	<5
Molybdenum, total							<4			
Nickel, total	<4.0	<4.0	<4.0	<4.0		<4.0	<4.0	<4.0	4.9	4.1
Nitrogen, ammonia							<.1			
Nitrogen, Kjeldahl, total							1.03			
Nitrogen, Nitrate+Nitrite							5.03			
Selenium, total	<4	<4	<4	<4		4	<4	<4	<4	<4
Silica, dissolved							22.2			
Silver, total	<4	<4	<4	<4		<4		<4	<4	<4
Solids, total suspended							<2			
Styrene	<1	<1	<1	<1		<1		<1	<1	<1
Sulfate							18.6			
Tetrachloroethylene	<1	<1	<1	<1		<1	<1	<1	<1	<1
Thallium, total	<2	<2	<2	<2		<2		<2	<2	<2
Toluene	<1	<1	<1	<1		<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	<1	<1	<1	<1		<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1	<1		<1		<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5		<5		<5	<5	<5
Trichloroethylene	<1	<1	<1	<1		<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1		<1		<1	<1	<1
Vanadium, total	<20	<20	<20	<20		<20	<20	<20	<20	<20
Vinyl acetate	<5	<5	<5	<5		<5		<5	<5	<5
Vinyl chloride	<1	<1	<1	<1		<1	<1	<1	<1	<1
Xylenes, total	<2	<2	<2	<2		<2		<2	<2	<2
Zinc, total	<8.0	<20.0	<20.0	<20.0		<20.0	<20.0	<20.0	<20.0	<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for GWD-2

Constituents	Units	9/18/2014	4/28/2015	10/7/2015	4/19/2016	9/19/2016	3/21/2017	10/12/2017	3/8/2018
(3 4)-methylphenol	ug/L								
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloropropene	ug/L								
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene	ug/L								
1,2,4-trichlorobenzene	ug/L								
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene	ug/L								
1,3,5-trinitrobenzene	ug/L								
1,3-dichlorobenzene	ug/L								
1,3-dichloropropane	ug/L								
1,3-dinitrobenzene	ug/L								
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,4-naphthoquinone	ug/L								
1,4-phenylenediamine	ug/L								
1-naphthylamine	ug/L								
2,2-dichloropropane	ug/L								
2,3,4,6-tetrachlorophenol	ug/L								
2,4,5-t	ug/L								
2,4,5-tp (silvex)	ug/L								
2,4,5-trichlorophenol	ug/L								
2,4,6-trichlorophenol	ug/L								
2,4-d	ug/L								
2,4-dichlorophenol	ug/L								
2,4-dimethylphenol	ug/L								
2,4-dinitrophenol	ug/L								
2,4-dinitrotoluene	ug/L								
2,6-dichlorophenol	ug/L								
2,6-dinitrotoluene	ug/L								
2-acetylaminofluorene	ug/L								
2-butanone (mek)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
2-chloronaphthalene	ug/L								
2-chlorophenol	ug/L								
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
2-methylnaphthalene	ug/L								
2-methylphenol	ug/L								
2-naphthylamine	ug/L								
2-nitroaniline	ug/L								
2-nitrophenol	ug/L								
3,3´-dichlorobenzidine	ug/L								
3,3'-dimethylbenzidine	ug/L								
3-methylcholanthrene	ug/L								
3-nitroaniline	ug/L								
4,4´-ddd	ug/L								
4,4´-dde	ug/L								
4,4´-ddt	ug/L								
4,6-dinitro-2-methylphenol	ug/L								
4-aminobiphenyl	ug/L								
4-bromophenyl phenyl ether	ug/L								
4-chloro-3-methylphenol	ug/L								
4-chloroaniline	ug/L								
4-chlorophenyl phenyl ether	ug/L								
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
4-nitroaniline	ug/L								
4-nitrophenol	ug/L								
5-nitro-o-toluidine	ug/L								
7,12-dimethylbenz(a)anthracene	ug/L								
Acenaphthene	ug/L								
Acenaphthylene	ug/L								
Acetone	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	18.2	<10.0
Acetonitrile	ug/L								
Acetophenone	ug/L								
Acrolein	ug/L								
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Aldrin	ug/L								
Allyl chloride	ug/L								
Alpha-bhc	ug/L								
Aluminum, total	ug/L								

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for GWD-2

Constituents	9/6/2018	5/13/2019	9/26/2019	3/30/2020	9/17/2020	12/3/2020	3/9/2021	9/9/2021	3/14/2022
(3 4)-methylphenol									
1,1,1,2-tetrachloroethane	<1	<1	<1	<1	<1		<1	<1	
1,1,1-trichloroethane	<1	<1	<1	<1	<1		<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1	<1		<1	<1	
1,1,2-trichloroethane	<1	<1	<1	<1	<1		<1	<1	
1,1-dichloroethane	<1	<1	<1	<1	<1		<1	<1	
1,1-dichloroethylene	<1	<1	<1	<1	<1		<1	<1	<1
1,1-dichloropropene									
1,2,3-trichloropropane	<1	<1	<1	<1	<1		<1	<1	
1,2,4,5-tetrachlorobenzene									
1,2,4-trichlorobenzene									
1,2-dibromo-3-chloropropane	<1	<1	<1	<5	<5		<5	<5	
1,2-dibromoethane	<1	<1	<1	<1	<1		<1	<1	
1,2-dichlorobenzene	<1	<1	<1	<1	<1		<1	<1	
1,2-dichloroethane	<1	<1	<1	<1	<1		<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1	<1		<1	<1	<1
1,2-dinitrobenzene									
1,3,5-trinitrobenzene									
1,3-dichlorobenzene									
1,3-dichloropropane									
1,3-dinitrobenzene									
1,4-dichlorobenzene	<1	<1	<1	<1	<1		<1	<1	
1,4-naphthoquinone									
1,4-phenylenediamine									
1-naphthylamine									
2,2-dichloropropane									
2,3,4,6-tetrachlorophenol									
2,4,5-t									
2,4,5-tp (silvex)									
2,4,5-trichlorophenol									
2,4,6-trichlorophenol									
2,4-d									
2,4-dichlorophenol									
2,4-dimethylphenol									
2,4-dinitrophenol									
2,4-dinitrotoluene									
2,6-dichlorophenol									
2,6-dinitrotoluene									
2-acetylaminofluorene									
2-butanone (mek)	<5	<5	<5	<5	<5		<5	<5	
2-chloronaphthalene									
2-chlorophenol									
2-hexanone (mbk)	<5	<5	<5	<5	<5		<5	<5	
2-methylnaphthalene									
2-methylphenol									
2-naphthylamine									
2-nitroaniline									
2-nitrophenol									
3,3´-dichlorobenzidine									
3,3'-dimethylbenzidine									
3-methylcholanthrene									
3-nitroaniline									
4,4´-ddd									
4,4´-dde									
4,4´-ddt									
4,6-dinitro-2-methylphenol									
4-aminobiphenyl									
4-bromophenyl phenyl ether									
4-chloro-3-methylphenol									
4-chloroaniline									
4-chlorophenyl phenyl ether									
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5	<5		<5	<5	
4-nitroaniline									
4-nitrophenol									
5-nitro-o-toluidine									
7,12-dimethylbenz(a)anthracene									
Acenaphthene									
Acenaphthylene									
Acetone	<10.0	<10.0	<10.0	<10.0	<10.0		<10.0	<10.0	
Acetonitrile									
Acetophenone									
Acrolein									
Acrylonitrile	<5	<5	<5	<5	<5		<5	<5	
Aldrin									
Allyl chloride									
Alpha-bhc									
Aluminum, total									<50

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for GWD-2

Constituents	3/6/2023	5/9/2023	9/8/2023	3/20/2024	6/14/2024	9/25/2024
(3 4)-methylphenol			<8			
1,1,1,2-tetrachloroethane	<1		<1	<1		<1
1,1,1-trichloroethane	<1		<1	<1		<1
1,1,2,2-tetrachloroethane	<1		<1	<1		<1
1,1,2-trichloroethane	<1		<1	<1		<1
1,1-dichloroethane	<1		<1	<1		<1
1,1-dichloroethylene	<1		<1	<1		<1
1,1-dichloropropene			<1			
1,2,3-trichloropropane	<1		<1	<1		<1
1,2,4,5-tetrachlorobenzene			<8			
1,2,4-trichlorobenzene			<1			
1,2-dibromo-3-chloropropane	<5		<1	<5		<5
1,2-dibromoethane	<1		<1	<1		<1
1,2-dichlorobenzene	<1		<1	<1		<1
1,2-dichloroethane	<1		<1	<1		<1
1,2-dichloropropane	<1		<1	<1		<1
1,2-dinitrobenzene			<8			
1,3,5-trinitrobenzene			<8			
1,3-dichlorobenzene			<1			
1,3-dichloropropane			<1			
1,3-dinitrobenzene			<8			
1,4-dichlorobenzene	<1		<1	<1		<1
1,4-naphthoquinone			<8			
1,4-phenylenediamine			<8			
1-naphthylamine			<8			
2,2-dichloropropane			<1			
2,3,4,6-tetrachlorophenol			<8			
2,4,5-t			<.5			
2,4,5-tp (silvex)			<.5			
2,4,5-trichlorophenol			<8			
2,4,6-trichlorophenol			<8			
2,4-d			<2			
2,4-dichlorophenol			<8			
2,4-dimethylphenol			<8			
2,4-dinitrophenol			<8			
2,4-dinitrotoluene			<8			
2,6-dichlorophenol			<8			
2,6-dinitrotoluene			<8			
2-acetylaminofluorene			<8			
2-butanone (mek)	<10		<5	<10		<10
2-chloronaphthalene			<8			
2-chlorophenol			<8			
2-hexanone (mbk)	<5		<5	<5		<5
2-methylnaphthalene			<8			
2-methylphenol			<8			
2-naphthylamine			<8			
2-nitroaniline			<8			
2-nitrophenol			<8			
3,3´-dichlorobenzidine			<8			
3,3'-dimethylbenzidine			<8			
3-methylcholanthrene			<8			
3-nitroaniline			<8			
4,4´-ddd			<.05			
4,4´-dde			<.05			
4,4´-ddt			<.05			
4,6-dinitro-2-methylphenol			<8			
4-aminobiphenyl			<8			
4-bromophenyl phenyl ether			<8			
4-chloro-3-methylphenol			<8			
4-chloroaniline			<8			
4-chlorophenyl phenyl ether			<8			
4-methyl-2-pentanone (mibk)	<5		<5	<5		<5
4-nitroaniline			<8			
4-nitrophenol			<8			
5-nitro-o-toluidine			<8			
7,12-dimethylbenz(a)anthracene			<8			
Acenaphthene			<8			
Acenaphthylene			<8			
Acetone	<10.0		<10.0	<10.0		<10.0
Acetonitrile			<10			
Acetophenone			<8			
Acrolein			<10			
Acrylonitrile	<5		<5	<5		<5
Aldrin			<.05			
Allyl chloride			<1			
Alpha-bhc			<.05			
Aluminum, total						

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for GWD-2

Constituents	Units	9/18/2014	4/28/2015	10/7/2015	4/19/2016	9/19/2016	3/21/2017	10/12/2017	3/8/2018
Anthracene	ug/L								
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Arochlor 1016	ug/L								
Arochlor 1221	ug/L								
Arochlor 1232	ug/L								
Arochlor 1242	ug/L								
Arochlor 1248	ug/L								
Arochlor 1254	ug/L								
Arochlor 1260	ug/L								
Arsenic, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Azobenzene	ug/L								
Barium, total	ug/L	307	341	316	329	321	330	354	357
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/L								
Benzo(a)pyrene	ug/L								
Benzo(b)fluoranthene	ug/L								
Benzo(g,h,i)perylene	ug/L								
Benzo(k)fluoranthene	ug/L								
Benzyl alcohol	ug/L								
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Beta-bhc	ug/L								
Bis (2-chloroethoxy) methane	ug/L								
Bis(2-chloroethyl) ether	ug/L								
Bis(2-chloroisopropyl) ether	ug/L								
Bis(2-ethylhexyl) phthalate	ug/L								
Bod (5 day)	mg/L								
Boron, total	ug/L								
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate	ug/L								
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chlordane	ug/L								
Chloride	mg/L								
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzilate	ug/L								
Chloroethane	ug/L	<1	<1	1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloroprene	ug/L								
Chromium, total	ug/L	<8	<8	<8	<8	<8	<8	<8	<8
Chrysene	ug/L								
Cis-1,2-dichloroethylene	ug/L	<1	<1	1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	<.8	<.8	.9	1.0	4.3	7.7	7.3	6.2
Copper, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Cyanide, total	mg/L								
Delta-bhc	ug/L								
Diallate	ug/L								
Dibenzo(a,h)anthracene	ug/L								
Dibenzofuran	ug/L								
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	ug/L								
Dieldrin	ug/L								
Diethyl phthalate	ug/L								
Dimethoate	ug/L								
Dimethylphthalate	ug/L								
Di-n-butyl phthalate	ug/L								
Di-n-octyl phthalate	ug/L								
Dinoseb	ug/L								
Diphenylamine	ug/L								
Disulfoton	ug/L								
Endosulfan i	ug/L								
Endosulfan ii	ug/L								
Endosulfan sulfate	ug/L								
Endrin	ug/L								
Endrin aldehyde	ug/L								
Ethyl methacrylate	ug/L								
Ethyl methanesulfonate	ug/L								
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Famphur	ug/L								
Fluoranthene	ug/L								
Fluorene	ug/L								

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for GWD-2

Constituents	9/6/2018	5/13/2019	9/26/2019	3/30/2020	9/17/2020	12/3/2020	3/9/2021	9/9/2021	3/14/2022
Anthracene									
Antimony, total	<2	<2	<2	<2	<2		<2	<2	
Arochlor 1016									
Arochlor 1221									
Arochlor 1232									
Arochlor 1242									
Arochlor 1248									
Arochlor 1254									
Arochlor 1260									
Arsenic, total	<4.0	<4.0	<4.0	<4.0	73.5	<4.0	<4.0	<4.0	<4.0
Azobenzene									
Barium, total	333	385	405	484	824	534	544	554	
Benzene	<1	<1	<1	<1	<1		<1	<1	<1
Benzo(a)anthracene									
Benzo(a)pyrene									
Benzo(b)fluoranthene									
Benzo(g,h,i)perylene									
Benzo(k)fluoranthene									
Benzyl alcohol									
Beryllium, total	<4	<4	<4	<4	<4		<4	<4	<4
Beta-bhc									
Bis (2-chloroethoxy) methane									
Bis(2-chloroethyl) ether									
Bis(2-chloroisopropyl) ether									
Bis(2-ethylhexyl) phthalate									
Bod (5 day)									<5
Boron, total									<100
Bromochloromethane	<1	<1	<1	<1	<1		<1	<1	
Bromodichloromethane	<1	<1	<1	<1	<1		<1	<1	<1
Bromoform	<1	<1	<1	<1	<1		<1	<1	<1
Bromomethane	<1	<1	<1	<1	<1		<1	<1	
Butyl benzyl phthalate									
Cadmium, total	<.8	<.8	<.8	<.8	<.8		<.8	<.8	<.8
Carbon disulfide	<1	<1	<1	<1	<1		<1	<1	
Carbon tetrachloride	<1	<1	<1	<1	<1		<1	<1	<1
Chlordane									
Chloride									21.3
Chlorobenzene	<1	<1	<1	<1	<1		<1	<1	<1
Chlorobenzilate									
Chloroethane	<1	<1	<1	<1	<1		<1	<1	
Chloroform	<1	<1	<1	<1	<1		<1	<1	<1
Chloromethane	<1	<1	<1	<1	<1		<1	<1	
Chloroprene									
Chromium, total	<8	<8	<8	<8	<8		<8	<8	
Chrysene									
Cis-1,2-dichloroethylene	<1	<1	<1	<1	<1		<1	<1	
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1		<1	<1	
Cobalt, total	3.1	2.3	8.7	9.4	16.7	6.7	5.9	3.7	4.6
Copper, total	<4	<4	<4	<4	<4		<4	<4	<4
Cyanide, total									
Delta-bhc									
Diallate									
Dibenzo(a,h)anthracene									
Dibenzofuran									
Dibromochloromethane	<1	<1	<1	<1	<1		<1	<1	<1
Dibromomethane	<1	<1	<1	<1	<1		<1	<1	
Dichlorodifluoromethane									
Dieldrin									
Diethyl phthalate									
Dimethoate									
Dimethylphthalate									
Di-n-butyl phthalate									
Di-n-octyl phthalate									
Dinoseb									
Diphenylamine									
Disulfoton									
Endosulfan i									
Endosulfan ii									
Endosulfan sulfate									
Endrin									
Endrin aldehyde									
Ethyl methacrylate									
Ethyl methanesulfonate									
Ethylbenzene	<1	<1	<1	<1	<1		<1	<1	<1
Famphur									
Fluoranthene									
Fluorene									

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for GWD-2

Constituents	3/6/2023	5/9/2023	9/8/2023	3/20/2024	6/14/2024	9/25/2024
Anthracene			<8			
Antimony, total	<2		<2	<2		<2
Arochlor 1016			<.2			
Arochlor 1221			<.2			
Arochlor 1232			<.2			
Arochlor 1242			<.2			
Arochlor 1248			<.2			
Arochlor 1254			<.2			
Arochlor 1260			<.2			
Arsenic, total	<4.0		<4.0	5.9	13.8	<4.0
Azobenzene			<8			
Barium, total	574	565	825	665	870	496
Benzene	<1		<1	<1		<1
Benzo(a)anthracene			<8			
Benzo(a)pyrene			<8			
Benzo(b)fluoranthene			<8			
Benzo(g,h,i)perylene			<8			
Benzo(k)fluoranthene			<8			
Benzyl alcohol			<8			
Beryllium, total	<4		<4	<4		<4
Beta-bhc			<.05			
Bis (2-chloroethoxy) methane			<8			
Bis(2-chloroethyl) ether			<8			
Bis(2-chloroisopropyl) ether			<8			
Bis(2-ethylhexyl) phthalate			<6			
Bod (5 day)						
Boron, total						
Bromochloromethane	<1		<1	<1		<1
Bromodichloromethane	<1		<1	<1		<1
Bromoform	<1		<1	<1		<1
Bromomethane	<1		<1	<1		<1
Butyl benzyl phthalate			<8			
Cadmium, total	<.8		<.8	<.8		<.8
Carbon disulfide	<1		<1	<1		<1
Carbon tetrachloride	<1		<1	<1		<1
Chlordane			<.1			
Chloride						
Chlorobenzene	<1		<1	<1		<1
Chlorobenzilate			<8			
Chloroethane	<1		<1	<1		<1
Chloroform	<1		<1	<1		<1
Chloromethane	<1		<1	<1		<1
Chloroprene			<1			
Chromium, total	<8		<8	<8		<8
Chrysene			<8			
Cis-1,2-dichloroethylene	<1		<1	<1		<1
Cis-1,3-dichloropropene	<1		<1	<1		<1
Cobalt, total	3.4		5.2	3.4		3.6
Copper, total	<4		<4	<4		<4
Cyanide, total			<.005			
Delta-bhc			<.05			
Diallate			<8			
Dibenzo(a,h)anthracene			<8			
Dibenzofuran			<8			
Dibromochloromethane	<1		<1	<1		<1
Dibromomethane	<1		<1	<1		<1
Dichlorodifluoromethane			<1			
Dieldrin			<.05			
Diethyl phthalate			<8			
Dimethoate			<.4			
Dimethylphthalate			<8			
Di-n-butyl phthalate			<8			
Di-n-octyl phthalate			<8			
Dinoseb			<.5			
Diphenylamine			<8			
Disulfoton			<.4			
Endosulfan i			<.05			
Endosulfan ii			<.05			
Endosulfan sulfate			<.05			
Endrin			<.05			
Endrin aldehyde			<.05			
Ethyl methacrylate			<10			
Ethyl methanesulfonate			<8			
Ethylbenzene	<1		<1	<1		<1
Famphur			<.4			
Fluoranthene			<8			
Fluorene			<8			

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for GWD-2

Constituents	Units	9/18/2014	4/28/2015	10/7/2015	4/19/2016	9/19/2016	3/21/2017	10/12/2017	3/8/2018
Fluoride	mg/L								
Gamma-bhc (lindane)	ug/L								
Heptachlor	ug/L								
Heptachlor epoxide	ug/L								
Hexachlorobenzene	ug/L								
Hexachlorobutadiene	ug/L								
Hexachlorocyclopentadiene	ug/L								
Hexachloroethane	ug/L								
Hexachloropropene	ug/L								
Indeno(1,2,3-cd)pyrene	ug/L								
Iron, total	ug/L								
Isobutanol	mg/L								
Isodrin	ug/L								
Isophorone	ug/L								
Isosafrole	ug/L								
Kepone	ug/L								
Lead, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Lithium, total	ug/L								
Manganese, total	ug/L								
Mercury, total	ug/L								
Methacrylonitrile	ug/L								
Methapyrilene	ug/L								
Methoxychlor	ug/L								
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Methyl methacrylate	ug/L								
Methyl methanesulfonate	ug/L								
Methyl parathion	ug/L								
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Molybdenum, total	ug/L								
Naphthalene	ug/L								
Nickel, total	ug/L	4.0	<4.0	6.2	6.6	6.7	12.1	11.2	10.1
Nitrobenzene	ug/L								
Nitrogen, ammonia	mg/L								
Nitrogen, Kjeldahl, total	mg/L								
Nitrogen, Nitrate+Nitrite	mg/L								
N-nitrosodiethylamine	ug/L								
N-nitrosodimethylamine	ug/L								
N-nitrosodi-n-butylamine	ug/L								
N-nitroso-di-n-propylamine	ug/L								
N-nitrosodiphenylamine	ug/L								
N-nitrosomethylethylamine	ug/L								
N-nitrosopiperidine	ug/L								
N-nitrosopyrrolidine	ug/L								
O,o,o-triethyl phosphorothioate	ug/L								
O-toluidine	ug/L								
Parathion	ug/L								
P-dimethylaminoazobenzene	ug/L								
Pentachlorobenzene	ug/L								
Pentachloronitrobenzene (pcnb)	ug/L								
Pentachlorophenol	ug/L								
Phenacetin	ug/L								
Phenanthrene	ug/L								
Phenol	ug/L								
Phorate	ug/L								
Pronamide	ug/L								
Propionitrile	ug/L								
Pyrene	ug/L								
Safrole	ug/L								
Selenium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Silica, dissolved	mg/L								
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Solids, total suspended	mg/L	<2	<2	<2	<2	<2	<2	<2	
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Sulfate	mg/L								
Sulfide, total	mg/L								
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Thionazin	ug/L								
Tin, total	ug/L								
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Toxaphene	ug/L								
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	1.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vanadium, total	ug/L	<20	<20	<20	<20	<20	<20	<20	<20

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for GWD-2

Constituents	9/6/2018	5/13/2019	9/26/2019	3/30/2020	9/17/2020	12/3/2020	3/9/2021	9/9/2021	3/14/2022
Fluoride									.2
Gamma-bhc (lindane)									
Heptachlor									
Heptachlor epoxide									
Hexachlorobenzene									
Hexachlorobutadiene									
Hexachlorocyclopentadiene									
Hexachloroethane									
Hexachloropropene									
Indeno(1,2,3-cd)pyrene									
Iron, total									277
Isobutanol									
Isodrin									
Isophorone									
Isosafrole									
Kepone									
Lead, total	<4	<4	<4	<4	<4		<4	<4	<4
Lithium, total									<50
Manganese, total									1670
Mercury, total									
Methacrylonitrile									
Methapyrilene									
Methoxychlor									
Methyl iodide	<1	<1	<1	<1	<1		<1	<1	
Methyl methacrylate									
Methyl methanesulfonate									
Methyl parathion									
Methylene chloride	<5	<5	<5	<5	<5		<5	<5	
Molybdenum, total									4.6
Naphthalene									
Nickel, total	<4.0	<4.0	8.2	7.3	13.0		6.1	<4.0	4.1
Nitrobenzene									
Nitrogen, ammonia									<.1
Nitrogen, Kjeldahl, total									155
Nitrogen, Nitrate+Nitrite									9.86
N-nitrosodiethylamine									
N-nitrosodimethylamine									
N-nitrosodi-n-butylamine									
N-nitroso-di-n-propylamine									
N-nitrosodiphenylamine									
N-nitrosomethylethylamine									
N-nitrosopiperidine									
N-nitrosopyrrolidine									
O,o,o-triethyl phosphorothioate									
O-toluidine									
Parathion									
P-dimethylaminoazobenzene									
Pentachlorobenzene									
Pentachloronitrobenzene (pcnb)									
Pentachlorophenol									
Phenacetin									
Phenanthrene									
Phenol									
Phorate									
Pronamide									
Propionitrile									
Pyrene									
Safrole									
Selenium, total	<4	<4	<4	<4	<4		<4	<4	<4
Silica, dissolved									24.1
Silver, total	<8	<4	<4	<4	<4		<4	<4	
Solids, total suspended									<2
Styrene	<1	<1	<1	<1	<1		<1	<1	
Sulfate									22.8
Sulfide, total									
Tetrachloroethylene	<1	<1	<1	<1	<1		<1	<1	<1
Thallium, total	<4	<2	<2	<2	<2		<2	<2	
Thionazin									
Tin, total									
Toluene	<1	<1	<1	<1	<1		<1	<1	<1
Toxaphene									
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1		<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1	<1	<1		<1	<1	
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5	<5		<5	<5	
Trichloroethylene	<1	<1	<1	<1	<1		<1	<1	<1
Trichlorofluoromethane	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0	<1.0	
Vanadium, total	<20	<20	<20	<20	<20		<20	<20	<20

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for GWD-2

Constituents	3/6/2023	5/9/2023	9/8/2023	3/20/2024	6/14/2024	9/25/2024
Fluoride						
Gamma-bhc (lindane)			<.05			
Heptachlor			<.05			
Heptachlor epoxide			<.05			
Hexachlorobenzene			<.05			
Hexachlorobutadiene			<8			
Hexachlorocyclopentadiene			<8			
Hexachloroethane			<8			
Hexachloropropene			<8			
Indeno(1,2,3-cd)pyrene			<8			
Iron, total						
Isobutanol			<1			
Isodrin			<8			
Isophorone			<8			
Isosafrole			<8			
Kepone			<8			
Lead, total	<4		<4	<4		<4
Lithium, total						
Manganese, total						
Mercury, total			<.5			
Methacrylonitrile			<1			
Methapyrilene			<8			
Methoxychlor			<.05			
Methyl iodide	<1		<2	<1		<1
Methyl methacrylate			<1			
Methyl methanesulfonate			<8			
Methyl parathion			<.4			
Methylene chloride	<5		<5	<5		<5
Molybdenum, total						
Naphthalene			<8			
Nickel, total	4.0		<4.0	<4.0		4.4
Nitrobenzene			<8			
Nitrogen, ammonia						
Nitrogen, Kjeldahl, total						
Nitrogen, Nitrate+Nitrite						
N-nitrosodiethylamine			<8			
N-nitrosodimethylamine			<8			
N-nitrosodi-n-butylamine			<8			
N-nitroso-di-n-propylamine			<8			
N-nitrosodiphenylamine			<8			
N-nitrosomethylethylamine			<8			
N-nitrosopiperidine			<8			
N-nitrosopyrrolidine			<8			
O,o,o-triethyl phosphorothioate			<.4			
O-toluidine			<8			
Parathion			<.4			
P-dimethylaminoazobenzene			<8			
Pentachlorobenzene			<8			
Pentachloronitrobenzene (pcnb)			<8			
Pentachlorophenol			<8			
Phenacetin			<8			
Phenanthrene			<8			
Phenol			<8			
Phorate			<.4			
Pronamide			<8			
Propionitrile			<10			
Pyrene			<8			
Safrole			<8			
Selenium, total	<4		<4	<4		<4
Silica, dissolved						
Silver, total	<4		<4	<4		<4
Solids, total suspended						
Styrene	<1		<1	<1		<1
Sulfate						
Sulfide, total			<.1			
Tetrachloroethylene	<1		<1	<1		<1
Thallium, total	<2		<2	<2		<2
Thionazin			<.4			
Tin, total			<20			
Toluene	<1		<1	<1		<1
Toxaphene			<.2			
Trans-1,2-dichloroethylene	<1		<1	<1		<1
Trans-1,3-dichloropropene	<1		<1	<1		<1
Trans-1,4-dichloro-2-butene	<5		<5	<5		<5
Trichloroethylene	<1		<1	<1		<1
Trichlorofluoromethane	<1.0		<1.0	<1.0		<1.0
Vanadium, total	<20		<20	<20		<20

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for GWD-2

Constituents	Units	9/18/2014	4/28/2015	10/7/2015	4/19/2016	9/19/2016	3/21/2017	10/12/2017	3/8/2018
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	9.1	<8.0	<8.0	<8.0	20.6	24.6	<8.0	<8.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for GWD-2

Constituents	9/6/2018	5/13/2019	9/26/2019	3/30/2020	9/17/2020	12/3/2020	3/9/2021	9/9/2021	3/14/2022
Vinyl acetate	<5	<5	<5	<5	<5		<5	<5	
Vinyl chloride	<1	<1	<1	<1	<1		<1	<1	<1
Xylenes, total	<2	<2	<2	<2	<2		<2	<2	
Zinc, total	13.2	<8.0	<8.0	<20.0	<20.0		<20.0	<20.0	<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for GWD-2

Constituents	3/6/2023	5/9/2023	9/8/2023	3/20/2024	6/14/2024	9/25/2024
Vinyl acetate	<5		<5	<5		<5
Vinyl chloride	<1		<1	<1		<1
Xylenes, total	<2		<2	<2		<2
Zinc, total	<20.0		<20.0	<20.0		<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-12

Constituents	Units	9/18/2014	4/28/2015	10/7/2015	4/19/2016	9/19/2016	3/22/2017	10/12/2017	3/8/2018
(3 4)-methylphenol	ug/L								
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloropropene	ug/L								
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene	ug/L								
1,2,4-trichlorobenzene	ug/L								
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene	ug/L								
1,3,5-trinitrobenzene	ug/L								
1,3-dichlorobenzene	ug/L								
1,3-dichloropropane	ug/L								
1,3-dinitrobenzene	ug/L								
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,4-naphthoquinone	ug/L								
1,4-phenylenediamine	ug/L								
1-naphthylamine	ug/L								
2,2-dichloropropane	ug/L								
2,3,4,6-tetrachlorophenol	ug/L								
2,4,5-t	ug/L								
2,4,5-tp (silvex)	ug/L								
2,4,5-trichlorophenol	ug/L								
2,4,6-trichlorophenol	ug/L								
2,4-d	ug/L								
2,4-dichlorophenol	ug/L								
2,4-dimethylphenol	ug/L								
2,4-dinitrophenol	ug/L								
2,4-dinitrotoluene	ug/L								
2,6-dichlorophenol	ug/L								
2,6-dinitrotoluene	ug/L								
2-acetylaminofluorene	ug/L								
2-butanone (mek)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
2-chloronaphthalene	ug/L								
2-chlorophenol	ug/L								
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
2-methylnaphthalene	ug/L								
2-methylphenol	ug/L								
2-naphthylamine	ug/L								
2-nitroaniline	ug/L								
2-nitrophenol	ug/L								
3,3´-dichlorobenzidine	ug/L								
3,3'-dimethylbenzidine	ug/L								
3-methylcholanthrene	ug/L								
3-nitroaniline	ug/L								
4,4´-ddd	ug/L								
4,4´-dde	ug/L								
4,4´-ddt	ug/L								
4,6-dinitro-2-methylphenol	ug/L								
4-aminobiphenyl	ug/L								
4-bromophenyl phenyl ether	ug/L								
4-chloro-3-methylphenol	ug/L								
4-chloroaniline	ug/L								
4-chlorophenyl phenyl ether	ug/L								
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
4-nitroaniline	ug/L								
4-nitrophenol	ug/L								
5-nitro-o-toluidine	ug/L								
7,12-dimethylbenz(a)anthracene	ug/L								
Acenaphthene	ug/L								
Acenaphthylene	ug/L								
Acetone	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	12.9	<10.0
Acetonitrile	ug/L								
Acetophenone	ug/L								
Acrolein	ug/L								
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Aldrin	ug/L								
Allyl chloride	ug/L								
Alpha-bhc	ug/L								
Anthracene	ug/L								

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-12

Constituents	9/6/2018	5/13/2019	9/26/2019	11/14/2019	3/30/2020	6/25/2020	9/17/2020	3/9/2021	9/9/2021
(3 4)-methylphenol									
1,1,1,2-tetrachloroethane	<1	<1	<1		<1		<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1		<1		<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1		<1		<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1		<1		<1	<1	<1
1,1-dichloroethane	<1	<1	<1		<1		<1	<1	<1
1,1-dichloroethylene	<1	<1	<1		<1		<1	<1	<1
1,1-dichloropropene									
1,2,3-trichloropropane	<1	<1	<1		<1		<1	<1	<1
1,2,4,5-tetrachlorobenzene									
1,2,4-trichlorobenzene									
1,2-dibromo-3-chloropropane	<1	<1	<1		<5		<5	<5	<5
1,2-dibromoethane	<1	<1	<1		<1		<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1		<1		<1	<1	<1
1,2-dichloroethane	<1	<1	<1		<1		<1	<1	<1
1,2-dichloropropane	<1	<1	<1		<1		<1	<1	<1
1,2-dinitrobenzene									
1,3,5-trinitrobenzene									
1,3-dichlorobenzene									
1,3-dichloropropane									
1,3-dinitrobenzene									
1,4-dichlorobenzene	<1	<1	<1		<1		<1	<1	<1
1,4-naphthoquinone									
1,4-phenylenediamine									
1-naphthylamine									
2,2-dichloropropane									
2,3,4,6-tetrachlorophenol									
2,4,5-t									
2,4,5-tp (silvex)									
2,4,5-trichlorophenol									
2,4,6-trichlorophenol									
2,4-d									
2,4-dichlorophenol									
2,4-dimethylphenol									
2,4-dinitrophenol									
2,4-dinitrotoluene									
2,6-dichlorophenol									
2,6-dinitrotoluene									
2-acetylaminofluorene									
2-butanone (mek)	<5	<5	<5		<5		<5	<5	<5
2-chloronaphthalene									
2-chlorophenol									
2-hexanone (mbk)	<5	<5	<5		<5		<5	<5	<5
2-methylnaphthalene									
2-methylphenol									
2-naphthylamine									
2-nitroaniline									
2-nitrophenol									
3,3´-dichlorobenzidine									
3,3'-dimethylbenzidine									
3-methylcholanthrene									
3-nitroaniline									
4,4´-ddd									
4,4´-dde									
4,4´-ddt									
4,6-dinitro-2-methylphenol									
4-aminobiphenyl									
4-bromophenyl phenyl ether									
4-chloro-3-methylphenol									
4-chloroaniline									
4-chlorophenyl phenyl ether									
4-methyl-2-pentanone (mibk)	<5	<5	<5		<5		<5	<5	<5
4-nitroaniline									
4-nitrophenol									
5-nitro-o-toluidine									
7,12-dimethylbenz(a)anthracene									
Acenaphthene									
Acenaphthylene									
Acetone	<10.0	<10.0	<10.0		<10.0		<10.0	<10.0	<10.0
Acetonitrile									
Acetophenone									
Acrolein									
Acrylonitrile	<5	<5	<5		<5		<5	<5	<5
Aldrin									
Allyl chloride									
Alpha-bhc									
Anthracene									

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-12

Constituents	12/8/2021	3/14/2022	9/1/2022	3/6/2023	9/8/2023	3/20/2024	9/25/2024
(3 4)-methylphenol			<8				
1,1,1,2-tetrachloroethane		<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane		<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane		<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane		<1	<1	<1	<1	<1	<1
1,1-dichloroethane		<1	<1	<1	<1	<1	<1
1,1-dichloroethylene		<1	<1	<1	<1	<1	<1
1,1-dichloropropene			<1		<1		
1,2,3-trichloropropane		<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene			<8				
1,2,4-trichlorobenzene			<1		<1		
1,2-dibromo-3-chloropropane		<5	<1	<5	<1	<5	<5
1,2-dibromoethane		<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene		<1	<1	<1	<1	<1	<1
1,2-dichloroethane		<1	<1	<1	<1	<1	<1
1,2-dichloropropane		<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene			<8				
1,3,5-trinitrobenzene			<8				
1,3-dichlorobenzene			<1		<1		
1,3-dichloropropane			<1		<1		
1,3-dinitrobenzene			<8				
1,4-dichlorobenzene		<1	<1	<1	<1	<1	<1
1,4-naphthoquinone			<8				
1,4-phenylenediamine			<8				
1-naphthylamine			<8				
2,2-dichloropropane			<1		<1		
2,3,4,6-tetrachlorophenol			<8				
2,4,5-t			<.5				
2,4,5-tp (silvex)			<.5				
2,4,5-trichlorophenol			<8				
2,4,6-trichlorophenol			<8				
2,4-d			<2				
2,4-dichlorophenol			<8				
2,4-dimethylphenol			<8				
2,4-dinitrophenol			<8				
2,4-dinitrotoluene			<8				
2,6-dichlorophenol			<8				
2,6-dinitrotoluene			<8				
2-acetylaminofluorene			<8				
2-butanone (mek)		<10	<5	<10	<5	<10	<10
2-chloronaphthalene			<8				
2-chlorophenol			<8				
2-hexanone (mbk)		<5	<5	<5	<5	<5	<5
2-methylnaphthalene			<8				
2-methylphenol			<8				
2-naphthylamine			<8				
2-nitroaniline			<8				
2-nitrophenol			<8				
3,3´-dichlorobenzidine			<8				
3,3'-dimethylbenzidine			<8				
3-methylcholanthrene			<8				
3-nitroaniline			<8				
4,4´-ddd			<.05				
4,4´-dde			<.05				
4,4´-ddt			<.05				
4,6-dinitro-2-methylphenol			<8				
4-aminobiphenyl			<8				
4-bromophenyl phenyl ether			<8				
4-chloro-3-methylphenol			<8				
4-chloroaniline			<8				
4-chlorophenyl phenyl ether			<8				
4-methyl-2-pentanone (mibk)		<5	<5	<5	<5	<5	<5
4-nitroaniline			<8				
4-nitrophenol			<8				
5-nitro-o-toluidine			<8				
7,12-dimethylbenz(a)anthracene			<8				
Acenaphthene			<8				
Acenaphthylene			<8				
Acetone		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Acetonitrile			<10		<10		
Acetophenone			<8				
Acrolein			<10		<10		
Acrylonitrile		<5	<5	<5	<5	<5	<5
Aldrin			<.05				
Allyl chloride			<1		<1		
Alpha-bhc			<.05				
Anthracene			<8				

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-12

Constituents	Units	9/18/2014	4/28/2015	10/7/2015	4/19/2016	9/19/2016	3/22/2017	10/12/2017	3/8/2018
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Arochlor 1016	ug/L								
Arochlor 1221	ug/L								
Arochlor 1232	ug/L								
Arochlor 1242	ug/L								
Arochlor 1248	ug/L								
Arochlor 1254	ug/L								
Arochlor 1260	ug/L								
Arsenic, total	ug/L	4.1	4.6	<4.0	<4.0	4.3	<4.0	<4.0	<4.0
Azobenzene	ug/L								
Barium, total	ug/L	364	409	403	396	390	303	305	295
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/L								
Benzo(a)pyrene	ug/L								
Benzo(b)fluoranthene	ug/L								
Benzo(g,h,i)perylene	ug/L								
Benzo(k)fluoranthene	ug/L								
Benzyl alcohol	ug/L								
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Beta-bhc	ug/L								
Bis (2-chloroethoxy) methane	ug/L								
Bis(2-chloroethyl) ether	ug/L								
Bis(2-chloroisopropyl) ether	ug/L								
Bis(2-ethylhexyl) phthalate	ug/L								
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate	ug/L								
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chlordane	ug/L								
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzilate	ug/L								
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroprene	ug/L								
Chromium, total	ug/L	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0
Chrysene	ug/L								
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	3.4	2.6	1.7	2.0	2.2	<.8	<.8	<2.0
Copper, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Cyanide, total	mg/L								
Delta-bhc	ug/L								
Diallate	ug/L								
Dibenzo(a,h)anthracene	ug/L								
Dibenzofuran	ug/L								
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	ug/L								
Dieldrin	ug/L								
Diethyl phthalate	ug/L								
Dimethoate	ug/L								
Dimethylphthalate	ug/L								
Di-n-butyl phthalate	ug/L								
Di-n-octyl phthalate	ug/L								
Dinoseb	ug/L								
Diphenylamine	ug/L								
Disulfoton	ug/L								
Endosulfan i	ug/L								
Endosulfan ii	ug/L								
Endosulfan sulfate	ug/L								
Endrin	ug/L								
Endrin aldehyde	ug/L								
Ethyl methacrylate	ug/L								
Ethyl methanesulfonate	ug/L								
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Famphur	ug/L								
Fluoranthene	ug/L								
Fluorene	ug/L								
Gamma-bhc (lindane)	ug/L								
Heptachlor	ug/L								
Heptachlor epoxide	ug/L								
Hexachlorobenzene	ug/L								

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-12

Constituents	9/6/2018	5/13/2019	9/26/2019	11/14/2019	3/30/2020	6/25/2020	9/17/2020	3/9/2021	9/9/2021
Antimony, total	<2	<2	<2		<2		<2	<2	<2
Arochlor 1016									
Arochlor 1221									
Arochlor 1232									
Arochlor 1242									
Arochlor 1248									
Arochlor 1254									
Arochlor 1260									
Arsenic, total	<4.0	<4.0	<4.0		<4.0		<4.0	<4.0	<4.0
Azobenzene									
Barium, total	286	280	295		397		301	416	425
Benzene	<1	<1	<1		<1		<1	<1	<1
Benzo(a)anthracene									
Benzo(a)pyrene									
Benzo(b)fluoranthene									
Benzo(g,h,i)perylene									
Benzo(k)fluoranthene									
Benzyl alcohol									
Beryllium, total	<4	<4	<4		<4		<4	<4	<4
Beta-bhc									
Bis (2-chloroethoxy) methane									
Bis(2-chloroethyl) ether									
Bis(2-chloroisopropyl) ether									
Bis(2-ethylhexyl) phthalate									
Bromochloromethane	<1	<1	<1		<1		<1	<1	<1
Bromodichloromethane	<1	<1	<1		<1		<1	<1	<1
Bromoform	<1	<1	<1		<1		<1	<1	<1
Bromomethane	<1	<1	<1		<1		<1	<1	<1
Butyl benzyl phthalate									
Cadmium, total	<.8	<.8	1.3	<.8 *	<.8		<.8	<.8	<.8
Carbon disulfide	<1	<1	<1		<1		<1	<1	<1
Carbon tetrachloride	<1	<1	<1		<1		<1	<1	<1
Chlordane									
Chlorobenzene	<1	<1	<1		<1		<1	<1	<1
Chlorobenzilate									
Chloroethane	<1	<1	<1		<1		<1	<1	<1
Chloroform	<1	<1	<1		<1		<1	<1	<1
Chloromethane	<1.0	<1.0	<1.0		<1.0		<1.0	<1.0	<1.0
Chloroprene									
Chromium, total	<8.0	<8.0	<8.0		<8.0		<8.0	<8.0	<8.0
Chrysene									
Cis-1,2-dichloroethylene	<1	<1	<1		<1		<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1		<1		<1	<1	<1
Cobalt, total	<.8	<.8	<.8		6.7		.4	1.3	1.9
Copper, total	<4.0	<4.0	<4.0		8.0		<4.0	<4.0	<4.0
Cyanide, total									
Delta-bhc									
Diallate									
Dibenzo(a,h)anthracene									
Dibenzofuran									
Dibromochloromethane	<1	<1	<1		<1		<1	<1	<1
Dibromomethane	<1	<1	<1		<1		<1	<1	<1
Dichlorodifluoromethane									
Dieldrin									
Diethyl phthalate									
Dimethoate									
Dimethylphthalate									
Di-n-butyl phthalate									
Di-n-octyl phthalate									
Dinoseb									
Diphenylamine									
Disulfoton									
Endosulfan i									
Endosulfan ii									
Endosulfan sulfate									
Endrin									
Endrin aldehyde									
Ethyl methacrylate									
Ethyl methanesulfonate									
Ethylbenzene	<1	<1	<1		<1		<1	<1	<1
Famphur									
Fluoranthene									
Fluorene									
Gamma-bhc (lindane)									
Heptachlor									
Heptachlor epoxide									
Hexachlorobenzene									

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-12

Constituents	12/8/2021	3/14/2022	9/1/2022	3/6/2023	9/8/2023	3/20/2024	9/25/2024
Antimony, total		<2	<2	<2	<2	<2	<2
Arochlor 1016			<.1				
Arochlor 1221			<.2				
Arochlor 1232			<.2				
Arochlor 1242			<.2				
Arochlor 1248			<.2				
Arochlor 1254			<.1				
Arochlor 1260			<.1				
Arsenic, total		<4.0	<4.0	7.3	<4.0	15.9	<4.0
Azobenzene			<8				
Barium, total		544	322	547	465	856	509
Benzene		<1	<1	<1	<1	<1	<1
Benzo(a)anthracene			<8				
Benzo(a)pyrene			<8				
Benzo(b)fluoranthene			<8				
Benzo(g,h,i)perylene			<8				
Benzo(k)fluoranthene			<8				
Benzyl alcohol			<8				
Beryllium, total		<4	<4	<4	<4	<4	<4
Beta-bhc			<.05				
Bis (2-chloroethoxy) methane			<8				
Bis(2-chloroethyl) ether			<8				
Bis(2-chloroisopropyl) ether			<8				
Bis(2-ethylhexyl) phthalate			<6				
Bromochloromethane		<1	<1	<1	<1	<1	<1
Bromodichloromethane		<1	<1	<1	<1	<1	<1
Bromoform		<1	<1	<1	<1	<1	<1
Bromomethane		<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate			<8				
Cadmium, total		<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide		<1	<1	<1	<1	<1	<1
Carbon tetrachloride		<1	<1	<1	<1	<1	<1
Chlordane			<.1				
Chlorobenzene		<1	<1	<1	<1	<1	<1
Chlorobenzilate			<8				
Chloroethane		<1	<1	<1	<1	<1	<1
Chloroform		<1	<1	<1	<1	<1	<1
Chloromethane		<1.0	<1.0	<1.0	<1.0	1.4	<1.0
Chloroprene			<1		<1		
Chromium, total		<8.0	<8.0	12.7	<8.0	22.7	<8.0
Chrysene			<8				
Cis-1,2-dichloroethylene		<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene		<1	<1	<1	<1	<1	<1
Cobalt, total		.8	1.3	8.2	.6	21.3	.9
Copper, total		<4.0	<4.0	6.5	<4.0	18.0	<4.0
Cyanide, total			<.005		<.005		
Delta-bhc			<.05				
Diallate			<8				
Dibenzo(a,h)anthracene			<8				
Dibenzofuran			<8				
Dibromochloromethane		<1	<1	<1	<1	<1	<1
Dibromomethane		<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane			<1		<1		
Dieldrin			<.05				
Diethyl phthalate			<8				
Dimethoate			<.4				
Dimethylphthalate			<8				
Di-n-butyl phthalate			<8				
Di-n-octyl phthalate			<8				
Dinoseb			<.5				
Diphenylamine			<8				
Disulfoton			<.4				
Endosulfan i			<.05				
Endosulfan ii			<.05				
Endosulfan sulfate			<.05				
Endrin			<.05				
Endrin aldehyde			<.05				
Ethyl methacrylate			<10		<10		
Ethyl methanesulfonate			<8				
Ethylbenzene		<1	<1	<1	<1	<1	<1
Famphur			<.4				
Fluoranthene			<8				
Fluorene			<8				
Gamma-bhc (lindane)			<.05				
Heptachlor			<.05				
Heptachlor epoxide			<.05				
Hexachlorobenzene			<.05				

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-12

Constituents	Units	9/18/2014	4/28/2015	10/7/2015	4/19/2016	9/19/2016	3/22/2017	10/12/2017	3/8/2018
Hexachlorobutadiene	ug/L								
Hexachlorocyclopentadiene	ug/L								
Hexachloroethane	ug/L								
Hexachloropropene	ug/L								
Indeno(1,2,3-cd)pyrene	ug/L								
Isobutanol	mg/L								
Isodrin	ug/L								
Isophorone	ug/L								
Isosafrole	ug/L								
Kepone	ug/L								
Lead, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Mercury, total	ug/L								
Methacrylonitrile	ug/L								
Methapyrilene	ug/L								
Methoxychlor	ug/L								
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Methyl methacrylate	ug/L								
Methyl methanesulfonate	ug/L								
Methyl parathion	ug/L								
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Naphthalene	ug/L								
Nickel, total	ug/L	5.8	4.6	<4.0	4.1	<4.0	<4.0	<4.0	<4.0
Nitrobenzene	ug/L								
N-nitrosodiethylamine	ug/L								
N-nitrosodimethylamine	ug/L								
N-nitrosodi-n-butylamine	ug/L								
N-nitroso-di-n-propylamine	ug/L								
N-nitrosodiphenylamine	ug/L								
N-nitrosomethylethylamine	ug/L								
N-nitrosopiperidine	ug/L								
N-nitrosopyrrolidine	ug/L								
O,o,o-triethyl phosphorothioate	ug/L								
O-toluidine	ug/L								
Parathion	ug/L								
P-dimethylaminoazobenzene	ug/L								
Pentachlorobenzene	ug/L								
Pentachloronitrobenzene (pcnb)	ug/L								
Pentachlorophenol	ug/L								
Phenacetin	ug/L								
Phenanthrene	ug/L								
Phenol	ug/L								
Phorate	ug/L								
Pronamide	ug/L								
Propionitrile	ug/L								
Pyrene	ug/L								
Safrole	ug/L								
Selenium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Solids, total suspended	mg/L	50	51	39	42	50	74	454	
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Sulfide, total	mg/L								
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Thionazin	ug/L								
Tin, total	ug/L								
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Toxaphene	ug/L								
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	10.3	<8.0	9.1	<8.0	<8.0	<8.0	<8.0	9.3

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-12

Constituents	9/6/2018	5/13/2019	9/26/2019	11/14/2019	3/30/2020	6/25/2020	9/17/2020	3/9/2021	9/9/2021
Hexachlorobutadiene									
Hexachlorocyclopentadiene									
Hexachloroethane									
Hexachloropropene									
Indeno(1,2,3-cd)pyrene									
Isobutanol									
Isodrin									
Isophorone									
Isosafrole									
Kepone									
Lead, total	<4.0	6.7	<4.0		6.0		<4.0	<4.0	<4.0
Mercury, total									
Methacrylonitrile									
Methapyrilene									
Methoxychlor									
Methyl iodide	<1	<1	<1		<2		<1	<1	<1
Methyl methacrylate									
Methyl methanesulfonate									
Methyl parathion									
Methylene chloride	<5	<5	<5		<5		<5	<5	<5
Naphthalene									
Nickel, total	<8.0	<4.0	5.2		15.7	7.9	5.9	11.9	15.6
Nitrobenzene									
N-nitrosodiethylamine									
N-nitrosodimethylamine									
N-nitrosodi-n-butylamine									
N-nitroso-di-n-propylamine									
N-nitrosodiphenylamine									
N-nitrosomethylethylamine									
N-nitrosopiperidine									
N-nitrosopyrrolidine									
O,o,o-triethyl phosphorothioate									
O-toluidine									
Parathion									
P-dimethylaminoazobenzene									
Pentachlorobenzene									
Pentachloronitrobenzene (pcnb)									
Pentachlorophenol									
Phenacetin									
Phenanthrene									
Phenol									
Phorate									
Pronamide									
Propionitrile									
Pyrene									
Safrole									
Selenium, total	<4	<4	<4		<4		<4	<4	<4
Silver, total	<8	<4	<4		<4		<4	<4	<4
Solids, total suspended									
Styrene	<1	<1	<1		<1		<1	<1	<1
Sulfide, total									
Tetrachloroethylene	<1	<1	<1		<1		<1	<1	<1
Thallium, total	<4	<2	<2		<2		<2	<2	<2
Thionazin									
Tin, total									
Toluene	<1	<1	<1		<1		<1	<1	<1
Toxaphene									
Trans-1,2-dichloroethylene	<1	<1	<1		<1		<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1		<1		<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5		<5		<5	<5	<5
Trichloroethylene	<1	<1	<1		<1		<1	<1	<1
Trichlorofluoromethane	<1	<1	<1		<1		<1	<1	<1
Vanadium, total	<20.0	<20.0	<20.0		<20.0		<20.0	<20.0	<20.0
Vinyl acetate	<5	<5	<5		<5		<5	<5	<5
Vinyl chloride	<1	<1	<1		<1		<1	<1	<1
Xylenes, total	<2	<2	<2		<2		<2	<2	<2
Zinc, total	30.3	13.6	27.6		<20.0		<20.0	<20.0	<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-12

Constituents	12/8/2021	3/14/2022	9/1/2022	3/6/2023	9/8/2023	3/20/2024	9/25/2024
Hexachlorobutadiene			<8				
Hexachlorocyclopentadiene			<8				
Hexachloroethane			<8				
Hexachloropropene			<8				
Indeno(1,2,3-cd)pyrene			<8				
Isobutanol			<1		<1		
Isodrin			<8				
Isophorone			<8				
Isosafrole			<8				
Kepone			<8				
Lead, total		<4.0	<4.0	4.1	<4.0	8.9	<4.0
Mercury, total			<.5		<.5		
Methacrylonitrile			<1		<1		
Methapyrilene			<8				
Methoxychlor			<.05				
Methyl iodide		<1	<2	<1	<2	<1	<1
Methyl methacrylate			<1		<1		
Methyl methanesulfonate			<8				
Methyl parathion			<.4				
Methylene chloride		<5	<5	<5	<5	<5	<5
Naphthalene			<8				
Nickel, total	31.6	12.3	6.7	27.6	11.6	63.1	10.2
Nitrobenzene			<8				
N-nitrosodiethylamine			<8				
N-nitrosodimethylamine			<8				
N-nitrosodi-n-butylamine			<8				
N-nitroso-di-n-propylamine			<8				
N-nitrosodiphenylamine			<8				
N-nitrosomethylethylamine			<8				
N-nitrosopiperidine			<8				
N-nitrosopyrrolidine			<8				
O,o,o-triethyl phosphorothioate			<.4				
O-toluidine			<8				
Parathion			<.4				
P-dimethylaminoazobenzene			<8				
Pentachlorobenzene			<8				
Pentachloronitrobenzene (pcnb)			<8				
Pentachlorophenol			<8				
Phenacetin			<8				
Phenanthrene			<8				
Phenol			<8				
Phorate			<.4				
Pronamide			<8				
Propionitrile			<10		<10		
Pyrene			<8				
Safrole			<8				
Selenium, total		<4	<4	<4	<4	<4	<4
Silver, total		<4	<4	<4	<4	<4	<4
Solids, total suspended							
Styrene		<1	<1	<1	<1	<1	<1
Sulfide, total			<.1		<.1		
Tetrachloroethylene		<1	<1	<1	<1	<1	<1
Thallium, total		<2	<2	<2	<2	<2	<2
Thionazin			<.4				
Tin, total			<20		<20		
Toluene		<1	<1	<1	<1	<1	<1
Toxaphene			<.2				
Trans-1,2-dichloroethylene		<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene		<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene		<5	<5	<5	<5	<5	<5
Trichloroethylene		<1	<1	<1	<1	<1	<1
Trichlorofluoromethane		<1	<1	<1	<1	<1	<1
Vanadium, total		<20.0	<20.0	<20.0	<20.0	38.6	<20.0
Vinyl acetate		<5	<5	<5	<5	<5	<5
Vinyl chloride		<1	<1	<1	<1	<1	<1
Xylenes, total		<2	<2	<2	<2	<2	<2
Zinc, total		<20.0	<20.0	<20.0	<20.0	36.3	<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-14

Constituents	Units	9/18/2014	4/29/2015	10/6/2015	4/19/2016	9/19/2016	3/22/2017	10/12/2017	3/8/2018	9/6/2018
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	ug/L	<10	<10	<10	<10	<10	<10	10	<10	<10
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Barium, total	ug/L	277	290	273	272	272	255	257	265	242
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, total	ug/L	<8	<8	<8	<8	<8	<8	<8	<8	<8
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	.9	<.8	<.8	<.8	<.8	<.8	<.8	<2.0	<.8
Copper, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	ug/L	<4.0	<4.0	<4.0	<4.0	5.4	<4.0	<4.0	<4.0	<8.0
Selenium, total	ug/L	4.7	4.6	4.0	4.2	4.0	<4.0	<4.0	6.3	<4.0
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<8
Solids, total suspended	mg/L	15	46	5	4	3	12	558		
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	9.3	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	11.1	27.7

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-14

Constituents	5/13/2019	9/26/2019	3/30/2020	6/25/2020	9/17/2020	12/3/2020	3/9/2021	9/9/2021	3/14/2022
1,1,1,2-tetrachloroethane	<1	<1	<1		<1		<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1		<1		<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1		<1		<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1		<1		<1	<1	<1
1,1-dichloroethane	<1	<1	<1		<1		<1	<1	<1
1,1-dichloroethylene	<1	<1	<1		<1		<1	<1	<1
1,2,3-trichloropropane	<1	<1	<1		<1		<1	<1	<1
1,2-dibromo-3-chloropropane	<1	<1	<5		<5		<5	<5	<5
1,2-dibromoethane	<1	<1	<1		<1		<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1		<1		<1	<1	<1
1,2-dichloroethane	<1	<1	<1		<1		<1	<1	<1
1,2-dichloropropane	<1	<1	<1		<1		<1	<1	<1
1,4-dichlorobenzene	<1	<1	<1		<1		<1	<1	<1
2-butanone (mek)	<5	<5	<5		<5		<5	<5	<10
2-hexanone (mbk)	<5	<5	<5		<5		<5	<5	<5
4-methyl-2-pentanone (mibk)	<5	<5	<5		<5		<5	<5	<5
Acetone	<10	<10	<10		<10		<10	<10	<10
Acrylonitrile	<5	<5	<5		<5		<5	<5	<5
Antimony, total	<2	<2	<2		<2		<2	<2	<2
Arsenic, total	<4	<4	<4		<4		<4	<4	<4
Barium, total	247	255	259		410		249	265	243
Benzene	<1	<1	<1		<1		<1	<1	<1
Beryllium, total	<4	<4	<4		<4		<4	<4	<4
Bromochloromethane	<1	<1	<1		<1		<1	<1	<1
Bromodichloromethane	<1	<1	<1		<1		<1	<1	<1
Bromoform	<1	<1	<1		<1		<1	<1	<1
Bromomethane	<1	<1	<1		<1		<1	<1	<1
Cadmium, total	<.8	1.0	<.8		<.8		<.8	<.8	<.8
Carbon disulfide	<1	<1	<1		<1		<1	<1	<1
Carbon tetrachloride	<1	<1	<1		<1		<1	<1	<1
Chlorobenzene	<1	<1	<1		<1		<1	<1	<1
Chloroethane	<1	<1	<1		<1		<1	<1	<1
Chloroform	<1	<1	<1		<1		<1	<1	<1
Chloromethane	<1	<1	<1		<1		<1	<1	<1
Chromium, total	<8	<8	<8		<8		<8	<8	<8
Cis-1,2-dichloroethylene	<1	<1	<1		<1		<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1		<1		<1	<1	<1
Cobalt, total	<.8	<.8	<.8		<.4		<.4	<.4	.5
Copper, total	<4.0	<4.0	32.2	<4.0	<4.0		<4.0	<4.0	<4.0
Dibromochloromethane	<1	<1	<1		<1		<1	<1	<1
Dibromomethane	<1	<1	<1		<1		<1	<1	<1
Ethylbenzene	<1	<1	<1		<1		<1	<1	<1
Lead, total	<4	<4	<4		<4		<4	<4	<4
Methyl iodide	<1	<1	<2		<1		<1	<1	<1
Methylene chloride	<5	<5	<5		<5		<5	<5	<5
Nickel, total	<4.0	<4.0	<4.0		<4.0		<4.0	<4.0	<4.0
Selenium, total	4.4	4.5	<4.0		7.4	4.2	<4.0	<4.0	<4.0
Silver, total	<4	<4	<4		<4		<4	<4	<4
Solids, total suspended									
Styrene	<1	<1	<1		<1		<1	<1	<1
Tetrachloroethylene	<1	<1	<1		<1		<1	<1	<1
Thallium, total	<2	<2	<2		<2		<2	<2	<2
Toluene	<1	<1	<1		<1		<1	<1	<1
Trans-1,2-dichloroethylene	<1	<1	<1		<1		<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1		<1		<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5		<5		<5	<5	<5
Trichloroethylene	<1	<1	<1		<1		<1	<1	<1
Trichlorofluoromethane	<1	<1	<1		<1		<1	<1	<1
Vanadium, total	<20	<20	<20		<20		<20	<20	<20
Vinyl acetate	<5	<5	<5		<5		<5	<5	<5
Vinyl chloride	<1	<1	<1		<1		<1	<1	<1
Xylenes, total	<2	<2	<2		<2		<2	<2	<2
Zinc, total	24.1	19.1	25.3		<20.0		<20.0	<20.0	<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-14

Constituents	9/1/2022	3/6/2023	9/8/2023	3/20/2024	9/25/2024
1,1,1,2-tetrachloroethane	<1	<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1	<1	<1
1,1-dichloroethane	<1	<1	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1	<1	<1
1,2,3-trichloropropane	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	<5	<5	<5	<5	<5
1,2-dibromoethane	<1	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1	<1	<1
1,2-dichloroethane	<1	<1	<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1	<1
1,4-dichlorobenzene	<1	<1	<1	<1	<1
2-butanone (mek)	<10	<10	<10	<10	<10
2-hexanone (mbk)	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5	<5
Acetone	<10	<10	<10	<10	<10
Acrylonitrile	<5	<5	<5	<5	<5
Antimony, total	<2	<2	<2	<2	<2
Arsenic, total	<4	<4	<4	<4	<4
Barium, total	259	258	243	248	241
Benzene	<1	<1	<1	<1	<1
Beryllium, total	<4	<4	<4	<4	<4
Bromochloromethane	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1	<1
Cadmium, total	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	<1	<1	<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<1
Chloroethane	<1	<1	<1	<1	<1
Chloroform	<1	<1	<1	<1	<1
Chloromethane	<1	<1	<1	<1	<1
Chromium, total	<8	<8	<8	<8	<8
Cis-1,2-dichloroethylene	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1
Cobalt, total	<.4	<.4	<.4	<.4	<.4
Copper, total	<4.0	<4.0	<4.0	<4.0	<4.0
Dibromochloromethane	<1	<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1
Lead, total	<4	<4	<4	<4	<4
Methyl iodide	<1	<1	<1	<1	<1
Methylene chloride	<5	<5	<5	<5	<5
Nickel, total	<4.0	<4.0	<4.0	<4.0	<4.0
Selenium, total	4.2	<4.0	<4.0	<4.0	<4.0
Silver, total	<4	<4	<4	<4	<4
Solids, total suspended					
Styrene	<1	<1	<1	<1	<1
Tetrachloroethylene	<1	<1	<1	<1	<1
Thallium, total	<2	<2	<2	<2	<2
Toluene	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5	<5
Trichloroethylene	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1	<1
Vanadium, total	<20	<20	<20	<20	<20
Vinyl acetate	<5	<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1	<1
Xylenes, total	<2	<2	<2	<2	<2
Zinc, total	<20.0	<20.0	<20.0	<20.0	<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-15

Constituents	Units	9/18/2014	4/29/2015	10/7/2015	4/19/2016	9/19/2016	3/21/2017	10/12/2017	3/8/2018
(3 4)-methylphenol	ug/L								
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloropropene	ug/L								
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene	ug/L								
1,2,4-trichlorobenzene	ug/L								
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene	ug/L								
1,3,5-trinitrobenzene	ug/L								
1,3-dichlorobenzene	ug/L								
1,3-dichloropropane	ug/L								
1,3-dinitrobenzene	ug/L								
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,4-naphthoquinone	ug/L								
1,4-phenylenediamine	ug/L								
1-naphthylamine	ug/L								
2,2-dichloropropane	ug/L								
2,3,4,6-tetrachlorophenol	ug/L								
2,4,5-t	ug/L								
2,4,5-tp (silvex)	ug/L								
2,4,5-trichlorophenol	ug/L								
2,4,6-trichlorophenol	ug/L								
2,4-d	ug/L								
2,4-dichlorophenol	ug/L								
2,4-dimethylphenol	ug/L								
2,4-dinitrophenol	ug/L								
2,4-dinitrotoluene	ug/L								
2,6-dichlorophenol	ug/L								
2,6-dinitrotoluene	ug/L								
2-acetylaminofluorene	ug/L								
2-butanone (mek)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
2-chloronaphthalene	ug/L								
2-chlorophenol	ug/L								
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
2-methylnaphthalene	ug/L								
2-methylphenol	ug/L								
2-naphthylamine	ug/L								
2-nitroaniline	ug/L								
2-nitrophenol	ug/L								
3,3´-dichlorobenzidine	ug/L								
3,3'-dimethylbenzidine	ug/L								
3-methylcholanthrene	ug/L								
3-nitroaniline	ug/L								
4,4´-ddd	ug/L								
4,4´-dde	ug/L								
4,4´-ddt	ug/L								
4,6-dinitro-2-methylphenol	ug/L								
4-aminobiphenyl	ug/L								
4-bromophenyl phenyl ether	ug/L								
4-chloro-3-methylphenol	ug/L								
4-chloroaniline	ug/L								
4-chlorophenyl phenyl ether	ug/L								
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
4-nitroaniline	ug/L								
4-nitrophenol	ug/L								
5-nitro-o-toluidine	ug/L								
7,12-dimethylbenz(a)anthracene	ug/L								
Acenaphthene	ug/L								
Acenaphthylene	ug/L								
Acetone	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	15.5	<10.0
Acetonitrile	ug/L								
Acetophenone	ug/L								
Acrolein	ug/L								
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Aldrin	ug/L								
Allyl chloride	ug/L								
Alpha-bhc	ug/L								
Anthracene	ug/L								

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-15

Constituents	9/6/2018	5/13/2019	9/26/2019	3/30/2020	9/17/2020	3/9/2021	9/9/2021	12/8/2021	3/14/2022
(3 4)-methylphenol									
1,1,1,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1		<1
1,1,1-trichloroethane	<1	<1	<1	<1	<1	<1	<1		<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1		<1
1,1,2-trichloroethane	<1	<1	<1	<1	<1	<1	<1		<1
1,1-dichloroethane	<1	<1	<1	<1	<1	<1	<1		<1
1,1-dichloroethylene	<1	<1	<1	<1	<1	<1	<1		<1
1,1-dichloropropene									
1,2,3-trichloropropane	<1	<1	<1	<1	<1	<1	<1		<1
1,2,4,5-tetrachlorobenzene									
1,2,4-trichlorobenzene									
1,2-dibromo-3-chloropropane	<1	<1	<1	<5	<5	<5	<5		<5
1,2-dibromoethane	<1	<1	<1	<1	<1	<1	<1		<1
1,2-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1		<1
1,2-dichloroethane	<1	<1	<1	<1	<1	<1	<1		<1
1,2-dichloropropane	<1	<1	<1	<1	<1	<1	<1		<1
1,2-dinitrobenzene									
1,3,5-trinitrobenzene									
1,3-dichlorobenzene									
1,3-dichloropropane									
1,3-dinitrobenzene									
1,4-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1		<1
1,4-naphthoquinone									
1,4-phenylenediamine									
1-naphthylamine									
2,2-dichloropropane									
2,3,4,6-tetrachlorophenol									
2,4,5-t									
2,4,5-tp (silvex)									
2,4,5-trichlorophenol									
2,4,6-trichlorophenol									
2,4-d									
2,4-dichlorophenol									
2,4-dimethylphenol									
2,4-dinitrophenol									
2,4-dinitrotoluene									
2,6-dichlorophenol									
2,6-dinitrotoluene									
2-acetylaminofluorene									
2-butanone (mek)	<5	<5	<5	<5	<5	<5	<5		<10
2-chloronaphthalene									
2-chlorophenol									
2-hexanone (mbk)	<5	<5	<5	<5	<5	<5	<5		<5
2-methylnaphthalene									
2-methylphenol									
2-naphthylamine									
2-nitroaniline									
2-nitrophenol									
3,3´-dichlorobenzidine									
3,3'-dimethylbenzidine									
3-methylcholanthrene									
3-nitroaniline									
4,4´-ddd									
4,4´-dde									
4,4´-ddt									
4,6-dinitro-2-methylphenol									
4-aminobiphenyl									
4-bromophenyl phenyl ether									
4-chloro-3-methylphenol									
4-chloroaniline									
4-chlorophenyl phenyl ether									
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5	<5	<5	<5		<5
4-nitroaniline									
4-nitrophenol									
5-nitro-o-toluidine									
7,12-dimethylbenz(a)anthracene									
Acenaphthene									
Acenaphthylene									
Acetone	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0		<10.0
Acetonitrile									
Acetophenone									
Acrolein									
Acrylonitrile	<5	<5	<5	<5	<5	<5	<5		<5
Aldrin									
Allyl chloride									
Alpha-bhc									
Anthracene									

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-15

Constituents	9/1/2022	3/6/2023	5/9/2023	9/8/2023	3/20/2024	9/25/2024
(3 4)-methylphenol	<8			<8		
1,1,1,2-tetrachloroethane	<1	<1		<1	<1	<1
1,1,1-trichloroethane	<1	<1		<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1		<1	<1	<1
1,1,2-trichloroethane	<1	<1		<1	<1	<1
1,1-dichloroethane	<1	<1		<1	<1	<1
1,1-dichloroethylene	<1	<1		<1	<1	<1
1,1-dichloropropene	<1			<1		
1,2,3-trichloropropane	<1	<1		<1	<1	<1
1,2,4,5-tetrachlorobenzene	<8			<8		
1,2,4-trichlorobenzene	<1			<1		
1,2-dibromo-3-chloropropane	<1	<5		<1	<5	<5
1,2-dibromoethane	<1	<1		<1	<1	<1
1,2-dichlorobenzene	<1	<1		<1	<1	<1
1,2-dichloroethane	<1	<1		<1	<1	<1
1,2-dichloropropane	<1	<1		<1	<1	<1
1,2-dinitrobenzene	<8			<8		
1,3,5-trinitrobenzene	<8			<8		
1,3-dichlorobenzene	<1			<1		
1,3-dichloropropane	<1			<1		
1,3-dinitrobenzene	<8			<8		
1,4-dichlorobenzene	<1	<1		<1	<1	<1
1,4-naphthoquinone	<8			<8		
1,4-phenylenediamine	<8			<8		
1-naphthylamine	<8			<8		
2,2-dichloropropane	<1			<1		
2,3,4,6-tetrachlorophenol	<8			<8		
2,4,5-t	<.5			<.5		
2,4,5-tp (silvex)	<.5			<.5		
2,4,5-trichlorophenol	<8			<8		
2,4,6-trichlorophenol	<8			<8		
2,4-d	<2			<2		
2,4-dichlorophenol	<8			<8		
2,4-dimethylphenol	<8			<8		
2,4-dinitrophenol	<8			<8		
2,4-dinitrotoluene	<8			<8		
2,6-dichlorophenol	<8			<8		
2,6-dinitrotoluene	<8			<8		
2-acetylaminofluorene	<8			<8		
2-butanone (mek)	<5	<10		<5	<10	<10
2-chloronaphthalene	<8			<8		
2-chlorophenol	<8			<8		
2-hexanone (mbk)	<5	<5		<5	<5	<5
2-methylnaphthalene	<8			<8		
2-methylphenol	<8			<8		
2-naphthylamine	<8			<8		
2-nitroaniline	<8			<8		
2-nitrophenol	<8			<8		
3,3´-dichlorobenzidine	<8			<8		
3,3'-dimethylbenzidine	<8			<8		
3-methylcholanthrene	<8			<8		
3-nitroaniline	<8			<8		
4,4´-ddd	<.05			<.05		
4,4´-dde	<.05			<.05		
4,4´-ddt	<.05			<.05		
4,6-dinitro-2-methylphenol	<8			<8		
4-aminobiphenyl	<8			<8		
4-bromophenyl phenyl ether	<8			<8		
4-chloro-3-methylphenol	<8			<8		
4-chloroaniline	<8			<8		
4-chlorophenyl phenyl ether	<8			<8		
4-methyl-2-pentanone (mibk)	<5	<5		<5	<5	<5
4-nitroaniline	<8			<8		
4-nitrophenol	<8			<8		
5-nitro-o-toluidine	<8			<8		
7,12-dimethylbenz(a)anthracene	<8			<8		
Acenaphthene	<8			<8		
Acenaphthylene	<8			<8		
Acetone	<10.0	<10.0		<10.0	<10.0	<10.0
Acetonitrile	<10			<10		
Acetophenone	<8			<8		
Acrolein	<10			<10		
Acrylonitrile	<5	<5		<5	<5	<5
Aldrin	<.05			<.05		
Allyl chloride	<1			<1		
Alpha-bhc	<.05			<.05		
Anthracene	<8			<8		

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-15

Constituents	Units	9/18/2014	4/29/2015	10/7/2015	4/19/2016	9/19/2016	3/21/2017	10/12/2017	3/8/2018
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Arochlor 1016	ug/L								
Arochlor 1221	ug/L								
Arochlor 1232	ug/L								
Arochlor 1242	ug/L								
Arochlor 1248	ug/L								
Arochlor 1254	ug/L								
Arochlor 1260	ug/L								
Arsenic, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Azobenzene	ug/L								
Barium, total	ug/L	359	374	315	341	311	330	318	339
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/L								
Benzo(a)pyrene	ug/L								
Benzo(b)fluoranthene	ug/L								
Benzo(g,h,i)perylene	ug/L								
Benzo(k)fluoranthene	ug/L								
Benzyl alcohol	ug/L								
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Beta-bhc	ug/L								
Bis (2-chloroethoxy) methane	ug/L								
Bis(2-chloroethyl) ether	ug/L								
Bis(2-chloroisopropyl) ether	ug/L								
Bis(2-ethylhexyl) phthalate	ug/L								
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate	ug/L								
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chlordane	ug/L								
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzilate	ug/L								
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloroprene	ug/L								
Chromium, total	ug/L	<8	<8	<8	<8	<8	<8	<8	<8
Chrysene	ug/L								
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	2.5	2.7	<.8	<.8	<.8	<.8	<.8	<2.0
Copper, total	ug/L	5.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Cyanide, total	mg/L								
Delta-bhc	ug/L								
Diallate	ug/L								
Dibenzo(a,h)anthracene	ug/L								
Dibenzofuran	ug/L								
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	ug/L								
Dieldrin	ug/L								
Diethyl phthalate	ug/L								
Dimethoate	ug/L								
Dimethylphthalate	ug/L								
Di-n-butyl phthalate	ug/L								
Di-n-octyl phthalate	ug/L								
Dinoseb	ug/L								
Diphenylamine	ug/L								
Disulfoton	ug/L								
Endosulfan i	ug/L								
Endosulfan ii	ug/L								
Endosulfan sulfate	ug/L								
Endrin	ug/L								
Endrin aldehyde	ug/L								
Ethyl methacrylate	ug/L								
Ethyl methanesulfonate	ug/L								
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Famphur	ug/L								
Fluoranthene	ug/L								
Fluorene	ug/L								
Gamma-bhc (lindane)	ug/L								
Heptachlor	ug/L								
Heptachlor epoxide	ug/L								
Hexachlorobenzene	ug/L								

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-15

Constituents	9/6/2018	5/13/2019	9/26/2019	3/30/2020	9/17/2020	3/9/2021	9/9/2021	12/8/2021	3/14/2022
Antimony, total	<2	<2	<2	<2	<2	<2	<2		<2
Arochlor 1016									
Arochlor 1221									
Arochlor 1232									
Arochlor 1242									
Arochlor 1248									
Arochlor 1254									
Arochlor 1260									
Arsenic, total	<4.0	<4.0	4.1	<4.0	<4.0	<4.0	<4.0		<4.0
Azobenzene									
Barium, total	306	365	664	434	686	390	741	751	392
Benzene	<1	<1	<1	<1	<1	<1	<1		<1
Benzo(a)anthracene									
Benzo(a)pyrene									
Benzo(b)fluoranthene									
Benzo(g,h,i)perylene									
Benzo(k)fluoranthene									
Benzyl alcohol									
Beryllium, total	<4	<4	<4	<4	<4	<4	<4		<4
Beta-bhc									
Bis (2-chloroethoxy) methane									
Bis(2-chloroethyl) ether									
Bis(2-chloroisopropyl) ether									
Bis(2-ethylhexyl) phthalate									
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1		<1
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1		<1
Bromoform	<1	<1	<1	<1	<1	<1	<1		<1
Bromomethane	<1	<1	<1	<1	<1	<1	<1		<1
Butyl benzyl phthalate									
Cadmium, total	<.8	<.8	.8	<.8	<.8	<.8	<.8		<.8
Carbon disulfide	<1	<1	<1	<1	<1	<1	<1		<1
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1		<1
Chlordane									
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1		<1
Chlorobenzilate									
Chloroethane	<1	<1	<1	<1	<1	<1	<1		<1
Chloroform	<1	<1	<1	<1	<1	<1	<1		<1
Chloromethane	<1	<1	<1	<1	<1	<1	<1		<1
Chloroprene									
Chromium, total	<8	<8	<8	<8	<8	<8	<8		<8
Chrysene									
Cis-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1		<1
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1		<1
Cobalt, total	<.8	<.8	<.8	<.8	.5	<.4	.4		.5
Copper, total	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0		<4.0
Cyanide, total									
Delta-bhc									
Diallate									
Dibenzo(a,h)anthracene									
Dibenzofuran									
Dibromochloromethane	<1	<1	<1	<1	<1	<1	<1		<1
Dibromomethane	<1	<1	<1	<1	<1	<1	<1		<1
Dichlorodifluoromethane									
Dieldrin									
Diethyl phthalate									
Dimethoate									
Dimethylphthalate									
Di-n-butyl phthalate									
Di-n-octyl phthalate									
Dinoseb									
Diphenylamine									
Disulfoton									
Endosulfan i									
Endosulfan ii									
Endosulfan sulfate									
Endrin									
Endrin aldehyde									
Ethyl methacrylate									
Ethyl methanesulfonate									
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1		<1
Famphur									
Fluoranthene									
Fluorene									
Gamma-bhc (lindane)									
Heptachlor									
Heptachlor epoxide									
Hexachlorobenzene									

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-15

Constituents	9/1/2022	3/6/2023	5/9/2023	9/8/2023	3/20/2024	9/25/2024
Antimony, total	<2	<2		<2	<2	<2
Arochlor 1016	<.1			<.2		
Arochlor 1221	<.2			<.2		
Arochlor 1232	<.2			<.2		
Arochlor 1242	<.2			<.2		
Arochlor 1248	<.2			<.2		
Arochlor 1254	<.1			<.2		
Arochlor 1260	<.1			<.2		
Arsenic, total	<4.0	<4.0		<4.0	<4.0	<4.0
Azobenzene	<8			<8		
Barium, total	416	431		430	549	545
Benzene	<1	<1		<1	<1	<1
Benzo(a)anthracene	<8			<8		
Benzo(a)pyrene	<8			<8		
Benzo(b)fluoranthene	<8			<8		
Benzo(g,h,i)perylene	<8			<8		
Benzo(k)fluoranthene	<8			<8		
Benzyl alcohol	<8			<8		
Beryllium, total	<4	<4		<4	<4	<4
Beta-bhc	<.05			<.05		
Bis (2-chloroethoxy) methane	<8			<8		
Bis(2-chloroethyl) ether	<8			<8		
Bis(2-chloroisopropyl) ether	<8			<8		
Bis(2-ethylhexyl) phthalate	7		<6	<6		
Bromochloromethane	<1	<1		<1	<1	<1
Bromodichloromethane	<1	<1		<1	<1	<1
Bromoform	<1	<1		<1	<1	<1
Bromomethane	<1	<1		<1	<1	<1
Butyl benzyl phthalate	<8			<8		
Cadmium, total	<.8	<.8		<.8	<.8	<.8
Carbon disulfide	<1	<1		<1	<1	<1
Carbon tetrachloride	<1	<1		<1	<1	<1
Chlordane	<.1			<.1		
Chlorobenzene	<1	<1		<1	<1	<1
Chlorobenzilate	<8			<8		
Chloroethane	<1	<1		<1	<1	<1
Chloroform	<1	<1		<1	<1	<1
Chloromethane	<1	<1		<1	<1	<1
Chloroprene	<1			<1		
Chromium, total	<8	<8		<8	<8	<8
Chrysene	<8			<8		
Cis-1,2-dichloroethylene	<1	<1		<1	<1	<1
Cis-1,3-dichloropropene	<1	<1		<1	<1	<1
Cobalt, total	<.4	.4		<.4	<.4	.4
Copper, total	<4.0	<4.0		<4.0	6.9	<4.0
Cyanide, total	<.005			<.005		
Delta-bhc	<.05			<.05		
Diallate	<8			<8		
Dibenzo(a,h)anthracene	<8			<8		
Dibenzofuran	<8			<8		
Dibromochloromethane	<1	<1		<1	<1	<1
Dibromomethane	<1	<1		<1	<1	<1
Dichlorodifluoromethane	<1			<1		
Dieldrin	<.05			<.05		
Diethyl phthalate	<8			<8		
Dimethoate	<.4			<.4		
Dimethylphthalate	<8			<8		
Di-n-butyl phthalate	<8			<8		
Di-n-octyl phthalate	<8			<8		
Dinoseb	<.5			<.5		
Diphenylamine	<8			<8		
Disulfoton	<.4			<.4		
Endosulfan i	<.05			<.05		
Endosulfan ii	<.05			<.05		
Endosulfan sulfate	<.05			<.05		
Endrin	<.05			<.05		
Endrin aldehyde	<.05			<.05		
Ethyl methacrylate	<10			<10		
Ethyl methanesulfonate	<8			<8		
Ethylbenzene	<1	<1		<1	<1	<1
Famphur	<.4			<.4		
Fluoranthene	<8			<8		
Fluorene	<8			<8		
Gamma-bhc (lindane)	<.05			<.05		
Heptachlor	<.05			<.05		
Heptachlor epoxide	<.05			<.05		
Hexachlorobenzene	<.05			<.05		

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-15

Constituents	Units	9/18/2014	4/29/2015	10/7/2015	4/19/2016	9/19/2016	3/21/2017	10/12/2017	3/8/2018
Hexachlorobutadiene	ug/L								
Hexachlorocyclopentadiene	ug/L								
Hexachloroethane	ug/L								
Hexachloropropene	ug/L								
Indeno(1,2,3-cd)pyrene	ug/L								
Isobutanol	mg/L								
Isodrin	ug/L								
Isophorone	ug/L								
Isosafrole	ug/L								
Kepone	ug/L								
Lead, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Mercury, total	ug/L								
Methacrylonitrile	ug/L								
Methapyrilene	ug/L								
Methoxychlor	ug/L								
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Methyl methacrylate	ug/L								
Methyl methanesulfonate	ug/L								
Methyl parathion	ug/L								
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Naphthalene	ug/L								
Nickel, total	ug/L	5.9	6.4	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Nitrobenzene	ug/L								
N-nitrosodiethylamine	ug/L								
N-nitrosodimethylamine	ug/L								
N-nitrosodi-n-butylamine	ug/L								
N-nitroso-di-n-propylamine	ug/L								
N-nitrosodiphenylamine	ug/L								
N-nitrosomethylethylamine	ug/L								
N-nitrosopiperidine	ug/L								
N-nitrosopyrrolidine	ug/L								
O,o,o-triethyl phosphorothioate	ug/L								
O-toluidine	ug/L								
Parathion	ug/L								
P-dimethylaminoazobenzene	ug/L								
Pentachlorobenzene	ug/L								
Pentachloronitrobenzene (pcnb)	ug/L								
Pentachlorophenol	ug/L								
Phenacetin	ug/L								
Phenanthrene	ug/L								
Phenol	ug/L								
Phorate	ug/L								
Pronamide	ug/L								
Propionitrile	ug/L								
Pyrene	ug/L								
Safrole	ug/L								
Selenium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Solids, total suspended	mg/L	117	327	11	16	4	43	630	
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Sulfide, total	mg/L								
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Thionazin	ug/L								
Tin, total	ug/L								
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Toxaphene	ug/L								
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	17.7	10.1	<8.0	<8.0	<8.0	<8.0	<8.0	10.7

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-15

Constituents	9/6/2018	5/13/2019	9/26/2019	3/30/2020	9/17/2020	3/9/2021	9/9/2021	12/8/2021	3/14/2022
Hexachlorobutadiene									
Hexachlorocyclopentadiene									
Hexachloroethane									
Hexachloropropene									
Indeno(1,2,3-cd)pyrene									
Isobutanol									
Isodrin									
Isophorone									
Isosafrole									
Kepone									
Lead, total	<4	<4	<4	<4	<4	<4	<4		<4
Mercury, total									
Methacrylonitrile									
Methapyrilene									
Methoxychlor									
Methyl iodide	<1	<1	<1	<2	<1	<1	<1		<1
Methyl methacrylate									
Methyl methanesulfonate									
Methyl parathion									
Methylene chloride	<5	<5	<5	<5	<5	<5	<5		<5
Naphthalene									
Nickel, total	<8.0	<4.0	7.7	<4.0	5.1	<4.0	6.8		5.1
Nitrobenzene									
N-nitrosodiethylamine									
N-nitrosodimethylamine									
N-nitrosodi-n-butylamine									
N-nitroso-di-n-propylamine									
N-nitrosodiphenylamine									
N-nitrosomethylethylamine									
N-nitrosopiperidine									
N-nitrosopyrrolidine									
O,o,o-triethyl phosphorothioate									
O-toluidine									
Parathion									
P-dimethylaminoazobenzene									
Pentachlorobenzene									
Pentachloronitrobenzene (pcnb)									
Pentachlorophenol									
Phenacetin									
Phenanthrene									
Phenol									
Phorate									
Pronamide									
Propionitrile									
Pyrene									
Safrole									
Selenium, total	<4	<4	<4	<4	<4	<4	<4		<4
Silver, total	<8	<4	<4	<4	<4	<4	<4		<4
Solids, total suspended									
Styrene	<1	<1	<1	<1	<1	<1	<1		<1
Sulfide, total									
Tetrachloroethylene	<1	<1	<1	<1	<1	<1	<1		<1
Thallium, total	<4	<2	<2	<2	<2	<2	<2		<2
Thionazin									
Tin, total									
Toluene	<1	<1	<1	<1	<1	<1	<1		<1
Toxaphene									
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1		<1
Trans-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1		<1
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5	<5	<5	<5		<5
Trichloroethylene	<1	<1	<1	<1	<1	<1	<1		<1
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1	<1		<1
Vanadium, total	<20	<20	<20	<20	<20	<20	<20		<20
Vinyl acetate	<5	<5	<5	<5	<5	<5	<5		<5
Vinyl chloride	<1	<1	<1	<1	<1	<1	<1		<1
Xylenes, total	<2	<2	<2	<2	<2	<2	<2		<2
Zinc, total	<20.0	8.0	25.0	<20.0	<20.0	<20.0	<20.0		<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-15

Constituents	9/1/2022	3/6/2023	5/9/2023	9/8/2023	3/20/2024	9/25/2024
Hexachlorobutadiene	<8			<8		
Hexachlorocyclopentadiene	<8			<8		
Hexachloroethane	<8			<8		
Hexachloropropene	<8			<8		
Indeno(1,2,3-cd)pyrene	<8			<8		
Isobutanol	<1			<1		
Isodrin	<8			<8		
Isophorone	<8			<8		
Isosafrole	<8			<8		
Kepone	<8			<8		
Lead, total	<4	<4		<4	<4	<4
Mercury, total	<.5			<.5		
Methacrylonitrile	<1			<1		
Methapyrilene	<8			<8		
Methoxychlor	<.05			<.05		
Methyl iodide	<2	<1		<2	<1	<1
Methyl methacrylate	<1			<1		
Methyl methanesulfonate	<8			<8		
Methyl parathion	<.4			<.4		
Methylene chloride	<5	<5		<5	<5	<5
Naphthalene	<8			<8		
Nickel, total	8.2	4.3		5.0	12.3	11.4
Nitrobenzene	<8			<8		
N-nitrosodiethylamine	<8			<8		
N-nitrosodimethylamine	<8			<8		
N-nitrosodi-n-butylamine	<8			<8		
N-nitroso-di-n-propylamine	<8			<8		
N-nitrosodiphenylamine	<8			<8		
N-nitrosomethylethylamine	<8			<8		
N-nitrosopiperidine	<8			<8		
N-nitrosopyrrolidine	<8			<8		
O,o,o-triethyl phosphorothioate	<.4			<.4		
O-toluidine	<8			<8		
Parathion	<.4			<.4		
P-dimethylaminoazobenzene	<8			<8		
Pentachlorobenzene	<8			<8		
Pentachloronitrobenzene (pcnb)	<8			<8		
Pentachlorophenol	<8			<8		
Phenacetin	<8			<8		
Phenanthrene	<8			<8		
Phenol	<8			<8		
Phorate	<.4			<.4		
Pronamide	<8			<8		
Propionitrile	<10			<10		
Pyrene	<8			<8		
Safrole	<8			<8		
Selenium, total	<4	<4		<4	<4	<4
Silver, total	<4	<4		<4	<4	<4
Solids, total suspended						
Styrene	<1	<1		<1	<1	<1
Sulfide, total	<.1			<.1		
Tetrachloroethylene	<1	<1		<1	<1	<1
Thallium, total	<2	<2		<2	<2	<2
Thionazin	<.4			<.4		
Tin, total	<20			<20		
Toluene	<1	<1		<1	<1	<1
Toxaphene	<.2			<.2		
Trans-1,2-dichloroethylene	<1	<1		<1	<1	<1
Trans-1,3-dichloropropene	<1	<1		<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5		<5	<5	<5
Trichloroethylene	<1	<1		<1	<1	<1
Trichlorofluoromethane	<1	<1		<1	<1	<1
Vanadium, total	<20	<20		<20	<20	<20
Vinyl acetate	<5	<5		<5	<5	<5
Vinyl chloride	<1	<1		<1	<1	<1
Xylenes, total	<2	<2		<2	<2	<2
Zinc, total	<20.0	<20.0		<20.0	<20.0	<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-18

Constituents	Units	9/18/2014	4/29/2015	10/6/2015	4/19/2016	9/19/2016	3/21/2017	10/12/2017	3/8/2018	9/6/2018
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	10.2	<10.0	<10.0
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic, total	ug/L	<4.0	<4.0	<4.0	<4.0	4.4	<4.0	<4.0	<4.0	<4.0
Barium, total	ug/L	333	402	355	360	439	295	554	373	352
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Beryllium, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, total	ug/L	<8.0	<8.0	<8.0	<8.0	15.4	<8.0	<8.0	9.8	<8.0
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	1.1	3.1	<.8	1.1	10.6	<.8	2.5	4.8	<.8
Copper, total	ug/L	<4.0	<4.0	<4.0	10.8	10.4	<4.0	<4.0	5.5	<4.0
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead, total	ug/L	<4.0	<4.0	<4.0	<4.0	8.7	<4.0	<4.0	<4.0	<4.0
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	ug/L	<4.0	5.2	<4.0	<4.0	13.6	<4.0	<4.0	9.7	<8.0
Selenium, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	6.3	<4.0	<4.0
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<8
Solids, total suspended	mg/L	22	60	23	23	170	126	520		
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20.0	<20.0	<20.0	<20.0	27.5	<20.0	<20.0	<20.0	<20.0
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	<8.0	<8.0	<8.0	<8.0	27.6	<8.0	9.5	16.5	32.5

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-18

Constituents	5/13/2019	9/26/2019	3/30/2020	9/17/2020	3/9/2021	6/3/2021	9/9/2021	3/14/2022	9/1/2022	3/6/2023
1,1,1,2-tetrachloroethane	<1	<1	<1	<1	<1		<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1	<1	<1		<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1	<1		<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1	<1	<1		<1	<1	<1	<1
1,1-dichloroethane	<1	<1	<1	<1	<1		<1	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1	<1	<1		<1	<1	<1	<1
1,2,3-trichloropropane	<1	<1	<1	<1	<1		<1	<1	<1	<1
1,2-dibromo-3-chloropropane	<1	<1	<5	<5	<5		<5	<5	<5	<5
1,2-dibromoethane	<1	<1	<1	<1	<1		<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1	<1	<1		<1	<1	<1	<1
1,2-dichloroethane	<1	<1	<1	<1	<1		<1	<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1	<1		<1	<1	<1	<1
1,4-dichlorobenzene	<1	<1	<1	<1	<1		<1	<1	<1	<1
2-butanone (mek)	<5	<5	<5	<5	<5		<5	<10	<10	<10
2-hexanone (mbk)	<5	<5	<5	<5	<5		<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5	<5		<5	<5	<5	<5
Acetone	<10.0	<10.0	<10.0	<10.0	<10.0		<10.0	<10.0	<10.0	<10.0
Acrylonitrile	<5	<5	<5	<5	<5		<5	<5	<5	<5
Antimony, total	<2	<2	<2	<2	<2		<2	<2	<2	<2
Arsenic, total	<4.0	<4.0	<4.0	<4.0	19.9		<4.0	7.8	<4.0	<4.0
Barium, total	368	372	418	365	1250	355	361	651	400	407
Benzene	<1	<1	<1	<1	<1		<1	<1	<1	<1
Beryllium, total	<4.0	<4.0	<4.0	<4.0	4.5		<4.0	<4.0	<4.0	<4.0
Bromochloromethane	<1	<1	<1	<1	<1		<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1		<1	<1	<1	<1
Bromoform	<1	<1	<1	<1	<1		<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1	<1		<1	<1	<1	<1
Cadmium, total	<.8	<.8	<.8	<.8	1.4		.8	<.8	<.8	<.8
Carbon disulfide	<1	<1	<1	<1	<1		<1	<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<1	<1		<1	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<1		<1	<1	<1	<1
Chloroethane	<1	<1	<1	<1	<1		<1	<1	<1	<1
Chloroform	<1	<1	<1	<1	<1		<1	<1	<1	<1
Chloromethane	<1	<1	<1	<1	<1		<1	<1	<1	<1
Chromium, total	<8.0	<8.0	8.7	<8.0	73.4		<8.0	33.2	<8.0	9.7
Cis-1,2-dichloroethylene	<1	<1	<1	<1	<1		<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1		<1	<1	<1	<1
Cobalt, total	<.8	<.8	3.4	1.2	72.8		<.4	28.3	2.4	6.1
Copper, total	<4.0	<4.0	<4.0	<4.0	62.1		<4.0	22.1	<4.0	4.9
Dibromochloromethane	<1	<1	<1	<1	<1		<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1	<1		<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1		<1	<1	<1	<1
Lead, total	<4.0	<4.0	<4.0	<4.0	57.7		<4.0	20.0	<4.0	4.8
Methyl iodide	<1	<1	<2	<1	<1		<1	<1	<1	<1
Methylene chloride	<5	<5	<5	<5	<5		<5	<5	<5	<5
Nickel, total	<4.0	<4.0	6.0	<4.0	113.0		<4.0	48.4	4.4	11.6
Selenium, total	<4.0	<4.0	<4.0	<4.0	10.6		<4.0	<4.0	<4.0	<4.0
Silver, total	<4	<4	<4	<4	<4		<4	<4	<4	<4
Solids, total suspended										
Styrene	<1	<1	<1	<1	<1		<1	<1	<1	<1
Tetrachloroethylene	<1	<1	<1	<1	<1		<1	<1	<1	<1
Thallium, total	<2	<2	<2	<2	<2		<2	<2	<2	<2
Toluene	<1	<1	<1	<1	<1		<1	<1	<1	<1
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1		<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1	<1	<1		<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5	<5		<5	<5	<5	<5
Trichloroethylene	<1	<1	<1	<1	<1		<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1	<1		<1	<1	<1	<1
Vanadium, total	<20.0	<20.0	<20.0	<20.0	123.0		<20.0	54.4	<20.0	<20.0
Vinyl acetate	<5	<5	<5	<5	<5		<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1	<1		<1	<1	<1	<1
Xylenes, total	<2	<2	<2	<2	<2		<2	<2	<2	<2
Zinc, total	13.3	11.5	<20.0	<20.0	166.0		<20.0	58.7	<20.0	<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-18

Constituents	9/8/2023	3/20/2024	9/25/2024
1,1,1,2-tetrachloroethane	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1
1,1-dichloroethane	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1
1,2,3-trichloropropane	<1	<1	<1
1,2-dibromo-3-chloropropane	<5	<5	<5
1,2-dibromoethane	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1
1,2-dichloroethane	<1	<1	<1
1,2-dichloropropane	<1	<1	<1
1,4-dichlorobenzene	<1	<1	<1
2-butanone (mek)	<10	<10	<10
2-hexanone (mbk)	<5	<5	<5
4-methyl-2-pentanone (mibk)	<5	<5	<5
Acetone	<10.0	<10.0	<10.0
Acrylonitrile	<5	<5	<5
Antimony, total	<2	<2	<2
Arsenic, total	<4.0	<4.0	<4.0
Barium, total	327	378	447
Benzene	<1	<1	<1
Beryllium, total	<4.0	<4.0	<4.0
Bromochloromethane	<1	<1	<1
Bromodichloromethane	<1	<1	<1
Bromoform	<1	<1	<1
Bromomethane	<1	<1	<1
Cadmium, total	<.8	<.8	<.8
Carbon disulfide	<1	<1	<1
Carbon tetrachloride	<1	<1	<1
Chlorobenzene	<1	<1	<1
Chloroethane	<1	<1	<1
Chloroform	<1	<1	<1
Chloromethane	<1	<1	<1
Chromium, total	<8.0	14.2	17.2
Cis-1,2-dichloroethylene	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1
Cobalt, total	<.4	1.9	11.2
Copper, total	<4.0	<4.0	10.6
Dibromochloromethane	<1	<1	<1
Dibromomethane	<1	<1	<1
Ethylbenzene	<1	<1	<1
Lead, total	<4.0	<4.0	8.5
Methyl iodide	<1	<1	<1
Methylene chloride	<5	<5	<5
Nickel, total	<4.0	8.3	20.7
Selenium, total	<4.0	<4.0	<4.0
Silver, total	<4	<4	<4
Solids, total suspended			
Styrene	<1	<1	<1
Tetrachloroethylene	<1	<1	<1
Thallium, total	<2	<2	<2
Toluene	<1	<1	<1
Trans-1,2-dichloroethylene	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5
Trichloroethylene	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1
Vanadium, total	<20.0	<20.0	26.9
Vinyl acetate	<5	<5	<5
Vinyl chloride	<1	<1	<1
Xylenes, total	<2	<2	<2
Zinc, total	<20.0	<20.0	29.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-19

Constituents	Units	9/18/2014	4/28/2015	10/6/2015	4/19/2016	9/19/2016	3/22/2017	10/12/2017	3/8/2018	9/6/2018
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic, total	ug/L	<4.0	<4.0	6.0	<4.0	6.1	<4.0	<4.0	<4.0	<4.0
Barium, total	ug/L	380.0	459.0	431.0	416.0	503.0	346.0	343.0	401.0	361.0
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, total	ug/L	<8.0	<8.0	<8.0	<8.0	9.3	<8.0	<8.0	<8.0	<8.0
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	1.7	1.1	2.6	<.8	3.7	<.8	.9	8.5	6.3
Copper, total	ug/L	<4.0	<4.0	<4.0	<4.0	6.8	<4.0	<4.0	<4.0	<4.0
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead, total	ug/L	<4	<4	<4	<4	4	<4	<4	<4	<4
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	ug/L	<4.0	<4.0	<4.0	<4.0	8.1	<4.0	<4.0	5.2	<8.0
Selenium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<8
Solids, total suspended	mg/L	89	69	7	23	19	10	808		
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20.0	<20.0	<20.0	<20.0	20.7	<20.0	<20.0	<20.0	<20.0
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	16.1	<8.0	11.5	<8.0	27.7	<8.0	<8.0	9.7	<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-19

Constituents	5/13/2019	9/26/2019	11/14/2019	3/30/2020	9/17/2020	3/9/2021	9/9/2021	3/14/2022	3/6/2023
1,1,1,2-tetrachloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1-dichloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	<1	<1		<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	<1	<1		<5	<5	<5	<5	<5	<5
1,2-dibromoethane	<1	<1		<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1		<1	<1	<1	<1	<1	<1
1,2-dichloroethane	<1	<1		<1	<1	<1	<1	<1	<1
1,2-dichloropropane	<1	<1		<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	<1	<1		<1	<1	<1	<1	<1	<1
2-butanone (mek)	<5	<5		<5	<5	<5	<5	<10	<10
2-hexanone (mbk)	<5	<5		<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	<5	<5		<5	<5	<5	<5	<5	<5
Acetone	<10	<10		<10	<10	<10	<10	<10	<10
Acrylonitrile	<5	<5		<5	<5	<5	<5	<5	<5
Antimony, total	<2	<2		<2	<2	<2	<2	<2	<2
Arsenic, total	<4.0	<4.0		<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Barium, total	418.0	409.0		366.0	614.0	393.0	402.0	359.0	336.0
Benzene	<1	<1		<1	<1	<1	<1	<1	<1
Beryllium, total	<4	<4		<4	<4	<4	<4	<4	<4
Bromochloromethane	<1	<1		<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1		<1	<1	<1	<1	<1	<1
Bromoform	<1	<1		<1	<1	<1	<1	<1	<1
Bromomethane	<1	<1		<1	<1	<1	<1	<1	<1
Cadmium, total	<.8	1.0		<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	<1	<1		<1	<1	<1	<1	<1	<1
Carbon tetrachloride	<1	<1		<1	<1	<1	<1	<1	<1
Chlorobenzene	<1	<1		<1	<1	<1	<1	<1	<1
Chloroethane	<1	<1		<1	<1	<1	<1	<1	<1
Chloroform	<1	<1		<1	<1	<1	<1	<1	<1
Chloromethane	<1	<1		<1	<1	<1	<1	<1	<1
Chromium, total	<8.0	<8.0		<8.0	<8.0	<8.0	<8.0	<8.0	<8.0
Cis-1,2-dichloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1		<1	<1	<1	<1	<1	<1
Cobalt, total	6.1	9.7		2.3	2.9	2.5	5.3	3.3	3.6
Copper, total	<4.0	<4.0		<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Dibromochloromethane	<1	<1		<1	<1	<1	<1	<1	<1
Dibromomethane	<1	<1		<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1		<1	<1	<1	<1	<1	<1
Lead, total	<4	<4		<4	<4	<4	<4	<4	<4
Methyl iodide	<1	<1		<2	<1	<1	<1	<1	<1
Methylene chloride	<5	<5		<5	<5	<5	<5	<5	<5
Nickel, total	5.0	7.9		<4.0	5.6	<4.0	<4.0	<4.0	4.3
Selenium, total	<4	5		<4	<4	<4	<4	<4	<4
Silver, total	<4	<4		<4	<4	<4	<4	<4	<4
Solids, total suspended									
Styrene	<1	<1		<1	<1	<1	<1	<1	<1
Tetrachloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
Thallium, total	<2	<2		<2	<2	<2	<2	<2	<2
Toluene	<1	<1		<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1		<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5		<5	<5	<5	<5	<5	<5
Trichloroethylene	<1	<1		<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1		<1	<1	<1	<1	<1	<1
Vanadium, total	<20.0	<20.0		<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Vinyl acetate	<5	<5		<5	<5	<5	<5	<5	<5
Vinyl chloride	<1	<1		<1	<1	<1	<1	<1	<1
Xylenes, total	<2	<2		<2	<2	<2	<2	<2	<2
Zinc, total	30.2	68.3	<20.0 *	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-19

Constituents	9/8/2023	3/20/2024	9/25/2024
1,1,1,2-tetrachloroethane	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1
1,1-dichloroethane	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1
1,2,3-trichloropropane	<1	<1	<1
1,2-dibromo-3-chloropropane	<5	<5	<5
1,2-dibromoethane	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1
1,2-dichloroethane	<1	<1	<1
1,2-dichloropropane	<1	<1	<1
1,4-dichlorobenzene	<1	<1	<1
2-butanone (mek)	<10	<10	<10
2-hexanone (mbk)	<5	<5	<5
4-methyl-2-pentanone (mibk)	<5	<5	<5
Acetone	<10	<10	<10
Acrylonitrile	<5	<5	<5
Antimony, total	<2	<2	<2
Arsenic, total	<4.0	<4.0	<4.0
Barium, total	373.0	26.9	532.0
Benzene	<1	<1	<1
Beryllium, total	<4	<4	<4
Bromochloromethane	<1	<1	<1
Bromodichloromethane	<1	<1	<1
Bromoform	<1	<1	<1
Bromomethane	<1	<1	<1
Cadmium, total	<.8	<.8	<.8
Carbon disulfide	<1	<1	<1
Carbon tetrachloride	<1	<1	<1
Chlorobenzene	<1	<1	<1
Chloroethane	<1	<1	<1
Chloroform	<1	<1	<1
Chloromethane	<1	<1	<1
Chromium, total	<8.0	<8.0	<8.0
Cis-1,2-dichloroethylene	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1
Cobalt, total	2.0	<.4	14.4
Copper, total	<4.0	<4.0	<4.0
Dibromochloromethane	<1	<1	<1
Dibromomethane	<1	<1	<1
Ethylbenzene	<1	<1	<1
Lead, total	<4	<4	<4
Methyl iodide	<1	<1	<1
Methylene chloride	<5	<5	<5
Nickel, total	<4.0	8.9	15.7
Selenium, total	<4	<4	<4
Silver, total	<4	<4	<4
Solids, total suspended			
Styrene	<1	<1	<1
Tetrachloroethylene	<1	<1	<1
Thallium, total	<2	<2	<2
Toluene	<1	<1	<1
Trans-1,2-dichloroethylene	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5
Trichloroethylene	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1
Vanadium, total	<20.0	<20.0	<20.0
Vinyl acetate	<5	<5	<5
Vinyl chloride	<1	<1	<1
Xylenes, total	<2	<2	<2
Zinc, total	<20.0	<20.0	<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-2

Constituents	Units	9/17/2014	4/29/2015	10/7/2015	4/19/2016	9/19/2016	3/22/2017	10/12/2017	3/8/2018	9/6/2018
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Barium, total	ug/L	204	258	182	291	263	177	276	173	160
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium, total	ug/L	<.8	<.8	.8	<.8	<.8	1.0	<.8	.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, total	ug/L	<8.0	<8.0	<8.0	9.6	<8.0	<8.0	<8.0	<8.0	<8.0
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	<.8	1.7	<.8	3.5	2.2	<.8	<.8	<2.0	<.8
Copper, total	ug/L	<4.0	<4.0	<4.0	5.1	<4.0	<4.0	<4.0	<4.0	<4.0
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	ug/L	<4.0	<4.0	<4.0	7.8	<4.0	<4.0	<4.0	<4.0	<8.0
Selenium, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	4.4	<4.0	<4.0
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<8
Solids, total suspended	mg/L	25	58	14	41	54	12	162		
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	<8.0	9.7	11.8	12.6	10.2	10.5	11.3	25.8	23.3

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-2

Constituents	5/13/2019	9/26/2019	3/30/2020	9/17/2020	3/9/2021	9/9/2021	3/14/2022	9/1/2022	3/6/2023	9/8/2023
1,1,1,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5
1,2-dibromoethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	<5	<5	<5	<5	<5	<5	<10	<10	<10	<10
2-hexanone (mbk)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acrylonitrile	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Antimony, total	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic, total	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Barium, total	172	175	169	156	174	164	162	153	157	176
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Beryllium, total	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium, total	.8	<.8	<.8	<.8	.9	.8	<.8	<.8	.9	.8
Carbon disulfide	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, total	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0
Cis-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	<.8	<.8	<.8	<.4	<.4	<.4	.4	<.4	<.4	<.4
Copper, total	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Dibromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead, total	5.4	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Methyl iodide	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	5.3	4.2	<4.0
Selenium, total	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Silver, total	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Solids, total suspended										
Styrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	25.9	15.5	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-2

Constituents	3/20/2024	9/26/2024
1,1,1,2-tetrachloroethane	<1	<1
1,1,1-trichloroethane	<1	<1
1,1,2,2-tetrachloroethane	<1	<1
1,1,2-trichloroethane	<1	<1
1,1-dichloroethane	<1	<1
1,1-dichloroethylene	<1	<1
1,2,3-trichloropropane	<1	<1
1,2-dibromo-3-chloropropane	<5	<5
1,2-dibromoethane	<1	<1
1,2-dichlorobenzene	<1	<1
1,2-dichloroethane	<1	<1
1,2-dichloropropane	<1	<1
1,4-dichlorobenzene	<1	<1
2-butanone (mek)	<10	<10
2-hexanone (mbk)	<5	<5
4-methyl-2-pentanone (mibk)	<5	<5
Acetone	<10	<10
Acrylonitrile	<5	<5
Antimony, total	<2	<2
Arsenic, total	<4	<4
Barium, total	219	179
Benzene	<1	<1
Beryllium, total	<4	<4
Bromochloromethane	<1	<1
Bromodichloromethane	<1	<1
Bromoform	<1	<1
Bromomethane	<1	<1
Cadmium, total	<.8	<.8
Carbon disulfide	<1	<1
Carbon tetrachloride	<1	<1
Chlorobenzene	<1	<1
Chloroethane	<1	<1
Chloroform	<1	<1
Chloromethane	<1	<1
Chromium, total	<8.0	<8.0
Cis-1,2-dichloroethylene	<1	<1
Cis-1,3-dichloropropene	<1	<1
Cobalt, total	<.4	<.4
Copper, total	<4.0	<4.0
Dibromochloromethane	<1	<1
Dibromomethane	<1	<1
Ethylbenzene	<1	<1
Lead, total	<4.0	<4.0
Methyl iodide	<1	<1
Methylene chloride	<5	<5
Nickel, total	<4.0	<4.0
Selenium, total	<4.0	<4.0
Silver, total	<4	<4
Solids, total suspended		
Styrene	<1	<1
Tetrachloroethylene	<1	<1
Thallium, total	<2	<2
Toluene	<1	<1
Trans-1,2-dichloroethylene	<1	<1
Trans-1,3-dichloropropene	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5
Trichloroethylene	<1	<1
Trichlorofluoromethane	<1	<1
Vanadium, total	<20	<20
Vinyl acetate	<5	<5
Vinyl chloride	<1	<1
Xylenes, total	<2	<2
Zinc, total	<20.0	<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-21

Constituents	Units	9/17/2014	4/28/2015	10/7/2015	4/19/2016	9/19/2016	3/21/2017	10/12/2017	3/8/2018	9/6/2018
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	15.3	<10.0	<10.0
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Barium, total	ug/L	318	377	351	338	316	305	287	322	305
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, total	ug/L	<8	<8	<8	<8	<8	<8	<8	<8	<8
Cis-1,2-dichloroethylene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	.8	<.8	<.8	<.8	<.8	<.8	<.8	<2.0	<.8
Copper, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<8.0
Selenium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<8
Solids, total suspended	mg/L	45	32	3	3	7	8	313		
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	11.5	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	13.5	<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-21

Constituents	5/13/2019	9/26/2019	3/30/2020	9/17/2020	3/9/2021	6/3/2021	9/9/2021	3/14/2022	6/14/2022	9/1/2022
1,1,1,2-tetrachloroethane	<1	<1	<1	<1	<1		<1	<1		<1
1,1,1-trichloroethane	<1	<1	<1	<1	<1		<1	<1		<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1	<1		<1	<1		<1
1,1,2-trichloroethane	<1	<1	<1	<1	<1		<1	<1		<1
1,1-dichloroethane	<1	<1	<1	<1	<1		<1	<1		<1
1,1-dichloroethylene	<1	<1	<1	<1	<1		<1	<1		<1
1,2,3-trichloropropane	<1	<1	<1	<1	<1		<1	<1		<1
1,2-dibromo-3-chloropropane	<1	<1	<5	<5	<5		<5	<5		<5
1,2-dibromoethane	<1	<1	<1	<1	<1		<1	<1		<1
1,2-dichlorobenzene	<1	<1	<1	<1	<1		<1	<1		<1
1,2-dichloroethane	<1	<1	<1	<1	<1		<1	<1		<1
1,2-dichloropropane	<1	<1	<1	<1	<1		<1	<1		<1
1,4-dichlorobenzene	<1	<1	<1	<1	<1		<1	<1		<1
2-butanone (mek)	<5	<5	<5	<5	<5		<5	<10		<10
2-hexanone (mbk)	<5	<5	<5	<5	<5		<5	<5		<5
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5	<5		<5	<5		<5
Acetone	<10.0	<10.0	<10.0	<10.0	<10.0		<10.0	<10.0		<10.0
Acrylonitrile	<5	<5	<5	<5	<5		<5	<5		<5
Antimony, total	<2	<2	<2	<2	<2		<2	<2		<2
Arsenic, total	<4.0	<4.0	<4.0	<4.0	<4.0		<4.0	<4.0		<4.0
Barium, total	313	344	354	337	380		325	317		341
Benzene	<1	<1	<1	<1	<1		<1	<1		<1
Beryllium, total	<4	<4	<4	<4	<4		<4	<4		<4
Bromochloromethane	<1	<1	<1	<1	<1		<1	<1		<1
Bromodichloromethane	<1	<1	<1	<1	<1		<1	<1		<1
Bromoform	<1	<1	<1	<1	<1		<1	<1		<1
Bromomethane	<1	<1	<1	<1	<1		<1	<1		<1
Cadmium, total	<.8	<.8	<.8	<.8	1.8	<.8	<.8	<.8		<.8
Carbon disulfide	<1	<1	<1	<1	<1		<1	<1		<1
Carbon tetrachloride	<1	<1	<1	<1	<1		<1	<1		<1
Chlorobenzene	<1	<1	<1	<1	<1		<1	<1		<1
Chloroethane	<1	<1	<1	<1	<1		<1	<1		<1
Chloroform	<1	<1	<1	<1	<1		<1	<1		<1
Chloromethane	<1	<1	<1	<1	<1		<1	<1		<1
Chromium, total	<8	<8	<8	<8	<8		<8	<8		<8
Cis-1,2-dichloroethylene	<1.0	<1.0	<1.0	<1.0	<1.0		<1.0	1.1	<1.0	<1.0
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1		<1	<1		<1
Cobalt, total	<.8	<.8	<.8	<.4	.6		.4	.4		<.4
Copper, total	<4.0	<4.0	<4.0	<4.0	<4.0		<4.0	<4.0		<4.0
Dibromochloromethane	<1	<1	<1	<1	<1		<1	<1		<1
Dibromomethane	<1	<1	<1	<1	<1		<1	<1		<1
Ethylbenzene	<1	<1	<1	<1	<1		<1	<1		<1
Lead, total	<4	<4	<4	<4	<4		<4	<4		<4
Methyl iodide	<1	<1	<2	<1	<1		<1	<1		<1
Methylene chloride	<5	<5	<5	<5	<5		<5	<5		<5
Nickel, total	<4.0	<4.0	<4.0	<4.0	4.0		<4.0	<4.0		<4.0
Selenium, total	<4	<4	<4	<4	<4		<4	<4		<4
Silver, total	<4	<4	<4	<4	<4		<4	<4		<4
Solids, total suspended										
Styrene	<1	<1	<1	<1	<1		<1	<1		<1
Tetrachloroethylene	<1	<1	<1	<1	<1		<1	<1		<1
Thallium, total	<2	<2	<2	<2	<2		<2	<2		<2
Toluene	<1	<1	<1	<1	<1		<1	<1		<1
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1		<1	<1		<1
Trans-1,3-dichloropropene	<1	<1	<1	<1	<1		<1	<1		<1
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5	<5		<5	<5		<5
Trichloroethylene	<1	<1	<1	<1	<1		<1	<1		<1
Trichlorofluoromethane	<1	<1	<1	<1	<1		<1	<1		<1
Vanadium, total	<20	<20	<20	<20	<20		<20	<20		<20
Vinyl acetate	<5	<5	<5	<5	<5		<5	<5		<5
Vinyl chloride	<1	<1	<1	<1	<1		<1	<1		<1
Xylenes, total	<2	<2	<2	<2	<2		<2	<2		<2
Zinc, total	17.4	21.7	<20.0	<20.0	<20.0		<20.0	<20.0		<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-21

Constituents	3/6/2023	9/8/2023	3/20/2024	6/14/2024	9/25/2024
1,1,1,2-tetrachloroethane	<1	<1	<1		<1
1,1,1-trichloroethane	<1	<1	<1		<1
1,1,2,2-tetrachloroethane	<1	<1	<1		<1
1,1,2-trichloroethane	<1	<1	<1		<1
1,1-dichloroethane	<1	<1	<1		<1
1,1-dichloroethylene	<1	<1	<1		<1
1,2,3-trichloropropane	<1	<1	<1		<1
1,2-dibromo-3-chloropropane	<5	<5	<5		<5
1,2-dibromoethane	<1	<1	<1		<1
1,2-dichlorobenzene	<1	<1	<1		<1
1,2-dichloroethane	<1	<1	<1		<1
1,2-dichloropropane	<1	<1	<1		<1
1,4-dichlorobenzene	<1	<1	<1		<1
2-butanone (mek)	<10	<10	<10		<10
2-hexanone (mbk)	<5	<5	<5		<5
4-methyl-2-pentanone (mibk)	<5	<5	<5		<5
Acetone	<10.0	<10.0	<10.0		<10.0
Acrylonitrile	<5	<5	<5		<5
Antimony, total	<2	<2	<2		<2
Arsenic, total	<4.0	<4.0	24.4	<4.0	<4.0
Barium, total	365	354	1100	391	341
Benzene	<1	<1	<1		<1
Beryllium, total	<4	<4	<4		<4
Bromochloromethane	<1	<1	<1		<1
Bromodichloromethane	<1	<1	<1		<1
Bromoform	<1	<1	<1		<1
Bromomethane	<1	<1	<1		<1
Cadmium, total	<.8	<.8	<.8		<.8
Carbon disulfide	<1	<1	<1		<1
Carbon tetrachloride	<1	<1	<1		<1
Chlorobenzene	<1	<1	<1		<1
Chloroethane	<1	<1	<1		<1
Chloroform	<1	<1	<1		<1
Chloromethane	<1	<1	<1		<1
Chromium, total	<8	<8	<8		<8
Cis-1,2-dichloroethylene	<1.0	<1.0	<1.0		<1.0
Cis-1,3-dichloropropene	<1	<1	<1		<1
Cobalt, total	<.4	<.4	.6		<.4
Copper, total	<4.0	9.3	<4.0		<4.0
Dibromochloromethane	<1	<1	<1		<1
Dibromomethane	<1	<1	<1		<1
Ethylbenzene	<1	<1	<1		<1
Lead, total	<4	<4	<4		<4
Methyl iodide	<1	<1	<1		<1
Methylene chloride	<5	<5	<5		<5
Nickel, total	<4.0	<4.0	6.6		<4.0
Selenium, total	<4	<4	<4		<4
Silver, total	<4	<4	<4		<4
Solids, total suspended					
Styrene	<1	<1	<1		<1
Tetrachloroethylene	<1	<1	<1		<1
Thallium, total	<2	<2	<2		<2
Toluene	<1	<1	<1		<1
Trans-1,2-dichloroethylene	<1	<1	<1		<1
Trans-1,3-dichloropropene	<1	<1	<1		<1
Trans-1,4-dichloro-2-butene	<5	<5	<5		<5
Trichloroethylene	<1	<1	<1		<1
Trichlorofluoromethane	<1	<1	<1		<1
Vanadium, total	<20	<20	<20		<20
Vinyl acetate	<5	<5	<5		<5
Vinyl chloride	<1	<1	<1		<1
Xylenes, total	<2	<2	<2		<2
Zinc, total	<20.0	<20.0	<20.0		<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-22

Constituents	Units	9/17/2014	4/28/2015	10/7/2015	4/19/2016	9/19/2016	3/21/2017	10/12/2017	3/8/2018	9/6/2018
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	13.7	<10.0	<10.0
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic, total	ug/L	<4.0	5.3	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Barium, total	ug/L	405	404	360	407	417	387	343	327	277
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L	<1	<1	<1	<1	<1	1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, total	ug/L	<8.0	9.8	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0
Cis-1,2-dichloroethylene	ug/L	1.3	<1.0	1.2	2.0	1.4	2.0	1.0	1.5	1.7
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	5.2	7.2	<.8	<.8	<.8	<.8	<.8	<2.0	<.8
Copper, total	ug/L	<4.0	7.3	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead, total	ug/L	<4.0	4.3	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	ug/L	9.5	12.3	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<8.0
Selenium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<8
Solids, total suspended	mg/L	178	133	28	4	8	11	414		
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.3	<1.0
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	15.1	22.2	<8.0	<8.0	<8.0	<8.0	<8.0	8.8	20.4

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-23

Constituents	Units	9/26/2019	3/30/2020	9/17/2020	3/9/2021	9/9/2021	3/14/2022	9/1/2022	3/6/2023	9/8/2023
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	ug/L	<1	<5	<5	<5	<5	<5	<5	<5	<5
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	ug/L	<5	<5	<5	<5	<5	<10	<10	<10	<10
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Barium, total	ug/L	311	322	323	309	327	324	325	301	307
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, total	ug/L	<8	<8	<8	<8	<8	<8	<8	<8	<8
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	<.8	<.8	<.4	<.4	.5	.5	.6	.4	<.4
Copper, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Methyl iodide	ug/L	<1	<2	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Selenium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	10	<20	<20	<20	<20	<20	<20	<20	<20

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-23

Constituents	3/20/2024	9/25/2024
1,1,1,2-tetrachloroethane	<1	<1
1,1,1-trichloroethane	<1	<1
1,1,2,2-tetrachloroethane	<1	<1
1,1,2-trichloroethane	<1	<1
1,1-dichloroethane	<1	<1
1,1-dichloroethylene	<1	<1
1,2,3-trichloropropane	<1	<1
1,2-dibromo-3-chloropropane	<5	<5
1,2-dibromoethane	<1	<1
1,2-dichlorobenzene	<1	<1
1,2-dichloroethane	<1	<1
1,2-dichloropropane	<1	<1
1,4-dichlorobenzene	<1	<1
2-butanone (mek)	<10	<10
2-hexanone (mbk)	<5	<5
4-methyl-2-pentanone (mibk)	<5	<5
Acetone	<10	<10
Acrylonitrile	<5	<5
Antimony, total	<2	<2
Arsenic, total	<4	<4
Barium, total	328	306
Benzene	<1	<1
Beryllium, total	<4	<4
Bromochloromethane	<1	<1
Bromodichloromethane	<1	<1
Bromoform	<1	<1
Bromomethane	<1	<1
Cadmium, total	<.8	<.8
Carbon disulfide	<1	<1
Carbon tetrachloride	<1	<1
Chlorobenzene	<1	<1
Chloroethane	<1	<1
Chloroform	<1	<1
Chloromethane	<1	<1
Chromium, total	<8	<8
Cis-1,2-dichloroethylene	<1	<1
Cis-1,3-dichloropropene	<1	<1
Cobalt, total	.6	<.4
Copper, total	<4	<4
Dibromochloromethane	<1	<1
Dibromomethane	<1	<1
Ethylbenzene	<1	<1
Lead, total	<4	<4
Methyl iodide	<1	<1
Methylene chloride	<5	<5
Nickel, total	<4	<4
Selenium, total	<4	<4
Silver, total	<4	<4
Styrene	<1	<1
Tetrachloroethylene	<1	<1
Thallium, total	<2	<2
Toluene	<1	<1
Trans-1,2-dichloroethylene	<1	<1
Trans-1,3-dichloropropene	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5
Trichloroethylene	<1	<1
Trichlorofluoromethane	<1	<1
Vanadium, total	<20	<20
Vinyl acetate	<5	<5
Vinyl chloride	<1	<1
Xylenes, total	<2	<2
Zinc, total	<20	<20

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-3

Constituents	Units	9/18/2014	4/29/2015	10/7/2015	4/19/2016	9/19/2016	3/21/2017	10/12/2017	3/8/2018
(3 4)-methylphenol	ug/L					<8			
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloropropene	ug/L					<1.0			
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene	ug/L					<8			
1,2,4-trichlorobenzene	ug/L					<1			
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene	ug/L					<8			
1,3,5-trinitrobenzene	ug/L					<8			
1,3-dichlorobenzene	ug/L					<1			
1,3-dichloropropane	ug/L					<1			
1,3-dinitrobenzene	ug/L					<8			
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,4-naphthoquinone	ug/L					<8			
1,4-phenylenediamine	ug/L					<8			
1-naphthylamine	ug/L					<8			
2,2-dichloropropane	ug/L					<1			
2,3,4,6-tetrachlorophenol	ug/L					<8			
2,4,5-t	ug/L					<.6			
2,4,5-tp (silvex)	ug/L					<.6			
2,4,5-trichlorophenol	ug/L					<8			
2,4,6-trichlorophenol	ug/L					<8			
2,4-d	ug/L					<2.5			
2,4-dichlorophenol	ug/L					<8			
2,4-dimethylphenol	ug/L					<8			
2,4-dinitrophenol	ug/L					<8			
2,4-dinitrotoluene	ug/L					<8			
2,6-dichlorophenol	ug/L					<8			
2,6-dinitrotoluene	ug/L					<8			
2-acetylaminofluorene	ug/L					<8			
2-butanone (mek)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
2-chloronaphthalene	ug/L					<8			
2-chlorophenol	ug/L					<8			
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
2-methylnaphthalene	ug/L					<8			
2-methylphenol	ug/L					<8			
2-naphthylamine	ug/L					<8			
2-nitroaniline	ug/L					<8			
2-nitrophenol	ug/L					<8			
3,3´-dichlorobenzidine	ug/L					<8			
3,3'-dimethylbenzidine	ug/L					<8			
3-methylcholanthrene	ug/L					<8			
3-nitroaniline	ug/L					<8			
4,4´-ddd	ug/L					<.05			
4,4´-dde	ug/L					<.05			
4,4´-ddt	ug/L					<.05			
4,6-dinitro-2-methylphenol	ug/L					<8			
4-aminobiphenyl	ug/L					<8			
4-bromophenyl phenyl ether	ug/L					<8			
4-chloro-3-methylphenol	ug/L					<8			
4-chloroaniline	ug/L					<8			
4-chlorophenyl phenyl ether	ug/L					<8			
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
4-nitroaniline	ug/L					<8			
4-nitrophenol	ug/L					<8			
5-nitro-o-toluidine	ug/L					<8			
7,12-dimethylbenz(a)anthracene	ug/L					<8			
Acenaphthene	ug/L					<8			
Acenaphthylene	ug/L					<8			
Acetone	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
Acetonitrile	ug/L					<10			
Acetophenone	ug/L					<8			
Acrolein	ug/L					<10			
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Aldrin	ug/L					<.05			
Allyl chloride	ug/L					<1			
Alpha-bhc	ug/L					<.05			
Anthracene	ug/L					<8			

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-3

Constituents	9/6/2018	5/13/2019	9/26/2019	3/30/2020	9/17/2020	3/9/2021	9/9/2021	3/14/2022	9/1/2022	3/6/2023
(3 4)-methylphenol							<8			
1,1,1,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloropropene							4.8	<1.0	<1.0	<1.0
1,2,3-trichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4,5-tetrachlorobenzene							<8			
1,2,4-trichlorobenzene							<1			
1,2-dibromo-3-chloropropane	<1	<1	<1	<5	<5	<5	<1	<5	<5	<5
1,2-dibromoethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dinitrobenzene							<8			
1,3,5-trinitrobenzene							<8			
1,3-dichlorobenzene							<1			
1,3-dichloropropane							<1			
1,3-dinitrobenzene							<8			
1,4-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-naphthoquinone							<8			
1,4-phenylenediamine							<8			
1-naphthylamine							<8			
2,2-dichloropropane							<1			
2,3,4,6-tetrachlorophenol							<8			
2,4,5-t							<.5			
2,4,5-tp (silvex)							<.5			
2,4,5-trichlorophenol							<8			
2,4,6-trichlorophenol							<8			
2,4-d							<2.0			
2,4-dichlorophenol							<8			
2,4-dimethylphenol							<8			
2,4-dinitrophenol							<8			
2,4-dinitrotoluene							<8			
2,6-dichlorophenol							<8			
2,6-dinitrotoluene							<8			
2-acetylaminofluorene							<8			
2-butanone (mek)	<5	<5	<5	<5	<5	<5	<5	<10	<10	<10
2-chloronaphthalene							<8			
2-chlorophenol							<8			
2-hexanone (mbk)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-methylnaphthalene							<8			
2-methylphenol							<8			
2-naphthylamine							<8			
2-nitroaniline							<8			
2-nitrophenol							<8			
3,3´-dichlorobenzidine							<8			
3,3'-dimethylbenzidine							<8			
3-methylcholanthrene							<8			
3-nitroaniline							<8			
4,4´-ddd							<.05			
4,4´-dde							<.05			
4,4´-ddt							<.05			
4,6-dinitro-2-methylphenol							<8			
4-aminobiphenyl							<8			
4-bromophenyl phenyl ether							<8			
4-chloro-3-methylphenol							<8			
4-chloroaniline							<8			
4-chlorophenyl phenyl ether							<8			
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-nitroaniline							<8			
4-nitrophenol							<8			
5-nitro-o-toluidine							<8			
7,12-dimethylbenz(a)anthracene							<8			
Acenaphthene							<8			
Acenaphthylene							<8			
Acetone	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acetonitrile							<10			
Acetophenone							<8			
Acrolein							<10			
Acrylonitrile	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Aldrin							<.05			
Allyl chloride							<1			
Alpha-bhc							<.05			
Anthracene							<8			

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-3

Constituents	9/8/2023	3/20/2024	9/25/2024
(3 4)-methylphenol			
1,1,1,2-tetrachloroethane	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1
1,1-dichloroethane	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1
1,1-dichloropropene			
1,2,3-trichloropropane	<1	<1	<1
1,2,4,5-tetrachlorobenzene			
1,2,4-trichlorobenzene			
1,2-dibromo-3-chloropropane	<5	<5	<5
1,2-dibromoethane	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1
1,2-dichloroethane	<1	<1	<1
1,2-dichloropropane	<1	<1	<1
1,2-dinitrobenzene			
1,3,5-trinitrobenzene			
1,3-dichlorobenzene			
1,3-dichloropropane			
1,3-dinitrobenzene			
1,4-dichlorobenzene	<1	<1	<1
1,4-naphthoquinone			
1,4-phenylenediamine			
1-naphthylamine			
2,2-dichloropropane			
2,3,4,6-tetrachlorophenol			
2,4,5-t			
2,4,5-tp (silvex)			
2,4,5-trichlorophenol			
2,4,6-trichlorophenol			
2,4-d			
2,4-dichlorophenol			
2,4-dimethylphenol			
2,4-dinitrophenol			
2,4-dinitrotoluene			
2,6-dichlorophenol			
2,6-dinitrotoluene			
2-acetylaminofluorene			
2-butanone (mek)	<10	<10	<10
2-chloronaphthalene			
2-chlorophenol			
2-hexanone (mbk)	<5	<5	<5
2-methylnaphthalene			
2-methylphenol			
2-naphthylamine			
2-nitroaniline			
2-nitrophenol			
3,3´-dichlorobenzidine			
3,3'-dimethylbenzidine			
3-methylcholanthrene			
3-nitroaniline			
4,4´-ddd			
4,4´-dde			
4,4´-ddt			
4,6-dinitro-2-methylphenol			
4-aminobiphenyl			
4-bromophenyl phenyl ether			
4-chloro-3-methylphenol			
4-chloroaniline			
4-chlorophenyl phenyl ether			
4-methyl-2-pentanone (mibk)	<5	<5	<5
4-nitroaniline			
4-nitrophenol			
5-nitro-o-toluidine			
7,12-dimethylbenz(a)anthracene			
Acenaphthene			
Acenaphthylene			
Acetone	<10	<10	<10
Acetonitrile			
Acetophenone			
Acrolein			
Acrylonitrile	<5	<5	<5
Aldrin			
Allyl chloride			
Alpha-bhc			
Anthracene			

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-3

Constituents	Units	9/18/2014	4/29/2015	10/7/2015	4/19/2016	9/19/2016	3/21/2017	10/12/2017	3/8/2018
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Arochlor 1016	ug/L					<.1			
Arochlor 1221	ug/L					<.2			
Arochlor 1232	ug/L					<.2			
Arochlor 1242	ug/L					<.2			
Arochlor 1248	ug/L					<.2			
Arochlor 1254	ug/L					<.1			
Arochlor 1260	ug/L					<.1			
Arsenic, total	ug/L	<4.0	<4.0	<4.0	<4.0	5.7	<4.0	<4.0	5.1
Azobenzene	ug/L					<8			
Barium, total	ug/L	655	761	640	748	784	710	743	1020
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene	ug/L					<8			
Benzo(a)pyrene	ug/L					<8			
Benzo(b)fluoranthene	ug/L					<8			
Benzo(g,h,i)perylene	ug/L					<8			
Benzo(k)fluoranthene	ug/L					<8			
Benzyl alcohol	ug/L					<8			
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Beta-bhc	ug/L					<.05			
Bis (2-chloroethoxy) methane	ug/L					<8			
Bis(2-chloroethyl) ether	ug/L					<8			
Bis(2-chloroisopropyl) ether	ug/L					<8			
Bis(2-ethylhexyl) phthalate	ug/L					<8			
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate	ug/L					<8			
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chlordane	ug/L					<.1			
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzilate	ug/L					<8			
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Chloroprene	ug/L					<1			
Chromium, total	ug/L	<8	<8	<8	<8	<8	<8	<8	<8
Chrysene	ug/L					<8			
Cis-1,2-dichloroethylene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	<.8	1.8	<.8	<.8	2.0	<.8	<.8	<2.0
Copper, total	ug/L	<4.0	<4.0	<4.0	<4.0	4.4	<4.0	<4.0	<4.0
Cyanide, total	mg/L					<.005			
Delta-bhc	ug/L					<.05			
Diallate	ug/L					<8			
Dibenzo(a,h)anthracene	ug/L					<8			
Dibenzofuran	ug/L					<8			
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	ug/L					<1			
Dieldrin	ug/L					<.05			
Diethyl phthalate	ug/L					<8			
Dimethoate	ug/L					<.4			
Dimethylphthalate	ug/L					<8			
Di-n-butyl phthalate	ug/L					<8			
Di-n-octyl phthalate	ug/L					<8			
Dinoseb	ug/L					<.6			
Diphenylamine	ug/L					<8			
Disulfoton	ug/L					<.4			
Endosulfan i	ug/L					<.05			
Endosulfan ii	ug/L					<.05			
Endosulfan sulfate	ug/L					<.05			
Endrin	ug/L					<.05			
Endrin aldehyde	ug/L					<.05			
Ethyl methacrylate	ug/L					<10			
Ethyl methanesulfonate	ug/L					<8			
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Famphur	ug/L					<.4			
Fluoranthene	ug/L					<8			
Fluorene	ug/L					<8			
Gamma-bhc (lindane)	ug/L					<.05			
Heptachlor	ug/L					<.05			
Heptachlor epoxide	ug/L					<.05			
Hexachlorobenzene	ug/L					<.05			

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-3

Constituents	9/6/2018	5/13/2019	9/26/2019	3/30/2020	9/17/2020	3/9/2021	9/9/2021	3/14/2022	9/1/2022	3/6/2023
Antimony, total	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arochlor 1016							<.1			
Arochlor 1221							<.2			
Arochlor 1232							<.2			
Arochlor 1242							<.2			
Arochlor 1248							<.2			
Arochlor 1254							<.1			
Arochlor 1260							<.1			
Arsenic, total	<4.0	<4.0	<4.0	<4.0	<4.0	4.4	5.0	<4.0	<4.0	<4.0
Azobenzene							<8			
Barium, total	796	865	951	867	884	1090	785	843	783	785
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzo(a)anthracene							<8			
Benzo(a)pyrene							<8			
Benzo(b)fluoranthene							<8			
Benzo(g,h,i)perylene							<8			
Benzo(k)fluoranthene							<8			
Benzyl alcohol							<8			
Beryllium, total	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Beta-bhc							<.05			
Bis (2-chloroethoxy) methane							<8			
Bis(2-chloroethyl) ether							<8			
Bis(2-chloroisopropyl) ether							<8			
Bis(2-ethylhexyl) phthalate							<6			
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Butyl benzyl phthalate							<8			
Cadmium, total	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	.8	<.8
Carbon disulfide	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlordane							<.1			
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzilate							<8			
Chloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroprene							<1			
Chromium, total	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8
Chrysene							<8			
Cis-1,2-dichloroethylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	1.6	<1.0	<1.0
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	<.8	<.8	<.8	<.8	<.4	<.4	1.3	1.5	<.4	<.4
Copper, total	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Cyanide, total							<.005			
Delta-bhc							<.05			
Diallate							<8			
Dibenzo(a,h)anthracene							<8			
Dibenzofuran							<8			
Dibromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane							<1			
Dieldrin							<.05			
Diethyl phthalate							<8			
Dimethoate							<.4			
Dimethylphthalate							<8			
Di-n-butyl phthalate							<8			
Di-n-octyl phthalate							<8			
Dinoseb							<.5			
Diphenylamine							<8			
Disulfoton							<.4			
Endosulfan i							<.05			
Endosulfan ii							<.05			
Endosulfan sulfate							<.05			
Endrin							<.05			
Endrin aldehyde							<.05			
Ethyl methacrylate							<10			
Ethyl methanesulfonate							<8			
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Famphur							<.4			
Fluoranthene							<8			
Fluorene							<8			
Gamma-bhc (lindane)							<.05			
Heptachlor							<.05			
Heptachlor epoxide							<.05			
Hexachlorobenzene							<.05			

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-3

Constituents	9/8/2023	3/20/2024	9/25/2024
Antimony, total	<2	<2	<2
Arochlor 1016			
Arochlor 1221			
Arochlor 1232			
Arochlor 1242			
Arochlor 1248			
Arochlor 1254			
Arochlor 1260			
Arsenic, total	<4.0	<4.0	<4.0
Azobenzene			
Barium, total	730	747	755
Benzene	<1	<1	<1
Benzo(a)anthracene			
Benzo(a)pyrene			
Benzo(b)fluoranthene			
Benzo(g,h,i)perylene			
Benzo(k)fluoranthene			
Benzyl alcohol			
Beryllium, total	<4	<4	<4
Beta-bhc			
Bis (2-chloroethoxy) methane			
Bis(2-chloroethyl) ether			
Bis(2-chloroisopropyl) ether			
Bis(2-ethylhexyl) phthalate			
Bromochloromethane	<1	<1	<1
Bromodichloromethane	<1	<1	<1
Bromoform	<1	<1	<1
Bromomethane	<1	<1	<1
Butyl benzyl phthalate			
Cadmium, total	<.8	<.8	<.8
Carbon disulfide	<1	<1	<1
Carbon tetrachloride	<1	<1	<1
Chlordane			
Chlorobenzene	<1	<1	<1
Chlorobenzilate			
Chloroethane	<1	<1	<1
Chloroform	<1	<1	<1
Chloromethane	<1	<1	<1
Chloroprene			
Chromium, total	<8	<8	<8
Chrysene			
Cis-1,2-dichloroethylene	<1.0	<1.0	<1.0
Cis-1,3-dichloropropene	<1	<1	<1
Cobalt, total	<.4	<.4	<.4
Copper, total	<4.0	<4.0	<4.0
Cyanide, total			
Delta-bhc			
Diallate			
Dibenzo(a,h)anthracene			
Dibenzofuran			
Dibromochloromethane	<1	<1	<1
Dibromomethane	<1	<1	<1
Dichlorodifluoromethane			
Dieldrin			
Diethyl phthalate			
Dimethoate			
Dimethylphthalate			
Di-n-butyl phthalate			
Di-n-octyl phthalate			
Dinoseb			
Diphenylamine			
Disulfoton			
Endosulfan i			
Endosulfan ii			
Endosulfan sulfate			
Endrin			
Endrin aldehyde			
Ethyl methacrylate			
Ethyl methanesulfonate			
Ethylbenzene	<1	<1	<1
Famphur			
Fluoranthene			
Fluorene			
Gamma-bhc (lindane)			
Heptachlor			
Heptachlor epoxide			
Hexachlorobenzene			

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-3

Constituents	Units	9/18/2014	4/29/2015	10/7/2015	4/19/2016	9/19/2016	3/21/2017	10/12/2017	3/8/2018
Hexachlorobutadiene	ug/L					<8			
Hexachlorocyclopentadiene	ug/L					<8			
Hexachloroethane	ug/L					<8			
Hexachloropropene	ug/L					<8			
Indeno(1,2,3-cd)pyrene	ug/L					<8			
Isobutanol	mg/L					<1			
Isodrin	ug/L					<8			
Isophorone	ug/L					<8			
Isosafrole	ug/L					<8			
Kepone	ug/L					<8			
Lead, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Mercury, total	ug/L					<.5			
Methacrylonitrile	ug/L					<1			
Methapyrilene	ug/L					<8			
Methoxychlor	ug/L					<.05			
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Methyl methacrylate	ug/L					<1			
Methyl methanesulfonate	ug/L					<8			
Methyl parathion	ug/L					<.4			
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Naphthalene	ug/L					<8			
Nickel, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Nitrobenzene	ug/L					<8			
N-nitrosodiethylamine	ug/L					<8			
N-nitrosodimethylamine	ug/L					<8			
N-nitrosodi-n-butylamine	ug/L					<8			
N-nitroso-di-n-propylamine	ug/L					<8			
N-nitrosodiphenylamine	ug/L					<8			
N-nitrosomethylethylamine	ug/L					<8			
N-nitrosopiperidine	ug/L					<8			
N-nitrosopyrrolidine	ug/L					<8			
O,o,o-triethyl phosphorothioate	ug/L					<.4			
O-toluidine	ug/L					<8			
Parathion	ug/L					<.4			
P-dimethylaminoazobenzene	ug/L					<8			
Pentachlorobenzene	ug/L					<8			
Pentachloronitrobenzene (pcnb)	ug/L					<8			
Pentachlorophenol	ug/L					<8			
Phenacetin	ug/L					<8			
Phenanthrene	ug/L					<8			
Phenol	ug/L					<8			
Phorate	ug/L					<.4			
Pronamide	ug/L					<8			
Propionitrile	ug/L					<10			
Pyrene	ug/L					<8			
Safrole	ug/L					<8			
Selenium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Solids, total suspended	mg/L	33	179	23	14	101	45	718	
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Sulfide, total	mg/L					<.1			
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4
Thionazin	ug/L					<.4			
Tin, total	ug/L					<20			
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Toxaphene	ug/L					<.2			
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20.0	<20.0	<20.0	<20.0	20.1	<20.0	<20.0	<20.0
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	10.1	16.1	<8.0	<8.0	13.2	<8.0	<8.0	<8.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-3

Constituents	9/6/2018	5/13/2019	9/26/2019	3/30/2020	9/17/2020	3/9/2021	9/9/2021	3/14/2022	9/1/2022	3/6/2023
Hexachlorobutadiene							<8			
Hexachlorocyclopentadiene							<8			
Hexachloroethane							<8			
Hexachloropropene							<8			
Indeno(1,2,3-cd)pyrene							<8			
Isobutanol							<1			
Isodrin							<8			
Isophorone							<8			
Isosafrole							<8			
Kepone							<8			
Lead, total	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Mercury, total							<.5			
Methacrylonitrile							<1			
Methapyrilene							<8			
Methoxychlor							<.05			
Methyl iodide	<1	<1	<1	<2	<1	<1	<2	<1	<1	<1
Methyl methacrylate							<1			
Methyl methanesulfonate							<8			
Methyl parathion							<.4			
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Naphthalene							<8			
Nickel, total	<8.0	<4.0	<4.0	<4.0	<4.0	<4.0	7.1	13.1	9.6	<4.0
Nitrobenzene							<8			
N-nitrosodiethylamine							<8			
N-nitrosodimethylamine							<8			
N-nitrosodi-n-butylamine							<8			
N-nitroso-di-n-propylamine							<8			
N-nitrosodiphenylamine							<8			
N-nitrosomethylethylamine							<8			
N-nitrosopiperidine							<8			
N-nitrosopyrrolidine							<8			
O,o,o-triethyl phosphorothioate							<.4			
O-toluidine							<8			
Parathion							<.4			
P-dimethylaminoazobenzene							<8			
Pentachlorobenzene							<8			
Pentachloronitrobenzene (pcnb)							<8			
Pentachlorophenol							<8			
Phenacetin							<8			
Phenanthrene							<8			
Phenol							<8			
Phorate							<.4			
Pronamide							<8			
Propionitrile							<10			
Pyrene							<8			
Safrole							<8			
Selenium, total	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	<8	<4	<4	<4	<4	<4	<4	<4	<4	<4
Solids, total suspended										
Styrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sulfide, total							<.1			
Tetrachloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	<4	<2	<2	<2	<2	<2	<2	<2	<2	<2
Thionazin							<.4			
Tin, total							<20			
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toxaphene							<.2			
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Vinyl acetate	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	37.9	17.6	28.2	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-3

Constituents	9/8/2023	3/20/2024	9/25/2024
Hexachlorobutadiene			
Hexachlorocyclopentadiene			
Hexachloroethane			
Hexachloropropene			
Indeno(1,2,3-cd)pyrene			
Isobutanol			
Isodrin			
Isophorone			
Isosafrole			
Kepone			
Lead, total	<4	<4	<4
Mercury, total			
Methacrylonitrile			
Methapyrilene			
Methoxychlor			
Methyl iodide	<1	<1	<1
Methyl methacrylate			
Methyl methanesulfonate			
Methyl parathion			
Methylene chloride	<5	<5	<5
Naphthalene			
Nickel, total	<4.0	<4.0	<4.0
Nitrobenzene			
N-nitrosodiethylamine			
N-nitrosodimethylamine			
N-nitrosodi-n-butylamine			
N-nitroso-di-n-propylamine			
N-nitrosodiphenylamine			
N-nitrosomethylethylamine			
N-nitrosopiperidine			
N-nitrosopyrrolidine			
O,o,o-triethyl phosphorothioate			
O-toluidine			
Parathion			
P-dimethylaminoazobenzene			
Pentachlorobenzene			
Pentachloronitrobenzene (pcnb)			
Pentachlorophenol			
Phenacetin			
Phenanthrene			
Phenol			
Phorate			
Pronamide			
Propionitrile			
Pyrene			
Safrole			
Selenium, total	<4	<4	<4
Silver, total	<4	<4	<4
Solids, total suspended			
Styrene	<1	<1	<1
Sulfide, total			
Tetrachloroethylene	<1	<1	<1
Thallium, total	<2	<2	<2
Thionazin			
Tin, total			
Toluene	<1	<1	<1
Toxaphene			
Trans-1,2-dichloroethylene	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5
Trichloroethylene	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1
Vanadium, total	<20.0	<20.0	<20.0
Vinyl acetate	<5	<5	<5
Vinyl chloride	<1	<1	<1
Xylenes, total	<2	<2	<2
Zinc, total	<20.0	<20.0	<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-9

Constituents	Units	9/17/2014	4/29/2015	10/7/2015	4/19/2016	9/19/2016	3/21/2017	10/12/2017	3/8/2018	9/6/2018
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	16.7	<10.0	<10.0
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic, total	ug/L	<4.0	<4.0	<4.0	<4.0	4.6	<4.0	<4.0	<4.0	<4.0
Barium, total	ug/L	423	488	435	425	432	383	373	374	364
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Bis(2-ethylhexyl) phthalate	ug/L	<10	<10	<10						
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, total	ug/L	<8	<8	<8	<8	<8	<8	<8	<8	<8
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	1.5	1.9	5.0	1.4	10.1	1.4	<.8	<2.0	<.8
Copper, total	ug/L	4.4	4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	ug/L	4.2	6.8	9.0	<4.0	<4.0	<4.0	<4.0	<4.0	<8.0
Selenium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<8
Solids, total suspended	mg/L	266	145	8	15	14	44	1140		
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	13.2	13.5	<8.0	<8.0	<8.0	<8.0	12.4	11.0	29.4

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-9

Constituents	5/13/2019	9/26/2019	3/30/2020	9/17/2020	3/9/2021	9/9/2021	3/14/2022	9/1/2022	3/6/2023	9/8/2023
1,1,1,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5
1,2-dibromoethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	<5	<5	<5	<5	<5	<5	<10	<10	<10	<10
2-hexanone (mbk)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Acrylonitrile	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Antimony, total	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic, total	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Barium, total	385	401	375	355	316	353	344	318	351	325
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Beryllium, total	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Bis(2-ethylhexyl) phthalate										
Bromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium, total	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, total	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8
Cis-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	<.8	4.1	<.8	1.4	<.4	<.4	1.1	1.9	1.2	<.4
Copper, total	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Dibromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead, total	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Methyl iodide	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	<4.0	6.1	<4.0	5.9	<4.0	4.5	<4.0	<4.0	6.1	<4.0
Selenium, total	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Solids, total suspended										
Styrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	25.1	21.6	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 9

Analytical Data Summary for MW-9

Constituents	3/20/2024	9/25/2024
1,1,1,2-tetrachloroethane	<1	<1
1,1,1-trichloroethane	<1	<1
1,1,2,2-tetrachloroethane	<1	<1
1,1,2-trichloroethane	<1	<1
1,1-dichloroethane	<1	<1
1,1-dichloroethylene	<1	<1
1,2,3-trichloropropane	<1	<1
1,2-dibromo-3-chloropropane	<5	<5
1,2-dibromoethane	<1	<1
1,2-dichlorobenzene	<1	<1
1,2-dichloroethane	<1	<1
1,2-dichloropropane	<1	<1
1,4-dichlorobenzene	<1	<1
2-butanone (mek)	<10	<10
2-hexanone (mbk)	<5	<5
4-methyl-2-pentanone (mibk)	<5	<5
Acetone	<10.0	<10.0
Acrylonitrile	<5	<5
Antimony, total	<2	<2
Arsenic, total	<4.0	<4.0
Barium, total	328	316
Benzene	<1	<1
Beryllium, total	<4	<4
Bis(2-ethylhexyl) phthalate		
Bromochloromethane	<1	<1
Bromodichloromethane	<1	<1
Bromoform	<1	<1
Bromomethane	<1	<1
Cadmium, total	<.8	<.8
Carbon disulfide	<1	<1
Carbon tetrachloride	<1	<1
Chlorobenzene	<1	<1
Chloroethane	<1	<1
Chloroform	<1	<1
Chloromethane	<1	<1
Chromium, total	<8	<8
Cis-1,2-dichloroethylene	<1	<1
Cis-1,3-dichloropropene	<1	<1
Cobalt, total	.6	.6
Copper, total	<4.0	<4.0
Dibromochloromethane	<1	<1
Dibromomethane	<1	<1
Ethylbenzene	<1	<1
Lead, total	<4	<4
Methyl iodide	<1	<1
Methylene chloride	<5	<5
Nickel, total	<4.0	4.6
Selenium, total	<4	<4
Silver, total	<4	<4
Solids, total suspended		
Styrene	<1	<1
Tetrachloroethylene	<1	<1
Thallium, total	<2	<2
Toluene	<1	<1
Trans-1,2-dichloroethylene	<1	<1
Trans-1,3-dichloropropene	<1	<1
Trans-1,4-dichloro-2-butene	<5	<5
Trichloroethylene	<1	<1
Trichlorofluoromethane	<1	<1
Vanadium, total	<20	<20
Vinyl acetate	<5	<5
Vinyl chloride	<1	<1
Xylenes, total	<2	<2
Zinc, total	<20.0	<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Table 10 – Historic SSI and SSL
(NOT REQUIRED)

Table 11 – Corrective Action Trend Analysis
(NOT REQUIRED)

Table 12 – Leachate Elevations

Table 12
Leachate Elevations
Annual Water Quality Report
Fremont County Sanitary Landfill
Permit No. 36-SDP-01-74P

Date/Location	PZ-1
1/31/24	0”
2/23/24	0”
3/20/24	0”
4/30/24	0”
5/28/24	0”
6/27/24	0”
7/23/24	0”
8/23/24	0”
9/27/24	0”
10/28/24	0”
11/22/24	0”
12/30/24	0”
Measurements By	Landfill Staff

Table 13 – Gas Monitoring Summary

Table 13
Explosive Gas Monitoring Report
Annual Water Quality Report
Fremont County Sanitary Landfill
Permit No. 36-SDP-01-74P

2024

Monitoring Well Headspace

Location/Date	1/31/24	4/30/24	7/23/24	10/28/24
	% LEL	% LEL	% LEL	% LEL
Old Office/Shop	0	0	0	0
Office	0	0	0	0
Equipment Bldg.	0	0	0	0
RCC Building	0	0	0	0
GP-1	0	0	0	0
GP-2	0	0	0	0
GP-3 (MW-13)	0	0	0	0
GP-4 (MW-11)	0	0	0	0
GWD-1	0	0	0	0
GWD-2	0	0	0	0
A-1	0	0	0	0
A-2	0	0	0	0
A-3	0	0	0	0
A-4	0	0	0	0
A-5	0	0	0	0
A-6	0	0	0	0
A-7	0	0	0	0
A-8	0	0	0	0
A-9	0	0	0	0
Measurements By	Casey Moyer	Casey Moyer	Casey Moyer	Casey Moyer

Appendix A

Field Sampling Forms

FREMONT COUNTY SANITARY LANDFILL
PERMIT # 36-SDP-01-74P

3/20/2024 Sampled by: Glenn Hunter Weather Conditions: Sunny, windy, 36-47 degrees

IDNR Form 542-1322

Primary Sampling Method: No-Purge for Appendix I
Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

Monitoring Well: MW-2 (ug)

GENERAL INFORMATION

TOC	1114.14
Well Depth	101.10
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1114.14
Well Depth	101.10
Top Screen	1018.04
Bottom Screen	1013.04
Bottom Well	1013.04
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	96.00
Top sample	1018.14
Bottom sample	1014.14
Turbidity(NTU)	2.42

Date	Time	Water Level	Water Elevation	Notes
3/20/2024	8:52	87.68	1026.46	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		2.42
Appendix I	Metals	150	150		2.42
Appendix I	VOC	240	240		2.42
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750			
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1114.14
Well Depth	101.10

2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Before purging	3/20/2024	8:52	87.68	1026.46	5	2.3	no
After purging				1114.14			
Top of Screen January 1990				1018.04			
				8.42	feet above (+) or below (-) top screen		
Bottom of Well January 1990				1013.04			
Bottom of Well	3/20/2024		102.20	1011.94			
				-1.10	feet sedimentation		
Before Sampling				1114.14			
Recovery	3/20/2024	8:59	87.73	1026.41			
Recovery	3/20/2024	8:59	87.68	1026.46			
Recovery				1114.14			
Recovery				1114.14			

IDNR Form 542-1322

Monitoring Well: MW-3 (dg)

Primary Sampling Method: No-Purge for Appendix I

Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1031.78
Well Depth	33.10
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1031.78
Well Depth	33.10
Top Screen	1009.78
Bottom Screen	999.78
Bottom Well	999.78
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	27.00
Top sample	1004.78
Bottom sample	1000.78
Turbidity(NTU)	1.27

Date	Time	Water Level	Water Elevation	Notes
3/20/2024	10:43	20.96	1010.82	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		1.27
Appendix I	Metals	150	150		1.27
Appendix I	VOC	240	240		1.27
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750			
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1031.78	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	33.10	Before purging	3/20/2024	10:43	20.96	1010.82	5	2.5	no
		After purging				1031.78			
		Top of Screen January 1990				1009.78			
						1.04	feet above (+) or below (-) top screen		
		Bottom of Well January 1990				999.78			
		Bottom of Well	3/20/2024		33.10	998.68			
						-1.10	feet sedimentation		
		Before Sampling				1031.78			
		Recovery	3/20/2024	10:55	21.21	1010.57			
		Recovery	3/20/2024	10:55	20.96	1010.82			
		Recovery				1031.78			
		Recovery				1031.78			

IDNR Form 542-1322

Monitoring Well: MW-9 (dg)

Primary Sampling Method: No-Purge for Appendix I

Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1040.72
Well Depth	45.80
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1040.72
Well Depth	45.80
Top Screen	1004.92
Bottom Screen	994.92
Bottom Well	994.92
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	40.00
Top sample	1000.72
Bottom sample	996.72
Turbidity(NTU)	4.48

Date	Time	Water Level	Water Elevation	Notes
3/20/2024	10:30	20.18	1020.54	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		4.48
Appendix I	Metals	150	150		4.48
Appendix I	VOC	240	240		4.48
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750	0		
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1040.72	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	45.80	Before purging	3/20/2024	10:30	20.18	1020.54	4	1.0	no
		After purging				1040.72			
		Top of Screen January 1990				1004.92			
						15.62	feet above (+) or below (-) top screen		
		Bottom of Well January 1990				994.92			
		Bottom of Well	3/20/2024		46.15	994.57			
						-0.35	feet sedimentation		
		Before Sampling				1040.72			
		Recovery	3/20/2024	10:38	23.25	1017.47			
		Recovery	3/20/2024	12:38	20.20	1020.52			
		Recovery				1040.72			
		Recovery				1040.72			

IDNR Form 542-1322

Primary Sampling Method: No-Purge for Appendix I
Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

Monitoring Well: MW-12 (dg)
Background Well

GENERAL INFORMATION

TOC	1074.98
Well Depth	55.30
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1074.98
Well Depth	55.30
Top Screen	1035.50
Bottom Screen	1020.50
Bottom Well	1020.50
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	51.00
Top sample	1023.98
Bottom sample	1019.98
Turbidity(NTU)	18.50

Date	Time	Water Level	Water Elevation	Notes
3/20/2024	10:05	51.71	1023.27	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		18.50
Appendix I	Metals	150	150		18.50
Appendix I	VOC	240	240		18.50
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750			
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1074.98
Well Depth	55.30

2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Before purging	3/20/2024	10:05	51.71	1023.27	2.5	4.3	no
After purging				1074.98			
Top of Screen January 1990				1035.50			
				-12.23	feet above (+) or below (-) top screen		
Bottom of Well January 1990				1020.50			
Bottom of Well	3/20/2024		55.30	1019.68			
				-0.82	feet sedimentation		
Before Sampling				1074.98			
Recovery	3/20/2024	10:08	51.74	1023.24			
Recovery	3/20/2024	10:08	51.71	1023.27			
Recovery				1074.98			
Recovery				1074.98			

IDNR Form 542-1322

Monitoring Well: MW-14 (dg)
Background Well

Primary Sampling Method: No-Purge for Appendix I
Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1076.25
Well Depth	81.30
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1076.25
Well Depth	81.30
Top Screen	1000.60
Bottom Screen	995.60
Bottom Well	995.60
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	75.00
Top sample	1001.25
Bottom sample	997.25
Turbidity(NTU)	1.64

Date	Time	Water Level	Water Elevation	Notes
3/20/2024	9:22	51.83	1024.42	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		1.64
Appendix I	Metals	150	150		1.64
Appendix I	VOC	240	240		1.64
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750			
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1076.25	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	81.30	Before purging	3/20/2024	9:22	51.83	1024.42	4	0.8	no
		After purging				1076.25			
		Top of Screen January 1990				1000.60			
						23.82	feet above (+) or below (-) top screen		
		Bottom of Well January 1990				995.60			
		Bottom of Well	3/20/2024		81.60	994.65			
						-0.95	feet sedimentation		
		Before Sampling				1076.25			
		Recovery	3/20/2024	9:29	76.72	999.53			
		Recovery	3/20/2024	12:32	56.95	1019.30			
		Recovery				1076.25			
		Recovery				1076.25			

IDNR Form 542-1322

Primary Sampling Method:	No-Purge for Appendix I
Secondary Sampling Method:	Purge & Sample for all analytes beyond Appendix I

Monitoring Well: MW-15 (dg)

GENERAL INFORMATION

TOC	1025.26
Well Depth	27.70
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1025.26
Well Depth	27.70
Top Screen	1007.56
Bottom Screen	997.56
Bottom Well	997.56
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	21.00
Top sample	1004.26
Bottom sample	1000.26
Turbidity(NTU)	0.95

Date	Time	Water Level	Water Elevation	Notes
3/20/2024	11:46	8.68	1016.58	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		0.95
Appendix I	Metals	150	150		0.95
Appendix I	VOC	240	240		0.95
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750			
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1025.26	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	27.70	Before purging	3/20/2024	11:46	8.68	1016.58	5	1.6	no
		After purging				1025.26			
		Top of Screen January 1990				1007.56			
						9.02	feet above (+) or below (-) top screen		
		Bottom of Well January 1990				997.56			
		Bottom of Well	3/20/2024		27.70	997.56			
						0.00	feet sedimentation		
		Before Sampling				1025.26			
		Recovery	3/20/2024	11:56	15.70	1009.56			
		Recovery	3/20/2024	12:46	8.72	1016.54			
		Recovery				1025.26			
		Recovery				1025.26			

IDNR Form 542-1322

Monitoring Well: MW-18 (ug)

Primary Sampling Method: No-Purge for Appendix I
Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1118.78
Well Depth	99.00
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1118.78
Well Depth	99.00
Top Screen	1034.78
Bottom Screen	1019.78
Bottom Well	1019.78
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	93.00
Top sample	1025.78
Bottom sample	1021.78
Turbidity(NTU)	5.30

Date	Time	Water Level	Water Elevation	Notes
3/20/2024	8:27	93.41	1025.37	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		5.30
Appendix I	Metals	150	150		5.30
Appendix I	VOC	240	240		5.30
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750			
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1118.78	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	99.00	Before purging	3/20/2024		93.41	1025.37	3	3.3	no
		After purging				1118.78			
		Top of Screen January 1990				1034.78			
						-9.41	feet above (+) or below (-) top screen		
		Bottom of Well January 1990				1019.78			
		Bottom of Well	3/20/2024		98.00	1020.78			
						1.00	feet sedimentation		
		Before Sampling				1118.78			
		Recovery	3/20/2024	8:35	93.49	1025.29			
		Recovery	3/20/2024	8:35	93.41	1025.37			
		Recovery				1118.78			
		Recovery				1118.78			

IDNR Form 542-1322

Monitoring Well: MW-19 (dg)

Primary Sampling Method: No-Purge for Appendix I
Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1078.92
Well Depth	61.65
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1078.92
Well Depth	61.65
Top Screen	1032.22
Bottom Screen	1017.22
Bottom Well	1017.22
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	56.00
Top sample	1022.92
Bottom sample	1018.92
Turbidity(NTU)	1.60

Date	Time	Water Level	Water Elevation	Notes
3/20/2024	9:44	56.55	1022.37	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		1.60
Appendix I	Metals	150	150		1.60
Appendix I	VOC	240	240		1.60
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750			
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1078.92	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	61.65	Before purging	3/20/2024	9:44	56.55	1022.37	3	3.6	no
		After purging				1078.92			
		Top of Screen January 1990				1032.22			
						-9.85	feet above (+) or below (-) top screen		
		Bottom of Well January 1990				1017.22			
		Bottom of Well	3/20/2024		61.65	1017.27			
						0.05	feet sedimentation		
		Before Sampling				1078.92			
		Recovery	3/20/2024	9:51	57.90	1021.02			
		Recovery	3/20/2024	12:34	56.56	1022.36			
		Recovery				1078.92			
		Recovery				1078.92			

IDNR Form 542-1322

Monitoring Well: MW-21 (dg)

Primary Sampling Method: No-Purge for Appendix I
Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1029.39
Well Depth	38.80
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1029.39
Well Depth	38.80
Top Screen	1000.59
Bottom Screen	990.59
Bottom Well	990.59
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	32.00
Top sample	997.39
Bottom sample	993.39
Turbidity(NTU)	6.53

Date	Time	Water Level	Water Elevation	Notes
3/20/2024	11:26	27.46	1001.93	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		6.53
Appendix I	Metals	150	150		6.53
Appendix I	VOC	240	240		6.53
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750			
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1029.39
Well Depth	38.80

2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Before purging	3/20/2024	11:26	27.46	1001.93	3	1.6	no
After purging				1029.39			
Top of Screen January 1990				1000.59			
				1.34	feet above (+) or below (-) top screen		
Bottom of Well January 1990				990.59			
Bottom of Well	3/20/2024		38.80	990.59			
				0.00	feet sedimentation		
Before Sampling				1029.39			
Recovery	3/20/2024	11:30	33.20	996.19			
Recovery	3/20/2024	12:44	27.60	1001.79			
Recovery				1029.39			
Recovery				1029.39			

IDNR Form 542-1322

Primary Sampling Method: No-Purge for Appendix I
Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

Monitoring Well: MW-23 (dg)

GENERAL INFORMATION

TOC	1031.83
Well Depth	26.80
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1031.83
Well Depth	26.80
Top Screen	1015.03
Bottom Screen	1005.03
Bottom Well	1004.03
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	20.00
Top sample	1011.83
Bottom sample	1007.83
Turbidity(NTU)	0.60

Date	Time	Water Level	Water Elevation	Notes
3/20/2024	11:03	14.13	1017.70	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		0.60
Appendix I	Metals	150	150		0.60
Appendix I	VOC	240	240		0.60
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750			
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1031.83	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	26.80	Before purging	3/20/2024	11:03	14.13	1017.70	2	1.0	no
		After purging				1031.83			
		Top of Screen January 1990				1015.03			
						2.67	feet above (+) or below (-) top screen		
		Bottom of Well January 1990				1005.03			
		Bottom of Well	3/20/2024		26.80	1005.03			
						0.00	feet sedimentation		
		Before Sampling				1031.83			
		Recovery	3/20/2024	11:06	25.00	1006.83			
		Recovery	3/20/2024	12:42	17.76	1014.07			
		Recovery				1031.83			
		Recovery				1031.83			

FREMONT COUNTY SANITARY LANDFILL
PERMIT # 36-SDP-01-74P

3/20/2024 Sampled by: Glenn Hunter Weather Conditions: Sunny, windy, 36-47 degrees

IDNR Form 542-1324

	Date	Time	Type	Flowing	Quantity			Discolored	Odor	Litter
GWD-1	3/20/2024	11:50	Underdrain	no	pooled			No	No	No
										Turbidity(NTU)
										11

IDNR Form 542-1324

	Date	Time	Type	Flowing	Quantity			Discolored	Odor	Litter
GWD-2	3/20/2024	11:14	Underdrain	yes	2 gal/min			No	No	No
										Turbidity(NTU)
										4.27

FREMONT COUNTY SANITARY LANDFILL
PERMIT # 36-SDP-01-74P

6/17/2024 Sampled by: Glenn Hunter Weather Conditions: Sunny, windy, 87 degrees

IDNR Form 542-1322

Monitoring Well: MW-21 (dg)

Primary Sampling Method: No-Purge for Appendix I
Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1029.39
Well Depth	38.80
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1029.39
Well Depth	38.80
Top Screen	1000.59
Bottom Screen	990.59
Bottom Well	990.59
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	32.00
Top sample	997.39
Bottom sample	993.39
Turbidity(NTU)	0.53

Date	Time	Water Level	Water Elevation	Notes
6/17/2024	13:28	27.45	1001.94	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		0.53
Appendix I	Metals	150	150		0.53
Appendix I	VOC	240	240		0.53
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750			
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1029.39
Well Depth	38.80

2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Before purging	6/17/2024	13:28	27.45	1001.94		0.0	
After purging				1029.39			
Top of Screen January 1990				1000.59			
				1.35	feet above (+) or below (-) top screen		
Bottom of Well January 1990				990.59			
Bottom of Well	6/17/2024		38.80	990.59			
				0.00	feet sedimentation		
Before Sampling				1029.39			
Recovery				1029.39			
Recovery				1029.39			
Recovery				1029.39			
Recovery				1029.39			

FREMONT COUNTY SANITARY LANDFILL
PERMIT # 36-SDP-01-74P

6/17/2024 Sampled by: Glenn Hunter Weather Conditions: Sunny, windy, 87 degrees

IDNR Form 542-1324

	Date	Time	Type	Flowing	Quantity		Discolored	Odor	Litter
GWD-1	6/17/2024	13:25	Underdrain	no	buried		No	No	No
			No resample possible						Turbidity(NTU)

IDNR Form 542-1324

	Date	Time	Type	Flowing	Quantity		Discolored	Odor	Litter
GWD-2	6/17/2024	13:36	Underdrain	yes	250 mL/3 sec		No	No	No
									Turbidity(NTU)
									0.41

FREMONT COUNTY SANITARY LANDFILL
PERMIT # 36-SDP-01-74P

9/25/2024 Sampled by: Todd Whipple Weather Conditions: Sunny, calm, 70 degrees

IDNR Form 542-1322

Monitoring Well: MW-2 (ug)

Primary Sampling Method: No-Purge for Appendix I
Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1114.14
Well Depth	101.10
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1114.14
Well Depth	101.10
Top Screen	1018.04
Bottom Screen	1013.04
Bottom Well	1013.04
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	95.00
Top sample	1019.14
Bottom sample	1015.14
Turbidity(NTU)	2.93

Date	Time	Water Level	Water Elevation	Notes
9/25/2024	9:50	88.10	1026.04	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		2.93
Appendix I	Metals	150	150		2.93
Appendix I	VOC	240	240		2.93
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750			
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1114.14	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	101.10	Before purging	9/25/2024	9:50	88.10	1026.04		0.0	
		After purging				1114.14			
		Top of Screen January 1990				1018.04			
						8.00	feet above (+) or below (-) top screen		
		Bottom of Well January 1990				1013.04			
		Bottom of Well	9/25/2024		102.20	1011.94			
						-1.10	feet sedimentation		
		Before Sampling				1114.14			
		Recovery				1114.14			
		Recovery				1114.14			
		Recovery				1114.14			
		Recovery				1114.14			

IDNR Form 542-1322

Monitoring Well: MW-3 (dg)

Primary Sampling Method: No-Purge for Appendix I
Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1031.78
Well Depth	33.10
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1031.78
Well Depth	33.10
Top Screen	1009.78
Bottom Screen	999.78
Bottom Well	999.78
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	27.00
Top sample	1004.78
Bottom sample	1000.78
Turbidity(NTU)	2.06

Date	Time	Water Level	Water Elevation	Notes
9/25/2024	11:33	21.85	1009.93	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		2.06
Appendix I	Metals	150	150		2.06
Appendix I	VOC	240	240		2.06
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750			
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1031.78
Well Depth	33.10

2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Before purging	9/25/2024	11:33	21.85	1009.93		0.0	
After purging				1031.78			
Top of Screen January 1990				1009.78			
				0.15	feet above (+) or below (-) top screen		
Bottom of Well January 1990				999.78			
Bottom of Well	9/25/2024		33.10	998.68			
				-1.10	feet sedimentation		
Before Sampling				1031.78			
Recovery				1031.78			
Recovery				1031.78			
Recovery				1031.78			
Recovery				1031.78			

IDNR Form 542-1322

Monitoring Well: MW-9 (dg)

Primary Sampling Method: No-Purge for Appendix I
Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1040.72
Well Depth	45.80
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1040.72
Well Depth	45.80
Top Screen	1004.92
Bottom Screen	994.92
Bottom Well	994.92
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	40.00
Top sample	1000.72
Bottom sample	996.72
Turbidity(NTU)	3.33

Date	Time	Water Level	Water Elevation	Notes
9/25/2024	11:46	20.58	1020.14	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		3.33
Appendix I	Metals	150	150		3.33
Appendix I	VOC	240	240		3.33
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750	0		
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1040.72	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	45.80	Before purging	9/25/2024	11:46	20.58	1020.14		0.0	
		After purging				1040.72			
		Top of Screen January 1990				1004.92			
						15.22	feet above (+) or below (-) top screen		
		Bottom of Well January 1990				994.92			
		Bottom of Well	9/25/2024		46.15	994.57			
						-0.35	feet sedimentation		
		Before Sampling				1040.72			
		Recovery				1040.72			
		Recovery				1040.72			
		Recovery				1040.72			
		Recovery				1040.72			

IDNR Form 542-1322

Primary Sampling Method: No-Purge for Appendix I
Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

Monitoring Well: MW-12 (dg)
Background Well

GENERAL INFORMATION

TOC	1074.98
Well Depth	55.30
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1074.98
Well Depth	55.30
Top Screen	1035.50
Bottom Screen	1020.50
Bottom Well	1020.50
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	52.00
Top sample	1022.98
Bottom sample	1018.98
Turbidity(NTU)	3.88

ants

Date	Time	Water Level	Water Elevation	Notes
9/25/2024	12:10	52.05	1022.93	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		3.88
Appendix I	Metals	150	150		3.88
Appendix I	VOC	240	240		3.88
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750			
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1074.98
Well Depth	55.30

2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Before purging	9/25/2024	12:10	52.05	1022.93		0.0	
After purging				1074.98			
Top of Screen January 1990				1035.50			
				-12.57	feet above (+) or below (-) top screen		
Bottom of Well January 1990				1020.50			
Bottom of Well	9/25/2024		55.30	1019.68			
				-0.82	feet sedimentation		
Before Sampling				1074.98			
Recovery				1074.98			
Recovery				1074.98			
Recovery				1074.98			
Recovery				1074.98			

IDNR Form 542-1322

Primary Sampling Method: No-Purge for Appendix I

Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

Monitoring Well: MW-14 (dg)
Background Well

GENERAL INFORMATION

TOC	1076.25
Well Depth	81.30
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1076.25
Well Depth	81.30
Top Screen	1000.60
Bottom Screen	995.60
Bottom Well	995.60
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	75.00
Top sample	1001.25
Bottom sample	997.25
Turbidity(NTU)	2.33

Date	Time	Water Level	Water Elevation	Notes
9/25/2024	12:40	52.30	1023.95	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		2.33
Appendix I	Metals	150	150		2.33
Appendix I	VOC	240	240		2.33
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750			
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1076.25	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	81.30	Before purging	9/25/2024	12:40	52.30	1023.95		0.0	
		After purging				1076.25			
		Top of Screen January 1990				1000.60			
						23.35	feet above (+) or below (-) top screen		
		Bottom of Well January 1990				995.60			
		Bottom of Well	9/25/2024		81.60	994.65			
						-0.95	feet sedimentation		
		Before Sampling				1076.25			
		Recovery				1076.25			
		Recovery				1076.25			
		Recovery				1076.25			
		Recovery				1076.25			

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Monitoring Well:	MW-15 (dg)
Primary Sampling Method:	No-Purge for Appendix I
Secondary Sampling Method:	Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1025.26
Well Depth	27.70
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1025.26
Well Depth	27.70
Top Screen	1007.56
Bottom Screen	997.56
Bottom Well	997.56
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	22.00
Top sample	1003.26
Bottom sample	999.26
Turbidity(NTU)	5.11

Date	Time	Water Level	Water Elevation	Notes
9/25/2024	10:14	11.40	1013.86	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		5.11
Appendix I	Metals	150	150		5.11
Appendix I	VOC	240	240		5.11
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750			
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1025.26	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	27.70	Before purging	9/25/2024	10:14	11.40	1013.86		0.0	
		After purging				1025.26			
		Top of Screen January 1990				1007.56			
						6.30	feet above (+) or below (-) top screen		
		Bottom of Well January 1990				997.56			
		Bottom of Well	9/25/2024		27.70	997.56			
						0.00	feet sedimentation		
		Before Sampling				1025.26			
		Recovery				1025.26			
		Recovery				1025.26			
		Recovery				1025.26			
		Recovery				1025.26			

IDNR Form 542-1322

Monitoring Well: MW-18 (ug)

Primary Sampling Method: No-Purge for Appendix I
Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1118.78
Well Depth	99.00
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1118.78
Well Depth	99.00
Top Screen	1034.78
Bottom Screen	1019.78
Bottom Well	1019.78
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	93.00
Top sample	1025.78
Bottom sample	1021.78
Turbidity(NTU)	31.47

Date	Time	Water Level	Water Elevation	Notes
9/25/2024	9:35	93.85	1024.93	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		31.47
Appendix I	Metals	150	150		31.47
Appendix I	VOC	240	240		31.47
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750			
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1118.78	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	99.00	Before purging	9/25/2024		93.85	1024.93		0.0	
		After purging				1118.78			
		Top of Screen January 1990				1034.78			
						-9.85	feet above (+) or below (-) top screen		
		Bottom of Well January 1990				1019.78			
		Bottom of Well	9/25/2024		98.00	1020.78			
						1.00	feet sedimentation		
		Before Sampling				1118.78			
		Recovery				1118.78			
		Recovery				1118.78			
		Recovery				1118.78			
		Recovery				1118.78			

IDNR Form 542-1322

Monitoring Well: MW-19 (dg)

Primary Sampling Method: No-Purge for Appendix I
Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1078.92
Well Depth	61.65
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1078.92
Well Depth	61.65
Top Screen	1032.22
Bottom Screen	1017.22
Bottom Well	1017.22
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	57.00
Top sample	1021.92
Bottom sample	1017.92
Turbidity(NTU)	2.53

Date	Time	Water Level	Water Elevation	Notes
9/25/2024	12:30	56.85	1022.07	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		2.53
Appendix I	Metals	150	150		2.53
Appendix I	VOC	240	240		2.53
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750			
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1078.92	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	61.65	Before purging	9/25/2024	12:30	56.85	1022.07		0.0	
		After purging				1078.92			
		Top of Screen January 1990				1032.22			
						-10.15	feet above (+) or below (-) top screen		
		Bottom of Well January 1990				1017.22			
		Bottom of Well	9/25/2024		61.65	1017.27			
						0.05	feet sedimentation		
		Before Sampling				1078.92			
		Recovery				1078.92			
		Recovery				1078.92			
		Recovery				1078.92			
		Recovery				1078.92			

IDNR Form 542-1322

Monitoring Well:	MW-21 (dg)
Primary Sampling Method:	No-Purge for Appendix I
Secondary Sampling Method:	Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1029.39
Well Depth	38.80
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1029.39
Well Depth	38.80
Top Screen	1000.59
Bottom Screen	990.59
Bottom Well	990.59
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	32.00
Top sample	997.39
Bottom sample	993.39
Turbidity(NTU)	2.76

Date	Time	Water Level	Water Elevation	Notes
9/25/2024	10:46	29.03	1000.36	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		2.76
Appendix I	Metals	150	150		2.76
Appendix I	VOC	240	240		2.76
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750			
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	1029.39	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	38.80	Before purging	9/25/2024	10:46	29.03	1000.36		0.0	
		After purging				1029.39			
		Top of Screen January 1990				1000.59			
						-0.23	feet above (+) or below (-) top screen		
		Bottom of Well January 1990				990.59			
		Bottom of Well	9/25/2024		38.80	990.59			
						0.00	feet sedimentation		
		Before Sampling				1029.39			
		Recovery				1029.39			
		Recovery				1029.39			
		Recovery				1029.39			
		Recovery				1029.39			

IDNR Form 542-1322

Monitoring Well: MW-23 (dg)

Primary Sampling Method: No-Purge for Appendix I
Secondary Sampling Method: Purge & Sample for all analytes beyond Appendix I

GENERAL INFORMATION

TOC	1031.83
Well Depth	26.80
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipment -	Solinst 429
Purge Equipment -	Waterra

NO PURGE METHOD

TOC	1031.83
Well Depth	26.80
Top Screen	1015.03
Bottom Screen	1005.03
Bottom Well	1004.03
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	21.00
Top sample	1010.83
Bottom sample	1006.83
Turbidity(NTU)	1.82

Date	Time	Water Level	Water Elevation	Notes
9/25/2024	11:14	14.69	1017.14	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		1.82
Appendix I	Metals	150	150		1.82
Appendix I	VOC	240	240		1.82
Full Appendix II	10 more containers	5620			
Sulfide	Sulfide	250			
Supplemental	Minerals	750			
Total			400	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

			Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
TOC	1031.83	2" dia.							
Well Depth	26.80	Before purging	9/25/2024	11:14	14.69	1017.14		0.0	
		After purging				1031.83			
		Top of Screen January 1990				1015.03			
						2.11	feet above (+) or below (-) top screen		
		Bottom of Well January 1990				1005.03			
		Bottom of Well	9/25/2024		26.80	1005.03			
						0.00	feet sedimentation		
		Before Sampling				1031.83			
		Recovery				1031.83			
		Recovery				1031.83			
		Recovery				1031.83			
		Recovery				1031.83			

FREMONT COUNTY SANITARY LANDFILL
PERMIT # 36-SDP-01-74P

9/25/2024 Sampled by: Todd Whipple Weather Conditions: Sunny, calm, 70 degrees

IDNR Form 542-1324

	Date	Time	Type	Flowing	Quantity			Discolored	Odor	Litter
GWD-1	9/25/2024	10:26	Underdrain	yes	2 gal/min			No	No	No
										Turbidity(NTU)
										2.04

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	Date	Time	Type	Flowing	Quantity			Discolored	Odor	Litter
GWD-2	9/25/2024	11:03	Underdrain	yes	10 gal/min			No	No	No
										Turbidity(NTU)
										1.88

Appendix B

Statistical Report

APPENDIX B.1 –1st Statistical Evaluation

GROUND WATER STATISTICS

FOR THE

FREMONT COUNTY LANDFILL

First Semi-Annual Monitoring Period in 2024

Prepared for:
Fremont County Landfill
2879 250th Street
Sidney, Fremont County, IA

Prepared by:
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April 2024

INTRODUCTION

This report summarizes the results of the statistical analysis used to evaluate the ground water quality data obtained during the first semi-annual monitoring period in 2024 at the Fremont County Landfill in Sidney, Fremont County, Iowa. The statistical plan was designed to detect a release from the facility at the earliest indication so that it is protective of human health and the environment. The interwell methodology is described and then applied to the current Fremont County Landfill data. The statistical plan conforms with IAC 567, Chapter 113.10 and the USEPA Unified Guidance document ("*Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, March 2009*).

Ground Water Monitoring Program

The groundwater monitoring network for Fremont County Sanitary Landfill includes sample points GWD-1, GWD-2, MW-2, MW-3, MW-9, MW-12, MW-14, MW-15, MW-18, MW-19, MW-21, and MW-23. Monitoring wells MW-16 and MW-17 are to be phased in with the completed construction of Phase 3 and Phase 4, respectively. Each of the groundwater monitoring wells is to be sampled at least semiannually and analyzed for the detection monitoring parameters listed in 113.10(5), which includes 15 inorganic constituents and 47 organic compounds, summarized in Table 1 below.

Table 1: Detection monitoring constituents listed in Appendix I of IAC 567, Chapter 113.

Organic Compounds:

Acetone	*trans*-1,4-Dichloro-2-butene	Iodomethane
Acrylonitrile	1,1-Dichloroethane	4-Methyl-2-pentanone
Benzene	1,2-Dichloroethane	Styrene
Bromochloromethane	1,1-Dichloroethene	1,1,1,2-Tetrachloroethane
Bromodichloromethane	*cis*-1,2-Dichloroethene	1,1,2,2-Tetrachloroethane
Bromoform	*trans*-1,2-Dichloroethene	Tetrachloroethene
Carbon disulfide	1,2-Dichloropropane	Toluene
Carbon tetrachloride	*cis*-1,3-Dichloropropene	1,1,1-Trichloroethane
Chlorobenzene	*trans*-1,3-Dichloropropene	1,1,2-Trichloroethane
Chloroethane	Ethylbenzene	Trichloroethene
Chloroform	2-Hexanone	Trichlorofluoromethane
Dibromochloromethane	Bromomethane	1,2,3-Trichloropropane
1,2-Dibromo-3-chloropropane	Chloromethane	Vinyl acetate
1,2-Dibromoethane	Dibromomethane	Vinyl chloride
1,2-Dichlorobenzene	Methylene chloride	Xylenes (Total)
1,4-Dichlorobenzene	2-Butanone	

Inorganic constituents:

Antimony, Total	Chromium, Total	Selenium, Total
Arsenic, Total	Cobalt, Total	Silver, Total
Barium, Total	Copper, Total	Thallium, Total
Beryllium, Total	Lead, Total	Vanadium, Total
Cadmium, Total	Nickel, Total	Zinc, Total

The ground water data obtained during the first semi-annual monitoring period in 2024 are summarized in Attachment A.

STATISTICAL METHODOLOGIES FOR DETECTION MONITORING

IAC 567, Chapter 113.10(4) provides several options for statistically evaluating the ground water data at those wells that monitor the open cells or contiguous MSWLF units. The preferred methods for comparing ground water data are using either prediction limits or using control charts. The prediction limits method was applied to the Fremont County Landfill data using the DUMPStat® statistical program. Ground water statistics are to be done on the inorganic constituents listed. The organic constituents are compared to maximum contaminant levels (MCLs) or practical quantitation limits (PQLs), in lieu of statistical comparisons to historical concentrations.

Interwell Statistics: Upgradient versus Downgradient Comparisons

Interwell statistics are appropriate when the upgradient and downgradient wells monitor the same ground water formation and there is similar variability in the upgradient and downgradient zones. Site prediction limits are determined by pooling the historical ground water data from hydraulically upgradient wells. This statistical method compares the current downgradient determinations to site prediction limits and checks for exceedances. The type of prediction limit utilized (e.g., parametric or nonparametric) is based on the detection frequency and the data distribution of each parameter in the background data. The distribution of the background data is tested for normality using the Shapiro-Wilk test (Gibbons, 1994 and USEPA 1992). If the constituent is normally distributed, a normal prediction limit is used. If normality is rejected by the Shapiro-Wilk test, the background data is transformed by taking the natural logarithm. The Shapiro-Wilk test is then reapplied on the transformed data. If it is not rejected, lognormal prediction limits are used. If after transforming the data, normality is still rejected, nonparametric prediction limits are used for that analyte. The nonparametric prediction limit is the largest determination in the background measurements. For constituents where the background detection frequency is greater than 0% but less than 50%, nonparametric prediction limits will be used. If the detection frequency is 0% after eight samples have been collected, the practical quantitation limit (PQL) becomes the nonparametric prediction limit.

<u>Results of the Interwell Statistics</u>

MW-18 only Background
The background data used in this statistical analysis includes the ground water data collected from ground water well MW-18 during the period from September 2014, when the sampling protocol changed, through the current data. A summary of the background data from monitoring well MW-18, used to determine the site prediction limits, is listed in Attachment B, Table 1 “Upgradient Data”. This statistical method compares the current downgradient determinations to site prediction limits and checks for exceedances.

Table 2 “Most Current Downgradient Monitoring Data”, summarizes the current data from downgradient wells GWD-1, GWD-2, MW-2, MW-3, MW-9, MW-12, MW-14, MW-15, MW-19, MW-21, and MW-23 compared to the site prediction limits. Prediction limit exceedances are flagged with asterisks. For the most current data, the site prediction limit exceedances detected are summarized in the table below.

Trace Metal Prediction Limit Exceedances during the First Semi-Annual Monitoring Event in 2024

Well	Trace Metal Detected	Result, µg/L	Prediction Limit, µg/L	Prediction Limit Type	Verified/ Awaiting verification
GWD-1	Arsenic	11.4	4.4000	Nonparametric	Awaiting verification
GWD-2	Arsenic	5.9	4.4000	Nonparametric	Awaiting verification
	Barium	665	530.4973	Lognormal	Verified
MW-12	Arsenic	15.9	4.4000	Nonparametric	Awaiting verification
	Barium	856	530.4973	Lognormal	Awaiting verification
	Chromium	22.7	15.4000	Nonparametric	Awaiting verification
	Cobalt	21.3	9.5589	Normal	Awaiting verification
	Copper	18.0	10.8000	Nonparametric	Awaiting verification
	Lead	8.9	8.7000	Nonparametric	Awaiting verification
	Nickel	63.1	13.6000	Nonparametric	Awaiting verification
	Vanadium	38.6	27.5000	Nonparametric	Awaiting verification
	Zinc	36.3	32.5000	Nonparametric	Awaiting verification
MW-15	Barium	549	530.4973	Lognormal	Awaiting verification
MW-21	Arsenic	24.4	4.4000	Nonparametric	Awaiting verification
	Barium	1100	530.4973	Lognormal	Awaiting verification
MW-3	Barium	747	530.4973	Lognormal	Verified

The detection frequencies of the parameters in the up and down gradient monitoring wells are summarized in Table 3. Only barium and cobalt are detected at a frequency greater than or equal to 50% in the upgradient well so only barium and cobalt were tested for normality. The remainder of the metals are rarely detected (less than 50%) in the upgradient wells so nonparametric prediction limits were used in those cases. Table 4 summarizes the results of the Shapiro-Wilk test.

Table 5 is a summary of the statistics and prediction limits determined for the metals. Time series graphs of each of the parameters at each well with the corresponding prediction limits are attached.

A statistical power curve indicates the expected false assessments for the site as a whole. The false positive rate for interwell analyses is the percentage of failures when the upgradient versus downgradient true mean difference equals zero. False negative rate indicates the chance of missing contamination at a single well for a single constituent. The statistical power is a function of the number of wells included, the number of constituents compared, the detection frequencies, and the data distributions involved. For interwell analysis, the site-wide false positive rate is 18% and the test becomes sensitive to 4 standard deviation unit increases over background.

The past verified metals exceedances were evaluated against the ground water protection standards (GWPS) using confidence limits calculated in accordance with the Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, USEPA, March 2009 (Attachment C). The analysis was conducted to evaluate whether verified concentrations are significantly above the water quality standard. The 95% lower confidence limit (LCL) for the mean of the historical data was used to evaluate whether the regulated unit is in compliance with the ground-water protection standards under 40 CFR 264 (e.g. whether the verified constituent is detected at a significant level above the GWPS). An exceedance is verified if the LCL is above the Regulatory GWPS.

The 95% LCL for cobalt at GWD-2 (3.091 µg/L) exceeds the GWPS of 2.1 µg/L though the current cobalt concentration determined at GWD-2 (3.4 µg/L) did not exceed the prediction limit of 9.5589 µg/L. The 95% LCLs for the remainder of detected metals are below MCLs or Iowa groundwater protection standards.

Background using Wells MW-2, MW-14, MW-18, and MW-19
The background data used in this statistical analysis includes the ground water data collected from ground water wells MW-2, MW-14, MW-18, and MW-19 during the period from September 2014, when the sampling protocol changed, through the current data. A summary of the background data from monitoring well MW-18, used to determine the site prediction limits, is listed in Attachment D, Table 1 “Upgradient Data”. This statistical method compares the current downgradient determinations to site prediction limits and checks for exceedances.

Table 2 “Most Current Downgradient Monitoring Data”, summarizes the current data from downgradient wells GWD-1, GWD-2, MW-3, MW-9, MW-12, MW-15, MW-21, and MW-23 compared to the site prediction limits. Prediction limit exceedances are flagged with asterisks. For the most current data, the site prediction limit exceedances detected are summarized in the table below.

Trace Metal Prediction Limit Exceedances during the First Semi-Annual Monitoring Event in 2024

Well	Trace Metal Detected	Result, µg/L	Prediction Limit, µg/L	Prediction Limit Type	Verified/ Awaiting verification
GWD-1	Arsenic	11.4	6.1000	Nonparametric	Awaiting verification
GWD-2	Barium	665	614.0000	Nonparametric	Verified
MW-12	Arsenic	15.9	6.1000	Nonparametric	Awaiting verification
	Barium	856	614.0000	Nonparametric	Awaiting verification
	Chromium	22.7	15.4000	Nonparametric	Awaiting verification
	Cobalt	21.3	10.6000	Nonparametric	Awaiting verification
	Copper	18.0	10.8000	Nonparametric	Awaiting verification
	Lead	8.9	8.7000	Nonparametric	Awaiting verification
	Nickel	63.1	13.6000	Nonparametric	Awaiting verification
	Vanadium	38.6	27.5000	Nonparametric	Awaiting verification
MW-21	Arsenic	24.4	6.1000	Nonparametric	Awaiting verification
	Barium	1100	614.0000	Nonparametric	Awaiting verification
MW-3	Barium	747	614.0000	Nonparametric	Verified

The detection frequencies of the parameters in the up and down gradient monitoring wells are summarized in Table 3. Only barium is detected at a frequency greater than or equal to 50% in the upgradient wells so only barium was tested for normality. The remainder of the metals are rarely detected (less than 50%) in the upgradient wells so nonparametric prediction limits were used in those cases. Table 4 summarizes the results of the Shapiro-Wilk test.

Table 5 is a summary of the statistics and prediction limits determined for the metals. Time series graphs of each of the parameters at each well with the corresponding prediction limits are attached.

A statistical power curve indicates the expected false assessments for the site as a whole. The false positive rate for interwell analyses is the percentage of failures when the upgradient versus downgradient true mean difference equals zero. False negative rate indicates the chance of missing contamination at a single well for a single constituent. The statistical power is a function of the number of wells included, the number of constituents compared, the detection frequencies, and the data distributions involved. For interwell analysis, the site-wide false positive rate is 1% and the test becomes sensitive to 3 standard deviation unit increases over background.

Volatile Organic Compounds

Volatile Organic Compounds (VOCs) are generally man-made compounds not present in ambient ground water. If VOCs are detected above their statistical limit (i.e., the laboratory PQL or reporting limit), a verification resample will be conducted at the next scheduled sampling event. A statistical exceedance will be indicated if the VOC detection is confirmed by the subsequent monitoring. The only VOC detected in the ground water at Fremont County Landfill during the first semi-annual monitoring event in 2024 was chloromethane (1.4 µg/L) at MW-12. The chloromethane detection is not statistically significant unless confirmed by subsequent monitoring. Historical VOC detections in the ground water are summarized in Attachment E.

CONCLUSIONS

This report summarizes the statistical analyses used to evaluate the ground water data obtained during the first semi-annual monitoring period in 2024 at Fremont County Landfill. Ground water wells GWD-2, MW-2, MW-3, MW-9, MW-12, MW-14, MW-15, MW-18, MW-19, MW-21, and MW-23 were sampled on March 30, 2024 and analyzed for the detection monitoring parameters listed in 113.10(5), which includes 15 inorganic constituents and 47 organic compounds.

The ground water data was compared to background using prediction limits. There is a verified site prediction limit exceedance for barium at MW-3 and a verified prediction limit exceedance for barium at GWD-2. Of the organic compounds monitored for during the first semi-annual monitoring period in 2024, there were no verified detections.

Attachment A

Summary of the Data obtained during the First Semi-Annual Monitoring Period in 2024

Table 1

Analytical Data Summary for 3/20/2024

Constituents	Units	GWD-1	GWD-2	MW-12	MW-14	MW-15	MW-18	MW-19	MW-2	MW-21	MW-23	MW-3	MW-9
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic, total	ug/L	11.4	5.9	15.9	<4.0	<4.0	<4.0	<4.0	<4.0	24.4	<4.0	<4.0	<4.0
Barium, total	ug/L	387.0	665.0	856.0	248.0	549.0	378.0	26.9	219.0	1100.0	328.0	747.0	328.0
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chromium, total	ug/L	<8.0	<8.0	22.7	<8.0	<8.0	14.2	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	3.6	3.4	21.3	<.4	<.4	1.9	<.4	<.4	.6	.6	<.4	.6
Copper, total	ug/L	<4.0	<4.0	18.0	<4.0	6.9	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead, total	ug/L	<4.0	<4.0	8.9	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	ug/L	4.9	<4.0	63.1	<4.0	12.3	8.3	8.9	<4.0	6.6	<4.0	<4.0	<4.0
Selenium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

* - The displayed value is the arithmetic mean of multiple database matches.

Table 1

Analytical Data Summary for 3/20/2024

Constituents	Units	GWD-1	GWD-2	MW-12	MW-14	MW-15	MW-18	MW-19	MW-2	MW-21	MW-23	MW-3	MW-9
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20.0	<20.0	38.6	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	<20.0	<20.0	36.3	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0

* - The displayed value is the arithmetic mean of multiple database matches.

Attachment B

Summary Tables and Graphs for the Interwell Comparisons
MW-18 Background

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony, total	ug/L	MW-18	09/18/2014	ND	2.0000		
Antimony, total	ug/L	MW-18	04/29/2015	ND	2.0000		
Antimony, total	ug/L	MW-18	10/06/2015	ND	2.0000		
Antimony, total	ug/L	MW-18	04/19/2016	ND	2.0000		
Antimony, total	ug/L	MW-18	09/19/2016	ND	2.0000		
Antimony, total	ug/L	MW-18	03/21/2017	ND	2.0000		
Antimony, total	ug/L	MW-18	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-18	03/08/2018	ND	2.0000		
Antimony, total	ug/L	MW-18	09/06/2018	ND	2.0000		
Antimony, total	ug/L	MW-18	05/13/2019	ND	2.0000		
Antimony, total	ug/L	MW-18	09/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-18	03/30/2020	ND	2.0000		
Antimony, total	ug/L	MW-18	09/17/2020	ND	2.0000		
Antimony, total	ug/L	MW-18	03/09/2021	ND	2.0000		*
Antimony, total	ug/L	MW-18	09/09/2021	ND	2.0000		
Antimony, total	ug/L	MW-18	03/14/2022	ND	2.0000		
Antimony, total	ug/L	MW-18	09/01/2022	ND	2.0000		
Antimony, total	ug/L	MW-18	03/06/2023	ND	2.0000		
Antimony, total	ug/L	MW-18	09/08/2023	ND	2.0000		
Antimony, total	ug/L	MW-18	03/20/2024	ND	2.0000		
Arsenic, total	ug/L	MW-18	09/18/2014	ND	4.0000		
Arsenic, total	ug/L	MW-18	04/29/2015	ND	4.0000		
Arsenic, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Arsenic, total	ug/L	MW-18	04/19/2016	ND	4.0000		
Arsenic, total	ug/L	MW-18	09/19/2016		4.4000		
Arsenic, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Arsenic, total	ug/L	MW-18	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-18	03/08/2018	ND	4.0000		
Arsenic, total	ug/L	MW-18	09/06/2018	ND	4.0000		
Arsenic, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Arsenic, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-18	03/30/2020	ND	4.0000		
Arsenic, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Arsenic, total	ug/L	MW-18	03/09/2021		19.9000		*
Arsenic, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Arsenic, total	ug/L	MW-18	03/14/2022		7.8000		*
Arsenic, total	ug/L	MW-18	09/01/2022	ND	4.0000		
Arsenic, total	ug/L	MW-18	03/06/2023	ND	4.0000		
Arsenic, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Arsenic, total	ug/L	MW-18	03/20/2024	ND	4.0000		
Barium, total	ug/L	MW-18	09/18/2014		333.0000		
Barium, total	ug/L	MW-18	04/29/2015		402.0000		
Barium, total	ug/L	MW-18	10/06/2015		355.0000		
Barium, total	ug/L	MW-18	04/19/2016		360.0000		
Barium, total	ug/L	MW-18	09/19/2016		439.0000		
Barium, total	ug/L	MW-18	03/21/2017		295.0000		
Barium, total	ug/L	MW-18	10/12/2017		554.0000		
Barium, total	ug/L	MW-18	03/08/2018		373.0000		
Barium, total	ug/L	MW-18	09/06/2018		352.0000		
Barium, total	ug/L	MW-18	05/13/2019		368.0000		
Barium, total	ug/L	MW-18	09/26/2019		372.0000		
Barium, total	ug/L	MW-18	03/30/2020		418.0000		
Barium, total	ug/L	MW-18	09/17/2020		365.0000		
Barium, total	ug/L	MW-18	03/09/2021		1250.0000		*
Barium, total	ug/L	MW-18	06/03/2021		355.0000		
Barium, total	ug/L	MW-18	09/09/2021		361.0000		
Barium, total	ug/L	MW-18	03/14/2022		651.0000		*
Barium, total	ug/L	MW-18	09/01/2022		400.0000		
Barium, total	ug/L	MW-18	03/06/2023		407.0000		
Barium, total	ug/L	MW-18	09/08/2023		327.0000		
Barium, total	ug/L	MW-18	03/20/2024		378.0000		
Beryllium, total	ug/L	MW-18	09/18/2014	ND	4.0000		
Beryllium, total	ug/L	MW-18	04/29/2015	ND	4.0000		
Beryllium, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Beryllium, total	ug/L	MW-18	04/19/2016	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/19/2016	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Beryllium, total	ug/L	MW-18	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/08/2018	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/06/2018	ND	4.0000		
Beryllium, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/30/2020	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/17/2020	ND	4.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Beryllium, total	ug/L	MW-18	03/09/2021		4.5000		*
Beryllium, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/14/2022	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/01/2022	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/06/2023	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/20/2024	ND	4.0000		
Cadmium, total	ug/L	MW-18	09/18/2014	ND	0.8000		
Cadmium, total	ug/L	MW-18	04/29/2015	ND	0.8000		
Cadmium, total	ug/L	MW-18	10/06/2015	ND	0.8000		
Cadmium, total	ug/L	MW-18	04/19/2016	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/19/2016	ND	0.8000		
Cadmium, total	ug/L	MW-18	03/21/2017	ND	0.8000		
Cadmium, total	ug/L	MW-18	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-18	03/08/2018	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/06/2018	ND	0.8000		
Cadmium, total	ug/L	MW-18	05/13/2019	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/26/2019	ND	0.8000		
Cadmium, total	ug/L	MW-18	03/30/2020	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/17/2020	ND	0.8000		
Cadmium, total	ug/L	MW-18	03/09/2021		1.4000		*
Cadmium, total	ug/L	MW-18	09/09/2021		0.8000		
Cadmium, total	ug/L	MW-18	03/14/2022	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/01/2022	ND	0.8000		
Cadmium, total	ug/L	MW-18	03/06/2023	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/08/2023	ND	0.8000		
Cadmium, total	ug/L	MW-18	03/20/2024	ND	0.8000		
Chromium, total	ug/L	MW-18	09/18/2014	ND	8.0000		
Chromium, total	ug/L	MW-18	04/29/2015	ND	8.0000		
Chromium, total	ug/L	MW-18	10/06/2015	ND	8.0000		
Chromium, total	ug/L	MW-18	04/19/2016	ND	8.0000		
Chromium, total	ug/L	MW-18	09/19/2016		15.4000		
Chromium, total	ug/L	MW-18	03/21/2017	ND	8.0000		
Chromium, total	ug/L	MW-18	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-18	03/08/2018		9.8000		
Chromium, total	ug/L	MW-18	09/06/2018	ND	8.0000		
Chromium, total	ug/L	MW-18	05/13/2019	ND	8.0000		
Chromium, total	ug/L	MW-18	09/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-18	03/30/2020		8.7000		
Chromium, total	ug/L	MW-18	09/17/2020	ND	8.0000		
Chromium, total	ug/L	MW-18	03/09/2021		73.4000		*
Chromium, total	ug/L	MW-18	09/09/2021	ND	8.0000		
Chromium, total	ug/L	MW-18	03/14/2022		33.2000		*
Chromium, total	ug/L	MW-18	09/01/2022	ND	8.0000		
Chromium, total	ug/L	MW-18	03/06/2023		9.7000		
Chromium, total	ug/L	MW-18	09/08/2023	ND	8.0000		
Chromium, total	ug/L	MW-18	03/20/2024		14.2000		
Cobalt, total	ug/L	MW-18	09/18/2014		1.1000		
Cobalt, total	ug/L	MW-18	04/29/2015		3.1000		
Cobalt, total	ug/L	MW-18	10/06/2015	ND	0.8000		
Cobalt, total	ug/L	MW-18	04/19/2016		1.1000		
Cobalt, total	ug/L	MW-18	09/19/2016		10.6000		
Cobalt, total	ug/L	MW-18	03/21/2017	ND	0.8000		
Cobalt, total	ug/L	MW-18	10/12/2017		2.5000		
Cobalt, total	ug/L	MW-18	03/08/2018		4.8000		
Cobalt, total	ug/L	MW-18	09/06/2018	ND	0.8000		
Cobalt, total	ug/L	MW-18	05/13/2019	ND	0.8000		
Cobalt, total	ug/L	MW-18	09/26/2019	ND	0.8000		
Cobalt, total	ug/L	MW-18	03/30/2020		3.4000		
Cobalt, total	ug/L	MW-18	09/17/2020		1.2000		
Cobalt, total	ug/L	MW-18	03/09/2021		72.8000		*
Cobalt, total	ug/L	MW-18	09/09/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-18	03/14/2022		28.3000		*
Cobalt, total	ug/L	MW-18	09/01/2022		2.4000		
Cobalt, total	ug/L	MW-18	03/06/2023		6.1000		
Cobalt, total	ug/L	MW-18	09/08/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-18	03/20/2024		1.9000		
Copper, total	ug/L	MW-18	09/18/2014	ND	4.0000		
Copper, total	ug/L	MW-18	04/29/2015	ND	4.0000		
Copper, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Copper, total	ug/L	MW-18	04/19/2016		10.8000		
Copper, total	ug/L	MW-18	09/19/2016		10.4000		
Copper, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Copper, total	ug/L	MW-18	10/12/2017	ND	4.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Copper, total	ug/L	MW-18	03/08/2018		5.5000		
Copper, total	ug/L	MW-18	09/06/2018	ND	4.0000		
Copper, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Copper, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Copper, total	ug/L	MW-18	03/30/2020	ND	4.0000		
Copper, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Copper, total	ug/L	MW-18	03/09/2021		62.1000		*
Copper, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Copper, total	ug/L	MW-18	03/14/2022		22.1000		*
Copper, total	ug/L	MW-18	09/01/2022	ND	4.0000		
Copper, total	ug/L	MW-18	03/06/2023		4.9000		
Copper, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Copper, total	ug/L	MW-18	03/20/2024	ND	4.0000		
Lead, total	ug/L	MW-18	09/18/2014	ND	4.0000		
Lead, total	ug/L	MW-18	04/29/2015	ND	4.0000		
Lead, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Lead, total	ug/L	MW-18	04/19/2016	ND	4.0000		
Lead, total	ug/L	MW-18	09/19/2016		8.7000		
Lead, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Lead, total	ug/L	MW-18	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-18	03/08/2018	ND	4.0000		
Lead, total	ug/L	MW-18	09/06/2018	ND	4.0000		
Lead, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Lead, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Lead, total	ug/L	MW-18	03/30/2020	ND	4.0000		
Lead, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Lead, total	ug/L	MW-18	03/09/2021		57.7000		*
Lead, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Lead, total	ug/L	MW-18	03/14/2022		20.0000		*
Lead, total	ug/L	MW-18	09/01/2022	ND	4.0000		
Lead, total	ug/L	MW-18	03/06/2023		4.8000		
Lead, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Lead, total	ug/L	MW-18	03/20/2024	ND	4.0000		
Nickel, total	ug/L	MW-18	09/18/2014	ND	4.0000		
Nickel, total	ug/L	MW-18	04/29/2015		5.2000		
Nickel, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Nickel, total	ug/L	MW-18	04/19/2016	ND	4.0000		
Nickel, total	ug/L	MW-18	09/19/2016		13.6000		
Nickel, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Nickel, total	ug/L	MW-18	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-18	03/08/2018		9.7000		
Nickel, total	ug/L	MW-18	09/06/2018	ND	8.0000	4.0000	**
Nickel, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Nickel, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Nickel, total	ug/L	MW-18	03/30/2020		6.0000		
Nickel, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Nickel, total	ug/L	MW-18	03/09/2021		113.0000		*
Nickel, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Nickel, total	ug/L	MW-18	03/14/2022		48.4000		*
Nickel, total	ug/L	MW-18	09/01/2022		4.4000		
Nickel, total	ug/L	MW-18	03/06/2023		11.6000		
Nickel, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Nickel, total	ug/L	MW-18	03/20/2024		8.3000		
Selenium, total	ug/L	MW-18	09/18/2014	ND	4.0000		
Selenium, total	ug/L	MW-18	04/29/2015	ND	4.0000		
Selenium, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Selenium, total	ug/L	MW-18	04/19/2016	ND	4.0000		
Selenium, total	ug/L	MW-18	09/19/2016	ND	4.0000		
Selenium, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Selenium, total	ug/L	MW-18	10/12/2017		6.3000		
Selenium, total	ug/L	MW-18	03/08/2018	ND	4.0000		
Selenium, total	ug/L	MW-18	09/06/2018	ND	4.0000		
Selenium, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Selenium, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Selenium, total	ug/L	MW-18	03/30/2020	ND	4.0000		
Selenium, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Selenium, total	ug/L	MW-18	03/09/2021		10.6000		*
Selenium, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Selenium, total	ug/L	MW-18	03/14/2022	ND	4.0000		
Selenium, total	ug/L	MW-18	09/01/2022	ND	4.0000		
Selenium, total	ug/L	MW-18	03/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Selenium, total	ug/L	MW-18	03/20/2024	ND	4.0000		
Silver, total	ug/L	MW-18	09/18/2014	ND	4.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Silver, total	ug/L	MW-18	04/29/2015	ND	4.0000		
Silver, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Silver, total	ug/L	MW-18	04/19/2016	ND	4.0000		
Silver, total	ug/L	MW-18	09/19/2016	ND	4.0000		
Silver, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Silver, total	ug/L	MW-18	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-18	03/08/2018	ND	4.0000		
Silver, total	ug/L	MW-18	09/06/2018	ND	8.0000	4.0000	**
Silver, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Silver, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Silver, total	ug/L	MW-18	03/30/2020	ND	4.0000		
Silver, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Silver, total	ug/L	MW-18	03/09/2021	ND	4.0000		*
Silver, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Silver, total	ug/L	MW-18	03/14/2022	ND	4.0000		
Silver, total	ug/L	MW-18	09/01/2022	ND	4.0000		
Silver, total	ug/L	MW-18	03/06/2023	ND	4.0000		
Silver, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Silver, total	ug/L	MW-18	03/20/2024	ND	4.0000		
Thallium, total	ug/L	MW-18	09/18/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	04/29/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	10/06/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	04/19/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	09/19/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	03/21/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	10/12/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	03/08/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	09/06/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	05/13/2019	ND	2.0000		
Thallium, total	ug/L	MW-18	09/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-18	03/30/2020	ND	2.0000		
Thallium, total	ug/L	MW-18	09/17/2020	ND	2.0000		
Thallium, total	ug/L	MW-18	03/09/2021	ND	2.0000		*
Thallium, total	ug/L	MW-18	09/09/2021	ND	2.0000		
Thallium, total	ug/L	MW-18	03/14/2022	ND	2.0000		
Thallium, total	ug/L	MW-18	09/01/2022	ND	2.0000		
Thallium, total	ug/L	MW-18	03/06/2023	ND	2.0000		
Thallium, total	ug/L	MW-18	09/08/2023	ND	2.0000		
Thallium, total	ug/L	MW-18	03/20/2024	ND	2.0000		
Vanadium, total	ug/L	MW-18	09/18/2014	ND	20.0000		
Vanadium, total	ug/L	MW-18	04/29/2015	ND	20.0000		
Vanadium, total	ug/L	MW-18	10/06/2015	ND	20.0000		
Vanadium, total	ug/L	MW-18	04/19/2016	ND	20.0000		
Vanadium, total	ug/L	MW-18	09/19/2016		27.5000		
Vanadium, total	ug/L	MW-18	03/21/2017	ND	20.0000		
Vanadium, total	ug/L	MW-18	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-18	03/08/2018	ND	20.0000		
Vanadium, total	ug/L	MW-18	09/06/2018	ND	20.0000		
Vanadium, total	ug/L	MW-18	05/13/2019	ND	20.0000		
Vanadium, total	ug/L	MW-18	09/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-18	03/30/2020	ND	20.0000		
Vanadium, total	ug/L	MW-18	09/17/2020	ND	20.0000		
Vanadium, total	ug/L	MW-18	03/09/2021		123.0000		*
Vanadium, total	ug/L	MW-18	09/09/2021	ND	20.0000		
Vanadium, total	ug/L	MW-18	03/14/2022		54.4000		*
Vanadium, total	ug/L	MW-18	09/01/2022	ND	20.0000		
Vanadium, total	ug/L	MW-18	03/06/2023	ND	20.0000		
Vanadium, total	ug/L	MW-18	09/08/2023	ND	20.0000		
Vanadium, total	ug/L	MW-18	03/20/2024	ND	20.0000		
Zinc, total	ug/L	MW-18	09/18/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-18	04/29/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-18	10/06/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-18	04/19/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-18	09/19/2016		27.6000		
Zinc, total	ug/L	MW-18	03/21/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-18	10/12/2017		9.5000		
Zinc, total	ug/L	MW-18	03/08/2018		16.5000		
Zinc, total	ug/L	MW-18	09/06/2018		32.5000		
Zinc, total	ug/L	MW-18	05/13/2019		13.3000		
Zinc, total	ug/L	MW-18	09/26/2019		11.5000		
Zinc, total	ug/L	MW-18	03/30/2020	ND	20.0000		
Zinc, total	ug/L	MW-18	09/17/2020	ND	20.0000		
Zinc, total	ug/L	MW-18	03/09/2021		166.0000		*
Zinc, total	ug/L	MW-18	09/09/2021	ND	20.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Zinc, total	ug/L	MW-18	03/14/2022		58.7000		*
Zinc, total	ug/L	MW-18	09/01/2022	ND	20.0000		
Zinc, total	ug/L	MW-18	03/06/2023	ND	20.0000		
Zinc, total	ug/L	MW-18	09/08/2023	ND	20.0000		
Zinc, total	ug/L	MW-18	03/20/2024	ND	20.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Antimony, total	ug/L	GWD-1	03/20/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	GWD-1	03/20/2024		11.4000	*	4.4000
Barium, total	ug/L	GWD-1	03/20/2024		387.0000		530.4973
Beryllium, total	ug/L	GWD-1	03/20/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	GWD-1	03/20/2024	ND	0.8000		0.8000
Chromium, total	ug/L	GWD-1	03/20/2024	ND	8.0000		15.4000
Cobalt, total	ug/L	GWD-1	03/20/2024		3.6000		9.5589
Copper, total	ug/L	GWD-1	03/20/2024	ND	4.0000		10.8000
Lead, total	ug/L	GWD-1	03/20/2024	ND	4.0000		8.7000
Nickel, total	ug/L	GWD-1	03/20/2024		4.9000		13.6000
Selenium, total	ug/L	GWD-1	03/20/2024	ND	4.0000		6.3000
Silver, total	ug/L	GWD-1	03/20/2024	ND	4.0000		4.0000
Thallium, total	ug/L	GWD-1	03/20/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	GWD-1	03/20/2024	ND	20.0000		27.5000
Zinc, total	ug/L	GWD-1	03/20/2024	ND	20.0000		32.5000
Antimony, total	ug/L	GWD-2	03/20/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	GWD-2	03/20/2024		5.9000	*	4.4000
Barium, total	ug/L	GWD-2	03/20/2024		665.0000	***	530.4973
Beryllium, total	ug/L	GWD-2	03/20/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	GWD-2	03/20/2024	ND	0.8000		0.8000
Chromium, total	ug/L	GWD-2	03/20/2024	ND	8.0000		15.4000
Cobalt, total	ug/L	GWD-2	03/20/2024		3.4000		9.5589
Copper, total	ug/L	GWD-2	03/20/2024	ND	4.0000		10.8000
Lead, total	ug/L	GWD-2	03/20/2024	ND	4.0000		8.7000
Nickel, total	ug/L	GWD-2	03/20/2024	ND	4.0000		13.6000
Selenium, total	ug/L	GWD-2	03/20/2024	ND	4.0000		6.3000
Silver, total	ug/L	GWD-2	03/20/2024	ND	4.0000		4.0000
Thallium, total	ug/L	GWD-2	03/20/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	GWD-2	03/20/2024	ND	20.0000		27.5000
Zinc, total	ug/L	GWD-2	03/20/2024	ND	20.0000		32.5000
Antimony, total	ug/L	MW-12	03/20/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-12	03/20/2024		15.9000	*	4.4000
Barium, total	ug/L	MW-12	03/20/2024		856.0000	*	530.4973
Beryllium, total	ug/L	MW-12	03/20/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-12	03/20/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-12	03/20/2024		22.7000	*	15.4000
Cobalt, total	ug/L	MW-12	03/20/2024		21.3000	*	9.5589
Copper, total	ug/L	MW-12	03/20/2024		18.0000	*	10.8000
Lead, total	ug/L	MW-12	03/20/2024		8.9000	*	8.7000
Nickel, total	ug/L	MW-12	03/20/2024		63.1000	*	13.6000
Selenium, total	ug/L	MW-12	03/20/2024	ND	4.0000		6.3000
Silver, total	ug/L	MW-12	03/20/2024	ND	4.0000		4.0000
Thallium, total	ug/L	MW-12	03/20/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	MW-12	03/20/2024		38.6000	*	27.5000
Zinc, total	ug/L	MW-12	03/20/2024		36.3000	*	32.5000
Antimony, total	ug/L	MW-14	03/20/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-14	03/20/2024	ND	4.0000		4.4000
Barium, total	ug/L	MW-14	03/20/2024		248.0000		530.4973
Beryllium, total	ug/L	MW-14	03/20/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-14	03/20/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-14	03/20/2024	ND	8.0000		15.4000
Cobalt, total	ug/L	MW-14	03/20/2024	ND	0.4000		9.5589
Copper, total	ug/L	MW-14	03/20/2024	ND	4.0000		10.8000
Lead, total	ug/L	MW-14	03/20/2024	ND	4.0000		8.7000
Nickel, total	ug/L	MW-14	03/20/2024	ND	4.0000		13.6000
Selenium, total	ug/L	MW-14	03/20/2024	ND	4.0000		6.3000
Silver, total	ug/L	MW-14	03/20/2024	ND	4.0000		4.0000
Thallium, total	ug/L	MW-14	03/20/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	MW-14	03/20/2024	ND	20.0000		27.5000
Zinc, total	ug/L	MW-14	03/20/2024	ND	20.0000		32.5000
Antimony, total	ug/L	MW-15	03/20/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-15	03/20/2024	ND	4.0000		4.4000
Barium, total	ug/L	MW-15	03/20/2024		549.0000	*	530.4973
Beryllium, total	ug/L	MW-15	03/20/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-15	03/20/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-15	03/20/2024	ND	8.0000		15.4000
Cobalt, total	ug/L	MW-15	03/20/2024	ND	0.4000		9.5589
Copper, total	ug/L	MW-15	03/20/2024		6.9000		10.8000
Lead, total	ug/L	MW-15	03/20/2024	ND	4.0000		8.7000
Nickel, total	ug/L	MW-15	03/20/2024		12.3000		13.6000
Selenium, total	ug/L	MW-15	03/20/2024	ND	4.0000		6.3000
Silver, total	ug/L	MW-15	03/20/2024	ND	4.0000		4.0000

* - Current value failed - awaiting verification.
** - Current value passed - previous exceedance not verified.
*** - Current value failed - exceedance verified.
**** - Current value passed - awaiting one more verification.
***** - Insufficient background data to compute prediction limit.
ND = Not Detected, Result = detection limit.

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Thallium, total	ug/L	MW-15	03/20/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	MW-15	03/20/2024	ND	20.0000		27.5000
Zinc, total	ug/L	MW-15	03/20/2024	ND	20.0000		32.5000
Antimony, total	ug/L	MW-19	03/20/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-19	03/20/2024	ND	4.0000		4.4000
Barium, total	ug/L	MW-19	03/20/2024		26.9000		530.4973
Beryllium, total	ug/L	MW-19	03/20/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-19	03/20/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-19	03/20/2024	ND	8.0000		15.4000
Cobalt, total	ug/L	MW-19	03/20/2024	ND	0.4000		9.5589
Copper, total	ug/L	MW-19	03/20/2024	ND	4.0000		10.8000
Lead, total	ug/L	MW-19	03/20/2024	ND	4.0000		8.7000
Nickel, total	ug/L	MW-19	03/20/2024		8.9000		13.6000
Selenium, total	ug/L	MW-19	03/20/2024	ND	4.0000		6.3000
Silver, total	ug/L	MW-19	03/20/2024	ND	4.0000		4.0000
Thallium, total	ug/L	MW-19	03/20/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	MW-19	03/20/2024	ND	20.0000		27.5000
Zinc, total	ug/L	MW-19	03/20/2024	ND	20.0000		32.5000
Antimony, total	ug/L	MW-2	03/20/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-2	03/20/2024	ND	4.0000		4.4000
Barium, total	ug/L	MW-2	03/20/2024		219.0000		530.4973
Beryllium, total	ug/L	MW-2	03/20/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-2	03/20/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-2	03/20/2024	ND	8.0000		15.4000
Cobalt, total	ug/L	MW-2	03/20/2024	ND	0.4000		9.5589
Copper, total	ug/L	MW-2	03/20/2024	ND	4.0000		10.8000
Lead, total	ug/L	MW-2	03/20/2024	ND	4.0000		8.7000
Nickel, total	ug/L	MW-2	03/20/2024	ND	4.0000		13.6000
Selenium, total	ug/L	MW-2	03/20/2024	ND	4.0000		6.3000
Silver, total	ug/L	MW-2	03/20/2024	ND	4.0000		4.0000
Thallium, total	ug/L	MW-2	03/20/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	MW-2	03/20/2024	ND	20.0000		27.5000
Zinc, total	ug/L	MW-2	03/20/2024	ND	20.0000		32.5000
Antimony, total	ug/L	MW-21	03/20/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-21	03/20/2024		24.4000	*	4.4000
Barium, total	ug/L	MW-21	03/20/2024		1100.0000	*	530.4973
Beryllium, total	ug/L	MW-21	03/20/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-21	03/20/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-21	03/20/2024	ND	8.0000		15.4000
Cobalt, total	ug/L	MW-21	03/20/2024		0.6000		9.5589
Copper, total	ug/L	MW-21	03/20/2024	ND	4.0000		10.8000
Lead, total	ug/L	MW-21	03/20/2024	ND	4.0000		8.7000
Nickel, total	ug/L	MW-21	03/20/2024		6.6000		13.6000
Selenium, total	ug/L	MW-21	03/20/2024	ND	4.0000		6.3000
Silver, total	ug/L	MW-21	03/20/2024	ND	4.0000		4.0000
Thallium, total	ug/L	MW-21	03/20/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	MW-21	03/20/2024	ND	20.0000		27.5000
Zinc, total	ug/L	MW-21	03/20/2024	ND	20.0000		32.5000
Antimony, total	ug/L	MW-23	03/20/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-23	03/20/2024	ND	4.0000		4.4000
Barium, total	ug/L	MW-23	03/20/2024		328.0000		530.4973
Beryllium, total	ug/L	MW-23	03/20/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-23	03/20/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-23	03/20/2024	ND	8.0000		15.4000
Cobalt, total	ug/L	MW-23	03/20/2024		0.6000		9.5589
Copper, total	ug/L	MW-23	03/20/2024	ND	4.0000		10.8000
Lead, total	ug/L	MW-23	03/20/2024	ND	4.0000		8.7000
Nickel, total	ug/L	MW-23	03/20/2024	ND	4.0000		13.6000
Selenium, total	ug/L	MW-23	03/20/2024	ND	4.0000		6.3000
Silver, total	ug/L	MW-23	03/20/2024	ND	4.0000		4.0000
Thallium, total	ug/L	MW-23	03/20/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	MW-23	03/20/2024	ND	20.0000		27.5000
Zinc, total	ug/L	MW-23	03/20/2024	ND	20.0000		32.5000
Antimony, total	ug/L	MW-3	03/20/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-3	03/20/2024	ND	4.0000		4.4000
Barium, total	ug/L	MW-3	03/20/2024		747.0000	***	530.4973
Beryllium, total	ug/L	MW-3	03/20/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-3	03/20/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-3	03/20/2024	ND	8.0000		15.4000
Cobalt, total	ug/L	MW-3	03/20/2024	ND	0.4000		9.5589
Copper, total	ug/L	MW-3	03/20/2024	ND	4.0000		10.8000
Lead, total	ug/L	MW-3	03/20/2024	ND	4.0000		8.7000

* - Current value failed - awaiting verification.
** - Current value passed - previous exceedance not verified.
*** - Current value failed - exceedance verified.
**** - Current value passed - awaiting one more verification.
***** - Insufficient background data to compute prediction limit.
ND = Not Detected, Result = detection limit.

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Nickel, total	ug/L	MW-3	03/20/2024	ND	4.0000		13.6000
Selenium, total	ug/L	MW-3	03/20/2024	ND	4.0000		6.3000
Silver, total	ug/L	MW-3	03/20/2024	ND	4.0000		4.0000
Thallium, total	ug/L	MW-3	03/20/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	MW-3	03/20/2024	ND	20.0000		27.5000
Zinc, total	ug/L	MW-3	03/20/2024	ND	20.0000		32.5000
Antimony, total	ug/L	MW-9	03/20/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-9	03/20/2024	ND	4.0000		4.4000
Barium, total	ug/L	MW-9	03/20/2024		328.0000		530.4973
Beryllium, total	ug/L	MW-9	03/20/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-9	03/20/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-9	03/20/2024	ND	8.0000		15.4000
Cobalt, total	ug/L	MW-9	03/20/2024		0.6000		9.5589
Copper, total	ug/L	MW-9	03/20/2024	ND	4.0000		10.8000
Lead, total	ug/L	MW-9	03/20/2024	ND	4.0000		8.7000
Nickel, total	ug/L	MW-9	03/20/2024	ND	4.0000		13.6000
Selenium, total	ug/L	MW-9	03/20/2024	ND	4.0000		6.3000
Silver, total	ug/L	MW-9	03/20/2024	ND	4.0000		4.0000
Thallium, total	ug/L	MW-9	03/20/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	MW-9	03/20/2024	ND	20.0000		27.5000
Zinc, total	ug/L	MW-9	03/20/2024	ND	20.0000		32.5000

* - Current value failed - awaiting verification.
** - Current value passed - previous exceedance not verified.
*** - Current value failed - exceedance verified.
**** - Current value passed - awaiting one more verification.
***** - Insufficient background data to compute prediction limit.
ND = Not Detected, Result = detection limit.

Table 3

Detection Frequencies in Upgradient and Downgradient Wells

Constituent	Upgradient			Downgradient		
	Detect	N	Proportion	Detect	N	Proportion
Antimony, total	0	19	0.000	2	335	0.006
Arsenic, total	1	18	0.056	68	339	0.201
Barium, total	19	19	1.000	339	339	1.000
Beryllium, total	0	19	0.000	0	337	0.000
Cadmium, total	1	19	0.053	19	339	0.056
Chromium, total	5	18	0.278	36	335	0.107
Cobalt, total	11	18	0.611	131	338	0.388
Copper, total	4	18	0.222	73	338	0.216
Lead, total	2	18	0.111	49	337	0.145
Nickel, total	7	18	0.389	171	339	0.504
Selenium, total	1	19	0.053	25	338	0.074
Silver, total	0	19	0.000	0	335	0.000
Thallium, total	0	19	0.000	0	335	0.000
Vanadium, total	1	18	0.056	31	337	0.092
Zinc, total	6	18	0.333	140	338	0.414

N = Total number of measurements in all wells.
Detect = Total number of detections in all wells.
Proportion = Detect/N.

Table 4

Shapiro-Wilk Multiple Group Test of Normality

Constituent	Detect	N	Detect Freq	G raw	G log	G cbrt	G sqrt	G sqr	G cub	Crit Value	Dist Form	Model Type
Antimony, total	0	19	0.000									nonpar
Arsenic, total	1	18	0.056									nonpar
Barium, total	19	19	1.000	2.646	1.548					2.326	lognor	lognor
Beryllium, total	0	19	0.000									nonpar
Cadmium, total	1	19	0.053									nonpar
Chromium, total	5	18	0.278	0.967	0.810					2.326	normal	nonpar
Cobalt, total	11	18	0.611	2.185	0.193					2.326	normal	normal
Copper, total	4	18	0.222	1.191	1.099					2.326	normal	nonpar
Lead, total	2	18	0.111									nonpar
Nickel, total	7	18	0.389	0.386	0.578					2.326	normal	nonpar
Selenium, total	1	19	0.053									nonpar
Silver, total	0	19	0.000									nonpar
Thallium, total	0	19	0.000									nonpar
Vanadium, total	1	18	0.056									nonpar
Zinc, total	6	18	0.333	0.737	0.097					2.326	normal	nonpar

* - Distribution override for that constituent.
Fit to distribution is confirmed if G <= critical value.
Model type may not match distributional form when detection frequency < 50%.

Table 5

Summary Statistics and Prediction Limits

Constituent	Units	Detect	N	Mean	SD	alpha	Factor	Pred Limit	Type		Conf
Antimony, total	ug/L	0	19					2.0000	nonpar	***	0.95
Arsenic, total	ug/L	1	18					4.4000	nonpar		0.95
Barium, total	ug/L	19	19	5.9308	0.1311	0.0100	2.6174	530.4973	lognor		
Beryllium, total	ug/L	0	19					4.0000	nonpar	***	0.95
Cadmium, total	ug/L	1	19					0.8000	nonpar	***	0.95
Chromium, total	ug/L	5	18					15.4000	nonpar		0.95
Cobalt, total	ug/L	11	18	2.1222	2.8214	0.0100	2.6358	9.5589	normal		
Copper, total	ug/L	4	18					10.8000	nonpar		0.95
Lead, total	ug/L	2	18					8.7000	nonpar		0.95
Nickel, total	ug/L	7	18					13.6000	nonpar		0.95
Selenium, total	ug/L	1	19					6.3000	nonpar		0.95
Silver, total	ug/L	0	19					4.0000	nonpar	***	0.95
Thallium, total	ug/L	0	19					2.0000	nonpar	***	0.95
Vanadium, total	ug/L	1	18					27.5000	nonpar		0.95
Zinc, total	ug/L	6	18					32.5000	nonpar		0.95

Conf = confidence level for passing initial test or one verification resample at all downgradient wells for a single constituent (nonparametric test only).
* - Insufficient Data.
** - Calculated limit raised to Manual Reporting Limit.
*** - Nonparametric limit based on ND value.
For transformed data, mean and SD in transformed units and prediction limit in original units.
All sample sizes and statistics are based on outlier free data.
For nonparametric limits, median reporting limits are substituted for extreme reporting limit values.

Table 6

Dixon's Test Outliers
5% Significance Level

Constituent	Units	Well	Date	Result	ND Qualifier	Date Range	N	Critical Value

N = Total number of independent measurements in background at each well.
Date Range = Dates of the first and last measurements included in background at each well.
Critical Value depends on the significance level and on N-1 when the two most extreme values are tested or N for the most extreme value.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Arsenic, total	ug/L	GWD-1	04/15/2008	ND	5.0000		4.4000
Arsenic, total	ug/L	GWD-1	06/18/2008	ND	5.0000		4.4000
Arsenic, total	ug/L	GWD-1	08/19/2008	ND	5.0000		4.4000
Arsenic, total	ug/L	GWD-1	10/18/2008	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	12/04/2008	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	03/16/2009	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	09/23/2009	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	04/12/2010	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	09/28/2010	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	05/03/2011	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	10/11/2011	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	04/24/2012		6.2000	*	4.4000
Arsenic, total	ug/L	GWD-1	09/11/2012		8.0000	*	4.4000
Arsenic, total	ug/L	GWD-1	04/05/2013	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	10/07/2015		8.1000	*	4.4000
Arsenic, total	ug/L	GWD-1	01/18/2016		5.0000	*	4.4000
Arsenic, total	ug/L	GWD-1	04/19/2016		6.4000	*	4.4000
Arsenic, total	ug/L	GWD-1	09/19/2016	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	03/21/2017	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	10/12/2017	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	03/08/2018	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	09/06/2018	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	05/13/2019	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	09/26/2019		4.1000		4.4000
Arsenic, total	ug/L	GWD-1	03/30/2020	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	09/17/2020	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	03/09/2021	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	09/09/2021	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	03/14/2022	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	03/06/2023	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-1	03/20/2024		11.4000	*	4.4000
Arsenic, total	ug/L	GWD-2	10/10/2013	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	04/23/2014	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	09/18/2014	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	04/28/2015	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	10/07/2015	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	04/19/2016	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	09/19/2016	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	03/21/2017	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	10/12/2017	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	03/08/2018	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	09/06/2018	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	05/13/2019	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	09/26/2019	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	03/30/2020	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	09/17/2020		73.5000	*	4.4000
Arsenic, total	ug/L	GWD-2	12/03/2020	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	03/09/2021	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	09/09/2021	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	03/14/2022	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	03/06/2023	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	09/08/2023	ND	4.0000		4.4000
Arsenic, total	ug/L	GWD-2	03/20/2024		5.9000	*	4.4000
Barium, total	ug/L	GWD-2	10/10/2013		293.0000		530.4973
Barium, total	ug/L	GWD-2	04/23/2014		251.0000		530.4973
Barium, total	ug/L	GWD-2	09/18/2014		307.0000		530.4973
Barium, total	ug/L	GWD-2	04/28/2015		341.0000		530.4973
Barium, total	ug/L	GWD-2	10/07/2015		316.0000		530.4973
Barium, total	ug/L	GWD-2	04/19/2016		329.0000		530.4973
Barium, total	ug/L	GWD-2	09/19/2016		321.0000		530.4973
Barium, total	ug/L	GWD-2	03/21/2017		330.0000		530.4973
Barium, total	ug/L	GWD-2	10/12/2017		354.0000		530.4973
Barium, total	ug/L	GWD-2	03/08/2018		357.0000		530.4973
Barium, total	ug/L	GWD-2	09/06/2018		333.0000		530.4973
Barium, total	ug/L	GWD-2	05/13/2019		385.0000		530.4973
Barium, total	ug/L	GWD-2	09/26/2019		405.0000		530.4973
Barium, total	ug/L	GWD-2	03/30/2020		484.0000		530.4973
Barium, total	ug/L	GWD-2	09/17/2020		824.0000	*	530.4973
Barium, total	ug/L	GWD-2	12/03/2020		534.0000	*	530.4973
Barium, total	ug/L	GWD-2	03/09/2021		544.0000	*	530.4973
Barium, total	ug/L	GWD-2	09/09/2021		554.0000	*	530.4973

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Barium, total	ug/L	GWD-2	03/06/2023		574.0000	*	530.4973
Barium, total	ug/L	GWD-2	05/09/2023		565.0000	*	530.4973
Barium, total	ug/L	GWD-2	09/08/2023		825.0000	*	530.4973
Barium, total	ug/L	GWD-2	03/20/2024		665.0000	*	530.4973
Arsenic, total	ug/L	MW-12	04/15/2008		8.0000	*	4.4000
Arsenic, total	ug/L	MW-12	06/18/2008	ND	5.0000		4.4000
Arsenic, total	ug/L	MW-12	08/19/2008	ND	5.0000		4.4000
Arsenic, total	ug/L	MW-12	10/18/2008	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	12/04/2008		4.3000		4.4000
Arsenic, total	ug/L	MW-12	03/16/2009		5.1000	*	4.4000
Arsenic, total	ug/L	MW-12	09/23/2009		4.1000		4.4000
Arsenic, total	ug/L	MW-12	04/12/2010	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	09/28/2010	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	05/03/2011	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	10/10/2011	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	04/23/2012		7.8000	*	4.4000
Arsenic, total	ug/L	MW-12	09/10/2012		6.9000	*	4.4000
Arsenic, total	ug/L	MW-12	04/05/2013	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	10/11/2013		4.7000	*	4.4000
Arsenic, total	ug/L	MW-12	04/22/2014		6.8000	*	4.4000
Arsenic, total	ug/L	MW-12	09/18/2014		4.1000		4.4000
Arsenic, total	ug/L	MW-12	04/28/2015		4.6000	*	4.4000
Arsenic, total	ug/L	MW-12	10/07/2015	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	04/19/2016	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	09/19/2016		4.3000		4.4000
Arsenic, total	ug/L	MW-12	03/22/2017	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	10/12/2017	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	03/08/2018	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	09/06/2018	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	05/13/2019	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	09/26/2019	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	03/30/2020	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	09/17/2020	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	03/09/2021	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	09/09/2021	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	03/14/2022	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	09/01/2022	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	03/06/2023		7.3000	*	4.4000
Arsenic, total	ug/L	MW-12	09/08/2023	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-12	03/20/2024		15.9000	*	4.4000
Barium, total	ug/L	MW-12	04/15/2008		447.0000		530.4973
Barium, total	ug/L	MW-12	06/18/2008		430.0000		530.4973
Barium, total	ug/L	MW-12	08/19/2008		420.0000		530.4973
Barium, total	ug/L	MW-12	10/18/2008		405.0000		530.4973
Barium, total	ug/L	MW-12	12/04/2008		472.0000		530.4973
Barium, total	ug/L	MW-12	03/16/2009		494.0000		530.4973
Barium, total	ug/L	MW-12	09/23/2009		476.0000		530.4973
Barium, total	ug/L	MW-12	04/12/2010		421.0000		530.4973
Barium, total	ug/L	MW-12	09/28/2010		477.0000		530.4973
Barium, total	ug/L	MW-12	05/03/2011		440.0000		530.4973
Barium, total	ug/L	MW-12	10/10/2011		537.0000	*	530.4973
Barium, total	ug/L	MW-12	04/23/2012		471.0000		530.4973
Barium, total	ug/L	MW-12	09/10/2012		416.0000		530.4973
Barium, total	ug/L	MW-12	04/05/2013		461.0000		530.4973
Barium, total	ug/L	MW-12	10/11/2013		416.0000		530.4973
Barium, total	ug/L	MW-12	04/22/2014		366.0000		530.4973
Barium, total	ug/L	MW-12	09/18/2014		364.0000		530.4973
Barium, total	ug/L	MW-12	04/28/2015		409.0000		530.4973
Barium, total	ug/L	MW-12	10/07/2015		403.0000		530.4973
Barium, total	ug/L	MW-12	04/19/2016		396.0000		530.4973
Barium, total	ug/L	MW-12	09/19/2016		390.0000		530.4973
Barium, total	ug/L	MW-12	03/22/2017		303.0000		530.4973
Barium, total	ug/L	MW-12	10/12/2017		305.0000		530.4973
Barium, total	ug/L	MW-12	03/08/2018		295.0000		530.4973
Barium, total	ug/L	MW-12	09/06/2018		286.0000		530.4973
Barium, total	ug/L	MW-12	05/13/2019		280.0000		530.4973
Barium, total	ug/L	MW-12	09/26/2019		295.0000		530.4973
Barium, total	ug/L	MW-12	03/30/2020		397.0000		530.4973
Barium, total	ug/L	MW-12	09/17/2020		301.0000		530.4973
Barium, total	ug/L	MW-12	03/09/2021		416.0000		530.4973
Barium, total	ug/L	MW-12	09/09/2021		425.0000		530.4973

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Barium, total	ug/L	MW-12	03/14/2022		544.0000	*	530.4973
Barium, total	ug/L	MW-12	09/01/2022		322.0000		530.4973
Barium, total	ug/L	MW-12	03/06/2023		547.0000	*	530.4973
Barium, total	ug/L	MW-12	09/08/2023		465.0000		530.4973
Barium, total	ug/L	MW-12	03/20/2024		856.0000	*	530.4973
Chromium, total	ug/L	MW-12	04/15/2008		8.0000		15.4000
Chromium, total	ug/L	MW-12	06/18/2008	ND	5.0000		15.4000
Chromium, total	ug/L	MW-12	08/19/2008		6.0000		15.4000
Chromium, total	ug/L	MW-12	10/18/2008	ND	10.0000		15.4000
Chromium, total	ug/L	MW-12	12/04/2008	ND	10.0000		15.4000
Chromium, total	ug/L	MW-12	03/16/2009	ND	10.0000		15.4000
Chromium, total	ug/L	MW-12	09/23/2009	ND	10.0000		15.4000
Chromium, total	ug/L	MW-12	04/12/2010	ND	10.0000		15.4000
Chromium, total	ug/L	MW-12	09/28/2010	ND	10.0000		15.4000
Chromium, total	ug/L	MW-12	05/03/2011	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	10/10/2011		8.1000		15.4000
Chromium, total	ug/L	MW-12	04/23/2012	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	09/10/2012	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	04/05/2013	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	10/11/2013	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	04/22/2014	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	09/18/2014	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	04/28/2015	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	10/07/2015	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	04/19/2016	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	09/19/2016	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	03/22/2017	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	10/12/2017	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	03/08/2018	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	09/06/2018	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	05/13/2019	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	09/26/2019	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	03/30/2020	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	09/17/2020	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	03/09/2021	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	09/09/2021	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	03/14/2022	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	09/01/2022	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	03/06/2023		12.7000		15.4000
Chromium, total	ug/L	MW-12	09/08/2023	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	03/20/2024		22.7000	*	15.4000
Cobalt, total	ug/L	MW-12	04/15/2008	ND	10.0000		9.5589
Cobalt, total	ug/L	MW-12	06/18/2008	ND	10.0000		9.5589
Cobalt, total	ug/L	MW-12	08/19/2008	ND	10.0000		9.5589
Cobalt, total	ug/L	MW-12	10/18/2008	ND	4.0000		9.5589
Cobalt, total	ug/L	MW-12	12/04/2008		4.3000		9.5589
Cobalt, total	ug/L	MW-12	03/16/2009		4.7000		9.5589
Cobalt, total	ug/L	MW-12	09/23/2009	ND	4.0000		9.5589
Cobalt, total	ug/L	MW-12	04/12/2010	ND	4.0000		9.5589
Cobalt, total	ug/L	MW-12	09/28/2010	ND	4.0000		9.5589
Cobalt, total	ug/L	MW-12	05/03/2011	ND	4.0000		9.5589
Cobalt, total	ug/L	MW-12	10/10/2011		4.3000		9.5589
Cobalt, total	ug/L	MW-12	04/23/2012	ND	4.0000		9.5589
Cobalt, total	ug/L	MW-12	09/10/2012	ND	4.0000		9.5589
Cobalt, total	ug/L	MW-12	04/05/2013	ND	4.0000		9.5589
Cobalt, total	ug/L	MW-12	10/11/2013	ND	4.0000		9.5589
Cobalt, total	ug/L	MW-12	04/22/2014	ND	4.0000		9.5589
Cobalt, total	ug/L	MW-12	09/18/2014		3.4000		9.5589
Cobalt, total	ug/L	MW-12	04/28/2015		2.6000		9.5589
Cobalt, total	ug/L	MW-12	10/07/2015		1.7000		9.5589
Cobalt, total	ug/L	MW-12	04/19/2016		2.0000		9.5589
Cobalt, total	ug/L	MW-12	09/19/2016		2.2000		9.5589
Cobalt, total	ug/L	MW-12	03/22/2017	ND	0.8000		9.5589
Cobalt, total	ug/L	MW-12	10/12/2017	ND	0.8000		9.5589
Cobalt, total	ug/L	MW-12	03/08/2018	ND	2.0000		9.5589
Cobalt, total	ug/L	MW-12	09/06/2018	ND	0.8000		9.5589
Cobalt, total	ug/L	MW-12	05/13/2019	ND	0.8000		9.5589
Cobalt, total	ug/L	MW-12	09/26/2019	ND	0.8000		9.5589
Cobalt, total	ug/L	MW-12	03/30/2020		6.7000		9.5589
Cobalt, total	ug/L	MW-12	09/17/2020		0.4000		9.5589
Cobalt, total	ug/L	MW-12	03/09/2021		1.3000		9.5589

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Cobalt, total	ug/L	MW-12	09/09/2021		1.9000		9.5589
Cobalt, total	ug/L	MW-12	03/14/2022		0.8000		9.5589
Cobalt, total	ug/L	MW-12	09/01/2022		1.3000		9.5589
Cobalt, total	ug/L	MW-12	03/06/2023		8.2000		9.5589
Cobalt, total	ug/L	MW-12	09/08/2023		0.6000		9.5589
Cobalt, total	ug/L	MW-12	03/20/2024		21.3000	*	9.5589
Copper, total	ug/L	MW-12	04/15/2008		12.0000	*	10.8000
Copper, total	ug/L	MW-12	06/18/2008		8.0000		10.8000
Copper, total	ug/L	MW-12	08/19/2008		5.0000		10.8000
Copper, total	ug/L	MW-12	10/18/2008	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	12/04/2008	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/16/2009		4.4000		10.8000
Copper, total	ug/L	MW-12	09/23/2009	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	04/12/2010		4.0000		10.8000
Copper, total	ug/L	MW-12	09/28/2010	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	05/03/2011	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	10/10/2011	ND	8.0000		10.8000
Copper, total	ug/L	MW-12	04/23/2012	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/10/2012	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	04/05/2013	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	10/11/2013	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	04/22/2014	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/18/2014	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	04/28/2015	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	10/07/2015	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	04/19/2016	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/19/2016	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/22/2017	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	10/12/2017	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/08/2018	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/06/2018	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	05/13/2019	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/26/2019	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/30/2020		8.0000		10.8000
Copper, total	ug/L	MW-12	09/17/2020	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/09/2021	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/09/2021	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/14/2022	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/01/2022	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/06/2023		6.5000		10.8000
Copper, total	ug/L	MW-12	09/08/2023	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/20/2024		18.0000	*	10.8000
Lead, total	ug/L	MW-12	04/15/2008		5.0000		8.7000
Lead, total	ug/L	MW-12	06/18/2008	ND	5.0000		8.7000
Lead, total	ug/L	MW-12	08/19/2008		8.0000		8.7000
Lead, total	ug/L	MW-12	10/18/2008	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	12/04/2008		4.7000		8.7000
Lead, total	ug/L	MW-12	03/16/2009		4.3000		8.7000
Lead, total	ug/L	MW-12	09/23/2009	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	04/12/2010	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/28/2010	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	05/03/2011	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	10/10/2011	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	04/23/2012	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/10/2012	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	04/05/2013	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	10/11/2013	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	04/22/2014	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/18/2014	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	04/28/2015	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	10/07/2015	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	04/19/2016	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/19/2016	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/22/2017	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	10/12/2017	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/08/2018	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/06/2018	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	05/13/2019		6.7000		8.7000
Lead, total	ug/L	MW-12	09/26/2019	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/30/2020		6.0000		8.7000
Lead, total	ug/L	MW-12	09/17/2020	ND	4.0000		8.7000

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ND = Not Detected, Result = detection limit.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Lead, total	ug/L	MW-12	03/09/2021	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/09/2021	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/14/2022	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/01/2022	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/06/2023		4.1000		8.7000
Lead, total	ug/L	MW-12	09/08/2023	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/20/2024		8.9000	*	8.7000
Nickel, total	ug/L	MW-12	04/15/2008		14.0000	*	13.6000
Nickel, total	ug/L	MW-12	06/18/2008		8.0000		13.6000
Nickel, total	ug/L	MW-12	08/19/2008		6.0000		13.6000
Nickel, total	ug/L	MW-12	10/18/2008		5.3000		13.6000
Nickel, total	ug/L	MW-12	12/04/2008		6.9000		13.6000
Nickel, total	ug/L	MW-12	03/16/2009		10.1000		13.6000
Nickel, total	ug/L	MW-12	09/23/2009		6.5000		13.6000
Nickel, total	ug/L	MW-12	04/12/2010		10.2000		13.6000
Nickel, total	ug/L	MW-12	09/28/2010		6.2000		13.6000
Nickel, total	ug/L	MW-12	05/03/2011		9.3000		13.6000
Nickel, total	ug/L	MW-12	10/10/2011		13.4000		13.6000
Nickel, total	ug/L	MW-12	04/23/2012		7.5000		13.6000
Nickel, total	ug/L	MW-12	09/10/2012		6.3000		13.6000
Nickel, total	ug/L	MW-12	04/05/2013		9.1000		13.6000
Nickel, total	ug/L	MW-12	10/11/2013		5.2000		13.6000
Nickel, total	ug/L	MW-12	04/22/2014		6.2000		13.6000
Nickel, total	ug/L	MW-12	09/18/2014		5.8000		13.6000
Nickel, total	ug/L	MW-12	04/28/2015		4.6000		13.6000
Nickel, total	ug/L	MW-12	10/07/2015	ND	4.0000		13.6000
Nickel, total	ug/L	MW-12	04/19/2016		4.1000		13.6000
Nickel, total	ug/L	MW-12	09/19/2016	ND	4.0000		13.6000
Nickel, total	ug/L	MW-12	03/22/2017	ND	4.0000		13.6000
Nickel, total	ug/L	MW-12	10/12/2017	ND	4.0000		13.6000
Nickel, total	ug/L	MW-12	03/08/2018	ND	4.0000		13.6000
Nickel, total	ug/L	MW-12	09/06/2018	ND	8.0000		13.6000
Nickel, total	ug/L	MW-12	05/13/2019	ND	4.0000		13.6000
Nickel, total	ug/L	MW-12	09/26/2019		5.2000		13.6000
Nickel, total	ug/L	MW-12	03/30/2020		15.7000	*	13.6000
Nickel, total	ug/L	MW-12	06/25/2020		7.9000		13.6000
Nickel, total	ug/L	MW-12	09/17/2020		5.9000		13.6000
Nickel, total	ug/L	MW-12	03/09/2021		11.9000		13.6000
Nickel, total	ug/L	MW-12	09/09/2021		15.6000	*	13.6000
Nickel, total	ug/L	MW-12	12/08/2021		31.6000	*	13.6000
Nickel, total	ug/L	MW-12	03/14/2022		12.3000		13.6000
Nickel, total	ug/L	MW-12	09/01/2022		6.7000		13.6000
Nickel, total	ug/L	MW-12	03/06/2023		27.6000	*	13.6000
Nickel, total	ug/L	MW-12	09/08/2023		11.6000		13.6000
Nickel, total	ug/L	MW-12	03/20/2024		63.1000	*	13.6000
Vanadium, total	ug/L	MW-12	04/15/2008	ND	50.0000		27.5000
Vanadium, total	ug/L	MW-12	06/18/2008	ND	50.0000		27.5000
Vanadium, total	ug/L	MW-12	08/19/2008	ND	50.0000		27.5000
Vanadium, total	ug/L	MW-12	10/18/2008	ND	10.0000		27.5000
Vanadium, total	ug/L	MW-12	12/04/2008		10.6000		27.5000
Vanadium, total	ug/L	MW-12	03/16/2009		14.0000		27.5000
Vanadium, total	ug/L	MW-12	09/23/2009	ND	10.0000		27.5000
Vanadium, total	ug/L	MW-12	04/12/2010	ND	10.0000		27.5000
Vanadium, total	ug/L	MW-12	09/28/2010	ND	10.0000		27.5000
Vanadium, total	ug/L	MW-12	05/03/2011	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	10/10/2011	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	04/23/2012	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/10/2012	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	04/05/2013	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	10/11/2013	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	04/22/2014	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/18/2014	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	04/28/2015	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	10/07/2015	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	04/19/2016	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/19/2016	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/22/2017	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	10/12/2017	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/08/2018	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/06/2018	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	05/13/2019	ND	20.0000		27.5000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Vanadium, total	ug/L	MW-12	09/26/2019	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/30/2020	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/17/2020	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/09/2021	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/09/2021	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/14/2022	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/01/2022	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/06/2023	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/08/2023	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/20/2024		38.6000	*	27.5000
Zinc, total	ug/L	MW-12	04/15/2008		21.0000		32.5000
Zinc, total	ug/L	MW-12	06/18/2008		13.0000		32.5000
Zinc, total	ug/L	MW-12	08/19/2008		11.0000		32.5000
Zinc, total	ug/L	MW-12	10/18/2008		21.0000		32.5000
Zinc, total	ug/L	MW-12	12/04/2008		21.5000		32.5000
Zinc, total	ug/L	MW-12	03/16/2009		20.6000		32.5000
Zinc, total	ug/L	MW-12	09/23/2009		22.1000		32.5000
Zinc, total	ug/L	MW-12	04/12/2010		33.2000	*	32.5000
Zinc, total	ug/L	MW-12	09/28/2010	ND	10.0000		32.5000
Zinc, total	ug/L	MW-12	05/03/2011	ND	8.0000		32.5000
Zinc, total	ug/L	MW-12	10/10/2011		15.4000		32.5000
Zinc, total	ug/L	MW-12	04/23/2012	ND	20.0000		32.5000
Zinc, total	ug/L	MW-12	09/10/2012		13.2000		32.5000
Zinc, total	ug/L	MW-12	04/05/2013	ND	8.0000		32.5000
Zinc, total	ug/L	MW-12	10/11/2013	ND	8.0000		32.5000
Zinc, total	ug/L	MW-12	04/22/2014		8.5000		32.5000
Zinc, total	ug/L	MW-12	09/18/2014		10.3000		32.5000
Zinc, total	ug/L	MW-12	04/28/2015	ND	8.0000		32.5000
Zinc, total	ug/L	MW-12	10/07/2015		9.1000		32.5000
Zinc, total	ug/L	MW-12	04/19/2016	ND	8.0000		32.5000
Zinc, total	ug/L	MW-12	09/19/2016	ND	8.0000		32.5000
Zinc, total	ug/L	MW-12	03/22/2017	ND	8.0000		32.5000
Zinc, total	ug/L	MW-12	10/12/2017	ND	8.0000		32.5000
Zinc, total	ug/L	MW-12	03/08/2018		9.3000		32.5000
Zinc, total	ug/L	MW-12	09/06/2018		30.3000		32.5000
Zinc, total	ug/L	MW-12	05/13/2019		13.6000		32.5000
Zinc, total	ug/L	MW-12	09/26/2019		27.6000		32.5000
Zinc, total	ug/L	MW-12	03/30/2020	ND	20.0000		32.5000
Zinc, total	ug/L	MW-12	09/17/2020	ND	20.0000		32.5000
Zinc, total	ug/L	MW-12	03/09/2021	ND	20.0000		32.5000
Zinc, total	ug/L	MW-12	09/09/2021	ND	20.0000		32.5000
Zinc, total	ug/L	MW-12	03/14/2022	ND	20.0000		32.5000
Zinc, total	ug/L	MW-12	09/01/2022	ND	20.0000		32.5000
Zinc, total	ug/L	MW-12	03/06/2023	ND	20.0000		32.5000
Zinc, total	ug/L	MW-12	09/08/2023	ND	20.0000		32.5000
Zinc, total	ug/L	MW-12	03/20/2024		36.3000	*	32.5000
Barium, total	ug/L	MW-15	04/15/2008		532.0000	*	530.4973
Barium, total	ug/L	MW-15	06/18/2008		502.0000		530.4973
Barium, total	ug/L	MW-15	08/19/2008		675.0000	*	530.4973
Barium, total	ug/L	MW-15	10/18/2008		547.0000	*	530.4973
Barium, total	ug/L	MW-15	12/04/2008		423.0000		530.4973
Barium, total	ug/L	MW-15	03/16/2009		659.0000	*	530.4973
Barium, total	ug/L	MW-15	09/23/2009		609.0000	*	530.4973
Barium, total	ug/L	MW-15	04/12/2010		662.0000	*	530.4973
Barium, total	ug/L	MW-15	06/01/2010		846.0000	*	530.4973
Barium, total	ug/L	MW-15	09/28/2010		857.0000	*	530.4973
Barium, total	ug/L	MW-15	05/04/2011		416.0000		530.4973
Barium, total	ug/L	MW-15	10/10/2011		412.0000		530.4973
Barium, total	ug/L	MW-15	04/23/2012		391.0000		530.4973
Barium, total	ug/L	MW-15	09/11/2012		343.0000		530.4973
Barium, total	ug/L	MW-15	04/05/2013		319.0000		530.4973
Barium, total	ug/L	MW-15	10/11/2013		344.0000		530.4973
Barium, total	ug/L	MW-15	04/22/2014		389.0000		530.4973
Barium, total	ug/L	MW-15	09/18/2014		359.0000		530.4973
Barium, total	ug/L	MW-15	04/29/2015		374.0000		530.4973
Barium, total	ug/L	MW-15	10/07/2015		315.0000		530.4973
Barium, total	ug/L	MW-15	04/19/2016		341.0000		530.4973
Barium, total	ug/L	MW-15	09/19/2016		311.0000		530.4973
Barium, total	ug/L	MW-15	03/21/2017		330.0000		530.4973
Barium, total	ug/L	MW-15	10/12/2017		318.0000		530.4973
Barium, total	ug/L	MW-15	03/08/2018		339.0000		530.4973

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Barium, total	ug/L	MW-15	09/06/2018		306.0000		530.4973
Barium, total	ug/L	MW-15	05/13/2019		365.0000		530.4973
Barium, total	ug/L	MW-15	09/26/2019		664.0000	*	530.4973
Barium, total	ug/L	MW-15	03/30/2020		434.0000		530.4973
Barium, total	ug/L	MW-15	09/17/2020		686.0000	*	530.4973
Barium, total	ug/L	MW-15	03/09/2021		390.0000		530.4973
Barium, total	ug/L	MW-15	09/09/2021		741.0000	*	530.4973
Barium, total	ug/L	MW-15	12/08/2021		751.0000	*	530.4973
Barium, total	ug/L	MW-15	03/14/2022		392.0000		530.4973
Barium, total	ug/L	MW-15	09/01/2022		416.0000		530.4973
Barium, total	ug/L	MW-15	03/06/2023		431.0000		530.4973
Barium, total	ug/L	MW-15	09/08/2023		430.0000		530.4973
Barium, total	ug/L	MW-15	03/20/2024		549.0000	*	530.4973
Arsenic, total	ug/L	MW-21	04/05/2013	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	06/15/2013	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	08/07/2013	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	10/10/2013	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	11/30/2013	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	04/22/2014	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	09/17/2014	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	04/28/2015	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	10/07/2015	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	04/19/2016	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	09/19/2016	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	03/21/2017	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	10/12/2017	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	03/08/2018	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	09/06/2018	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	05/13/2019	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	09/26/2019	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	03/30/2020	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	09/17/2020	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	03/09/2021	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	09/09/2021	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	03/14/2022	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	09/01/2022	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	03/06/2023	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	09/08/2023	ND	4.0000		4.4000
Arsenic, total	ug/L	MW-21	03/20/2024		24.4000	*	4.4000
Barium, total	ug/L	MW-21	04/05/2013		282.0000		530.4973
Barium, total	ug/L	MW-21	06/15/2013		268.0000		530.4973
Barium, total	ug/L	MW-21	08/07/2013		288.0000		530.4973
Barium, total	ug/L	MW-21	10/10/2013		300.0000		530.4973
Barium, total	ug/L	MW-21	11/30/2013		276.0000		530.4973
Barium, total	ug/L	MW-21	04/22/2014		289.0000		530.4973
Barium, total	ug/L	MW-21	09/17/2014		318.0000		530.4973
Barium, total	ug/L	MW-21	04/28/2015		377.0000		530.4973
Barium, total	ug/L	MW-21	10/07/2015		351.0000		530.4973
Barium, total	ug/L	MW-21	04/19/2016		338.0000		530.4973
Barium, total	ug/L	MW-21	09/19/2016		316.0000		530.4973
Barium, total	ug/L	MW-21	03/21/2017		305.0000		530.4973
Barium, total	ug/L	MW-21	10/12/2017		287.0000		530.4973
Barium, total	ug/L	MW-21	03/08/2018		322.0000		530.4973
Barium, total	ug/L	MW-21	09/06/2018		305.0000		530.4973
Barium, total	ug/L	MW-21	05/13/2019		313.0000		530.4973
Barium, total	ug/L	MW-21	09/26/2019		344.0000		530.4973
Barium, total	ug/L	MW-21	03/30/2020		354.0000		530.4973
Barium, total	ug/L	MW-21	09/17/2020		337.0000		530.4973
Barium, total	ug/L	MW-21	03/09/2021		380.0000		530.4973
Barium, total	ug/L	MW-21	09/09/2021		325.0000		530.4973
Barium, total	ug/L	MW-21	03/14/2022		317.0000		530.4973
Barium, total	ug/L	MW-21	09/01/2022		341.0000		530.4973
Barium, total	ug/L	MW-21	03/06/2023		365.0000		530.4973
Barium, total	ug/L	MW-21	09/08/2023		354.0000		530.4973
Barium, total	ug/L	MW-21	03/20/2024		1100.0000	*	530.4973
Barium, total	ug/L	MW-3	04/15/2008		572.0000	*	530.4973
Barium, total	ug/L	MW-3	06/18/2008		547.0000	*	530.4973
Barium, total	ug/L	MW-3	08/19/2008		624.0000	*	530.4973
Barium, total	ug/L	MW-3	10/18/2008		706.0000	*	530.4973
Barium, total	ug/L	MW-3	12/04/2008		700.0000	*	530.4973
Barium, total	ug/L	MW-3	03/16/2009		740.0000	*	530.4973

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Barium, total	ug/L	MW-3	09/23/2009		826.0000	*	530.4973
Barium, total	ug/L	MW-3	04/12/2010		661.0000	*	530.4973
Barium, total	ug/L	MW-3	06/01/2010		790.0000	*	530.4973
Barium, total	ug/L	MW-3	09/28/2010		742.0000	*	530.4973
Barium, total	ug/L	MW-3	05/03/2011		647.0000	*	530.4973
Barium, total	ug/L	MW-3	10/11/2011		808.0000	*	530.4973
Barium, total	ug/L	MW-3	04/24/2012		844.0000	*	530.4973
Barium, total	ug/L	MW-3	09/10/2012		201.0000		530.4973
Barium, total	ug/L	MW-3	04/05/2013		727.0000	*	530.4973
Barium, total	ug/L	MW-3	10/10/2013		755.0000	*	530.4973
Barium, total	ug/L	MW-3	04/22/2014		758.0000	*	530.4973
Barium, total	ug/L	MW-3	09/18/2014		655.0000	*	530.4973
Barium, total	ug/L	MW-3	04/29/2015		761.0000	*	530.4973
Barium, total	ug/L	MW-3	10/07/2015		640.0000	*	530.4973
Barium, total	ug/L	MW-3	04/19/2016		748.0000	*	530.4973
Barium, total	ug/L	MW-3	09/19/2016		784.0000	*	530.4973
Barium, total	ug/L	MW-3	03/21/2017		710.0000	*	530.4973
Barium, total	ug/L	MW-3	10/12/2017		743.0000	*	530.4973
Barium, total	ug/L	MW-3	03/08/2018		1020.0000	*	530.4973
Barium, total	ug/L	MW-3	09/06/2018		796.0000	*	530.4973
Barium, total	ug/L	MW-3	05/13/2019		865.0000	*	530.4973
Barium, total	ug/L	MW-3	09/26/2019		951.0000	*	530.4973
Barium, total	ug/L	MW-3	03/30/2020		867.0000	*	530.4973
Barium, total	ug/L	MW-3	09/17/2020		884.0000	*	530.4973
Barium, total	ug/L	MW-3	03/09/2021		1090.0000	*	530.4973
Barium, total	ug/L	MW-3	09/09/2021		785.0000	*	530.4973
Barium, total	ug/L	MW-3	03/14/2022		843.0000	*	530.4973
Barium, total	ug/L	MW-3	09/01/2022		783.0000	*	530.4973
Barium, total	ug/L	MW-3	03/06/2023		785.0000	*	530.4973
Barium, total	ug/L	MW-3	09/08/2023		730.0000	*	530.4973
Barium, total	ug/L	MW-3	03/20/2024		747.0000	*	530.4973

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

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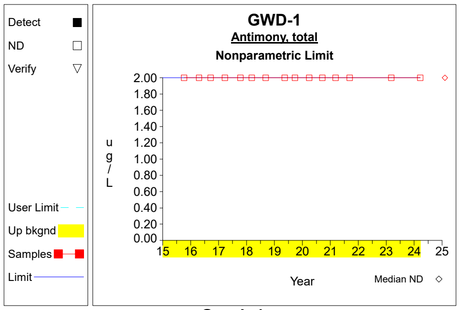
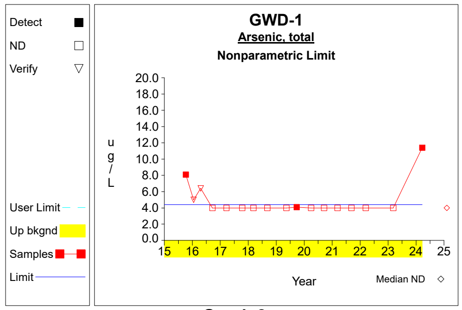
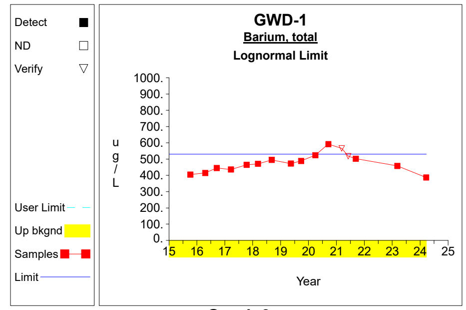
Up vs. Down Prediction Limits



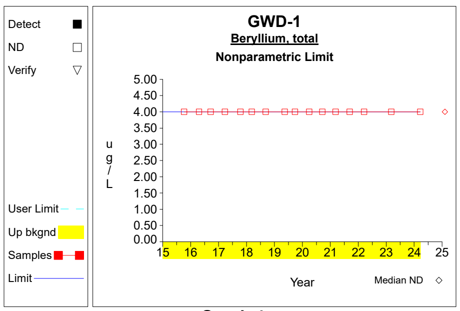
Graph 1



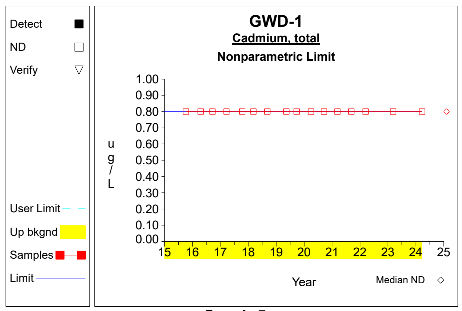
Graph 2



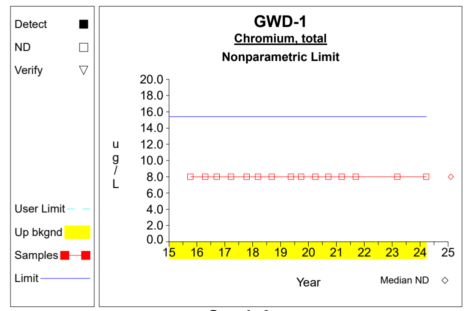
Graph 3



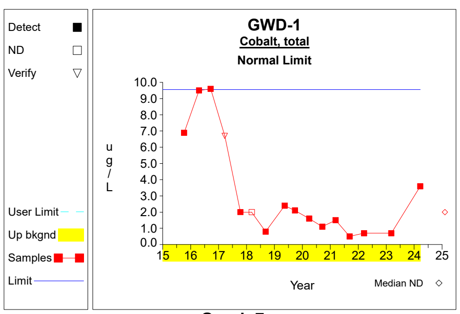
Graph 4



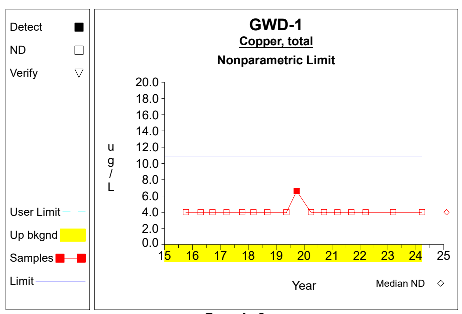
Graph 5



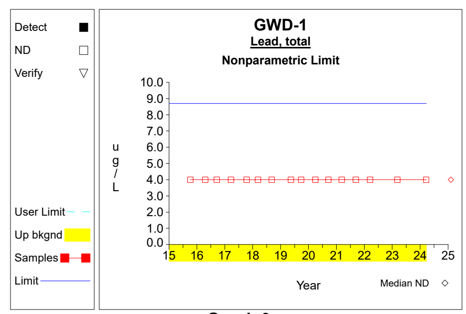
Graph 6



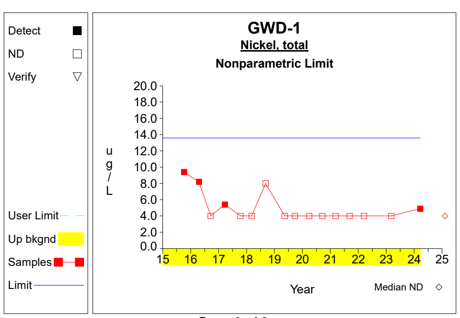
Graph 7



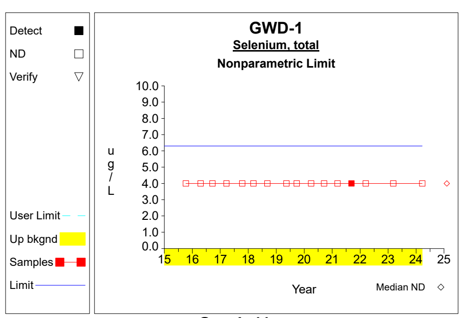
Graph 8



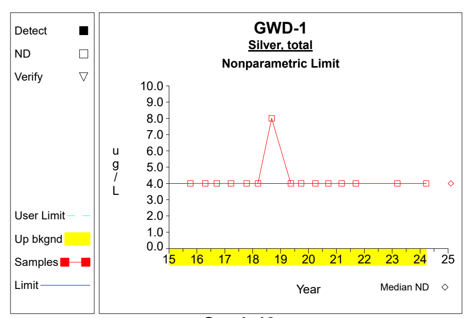
Graph 9



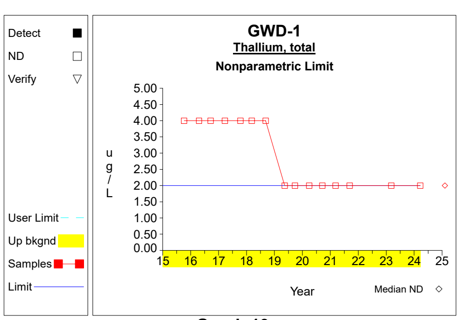
Graph 10



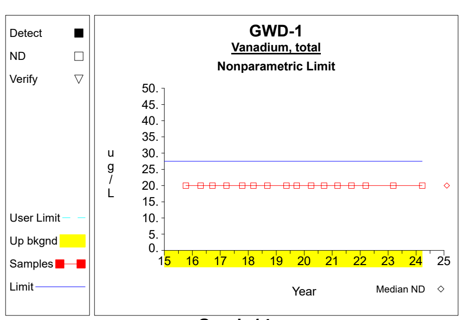
Graph 11



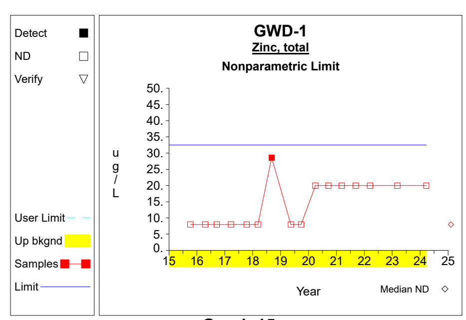
Graph 12



Graph 13

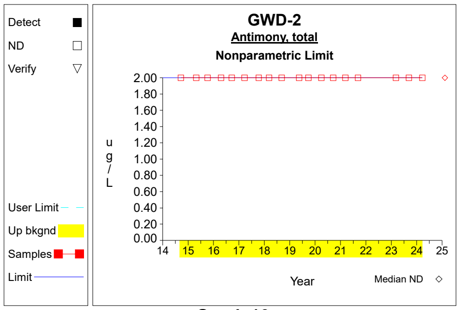


Graph 14

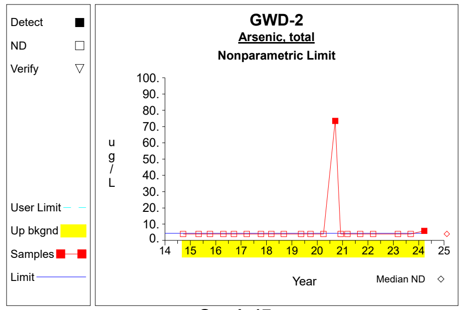


Graph 15

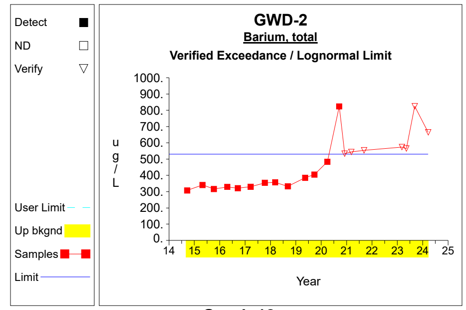
Up vs. Down Prediction Limits



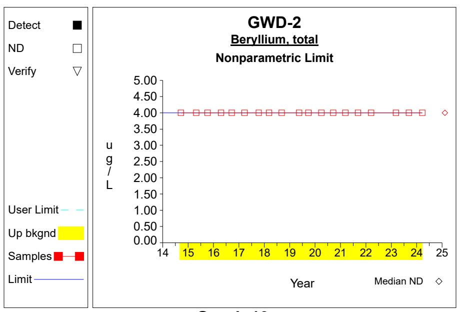
Graph 16



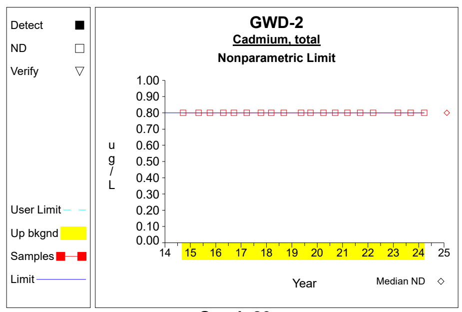
Graph 17



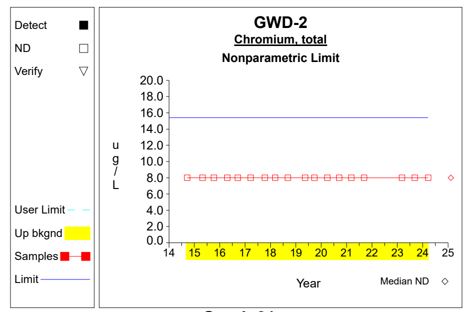
Graph 18



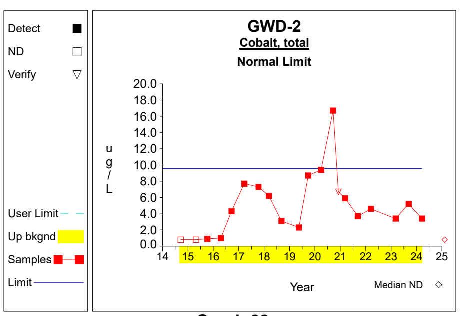
Graph 19



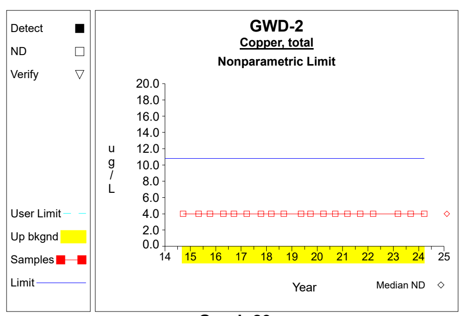
Graph 20



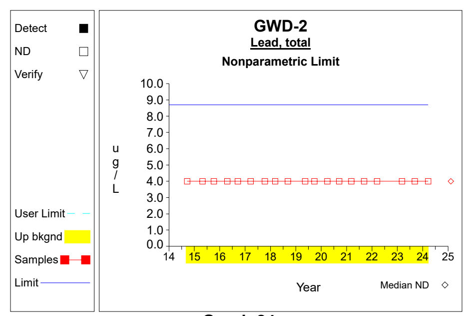
Graph 21



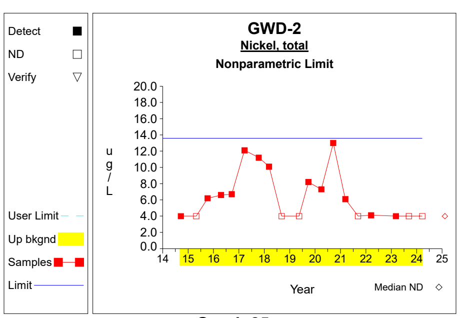
Graph 22



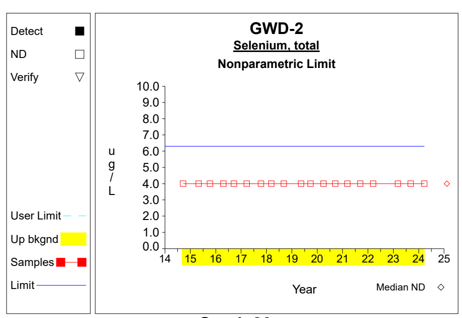
Graph 23



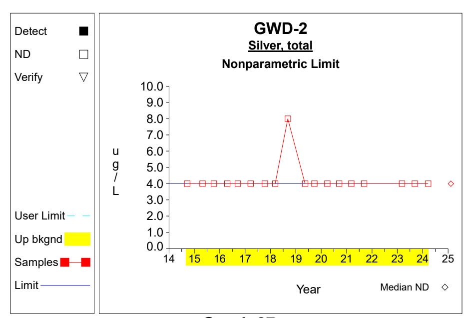
Graph 24



Graph 25



Graph 26



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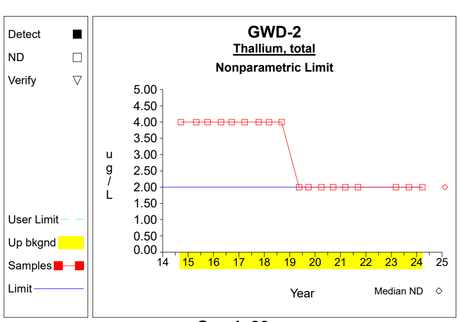
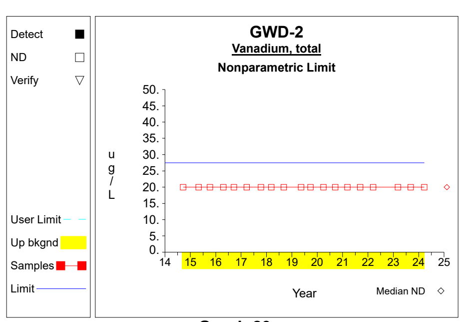
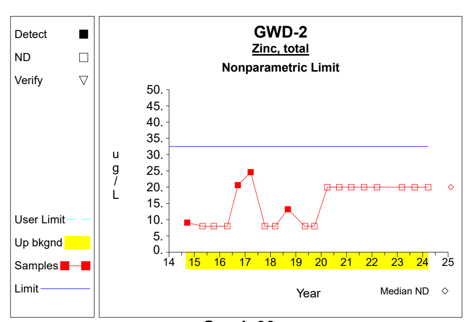


Graph 28

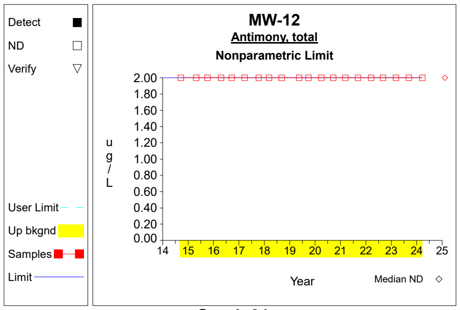


Graph 29

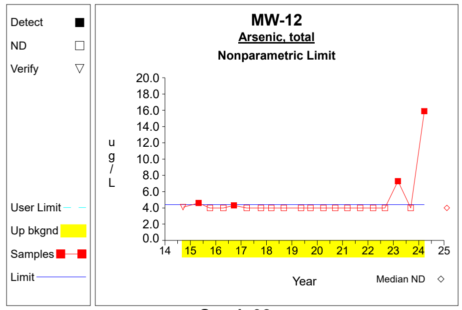


Graph 30

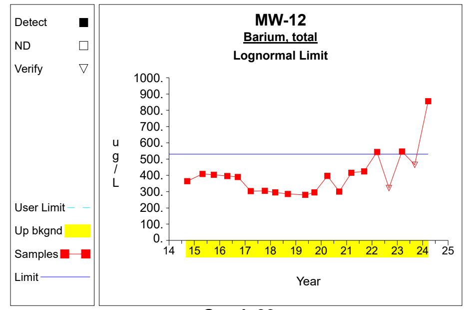
Up vs. Down Prediction Limits



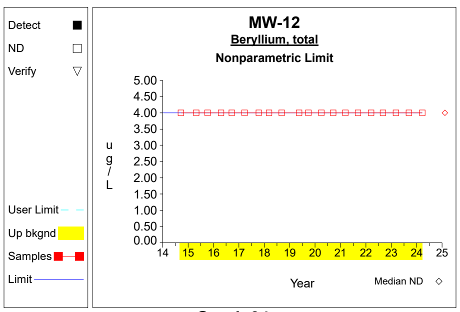
Graph 31



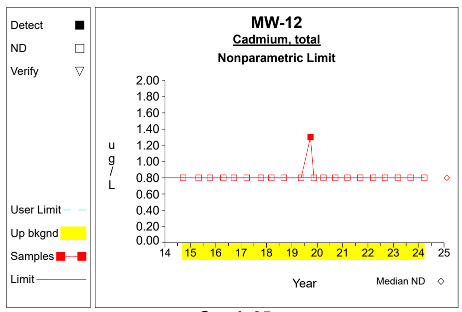
Graph 32



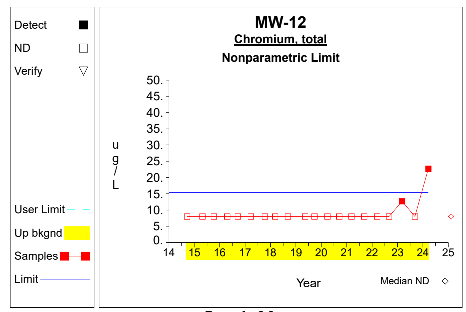
Graph 33



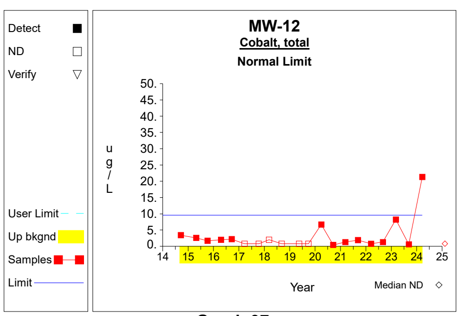
Graph 34



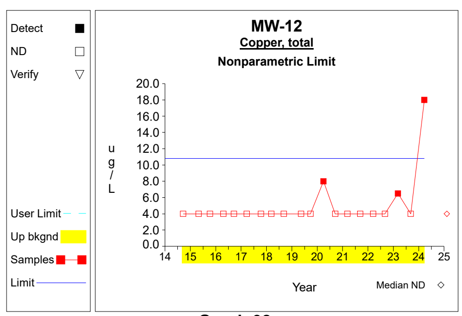
Graph 35



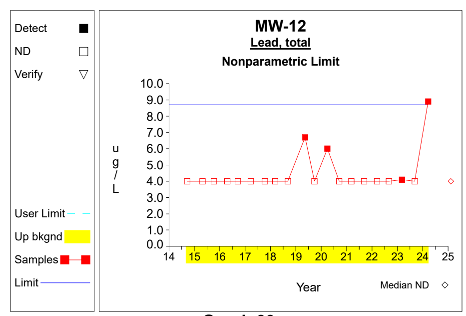
Graph 36



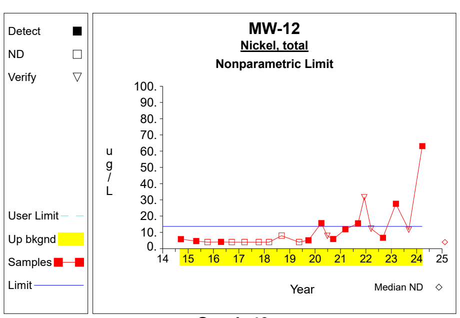
Graph 37



Graph 38



Graph 39



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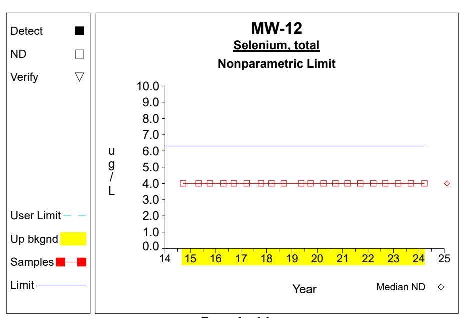

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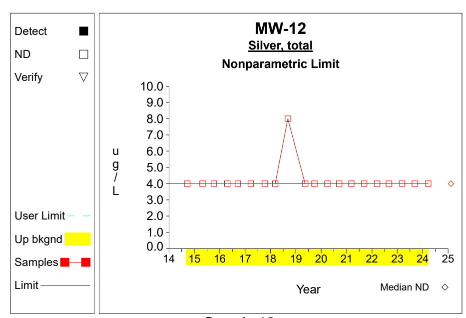
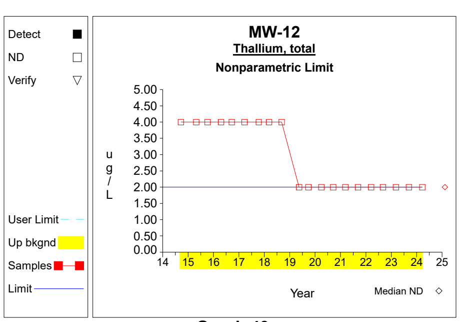
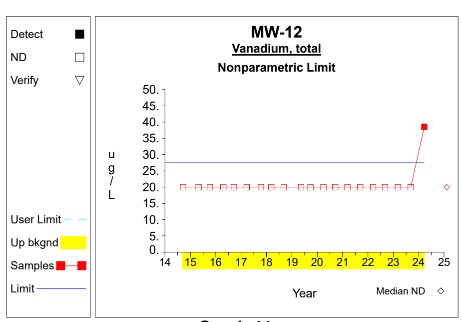


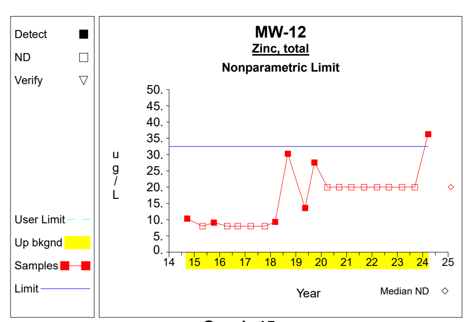
Graph 42



Graph 43



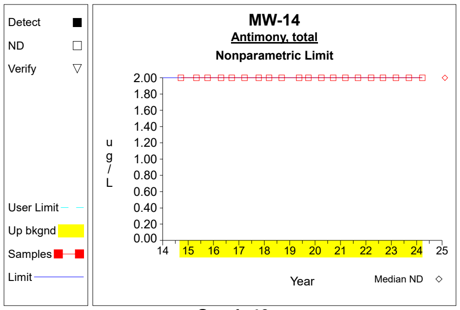
Graph 44



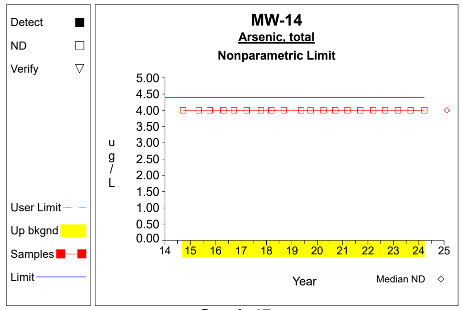
Graph 45

Fremont County [GW] April 2024

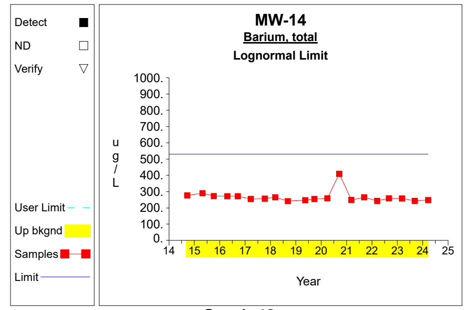
Up vs. Down Prediction Limits



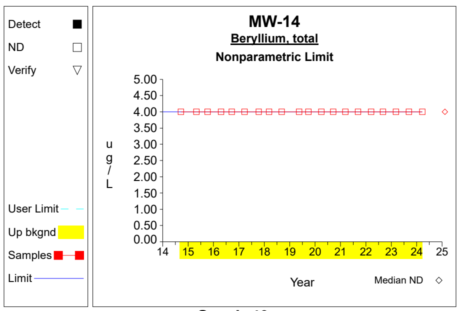
Graph 46



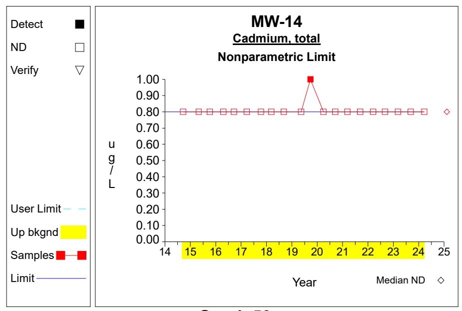
Graph 47



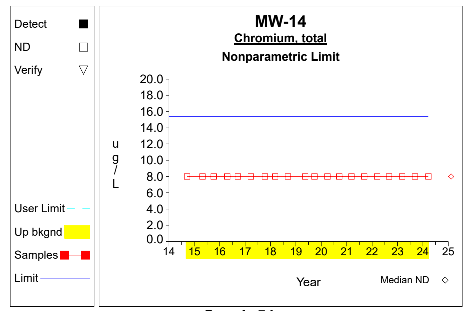
Graph 48



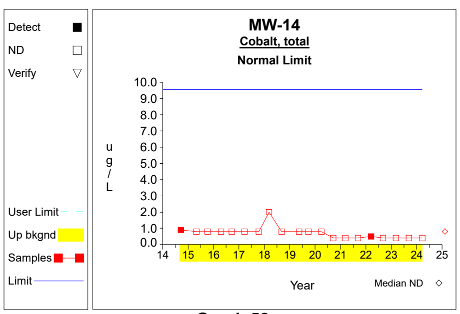
Graph 49



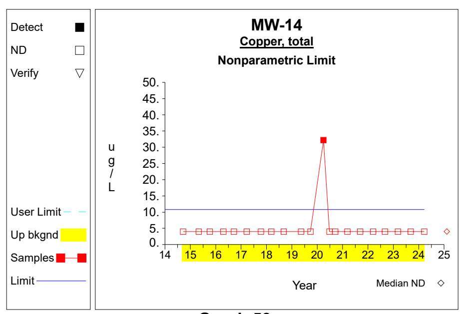
Graph 50



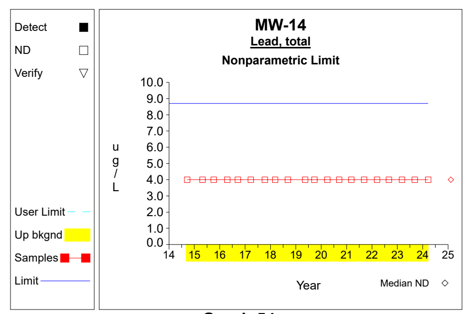
Graph 51



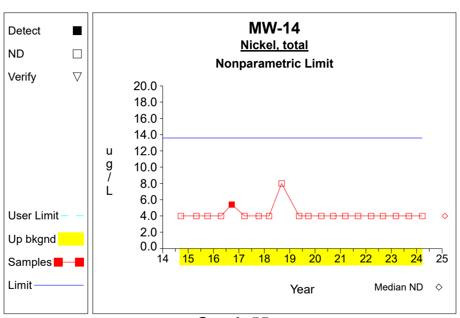
Graph 52



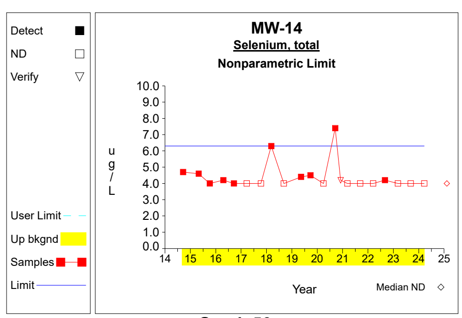
Graph 53



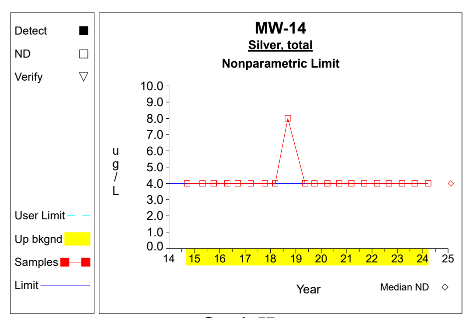
Graph 54



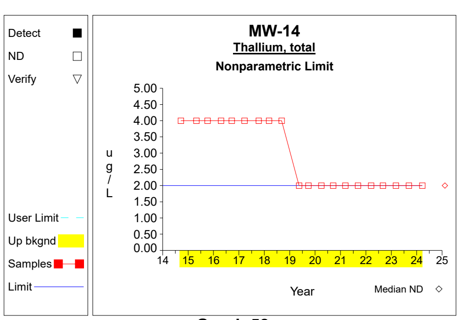
Graph 55



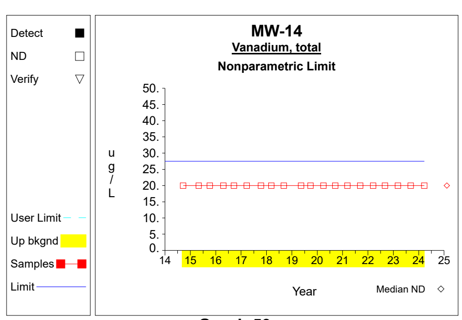
Graph 56



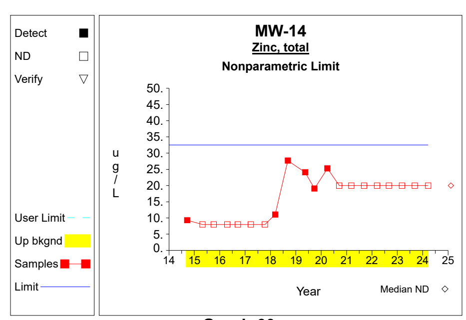
Graph 57



Graph 58



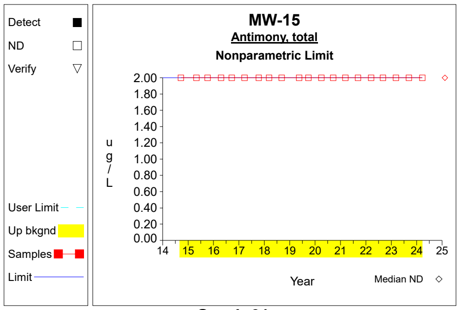
Graph 59



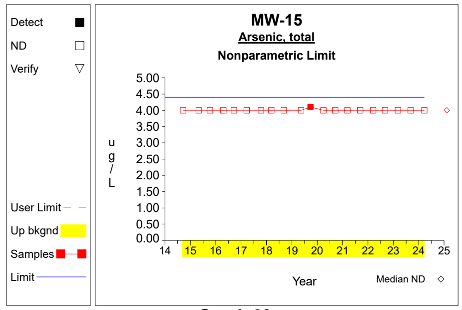
Graph 60

Prepared by: Otter Creek Environmental

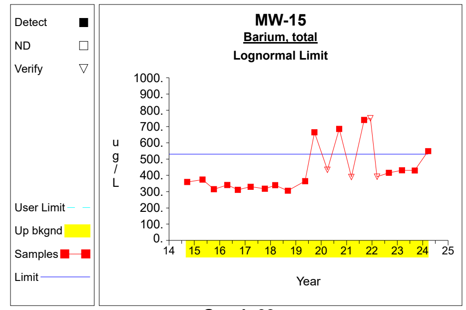
Up vs. Down Prediction Limits



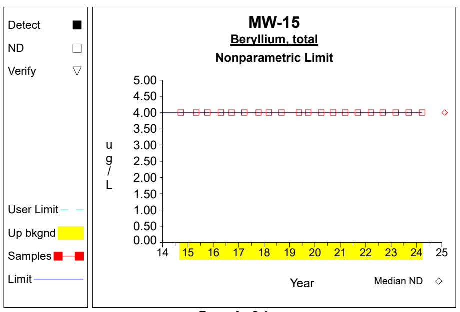
Graph 61



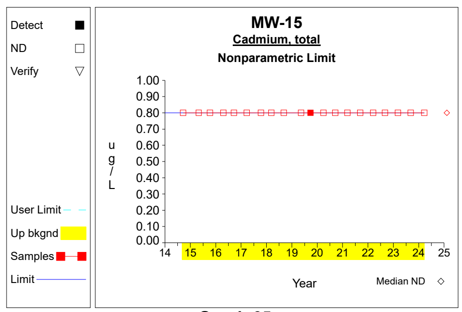
Graph 62



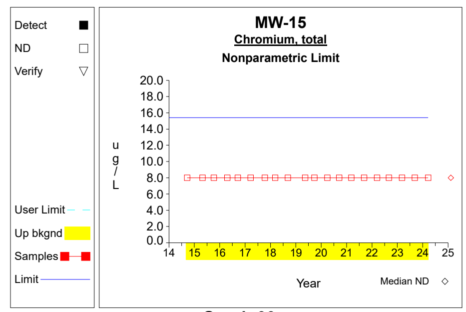
Graph 63



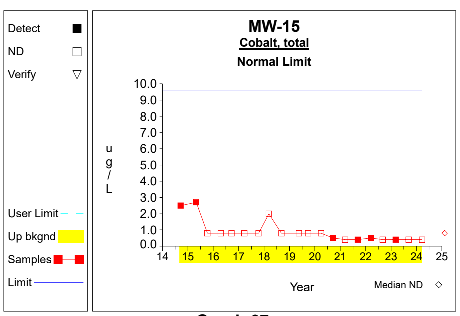
Graph 64



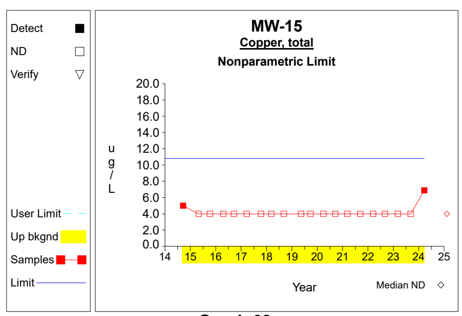
Graph 65



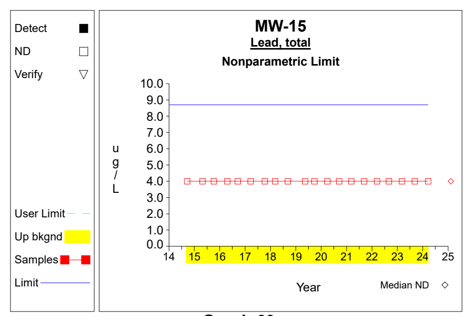
Graph 66



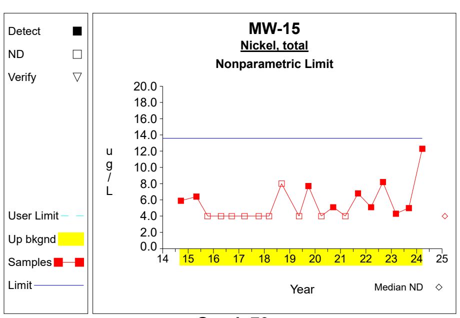
Graph 67



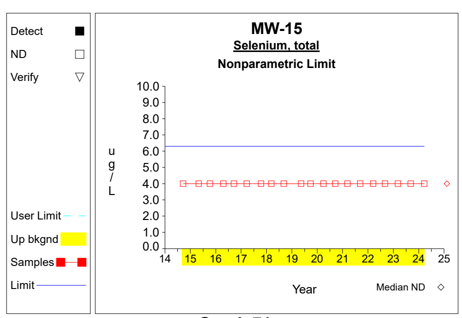
Graph 68



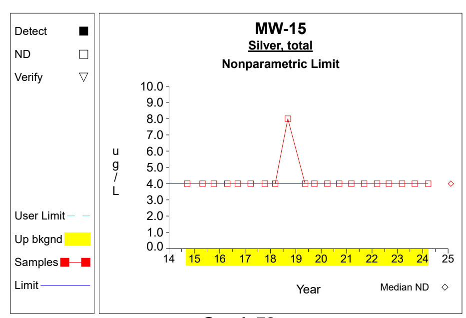
Graph 69



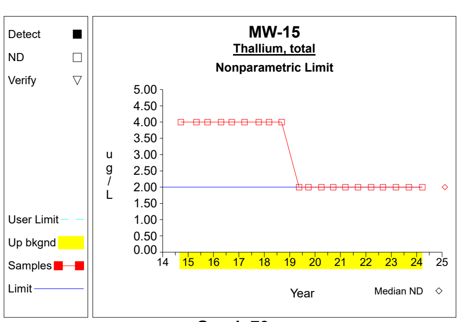
Graph 70



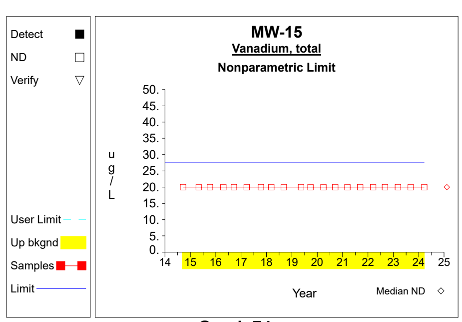
Graph 71



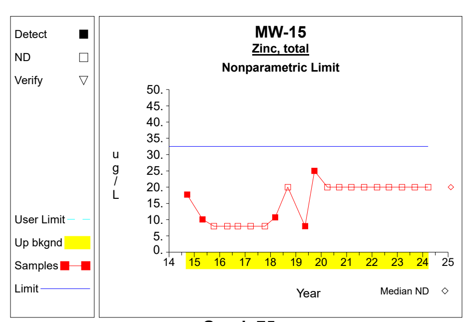
Graph 72



Graph 73



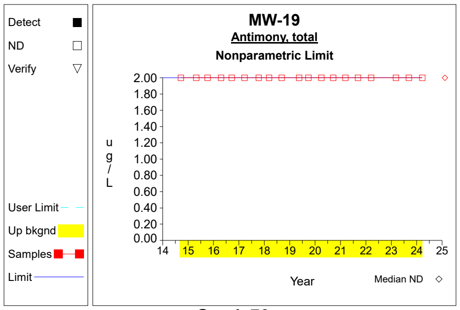
Graph 74



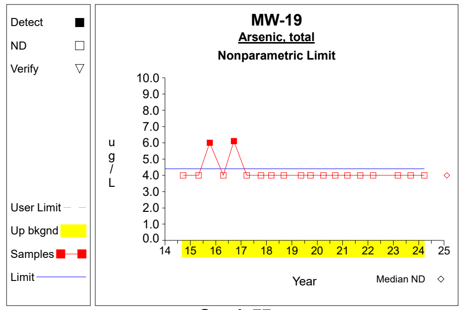
Graph 75

Fremont County [GW] April 2024

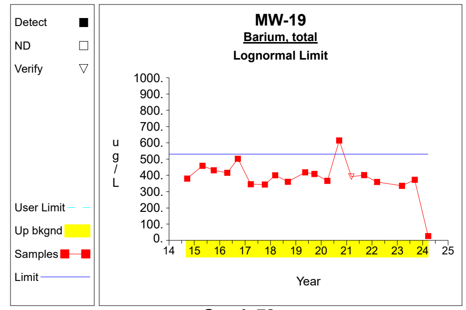
Up vs. Down Prediction Limits



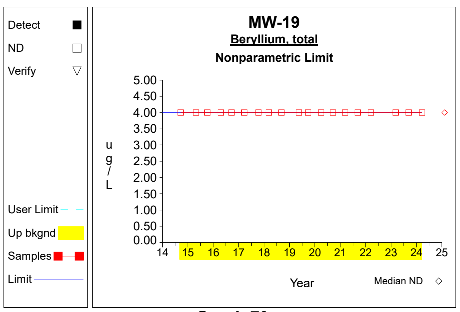
Graph 76



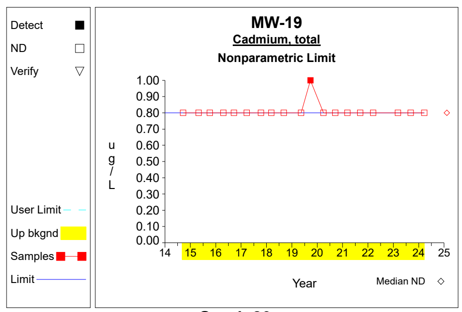
Graph 77



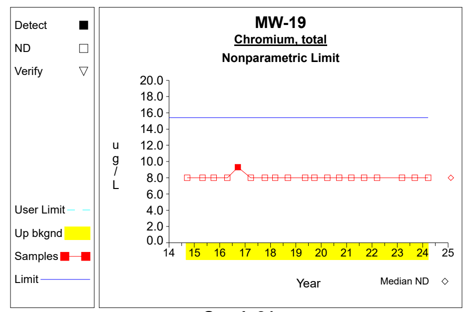
Graph 78



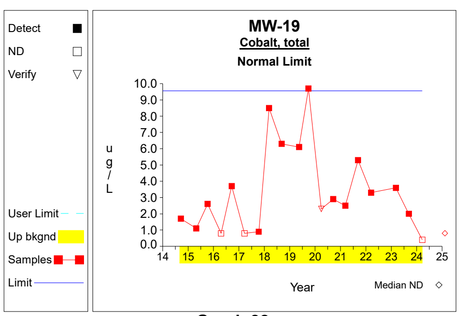
Graph 79



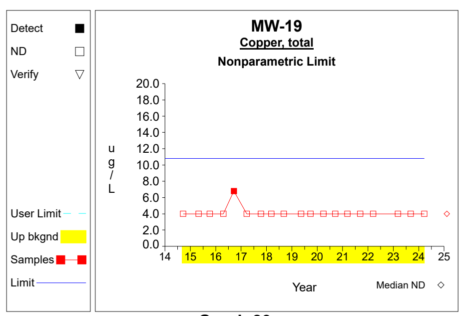
Graph 80



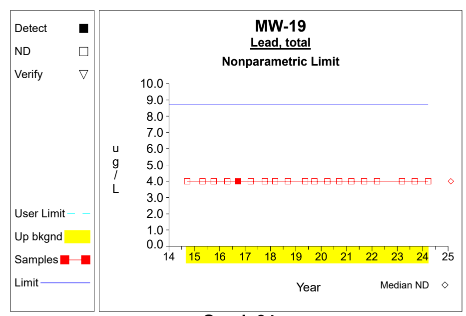
Graph 81



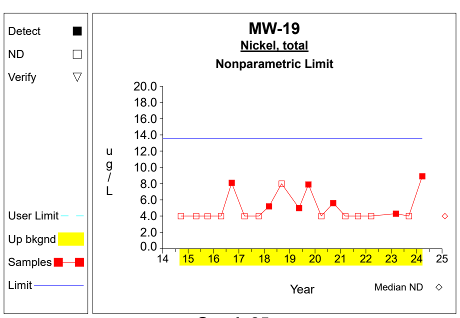
Graph 82



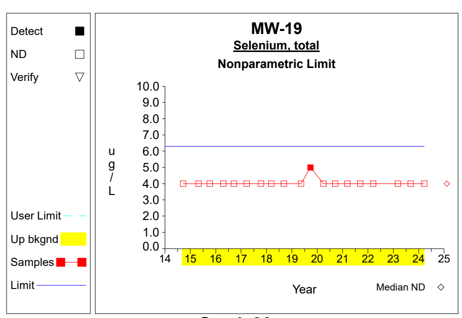
Graph 83



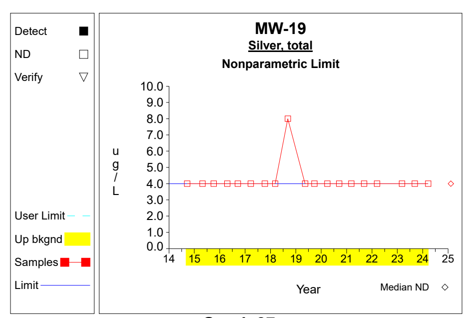
Graph 84



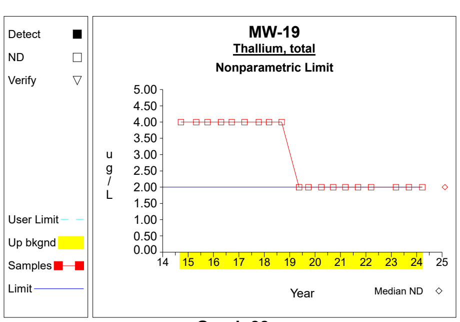
Graph 85



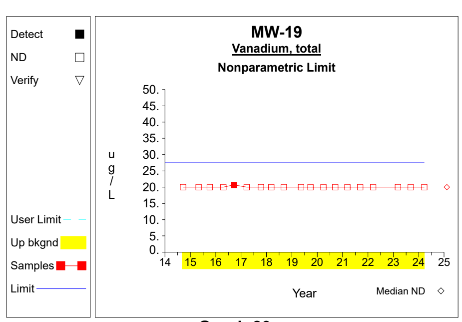
Graph 86



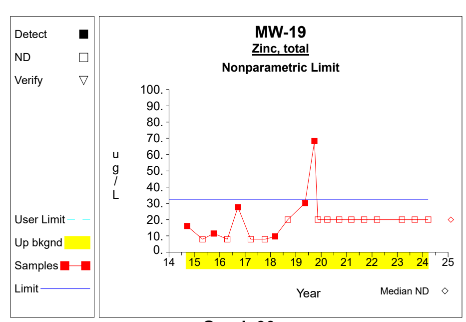
Graph 87



Graph 88



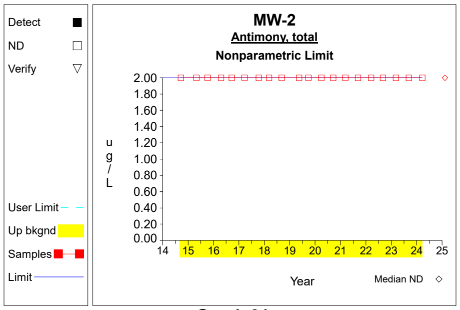
Graph 89



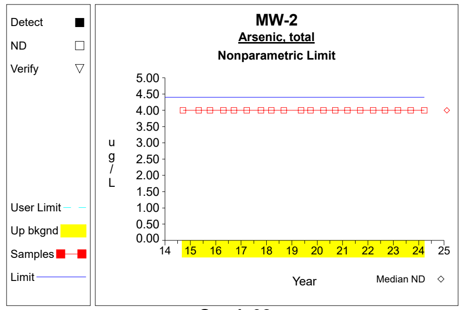
Graph 90

Prepared by: Otter Creek Environmental

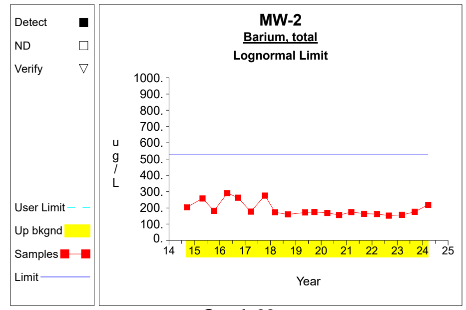
Up vs. Down Prediction Limits



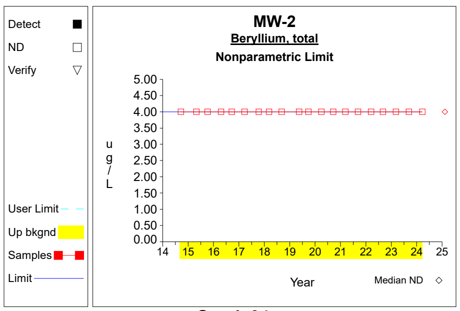
Graph 91



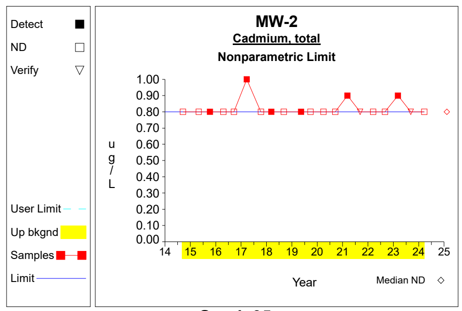
Graph 92



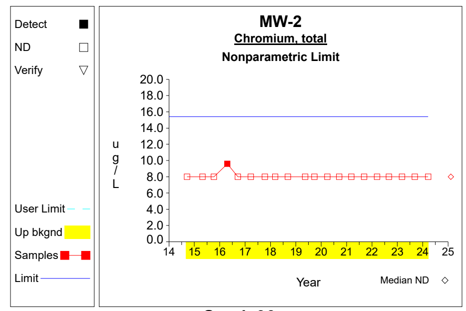
Graph 93



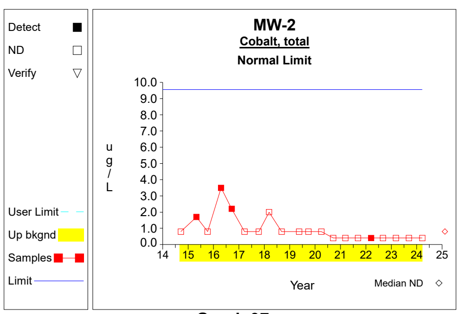
Graph 94



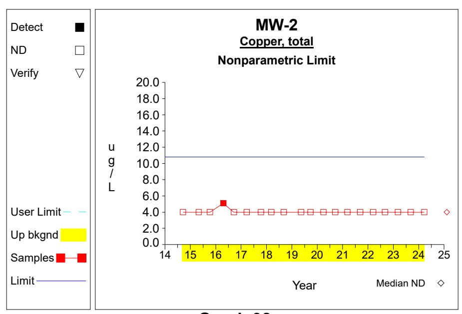
Graph 95



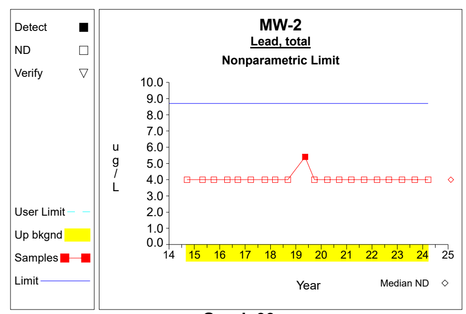
Graph 96



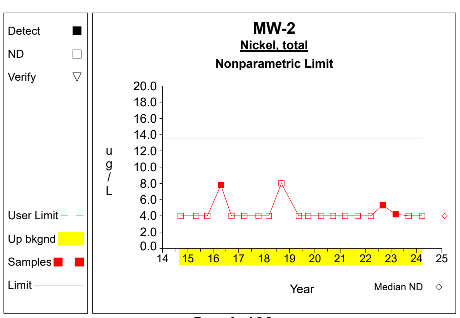
Graph 97



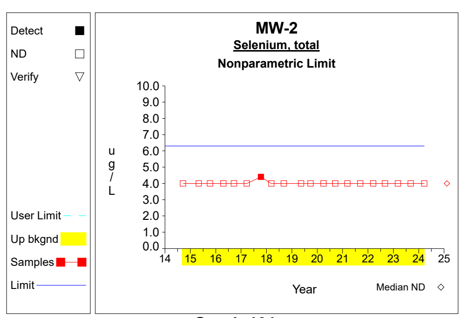
Graph 98



Graph 99



Graph 100



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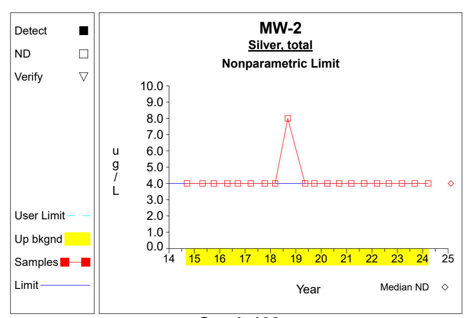
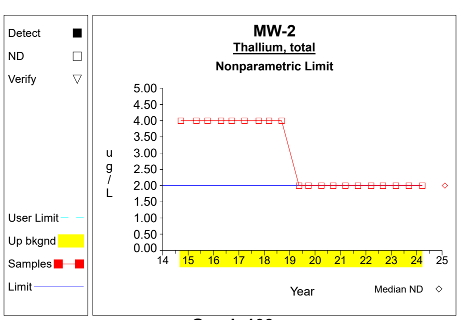
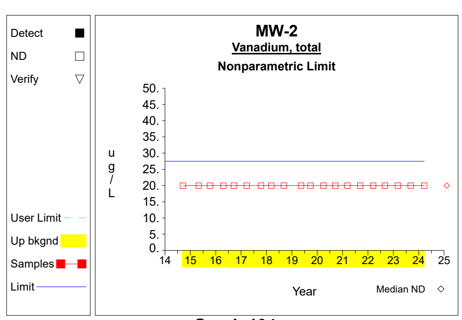


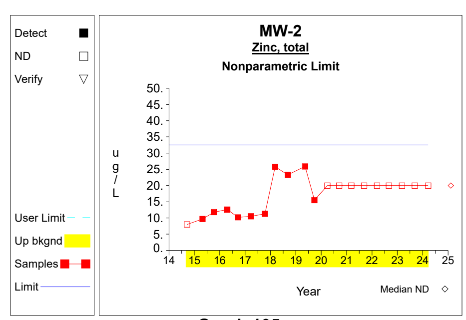
Graph 102



Graph 103

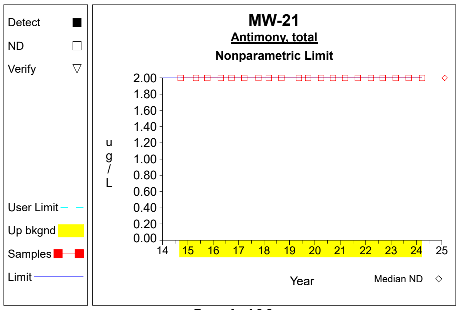


Graph 104

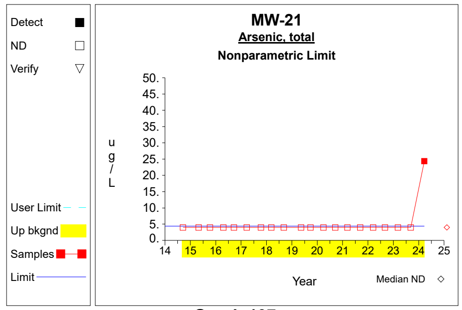


Graph 105

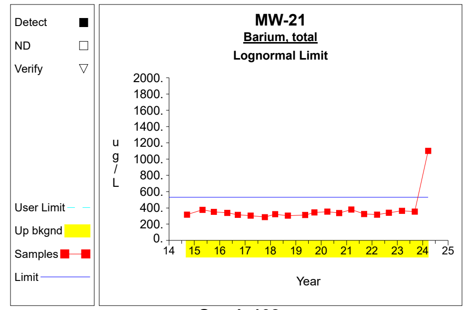
Up vs. Down Prediction Limits



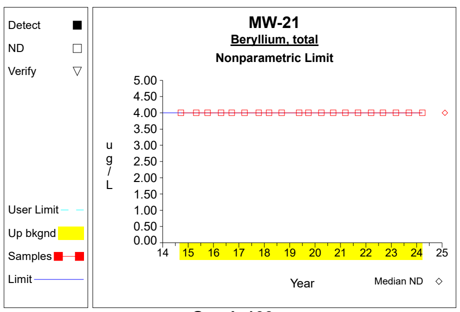
Graph 106



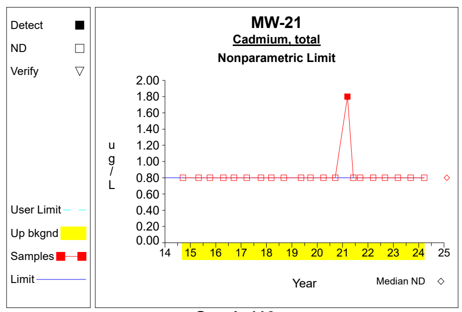
Graph 107



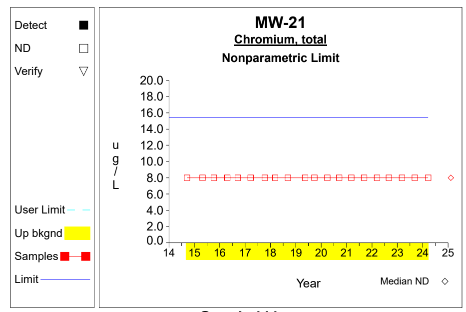
Graph 108



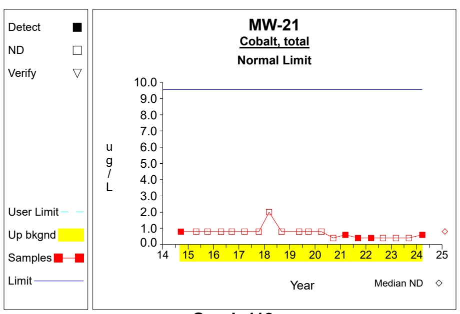
Graph 109



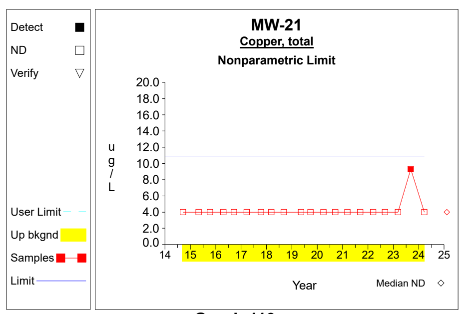
Graph 110



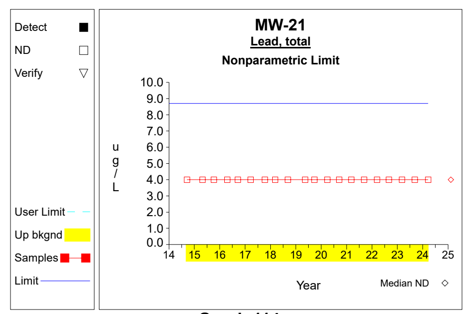
Graph 111



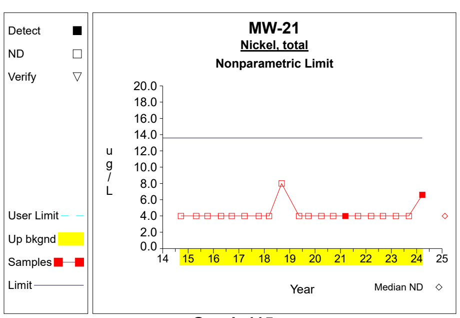
Graph 112



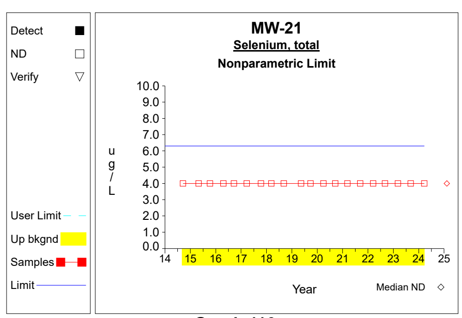
Graph 113



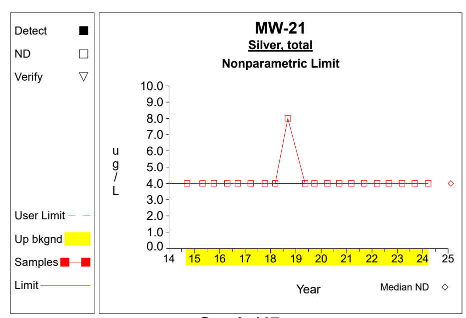
Graph 114



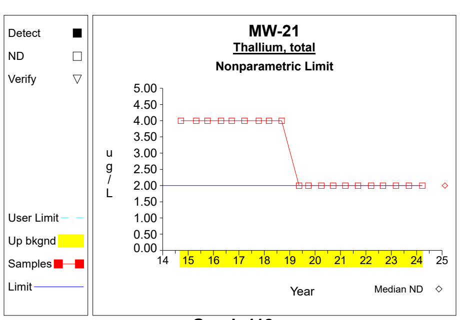
Graph 115



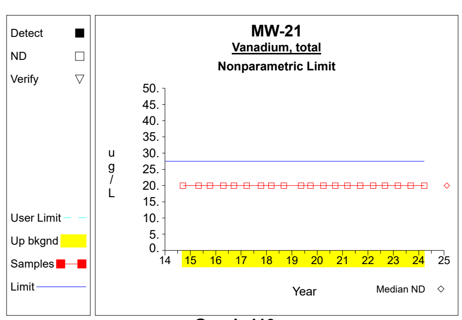
Graph 116



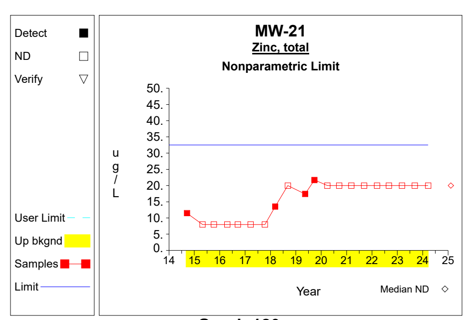
Graph 117



Graph 118

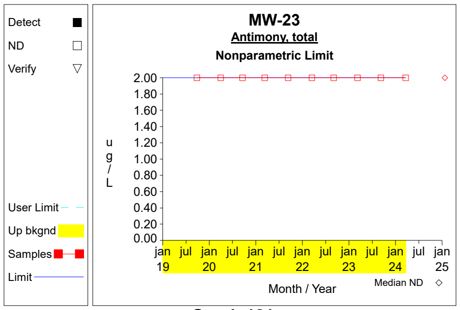


Graph 119

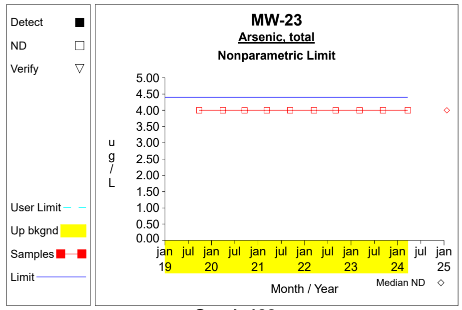


Graph 120

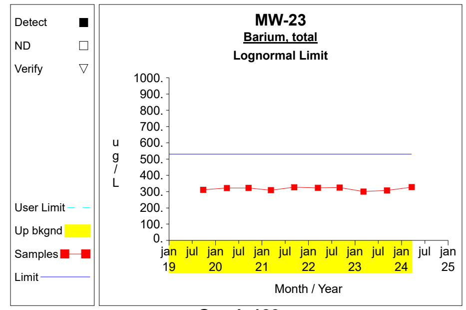
Up vs. Down Prediction Limits



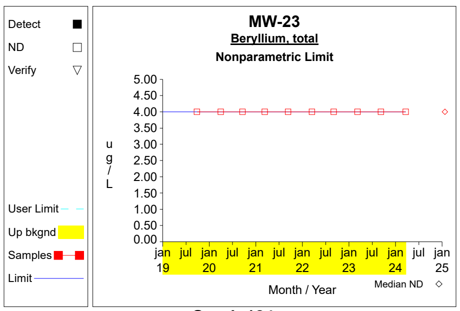
Graph 121



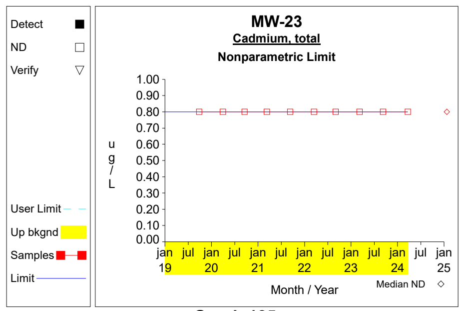
Graph 122



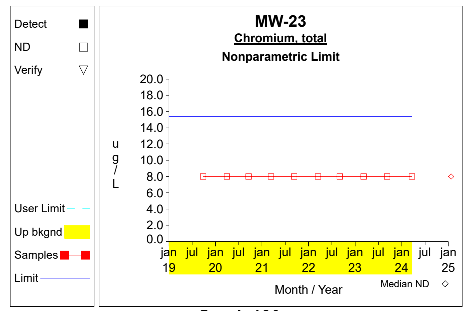
Graph 123



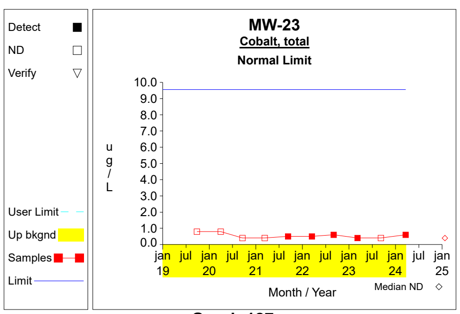
Graph 124



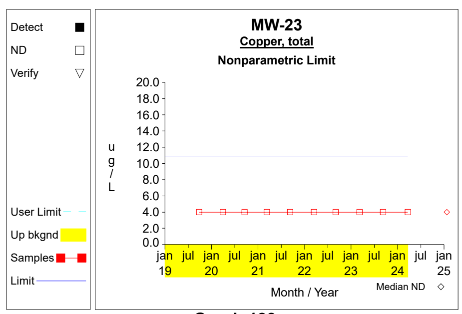
Graph 125



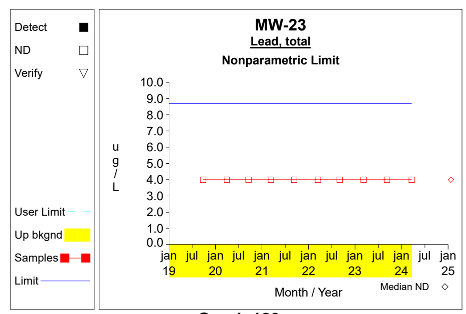
Graph 126



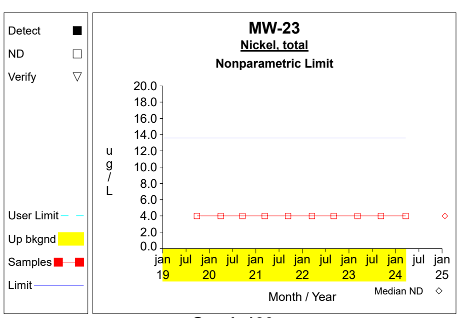
Graph 127



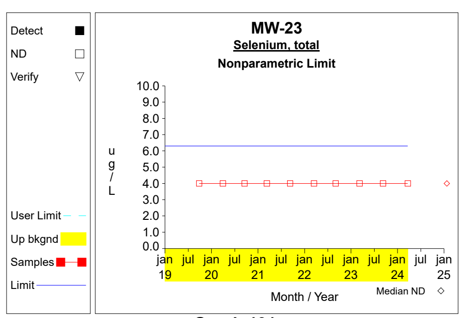
Graph 128



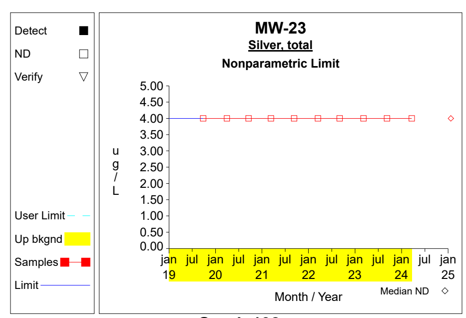
Graph 129



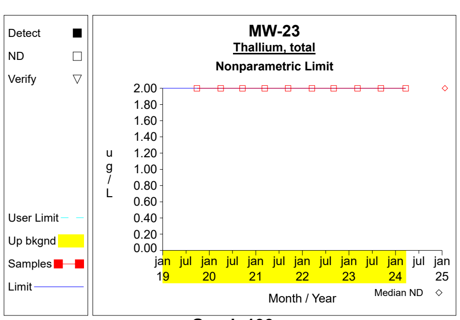
Graph 130



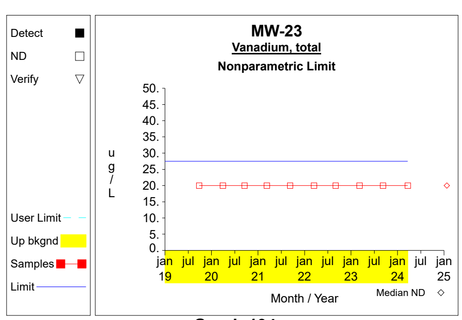
Graph 131



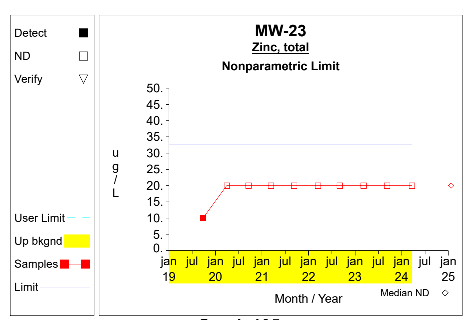
Graph 132



Graph 133

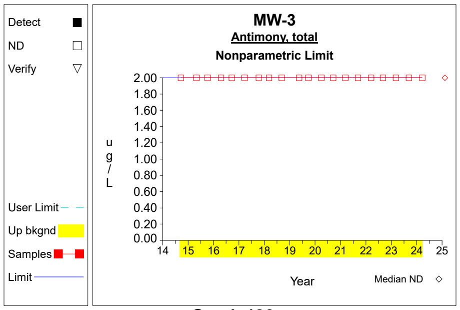


Graph 134

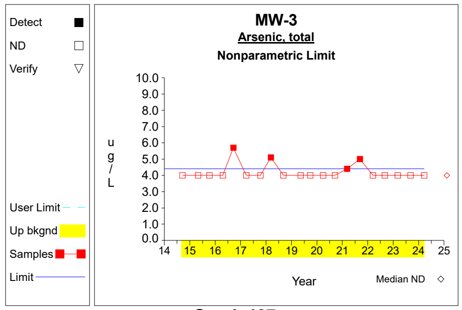


Graph 135

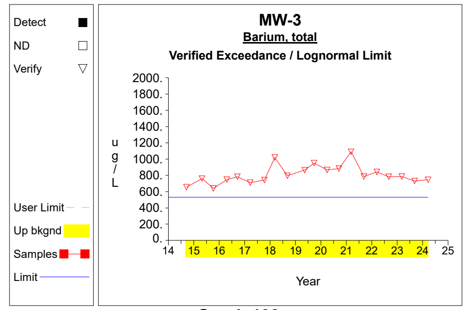
Up vs. Down Prediction Limits



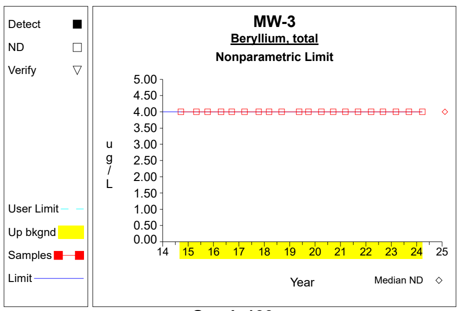
Graph 136



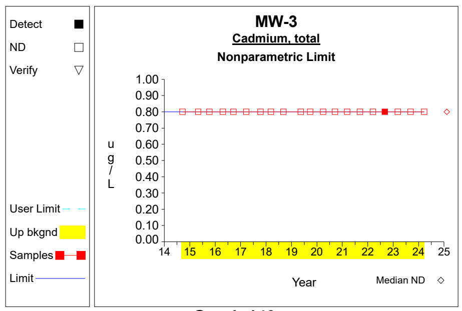
Graph 137



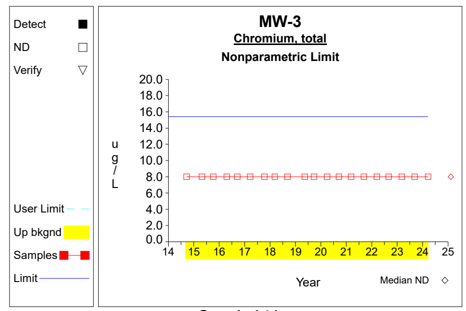
Graph 138



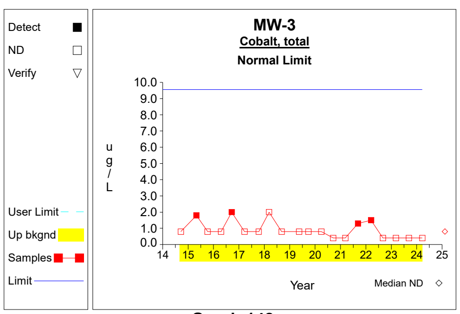
Graph 139



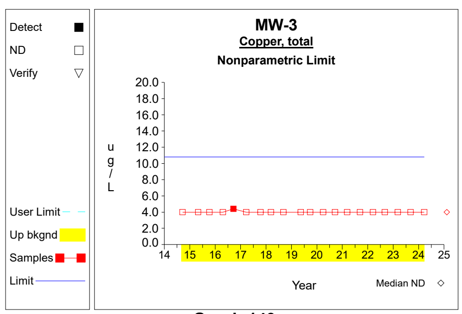
Graph 140



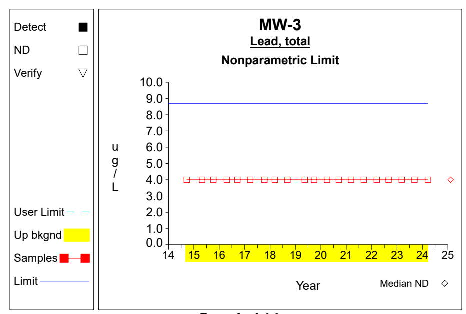
Graph 141



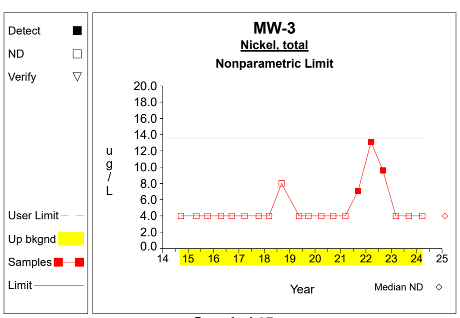
Graph 142



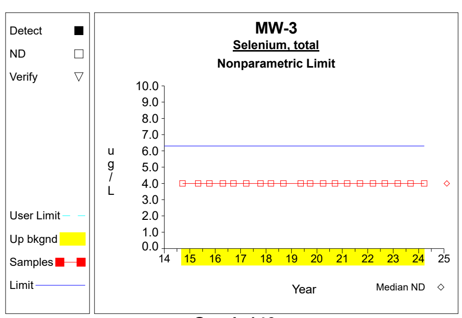
Graph 143



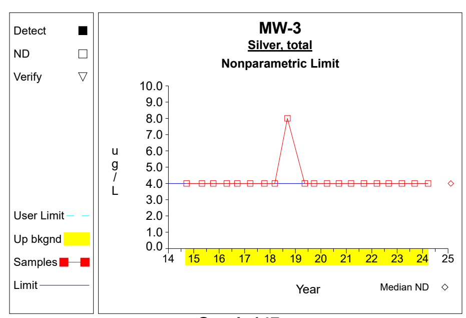
Graph 144



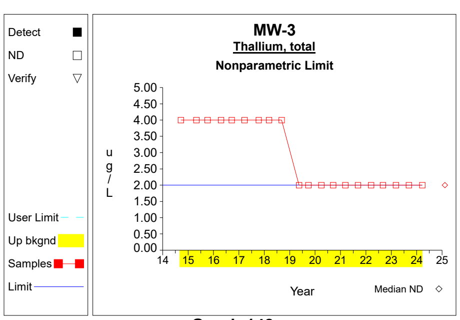
Graph 145



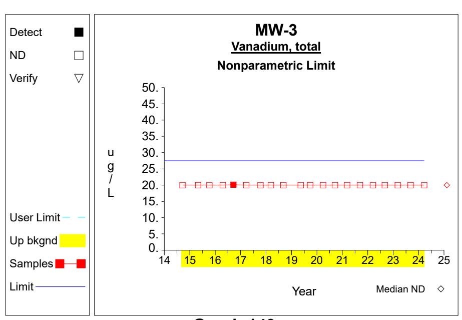
Graph 146



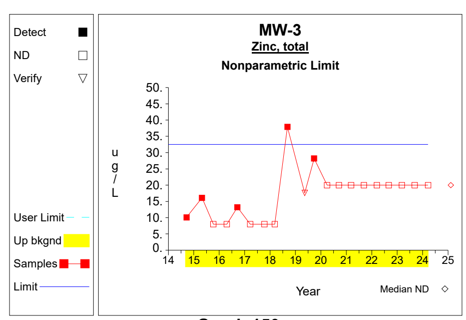
Graph 147



Graph 148

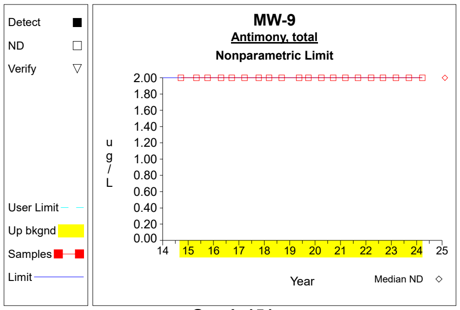


Graph 149

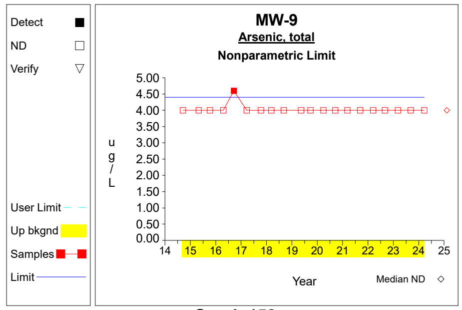


Graph 150

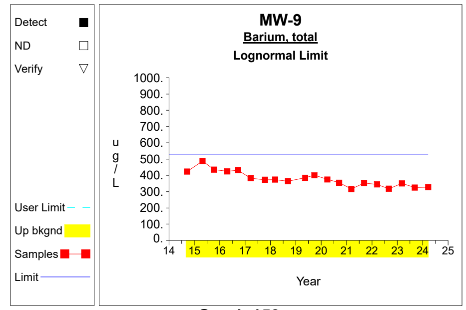
Up vs. Down Prediction Limits



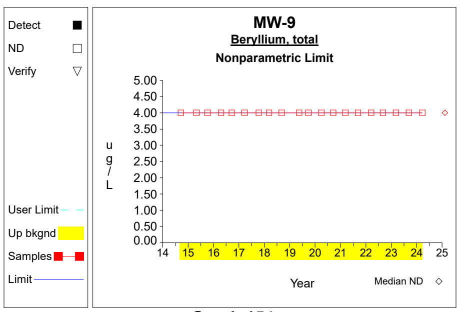
Graph 151



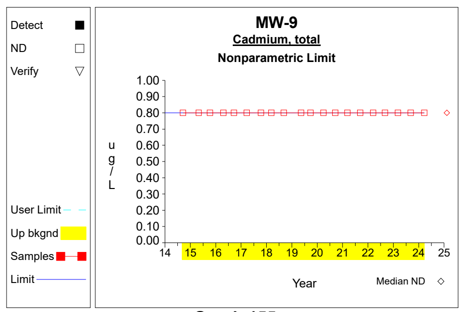
Graph 152



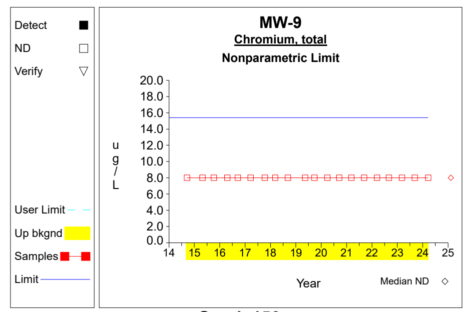
Graph 153



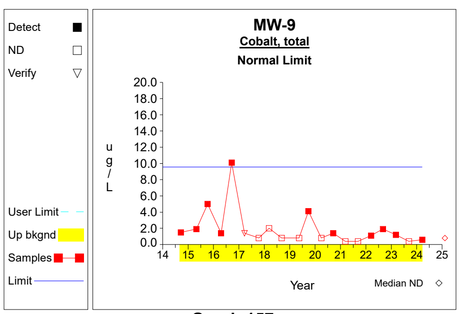
Graph 154



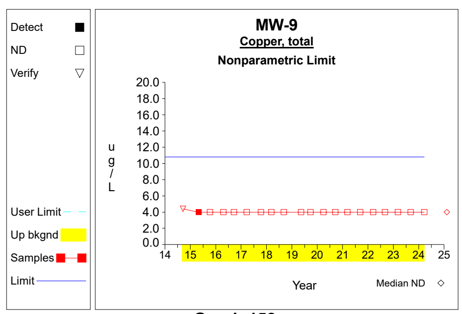
Graph 155



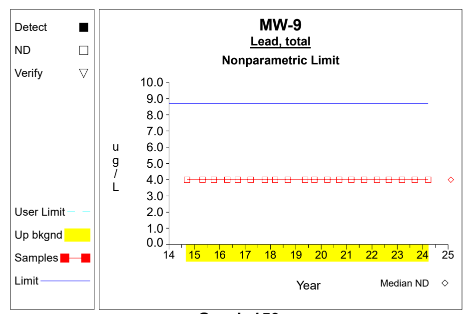
Graph 156



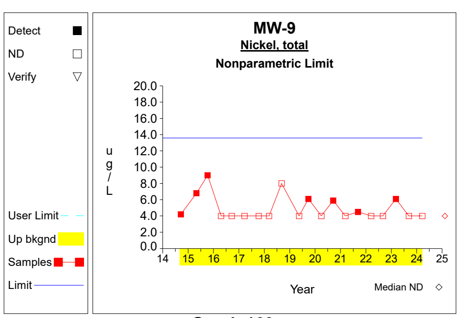
Graph 157



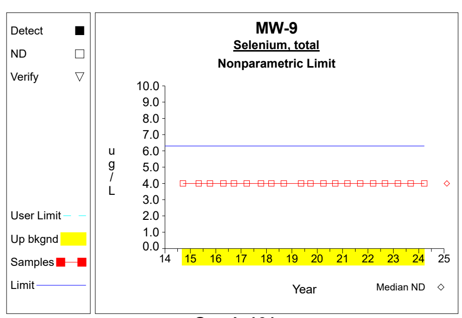
Graph 158



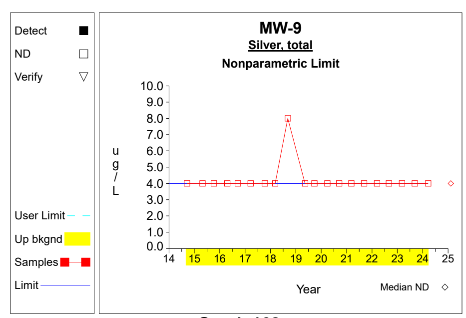
Graph 159



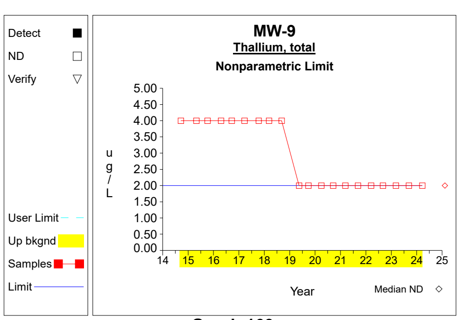
Graph 160



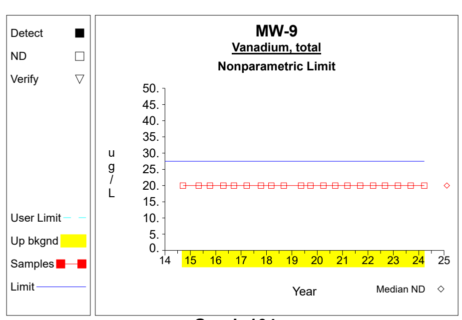
Graph 161



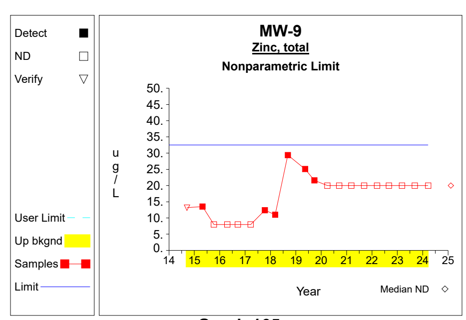
Graph 162



Graph 163

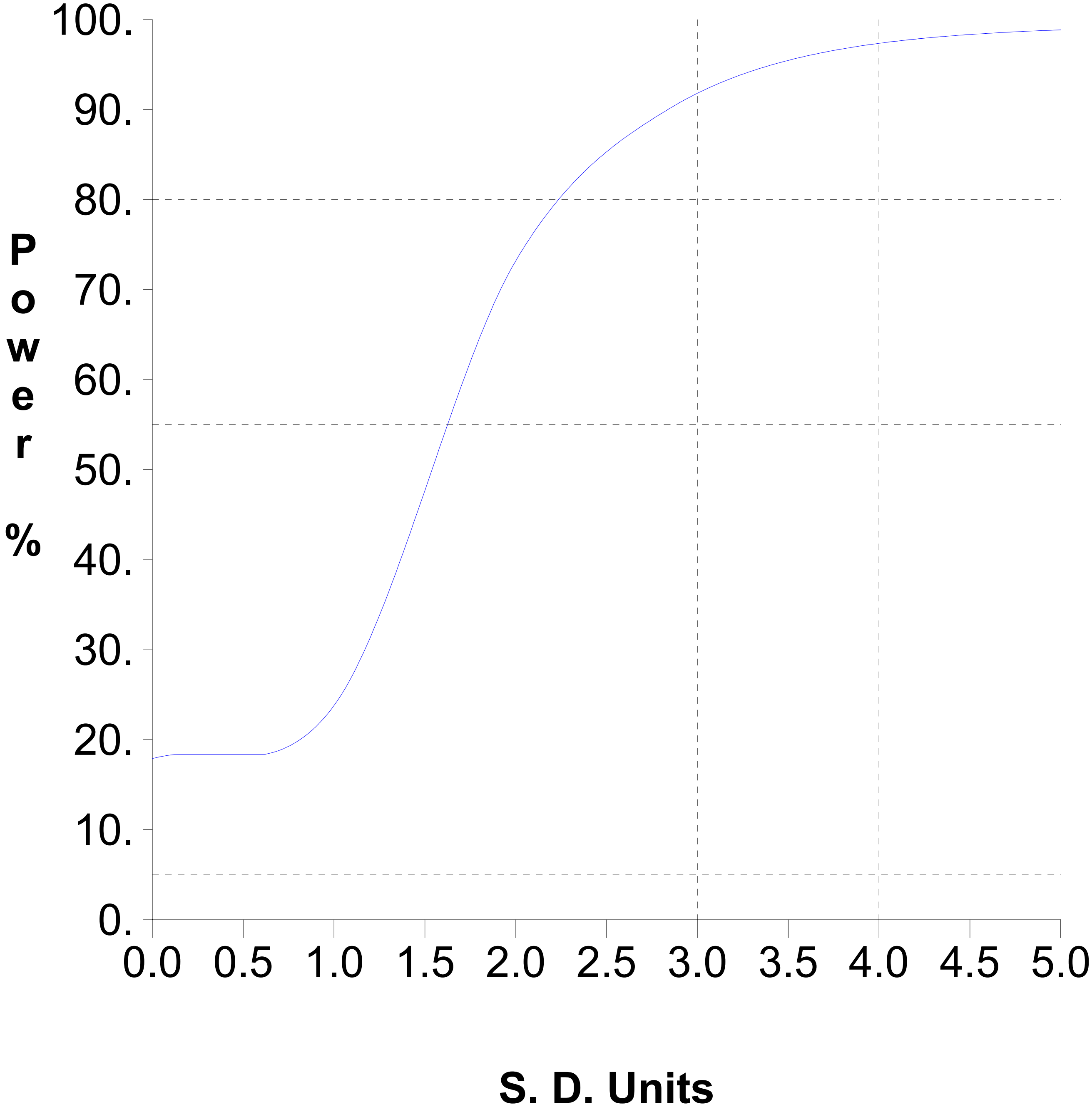


Graph 164



Graph 165

False Positive and False Negative Rates for Current Upgradient vs. Downgradient Monitoring Program



Attachment C

Assessment Statistics for Verified Trace Metal Exceedances

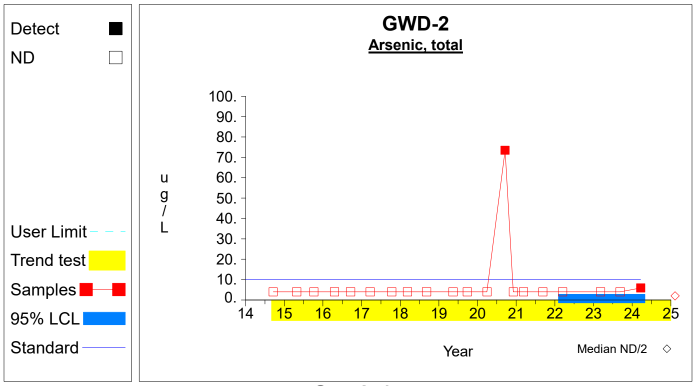
Table 1

Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

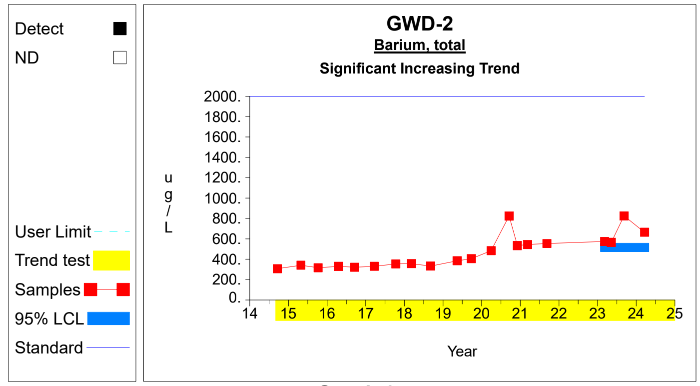
Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
Arsenic, total	ug/L	GWD-2	4	2.975	1.950	1.176	0.681	5.269	10.000		
Barium, total	ug/L	GWD-2	4	657.250	120.611	1.176	515.377	799.123	2000.000	inc	
Cobalt, total	ug/L	GWD-2	4	4.150	0.900	1.176	3.091	5.209	2.100		**
Nickel, total	ug/L	GWD-2	4	3.025	1.184	1.176	1.632	4.418	100.000		
Arsenic, total	ug/L	MW-12	4	6.800	6.561	1.176	0.000	14.518	10.000		
Barium, total	ug/L	MW-12	4	547.500	225.706	1.176	282.005	812.995	2000.000		
Cobalt, total	ug/L	MW-12	4	7.850	9.600	1.176	0.000	19.143	2.100		
Nickel, total	ug/L	MW-12	4	27.250	25.512	1.176	0.000	57.259	100.000		
Arsenic, total	ug/L	MW-15	4	2.000	0.000	1.176	2.000	2.000	10.000		
Barium, total	ug/L	MW-15	4	456.500	62.046	1.176	383.516	529.484	2000.000		
Cobalt, total	ug/L	MW-15	4	0.400	0.000	1.176	0.400	0.400	2.100		
Nickel, total	ug/L	MW-15	4	7.450	3.652	1.176	3.154	11.746	100.000	dec	
Arsenic, total	ug/L	MW-3	4	2.000	0.000	1.176	2.000	2.000	10.000		
Barium, total	ug/L	MW-3	4	761.250	27.183	1.176	729.275	793.225	2000.000	inc	
Cobalt, total	ug/L	MW-3	4	0.400	0.000	1.176	0.400	0.400	2.100		
Nickel, total	ug/L	MW-3	4	3.900	3.800	1.176	0.000	8.370	100.000		
Arsenic, total	ug/L	MW-9	4	2.000	0.000	1.176	2.000	2.000	10.000		
Barium, total	ug/L	MW-9	4	330.500	14.295	1.176	313.686	347.314	2000.000	dec	
Cobalt, total	ug/L	MW-9	4	1.425	0.655	1.176	0.654	2.196	2.100		
Nickel, total	ug/L	MW-9	4	3.025	2.050	1.176	0.614	5.436	100.000	dec	

* - Insufficient Data
** - Significant Exceedance
LCL = Lower Confidence Limit
UCL = Upper Confidence Limit

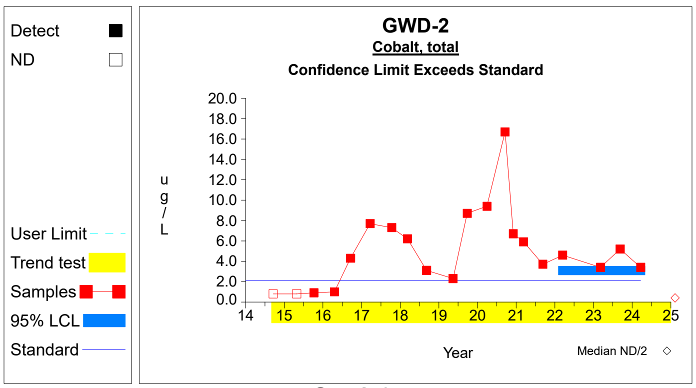
Confidence Limits (Assessment)



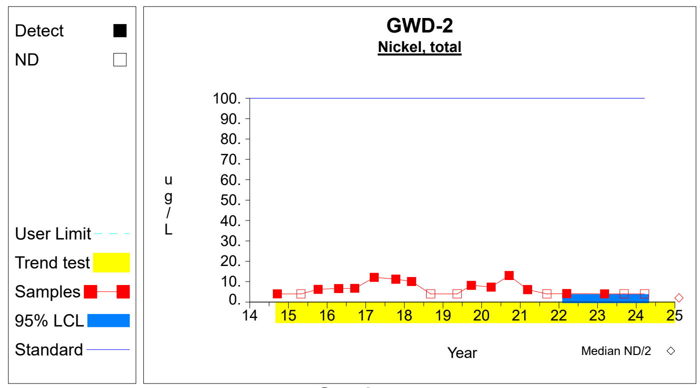
Graph 1



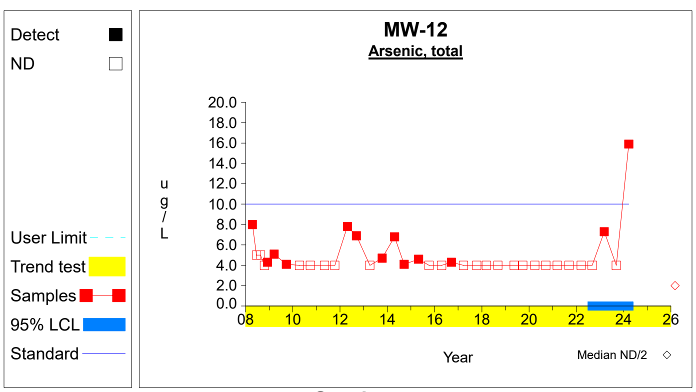
Graph 2



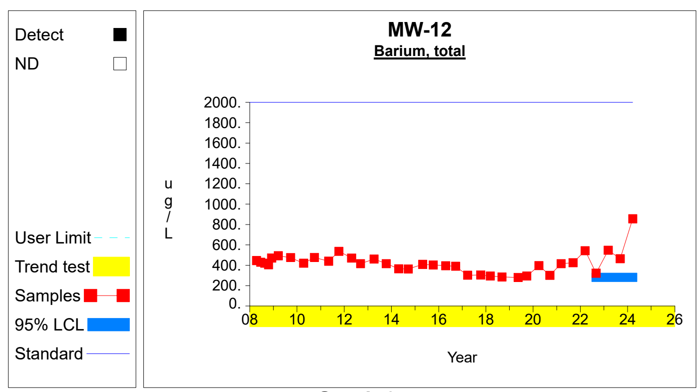
Graph 3



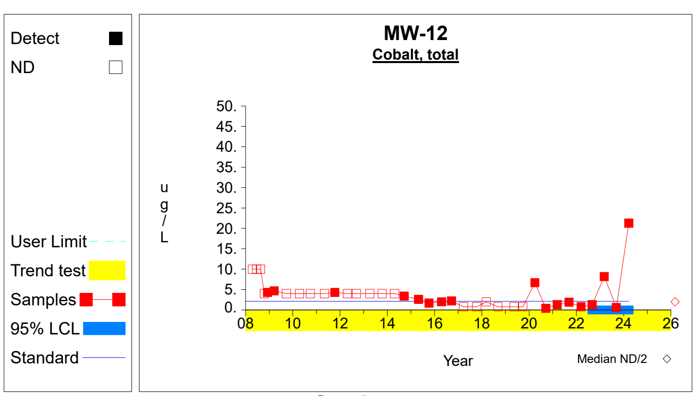
Graph 4



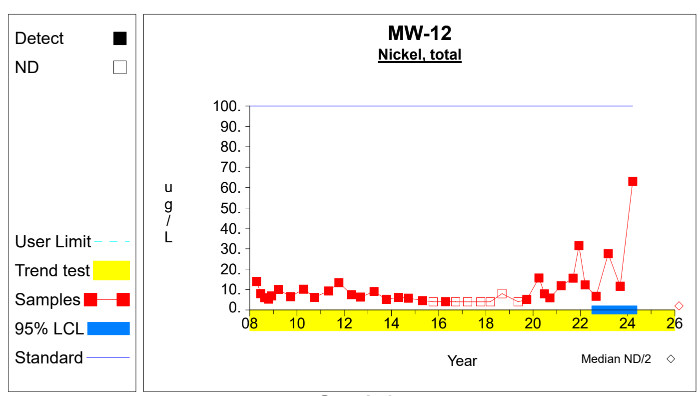
Graph 5



Graph 6



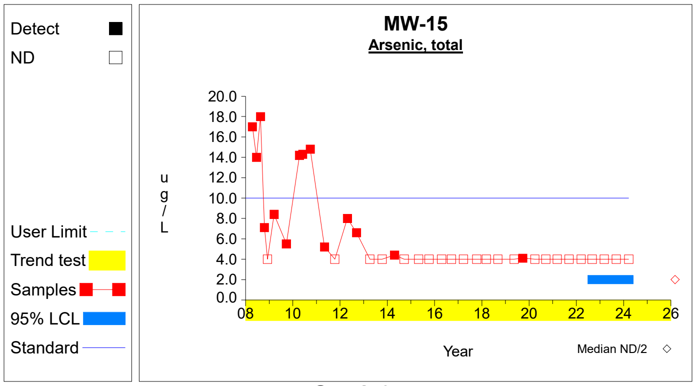
Graph 7



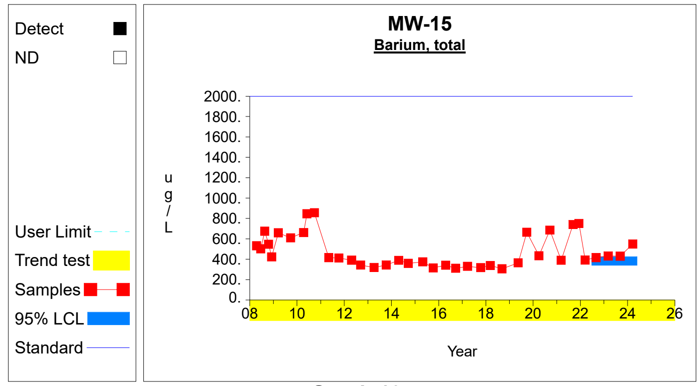
Graph 8

Prepared by: Otter Creek Environmental

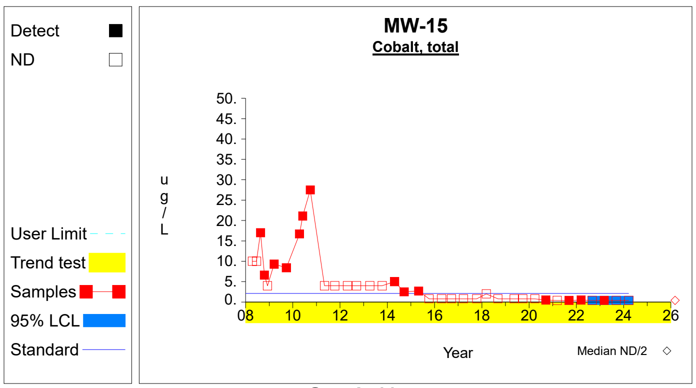
Confidence Limits (Assessment)



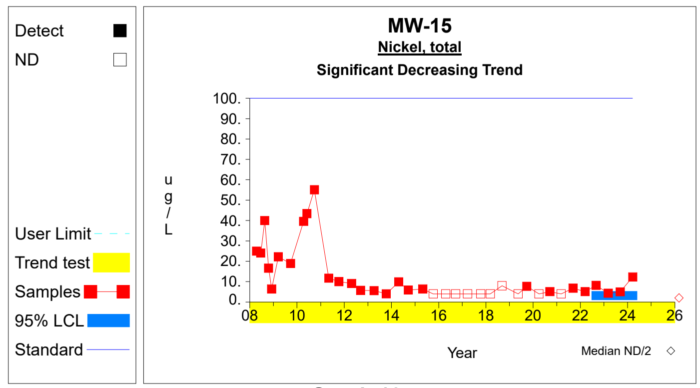
Graph 9



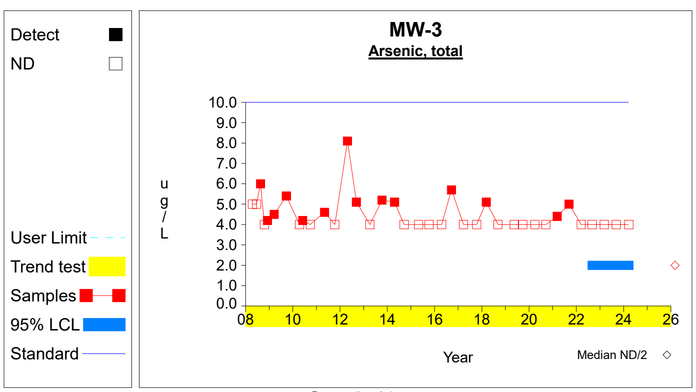
Graph 10



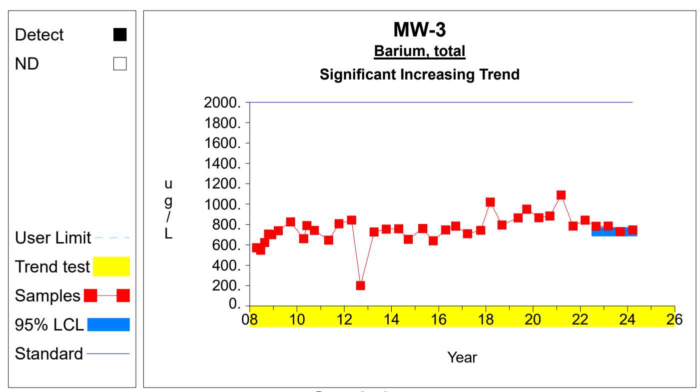
Graph 11



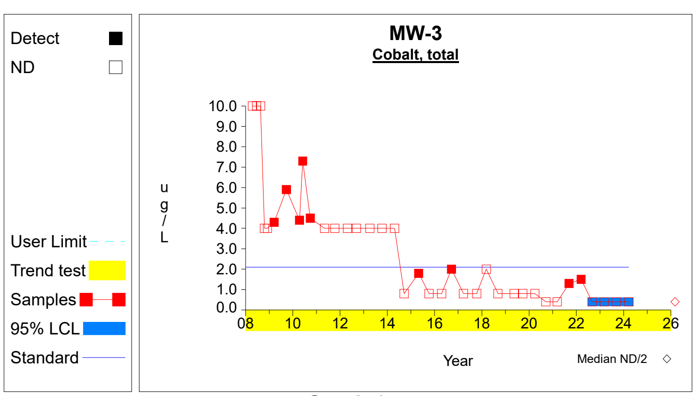
Graph 12



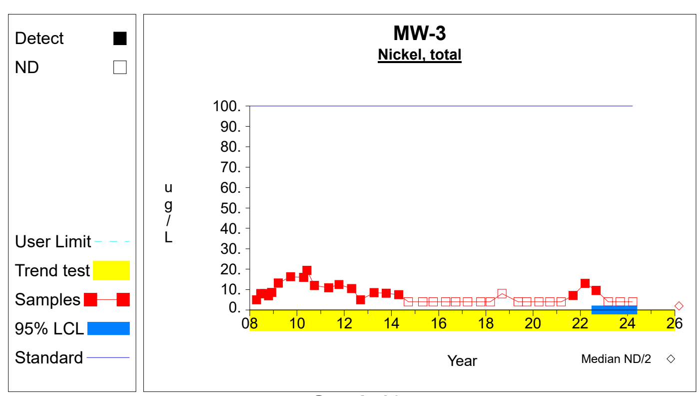
Graph 13



Graph 14

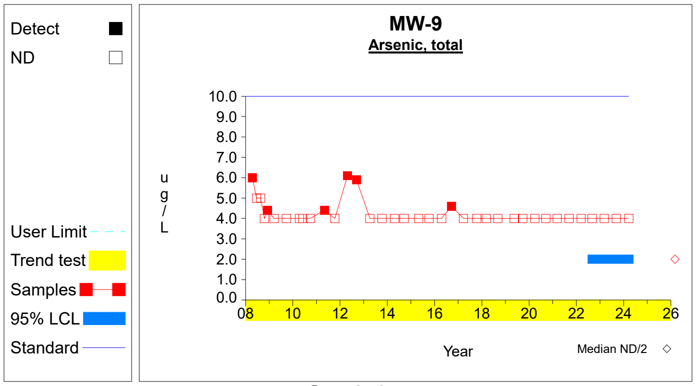


Graph 15

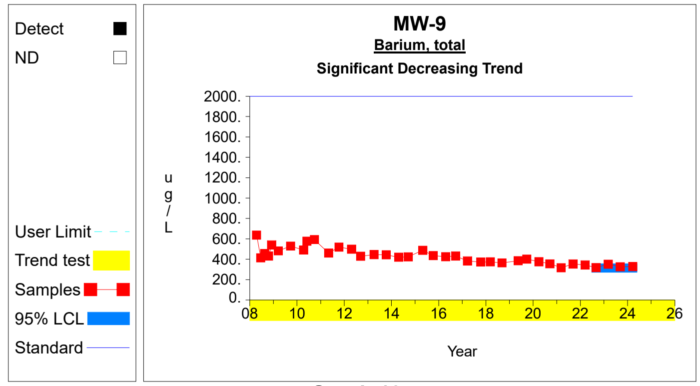


Graph 16

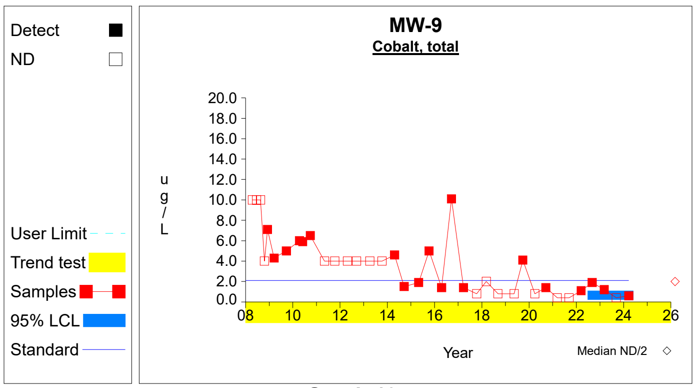
Confidence Limits (Assessment)



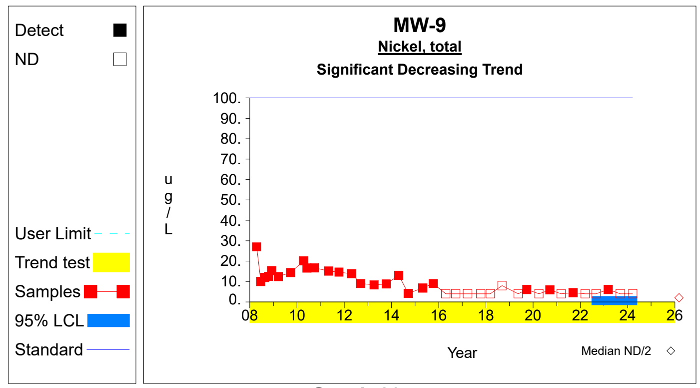
Graph 17



Graph 18



Graph 19



Graph 20

Attachment D

Summary Tables and Graphs for the Interwell Comparisons
MW-2, MW-14, MW-18, and MW-19 Background

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony, total	ug/L	MW-14	09/18/2014	ND	2.0000		
Antimony, total	ug/L	MW-14	04/29/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	10/06/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	04/19/2016	ND	2.0000		
Antimony, total	ug/L	MW-14	09/19/2016	ND	2.0000		
Antimony, total	ug/L	MW-14	03/22/2017	ND	2.0000		
Antimony, total	ug/L	MW-14	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-14	03/08/2018	ND	2.0000		
Antimony, total	ug/L	MW-14	09/06/2018	ND	2.0000		
Antimony, total	ug/L	MW-14	05/13/2019	ND	2.0000		
Antimony, total	ug/L	MW-14	09/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-14	03/30/2020	ND	2.0000		
Antimony, total	ug/L	MW-14	09/17/2020	ND	2.0000		
Antimony, total	ug/L	MW-14	03/09/2021	ND	2.0000		
Antimony, total	ug/L	MW-14	09/09/2021	ND	2.0000		
Antimony, total	ug/L	MW-14	03/14/2022	ND	2.0000		
Antimony, total	ug/L	MW-14	09/01/2022	ND	2.0000		
Antimony, total	ug/L	MW-14	03/06/2023	ND	2.0000		
Antimony, total	ug/L	MW-14	09/08/2023	ND	2.0000		
Antimony, total	ug/L	MW-14	03/20/2024	ND	2.0000		
Antimony, total	ug/L	MW-18	09/18/2014	ND	2.0000		
Antimony, total	ug/L	MW-18	04/29/2015	ND	2.0000		
Antimony, total	ug/L	MW-18	10/06/2015	ND	2.0000		
Antimony, total	ug/L	MW-18	04/19/2016	ND	2.0000		
Antimony, total	ug/L	MW-18	09/19/2016	ND	2.0000		
Antimony, total	ug/L	MW-18	03/21/2017	ND	2.0000		
Antimony, total	ug/L	MW-18	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-18	03/08/2018	ND	2.0000		
Antimony, total	ug/L	MW-18	09/06/2018	ND	2.0000		
Antimony, total	ug/L	MW-18	05/13/2019	ND	2.0000		
Antimony, total	ug/L	MW-18	09/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-18	03/30/2020	ND	2.0000		
Antimony, total	ug/L	MW-18	09/17/2020	ND	2.0000		
Antimony, total	ug/L	MW-18	03/09/2021	ND	2.0000		*
Antimony, total	ug/L	MW-18	09/09/2021	ND	2.0000		
Antimony, total	ug/L	MW-18	03/14/2022	ND	2.0000		
Antimony, total	ug/L	MW-18	09/01/2022	ND	2.0000		
Antimony, total	ug/L	MW-18	03/06/2023	ND	2.0000		
Antimony, total	ug/L	MW-18	09/08/2023	ND	2.0000		
Antimony, total	ug/L	MW-18	03/20/2024	ND	2.0000		
Antimony, total	ug/L	MW-19	09/18/2014	ND	2.0000		
Antimony, total	ug/L	MW-19	04/28/2015	ND	2.0000		
Antimony, total	ug/L	MW-19	10/06/2015	ND	2.0000		
Antimony, total	ug/L	MW-19	04/19/2016	ND	2.0000		
Antimony, total	ug/L	MW-19	09/19/2016	ND	2.0000		
Antimony, total	ug/L	MW-19	03/22/2017	ND	2.0000		
Antimony, total	ug/L	MW-19	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-19	03/08/2018	ND	2.0000		
Antimony, total	ug/L	MW-19	09/06/2018	ND	2.0000		
Antimony, total	ug/L	MW-19	05/13/2019	ND	2.0000		
Antimony, total	ug/L	MW-19	09/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-19	03/30/2020	ND	2.0000		
Antimony, total	ug/L	MW-19	09/17/2020	ND	2.0000		
Antimony, total	ug/L	MW-19	03/09/2021	ND	2.0000		
Antimony, total	ug/L	MW-19	09/09/2021	ND	2.0000		
Antimony, total	ug/L	MW-19	03/14/2022	ND	2.0000		
Antimony, total	ug/L	MW-19	03/06/2023	ND	2.0000		
Antimony, total	ug/L	MW-19	09/08/2023	ND	2.0000		
Antimony, total	ug/L	MW-19	03/20/2024	ND	2.0000		
Antimony, total	ug/L	MW-2	09/17/2014	ND	2.0000		
Antimony, total	ug/L	MW-2	04/29/2015	ND	2.0000		
Antimony, total	ug/L	MW-2	10/07/2015	ND	2.0000		
Antimony, total	ug/L	MW-2	04/19/2016	ND	2.0000		
Antimony, total	ug/L	MW-2	09/19/2016	ND	2.0000		
Antimony, total	ug/L	MW-2	03/22/2017	ND	2.0000		
Antimony, total	ug/L	MW-2	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-2	03/08/2018	ND	2.0000		
Antimony, total	ug/L	MW-2	09/06/2018	ND	2.0000		
Antimony, total	ug/L	MW-2	05/13/2019	ND	2.0000		
Antimony, total	ug/L	MW-2	09/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-2	03/30/2020	ND	2.0000		
Antimony, total	ug/L	MW-2	09/17/2020	ND	2.0000		
Antimony, total	ug/L	MW-2	03/09/2021	ND	2.0000		
Antimony, total	ug/L	MW-2	09/09/2021	ND	2.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony, total	ug/L	MW-2	03/14/2022	ND	2.0000		
Antimony, total	ug/L	MW-2	09/01/2022	ND	2.0000		
Antimony, total	ug/L	MW-2	03/06/2023	ND	2.0000		
Antimony, total	ug/L	MW-2	09/08/2023	ND	2.0000		
Antimony, total	ug/L	MW-2	03/20/2024	ND	2.0000		
Arsenic, total	ug/L	MW-14	09/18/2014	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/29/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/06/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/19/2016	ND	4.0000		
Arsenic, total	ug/L	MW-14	09/19/2016	ND	4.0000		
Arsenic, total	ug/L	MW-14	03/22/2017	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-14	03/08/2018	ND	4.0000		
Arsenic, total	ug/L	MW-14	09/06/2018	ND	4.0000		
Arsenic, total	ug/L	MW-14	05/13/2019	ND	4.0000		
Arsenic, total	ug/L	MW-14	09/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-14	03/30/2020	ND	4.0000		
Arsenic, total	ug/L	MW-14	09/17/2020	ND	4.0000		
Arsenic, total	ug/L	MW-14	03/09/2021	ND	4.0000		
Arsenic, total	ug/L	MW-14	09/09/2021	ND	4.0000		
Arsenic, total	ug/L	MW-14	03/14/2022	ND	4.0000		
Arsenic, total	ug/L	MW-14	09/01/2022	ND	4.0000		
Arsenic, total	ug/L	MW-14	03/06/2023	ND	4.0000		
Arsenic, total	ug/L	MW-14	09/08/2023	ND	4.0000		
Arsenic, total	ug/L	MW-14	03/20/2024	ND	4.0000		
Arsenic, total	ug/L	MW-18	09/18/2014	ND	4.0000		
Arsenic, total	ug/L	MW-18	04/29/2015	ND	4.0000		
Arsenic, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Arsenic, total	ug/L	MW-18	04/19/2016	ND	4.0000		
Arsenic, total	ug/L	MW-18	09/19/2016		4.4000		
Arsenic, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Arsenic, total	ug/L	MW-18	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-18	03/08/2018	ND	4.0000		
Arsenic, total	ug/L	MW-18	09/06/2018	ND	4.0000		
Arsenic, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Arsenic, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-18	03/30/2020	ND	4.0000		
Arsenic, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Arsenic, total	ug/L	MW-18	03/09/2021		19.9000		*
Arsenic, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Arsenic, total	ug/L	MW-18	03/14/2022		7.8000		*
Arsenic, total	ug/L	MW-18	09/01/2022	ND	4.0000		
Arsenic, total	ug/L	MW-18	03/06/2023	ND	4.0000		
Arsenic, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Arsenic, total	ug/L	MW-18	03/20/2024	ND	4.0000		
Arsenic, total	ug/L	MW-19	09/18/2014	ND	4.0000		
Arsenic, total	ug/L	MW-19	04/28/2015	ND	4.0000		
Arsenic, total	ug/L	MW-19	10/06/2015		6.0000		
Arsenic, total	ug/L	MW-19	04/19/2016	ND	4.0000		
Arsenic, total	ug/L	MW-19	09/19/2016		6.1000		
Arsenic, total	ug/L	MW-19	03/22/2017	ND	4.0000		
Arsenic, total	ug/L	MW-19	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-19	03/08/2018	ND	4.0000		
Arsenic, total	ug/L	MW-19	09/06/2018	ND	4.0000		
Arsenic, total	ug/L	MW-19	05/13/2019	ND	4.0000		
Arsenic, total	ug/L	MW-19	09/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-19	03/30/2020	ND	4.0000		
Arsenic, total	ug/L	MW-19	09/17/2020	ND	4.0000		
Arsenic, total	ug/L	MW-19	03/09/2021	ND	4.0000		
Arsenic, total	ug/L	MW-19	09/09/2021	ND	4.0000		
Arsenic, total	ug/L	MW-19	03/14/2022	ND	4.0000		
Arsenic, total	ug/L	MW-19	03/06/2023	ND	4.0000		
Arsenic, total	ug/L	MW-19	09/08/2023	ND	4.0000		
Arsenic, total	ug/L	MW-19	03/20/2024	ND	4.0000		
Arsenic, total	ug/L	MW-2	09/17/2014	ND	4.0000		
Arsenic, total	ug/L	MW-2	04/29/2015	ND	4.0000		
Arsenic, total	ug/L	MW-2	10/07/2015	ND	4.0000		
Arsenic, total	ug/L	MW-2	04/19/2016	ND	4.0000		
Arsenic, total	ug/L	MW-2	09/19/2016	ND	4.0000		
Arsenic, total	ug/L	MW-2	03/22/2017	ND	4.0000		
Arsenic, total	ug/L	MW-2	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-2	03/08/2018	ND	4.0000		
Arsenic, total	ug/L	MW-2	09/06/2018	ND	4.0000		
Arsenic, total	ug/L	MW-2	05/13/2019	ND	4.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Arsenic, total	ug/L	MW-2	09/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-2	03/30/2020	ND	4.0000		
Arsenic, total	ug/L	MW-2	09/17/2020	ND	4.0000		
Arsenic, total	ug/L	MW-2	03/09/2021	ND	4.0000		
Arsenic, total	ug/L	MW-2	09/09/2021	ND	4.0000		
Arsenic, total	ug/L	MW-2	03/14/2022	ND	4.0000		
Arsenic, total	ug/L	MW-2	09/01/2022	ND	4.0000		
Arsenic, total	ug/L	MW-2	03/06/2023	ND	4.0000		
Arsenic, total	ug/L	MW-2	09/08/2023	ND	4.0000		
Arsenic, total	ug/L	MW-2	03/20/2024	ND	4.0000		
Barium, total	ug/L	MW-14	09/18/2014		277.0000		
Barium, total	ug/L	MW-14	04/29/2015		290.0000		
Barium, total	ug/L	MW-14	10/06/2015		273.0000		
Barium, total	ug/L	MW-14	04/19/2016		272.0000		
Barium, total	ug/L	MW-14	09/19/2016		272.0000		
Barium, total	ug/L	MW-14	03/22/2017		255.0000		
Barium, total	ug/L	MW-14	10/12/2017		257.0000		
Barium, total	ug/L	MW-14	03/08/2018		265.0000		
Barium, total	ug/L	MW-14	09/06/2018		242.0000		
Barium, total	ug/L	MW-14	05/13/2019		247.0000		
Barium, total	ug/L	MW-14	09/26/2019		255.0000		
Barium, total	ug/L	MW-14	03/30/2020		259.0000		
Barium, total	ug/L	MW-14	09/17/2020		410.0000		
Barium, total	ug/L	MW-14	03/09/2021		249.0000		
Barium, total	ug/L	MW-14	09/09/2021		265.0000		
Barium, total	ug/L	MW-14	03/14/2022		243.0000		
Barium, total	ug/L	MW-14	09/01/2022		259.0000		
Barium, total	ug/L	MW-14	03/06/2023		258.0000		
Barium, total	ug/L	MW-14	09/08/2023		243.0000		
Barium, total	ug/L	MW-14	03/20/2024		248.0000		
Barium, total	ug/L	MW-18	09/18/2014		333.0000		
Barium, total	ug/L	MW-18	04/29/2015		402.0000		
Barium, total	ug/L	MW-18	10/06/2015		355.0000		
Barium, total	ug/L	MW-18	04/19/2016		360.0000		
Barium, total	ug/L	MW-18	09/19/2016		439.0000		
Barium, total	ug/L	MW-18	03/21/2017		295.0000		
Barium, total	ug/L	MW-18	10/12/2017		554.0000		
Barium, total	ug/L	MW-18	03/08/2018		373.0000		
Barium, total	ug/L	MW-18	09/06/2018		352.0000		
Barium, total	ug/L	MW-18	05/13/2019		368.0000		
Barium, total	ug/L	MW-18	09/26/2019		372.0000		
Barium, total	ug/L	MW-18	03/30/2020		418.0000		
Barium, total	ug/L	MW-18	09/17/2020		365.0000		
Barium, total	ug/L	MW-18	03/09/2021		1250.0000		*
Barium, total	ug/L	MW-18	06/03/2021		355.0000		
Barium, total	ug/L	MW-18	09/09/2021		361.0000		
Barium, total	ug/L	MW-18	03/14/2022		651.0000		*
Barium, total	ug/L	MW-18	09/01/2022		400.0000		
Barium, total	ug/L	MW-18	03/06/2023		407.0000		
Barium, total	ug/L	MW-18	09/08/2023		327.0000		
Barium, total	ug/L	MW-18	03/20/2024		378.0000		
Barium, total	ug/L	MW-19	09/18/2014		380.0000		
Barium, total	ug/L	MW-19	04/28/2015		459.0000		
Barium, total	ug/L	MW-19	10/06/2015		431.0000		
Barium, total	ug/L	MW-19	04/19/2016		416.0000		
Barium, total	ug/L	MW-19	09/19/2016		503.0000		
Barium, total	ug/L	MW-19	03/22/2017		346.0000		
Barium, total	ug/L	MW-19	10/12/2017		343.0000		
Barium, total	ug/L	MW-19	03/08/2018		401.0000		
Barium, total	ug/L	MW-19	09/06/2018		361.0000		
Barium, total	ug/L	MW-19	05/13/2019		418.0000		
Barium, total	ug/L	MW-19	09/26/2019		409.0000		
Barium, total	ug/L	MW-19	03/30/2020		366.0000		
Barium, total	ug/L	MW-19	09/17/2020		614.0000		
Barium, total	ug/L	MW-19	03/09/2021		393.0000		
Barium, total	ug/L	MW-19	09/09/2021		402.0000		
Barium, total	ug/L	MW-19	03/14/2022		359.0000		
Barium, total	ug/L	MW-19	03/06/2023		336.0000		
Barium, total	ug/L	MW-19	09/08/2023		373.0000		
Barium, total	ug/L	MW-19	03/20/2024		26.9000		*
Barium, total	ug/L	MW-2	09/17/2014		204.0000		
Barium, total	ug/L	MW-2	04/29/2015		258.0000		
Barium, total	ug/L	MW-2	10/07/2015		182.0000		
Barium, total	ug/L	MW-2	04/19/2016		291.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Barium, total	ug/L	MW-2	09/19/2016		263.0000		
Barium, total	ug/L	MW-2	03/22/2017		177.0000		
Barium, total	ug/L	MW-2	10/12/2017		276.0000		
Barium, total	ug/L	MW-2	03/08/2018		173.0000		
Barium, total	ug/L	MW-2	09/06/2018		160.0000		
Barium, total	ug/L	MW-2	05/13/2019		172.0000		
Barium, total	ug/L	MW-2	09/26/2019		175.0000		
Barium, total	ug/L	MW-2	03/30/2020		169.0000		
Barium, total	ug/L	MW-2	09/17/2020		156.0000		
Barium, total	ug/L	MW-2	03/09/2021		174.0000		
Barium, total	ug/L	MW-2	09/09/2021		164.0000		
Barium, total	ug/L	MW-2	03/14/2022		162.0000		
Barium, total	ug/L	MW-2	09/01/2022		153.0000		
Barium, total	ug/L	MW-2	03/06/2023		157.0000		
Barium, total	ug/L	MW-2	09/08/2023		176.0000		
Barium, total	ug/L	MW-2	03/20/2024		219.0000		
Beryllium, total	ug/L	MW-14	09/18/2014	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/29/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/06/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/19/2016	ND	4.0000		
Beryllium, total	ug/L	MW-14	09/19/2016	ND	4.0000		
Beryllium, total	ug/L	MW-14	03/22/2017	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-14	03/08/2018	ND	4.0000		
Beryllium, total	ug/L	MW-14	09/06/2018	ND	4.0000		
Beryllium, total	ug/L	MW-14	05/13/2019	ND	4.0000		
Beryllium, total	ug/L	MW-14	09/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-14	03/30/2020	ND	4.0000		
Beryllium, total	ug/L	MW-14	09/17/2020	ND	4.0000		
Beryllium, total	ug/L	MW-14	03/09/2021	ND	4.0000		
Beryllium, total	ug/L	MW-14	09/09/2021	ND	4.0000		
Beryllium, total	ug/L	MW-14	03/14/2022	ND	4.0000		
Beryllium, total	ug/L	MW-14	09/01/2022	ND	4.0000		
Beryllium, total	ug/L	MW-14	03/06/2023	ND	4.0000		
Beryllium, total	ug/L	MW-14	09/08/2023	ND	4.0000		
Beryllium, total	ug/L	MW-14	03/20/2024	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/18/2014	ND	4.0000		
Beryllium, total	ug/L	MW-18	04/29/2015	ND	4.0000		
Beryllium, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Beryllium, total	ug/L	MW-18	04/19/2016	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/19/2016	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Beryllium, total	ug/L	MW-18	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/08/2018	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/06/2018	ND	4.0000		
Beryllium, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/30/2020	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/09/2021		4.5000		*
Beryllium, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/14/2022	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/01/2022	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/06/2023	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/20/2024	ND	4.0000		
Beryllium, total	ug/L	MW-19	09/18/2014	ND	4.0000		
Beryllium, total	ug/L	MW-19	04/28/2015	ND	4.0000		
Beryllium, total	ug/L	MW-19	10/06/2015	ND	4.0000		
Beryllium, total	ug/L	MW-19	04/19/2016	ND	4.0000		
Beryllium, total	ug/L	MW-19	09/19/2016	ND	4.0000		
Beryllium, total	ug/L	MW-19	03/22/2017	ND	4.0000		
Beryllium, total	ug/L	MW-19	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-19	03/08/2018	ND	4.0000		
Beryllium, total	ug/L	MW-19	09/06/2018	ND	4.0000		
Beryllium, total	ug/L	MW-19	05/13/2019	ND	4.0000		
Beryllium, total	ug/L	MW-19	09/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-19	03/30/2020	ND	4.0000		
Beryllium, total	ug/L	MW-19	09/17/2020	ND	4.0000		
Beryllium, total	ug/L	MW-19	03/09/2021	ND	4.0000		
Beryllium, total	ug/L	MW-19	09/09/2021	ND	4.0000		
Beryllium, total	ug/L	MW-19	03/14/2022	ND	4.0000		
Beryllium, total	ug/L	MW-19	03/06/2023	ND	4.0000		
Beryllium, total	ug/L	MW-19	09/08/2023	ND	4.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Beryllium, total	ug/L	MW-19	03/20/2024	ND	4.0000		
Beryllium, total	ug/L	MW-2	09/17/2014	ND	4.0000		
Beryllium, total	ug/L	MW-2	04/29/2015	ND	4.0000		
Beryllium, total	ug/L	MW-2	10/07/2015	ND	4.0000		
Beryllium, total	ug/L	MW-2	04/19/2016	ND	4.0000		
Beryllium, total	ug/L	MW-2	09/19/2016	ND	4.0000		
Beryllium, total	ug/L	MW-2	03/22/2017	ND	4.0000		
Beryllium, total	ug/L	MW-2	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-2	03/08/2018	ND	4.0000		
Beryllium, total	ug/L	MW-2	09/06/2018	ND	4.0000		
Beryllium, total	ug/L	MW-2	05/13/2019	ND	4.0000		
Beryllium, total	ug/L	MW-2	09/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-2	03/30/2020	ND	4.0000		
Beryllium, total	ug/L	MW-2	09/17/2020	ND	4.0000		
Beryllium, total	ug/L	MW-2	03/09/2021	ND	4.0000		
Beryllium, total	ug/L	MW-2	09/09/2021	ND	4.0000		
Beryllium, total	ug/L	MW-2	03/14/2022	ND	4.0000		
Beryllium, total	ug/L	MW-2	09/01/2022	ND	4.0000		
Beryllium, total	ug/L	MW-2	03/06/2023	ND	4.0000		
Beryllium, total	ug/L	MW-2	09/08/2023	ND	4.0000		
Beryllium, total	ug/L	MW-2	03/20/2024	ND	4.0000		
Cadmium, total	ug/L	MW-14	09/18/2014	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/29/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/06/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/19/2016	ND	0.8000		
Cadmium, total	ug/L	MW-14	09/19/2016	ND	0.8000		
Cadmium, total	ug/L	MW-14	03/22/2017	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-14	03/08/2018	ND	0.8000		
Cadmium, total	ug/L	MW-14	09/06/2018	ND	0.8000		
Cadmium, total	ug/L	MW-14	05/13/2019	ND	0.8000		
Cadmium, total	ug/L	MW-14	09/26/2019		1.0000		
Cadmium, total	ug/L	MW-14	03/30/2020	ND	0.8000		
Cadmium, total	ug/L	MW-14	09/17/2020	ND	0.8000		
Cadmium, total	ug/L	MW-14	03/09/2021	ND	0.8000		
Cadmium, total	ug/L	MW-14	09/09/2021	ND	0.8000		
Cadmium, total	ug/L	MW-14	03/14/2022	ND	0.8000		
Cadmium, total	ug/L	MW-14	09/01/2022	ND	0.8000		
Cadmium, total	ug/L	MW-14	03/06/2023	ND	0.8000		
Cadmium, total	ug/L	MW-14	09/08/2023	ND	0.8000		
Cadmium, total	ug/L	MW-14	03/20/2024	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/18/2014	ND	0.8000		
Cadmium, total	ug/L	MW-18	04/29/2015	ND	0.8000		
Cadmium, total	ug/L	MW-18	10/06/2015	ND	0.8000		
Cadmium, total	ug/L	MW-18	04/19/2016	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/19/2016	ND	0.8000		
Cadmium, total	ug/L	MW-18	03/21/2017	ND	0.8000		
Cadmium, total	ug/L	MW-18	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-18	03/08/2018	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/06/2018	ND	0.8000		
Cadmium, total	ug/L	MW-18	05/13/2019	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/26/2019	ND	0.8000		
Cadmium, total	ug/L	MW-18	03/30/2020	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/17/2020	ND	0.8000		
Cadmium, total	ug/L	MW-18	03/09/2021		1.4000		*
Cadmium, total	ug/L	MW-18	09/09/2021		0.8000		
Cadmium, total	ug/L	MW-18	03/14/2022	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/01/2022	ND	0.8000		
Cadmium, total	ug/L	MW-18	03/06/2023	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/08/2023	ND	0.8000		
Cadmium, total	ug/L	MW-18	03/20/2024	ND	0.8000		
Cadmium, total	ug/L	MW-19	09/18/2014	ND	0.8000		
Cadmium, total	ug/L	MW-19	04/28/2015	ND	0.8000		
Cadmium, total	ug/L	MW-19	10/06/2015	ND	0.8000		
Cadmium, total	ug/L	MW-19	04/19/2016	ND	0.8000		
Cadmium, total	ug/L	MW-19	09/19/2016	ND	0.8000		
Cadmium, total	ug/L	MW-19	03/22/2017	ND	0.8000		
Cadmium, total	ug/L	MW-19	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-19	03/08/2018	ND	0.8000		
Cadmium, total	ug/L	MW-19	09/06/2018	ND	0.8000		
Cadmium, total	ug/L	MW-19	05/13/2019	ND	0.8000		
Cadmium, total	ug/L	MW-19	09/26/2019		1.0000		
Cadmium, total	ug/L	MW-19	03/30/2020	ND	0.8000		
Cadmium, total	ug/L	MW-19	09/17/2020	ND	0.8000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Cadmium, total	ug/L	MW-19	03/09/2021	ND	0.8000		
Cadmium, total	ug/L	MW-19	09/09/2021	ND	0.8000		
Cadmium, total	ug/L	MW-19	03/14/2022	ND	0.8000		
Cadmium, total	ug/L	MW-19	03/06/2023	ND	0.8000		
Cadmium, total	ug/L	MW-19	09/08/2023	ND	0.8000		
Cadmium, total	ug/L	MW-19	03/20/2024	ND	0.8000		
Cadmium, total	ug/L	MW-2	09/17/2014	ND	0.8000		
Cadmium, total	ug/L	MW-2	04/29/2015	ND	0.8000		
Cadmium, total	ug/L	MW-2	10/07/2015		0.8000		
Cadmium, total	ug/L	MW-2	04/19/2016	ND	0.8000		
Cadmium, total	ug/L	MW-2	09/19/2016	ND	0.8000		
Cadmium, total	ug/L	MW-2	03/22/2017		1.0000		
Cadmium, total	ug/L	MW-2	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-2	03/08/2018		0.8000		
Cadmium, total	ug/L	MW-2	09/06/2018	ND	0.8000		
Cadmium, total	ug/L	MW-2	05/13/2019		0.8000		
Cadmium, total	ug/L	MW-2	09/26/2019	ND	0.8000		
Cadmium, total	ug/L	MW-2	03/30/2020	ND	0.8000		
Cadmium, total	ug/L	MW-2	09/17/2020	ND	0.8000		
Cadmium, total	ug/L	MW-2	03/09/2021		0.9000		
Cadmium, total	ug/L	MW-2	09/09/2021		0.8000		
Cadmium, total	ug/L	MW-2	03/14/2022	ND	0.8000		
Cadmium, total	ug/L	MW-2	09/01/2022	ND	0.8000		
Cadmium, total	ug/L	MW-2	03/06/2023		0.9000		
Cadmium, total	ug/L	MW-2	09/08/2023		0.8000		
Cadmium, total	ug/L	MW-2	03/20/2024	ND	0.8000		
Chromium, total	ug/L	MW-14	09/18/2014	ND	8.0000		
Chromium, total	ug/L	MW-14	04/29/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	10/06/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	04/19/2016	ND	8.0000		
Chromium, total	ug/L	MW-14	09/19/2016	ND	8.0000		
Chromium, total	ug/L	MW-14	03/22/2017	ND	8.0000		
Chromium, total	ug/L	MW-14	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-14	03/08/2018	ND	8.0000		
Chromium, total	ug/L	MW-14	09/06/2018	ND	8.0000		
Chromium, total	ug/L	MW-14	05/13/2019	ND	8.0000		
Chromium, total	ug/L	MW-14	09/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-14	03/30/2020	ND	8.0000		
Chromium, total	ug/L	MW-14	09/17/2020	ND	8.0000		
Chromium, total	ug/L	MW-14	03/09/2021	ND	8.0000		
Chromium, total	ug/L	MW-14	09/09/2021	ND	8.0000		
Chromium, total	ug/L	MW-14	03/14/2022	ND	8.0000		
Chromium, total	ug/L	MW-14	09/01/2022	ND	8.0000		
Chromium, total	ug/L	MW-14	03/06/2023	ND	8.0000		
Chromium, total	ug/L	MW-14	09/08/2023	ND	8.0000		
Chromium, total	ug/L	MW-14	03/20/2024	ND	8.0000		
Chromium, total	ug/L	MW-18	09/18/2014	ND	8.0000		
Chromium, total	ug/L	MW-18	04/29/2015	ND	8.0000		
Chromium, total	ug/L	MW-18	10/06/2015	ND	8.0000		
Chromium, total	ug/L	MW-18	04/19/2016	ND	8.0000		
Chromium, total	ug/L	MW-18	09/19/2016		15.4000		
Chromium, total	ug/L	MW-18	03/21/2017	ND	8.0000		
Chromium, total	ug/L	MW-18	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-18	03/08/2018		9.8000		
Chromium, total	ug/L	MW-18	09/06/2018	ND	8.0000		
Chromium, total	ug/L	MW-18	05/13/2019	ND	8.0000		
Chromium, total	ug/L	MW-18	09/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-18	03/30/2020		8.7000		
Chromium, total	ug/L	MW-18	09/17/2020	ND	8.0000		
Chromium, total	ug/L	MW-18	03/09/2021		73.4000		*
Chromium, total	ug/L	MW-18	09/09/2021	ND	8.0000		
Chromium, total	ug/L	MW-18	03/14/2022		33.2000		*
Chromium, total	ug/L	MW-18	09/01/2022	ND	8.0000		
Chromium, total	ug/L	MW-18	03/06/2023		9.7000		
Chromium, total	ug/L	MW-18	09/08/2023	ND	8.0000		
Chromium, total	ug/L	MW-18	03/20/2024		14.2000		
Chromium, total	ug/L	MW-19	09/18/2014	ND	8.0000		
Chromium, total	ug/L	MW-19	04/28/2015	ND	8.0000		
Chromium, total	ug/L	MW-19	10/06/2015	ND	8.0000		
Chromium, total	ug/L	MW-19	04/19/2016	ND	8.0000		
Chromium, total	ug/L	MW-19	09/19/2016		9.3000		
Chromium, total	ug/L	MW-19	03/22/2017	ND	8.0000		
Chromium, total	ug/L	MW-19	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-19	03/08/2018	ND	8.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Chromium, total	ug/L	MW-19	09/06/2018	ND	8.0000		
Chromium, total	ug/L	MW-19	05/13/2019	ND	8.0000		
Chromium, total	ug/L	MW-19	09/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-19	03/30/2020	ND	8.0000		
Chromium, total	ug/L	MW-19	09/17/2020	ND	8.0000		
Chromium, total	ug/L	MW-19	03/09/2021	ND	8.0000		
Chromium, total	ug/L	MW-19	09/09/2021	ND	8.0000		
Chromium, total	ug/L	MW-19	03/14/2022	ND	8.0000		
Chromium, total	ug/L	MW-19	03/06/2023	ND	8.0000		
Chromium, total	ug/L	MW-19	09/08/2023	ND	8.0000		
Chromium, total	ug/L	MW-19	03/20/2024	ND	8.0000		
Chromium, total	ug/L	MW-2	09/17/2014	ND	8.0000		
Chromium, total	ug/L	MW-2	04/29/2015	ND	8.0000		
Chromium, total	ug/L	MW-2	10/07/2015	ND	8.0000		
Chromium, total	ug/L	MW-2	04/19/2016		9.6000		
Chromium, total	ug/L	MW-2	09/19/2016	ND	8.0000		
Chromium, total	ug/L	MW-2	03/22/2017	ND	8.0000		
Chromium, total	ug/L	MW-2	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-2	03/08/2018	ND	8.0000		
Chromium, total	ug/L	MW-2	09/06/2018	ND	8.0000		
Chromium, total	ug/L	MW-2	05/13/2019	ND	8.0000		
Chromium, total	ug/L	MW-2	09/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-2	03/30/2020	ND	8.0000		
Chromium, total	ug/L	MW-2	09/17/2020	ND	8.0000		
Chromium, total	ug/L	MW-2	03/09/2021	ND	8.0000		
Chromium, total	ug/L	MW-2	09/09/2021	ND	8.0000		
Chromium, total	ug/L	MW-2	03/14/2022	ND	8.0000		
Chromium, total	ug/L	MW-2	09/01/2022	ND	8.0000		
Chromium, total	ug/L	MW-2	03/06/2023	ND	8.0000		
Chromium, total	ug/L	MW-2	09/08/2023	ND	8.0000		
Chromium, total	ug/L	MW-2	03/20/2024	ND	8.0000		
Cobalt, total	ug/L	MW-14	09/18/2014		0.9000		
Cobalt, total	ug/L	MW-14	04/29/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/06/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/19/2016	ND	0.8000		
Cobalt, total	ug/L	MW-14	09/19/2016	ND	0.8000		
Cobalt, total	ug/L	MW-14	03/22/2017	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-14	03/08/2018	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-14	09/06/2018	ND	0.8000		
Cobalt, total	ug/L	MW-14	05/13/2019	ND	0.8000		
Cobalt, total	ug/L	MW-14	09/26/2019	ND	0.8000		
Cobalt, total	ug/L	MW-14	03/30/2020	ND	0.8000		
Cobalt, total	ug/L	MW-14	09/17/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	03/09/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	09/09/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	03/14/2022		0.5000		
Cobalt, total	ug/L	MW-14	09/01/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	03/06/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	09/08/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	03/20/2024	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-18	09/18/2014		1.1000		
Cobalt, total	ug/L	MW-18	04/29/2015		3.1000		
Cobalt, total	ug/L	MW-18	10/06/2015	ND	0.8000		
Cobalt, total	ug/L	MW-18	04/19/2016		1.1000		
Cobalt, total	ug/L	MW-18	09/19/2016		10.6000		
Cobalt, total	ug/L	MW-18	03/21/2017	ND	0.8000		
Cobalt, total	ug/L	MW-18	10/12/2017		2.5000		
Cobalt, total	ug/L	MW-18	03/08/2018		4.8000		
Cobalt, total	ug/L	MW-18	09/06/2018	ND	0.8000		
Cobalt, total	ug/L	MW-18	05/13/2019	ND	0.8000		
Cobalt, total	ug/L	MW-18	09/26/2019	ND	0.8000		
Cobalt, total	ug/L	MW-18	03/30/2020		3.4000		
Cobalt, total	ug/L	MW-18	09/17/2020		1.2000		
Cobalt, total	ug/L	MW-18	03/09/2021		72.8000		*
Cobalt, total	ug/L	MW-18	09/09/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-18	03/14/2022		28.3000		*
Cobalt, total	ug/L	MW-18	09/01/2022		2.4000		
Cobalt, total	ug/L	MW-18	03/06/2023		6.1000		
Cobalt, total	ug/L	MW-18	09/08/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-18	03/20/2024		1.9000		
Cobalt, total	ug/L	MW-19	09/18/2014		1.7000		
Cobalt, total	ug/L	MW-19	04/28/2015		1.1000		
Cobalt, total	ug/L	MW-19	10/06/2015		2.6000		

*   - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Cobalt, total	ug/L	MW-19	04/19/2016	ND	0.8000		
Cobalt, total	ug/L	MW-19	09/19/2016		3.7000		
Cobalt, total	ug/L	MW-19	03/22/2017	ND	0.8000		
Cobalt, total	ug/L	MW-19	10/12/2017		0.9000		
Cobalt, total	ug/L	MW-19	03/08/2018		8.5000		
Cobalt, total	ug/L	MW-19	09/06/2018		6.3000		
Cobalt, total	ug/L	MW-19	05/13/2019		6.1000		
Cobalt, total	ug/L	MW-19	09/26/2019		9.7000		
Cobalt, total	ug/L	MW-19	03/30/2020		2.3000		
Cobalt, total	ug/L	MW-19	09/17/2020		2.9000		
Cobalt, total	ug/L	MW-19	03/09/2021		2.5000		
Cobalt, total	ug/L	MW-19	09/09/2021		5.3000		
Cobalt, total	ug/L	MW-19	03/14/2022		3.3000		
Cobalt, total	ug/L	MW-19	03/06/2023		3.6000		
Cobalt, total	ug/L	MW-19	09/08/2023		2.0000		
Cobalt, total	ug/L	MW-19	03/20/2024	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-2	09/17/2014	ND	0.8000		
Cobalt, total	ug/L	MW-2	04/29/2015		1.7000		
Cobalt, total	ug/L	MW-2	10/07/2015	ND	0.8000		
Cobalt, total	ug/L	MW-2	04/19/2016		3.5000		
Cobalt, total	ug/L	MW-2	09/19/2016		2.2000		
Cobalt, total	ug/L	MW-2	03/22/2017	ND	0.8000		
Cobalt, total	ug/L	MW-2	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-2	03/08/2018	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-2	09/06/2018	ND	0.8000		
Cobalt, total	ug/L	MW-2	05/13/2019	ND	0.8000		
Cobalt, total	ug/L	MW-2	09/26/2019	ND	0.8000		
Cobalt, total	ug/L	MW-2	03/30/2020	ND	0.8000		
Cobalt, total	ug/L	MW-2	09/17/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-2	03/09/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-2	09/09/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-2	03/14/2022		0.4000		
Cobalt, total	ug/L	MW-2	09/01/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-2	03/06/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-2	09/08/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-2	03/20/2024	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-14	09/18/2014	ND	4.0000		
Copper, total	ug/L	MW-14	04/29/2015	ND	4.0000		
Copper, total	ug/L	MW-14	10/06/2015	ND	4.0000		
Copper, total	ug/L	MW-14	04/19/2016	ND	4.0000		
Copper, total	ug/L	MW-14	09/19/2016	ND	4.0000		
Copper, total	ug/L	MW-14	03/22/2017	ND	4.0000		
Copper, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-14	03/08/2018	ND	4.0000		
Copper, total	ug/L	MW-14	09/06/2018	ND	4.0000		
Copper, total	ug/L	MW-14	05/13/2019	ND	4.0000		
Copper, total	ug/L	MW-14	09/26/2019	ND	4.0000		
Copper, total	ug/L	MW-14	03/30/2020		32.2000		*
Copper, total	ug/L	MW-14	06/25/2020	ND	4.0000		
Copper, total	ug/L	MW-14	09/17/2020	ND	4.0000		
Copper, total	ug/L	MW-14	03/09/2021	ND	4.0000		
Copper, total	ug/L	MW-14	09/09/2021	ND	4.0000		
Copper, total	ug/L	MW-14	03/14/2022	ND	4.0000		
Copper, total	ug/L	MW-14	09/01/2022	ND	4.0000		
Copper, total	ug/L	MW-14	03/06/2023	ND	4.0000		
Copper, total	ug/L	MW-14	09/08/2023	ND	4.0000		
Copper, total	ug/L	MW-14	03/20/2024	ND	4.0000		
Copper, total	ug/L	MW-18	09/18/2014	ND	4.0000		
Copper, total	ug/L	MW-18	04/29/2015	ND	4.0000		
Copper, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Copper, total	ug/L	MW-18	04/19/2016		10.8000		
Copper, total	ug/L	MW-18	09/19/2016		10.4000		
Copper, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Copper, total	ug/L	MW-18	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-18	03/08/2018		5.5000		
Copper, total	ug/L	MW-18	09/06/2018	ND	4.0000		
Copper, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Copper, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Copper, total	ug/L	MW-18	03/30/2020	ND	4.0000		
Copper, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Copper, total	ug/L	MW-18	03/09/2021		62.1000		*
Copper, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Copper, total	ug/L	MW-18	03/14/2022		22.1000		*
Copper, total	ug/L	MW-18	09/01/2022	ND	4.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Copper, total	ug/L	MW-18	03/06/2023		4.9000		
Copper, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Copper, total	ug/L	MW-18	03/20/2024	ND	4.0000		
Copper, total	ug/L	MW-19	09/18/2014	ND	4.0000		
Copper, total	ug/L	MW-19	04/28/2015	ND	4.0000		
Copper, total	ug/L	MW-19	10/06/2015	ND	4.0000		
Copper, total	ug/L	MW-19	04/19/2016	ND	4.0000		
Copper, total	ug/L	MW-19	09/19/2016		6.8000		
Copper, total	ug/L	MW-19	03/22/2017	ND	4.0000		
Copper, total	ug/L	MW-19	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-19	03/08/2018	ND	4.0000		
Copper, total	ug/L	MW-19	09/06/2018	ND	4.0000		
Copper, total	ug/L	MW-19	05/13/2019	ND	4.0000		
Copper, total	ug/L	MW-19	09/26/2019	ND	4.0000		
Copper, total	ug/L	MW-19	03/30/2020	ND	4.0000		
Copper, total	ug/L	MW-19	09/17/2020	ND	4.0000		
Copper, total	ug/L	MW-19	03/09/2021	ND	4.0000		
Copper, total	ug/L	MW-19	09/09/2021	ND	4.0000		
Copper, total	ug/L	MW-19	03/14/2022	ND	4.0000		
Copper, total	ug/L	MW-19	03/06/2023	ND	4.0000		
Copper, total	ug/L	MW-19	09/08/2023	ND	4.0000		
Copper, total	ug/L	MW-19	03/20/2024	ND	4.0000		
Copper, total	ug/L	MW-2	09/17/2014	ND	4.0000		
Copper, total	ug/L	MW-2	04/29/2015	ND	4.0000		
Copper, total	ug/L	MW-2	10/07/2015	ND	4.0000		
Copper, total	ug/L	MW-2	04/19/2016		5.1000		
Copper, total	ug/L	MW-2	09/19/2016	ND	4.0000		
Copper, total	ug/L	MW-2	03/22/2017	ND	4.0000		
Copper, total	ug/L	MW-2	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-2	03/08/2018	ND	4.0000		
Copper, total	ug/L	MW-2	09/06/2018	ND	4.0000		
Copper, total	ug/L	MW-2	05/13/2019	ND	4.0000		
Copper, total	ug/L	MW-2	09/26/2019	ND	4.0000		
Copper, total	ug/L	MW-2	03/30/2020	ND	4.0000		
Copper, total	ug/L	MW-2	09/17/2020	ND	4.0000		
Copper, total	ug/L	MW-2	03/09/2021	ND	4.0000		
Copper, total	ug/L	MW-2	09/09/2021	ND	4.0000		
Copper, total	ug/L	MW-2	03/14/2022	ND	4.0000		
Copper, total	ug/L	MW-2	09/01/2022	ND	4.0000		
Copper, total	ug/L	MW-2	03/06/2023	ND	4.0000		
Copper, total	ug/L	MW-2	09/08/2023	ND	4.0000		
Copper, total	ug/L	MW-2	03/20/2024	ND	4.0000		
Lead, total	ug/L	MW-14	09/18/2014	ND	4.0000		
Lead, total	ug/L	MW-14	04/29/2015	ND	4.0000		
Lead, total	ug/L	MW-14	10/06/2015	ND	4.0000		
Lead, total	ug/L	MW-14	04/19/2016	ND	4.0000		
Lead, total	ug/L	MW-14	09/19/2016	ND	4.0000		
Lead, total	ug/L	MW-14	03/22/2017	ND	4.0000		
Lead, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-14	03/08/2018	ND	4.0000		
Lead, total	ug/L	MW-14	09/06/2018	ND	4.0000		
Lead, total	ug/L	MW-14	05/13/2019	ND	4.0000		
Lead, total	ug/L	MW-14	09/26/2019	ND	4.0000		
Lead, total	ug/L	MW-14	03/30/2020	ND	4.0000		
Lead, total	ug/L	MW-14	09/17/2020	ND	4.0000		
Lead, total	ug/L	MW-14	03/09/2021	ND	4.0000		
Lead, total	ug/L	MW-14	09/09/2021	ND	4.0000		
Lead, total	ug/L	MW-14	03/14/2022	ND	4.0000		
Lead, total	ug/L	MW-14	09/01/2022	ND	4.0000		
Lead, total	ug/L	MW-14	03/06/2023	ND	4.0000		
Lead, total	ug/L	MW-14	09/08/2023	ND	4.0000		
Lead, total	ug/L	MW-14	03/20/2024	ND	4.0000		
Lead, total	ug/L	MW-18	09/18/2014	ND	4.0000		
Lead, total	ug/L	MW-18	04/29/2015	ND	4.0000		
Lead, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Lead, total	ug/L	MW-18	04/19/2016	ND	4.0000		
Lead, total	ug/L	MW-18	09/19/2016		8.7000		
Lead, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Lead, total	ug/L	MW-18	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-18	03/08/2018	ND	4.0000		
Lead, total	ug/L	MW-18	09/06/2018	ND	4.0000		
Lead, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Lead, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Lead, total	ug/L	MW-18	03/30/2020	ND	4.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Lead, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Lead, total	ug/L	MW-18	03/09/2021		57.7000		*
Lead, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Lead, total	ug/L	MW-18	03/14/2022		20.0000		*
Lead, total	ug/L	MW-18	09/01/2022	ND	4.0000		
Lead, total	ug/L	MW-18	03/06/2023		4.8000		
Lead, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Lead, total	ug/L	MW-18	03/20/2024	ND	4.0000		
Lead, total	ug/L	MW-19	09/18/2014	ND	4.0000		
Lead, total	ug/L	MW-19	04/28/2015	ND	4.0000		
Lead, total	ug/L	MW-19	10/06/2015	ND	4.0000		
Lead, total	ug/L	MW-19	04/19/2016	ND	4.0000		
Lead, total	ug/L	MW-19	09/19/2016		4.0000		
Lead, total	ug/L	MW-19	03/22/2017	ND	4.0000		
Lead, total	ug/L	MW-19	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-19	03/08/2018	ND	4.0000		
Lead, total	ug/L	MW-19	09/06/2018	ND	4.0000		
Lead, total	ug/L	MW-19	05/13/2019	ND	4.0000		
Lead, total	ug/L	MW-19	09/26/2019	ND	4.0000		
Lead, total	ug/L	MW-19	03/30/2020	ND	4.0000		
Lead, total	ug/L	MW-19	09/17/2020	ND	4.0000		
Lead, total	ug/L	MW-19	03/09/2021	ND	4.0000		
Lead, total	ug/L	MW-19	09/09/2021	ND	4.0000		
Lead, total	ug/L	MW-19	03/14/2022	ND	4.0000		
Lead, total	ug/L	MW-19	03/06/2023	ND	4.0000		
Lead, total	ug/L	MW-19	09/08/2023	ND	4.0000		
Lead, total	ug/L	MW-19	03/20/2024	ND	4.0000		
Lead, total	ug/L	MW-2	09/17/2014	ND	4.0000		
Lead, total	ug/L	MW-2	04/29/2015	ND	4.0000		
Lead, total	ug/L	MW-2	10/07/2015	ND	4.0000		
Lead, total	ug/L	MW-2	04/19/2016	ND	4.0000		
Lead, total	ug/L	MW-2	09/19/2016	ND	4.0000		
Lead, total	ug/L	MW-2	03/22/2017	ND	4.0000		
Lead, total	ug/L	MW-2	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-2	03/08/2018	ND	4.0000		
Lead, total	ug/L	MW-2	09/06/2018	ND	4.0000		
Lead, total	ug/L	MW-2	05/13/2019		5.4000		
Lead, total	ug/L	MW-2	09/26/2019	ND	4.0000		
Lead, total	ug/L	MW-2	03/30/2020	ND	4.0000		
Lead, total	ug/L	MW-2	09/17/2020	ND	4.0000		
Lead, total	ug/L	MW-2	03/09/2021	ND	4.0000		
Lead, total	ug/L	MW-2	09/09/2021	ND	4.0000		
Lead, total	ug/L	MW-2	03/14/2022	ND	4.0000		
Lead, total	ug/L	MW-2	09/01/2022	ND	4.0000		
Lead, total	ug/L	MW-2	03/06/2023	ND	4.0000		
Lead, total	ug/L	MW-2	09/08/2023	ND	4.0000		
Lead, total	ug/L	MW-2	03/20/2024	ND	4.0000		
Nickel, total	ug/L	MW-14	09/18/2014	ND	4.0000		
Nickel, total	ug/L	MW-14	04/29/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	10/06/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	04/19/2016	ND	4.0000		
Nickel, total	ug/L	MW-14	09/19/2016		5.4000		
Nickel, total	ug/L	MW-14	03/22/2017	ND	4.0000		
Nickel, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-14	03/08/2018	ND	4.0000		
Nickel, total	ug/L	MW-14	09/06/2018	ND	8.0000	4.0000	**
Nickel, total	ug/L	MW-14	05/13/2019	ND	4.0000		
Nickel, total	ug/L	MW-14	09/26/2019	ND	4.0000		
Nickel, total	ug/L	MW-14	03/30/2020	ND	4.0000		
Nickel, total	ug/L	MW-14	09/17/2020	ND	4.0000		
Nickel, total	ug/L	MW-14	03/09/2021	ND	4.0000		
Nickel, total	ug/L	MW-14	09/09/2021	ND	4.0000		
Nickel, total	ug/L	MW-14	03/14/2022	ND	4.0000		
Nickel, total	ug/L	MW-14	09/01/2022	ND	4.0000		
Nickel, total	ug/L	MW-14	03/06/2023	ND	4.0000		
Nickel, total	ug/L	MW-14	09/08/2023	ND	4.0000		
Nickel, total	ug/L	MW-14	03/20/2024	ND	4.0000		
Nickel, total	ug/L	MW-18	09/18/2014	ND	4.0000		
Nickel, total	ug/L	MW-18	04/29/2015		5.2000		
Nickel, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Nickel, total	ug/L	MW-18	04/19/2016	ND	4.0000		
Nickel, total	ug/L	MW-18	09/19/2016		13.6000		
Nickel, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Nickel, total	ug/L	MW-18	10/12/2017	ND	4.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Nickel, total	ug/L	MW-18	03/08/2018		9.7000		
Nickel, total	ug/L	MW-18	09/06/2018	ND	8.0000	4.0000	**
Nickel, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Nickel, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Nickel, total	ug/L	MW-18	03/30/2020		6.0000		
Nickel, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Nickel, total	ug/L	MW-18	03/09/2021		113.0000		*
Nickel, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Nickel, total	ug/L	MW-18	03/14/2022		48.4000		*
Nickel, total	ug/L	MW-18	09/01/2022		4.4000		
Nickel, total	ug/L	MW-18	03/06/2023		11.6000		
Nickel, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Nickel, total	ug/L	MW-18	03/20/2024		8.3000		
Nickel, total	ug/L	MW-19	09/18/2014	ND	4.0000		
Nickel, total	ug/L	MW-19	04/28/2015	ND	4.0000		
Nickel, total	ug/L	MW-19	10/06/2015	ND	4.0000		
Nickel, total	ug/L	MW-19	04/19/2016	ND	4.0000		
Nickel, total	ug/L	MW-19	09/19/2016		8.1000		
Nickel, total	ug/L	MW-19	03/22/2017	ND	4.0000		
Nickel, total	ug/L	MW-19	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-19	03/08/2018		5.2000		
Nickel, total	ug/L	MW-19	09/06/2018	ND	8.0000	4.0000	**
Nickel, total	ug/L	MW-19	05/13/2019		5.0000		
Nickel, total	ug/L	MW-19	09/26/2019		7.9000		
Nickel, total	ug/L	MW-19	03/30/2020	ND	4.0000		
Nickel, total	ug/L	MW-19	09/17/2020		5.6000		
Nickel, total	ug/L	MW-19	03/09/2021	ND	4.0000		
Nickel, total	ug/L	MW-19	09/09/2021	ND	4.0000		
Nickel, total	ug/L	MW-19	03/14/2022	ND	4.0000		
Nickel, total	ug/L	MW-19	03/06/2023		4.3000		
Nickel, total	ug/L	MW-19	09/08/2023	ND	4.0000		
Nickel, total	ug/L	MW-19	03/20/2024		8.9000		
Nickel, total	ug/L	MW-2	09/17/2014	ND	4.0000		
Nickel, total	ug/L	MW-2	04/29/2015	ND	4.0000		
Nickel, total	ug/L	MW-2	10/07/2015	ND	4.0000		
Nickel, total	ug/L	MW-2	04/19/2016		7.8000		
Nickel, total	ug/L	MW-2	09/19/2016	ND	4.0000		
Nickel, total	ug/L	MW-2	03/22/2017	ND	4.0000		
Nickel, total	ug/L	MW-2	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-2	03/08/2018	ND	4.0000		
Nickel, total	ug/L	MW-2	09/06/2018	ND	8.0000	4.0000	**
Nickel, total	ug/L	MW-2	05/13/2019	ND	4.0000		
Nickel, total	ug/L	MW-2	09/26/2019	ND	4.0000		
Nickel, total	ug/L	MW-2	03/30/2020	ND	4.0000		
Nickel, total	ug/L	MW-2	09/17/2020	ND	4.0000		
Nickel, total	ug/L	MW-2	03/09/2021	ND	4.0000		
Nickel, total	ug/L	MW-2	09/09/2021	ND	4.0000		
Nickel, total	ug/L	MW-2	03/14/2022	ND	4.0000		
Nickel, total	ug/L	MW-2	09/01/2022		5.3000		
Nickel, total	ug/L	MW-2	03/06/2023		4.2000		
Nickel, total	ug/L	MW-2	09/08/2023	ND	4.0000		
Nickel, total	ug/L	MW-2	03/20/2024	ND	4.0000		
Selenium, total	ug/L	MW-14	09/18/2014		4.7000		
Selenium, total	ug/L	MW-14	04/29/2015		4.6000		
Selenium, total	ug/L	MW-14	10/06/2015		4.0000		
Selenium, total	ug/L	MW-14	04/19/2016		4.2000		
Selenium, total	ug/L	MW-14	09/19/2016		4.0000		
Selenium, total	ug/L	MW-14	03/22/2017	ND	4.0000		
Selenium, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-14	03/08/2018		6.3000		
Selenium, total	ug/L	MW-14	09/06/2018	ND	4.0000		
Selenium, total	ug/L	MW-14	05/13/2019		4.4000		
Selenium, total	ug/L	MW-14	09/26/2019		4.5000		
Selenium, total	ug/L	MW-14	03/30/2020	ND	4.0000		
Selenium, total	ug/L	MW-14	09/17/2020		7.4000		
Selenium, total	ug/L	MW-14	12/03/2020		4.2000		
Selenium, total	ug/L	MW-14	03/09/2021	ND	4.0000		
Selenium, total	ug/L	MW-14	09/09/2021	ND	4.0000		
Selenium, total	ug/L	MW-14	03/14/2022	ND	4.0000		
Selenium, total	ug/L	MW-14	09/01/2022		4.2000		
Selenium, total	ug/L	MW-14	03/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-14	09/08/2023	ND	4.0000		
Selenium, total	ug/L	MW-14	03/20/2024	ND	4.0000		
Selenium, total	ug/L	MW-18	09/18/2014	ND	4.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Selenium, total	ug/L	MW-18	04/29/2015	ND	4.0000		
Selenium, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Selenium, total	ug/L	MW-18	04/19/2016	ND	4.0000		
Selenium, total	ug/L	MW-18	09/19/2016	ND	4.0000		
Selenium, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Selenium, total	ug/L	MW-18	10/12/2017		6.3000		
Selenium, total	ug/L	MW-18	03/08/2018	ND	4.0000		
Selenium, total	ug/L	MW-18	09/06/2018	ND	4.0000		
Selenium, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Selenium, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Selenium, total	ug/L	MW-18	03/30/2020	ND	4.0000		
Selenium, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Selenium, total	ug/L	MW-18	03/09/2021		10.6000		*
Selenium, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Selenium, total	ug/L	MW-18	03/14/2022	ND	4.0000		
Selenium, total	ug/L	MW-18	09/01/2022	ND	4.0000		
Selenium, total	ug/L	MW-18	03/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Selenium, total	ug/L	MW-18	03/20/2024	ND	4.0000		
Selenium, total	ug/L	MW-19	09/18/2014	ND	4.0000		
Selenium, total	ug/L	MW-19	04/28/2015	ND	4.0000		
Selenium, total	ug/L	MW-19	10/06/2015	ND	4.0000		
Selenium, total	ug/L	MW-19	04/19/2016	ND	4.0000		
Selenium, total	ug/L	MW-19	09/19/2016	ND	4.0000		
Selenium, total	ug/L	MW-19	03/22/2017	ND	4.0000		
Selenium, total	ug/L	MW-19	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-19	03/08/2018	ND	4.0000		
Selenium, total	ug/L	MW-19	09/06/2018	ND	4.0000		
Selenium, total	ug/L	MW-19	05/13/2019	ND	4.0000		
Selenium, total	ug/L	MW-19	09/26/2019		5.0000		
Selenium, total	ug/L	MW-19	03/30/2020	ND	4.0000		
Selenium, total	ug/L	MW-19	09/17/2020	ND	4.0000		
Selenium, total	ug/L	MW-19	03/09/2021	ND	4.0000		
Selenium, total	ug/L	MW-19	09/09/2021	ND	4.0000		
Selenium, total	ug/L	MW-19	03/14/2022	ND	4.0000		
Selenium, total	ug/L	MW-19	03/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-19	09/08/2023	ND	4.0000		
Selenium, total	ug/L	MW-19	03/20/2024	ND	4.0000		
Selenium, total	ug/L	MW-2	09/17/2014	ND	4.0000		
Selenium, total	ug/L	MW-2	04/29/2015	ND	4.0000		
Selenium, total	ug/L	MW-2	10/07/2015	ND	4.0000		
Selenium, total	ug/L	MW-2	04/19/2016	ND	4.0000		
Selenium, total	ug/L	MW-2	09/19/2016	ND	4.0000		
Selenium, total	ug/L	MW-2	03/22/2017	ND	4.0000		
Selenium, total	ug/L	MW-2	10/12/2017		4.4000		
Selenium, total	ug/L	MW-2	03/08/2018	ND	4.0000		
Selenium, total	ug/L	MW-2	09/06/2018	ND	4.0000		
Selenium, total	ug/L	MW-2	05/13/2019	ND	4.0000		
Selenium, total	ug/L	MW-2	09/26/2019	ND	4.0000		
Selenium, total	ug/L	MW-2	03/30/2020	ND	4.0000		
Selenium, total	ug/L	MW-2	09/17/2020	ND	4.0000		
Selenium, total	ug/L	MW-2	03/09/2021	ND	4.0000		
Selenium, total	ug/L	MW-2	09/09/2021	ND	4.0000		
Selenium, total	ug/L	MW-2	03/14/2022	ND	4.0000		
Selenium, total	ug/L	MW-2	09/01/2022	ND	4.0000		
Selenium, total	ug/L	MW-2	03/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-2	09/08/2023	ND	4.0000		
Selenium, total	ug/L	MW-2	03/20/2024	ND	4.0000		
Silver, total	ug/L	MW-14	09/18/2014	ND	4.0000		
Silver, total	ug/L	MW-14	04/29/2015	ND	4.0000		
Silver, total	ug/L	MW-14	10/06/2015	ND	4.0000		
Silver, total	ug/L	MW-14	04/19/2016	ND	4.0000		
Silver, total	ug/L	MW-14	09/19/2016	ND	4.0000		
Silver, total	ug/L	MW-14	03/22/2017	ND	4.0000		
Silver, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-14	03/08/2018	ND	4.0000		
Silver, total	ug/L	MW-14	09/06/2018	ND	8.0000	4.0000	**
Silver, total	ug/L	MW-14	05/13/2019	ND	4.0000		
Silver, total	ug/L	MW-14	09/26/2019	ND	4.0000		
Silver, total	ug/L	MW-14	03/30/2020	ND	4.0000		
Silver, total	ug/L	MW-14	09/17/2020	ND	4.0000		
Silver, total	ug/L	MW-14	03/09/2021	ND	4.0000		
Silver, total	ug/L	MW-14	09/09/2021	ND	4.0000		
Silver, total	ug/L	MW-14	03/14/2022	ND	4.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Silver, total	ug/L	MW-14	09/01/2022	ND	4.0000		
Silver, total	ug/L	MW-14	03/06/2023	ND	4.0000		
Silver, total	ug/L	MW-14	09/08/2023	ND	4.0000		
Silver, total	ug/L	MW-14	03/20/2024	ND	4.0000		
Silver, total	ug/L	MW-18	09/18/2014	ND	4.0000		
Silver, total	ug/L	MW-18	04/29/2015	ND	4.0000		
Silver, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Silver, total	ug/L	MW-18	04/19/2016	ND	4.0000		
Silver, total	ug/L	MW-18	09/19/2016	ND	4.0000		
Silver, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Silver, total	ug/L	MW-18	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-18	03/08/2018	ND	4.0000		
Silver, total	ug/L	MW-18	09/06/2018	ND	8.0000	4.0000	**
Silver, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Silver, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Silver, total	ug/L	MW-18	03/30/2020	ND	4.0000		
Silver, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Silver, total	ug/L	MW-18	03/09/2021	ND	4.0000		*
Silver, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Silver, total	ug/L	MW-18	03/14/2022	ND	4.0000		
Silver, total	ug/L	MW-18	09/01/2022	ND	4.0000		
Silver, total	ug/L	MW-18	03/06/2023	ND	4.0000		
Silver, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Silver, total	ug/L	MW-18	03/20/2024	ND	4.0000		
Silver, total	ug/L	MW-19	09/18/2014	ND	4.0000		
Silver, total	ug/L	MW-19	04/28/2015	ND	4.0000		
Silver, total	ug/L	MW-19	10/06/2015	ND	4.0000		
Silver, total	ug/L	MW-19	04/19/2016	ND	4.0000		
Silver, total	ug/L	MW-19	09/19/2016	ND	4.0000		
Silver, total	ug/L	MW-19	03/22/2017	ND	4.0000		
Silver, total	ug/L	MW-19	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-19	03/08/2018	ND	4.0000		
Silver, total	ug/L	MW-19	09/06/2018	ND	8.0000	4.0000	**
Silver, total	ug/L	MW-19	05/13/2019	ND	4.0000		
Silver, total	ug/L	MW-19	09/26/2019	ND	4.0000		
Silver, total	ug/L	MW-19	03/30/2020	ND	4.0000		
Silver, total	ug/L	MW-19	09/17/2020	ND	4.0000		
Silver, total	ug/L	MW-19	03/09/2021	ND	4.0000		
Silver, total	ug/L	MW-19	09/09/2021	ND	4.0000		
Silver, total	ug/L	MW-19	03/14/2022	ND	4.0000		
Silver, total	ug/L	MW-19	03/06/2023	ND	4.0000		
Silver, total	ug/L	MW-19	09/08/2023	ND	4.0000		
Silver, total	ug/L	MW-19	03/20/2024	ND	4.0000		
Silver, total	ug/L	MW-2	09/17/2014	ND	4.0000		
Silver, total	ug/L	MW-2	04/29/2015	ND	4.0000		
Silver, total	ug/L	MW-2	10/07/2015	ND	4.0000		
Silver, total	ug/L	MW-2	04/19/2016	ND	4.0000		
Silver, total	ug/L	MW-2	09/19/2016	ND	4.0000		
Silver, total	ug/L	MW-2	03/22/2017	ND	4.0000		
Silver, total	ug/L	MW-2	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-2	03/08/2018	ND	4.0000		
Silver, total	ug/L	MW-2	09/06/2018	ND	8.0000	4.0000	**
Silver, total	ug/L	MW-2	05/13/2019	ND	4.0000		
Silver, total	ug/L	MW-2	09/26/2019	ND	4.0000		
Silver, total	ug/L	MW-2	03/30/2020	ND	4.0000		
Silver, total	ug/L	MW-2	09/17/2020	ND	4.0000		
Silver, total	ug/L	MW-2	03/09/2021	ND	4.0000		
Silver, total	ug/L	MW-2	09/09/2021	ND	4.0000		
Silver, total	ug/L	MW-2	03/14/2022	ND	4.0000		
Silver, total	ug/L	MW-2	09/01/2022	ND	4.0000		
Silver, total	ug/L	MW-2	03/06/2023	ND	4.0000		
Silver, total	ug/L	MW-2	09/08/2023	ND	4.0000		
Silver, total	ug/L	MW-2	03/20/2024	ND	4.0000		
Thallium, total	ug/L	MW-14	09/18/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	04/29/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	10/06/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	04/19/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	09/19/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	03/22/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	10/12/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	03/08/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	09/06/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	05/13/2019	ND	2.0000		
Thallium, total	ug/L	MW-14	09/26/2019	ND	2.0000		

*   - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Thallium, total	ug/L	MW-14	03/30/2020	ND	2.0000		
Thallium, total	ug/L	MW-14	09/17/2020	ND	2.0000		
Thallium, total	ug/L	MW-14	03/09/2021	ND	2.0000		
Thallium, total	ug/L	MW-14	09/09/2021	ND	2.0000		
Thallium, total	ug/L	MW-14	03/14/2022	ND	2.0000		
Thallium, total	ug/L	MW-14	09/01/2022	ND	2.0000		
Thallium, total	ug/L	MW-14	03/06/2023	ND	2.0000		
Thallium, total	ug/L	MW-14	09/08/2023	ND	2.0000		
Thallium, total	ug/L	MW-14	03/20/2024	ND	2.0000		
Thallium, total	ug/L	MW-18	09/18/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	04/29/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	10/06/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	04/19/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	09/19/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	03/21/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	10/12/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	03/08/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	09/06/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	05/13/2019	ND	2.0000		
Thallium, total	ug/L	MW-18	09/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-18	03/30/2020	ND	2.0000		
Thallium, total	ug/L	MW-18	09/17/2020	ND	2.0000		
Thallium, total	ug/L	MW-18	03/09/2021	ND	2.0000		*
Thallium, total	ug/L	MW-18	09/09/2021	ND	2.0000		
Thallium, total	ug/L	MW-18	03/14/2022	ND	2.0000		
Thallium, total	ug/L	MW-18	09/01/2022	ND	2.0000		
Thallium, total	ug/L	MW-18	03/06/2023	ND	2.0000		
Thallium, total	ug/L	MW-18	09/08/2023	ND	2.0000		
Thallium, total	ug/L	MW-18	03/20/2024	ND	2.0000		
Thallium, total	ug/L	MW-19	09/18/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-19	04/28/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-19	10/06/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-19	04/19/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-19	09/19/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-19	03/22/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-19	10/12/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-19	03/08/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-19	09/06/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-19	05/13/2019	ND	2.0000		
Thallium, total	ug/L	MW-19	09/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-19	03/30/2020	ND	2.0000		
Thallium, total	ug/L	MW-19	09/17/2020	ND	2.0000		
Thallium, total	ug/L	MW-19	03/09/2021	ND	2.0000		
Thallium, total	ug/L	MW-19	09/09/2021	ND	2.0000		
Thallium, total	ug/L	MW-19	03/14/2022	ND	2.0000		
Thallium, total	ug/L	MW-19	03/06/2023	ND	2.0000		
Thallium, total	ug/L	MW-19	09/08/2023	ND	2.0000		
Thallium, total	ug/L	MW-19	03/20/2024	ND	2.0000		
Thallium, total	ug/L	MW-2	09/17/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-2	04/29/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-2	10/07/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-2	04/19/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-2	09/19/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-2	03/22/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-2	10/12/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-2	03/08/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-2	09/06/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-2	05/13/2019	ND	2.0000		
Thallium, total	ug/L	MW-2	09/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-2	03/30/2020	ND	2.0000		
Thallium, total	ug/L	MW-2	09/17/2020	ND	2.0000		
Thallium, total	ug/L	MW-2	03/09/2021	ND	2.0000		
Thallium, total	ug/L	MW-2	09/09/2021	ND	2.0000		
Thallium, total	ug/L	MW-2	03/14/2022	ND	2.0000		
Thallium, total	ug/L	MW-2	09/01/2022	ND	2.0000		
Thallium, total	ug/L	MW-2	03/06/2023	ND	2.0000		
Thallium, total	ug/L	MW-2	09/08/2023	ND	2.0000		
Thallium, total	ug/L	MW-2	03/20/2024	ND	2.0000		
Vanadium, total	ug/L	MW-14	09/18/2014	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/29/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/06/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/19/2016	ND	20.0000		
Vanadium, total	ug/L	MW-14	09/19/2016	ND	20.0000		
Vanadium, total	ug/L	MW-14	03/22/2017	ND	20.0000		

*   - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Vanadium, total	ug/L	MW-14	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-14	03/08/2018	ND	20.0000		
Vanadium, total	ug/L	MW-14	09/06/2018	ND	20.0000		
Vanadium, total	ug/L	MW-14	05/13/2019	ND	20.0000		
Vanadium, total	ug/L	MW-14	09/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-14	03/30/2020	ND	20.0000		
Vanadium, total	ug/L	MW-14	09/17/2020	ND	20.0000		
Vanadium, total	ug/L	MW-14	03/09/2021	ND	20.0000		
Vanadium, total	ug/L	MW-14	09/09/2021	ND	20.0000		
Vanadium, total	ug/L	MW-14	03/14/2022	ND	20.0000		
Vanadium, total	ug/L	MW-14	09/01/2022	ND	20.0000		
Vanadium, total	ug/L	MW-14	03/06/2023	ND	20.0000		
Vanadium, total	ug/L	MW-14	09/08/2023	ND	20.0000		
Vanadium, total	ug/L	MW-14	03/20/2024	ND	20.0000		
Vanadium, total	ug/L	MW-18	09/18/2014	ND	20.0000		
Vanadium, total	ug/L	MW-18	04/29/2015	ND	20.0000		
Vanadium, total	ug/L	MW-18	10/06/2015	ND	20.0000		
Vanadium, total	ug/L	MW-18	04/19/2016	ND	20.0000		
Vanadium, total	ug/L	MW-18	09/19/2016		27.5000		
Vanadium, total	ug/L	MW-18	03/21/2017	ND	20.0000		
Vanadium, total	ug/L	MW-18	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-18	03/08/2018	ND	20.0000		
Vanadium, total	ug/L	MW-18	09/06/2018	ND	20.0000		
Vanadium, total	ug/L	MW-18	05/13/2019	ND	20.0000		
Vanadium, total	ug/L	MW-18	09/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-18	03/30/2020	ND	20.0000		
Vanadium, total	ug/L	MW-18	09/17/2020	ND	20.0000		
Vanadium, total	ug/L	MW-18	03/09/2021		123.0000		*
Vanadium, total	ug/L	MW-18	09/09/2021	ND	20.0000		
Vanadium, total	ug/L	MW-18	03/14/2022		54.4000		*
Vanadium, total	ug/L	MW-18	09/01/2022	ND	20.0000		
Vanadium, total	ug/L	MW-18	03/06/2023	ND	20.0000		
Vanadium, total	ug/L	MW-18	09/08/2023	ND	20.0000		
Vanadium, total	ug/L	MW-18	03/20/2024	ND	20.0000		
Vanadium, total	ug/L	MW-19	09/18/2014	ND	20.0000		
Vanadium, total	ug/L	MW-19	04/28/2015	ND	20.0000		
Vanadium, total	ug/L	MW-19	10/06/2015	ND	20.0000		
Vanadium, total	ug/L	MW-19	04/19/2016	ND	20.0000		
Vanadium, total	ug/L	MW-19	09/19/2016		20.7000		
Vanadium, total	ug/L	MW-19	03/22/2017	ND	20.0000		
Vanadium, total	ug/L	MW-19	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-19	03/08/2018	ND	20.0000		
Vanadium, total	ug/L	MW-19	09/06/2018	ND	20.0000		
Vanadium, total	ug/L	MW-19	05/13/2019	ND	20.0000		
Vanadium, total	ug/L	MW-19	09/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-19	03/30/2020	ND	20.0000		
Vanadium, total	ug/L	MW-19	09/17/2020	ND	20.0000		
Vanadium, total	ug/L	MW-19	03/09/2021	ND	20.0000		
Vanadium, total	ug/L	MW-19	09/09/2021	ND	20.0000		
Vanadium, total	ug/L	MW-19	03/14/2022	ND	20.0000		
Vanadium, total	ug/L	MW-19	03/06/2023	ND	20.0000		
Vanadium, total	ug/L	MW-19	09/08/2023	ND	20.0000		
Vanadium, total	ug/L	MW-19	03/20/2024	ND	20.0000		
Vanadium, total	ug/L	MW-2	09/17/2014	ND	20.0000		
Vanadium, total	ug/L	MW-2	04/29/2015	ND	20.0000		
Vanadium, total	ug/L	MW-2	10/07/2015	ND	20.0000		
Vanadium, total	ug/L	MW-2	04/19/2016	ND	20.0000		
Vanadium, total	ug/L	MW-2	09/19/2016	ND	20.0000		
Vanadium, total	ug/L	MW-2	03/22/2017	ND	20.0000		
Vanadium, total	ug/L	MW-2	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-2	03/08/2018	ND	20.0000		
Vanadium, total	ug/L	MW-2	09/06/2018	ND	20.0000		
Vanadium, total	ug/L	MW-2	05/13/2019	ND	20.0000		
Vanadium, total	ug/L	MW-2	09/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-2	03/30/2020	ND	20.0000		
Vanadium, total	ug/L	MW-2	09/17/2020	ND	20.0000		
Vanadium, total	ug/L	MW-2	03/09/2021	ND	20.0000		
Vanadium, total	ug/L	MW-2	09/09/2021	ND	20.0000		
Vanadium, total	ug/L	MW-2	03/14/2022	ND	20.0000		
Vanadium, total	ug/L	MW-2	09/01/2022	ND	20.0000		
Vanadium, total	ug/L	MW-2	03/06/2023	ND	20.0000		
Vanadium, total	ug/L	MW-2	09/08/2023	ND	20.0000		
Vanadium, total	ug/L	MW-2	03/20/2024	ND	20.0000		
Zinc, total	ug/L	MW-14	09/18/2014		9.3000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Zinc, total	ug/L	MW-14	04/29/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	10/06/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	04/19/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	09/19/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	03/22/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	03/08/2018		11.1000		
Zinc, total	ug/L	MW-14	09/06/2018		27.7000		
Zinc, total	ug/L	MW-14	05/13/2019		24.1000		
Zinc, total	ug/L	MW-14	09/26/2019		19.1000		
Zinc, total	ug/L	MW-14	03/30/2020		25.3000		
Zinc, total	ug/L	MW-14	09/17/2020	ND	20.0000		
Zinc, total	ug/L	MW-14	03/09/2021	ND	20.0000		
Zinc, total	ug/L	MW-14	09/09/2021	ND	20.0000		
Zinc, total	ug/L	MW-14	03/14/2022	ND	20.0000		
Zinc, total	ug/L	MW-14	09/01/2022	ND	20.0000		
Zinc, total	ug/L	MW-14	03/06/2023	ND	20.0000		
Zinc, total	ug/L	MW-14	09/08/2023	ND	20.0000		
Zinc, total	ug/L	MW-14	03/20/2024	ND	20.0000		
Zinc, total	ug/L	MW-18	09/18/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-18	04/29/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-18	10/06/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-18	04/19/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-18	09/19/2016		27.6000		
Zinc, total	ug/L	MW-18	03/21/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-18	10/12/2017		9.5000		
Zinc, total	ug/L	MW-18	03/08/2018		16.5000		
Zinc, total	ug/L	MW-18	09/06/2018		32.5000		
Zinc, total	ug/L	MW-18	05/13/2019		13.3000		
Zinc, total	ug/L	MW-18	09/26/2019		11.5000		
Zinc, total	ug/L	MW-18	03/30/2020	ND	20.0000		
Zinc, total	ug/L	MW-18	09/17/2020	ND	20.0000		
Zinc, total	ug/L	MW-18	03/09/2021		166.0000		*
Zinc, total	ug/L	MW-18	09/09/2021	ND	20.0000		
Zinc, total	ug/L	MW-18	03/14/2022		58.7000		*
Zinc, total	ug/L	MW-18	09/01/2022	ND	20.0000		
Zinc, total	ug/L	MW-18	03/06/2023	ND	20.0000		
Zinc, total	ug/L	MW-18	09/08/2023	ND	20.0000		
Zinc, total	ug/L	MW-18	03/20/2024	ND	20.0000		
Zinc, total	ug/L	MW-19	09/18/2014		16.1000		
Zinc, total	ug/L	MW-19	04/28/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-19	10/06/2015		11.5000		
Zinc, total	ug/L	MW-19	04/19/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-19	09/19/2016		27.7000		
Zinc, total	ug/L	MW-19	03/22/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-19	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-19	03/08/2018		9.7000		
Zinc, total	ug/L	MW-19	09/06/2018	ND	20.0000		
Zinc, total	ug/L	MW-19	05/13/2019		30.2000		
Zinc, total	ug/L	MW-19	09/26/2019		68.3000		
Zinc, total	ug/L	MW-19	11/14/2019	ND	20.0000		
Zinc, total	ug/L	MW-19	03/30/2020	ND	20.0000		
Zinc, total	ug/L	MW-19	09/17/2020	ND	20.0000		
Zinc, total	ug/L	MW-19	03/09/2021	ND	20.0000		
Zinc, total	ug/L	MW-19	09/09/2021	ND	20.0000		
Zinc, total	ug/L	MW-19	03/14/2022	ND	20.0000		
Zinc, total	ug/L	MW-19	03/06/2023	ND	20.0000		
Zinc, total	ug/L	MW-19	09/08/2023	ND	20.0000		
Zinc, total	ug/L	MW-19	03/20/2024	ND	20.0000		
Zinc, total	ug/L	MW-2	09/17/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-2	04/29/2015		9.7000		
Zinc, total	ug/L	MW-2	10/07/2015		11.8000		
Zinc, total	ug/L	MW-2	04/19/2016		12.6000		
Zinc, total	ug/L	MW-2	09/19/2016		10.2000		
Zinc, total	ug/L	MW-2	03/22/2017		10.5000		
Zinc, total	ug/L	MW-2	10/12/2017		11.3000		
Zinc, total	ug/L	MW-2	03/08/2018		25.8000		
Zinc, total	ug/L	MW-2	09/06/2018		23.3000		
Zinc, total	ug/L	MW-2	05/13/2019		25.9000		
Zinc, total	ug/L	MW-2	09/26/2019		15.5000		
Zinc, total	ug/L	MW-2	03/30/2020	ND	20.0000		
Zinc, total	ug/L	MW-2	09/17/2020	ND	20.0000		
Zinc, total	ug/L	MW-2	03/09/2021	ND	20.0000		
Zinc, total	ug/L	MW-2	09/09/2021	ND	20.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Zinc, total	ug/L	MW-2	03/14/2022	ND	20.0000		
Zinc, total	ug/L	MW-2	09/01/2022	ND	20.0000		
Zinc, total	ug/L	MW-2	03/06/2023	ND	20.0000		
Zinc, total	ug/L	MW-2	09/08/2023	ND	20.0000		
Zinc, total	ug/L	MW-2	03/20/2024	ND	20.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Antimony, total	ug/L	GWD-1	03/20/2024	ND	2.0000		2.0000
Antimony, total	ug/L	GWD-2	03/20/2024	ND	2.0000		2.0000
Antimony, total	ug/L	MW-12	03/20/2024	ND	2.0000		2.0000
Antimony, total	ug/L	MW-15	03/20/2024	ND	2.0000		2.0000
Antimony, total	ug/L	MW-21	03/20/2024	ND	2.0000		2.0000
Antimony, total	ug/L	MW-23	03/20/2024	ND	2.0000		2.0000
Antimony, total	ug/L	MW-3	03/20/2024	ND	2.0000		2.0000
Antimony, total	ug/L	MW-9	03/20/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	GWD-1	03/20/2024		11.4000	*	6.1000
Arsenic, total	ug/L	GWD-2	03/20/2024		5.9000		6.1000
Arsenic, total	ug/L	MW-12	03/20/2024		15.9000	*	6.1000
Arsenic, total	ug/L	MW-15	03/20/2024	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	03/20/2024		24.4000	*	6.1000
Arsenic, total	ug/L	MW-23	03/20/2024	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-3	03/20/2024	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-9	03/20/2024	ND	4.0000		6.1000
Barium, total	ug/L	GWD-1	03/20/2024		387.0000		614.0000
Barium, total	ug/L	GWD-2	03/20/2024		665.0000	***	614.0000
Barium, total	ug/L	MW-12	03/20/2024		856.0000	*	614.0000
Barium, total	ug/L	MW-15	03/20/2024		549.0000		614.0000
Barium, total	ug/L	MW-21	03/20/2024		1100.0000	*	614.0000
Barium, total	ug/L	MW-23	03/20/2024		328.0000		614.0000
Barium, total	ug/L	MW-3	03/20/2024		747.0000	***	614.0000
Barium, total	ug/L	MW-9	03/20/2024		328.0000		614.0000
Beryllium, total	ug/L	GWD-1	03/20/2024	ND	4.0000		4.0000
Beryllium, total	ug/L	GWD-2	03/20/2024	ND	4.0000		4.0000
Beryllium, total	ug/L	MW-12	03/20/2024	ND	4.0000		4.0000
Beryllium, total	ug/L	MW-15	03/20/2024	ND	4.0000		4.0000
Beryllium, total	ug/L	MW-21	03/20/2024	ND	4.0000		4.0000
Beryllium, total	ug/L	MW-23	03/20/2024	ND	4.0000		4.0000
Beryllium, total	ug/L	MW-3	03/20/2024	ND	4.0000		4.0000
Beryllium, total	ug/L	MW-9	03/20/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	GWD-1	03/20/2024	ND	0.8000		1.0000
Cadmium, total	ug/L	GWD-2	03/20/2024	ND	0.8000		1.0000
Cadmium, total	ug/L	MW-12	03/20/2024	ND	0.8000		1.0000
Cadmium, total	ug/L	MW-15	03/20/2024	ND	0.8000		1.0000
Cadmium, total	ug/L	MW-21	03/20/2024	ND	0.8000		1.0000
Cadmium, total	ug/L	MW-23	03/20/2024	ND	0.8000		1.0000
Cadmium, total	ug/L	MW-3	03/20/2024	ND	0.8000		1.0000
Cadmium, total	ug/L	MW-9	03/20/2024	ND	0.8000		1.0000
Chromium, total	ug/L	GWD-1	03/20/2024	ND	8.0000		15.4000
Chromium, total	ug/L	GWD-2	03/20/2024	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	03/20/2024		22.7000	*	15.4000
Chromium, total	ug/L	MW-15	03/20/2024	ND	8.0000		15.4000
Chromium, total	ug/L	MW-21	03/20/2024	ND	8.0000		15.4000
Chromium, total	ug/L	MW-23	03/20/2024	ND	8.0000		15.4000
Chromium, total	ug/L	MW-3	03/20/2024	ND	8.0000		15.4000
Chromium, total	ug/L	MW-9	03/20/2024	ND	8.0000		15.4000
Cobalt, total	ug/L	GWD-1	03/20/2024		3.6000		10.6000
Cobalt, total	ug/L	GWD-2	03/20/2024		3.4000		10.6000
Cobalt, total	ug/L	MW-12	03/20/2024		21.3000	*	10.6000
Cobalt, total	ug/L	MW-15	03/20/2024	ND	0.4000		10.6000
Cobalt, total	ug/L	MW-21	03/20/2024		0.6000		10.6000
Cobalt, total	ug/L	MW-23	03/20/2024		0.6000		10.6000
Cobalt, total	ug/L	MW-3	03/20/2024	ND	0.4000		10.6000
Cobalt, total	ug/L	MW-9	03/20/2024		0.6000		10.6000
Copper, total	ug/L	GWD-1	03/20/2024	ND	4.0000		10.8000
Copper, total	ug/L	GWD-2	03/20/2024	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/20/2024		18.0000	*	10.8000
Copper, total	ug/L	MW-15	03/20/2024		6.9000		10.8000
Copper, total	ug/L	MW-21	03/20/2024	ND	4.0000		10.8000
Copper, total	ug/L	MW-23	03/20/2024	ND	4.0000		10.8000
Copper, total	ug/L	MW-3	03/20/2024	ND	4.0000		10.8000
Copper, total	ug/L	MW-9	03/20/2024	ND	4.0000		10.8000
Lead, total	ug/L	GWD-1	03/20/2024	ND	4.0000		8.7000
Lead, total	ug/L	GWD-2	03/20/2024	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/20/2024		8.9000	*	8.7000
Lead, total	ug/L	MW-15	03/20/2024	ND	4.0000		8.7000
Lead, total	ug/L	MW-21	03/20/2024	ND	4.0000		8.7000
Lead, total	ug/L	MW-23	03/20/2024	ND	4.0000		8.7000
Lead, total	ug/L	MW-3	03/20/2024	ND	4.0000		8.7000
Lead, total	ug/L	MW-9	03/20/2024	ND	4.0000		8.7000

* - Current value failed - awaiting verification.
** - Current value passed - previous exceedance not verified.
*** - Current value failed - exceedance verified.
**** - Current value passed - awaiting one more verification.
***** - Insufficient background data to compute prediction limit.
ND = Not Detected, Result = detection limit.

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Nickel, total	ug/L	GWD-1	03/20/2024		4.9000		13.6000
Nickel, total	ug/L	GWD-2	03/20/2024	ND	4.0000		13.6000
Nickel, total	ug/L	MW-12	03/20/2024		63.1000	*	13.6000
Nickel, total	ug/L	MW-15	03/20/2024		12.3000		13.6000
Nickel, total	ug/L	MW-21	03/20/2024		6.6000		13.6000
Nickel, total	ug/L	MW-23	03/20/2024	ND	4.0000		13.6000
Nickel, total	ug/L	MW-3	03/20/2024	ND	4.0000		13.6000
Nickel, total	ug/L	MW-9	03/20/2024	ND	4.0000		13.6000
Selenium, total	ug/L	GWD-1	03/20/2024	ND	4.0000		7.4000
Selenium, total	ug/L	GWD-2	03/20/2024	ND	4.0000		7.4000
Selenium, total	ug/L	MW-12	03/20/2024	ND	4.0000		7.4000
Selenium, total	ug/L	MW-15	03/20/2024	ND	4.0000		7.4000
Selenium, total	ug/L	MW-21	03/20/2024	ND	4.0000		7.4000
Selenium, total	ug/L	MW-23	03/20/2024	ND	4.0000		7.4000
Selenium, total	ug/L	MW-3	03/20/2024	ND	4.0000		7.4000
Selenium, total	ug/L	MW-9	03/20/2024	ND	4.0000		7.4000
Silver, total	ug/L	GWD-1	03/20/2024	ND	4.0000		4.0000
Silver, total	ug/L	GWD-2	03/20/2024	ND	4.0000		4.0000
Silver, total	ug/L	MW-12	03/20/2024	ND	4.0000		4.0000
Silver, total	ug/L	MW-15	03/20/2024	ND	4.0000		4.0000
Silver, total	ug/L	MW-21	03/20/2024	ND	4.0000		4.0000
Silver, total	ug/L	MW-23	03/20/2024	ND	4.0000		4.0000
Silver, total	ug/L	MW-3	03/20/2024	ND	4.0000		4.0000
Silver, total	ug/L	MW-9	03/20/2024	ND	4.0000		4.0000
Thallium, total	ug/L	GWD-1	03/20/2024	ND	2.0000		2.0000
Thallium, total	ug/L	GWD-2	03/20/2024	ND	2.0000		2.0000
Thallium, total	ug/L	MW-12	03/20/2024	ND	2.0000		2.0000
Thallium, total	ug/L	MW-15	03/20/2024	ND	2.0000		2.0000
Thallium, total	ug/L	MW-21	03/20/2024	ND	2.0000		2.0000
Thallium, total	ug/L	MW-23	03/20/2024	ND	2.0000		2.0000
Thallium, total	ug/L	MW-3	03/20/2024	ND	2.0000		2.0000
Thallium, total	ug/L	MW-9	03/20/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	GWD-1	03/20/2024	ND	20.0000		27.5000
Vanadium, total	ug/L	GWD-2	03/20/2024	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/20/2024		38.6000	*	27.5000
Vanadium, total	ug/L	MW-15	03/20/2024	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-21	03/20/2024	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-23	03/20/2024	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-3	03/20/2024	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-9	03/20/2024	ND	20.0000		27.5000
Zinc, total	ug/L	GWD-1	03/20/2024	ND	20.0000		68.3000
Zinc, total	ug/L	GWD-2	03/20/2024	ND	20.0000		68.3000
Zinc, total	ug/L	MW-12	03/20/2024		36.3000		68.3000
Zinc, total	ug/L	MW-15	03/20/2024	ND	20.0000		68.3000
Zinc, total	ug/L	MW-21	03/20/2024	ND	20.0000		68.3000
Zinc, total	ug/L	MW-23	03/20/2024	ND	20.0000		68.3000
Zinc, total	ug/L	MW-3	03/20/2024	ND	20.0000		68.3000
Zinc, total	ug/L	MW-9	03/20/2024	ND	20.0000		68.3000

* - Current value failed - awaiting verification.
** - Current value passed - previous exceedance not verified.
*** - Current value failed - exceedance verified.
**** - Current value passed - awaiting one more verification.
***** - Insufficient background data to compute prediction limit.
ND = Not Detected, Result = detection limit.

Table 3

Detection Frequencies in Upgradient and Downgradient Wells

Constituent	Upgradient Detect	Upgradient N	Upgradient Proportion	Downgradient Detect	Downgradient N	Downgradient Proportion
Antimony, total	0	78	0.000	1	232	0.004
Arsenic, total	3	77	0.039	57	236	0.242
Barium, total	77	77	1.000	236	236	1.000
Beryllium, total	0	78	0.000	0	234	0.000
Cadmium, total	11	78	0.141	8	236	0.034
Chromium, total	7	77	0.091	28	232	0.121
Cobalt, total	33	77	0.429	104	235	0.443
Copper, total	6	77	0.078	59	234	0.252
Lead, total	4	77	0.052	42	234	0.179
Nickel, total	18	77	0.234	133	236	0.564
Selenium, total	14	79	0.177	1	234	0.004
Silver, total	0	78	0.000	0	232	0.000
Thallium, total	0	78	0.000	0	232	0.000
Vanadium, total	2	77	0.026	26	234	0.111
Zinc, total	28	78	0.359	100	234	0.427

N = Total number of measurements in all wells.
Detect = Total number of detections in all wells.
Proportion = Detect/N.

Table 4

Shapiro-Wilk Multiple Group Test of Normality

Constituent	Detect	N	Detect Freq	G raw	G log	G cbrt	G sqrt	G sqr	G cub	Crit Value	Dist Form	Model Type
Antimony, total	0	78	0.000									nonpar
Arsenic, total	3	77	0.039									nonpar
Barium, total	77	77	1.000	7.361	5.738					2.326	non-norm	nonpar
Beryllium, total	0	78	0.000									nonpar
Cadmium, total	11	78	0.141	2.566	2.544					2.326	non-norm	nonpar
Chromium, total	7	77	0.091	0.967	0.810					2.326	normal	nonpar
Cobalt, total	33	77	0.429	1.099	0.700					2.326	normal	nonpar
Copper, total	6	77	0.078	1.191	1.099					2.326	normal	nonpar
Lead, total	4	77	0.052									nonpar
Nickel, total	18	77	0.234	0.089	0.385					2.326	normal	nonpar
Selenium, total	14	79	0.177	3.227	2.791					2.326	non-norm	nonpar
Silver, total	0	78	0.000									nonpar
Thallium, total	0	78	0.000									nonpar
Vanadium, total	2	77	0.026									nonpar
Zinc, total	28	78	0.359	2.496	1.079					2.326	lognor	nonpar

* - Distribution override for that constituent.
Fit to distribution is confirmed if G <= critical value.
Model type may not match distributional form when detection frequency < 50%.

Table 5

Summary Statistics and Prediction Limits

Constituent	Units	Detect	N	Mean	SD	alpha	Factor	Pred Limit	Type		Conf
Antimony, total	ug/L	0	78					2.0000	nonpar	***	0.99
Arsenic, total	ug/L	3	77					6.1000	nonpar		0.99
Barium, total	ug/L	77	77					614.0000	nonpar		0.99
Beryllium, total	ug/L	0	78					4.0000	nonpar	***	0.99
Cadmium, total	ug/L	11	78					1.0000	nonpar		0.99
Chromium, total	ug/L	7	77					15.4000	nonpar		0.99
Cobalt, total	ug/L	33	77					10.6000	nonpar		0.99
Copper, total	ug/L	6	77					10.8000	nonpar		0.99
Lead, total	ug/L	4	77					8.7000	nonpar		0.99
Nickel, total	ug/L	18	77					13.6000	nonpar		0.99
Selenium, total	ug/L	14	79					7.4000	nonpar		0.99
Silver, total	ug/L	0	78					4.0000	nonpar	***	0.99
Thallium, total	ug/L	0	78					2.0000	nonpar	***	0.99
Vanadium, total	ug/L	2	77					27.5000	nonpar		0.99
Zinc, total	ug/L	28	78					68.3000	nonpar		0.99

Conf = confidence level for passing initial test or one verification resample at all downgradient wells for a single constituent (nonparametric test only).
* - Insufficient Data.
** - Calculated limit raised to Manual Reporting Limit.
*** - Nonparametric limit based on ND value.
For transformed data, mean and SD in transformed units and prediction limit in original units.
All sample sizes and statistics are based on outlier free data.
For nonparametric limits, median reporting limits are substituted for extreme reporting limit values.

Table 6

Dixon's Test Outliers
5% Significance Level

Constituent	Units	Well	Date	Result	ND Qualifier	Date Range	N	Critical Value
Barium, total	ug/L	MW-19	03/20/2024	26.9000		09/18/2014-03/20/2024	19	0.4621
Copper, total	ug/L	MW-14	03/30/2020	32.2000		09/18/2014-03/20/2024	21	0.4398

N = Total number of independent measurements in background at each well.
Date Range = Dates of the first and last measurements included in background at each well.
Critical Value depends on the significance level and on N-1 when the two most extreme values are tested or N for the most extreme value.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Arsenic, total	ug/L	GWD-1	04/15/2008	ND	5.0000		6.1000
Arsenic, total	ug/L	GWD-1	06/18/2008	ND	5.0000		6.1000
Arsenic, total	ug/L	GWD-1	08/19/2008	ND	5.0000		6.1000
Arsenic, total	ug/L	GWD-1	10/18/2008	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	12/04/2008	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	03/16/2009	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	09/23/2009	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	04/12/2010	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	09/28/2010	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	05/03/2011	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	10/11/2011	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	04/24/2012		6.2000	*	6.1000
Arsenic, total	ug/L	GWD-1	09/11/2012		8.0000	*	6.1000
Arsenic, total	ug/L	GWD-1	04/05/2013	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	10/07/2015		8.1000	*	6.1000
Arsenic, total	ug/L	GWD-1	01/18/2016		5.0000		6.1000
Arsenic, total	ug/L	GWD-1	04/19/2016		6.4000	*	6.1000
Arsenic, total	ug/L	GWD-1	09/19/2016	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	03/21/2017	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	10/12/2017	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	03/08/2018	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	09/06/2018	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	05/13/2019	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	09/26/2019		4.1000		6.1000
Arsenic, total	ug/L	GWD-1	03/30/2020	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	09/17/2020	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	03/09/2021	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	09/09/2021	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	03/14/2022	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	03/06/2023	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	03/20/2024		11.4000	*	6.1000
Arsenic, total	ug/L	MW-12	04/15/2008		8.0000	*	6.1000
Arsenic, total	ug/L	MW-12	06/18/2008	ND	5.0000		6.1000
Arsenic, total	ug/L	MW-12	08/19/2008	ND	5.0000		6.1000
Arsenic, total	ug/L	MW-12	10/18/2008	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	12/04/2008		4.3000		6.1000
Arsenic, total	ug/L	MW-12	03/16/2009		5.1000		6.1000
Arsenic, total	ug/L	MW-12	09/23/2009		4.1000		6.1000
Arsenic, total	ug/L	MW-12	04/12/2010	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	09/28/2010	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	05/03/2011	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	10/10/2011	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	04/23/2012		7.8000	*	6.1000
Arsenic, total	ug/L	MW-12	09/10/2012		6.9000	*	6.1000
Arsenic, total	ug/L	MW-12	04/05/2013	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	10/11/2013		4.7000		6.1000
Arsenic, total	ug/L	MW-12	04/22/2014		6.8000	*	6.1000
Arsenic, total	ug/L	MW-12	09/18/2014		4.1000		6.1000
Arsenic, total	ug/L	MW-12	04/28/2015		4.6000		6.1000
Arsenic, total	ug/L	MW-12	10/07/2015	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	04/19/2016	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	09/19/2016		4.3000		6.1000
Arsenic, total	ug/L	MW-12	03/22/2017	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	10/12/2017	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	03/08/2018	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	09/06/2018	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	05/13/2019	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	09/26/2019	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	03/30/2020	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	09/17/2020	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	03/09/2021	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	09/09/2021	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	03/14/2022	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	09/01/2022	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	03/06/2023		7.3000	*	6.1000
Arsenic, total	ug/L	MW-12	09/08/2023	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	03/20/2024		15.9000	*	6.1000
Arsenic, total	ug/L	MW-21	04/05/2013	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	06/15/2013	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	08/07/2013	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	10/10/2013	ND	4.0000		6.1000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Arsenic, total	ug/L	MW-21	11/30/2013	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	04/22/2014	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	09/17/2014	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	04/28/2015	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	10/07/2015	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	04/19/2016	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	09/19/2016	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	03/21/2017	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	10/12/2017	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	03/08/2018	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	09/06/2018	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	05/13/2019	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	09/26/2019	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	03/30/2020	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	09/17/2020	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	03/09/2021	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	09/09/2021	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	03/14/2022	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	09/01/2022	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	03/06/2023	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	09/08/2023	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-21	03/20/2024		24.4000	*	6.1000
Barium, total	ug/L	GWD-2	10/10/2013		293.0000		614.0000
Barium, total	ug/L	GWD-2	04/23/2014		251.0000		614.0000
Barium, total	ug/L	GWD-2	09/18/2014		307.0000		614.0000
Barium, total	ug/L	GWD-2	04/28/2015		341.0000		614.0000
Barium, total	ug/L	GWD-2	10/07/2015		316.0000		614.0000
Barium, total	ug/L	GWD-2	04/19/2016		329.0000		614.0000
Barium, total	ug/L	GWD-2	09/19/2016		321.0000		614.0000
Barium, total	ug/L	GWD-2	03/21/2017		330.0000		614.0000
Barium, total	ug/L	GWD-2	10/12/2017		354.0000		614.0000
Barium, total	ug/L	GWD-2	03/08/2018		357.0000		614.0000
Barium, total	ug/L	GWD-2	09/06/2018		333.0000		614.0000
Barium, total	ug/L	GWD-2	05/13/2019		385.0000		614.0000
Barium, total	ug/L	GWD-2	09/26/2019		405.0000		614.0000
Barium, total	ug/L	GWD-2	03/30/2020		484.0000		614.0000
Barium, total	ug/L	GWD-2	09/17/2020		824.0000	*	614.0000
Barium, total	ug/L	GWD-2	12/03/2020		534.0000		614.0000
Barium, total	ug/L	GWD-2	03/09/2021		544.0000		614.0000
Barium, total	ug/L	GWD-2	09/09/2021		554.0000		614.0000
Barium, total	ug/L	GWD-2	03/06/2023		574.0000		614.0000
Barium, total	ug/L	GWD-2	05/09/2023		565.0000		614.0000
Barium, total	ug/L	GWD-2	09/08/2023		825.0000	*	614.0000
Barium, total	ug/L	GWD-2	03/20/2024		665.0000	*	614.0000
Barium, total	ug/L	MW-12	04/15/2008		447.0000		614.0000
Barium, total	ug/L	MW-12	06/18/2008		430.0000		614.0000
Barium, total	ug/L	MW-12	08/19/2008		420.0000		614.0000
Barium, total	ug/L	MW-12	10/18/2008		405.0000		614.0000
Barium, total	ug/L	MW-12	12/04/2008		472.0000		614.0000
Barium, total	ug/L	MW-12	03/16/2009		494.0000		614.0000
Barium, total	ug/L	MW-12	09/23/2009		476.0000		614.0000
Barium, total	ug/L	MW-12	04/12/2010		421.0000		614.0000
Barium, total	ug/L	MW-12	09/28/2010		477.0000		614.0000
Barium, total	ug/L	MW-12	05/03/2011		440.0000		614.0000
Barium, total	ug/L	MW-12	10/10/2011		537.0000		614.0000
Barium, total	ug/L	MW-12	04/23/2012		471.0000		614.0000
Barium, total	ug/L	MW-12	09/10/2012		416.0000		614.0000
Barium, total	ug/L	MW-12	04/05/2013		461.0000		614.0000
Barium, total	ug/L	MW-12	10/11/2013		416.0000		614.0000
Barium, total	ug/L	MW-12	04/22/2014		366.0000		614.0000
Barium, total	ug/L	MW-12	09/18/2014		364.0000		614.0000
Barium, total	ug/L	MW-12	04/28/2015		409.0000		614.0000
Barium, total	ug/L	MW-12	10/07/2015		403.0000		614.0000
Barium, total	ug/L	MW-12	04/19/2016		396.0000		614.0000
Barium, total	ug/L	MW-12	09/19/2016		390.0000		614.0000
Barium, total	ug/L	MW-12	03/22/2017		303.0000		614.0000
Barium, total	ug/L	MW-12	10/12/2017		305.0000		614.0000
Barium, total	ug/L	MW-12	03/08/2018		295.0000		614.0000
Barium, total	ug/L	MW-12	09/06/2018		286.0000		614.0000
Barium, total	ug/L	MW-12	05/13/2019		280.0000		614.0000
Barium, total	ug/L	MW-12	09/26/2019		295.0000		614.0000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Barium, total	ug/L	MW-12	03/30/2020		397.0000		614.0000
Barium, total	ug/L	MW-12	09/17/2020		301.0000		614.0000
Barium, total	ug/L	MW-12	03/09/2021		416.0000		614.0000
Barium, total	ug/L	MW-12	09/09/2021		425.0000		614.0000
Barium, total	ug/L	MW-12	03/14/2022		544.0000		614.0000
Barium, total	ug/L	MW-12	09/01/2022		322.0000		614.0000
Barium, total	ug/L	MW-12	03/06/2023		547.0000		614.0000
Barium, total	ug/L	MW-12	09/08/2023		465.0000		614.0000
Barium, total	ug/L	MW-12	03/20/2024		856.0000	*	614.0000
Barium, total	ug/L	MW-21	04/05/2013		282.0000		614.0000
Barium, total	ug/L	MW-21	06/15/2013		268.0000		614.0000
Barium, total	ug/L	MW-21	08/07/2013		288.0000		614.0000
Barium, total	ug/L	MW-21	10/10/2013		300.0000		614.0000
Barium, total	ug/L	MW-21	11/30/2013		276.0000		614.0000
Barium, total	ug/L	MW-21	04/22/2014		289.0000		614.0000
Barium, total	ug/L	MW-21	09/17/2014		318.0000		614.0000
Barium, total	ug/L	MW-21	04/28/2015		377.0000		614.0000
Barium, total	ug/L	MW-21	10/07/2015		351.0000		614.0000
Barium, total	ug/L	MW-21	04/19/2016		338.0000		614.0000
Barium, total	ug/L	MW-21	09/19/2016		316.0000		614.0000
Barium, total	ug/L	MW-21	03/21/2017		305.0000		614.0000
Barium, total	ug/L	MW-21	10/12/2017		287.0000		614.0000
Barium, total	ug/L	MW-21	03/08/2018		322.0000		614.0000
Barium, total	ug/L	MW-21	09/06/2018		305.0000		614.0000
Barium, total	ug/L	MW-21	05/13/2019		313.0000		614.0000
Barium, total	ug/L	MW-21	09/26/2019		344.0000		614.0000
Barium, total	ug/L	MW-21	03/30/2020		354.0000		614.0000
Barium, total	ug/L	MW-21	09/17/2020		337.0000		614.0000
Barium, total	ug/L	MW-21	03/09/2021		380.0000		614.0000
Barium, total	ug/L	MW-21	09/09/2021		325.0000		614.0000
Barium, total	ug/L	MW-21	03/14/2022		317.0000		614.0000
Barium, total	ug/L	MW-21	09/01/2022		341.0000		614.0000
Barium, total	ug/L	MW-21	03/06/2023		365.0000		614.0000
Barium, total	ug/L	MW-21	09/08/2023		354.0000		614.0000
Barium, total	ug/L	MW-21	03/20/2024		1100.0000	*	614.0000
Barium, total	ug/L	MW-3	04/15/2008		572.0000		614.0000
Barium, total	ug/L	MW-3	06/18/2008		547.0000		614.0000
Barium, total	ug/L	MW-3	08/19/2008		624.0000	*	614.0000
Barium, total	ug/L	MW-3	10/18/2008		706.0000	*	614.0000
Barium, total	ug/L	MW-3	12/04/2008		700.0000	*	614.0000
Barium, total	ug/L	MW-3	03/16/2009		740.0000	*	614.0000
Barium, total	ug/L	MW-3	09/23/2009		826.0000	*	614.0000
Barium, total	ug/L	MW-3	04/12/2010		661.0000	*	614.0000
Barium, total	ug/L	MW-3	06/01/2010		790.0000	*	614.0000
Barium, total	ug/L	MW-3	09/28/2010		742.0000	*	614.0000
Barium, total	ug/L	MW-3	05/03/2011		647.0000	*	614.0000
Barium, total	ug/L	MW-3	10/11/2011		808.0000	*	614.0000
Barium, total	ug/L	MW-3	04/24/2012		844.0000	*	614.0000
Barium, total	ug/L	MW-3	09/10/2012		201.0000		614.0000
Barium, total	ug/L	MW-3	04/05/2013		727.0000	*	614.0000
Barium, total	ug/L	MW-3	10/10/2013		755.0000	*	614.0000
Barium, total	ug/L	MW-3	04/22/2014		758.0000	*	614.0000
Barium, total	ug/L	MW-3	09/18/2014		655.0000	*	614.0000
Barium, total	ug/L	MW-3	04/29/2015		761.0000	*	614.0000
Barium, total	ug/L	MW-3	10/07/2015		640.0000	*	614.0000
Barium, total	ug/L	MW-3	04/19/2016		748.0000	*	614.0000
Barium, total	ug/L	MW-3	09/19/2016		784.0000	*	614.0000
Barium, total	ug/L	MW-3	03/21/2017		710.0000	*	614.0000
Barium, total	ug/L	MW-3	10/12/2017		743.0000	*	614.0000
Barium, total	ug/L	MW-3	03/08/2018		1020.0000	*	614.0000
Barium, total	ug/L	MW-3	09/06/2018		796.0000	*	614.0000
Barium, total	ug/L	MW-3	05/13/2019		865.0000	*	614.0000
Barium, total	ug/L	MW-3	09/26/2019		951.0000	*	614.0000
Barium, total	ug/L	MW-3	03/30/2020		867.0000	*	614.0000
Barium, total	ug/L	MW-3	09/17/2020		884.0000	*	614.0000
Barium, total	ug/L	MW-3	03/09/2021		1090.0000	*	614.0000
Barium, total	ug/L	MW-3	09/09/2021		785.0000	*	614.0000
Barium, total	ug/L	MW-3	03/14/2022		843.0000	*	614.0000
Barium, total	ug/L	MW-3	09/01/2022		783.0000	*	614.0000
Barium, total	ug/L	MW-3	03/06/2023		785.0000	*	614.0000
Barium, total	ug/L	MW-3	09/08/2023		730.0000	*	614.0000

* - Significantly increased over background.
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*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Barium, total	ug/L	MW-3	03/20/2024		747.0000	*	614.0000
Chromium, total	ug/L	MW-12	04/15/2008		8.0000		15.4000
Chromium, total	ug/L	MW-12	06/18/2008	ND	5.0000		15.4000
Chromium, total	ug/L	MW-12	08/19/2008		6.0000		15.4000
Chromium, total	ug/L	MW-12	10/18/2008	ND	10.0000		15.4000
Chromium, total	ug/L	MW-12	12/04/2008	ND	10.0000		15.4000
Chromium, total	ug/L	MW-12	03/16/2009	ND	10.0000		15.4000
Chromium, total	ug/L	MW-12	09/23/2009	ND	10.0000		15.4000
Chromium, total	ug/L	MW-12	04/12/2010	ND	10.0000		15.4000
Chromium, total	ug/L	MW-12	09/28/2010	ND	10.0000		15.4000
Chromium, total	ug/L	MW-12	05/03/2011	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	10/10/2011		8.1000		15.4000
Chromium, total	ug/L	MW-12	04/23/2012	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	09/10/2012	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	04/05/2013	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	10/11/2013	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	04/22/2014	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	09/18/2014	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	04/28/2015	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	10/07/2015	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	04/19/2016	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	09/19/2016	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	03/22/2017	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	10/12/2017	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	03/08/2018	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	09/06/2018	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	05/13/2019	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	09/26/2019	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	03/30/2020	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	09/17/2020	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	03/09/2021	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	09/09/2021	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	03/14/2022	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	09/01/2022	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	03/06/2023		12.7000		15.4000
Chromium, total	ug/L	MW-12	09/08/2023	ND	8.0000		15.4000
Chromium, total	ug/L	MW-12	03/20/2024		22.7000	*	15.4000
Cobalt, total	ug/L	MW-12	04/15/2008	ND	10.0000		10.6000
Cobalt, total	ug/L	MW-12	06/18/2008	ND	10.0000		10.6000
Cobalt, total	ug/L	MW-12	08/19/2008	ND	10.0000		10.6000
Cobalt, total	ug/L	MW-12	10/18/2008	ND	4.0000		10.6000
Cobalt, total	ug/L	MW-12	12/04/2008		4.3000		10.6000
Cobalt, total	ug/L	MW-12	03/16/2009		4.7000		10.6000
Cobalt, total	ug/L	MW-12	09/23/2009	ND	4.0000		10.6000
Cobalt, total	ug/L	MW-12	04/12/2010	ND	4.0000		10.6000
Cobalt, total	ug/L	MW-12	09/28/2010	ND	4.0000		10.6000
Cobalt, total	ug/L	MW-12	05/03/2011	ND	4.0000		10.6000
Cobalt, total	ug/L	MW-12	10/10/2011		4.3000		10.6000
Cobalt, total	ug/L	MW-12	04/23/2012	ND	4.0000		10.6000
Cobalt, total	ug/L	MW-12	09/10/2012	ND	4.0000		10.6000
Cobalt, total	ug/L	MW-12	04/05/2013	ND	4.0000		10.6000
Cobalt, total	ug/L	MW-12	10/11/2013	ND	4.0000		10.6000
Cobalt, total	ug/L	MW-12	04/22/2014	ND	4.0000		10.6000
Cobalt, total	ug/L	MW-12	09/18/2014		3.4000		10.6000
Cobalt, total	ug/L	MW-12	04/28/2015		2.6000		10.6000
Cobalt, total	ug/L	MW-12	10/07/2015		1.7000		10.6000
Cobalt, total	ug/L	MW-12	04/19/2016		2.0000		10.6000
Cobalt, total	ug/L	MW-12	09/19/2016		2.2000		10.6000
Cobalt, total	ug/L	MW-12	03/22/2017	ND	0.8000		10.6000
Cobalt, total	ug/L	MW-12	10/12/2017	ND	0.8000		10.6000
Cobalt, total	ug/L	MW-12	03/08/2018	ND	2.0000		10.6000
Cobalt, total	ug/L	MW-12	09/06/2018	ND	0.8000		10.6000
Cobalt, total	ug/L	MW-12	05/13/2019	ND	0.8000		10.6000
Cobalt, total	ug/L	MW-12	09/26/2019	ND	0.8000		10.6000
Cobalt, total	ug/L	MW-12	03/30/2020		6.7000		10.6000
Cobalt, total	ug/L	MW-12	09/17/2020		0.4000		10.6000
Cobalt, total	ug/L	MW-12	03/09/2021		1.3000		10.6000
Cobalt, total	ug/L	MW-12	09/09/2021		1.9000		10.6000
Cobalt, total	ug/L	MW-12	03/14/2022		0.8000		10.6000
Cobalt, total	ug/L	MW-12	09/01/2022		1.3000		10.6000
Cobalt, total	ug/L	MW-12	03/06/2023		8.2000		10.6000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Cobalt, total	ug/L	MW-12	09/08/2023		0.6000		10.6000
Cobalt, total	ug/L	MW-12	03/20/2024		21.3000	*	10.6000
Copper, total	ug/L	MW-12	04/15/2008		12.0000	*	10.8000
Copper, total	ug/L	MW-12	06/18/2008		8.0000		10.8000
Copper, total	ug/L	MW-12	08/19/2008		5.0000		10.8000
Copper, total	ug/L	MW-12	10/18/2008	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	12/04/2008	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/16/2009		4.4000		10.8000
Copper, total	ug/L	MW-12	09/23/2009	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	04/12/2010		4.0000		10.8000
Copper, total	ug/L	MW-12	09/28/2010	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	05/03/2011	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	10/10/2011	ND	8.0000		10.8000
Copper, total	ug/L	MW-12	04/23/2012	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/10/2012	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	04/05/2013	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	10/11/2013	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	04/22/2014	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/18/2014	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	04/28/2015	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	10/07/2015	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	04/19/2016	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/19/2016	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/22/2017	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	10/12/2017	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/08/2018	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/06/2018	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	05/13/2019	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/26/2019	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/30/2020		8.0000		10.8000
Copper, total	ug/L	MW-12	09/17/2020	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/09/2021	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/09/2021	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/14/2022	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/01/2022	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/06/2023		6.5000		10.8000
Copper, total	ug/L	MW-12	09/08/2023	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/20/2024		18.0000	*	10.8000
Lead, total	ug/L	MW-12	04/15/2008		5.0000		8.7000
Lead, total	ug/L	MW-12	06/18/2008	ND	5.0000		8.7000
Lead, total	ug/L	MW-12	08/19/2008		8.0000		8.7000
Lead, total	ug/L	MW-12	10/18/2008	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	12/04/2008		4.7000		8.7000
Lead, total	ug/L	MW-12	03/16/2009		4.3000		8.7000
Lead, total	ug/L	MW-12	09/23/2009	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	04/12/2010	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/28/2010	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	05/03/2011	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	10/10/2011	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	04/23/2012	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/10/2012	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	04/05/2013	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	10/11/2013	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	04/22/2014	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/18/2014	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	04/28/2015	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	10/07/2015	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	04/19/2016	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/19/2016	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/22/2017	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	10/12/2017	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/08/2018	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/06/2018	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	05/13/2019		6.7000		8.7000
Lead, total	ug/L	MW-12	09/26/2019	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/30/2020		6.0000		8.7000
Lead, total	ug/L	MW-12	09/17/2020	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/09/2021	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/09/2021	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/14/2022	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/01/2022	ND	4.0000		8.7000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Lead, total	ug/L	MW-12	03/06/2023		4.1000		8.7000
Lead, total	ug/L	MW-12	09/08/2023	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/20/2024		8.9000	*	8.7000
Nickel, total	ug/L	MW-12	04/15/2008		14.0000	*	13.6000
Nickel, total	ug/L	MW-12	06/18/2008		8.0000		13.6000
Nickel, total	ug/L	MW-12	08/19/2008		6.0000		13.6000
Nickel, total	ug/L	MW-12	10/18/2008		5.3000		13.6000
Nickel, total	ug/L	MW-12	12/04/2008		6.9000		13.6000
Nickel, total	ug/L	MW-12	03/16/2009		10.1000		13.6000
Nickel, total	ug/L	MW-12	09/23/2009		6.5000		13.6000
Nickel, total	ug/L	MW-12	04/12/2010		10.2000		13.6000
Nickel, total	ug/L	MW-12	09/28/2010		6.2000		13.6000
Nickel, total	ug/L	MW-12	05/03/2011		9.3000		13.6000
Nickel, total	ug/L	MW-12	10/10/2011		13.4000		13.6000
Nickel, total	ug/L	MW-12	04/23/2012		7.5000		13.6000
Nickel, total	ug/L	MW-12	09/10/2012		6.3000		13.6000
Nickel, total	ug/L	MW-12	04/05/2013		9.1000		13.6000
Nickel, total	ug/L	MW-12	10/11/2013		5.2000		13.6000
Nickel, total	ug/L	MW-12	04/22/2014		6.2000		13.6000
Nickel, total	ug/L	MW-12	09/18/2014		5.8000		13.6000
Nickel, total	ug/L	MW-12	04/28/2015		4.6000		13.6000
Nickel, total	ug/L	MW-12	10/07/2015	ND	4.0000		13.6000
Nickel, total	ug/L	MW-12	04/19/2016		4.1000		13.6000
Nickel, total	ug/L	MW-12	09/19/2016	ND	4.0000		13.6000
Nickel, total	ug/L	MW-12	03/22/2017	ND	4.0000		13.6000
Nickel, total	ug/L	MW-12	10/12/2017	ND	4.0000		13.6000
Nickel, total	ug/L	MW-12	03/08/2018	ND	4.0000		13.6000
Nickel, total	ug/L	MW-12	09/06/2018	ND	8.0000		13.6000
Nickel, total	ug/L	MW-12	05/13/2019	ND	4.0000		13.6000
Nickel, total	ug/L	MW-12	09/26/2019		5.2000		13.6000
Nickel, total	ug/L	MW-12	03/30/2020		15.7000	*	13.6000
Nickel, total	ug/L	MW-12	06/25/2020		7.9000		13.6000
Nickel, total	ug/L	MW-12	09/17/2020		5.9000		13.6000
Nickel, total	ug/L	MW-12	03/09/2021		11.9000		13.6000
Nickel, total	ug/L	MW-12	09/09/2021		15.6000	*	13.6000
Nickel, total	ug/L	MW-12	12/08/2021		31.6000	*	13.6000
Nickel, total	ug/L	MW-12	03/14/2022		12.3000		13.6000
Nickel, total	ug/L	MW-12	09/01/2022		6.7000		13.6000
Nickel, total	ug/L	MW-12	03/06/2023		27.6000	*	13.6000
Nickel, total	ug/L	MW-12	09/08/2023		11.6000		13.6000
Nickel, total	ug/L	MW-12	03/20/2024		63.1000	*	13.6000
Vanadium, total	ug/L	MW-12	04/15/2008	ND	50.0000		27.5000
Vanadium, total	ug/L	MW-12	06/18/2008	ND	50.0000		27.5000
Vanadium, total	ug/L	MW-12	08/19/2008	ND	50.0000		27.5000
Vanadium, total	ug/L	MW-12	10/18/2008	ND	10.0000		27.5000
Vanadium, total	ug/L	MW-12	12/04/2008		10.6000		27.5000
Vanadium, total	ug/L	MW-12	03/16/2009		14.0000		27.5000
Vanadium, total	ug/L	MW-12	09/23/2009	ND	10.0000		27.5000
Vanadium, total	ug/L	MW-12	04/12/2010	ND	10.0000		27.5000
Vanadium, total	ug/L	MW-12	09/28/2010	ND	10.0000		27.5000
Vanadium, total	ug/L	MW-12	05/03/2011	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	10/10/2011	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	04/23/2012	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/10/2012	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	04/05/2013	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	10/11/2013	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	04/22/2014	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/18/2014	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	04/28/2015	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	10/07/2015	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	04/19/2016	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/19/2016	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/22/2017	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	10/12/2017	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/08/2018	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/06/2018	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	05/13/2019	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/26/2019	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/30/2020	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/17/2020	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/09/2021	ND	20.0000		27.5000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

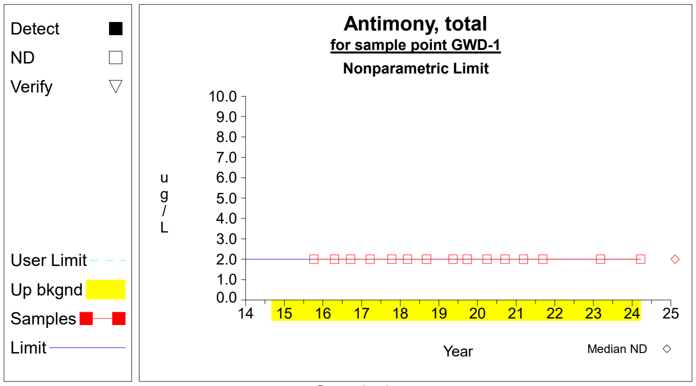
Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

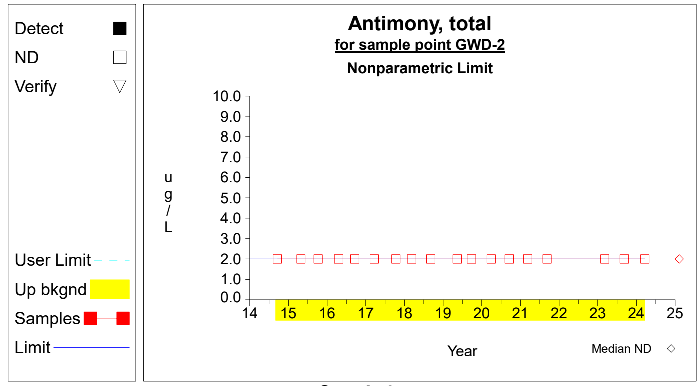
Constituent	Units	Well	Date		Result		Pred. Limit
Vanadium, total	ug/L	MW-12	09/09/2021	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/14/2022	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/01/2022	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/06/2023	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/08/2023	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/20/2024		38.6000	*	27.5000

*   - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

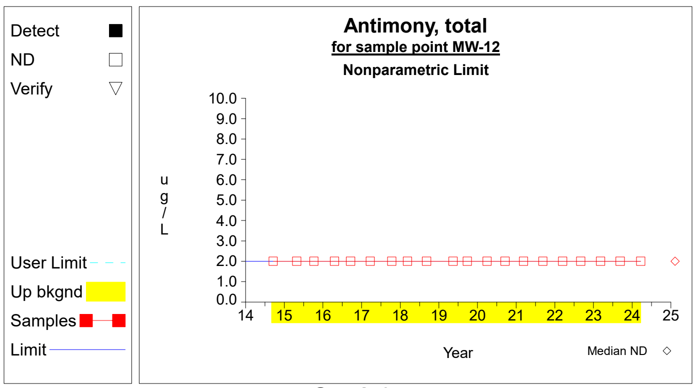
Up vs. Down Prediction Limits



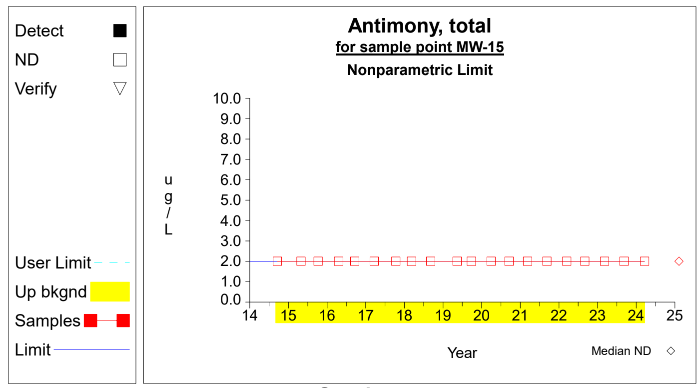
Graph 1



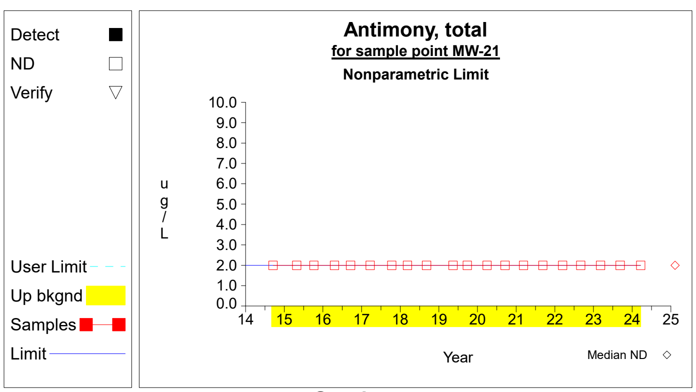
Graph 2



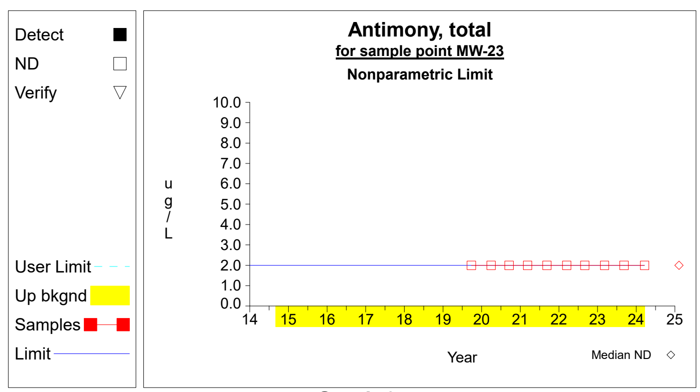
Graph 3



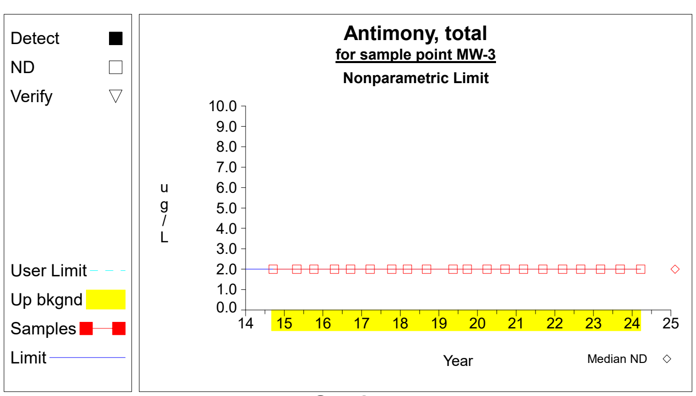
Graph 4



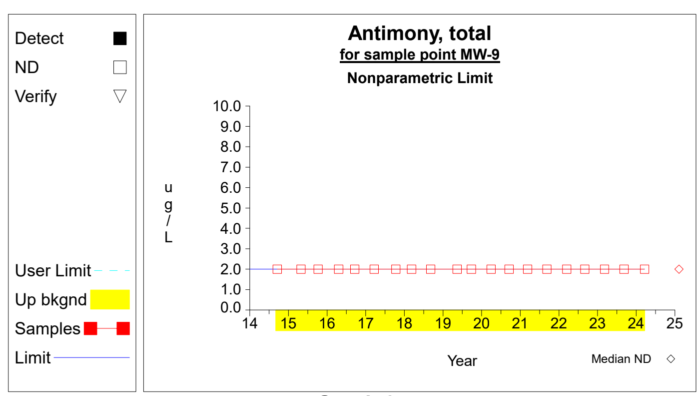
Graph 5



Graph 6

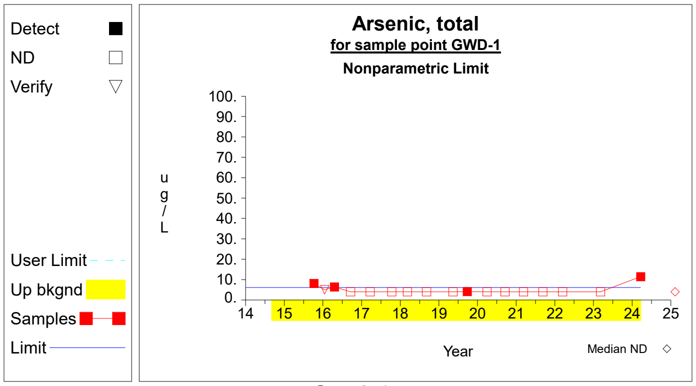


Graph 7

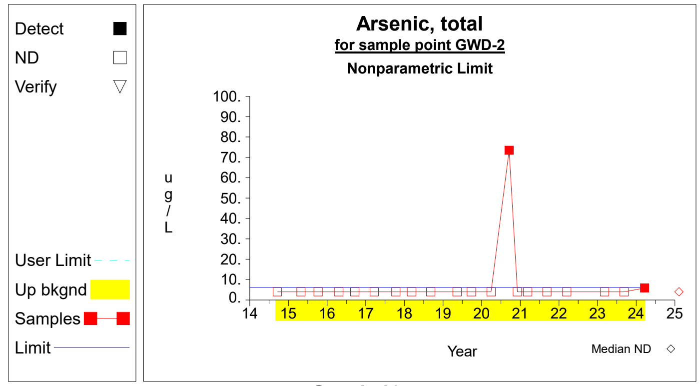


Graph 8

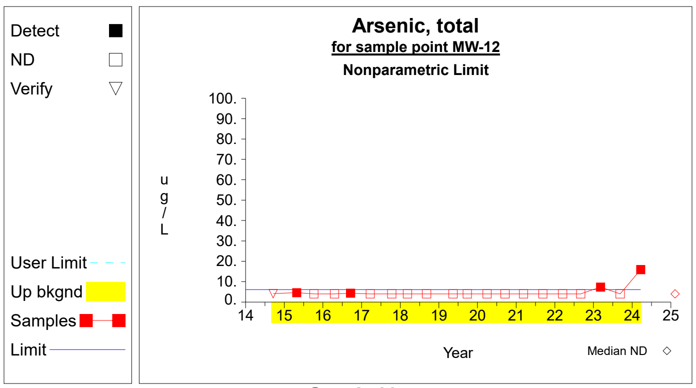
Up vs. Down Prediction Limits



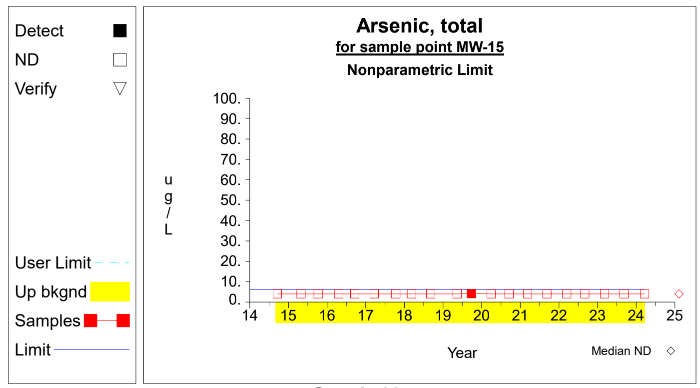
Graph 9



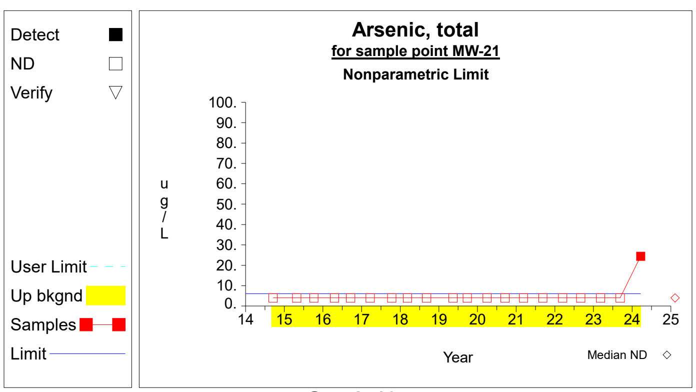
Graph 10



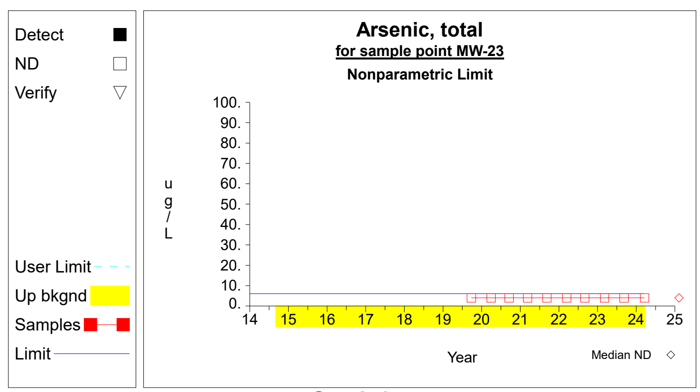
Graph 11



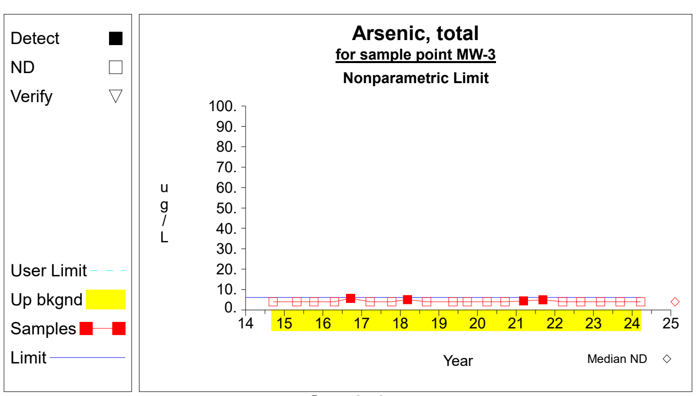
Graph 12



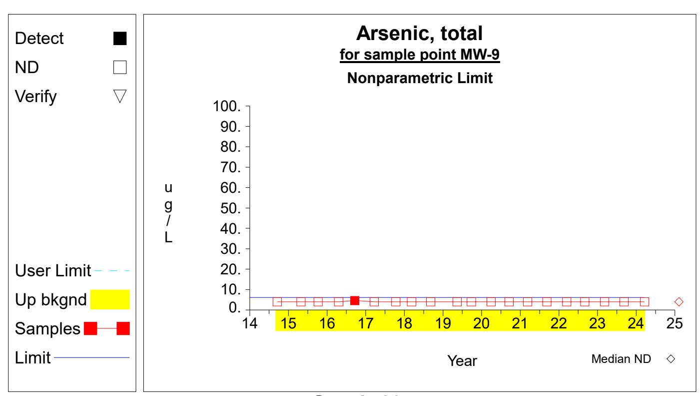
Graph 13



Graph 14

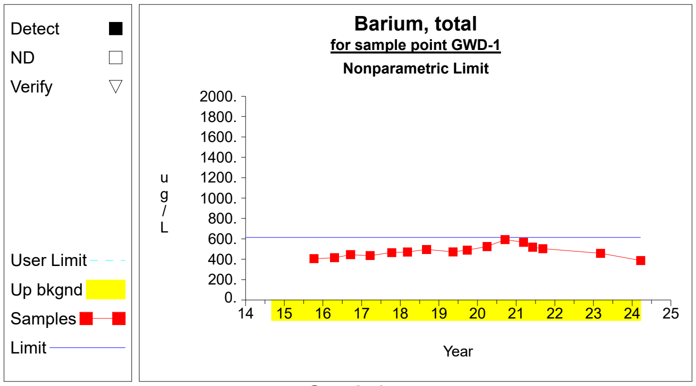


Graph 15

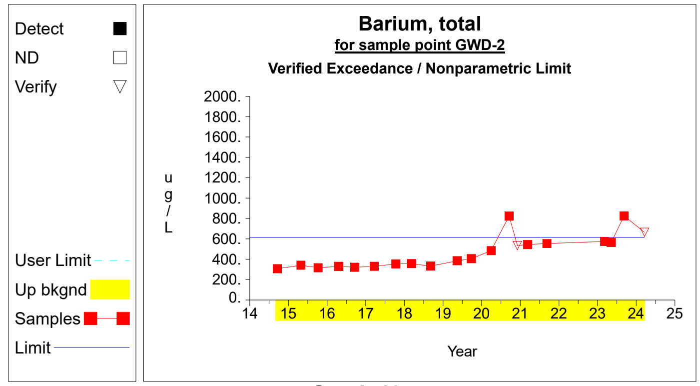


Graph 16

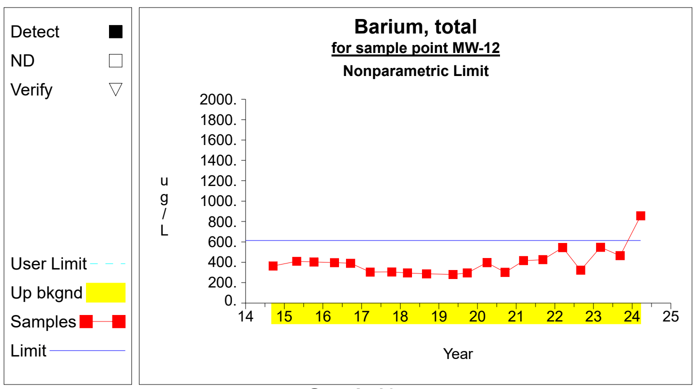
Up vs. Down Prediction Limits



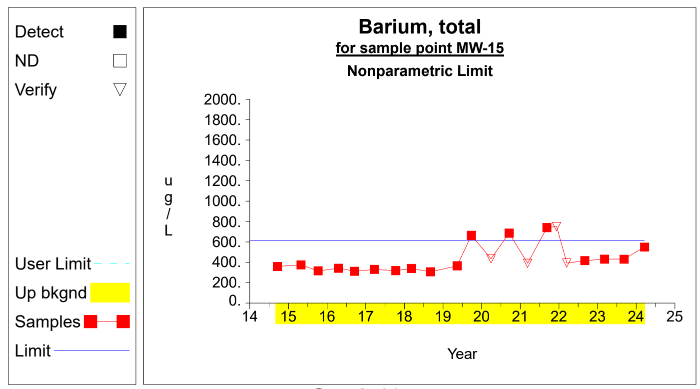
Graph 17



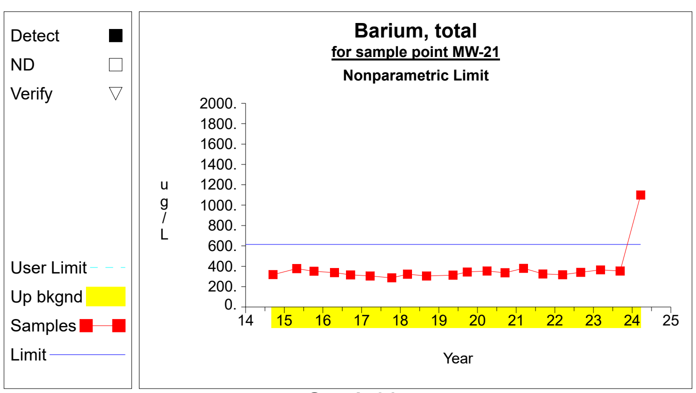
Graph 18



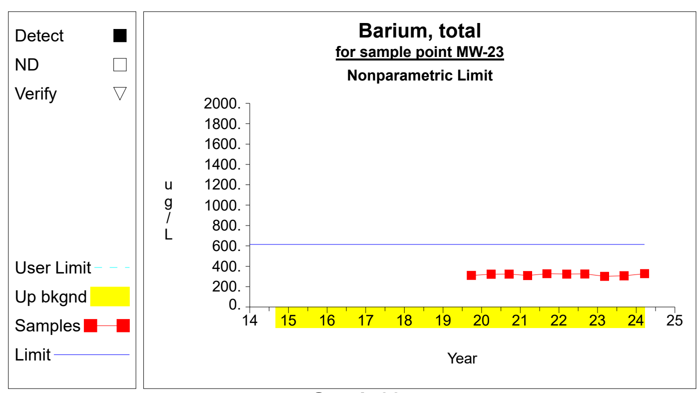
Graph 19



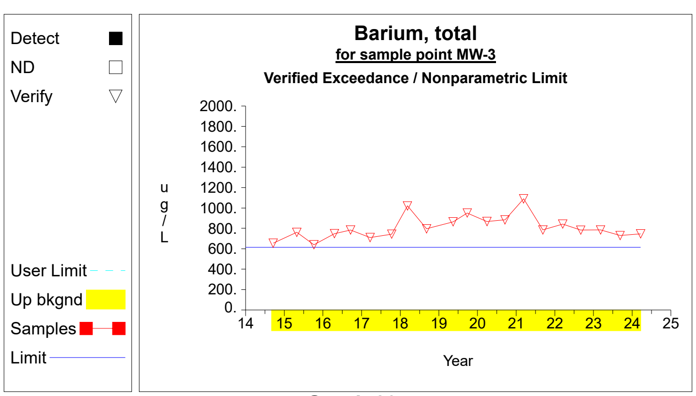
Graph 20



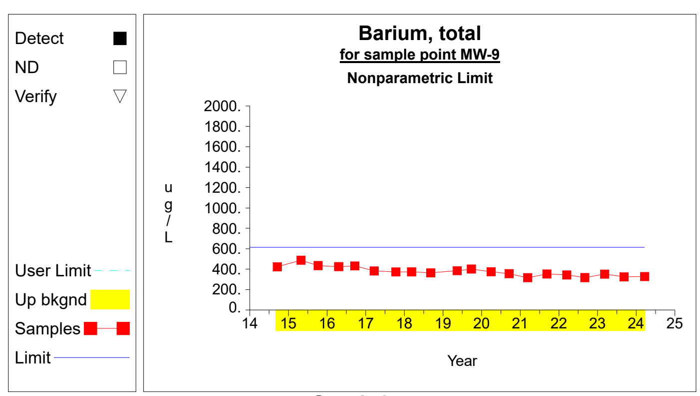
Graph 21



Graph 22



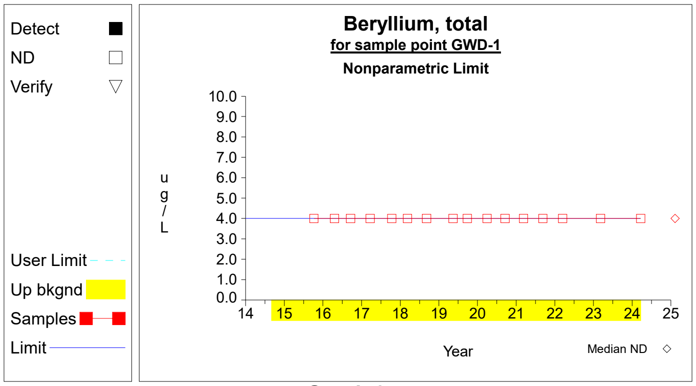
Graph 23



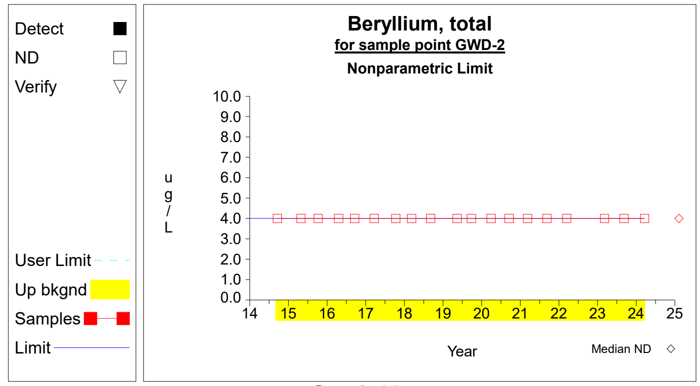
Graph 24

Fremont County [GW] April 2024

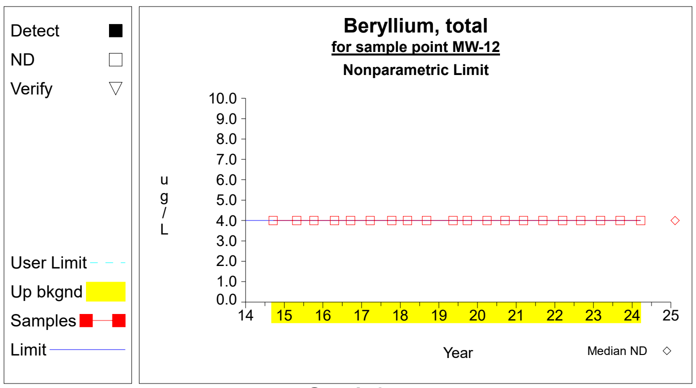
Up vs. Down Prediction Limits



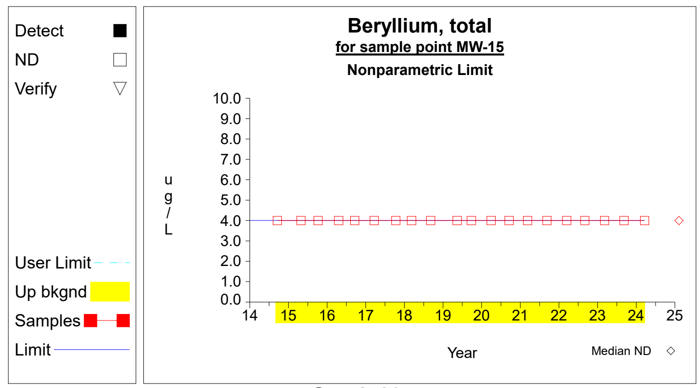
Graph 25



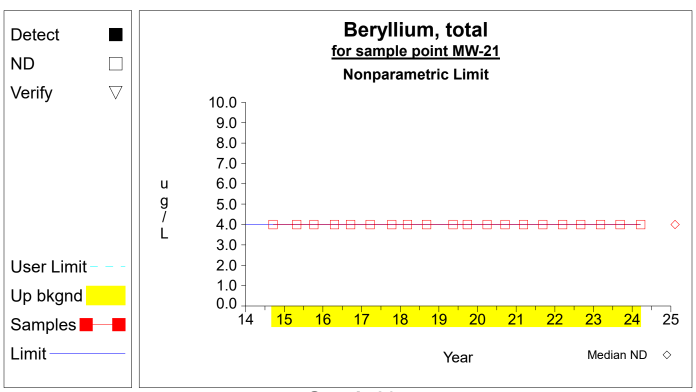
Graph 26



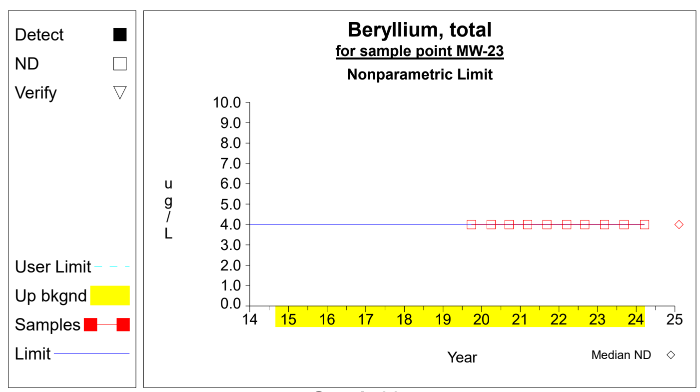
Graph 27



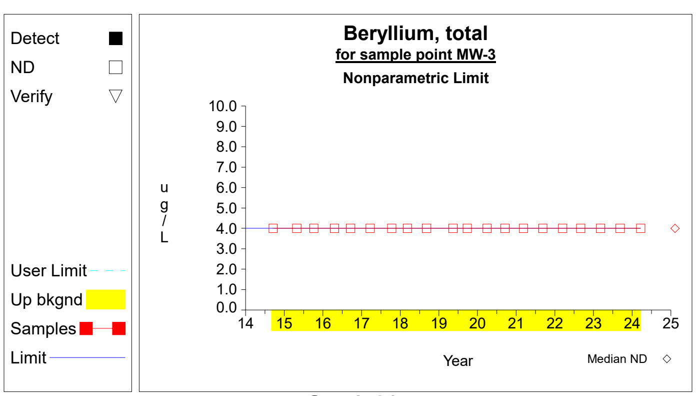
Graph 28



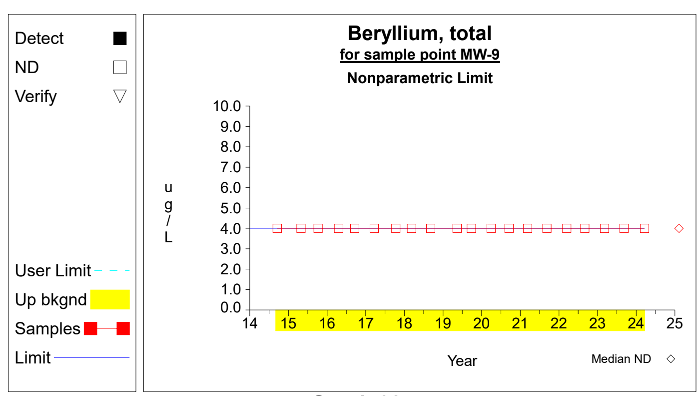
Graph 29



Graph 30



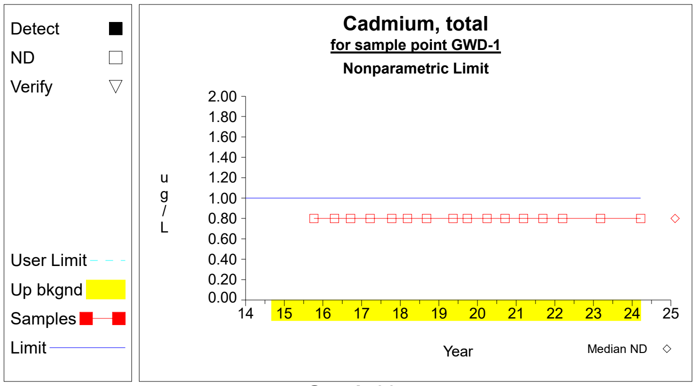
Graph 31



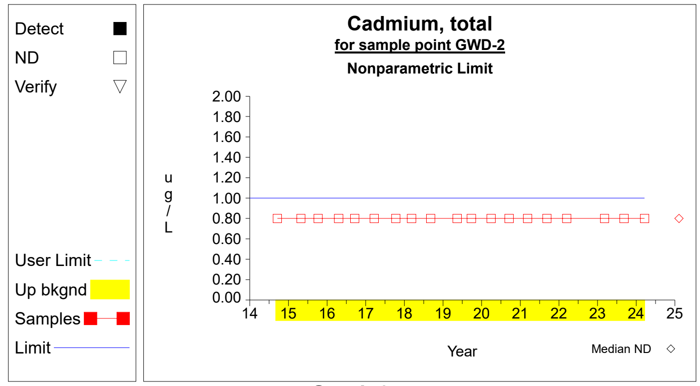
Graph 32

Prepared by: Otter Creek Environmental

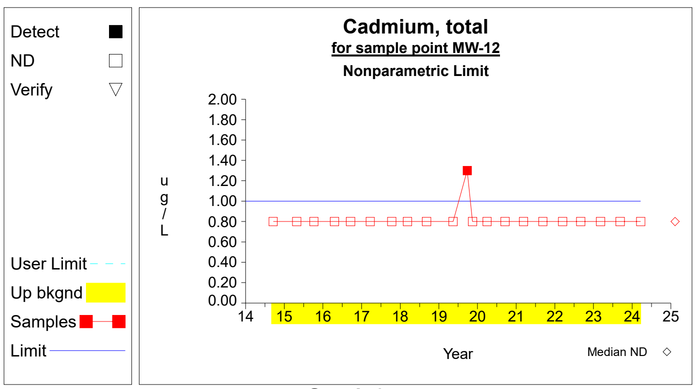
Up vs. Down Prediction Limits



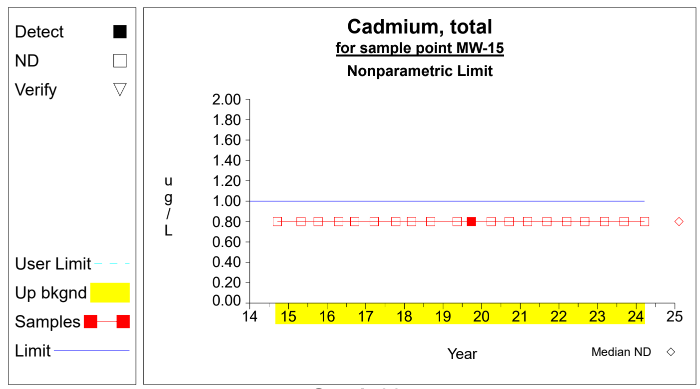
Graph 33



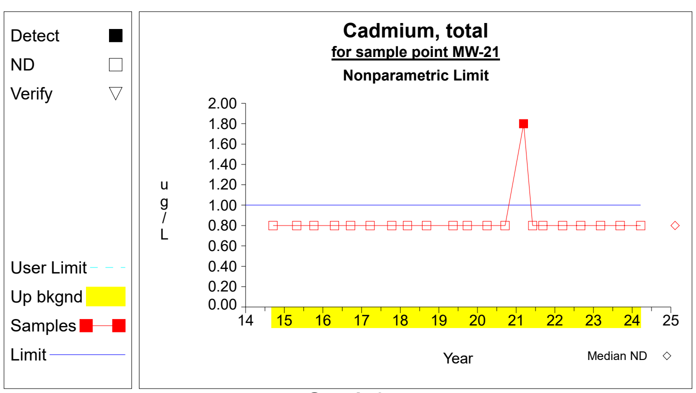
Graph 34



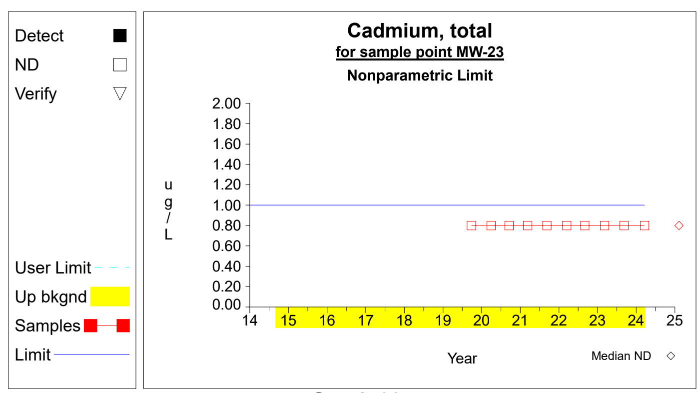
Graph 35



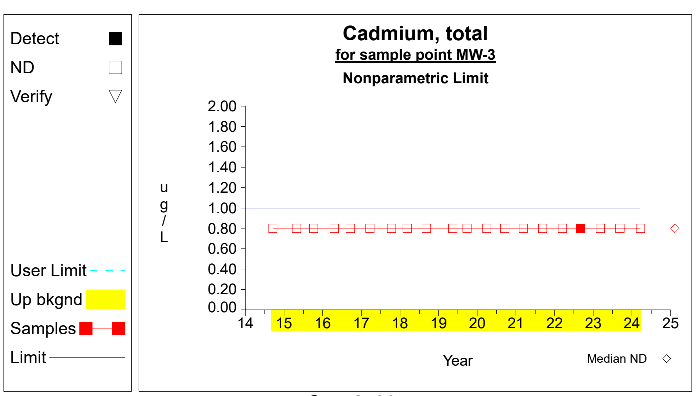
Graph 36



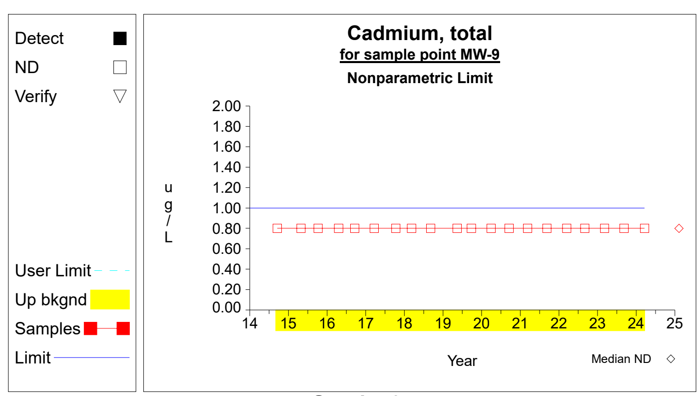
Graph 37



Graph 38

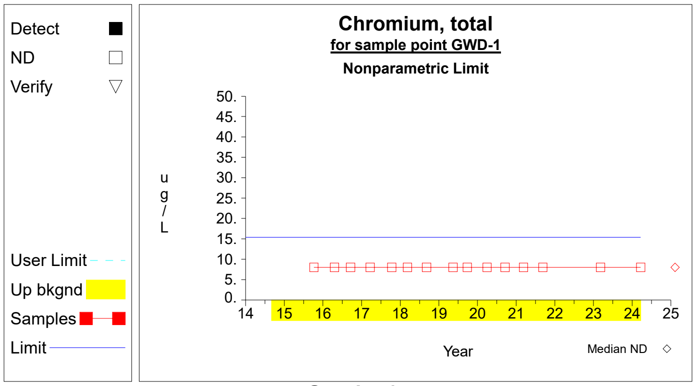


Graph 39

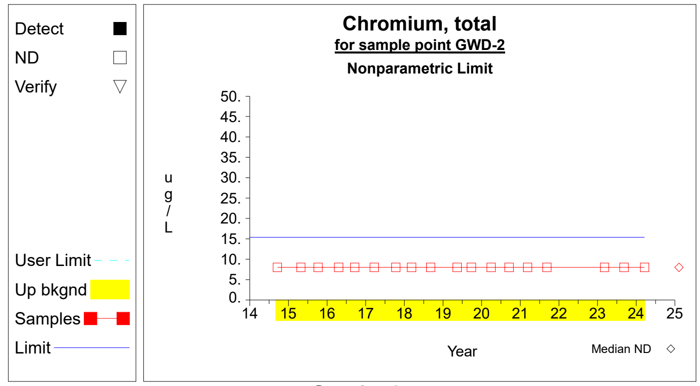


Graph 40

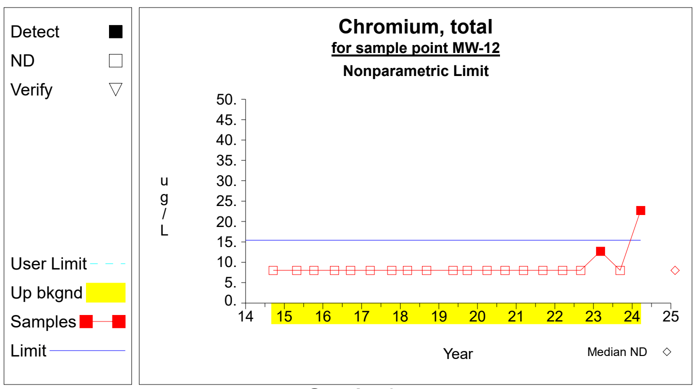
Up vs. Down Prediction Limits



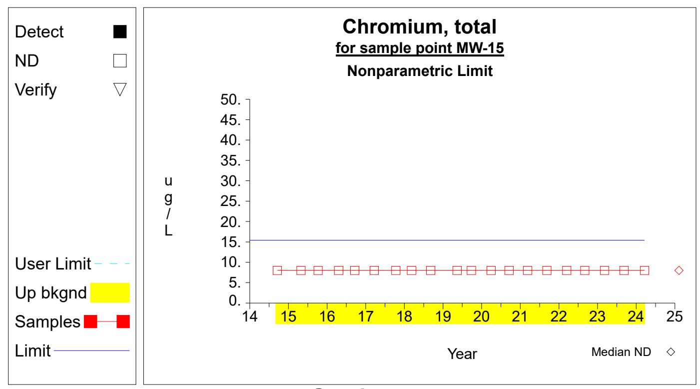
Graph 41



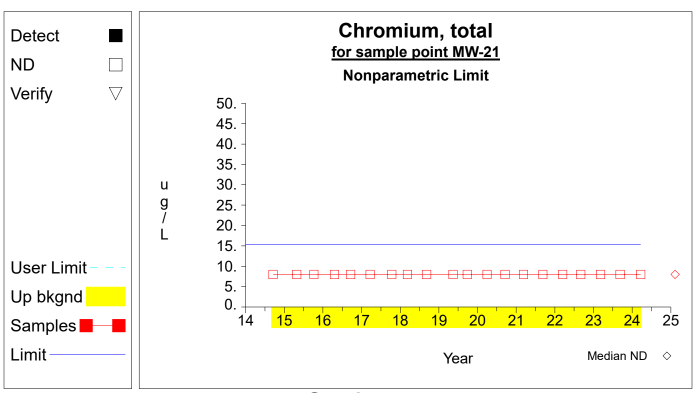
Graph 42



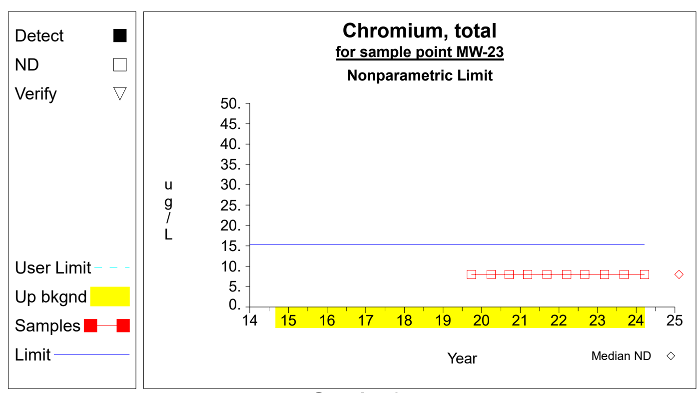
Graph 43



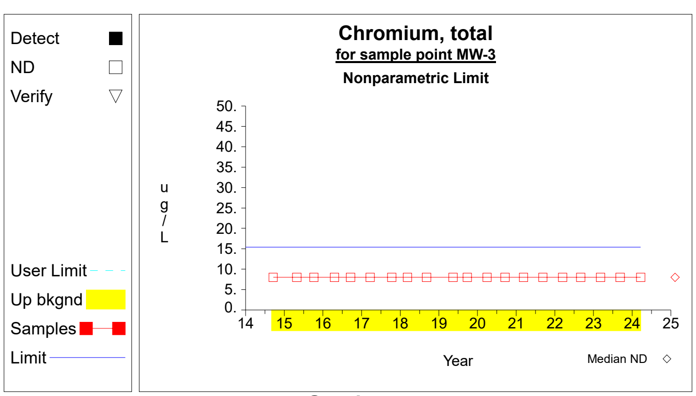
Graph 44



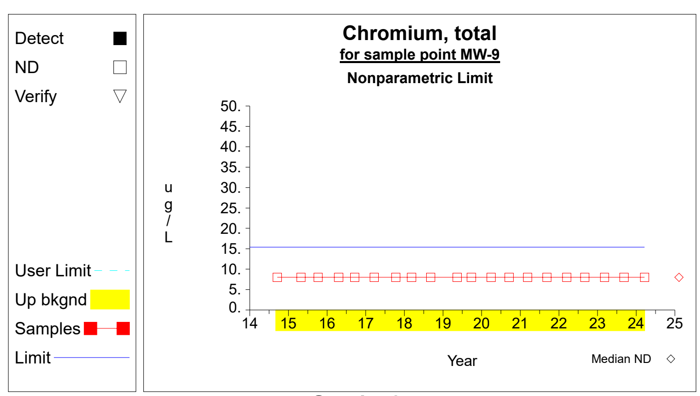
Graph 45



Graph 46

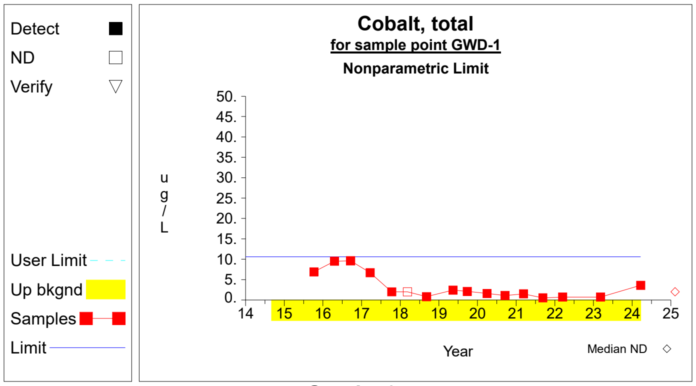


Graph 47

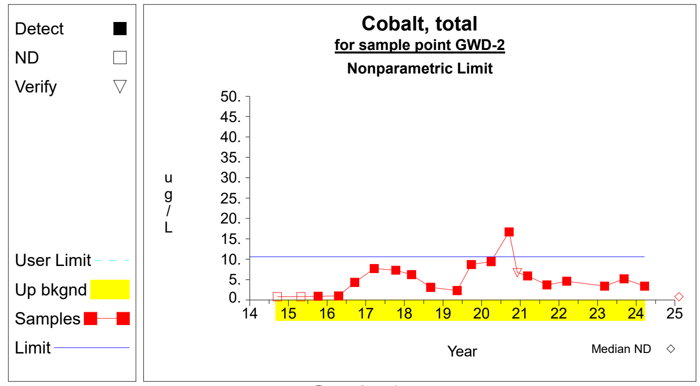


Graph 48

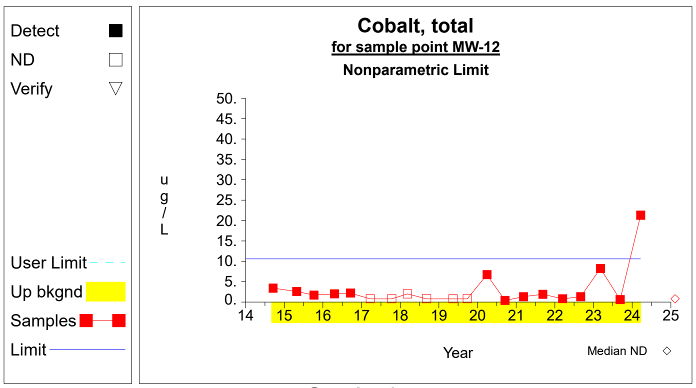
Up vs. Down Prediction Limits



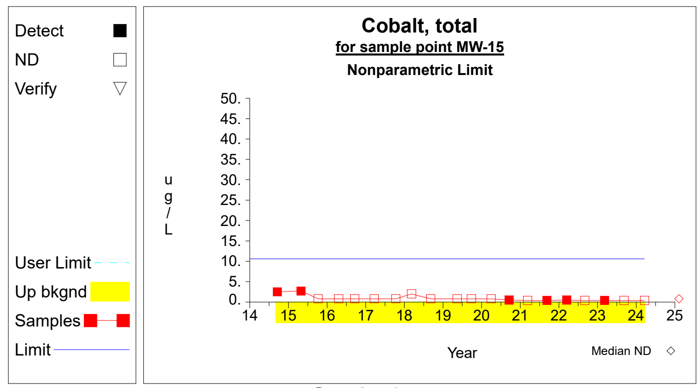
Graph 49



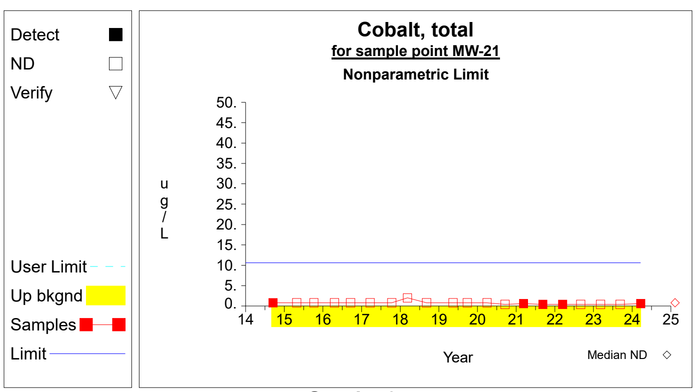
Graph 50



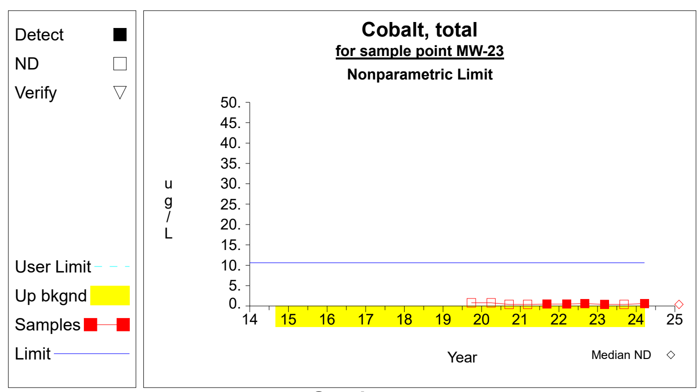
Graph 51



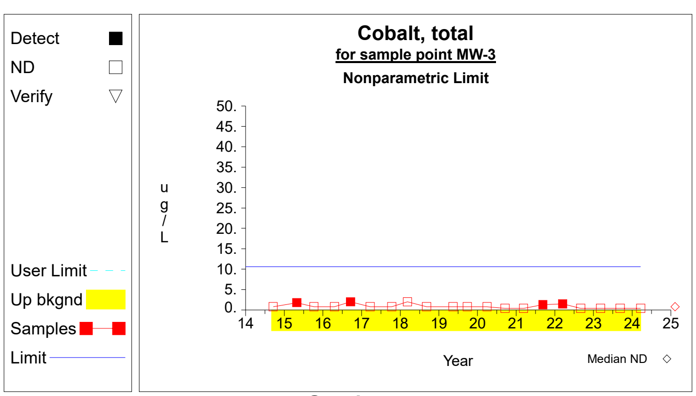
Graph 52



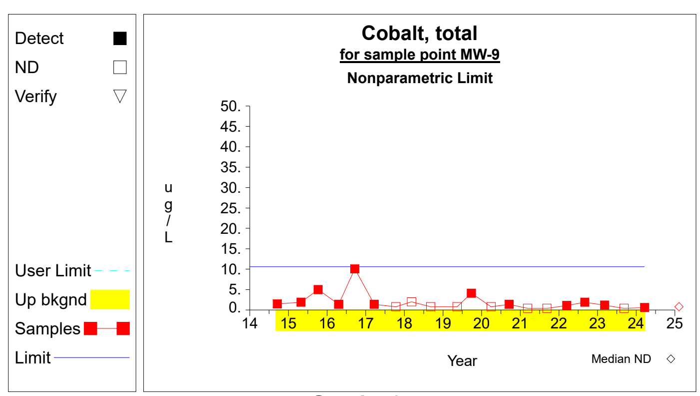
Graph 53



Graph 54

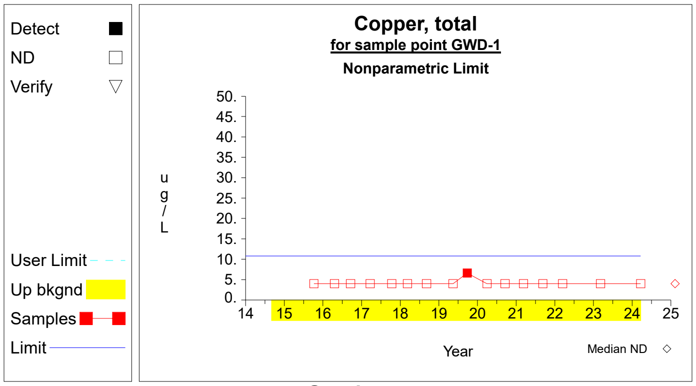


Graph 55

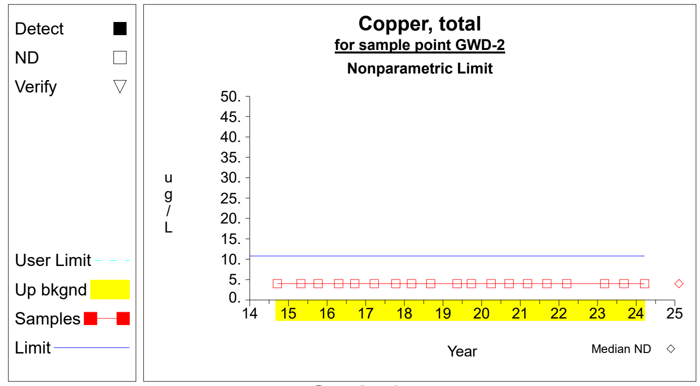


Graph 56

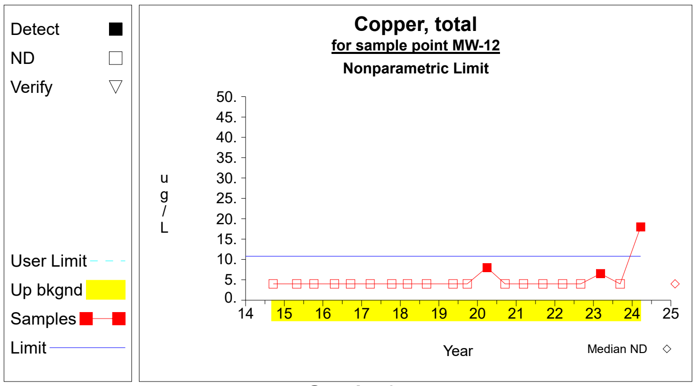
Up vs. Down Prediction Limits



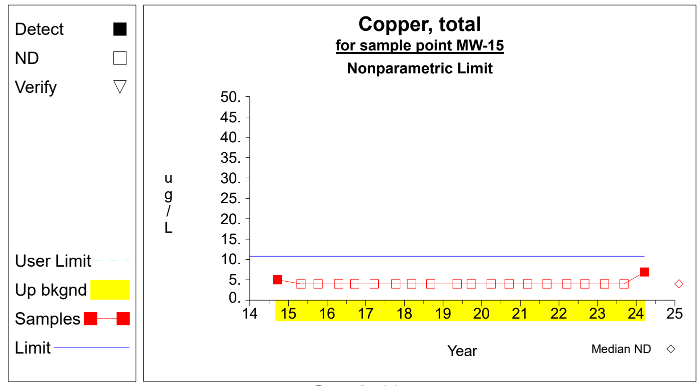
Graph 57



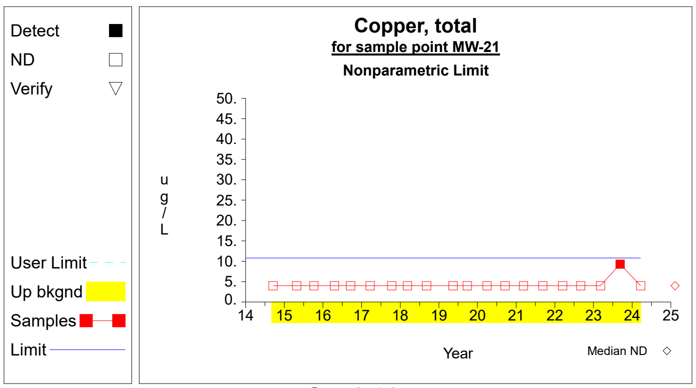
Graph 58



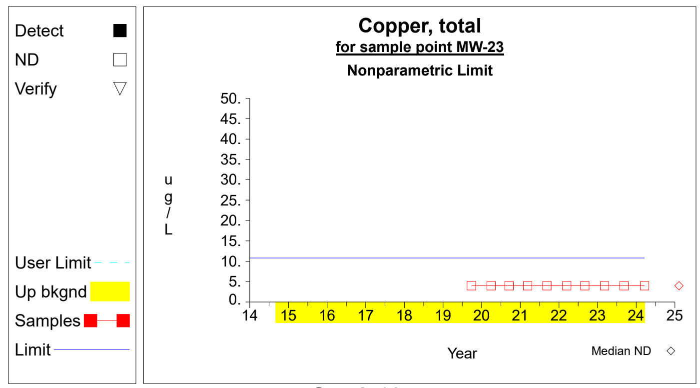
Graph 59



Graph 60



Graph 61



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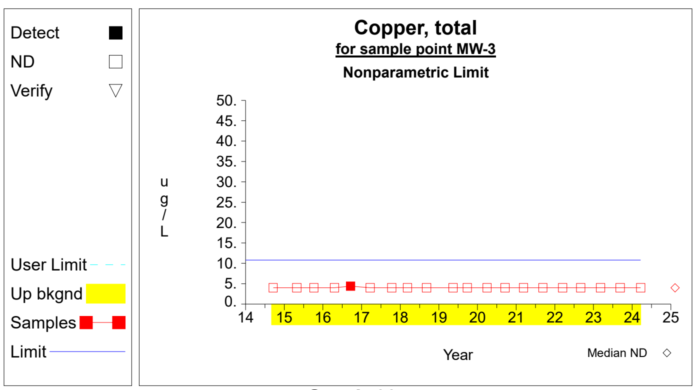
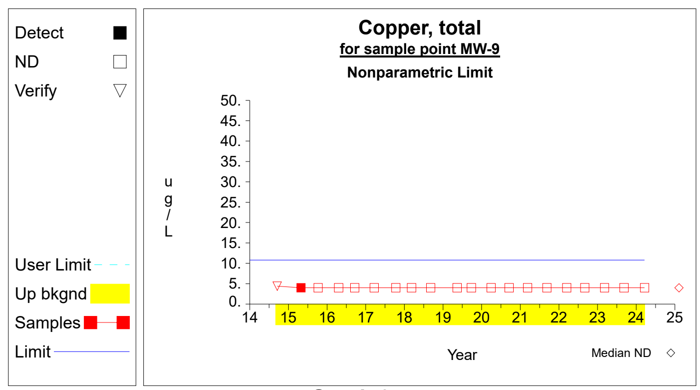
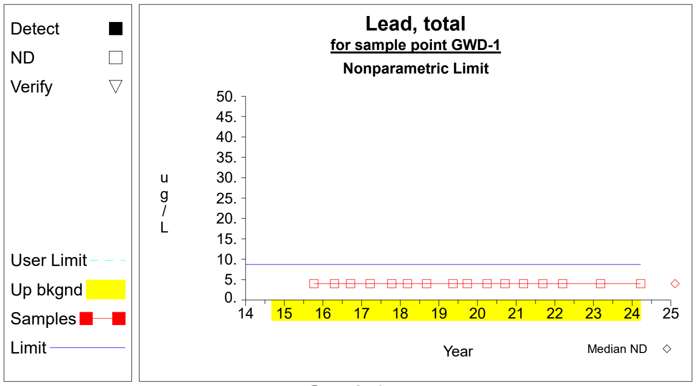


Graph 63

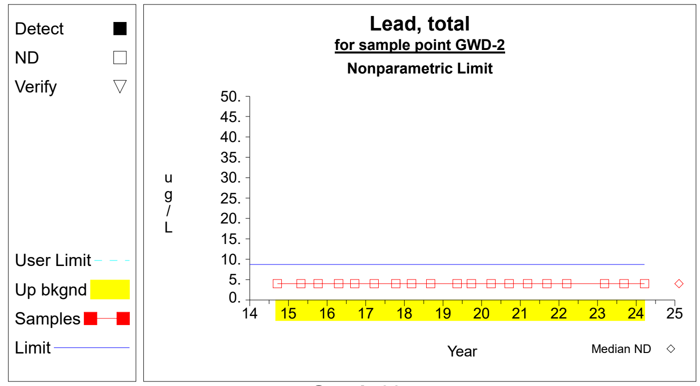


Graph 64

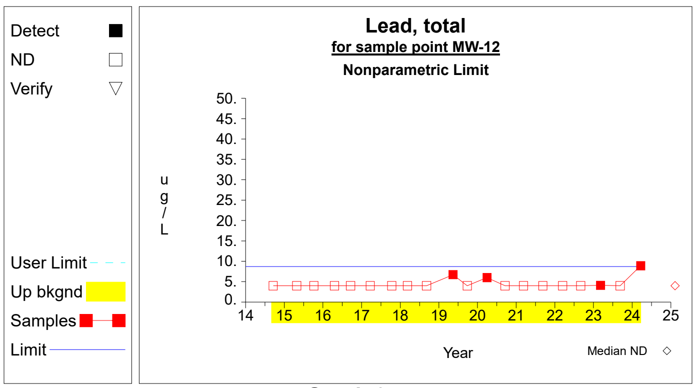
Up vs. Down Prediction Limits



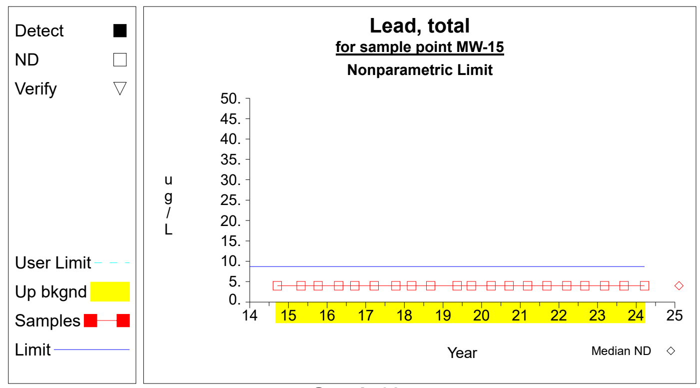
Graph 65



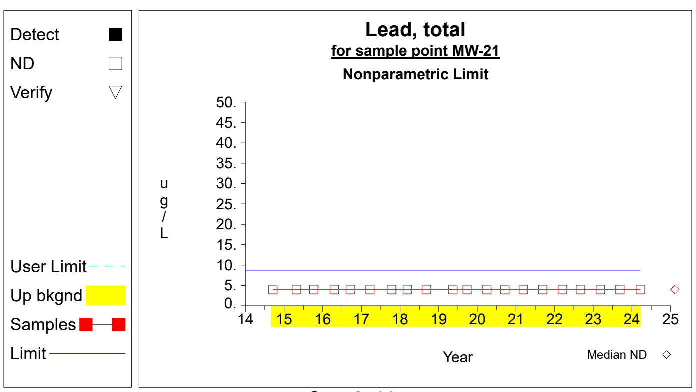
Graph 66



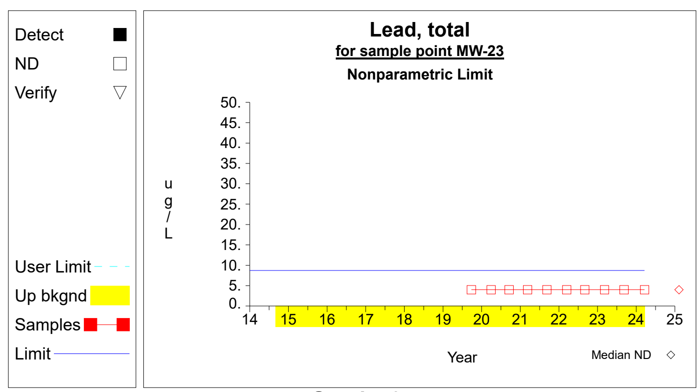
Graph 67



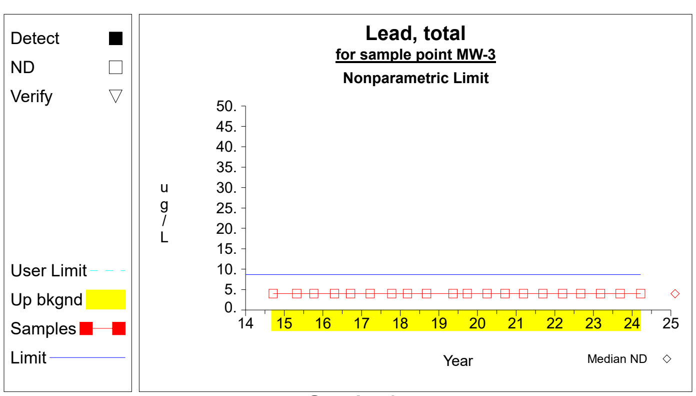
Graph 68



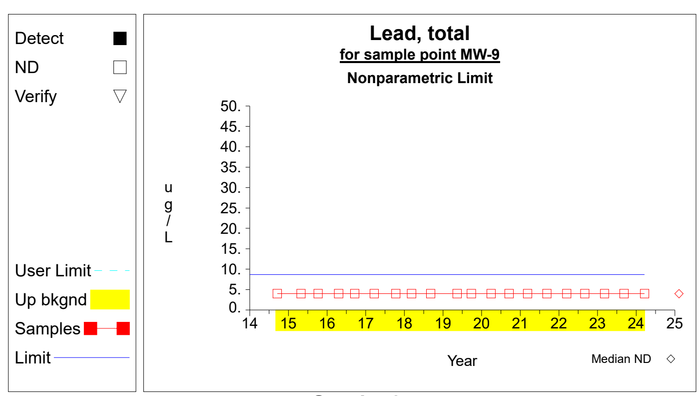
Graph 69



Graph 70



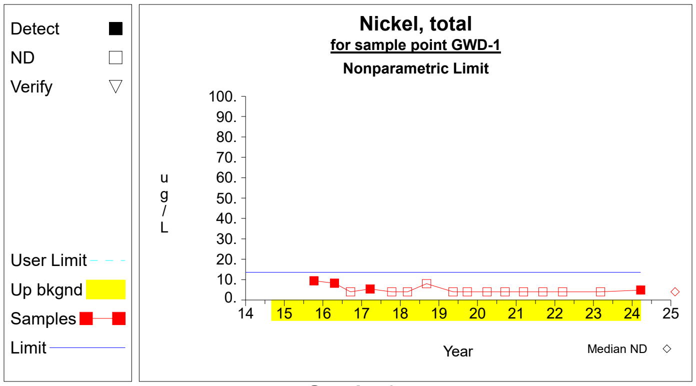
Graph 71



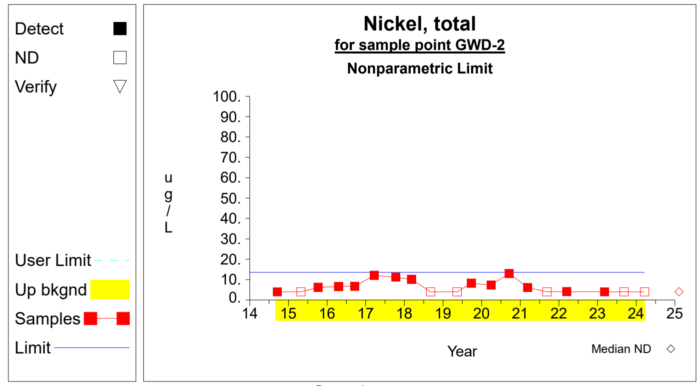
Graph 72

Fremont County [GW] April 2024

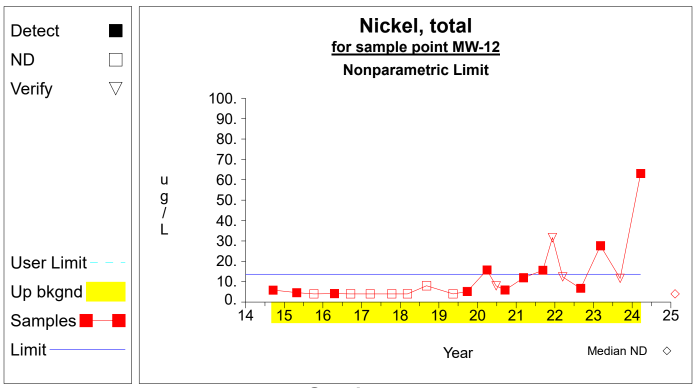
Up vs. Down Prediction Limits



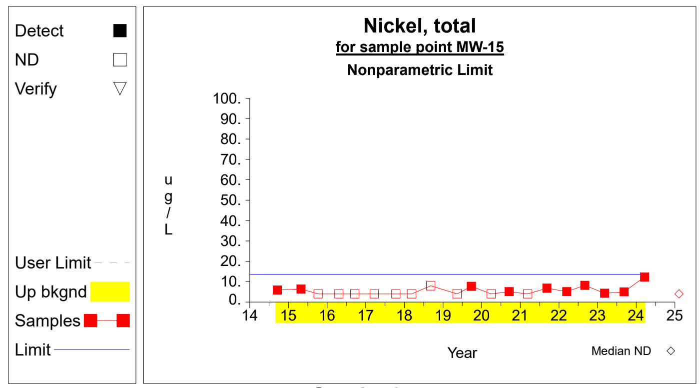
Graph 73



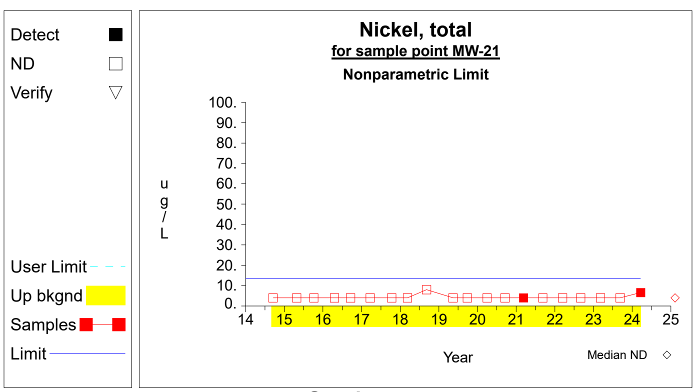
Graph 74



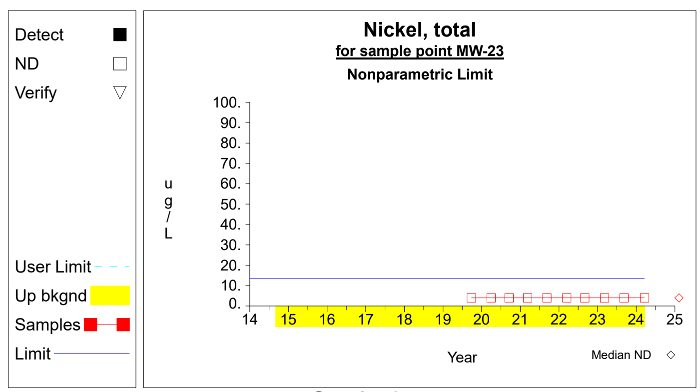
Graph 75



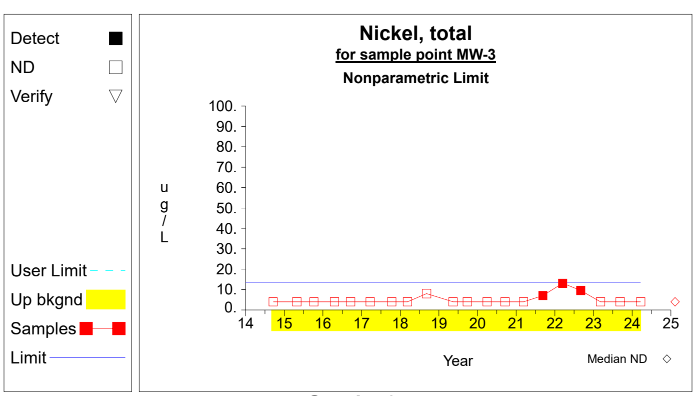
Graph 76



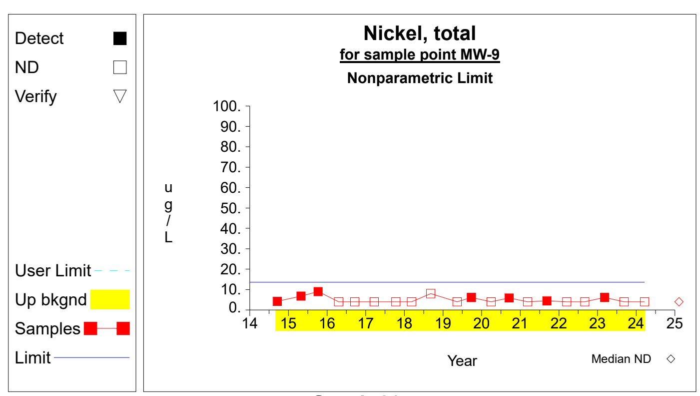
Graph 77



Graph 78



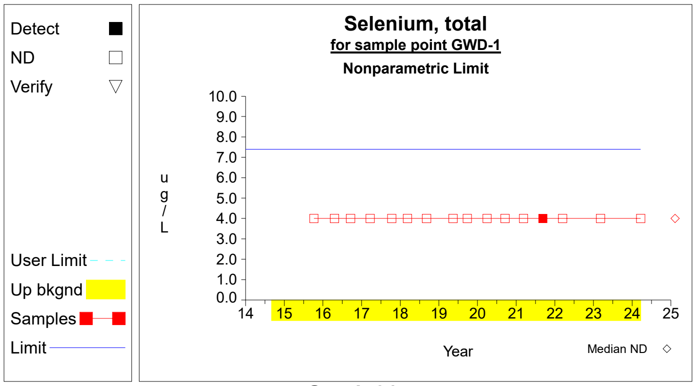
Graph 79



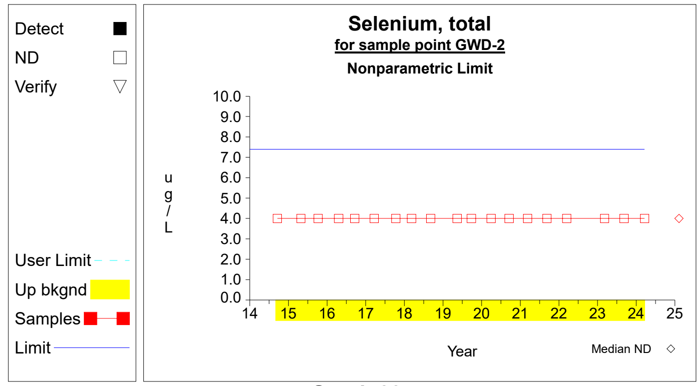
Graph 80

Prepared by: Otter Creek Environmental

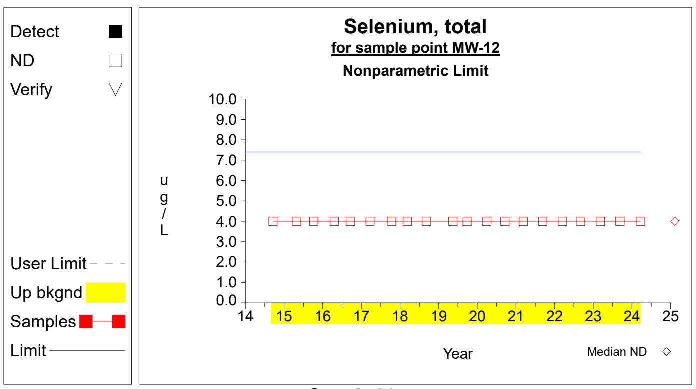
Up vs. Down Prediction Limits



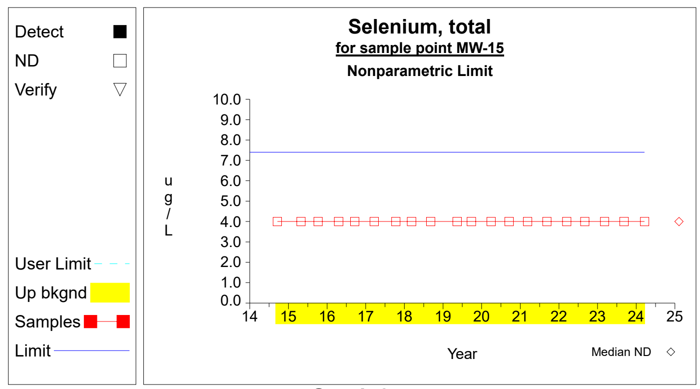
Graph 81



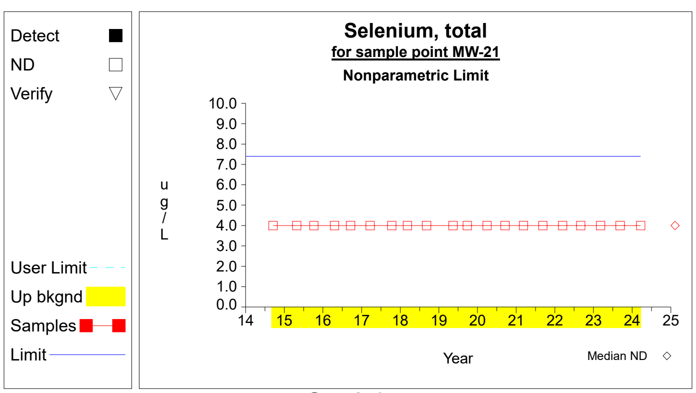
Graph 82



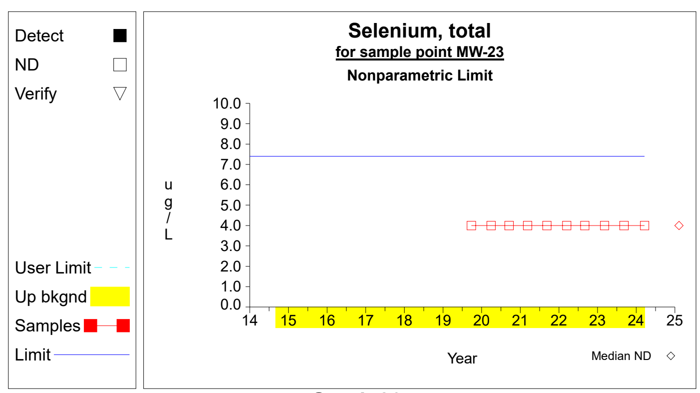
Graph 83



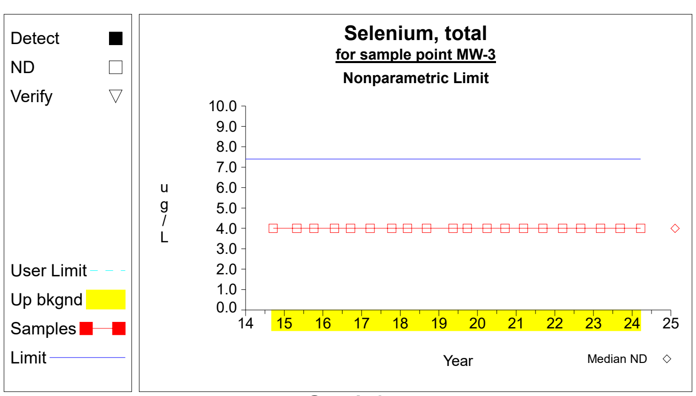
Graph 84



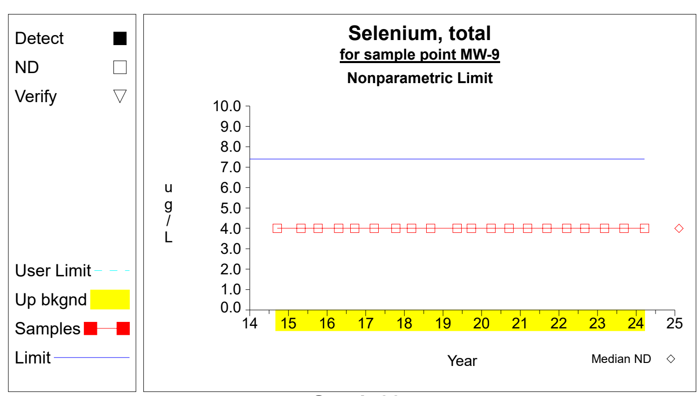
Graph 85



Graph 86

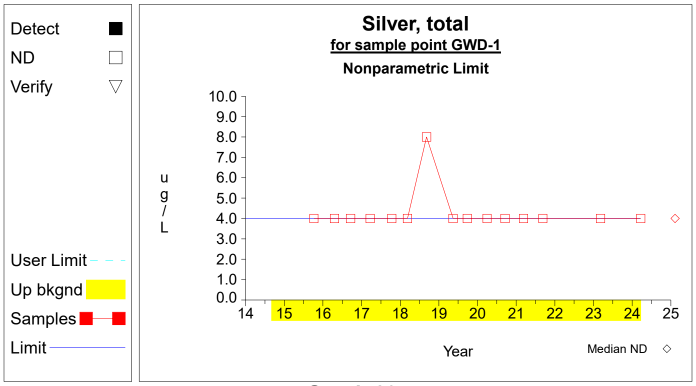


Graph 87

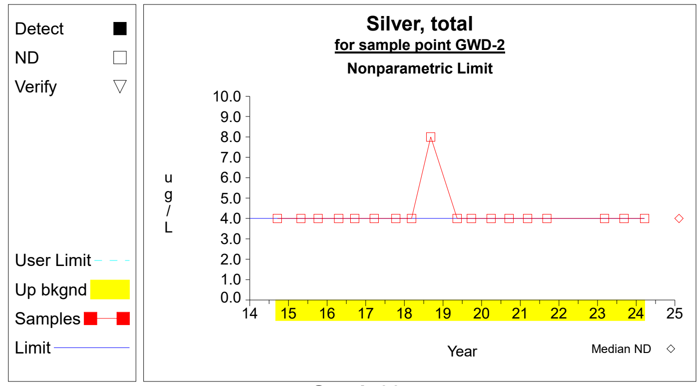


Graph 88

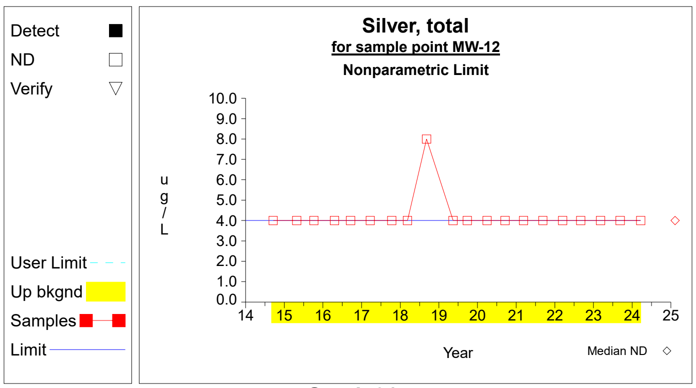
Up vs. Down Prediction Limits



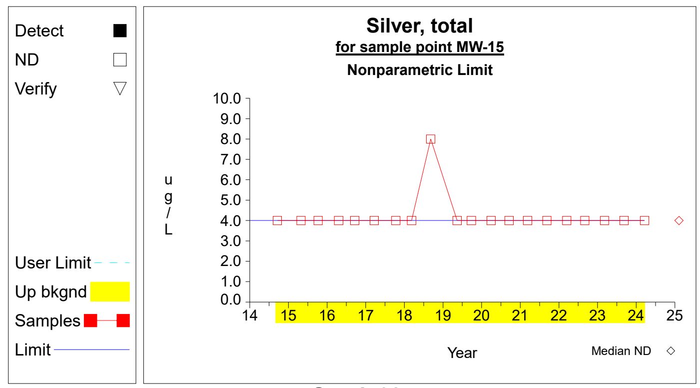
Graph 89



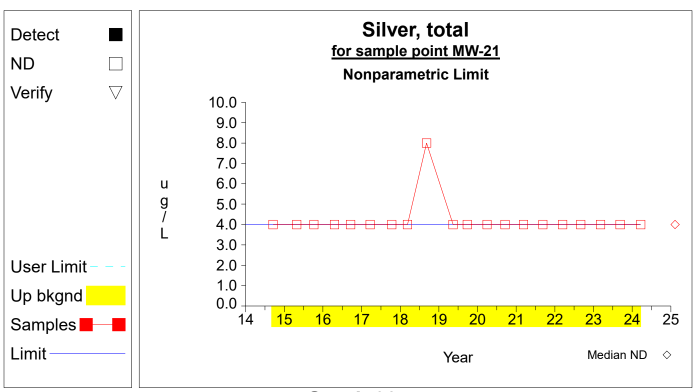
Graph 90



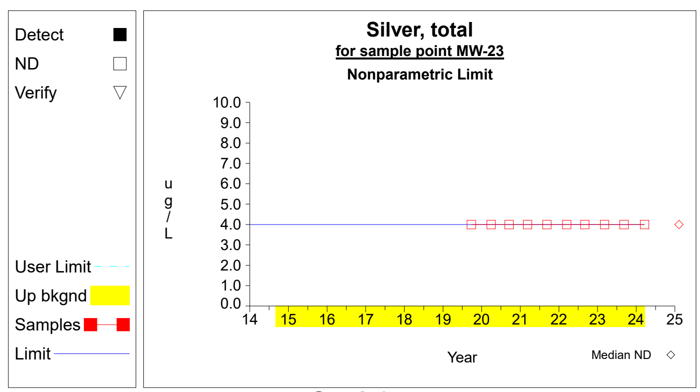
Graph 91



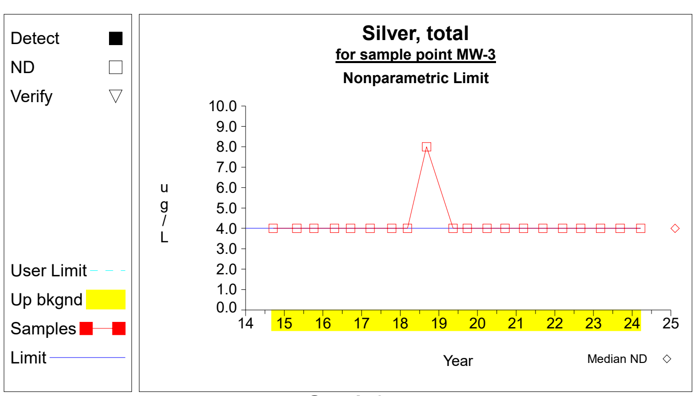
Graph 92



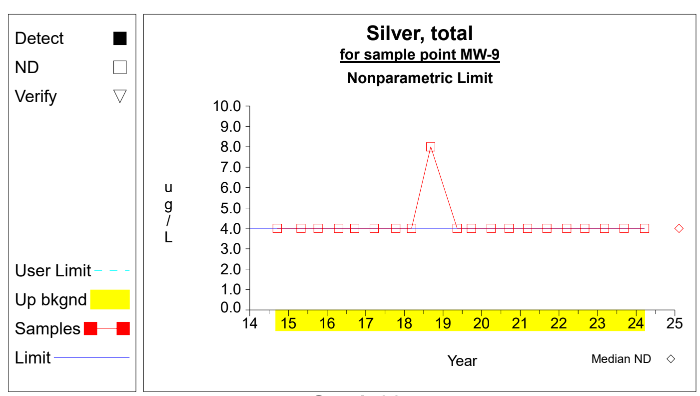
Graph 93



Graph 94

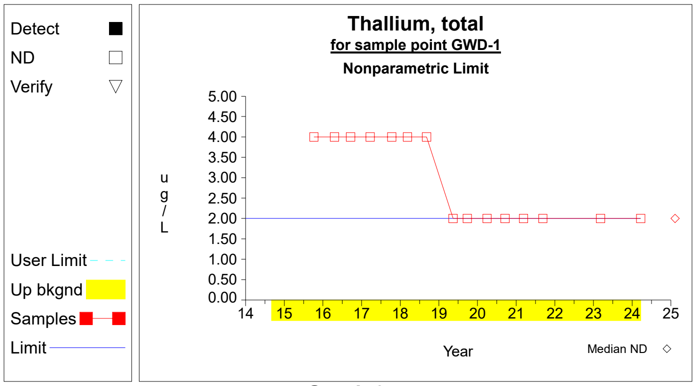


Graph 95

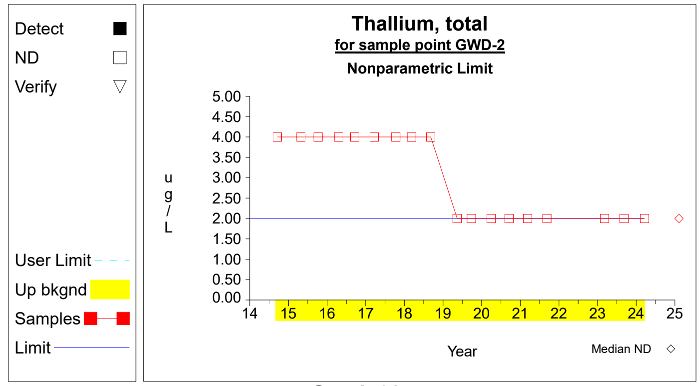


Graph 96

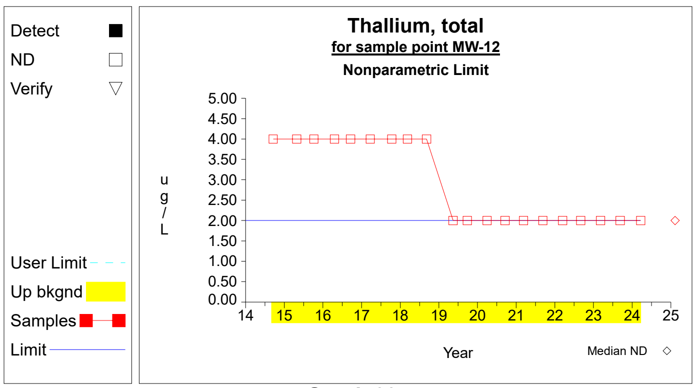
Up vs. Down Prediction Limits



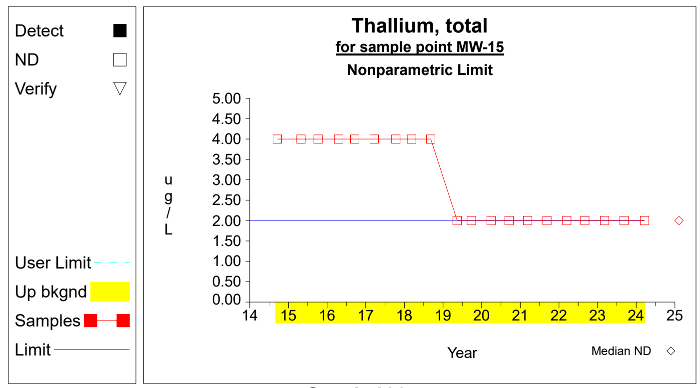
Graph 97



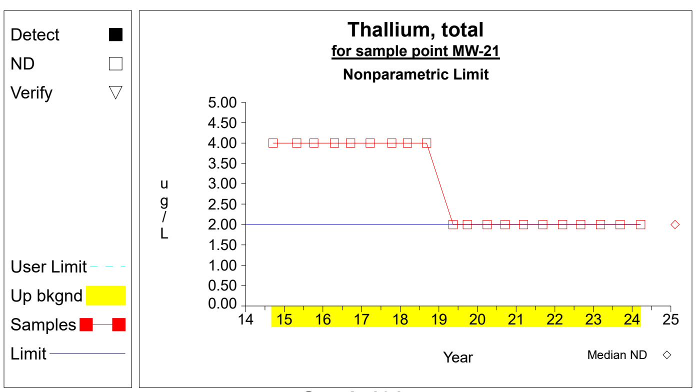
Graph 98



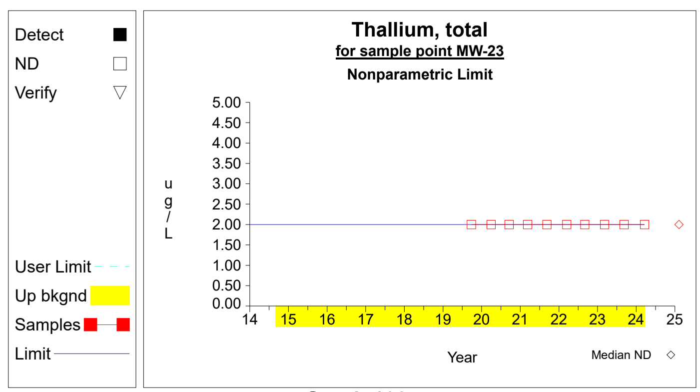
Graph 99



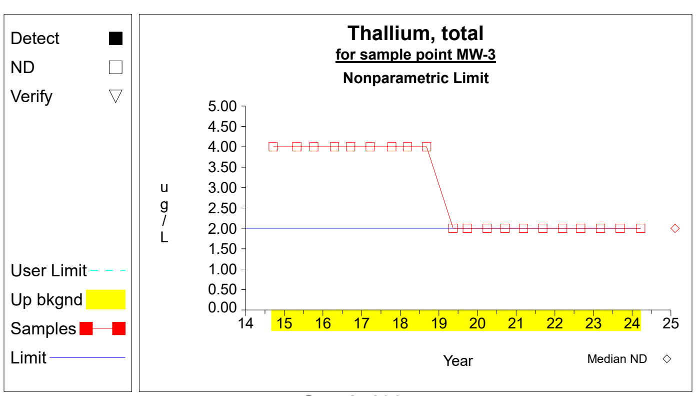
Graph 100



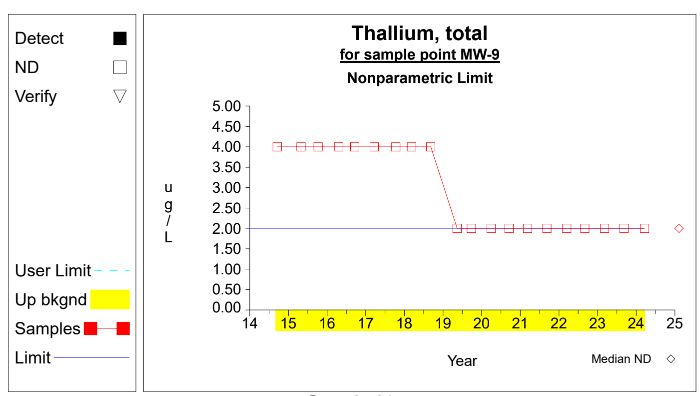
Graph 101



Graph 102

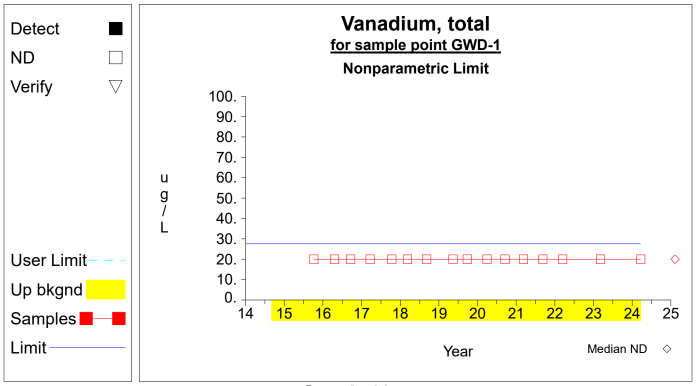


Graph 103

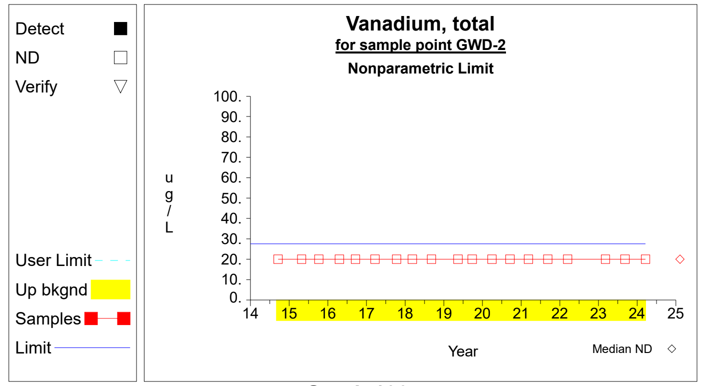


Graph 104

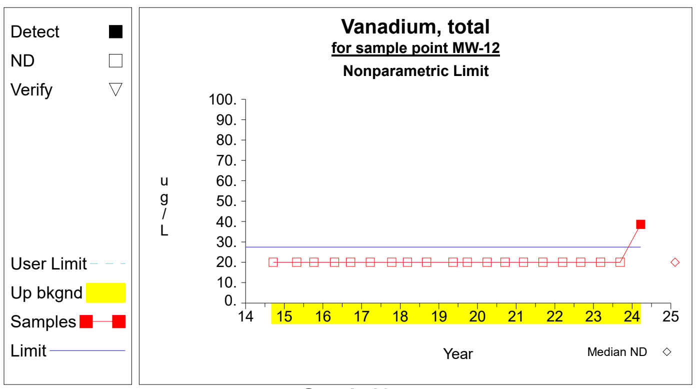
Up vs. Down Prediction Limits



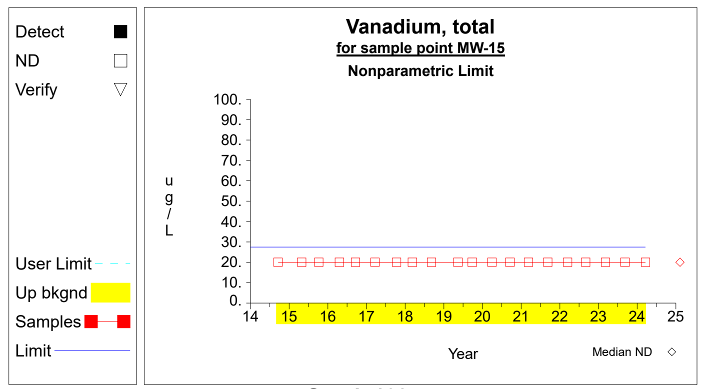
Graph 105



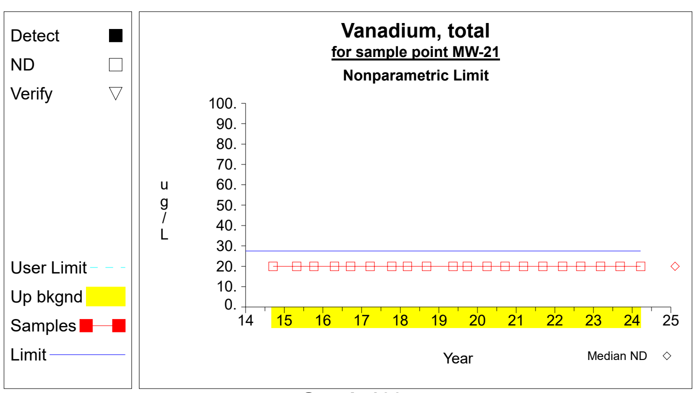
Graph 106



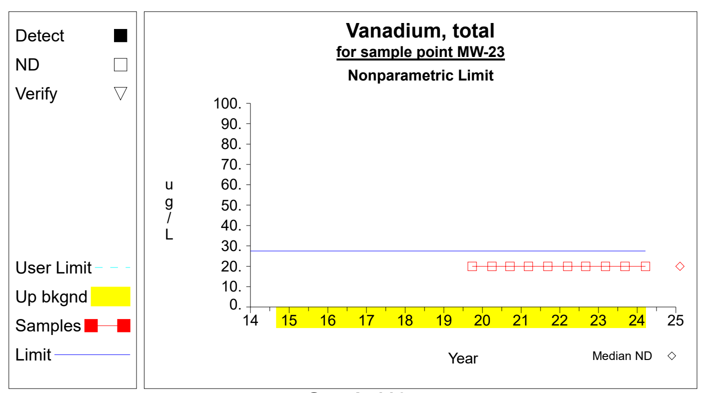
Graph 107



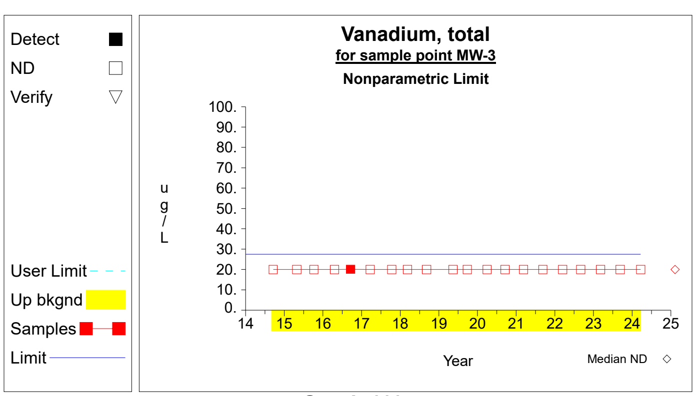
Graph 108



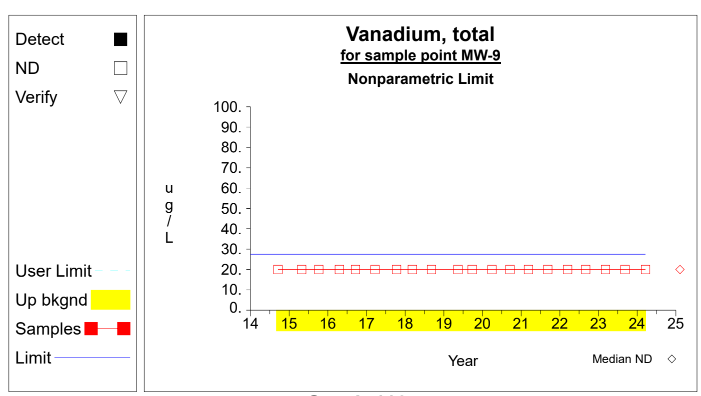
Graph 109



Graph 110

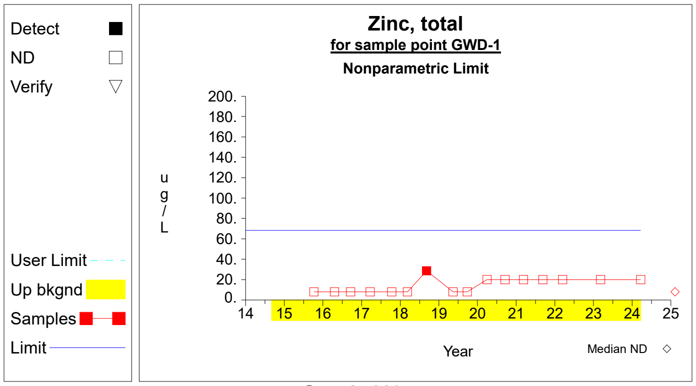


Graph 111

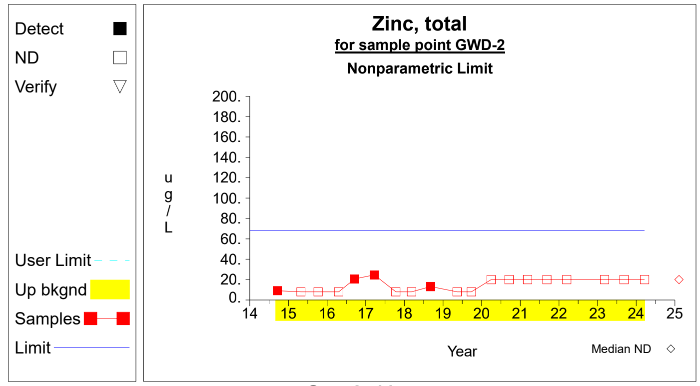


Graph 112

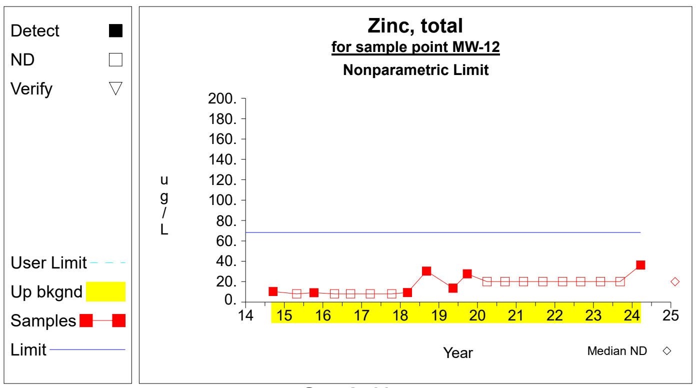
Up vs. Down Prediction Limits



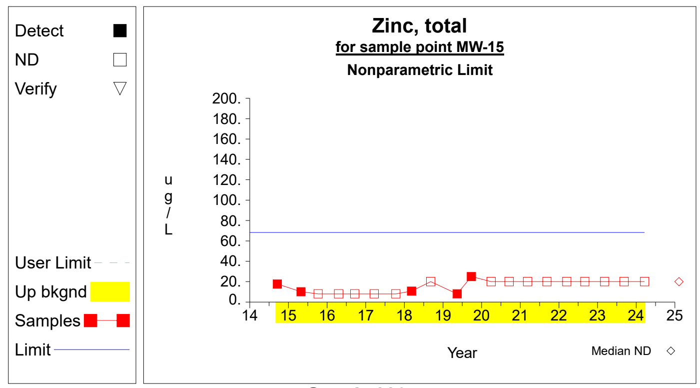
Graph 113



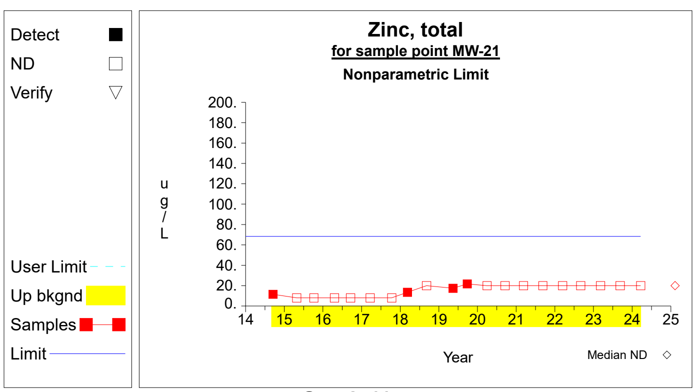
Graph 114



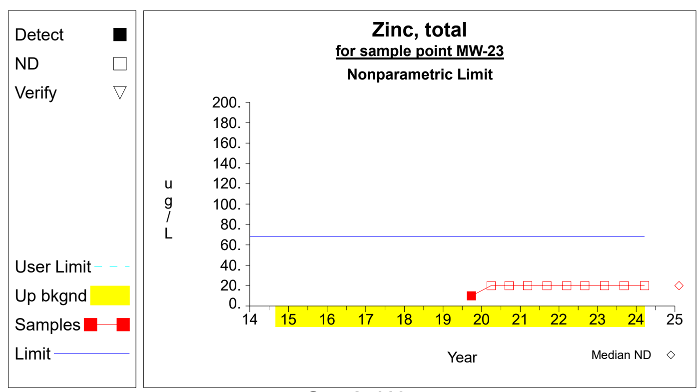
Graph 115



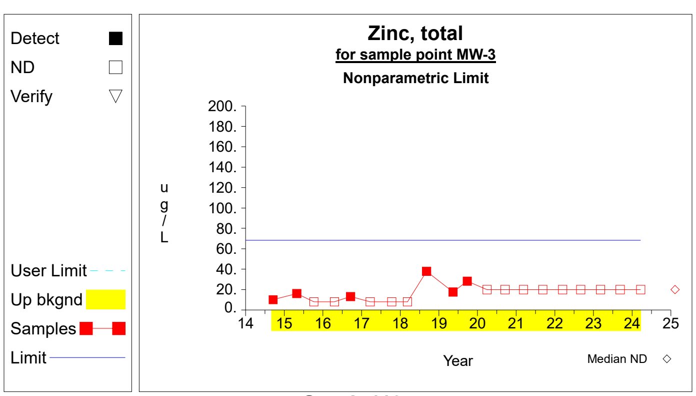
Graph 116



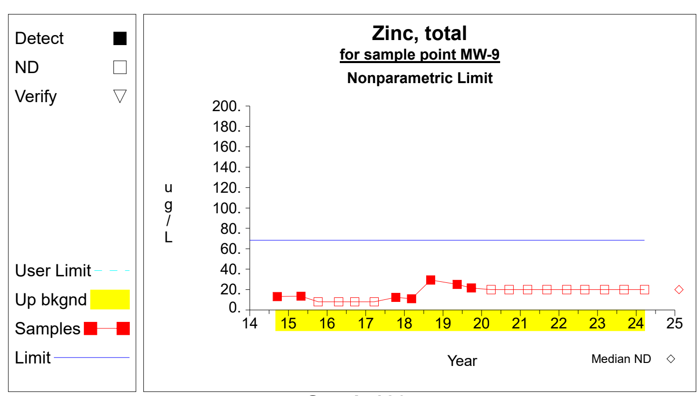
Graph 117



Graph 118

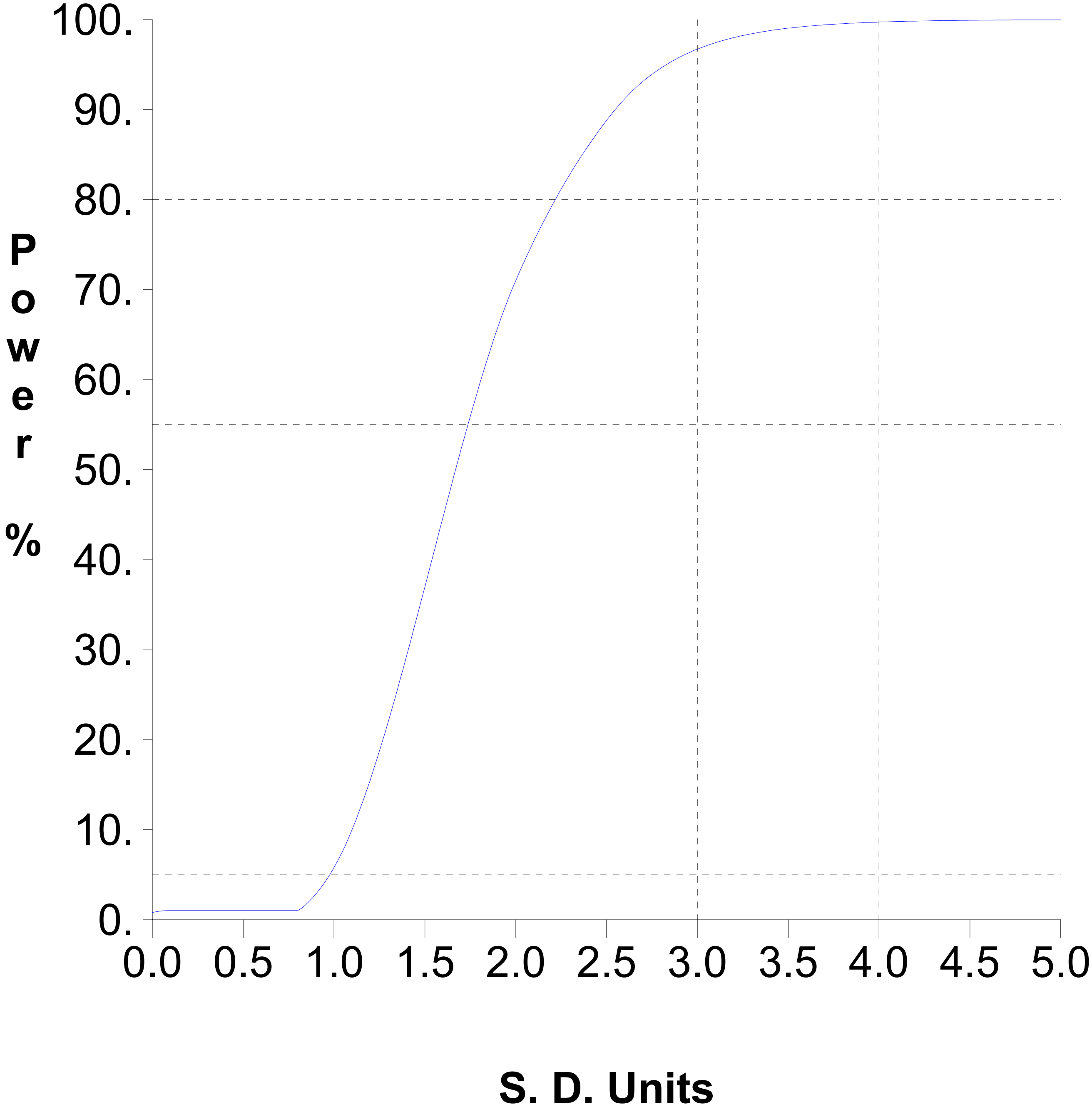


Graph 119



Graph 120

False Positive and False Negative Rates for Current Upgradient vs. Downgradient Monitoring Program



Attachment E

Summary of Historical VOC Detections

Table 1

Historical Volatile Organic Compound Detections

Constituent	Well	Date	Identifier	Result	Limit	Units
1,1-dichloroethane	GWD-1	6/18/2008		1.1	1.0	ug/L
Chloroethane	GWD-1	4/15/2008		2.0	1.0	ug/L
Chloroethane	GWD-1	6/18/2008		2.2	1.0	ug/L
Chloroethane	GWD-1	8/19/2008		1.9	1.0	ug/L
Chloroethane	GWD-1	12/04/2008		1.8	1.0	ug/L
Chloroethane	GWD-1	3/16/2009		1.4	1.0	ug/L
Chloroethane	GWD-1	4/12/2010		1.2	1.0	ug/L
Trichlorofluoromethane	GWD-1	9/23/2009		1.1	1.0	ug/L
Acetone	GWD-2	10/12/2017		18.2	10.0	ug/L
Chloroethane	GWD-2	10/07/2015		1	1	ug/L
Cis-1,2-dichloroethylene	GWD-2	10/07/2015		1	1	ug/L
Trichloroethylene	GWD-2	9/18/2014		1	1	ug/L
Trichlorofluoromethane	GWD-2	9/18/2014		1.9	1.0	ug/L
Acetone	MW-12	10/12/2017		12.9	10.0	ug/L
Chloromethane	MW-12	3/20/2024		1.4	1.0	ug/L
Acetone	MW-14	10/12/2017		10	10	ug/L
Trichloroethylene	MW-14	3/16/2009		2.8	1.0	ug/L
1,1-dichloroethane	MW-15	12/04/2008		1.3	1.0	ug/L
1,4-dichlorobenzene	MW-15	12/04/2008		4.3	1.0	ug/L
Acetone	MW-15	10/12/2017		15.5	10.0	ug/L
Benzene	MW-15	12/04/2008		2	1	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	9/01/2022		7	6	ug/L
Chlorobenzene	MW-15	12/04/2008		14.3	1.0	ug/L
Chloroethane	MW-15	10/18/2008		1.6	1.0	ug/L
Acetone	MW-18	10/12/2017		10.2	10.0	ug/L
Trichlorofluoromethane	MW-19	4/12/2010		3.4	1.0	ug/L
Trichlorofluoromethane	MW-19	6/01/2010		4.1	1.0	ug/L
Trichlorofluoromethane	MW-19	7/27/2010		4.7	1.0	ug/L
Trichlorofluoromethane	MW-19	9/28/2010		2.8	1.0	ug/L
Trichlorofluoromethane	MW-19	10/11/2011		2.2	1.0	ug/L
Trichlorofluoromethane	MW-19	4/23/2012		1.1	1.0	ug/L
Acetone	MW-21	10/12/2017		15.3	10.0	ug/L
Cis-1,2-dichloroethylene	MW-21	3/14/2022		1.1	1.0	ug/L
1,1-dichloropropene	MW-3	9/09/2021		4.8	1.0	ug/L
Cis-1,2-dichloroethylene	MW-3	9/09/2021		1.1	1.0	ug/L
Cis-1,2-dichloroethylene	MW-3	3/14/2022		1.6	1.0	ug/L
Toluene	MW-3	10/10/2013		2.8	1.0	ug/L
Trichloroethylene	MW-3	10/10/2013		1	1	ug/L
1,2-dichloroethane	MW-9	9/23/1998		.5	.4	ug/L
Acetone	MW-9	10/12/2017		16.7	10.0	ug/L
Bis(2-ethylhexyl) phthalate	MW-9	6/01/2010		21	8	ug/L

Detections are shown for the constituents and sample points selected for the analysis
The Limit column refers to the laboratory reporting limit

Table 1

Summary Statistics and Intermediate Computations for Combined Shewhart-CUSUM Control Charts

Constituent	Units	Well	N(back)	N(mon)	N(tot)	Mean	SD	R(i-1)	R(i)	S(i-1)	S(i)	Limit	Type	Conf	
Antimony, total	ug/L	GWD-2	13	5	20			2.0000	2.0000			2.0000	nonpar	.99	**
Arsenic, total	ug/L	GWD-2	12	7	22								nonpar *		**
Barium, total	ug/L	GWD-2	13	7	22	391.2308	138.4149	825.0000	665.0000	1016.9790	1186.9370	1290.9278	normal		
Beryllium, total	ug/L	GWD-2	13	6	21			4.0000	4.0000			4.0000	nonpar	.99	**
Cadmium, total	ug/L	GWD-2	13	6	21			0.8000	0.8000			0.8000	nonpar	.99	**
Chromium, total	ug/L	GWD-2	13	5	20			8.0000	8.0000			8.0000	nonpar	.99	**
Cobalt, total	ug/L	GWD-2	13	7	22	5.3231	4.6734	5.2000	3.4000	5.3231	5.3231	35.6999	normal		
Copper, total	ug/L	GWD-2	13	6	21			4.0000	4.0000			4.0000	nonpar	.99	**
Lead, total	ug/L	GWD-2	13	6	21			4.0000	4.0000			4.0000	nonpar	.99	**
Nickel, total	ug/L	GWD-2	13	6	21	7.4923	3.2214	4.0000	4.0000	7.4923	7.4923	28.4314	normal		
Selenium, total	ug/L	GWD-2	13	6	21			4.0000	4.0000			4.0000	nonpar	.99	**
Silver, total	ug/L	GWD-2	13	5	20			4.0000	4.0000			4.0000	nonpar	.99	**
Thallium, total	ug/L	GWD-2	13	5	20			2.0000	2.0000			4.0000	nonpar	.99	**
Vanadium, total	ug/L	GWD-2	13	6	21			20.0000	20.0000			20.0000	nonpar	.99	**
Zinc, total	ug/L	GWD-2	13	6	21	10.7308	5.5199	20.0000	20.0000	10.7308	10.7308	46.6099	normal		

N(back) and N(mon) = Non-outlier measurements in the background and monitoring periods.
N(tot) = All independent measurements for that constituent and well.
For transformed data, mean and SD in transformed units and control limit in original units.
Conf = confidence level for passing initial test or one verification resample (nonparametric test only).
* - Insufficient Data.
** - Detection Frequency < 25%.
*** - Zero Variance.

Table 4

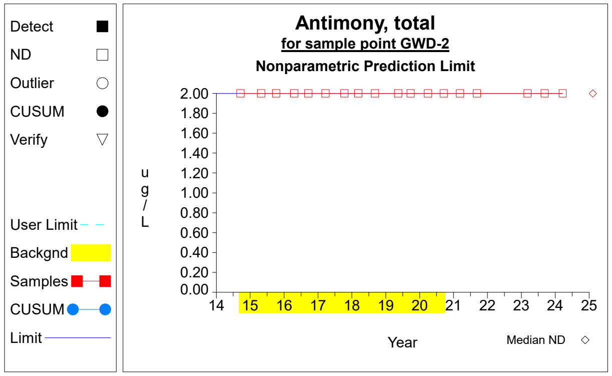
Dixon's Test Outliers
5% Significance Level

Constituent	Units	Well	Date	Result	ND Qualifier	Date Range	N	Critical Value
Arsenic, total	ug/L	GWD-2	09/17/2020	73.5000		09/18/2014-09/17/2020	13	0.5213

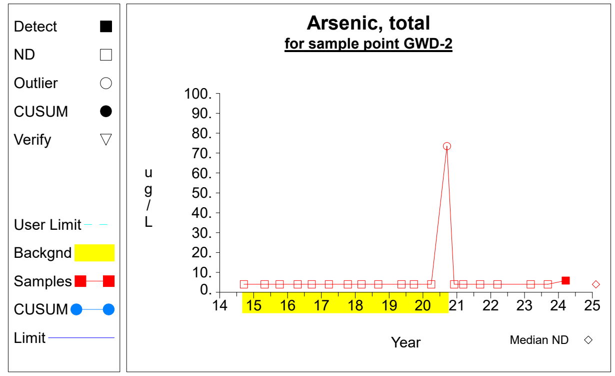
N = Total number of independent measurements in background at each well.
Date Range = Dates of the first and last measurements included in background at each well.
Critical Value depends on the significance level and on N-1 when the two most extreme values are tested or N for the most extreme value.

Fremont County [GW] April 2024

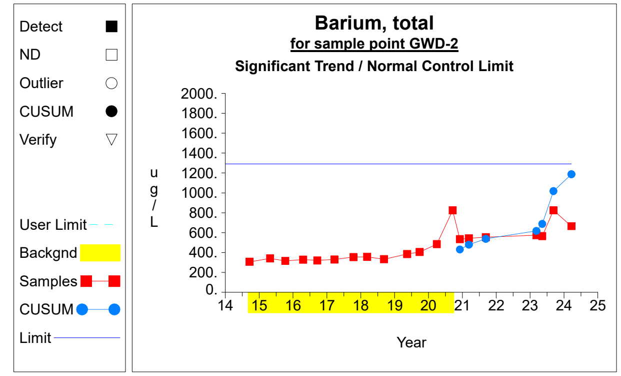
Intra-Well Control Charts / Prediction Limits



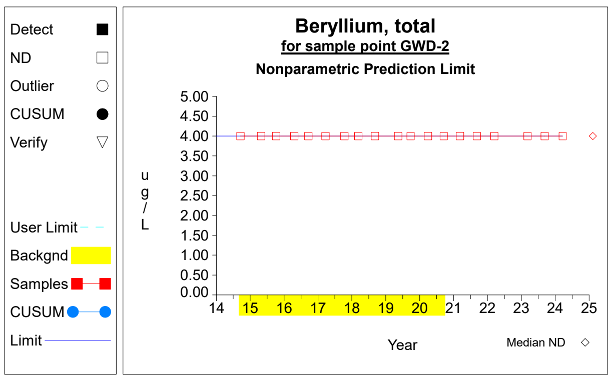
Graph 1



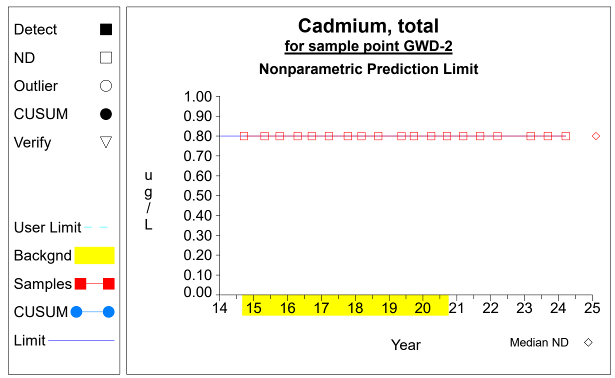
Graph 2



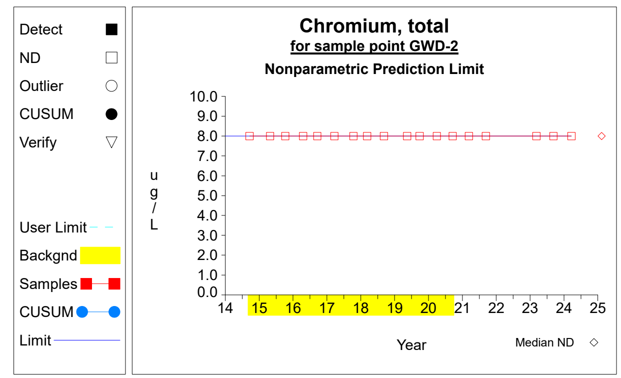
Graph 3



Graph 4



Graph 5



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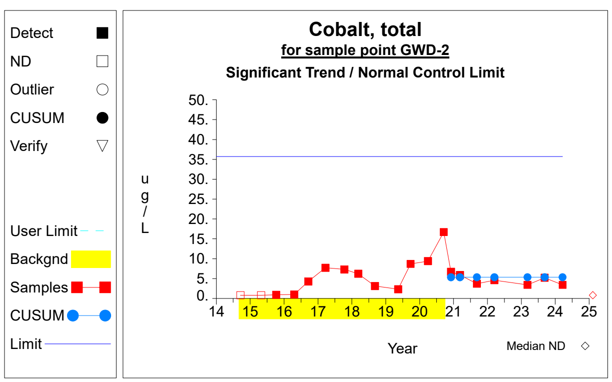

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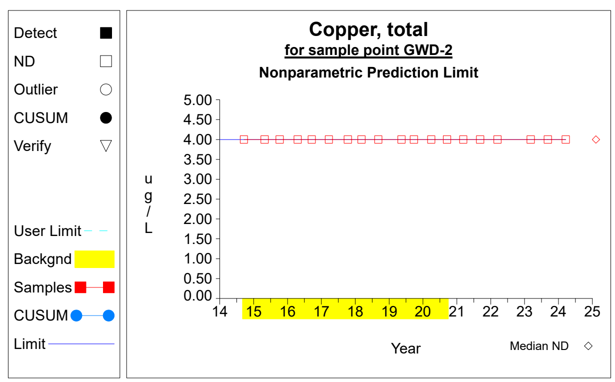

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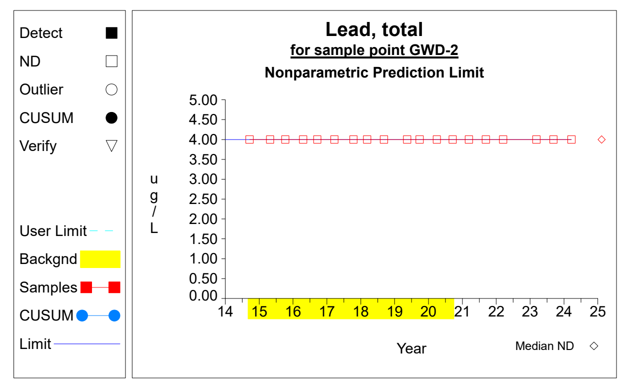
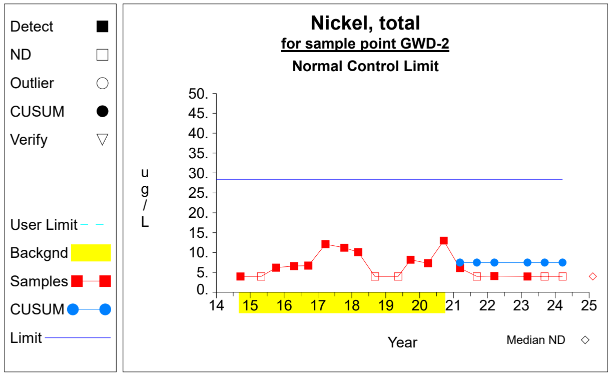


Graph 9

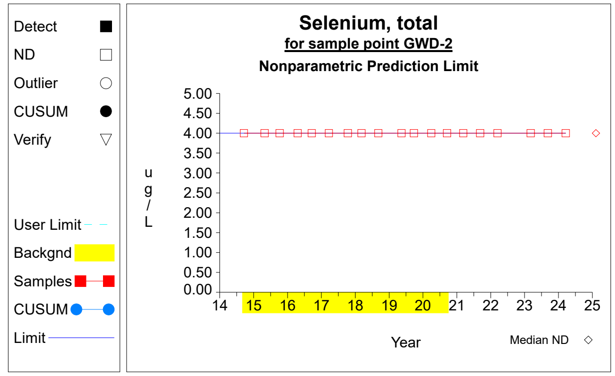
Prepared by: Otter Creek Environmental

Fremont County [GW] April 2024

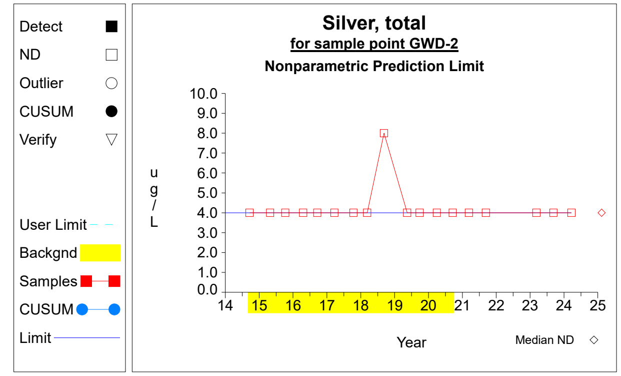
Intra-Well Control Charts / Prediction Limits



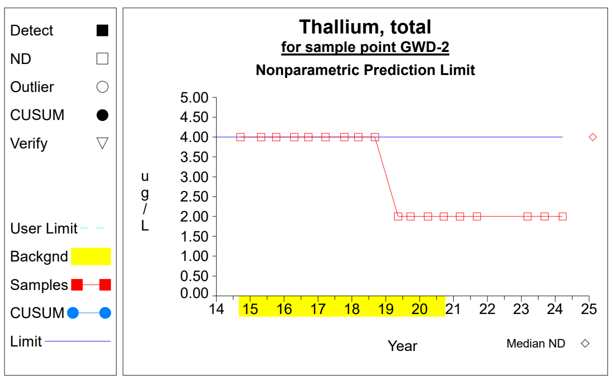
Graph 10



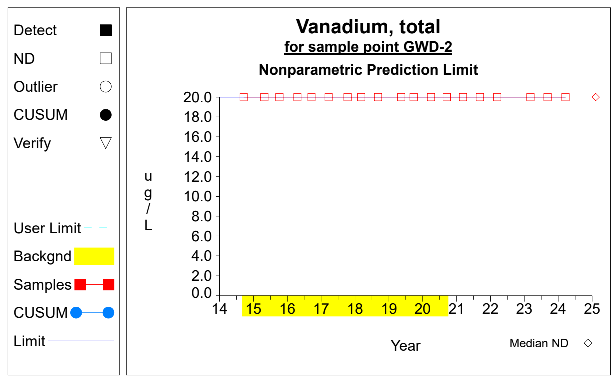
Graph 11



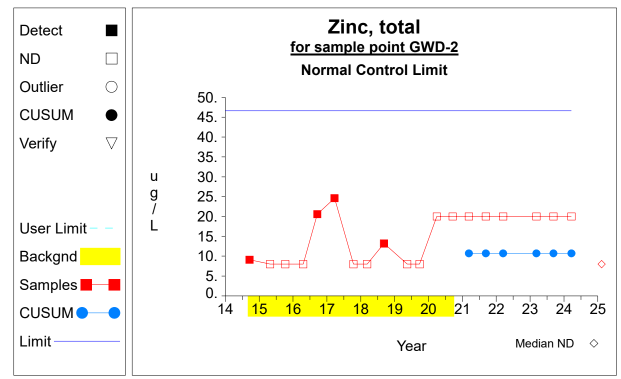
Graph 12



Graph 13



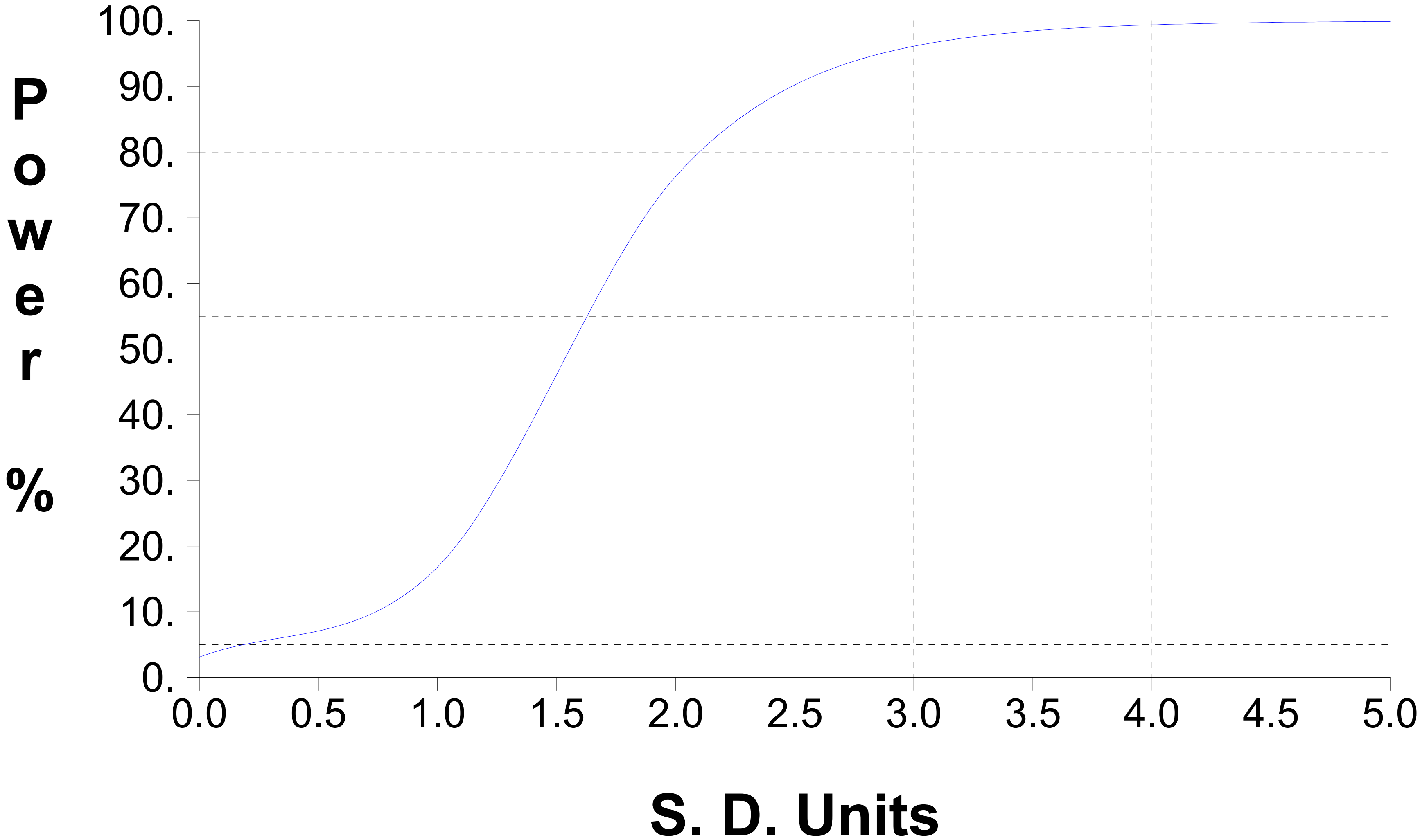
Graph 14



Graph 15

Prepared by: Otter Creek Environmental

False Positive and False Negative Rates for Current Intra-Well Control Charts Monitoring Program



APPENDIX B.2 – 2^nd^ Statistical Evaluation

GROUND WATER STATISTICS

FOR THE

FREMONT COUNTY LANDFILL

Second Semi-Annual Monitoring Period in 2024

Prepared for:
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October 2024

INTRODUCTION

This report summarizes the results of the statistical analysis used to evaluate the ground water quality data obtained during the second semi-annual monitoring period in 2024 at the Fremont County Landfill in Sidney, Fremont County, Iowa. The statistical plan was designed to detect a release from the facility at the earliest indication so that it is protective of human health and the environment. The interwell methodology is described and then applied to the current Fremont County Landfill data. The statistical plan conforms with IAC 567, Chapter 113.10 and the USEPA Unified Guidance document ("*Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, March 2009*).

Ground Water Monitoring Program

The groundwater monitoring network for Fremont County Sanitary Landfill includes sample points GWD-1, GWD-2, MW-2, MW-3, MW-9, MW-12, MW-14, MW-15, MW-18, MW-19, MW-21, and MW-23. Monitoring wells MW-16 and MW-17 are to be phased in with the completed construction of Phase 3 and Phase 4, respectively. Each of the groundwater monitoring wells is to be sampled at least semiannually and analyzed for the detection monitoring parameters listed in 113.10(5), which includes 15 inorganic constituents and 47 organic compounds, summarized in Table 1 below.

Table 1: Detection monitoring constituents listed in Appendix I of IAC 567, Chapter 113.

Organic Compounds:

Acetone	*trans*-1,4-Dichloro-2-butene	Iodomethane
Acrylonitrile	1,1-Dichloroethane	4-Methyl-2-pentanone
Benzene	1,2-Dichloroethane	Styrene
Bromochloromethane	1,1-Dichloroethene	1,1,1,2-Tetrachloroethane
Bromodichloromethane	*cis*-1,2-Dichloroethene	1,1,2,2-Tetrachloroethane
Bromoform	*trans*-1,2-Dichloroethene	Tetrachloroethene
Carbon disulfide	1,2-Dichloropropane	Toluene
Carbon tetrachloride	*cis*-1,3-Dichloropropene	1,1,1-Trichloroethane
Chlorobenzene	*trans*-1,3-Dichloropropene	1,1,2-Trichloroethane
Chloroethane	Ethylbenzene	Trichloroethene
Chloroform	2-Hexanone	Trichlorofluoromethane
Dibromochloromethane	Bromomethane	1,2,3-Trichloropropane
1,2-Dibromo-3-chloropropane	Chloromethane	Vinyl acetate
1,2-Dibromoethane	Dibromomethane	Vinyl chloride
1,2-Dichlorobenzene	Methylene chloride	Xylenes (Total)
1,4-Dichlorobenzene	2-Butanone	

Inorganic constituents:

Antimony, Total	Chromium, Total	Selenium, Total
Arsenic, Total	Cobalt, Total	Silver, Total
Barium, Total	Copper, Total	Thallium, Total
Beryllium, Total	Lead, Total	Vanadium, Total
Cadmium, Total	Nickel, Total	Zinc, Total

The ground water data obtained during the second semi-annual monitoring period in 2024 are summarized in Attachment A.

STATISTICAL METHODOLOGIES FOR DETECTION MONITORING

IAC 567, Chapter 113.10(4) provides several options for statistically evaluating the ground water data at those wells that monitor the open cells or contiguous MSWLF units. The preferred methods for comparing ground water data are using either prediction limits or using control charts. The prediction limits method was applied to the Fremont County Landfill data using the DUMPStat® statistical program. Ground water statistics are to be done on the inorganic constituents listed. The organic constituents are compared to maximum contaminant levels (MCLs) or practical quantitation limits (PQLs), in lieu of statistical comparisons to historical concentrations.

Interwell Statistics: Upgradient versus Downgradient Comparisons

Interwell statistics are appropriate when the upgradient and downgradient wells monitor the same ground water formation and there is similar variability in the upgradient and downgradient zones. Site prediction limits are determined by pooling the historical ground water data from hydraulically upgradient wells. This statistical method compares the current downgradient determinations to site prediction limits and checks for exceedances. The type of prediction limit utilized (e.g., parametric or nonparametric) is based on the detection frequency and the data distribution of each parameter in the background data. The distribution of the background data is tested for normality using the Shapiro-Wilk test (Gibbons, 1994 and USEPA 1992). If the constituent is normally distributed, a normal prediction limit is used. If normality is rejected by the Shapiro-Wilk test, the background data is transformed by taking the natural logarithm. The Shapiro-Wilk test is then reapplied on the transformed data. If it is not rejected, lognormal prediction limits are used. If after transforming the data, normality is still rejected, nonparametric prediction limits are used for that analyte. The nonparametric prediction limit is the largest determination in the background measurements. For constituents where the background detection frequency is greater than 0% but less than 50%, nonparametric prediction limits will be used. If the detection frequency is 0% after eight samples have been collected, the practical quantitation limit (PQL) becomes the nonparametric prediction limit.

<u>Results of the Interwell Statistics</u>

The background data used in this statistical analysis includes the ground water data collected from ground water wells MW-2, MW-14, MW-18, and MW-19 during the period from September 2014, when the sampling protocol changed, through the current data. A summary of the background data used to determine the site prediction limits, is listed in Attachment B, Table 1 “Upgradient Data”. This statistical method compares the current downgradient determinations to site prediction limits and checks for exceedances.

Table 2 “Most Current Downgradient Monitoring Data”, summarizes the current data from downgradient wells GWD-1, GWD-2, MW-3, MW-9, MW-12, MW-15, MW-21, and MW-23 compared to the site prediction limits. Prediction limit exceedances are flagged with asterisks. For the most current data, the site prediction limit exceedances detected are summarized in the table below.

Trace Metal Prediction Limit Exceedances during the Second Semi-Annual Monitoring Event in 2024

Well	Trace Metal Detected	Result, µg/L	Prediction Limit, µg/L	Prediction Limit Type	Verified/ Awaiting verification
GWD-1	Barium	619	614.0000	Nonparametric	Awaiting verification
MW-3	Barium	755	614.0000	Nonparametric	Verified

The detection frequencies of the parameters in the up and down gradient monitoring wells are summarized in Table 3. Only barium is detected at a frequency greater than or equal to 50% in the upgradient wells so only barium was tested for normality. The remainder of the metals are rarely detected (less than 50%) in the upgradient wells so nonparametric prediction limits were used in those cases. Table 4 summarizes the results of the Shapiro-Wilk test.

Table 5 is a summary of the statistics and prediction limits determined for the metals. Time series graphs of each of the parameters at each well with the corresponding prediction limits are attached.

A statistical power curve indicates the expected false assessments for the site as a whole. The false positive rate for interwell analyses is the percentage of failures when the upgradient versus downgradient true mean difference equals zero. False negative rate indicates the chance of missing contamination at a single well for a single constituent. The statistical power is a function of the number of wells included, the number of constituents compared, the detection frequencies, and the data distributions involved. For interwell analysis, the site-wide false positive rate is 1% and the test becomes sensitive to 3 standard deviation unit increases over background.

Intrawell statistics

Sample points GWD-1 and GWD-2 were also compared to background using intrawell comparisons. Intrawell statistics are appropriate for facilities where the upgradient wells do not accurately characterize the natural ground water conditions downgradient from the facility. This may be due to different hydrogeological conditions where the wells are screened, having too few upgradient wells to account for the spatial variability, or the site exhibiting no definable hydraulic gradient. Intrawell statistics compare new measurements to the historical data at each ground water monitoring well independently. It is recommended that at least eight background samples be obtained prior to performing the statistics.

The most useful technique for intrawell comparisons is the combined Shewhart-CUSUM control chart. This control chart procedure is useful because it will detect releases both in terms of the constituent concentration and cumulative increases. This method is also extremely sensitive to sudden and gradual releases. A requirement for constructing these control charts is that the parameter is detected at a frequency greater than or equal to 25%, otherwise the data variance is not properly defined.

The combined Shewhart-CUSUM control chart assumes that the data are independent and normally distributed with a fixed mean and a constant variance. Independent data is much more critical than the normality assumption. To achieve independence, it is recommended that data are collected no more frequently than quarterly to account for seasonal variation. The combined Shewhart-CUSUM control chart is extremely robust to deviations from normality. Because the control charts do not use a specific multiplier based on a normal distribution, it is more conservative to assume normality.

It is recommended that at least eight rounds of data be available to provide a reliable estimate of the mean and standard deviation of the parameter concentration, although the control charts will be generated with as few as four data points. Having only four data points may produce greater uncertainty in the mean and standard deviation of the background data, leading to higher control limits, thus having a potentially high false negative rate.

Many groundwater monitoring parameters are not detected at a frequency great enough to generate the combined Shewhart-CUSUM control charts. For constituents that are detected less than 25% of the time at a particular well, the data should be plotted as a time series until a sufficient number of data points are available to provide a 99% confidence nonparametric prediction limit. Thirteen independent measurements (with 1 resample) are necessary to achieve a 99% confidence (1% false positive rate) nonparametric prediction limit. Eight independent measurements (for pass 1 of 2 resamples) are necessary to achieve a 99% confidence nonparametric prediction limit. The nonparametric prediction limit is the largest determination out of the data set collected for that well and parameter. If the detection frequency is 0% after thirteen samples have been collected, the practical quantitation limit (PQL) becomes the nonparametric prediction limit.

In developing the statistical background, the historical data must be thoroughly screened for anomalous data due to sampling error, analytical error, or simply by chance alone. An erroneous data point, if not removed prior to the mean and variance computations, would yield a larger control limit thus increasing the false negative rate. The DUMPStat® program screens for outliers using the Dixon test. Anomalous data will still be plotted on the graphs (with a unique symbol) but will not be included in the calculations.

The verification resample plan is an integral function of the statistical plan to reduce the probability that anomalous data obtained after the background has been established, is indicative of a landfill release.

The background data for each well and constituent is tested for existing trends using Sen's nonparametric estimate of trend. If contamination exists prior to completing the background, the control limits could be potentially high and this control chart method would not be able to detect an increasing trend unless the increase is severe.

Results of the Intrawell Statistics

The trace metals data at GWD-1 and GWD-2 were evaluated using the combined Shewhart-CUSUM control chart method. The background at GWD-1 includes the GWD-1 data obtained from September 2014 through 2021; the background at GWD-2 includes the GWD-2 data obtained from September 2014 through 2020.

As ground water monitoring at a municipal solid waste facility proceeds, it is recommended to update background data sets periodically with valid detection monitoring results that are representative of background groundwater quality not affected by leakage from a monitored unit. Failure to update background will exclude factors such as natural temporal variation, changes in field or laboratory methodologies, and changes in the water table due to meteorological conditions or other influences.

A summary of the intrawell statistics is included in Attachment C, Table 1 "Summary Statistics and Intermediate Computations for Combined Shewhart-CUSUM Control Charts." The control charts or time series graphs follow the summary table. For the parameters evaluated, there were no statistical limit exceedances identified.

Slight increasing trends were detected in the background data for barium at GWD-1, barium at GWD-2, and cobalt at GWD-2.

A control chart factor was selected to provide a balance of the site-wide false positive and false negative rates. A statistical power curve indicates the expected false assessments for the site as a whole. For intrawell analysis, the site-wide false positive rate is 5% and the test becomes sensitive to 4 standard deviation units over background.

The past verified metals exceedances were evaluated against the ground water protection standards (GWPS) using confidence limits calculated in accordance with the Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, USEPA, March 2009 (Attachment D). The analysis was conducted to evaluate whether verified concentrations are significantly above the water quality standard. The 95% lower confidence limit (LCL) for the mean of the historical data was used to evaluate whether the regulated unit is in compliance with the ground-water protection standards under 40 CFR 264 (e.g. whether the verified constituent is detected at a significant level above the GWPS). An exceedance is verified if the LCL is above the Regulatory GWPS.

The 95% LCL for cobalt at GWD-2 (2.875 µg/L) exceeds the GWPS of 2.1 µg/L though the current cobalt concentration determined at GWD-2 (3.6 µg/L) did not exceed the interwell prediction limit of 14.4 µg/L or the intrawell control limit of 35.6999 µg/L. The 95% LCLs for the remainder of detected metals are below MCLs or Iowa groundwater protection standards.

Volatile Organic Compounds

Volatile Organic Compounds (VOCs) are generally man-made compounds not present in ambient ground water. If VOCs are detected above their statistical limit (i.e., the laboratory PQL or reporting limit), a verification resample will be conducted at the next scheduled sampling event. A statistical exceedance will be indicated if the VOC detection is confirmed by the subsequent monitoring. There were no VOCs detected in the ground water at Fremont County Landfill during the second semi-annual monitoring event in 2024. Historical VOC detections in the ground water are summarized in Attachment E.

CONCLUSIONS

This report summarizes the statistical analyses used to evaluate the ground water data obtained during the second semi-annual monitoring period in 2024 at Fremont County Landfill. Ground water wells GWD-2, MW-2, MW-3, MW-9, MW-12, MW-14, MW-15, MW-18, MW-19, MW-21, and MW-23 were sampled on September 25-26, 2024 and analyzed for the detection monitoring parameters listed in 113.10(5), which includes 15 inorganic constituents and 47 organic compounds.

The ground water data was compared to background using prediction limits. There is a verified site prediction limit exceedance for barium at MW-3 and a prediction limit exceedance for barium at GWD-1 awaiting verification. There were no control limit exceedances at GWD-1 or GWD-2 using intrawell comparisons. Of the organic compounds monitored for during the second semi-annual monitoring period in 2024, there were no detections.

Attachment A

Summary of the Data obtained during the Second Semi-Annual Monitoring Period in 2024

Table 1

Analytical Data Summary for 9/25/2024 to 9/26/2024

Constituents	Units	GWD-1	GWD-2	MW-12	MW-14	MW-15	MW-18	MW-19	MW-2	MW-21	MW-23	MW-3	MW-9
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dibromo-3-chloropropane	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-dibromoethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2-hexanone (mbk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acrylonitrile	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Antimony, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Barium, total	ug/L	619	496	509	241	545	447	532	179	341	306	755	316
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Beryllium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cadmium, total	ug/L	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8	<.8
Carbon disulfide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, total	ug/L	<8.0	<8.0	<8.0	<8.0	<8.0	17.2	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0
Cis-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	ug/L	2.3	3.6	.9	<.4	.4	11.2	14.4	<.4	<.4	<.4	<.4	.6
Copper, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	10.6	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	8.5	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Methyl iodide	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	ug/L	4.1	4.4	10.2	<4.0	11.4	20.7	15.7	<4.0	<4.0	<4.0	<4.0	4.6
Selenium, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Silver, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

* - The displayed value is the arithmetic mean of multiple database matches.

Table 1

Analytical Data Summary for 9/25/2024 to 9/26/2024

Constituents	Units	GWD-1	GWD-2	MW-12	MW-14	MW-15	MW-18	MW-19	MW-2	MW-21	MW-23	MW-3	MW-9
Trans-1,4-dichloro-2-butene	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20.0	<20.0	<20.0	<20.0	<20.0	26.9	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	<20	<20	<20	<20	<20	29	<20	<20	<20	<20	<20	<20

* - The displayed value is the arithmetic mean of multiple database matches.

Attachment B

Summary Tables and Graphs for the Interwell Comparisons

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony, total	ug/L	MW-14	09/18/2014	ND	2.0000		
Antimony, total	ug/L	MW-14	04/29/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	10/06/2015	ND	2.0000		
Antimony, total	ug/L	MW-14	04/19/2016	ND	2.0000		
Antimony, total	ug/L	MW-14	09/19/2016	ND	2.0000		
Antimony, total	ug/L	MW-14	03/22/2017	ND	2.0000		
Antimony, total	ug/L	MW-14	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-14	03/08/2018	ND	2.0000		
Antimony, total	ug/L	MW-14	09/06/2018	ND	2.0000		
Antimony, total	ug/L	MW-14	05/13/2019	ND	2.0000		
Antimony, total	ug/L	MW-14	09/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-14	03/30/2020	ND	2.0000		
Antimony, total	ug/L	MW-14	09/17/2020	ND	2.0000		
Antimony, total	ug/L	MW-14	03/09/2021	ND	2.0000		
Antimony, total	ug/L	MW-14	09/09/2021	ND	2.0000		
Antimony, total	ug/L	MW-14	03/14/2022	ND	2.0000		
Antimony, total	ug/L	MW-14	09/01/2022	ND	2.0000		
Antimony, total	ug/L	MW-14	03/06/2023	ND	2.0000		
Antimony, total	ug/L	MW-14	09/08/2023	ND	2.0000		
Antimony, total	ug/L	MW-14	03/20/2024	ND	2.0000		
Antimony, total	ug/L	MW-14	09/25/2024	ND	2.0000		
Arsenic, total	ug/L	MW-14	09/18/2014	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/29/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/06/2015	ND	4.0000		
Arsenic, total	ug/L	MW-14	04/19/2016	ND	4.0000		
Arsenic, total	ug/L	MW-14	09/19/2016	ND	4.0000		
Arsenic, total	ug/L	MW-14	03/22/2017	ND	4.0000		
Arsenic, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-14	03/08/2018	ND	4.0000		
Arsenic, total	ug/L	MW-14	09/06/2018	ND	4.0000		
Arsenic, total	ug/L	MW-14	05/13/2019	ND	4.0000		
Arsenic, total	ug/L	MW-14	09/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-14	03/30/2020	ND	4.0000		
Arsenic, total	ug/L	MW-14	09/17/2020	ND	4.0000		
Arsenic, total	ug/L	MW-14	03/09/2021	ND	4.0000		
Arsenic, total	ug/L	MW-14	09/09/2021	ND	4.0000		
Arsenic, total	ug/L	MW-14	03/14/2022	ND	4.0000		
Arsenic, total	ug/L	MW-14	09/01/2022	ND	4.0000		
Arsenic, total	ug/L	MW-14	03/06/2023	ND	4.0000		
Arsenic, total	ug/L	MW-14	09/08/2023	ND	4.0000		
Arsenic, total	ug/L	MW-14	03/20/2024	ND	4.0000		
Arsenic, total	ug/L	MW-14	09/25/2024	ND	4.0000		
Barium, total	ug/L	MW-14	09/18/2014		277.0000		
Barium, total	ug/L	MW-14	04/29/2015		290.0000		
Barium, total	ug/L	MW-14	10/06/2015		273.0000		
Barium, total	ug/L	MW-14	04/19/2016		272.0000		
Barium, total	ug/L	MW-14	09/19/2016		272.0000		
Barium, total	ug/L	MW-14	03/22/2017		255.0000		
Barium, total	ug/L	MW-14	10/12/2017		257.0000		
Barium, total	ug/L	MW-14	03/08/2018		265.0000		
Barium, total	ug/L	MW-14	09/06/2018		242.0000		
Barium, total	ug/L	MW-14	05/13/2019		247.0000		
Barium, total	ug/L	MW-14	09/26/2019		255.0000		
Barium, total	ug/L	MW-14	03/30/2020		259.0000		
Barium, total	ug/L	MW-14	09/17/2020		410.0000		
Barium, total	ug/L	MW-14	03/09/2021		249.0000		
Barium, total	ug/L	MW-14	09/09/2021		265.0000		
Barium, total	ug/L	MW-14	03/14/2022		243.0000		
Barium, total	ug/L	MW-14	09/01/2022		259.0000		
Barium, total	ug/L	MW-14	03/06/2023		258.0000		
Barium, total	ug/L	MW-14	09/08/2023		243.0000		
Barium, total	ug/L	MW-14	03/20/2024		248.0000		
Barium, total	ug/L	MW-14	09/25/2024		241.0000		
Beryllium, total	ug/L	MW-14	09/18/2014	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/29/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/06/2015	ND	4.0000		
Beryllium, total	ug/L	MW-14	04/19/2016	ND	4.0000		
Beryllium, total	ug/L	MW-14	09/19/2016	ND	4.0000		
Beryllium, total	ug/L	MW-14	03/22/2017	ND	4.0000		
Beryllium, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-14	03/08/2018	ND	4.0000		
Beryllium, total	ug/L	MW-14	09/06/2018	ND	4.0000		
Beryllium, total	ug/L	MW-14	05/13/2019	ND	4.0000		
Beryllium, total	ug/L	MW-14	09/26/2019	ND	4.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Beryllium, total	ug/L	MW-14	03/30/2020	ND	4.0000		
Beryllium, total	ug/L	MW-14	09/17/2020	ND	4.0000		
Beryllium, total	ug/L	MW-14	03/09/2021	ND	4.0000		
Beryllium, total	ug/L	MW-14	09/09/2021	ND	4.0000		
Beryllium, total	ug/L	MW-14	03/14/2022	ND	4.0000		
Beryllium, total	ug/L	MW-14	09/01/2022	ND	4.0000		
Beryllium, total	ug/L	MW-14	03/06/2023	ND	4.0000		
Beryllium, total	ug/L	MW-14	09/08/2023	ND	4.0000		
Beryllium, total	ug/L	MW-14	03/20/2024	ND	4.0000		
Beryllium, total	ug/L	MW-14	09/25/2024	ND	4.0000		
Cadmium, total	ug/L	MW-14	09/18/2014	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/29/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/06/2015	ND	0.8000		
Cadmium, total	ug/L	MW-14	04/19/2016	ND	0.8000		
Cadmium, total	ug/L	MW-14	09/19/2016	ND	0.8000		
Cadmium, total	ug/L	MW-14	03/22/2017	ND	0.8000		
Cadmium, total	ug/L	MW-14	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-14	03/08/2018	ND	0.8000		
Cadmium, total	ug/L	MW-14	09/06/2018	ND	0.8000		
Cadmium, total	ug/L	MW-14	05/13/2019	ND	0.8000		
Cadmium, total	ug/L	MW-14	09/26/2019		1.0000		
Cadmium, total	ug/L	MW-14	03/30/2020	ND	0.8000		
Cadmium, total	ug/L	MW-14	09/17/2020	ND	0.8000		
Cadmium, total	ug/L	MW-14	03/09/2021	ND	0.8000		
Cadmium, total	ug/L	MW-14	09/09/2021	ND	0.8000		
Cadmium, total	ug/L	MW-14	03/14/2022	ND	0.8000		
Cadmium, total	ug/L	MW-14	09/01/2022	ND	0.8000		
Cadmium, total	ug/L	MW-14	03/06/2023	ND	0.8000		
Cadmium, total	ug/L	MW-14	09/08/2023	ND	0.8000		
Cadmium, total	ug/L	MW-14	03/20/2024	ND	0.8000		
Cadmium, total	ug/L	MW-14	09/25/2024	ND	0.8000		
Chromium, total	ug/L	MW-14	09/18/2014	ND	8.0000		
Chromium, total	ug/L	MW-14	04/29/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	10/06/2015	ND	8.0000		
Chromium, total	ug/L	MW-14	04/19/2016	ND	8.0000		
Chromium, total	ug/L	MW-14	09/19/2016	ND	8.0000		
Chromium, total	ug/L	MW-14	03/22/2017	ND	8.0000		
Chromium, total	ug/L	MW-14	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-14	03/08/2018	ND	8.0000		
Chromium, total	ug/L	MW-14	09/06/2018	ND	8.0000		
Chromium, total	ug/L	MW-14	05/13/2019	ND	8.0000		
Chromium, total	ug/L	MW-14	09/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-14	03/30/2020	ND	8.0000		
Chromium, total	ug/L	MW-14	09/17/2020	ND	8.0000		
Chromium, total	ug/L	MW-14	03/09/2021	ND	8.0000		
Chromium, total	ug/L	MW-14	09/09/2021	ND	8.0000		
Chromium, total	ug/L	MW-14	03/14/2022	ND	8.0000		
Chromium, total	ug/L	MW-14	09/01/2022	ND	8.0000		
Chromium, total	ug/L	MW-14	03/06/2023	ND	8.0000		
Chromium, total	ug/L	MW-14	09/08/2023	ND	8.0000		
Chromium, total	ug/L	MW-14	03/20/2024	ND	8.0000		
Chromium, total	ug/L	MW-14	09/25/2024	ND	8.0000		
Cobalt, total	ug/L	MW-14	09/18/2014		0.9000		
Cobalt, total	ug/L	MW-14	04/29/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/06/2015	ND	0.8000		
Cobalt, total	ug/L	MW-14	04/19/2016	ND	0.8000		
Cobalt, total	ug/L	MW-14	09/19/2016	ND	0.8000		
Cobalt, total	ug/L	MW-14	03/22/2017	ND	0.8000		
Cobalt, total	ug/L	MW-14	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-14	03/08/2018	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-14	09/06/2018	ND	0.8000		
Cobalt, total	ug/L	MW-14	05/13/2019	ND	0.8000		
Cobalt, total	ug/L	MW-14	09/26/2019	ND	0.8000		
Cobalt, total	ug/L	MW-14	03/30/2020	ND	0.8000		
Cobalt, total	ug/L	MW-14	09/17/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	03/09/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	09/09/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	03/14/2022		0.5000		
Cobalt, total	ug/L	MW-14	09/01/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	03/06/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	09/08/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	03/20/2024	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-14	09/25/2024	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-14	09/18/2014	ND	4.0000		

*   - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Copper, total	ug/L	MW-14	04/29/2015	ND	4.0000		
Copper, total	ug/L	MW-14	10/06/2015	ND	4.0000		
Copper, total	ug/L	MW-14	04/19/2016	ND	4.0000		
Copper, total	ug/L	MW-14	09/19/2016	ND	4.0000		
Copper, total	ug/L	MW-14	03/22/2017	ND	4.0000		
Copper, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-14	03/08/2018	ND	4.0000		
Copper, total	ug/L	MW-14	09/06/2018	ND	4.0000		
Copper, total	ug/L	MW-14	05/13/2019	ND	4.0000		
Copper, total	ug/L	MW-14	09/26/2019	ND	4.0000		
Copper, total	ug/L	MW-14	03/30/2020		32.2000		*
Copper, total	ug/L	MW-14	06/25/2020	ND	4.0000		
Copper, total	ug/L	MW-14	09/17/2020	ND	4.0000		
Copper, total	ug/L	MW-14	03/09/2021	ND	4.0000		
Copper, total	ug/L	MW-14	09/09/2021	ND	4.0000		
Copper, total	ug/L	MW-14	03/14/2022	ND	4.0000		
Copper, total	ug/L	MW-14	09/01/2022	ND	4.0000		
Copper, total	ug/L	MW-14	03/06/2023	ND	4.0000		
Copper, total	ug/L	MW-14	09/08/2023	ND	4.0000		
Copper, total	ug/L	MW-14	03/20/2024	ND	4.0000		
Copper, total	ug/L	MW-14	09/25/2024	ND	4.0000		
Lead, total	ug/L	MW-14	09/18/2014	ND	4.0000		
Lead, total	ug/L	MW-14	04/29/2015	ND	4.0000		
Lead, total	ug/L	MW-14	10/06/2015	ND	4.0000		
Lead, total	ug/L	MW-14	04/19/2016	ND	4.0000		
Lead, total	ug/L	MW-14	09/19/2016	ND	4.0000		
Lead, total	ug/L	MW-14	03/22/2017	ND	4.0000		
Lead, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-14	03/08/2018	ND	4.0000		
Lead, total	ug/L	MW-14	09/06/2018	ND	4.0000		
Lead, total	ug/L	MW-14	05/13/2019	ND	4.0000		
Lead, total	ug/L	MW-14	09/26/2019	ND	4.0000		
Lead, total	ug/L	MW-14	03/30/2020	ND	4.0000		
Lead, total	ug/L	MW-14	09/17/2020	ND	4.0000		
Lead, total	ug/L	MW-14	03/09/2021	ND	4.0000		
Lead, total	ug/L	MW-14	09/09/2021	ND	4.0000		
Lead, total	ug/L	MW-14	03/14/2022	ND	4.0000		
Lead, total	ug/L	MW-14	09/01/2022	ND	4.0000		
Lead, total	ug/L	MW-14	03/06/2023	ND	4.0000		
Lead, total	ug/L	MW-14	09/08/2023	ND	4.0000		
Lead, total	ug/L	MW-14	03/20/2024	ND	4.0000		
Lead, total	ug/L	MW-14	09/25/2024	ND	4.0000		
Nickel, total	ug/L	MW-14	09/18/2014	ND	4.0000		
Nickel, total	ug/L	MW-14	04/29/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	10/06/2015	ND	4.0000		
Nickel, total	ug/L	MW-14	04/19/2016	ND	4.0000		
Nickel, total	ug/L	MW-14	09/19/2016		5.4000		
Nickel, total	ug/L	MW-14	03/22/2017	ND	4.0000		
Nickel, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-14	03/08/2018	ND	4.0000		
Nickel, total	ug/L	MW-14	09/06/2018	ND	8.0000	4.0000	**
Nickel, total	ug/L	MW-14	05/13/2019	ND	4.0000		
Nickel, total	ug/L	MW-14	09/26/2019	ND	4.0000		
Nickel, total	ug/L	MW-14	03/30/2020	ND	4.0000		
Nickel, total	ug/L	MW-14	09/17/2020	ND	4.0000		
Nickel, total	ug/L	MW-14	03/09/2021	ND	4.0000		
Nickel, total	ug/L	MW-14	09/09/2021	ND	4.0000		
Nickel, total	ug/L	MW-14	03/14/2022	ND	4.0000		
Nickel, total	ug/L	MW-14	09/01/2022	ND	4.0000		
Nickel, total	ug/L	MW-14	03/06/2023	ND	4.0000		
Nickel, total	ug/L	MW-14	09/08/2023	ND	4.0000		
Nickel, total	ug/L	MW-14	03/20/2024	ND	4.0000		
Nickel, total	ug/L	MW-14	09/25/2024	ND	4.0000		
Selenium, total	ug/L	MW-14	09/18/2014		4.7000		
Selenium, total	ug/L	MW-14	04/29/2015		4.6000		
Selenium, total	ug/L	MW-14	10/06/2015		4.0000		
Selenium, total	ug/L	MW-14	04/19/2016		4.2000		
Selenium, total	ug/L	MW-14	09/19/2016		4.0000		
Selenium, total	ug/L	MW-14	03/22/2017	ND	4.0000		
Selenium, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-14	03/08/2018		6.3000		
Selenium, total	ug/L	MW-14	09/06/2018	ND	4.0000		
Selenium, total	ug/L	MW-14	05/13/2019		4.4000		
Selenium, total	ug/L	MW-14	09/26/2019		4.5000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Selenium, total	ug/L	MW-14	03/30/2020	ND	4.0000		
Selenium, total	ug/L	MW-14	09/17/2020		7.4000		
Selenium, total	ug/L	MW-14	12/03/2020		4.2000		
Selenium, total	ug/L	MW-14	03/09/2021	ND	4.0000		
Selenium, total	ug/L	MW-14	09/09/2021	ND	4.0000		
Selenium, total	ug/L	MW-14	03/14/2022	ND	4.0000		
Selenium, total	ug/L	MW-14	09/01/2022		4.2000		
Selenium, total	ug/L	MW-14	03/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-14	09/08/2023	ND	4.0000		
Selenium, total	ug/L	MW-14	03/20/2024	ND	4.0000		
Selenium, total	ug/L	MW-14	09/25/2024	ND	4.0000		
Silver, total	ug/L	MW-14	09/18/2014	ND	4.0000		
Silver, total	ug/L	MW-14	04/29/2015	ND	4.0000		
Silver, total	ug/L	MW-14	10/06/2015	ND	4.0000		
Silver, total	ug/L	MW-14	04/19/2016	ND	4.0000		
Silver, total	ug/L	MW-14	09/19/2016	ND	4.0000		
Silver, total	ug/L	MW-14	03/22/2017	ND	4.0000		
Silver, total	ug/L	MW-14	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-14	03/08/2018	ND	4.0000		
Silver, total	ug/L	MW-14	09/06/2018	ND	8.0000	4.0000	**
Silver, total	ug/L	MW-14	05/13/2019	ND	4.0000		
Silver, total	ug/L	MW-14	09/26/2019	ND	4.0000		
Silver, total	ug/L	MW-14	03/30/2020	ND	4.0000		
Silver, total	ug/L	MW-14	09/17/2020	ND	4.0000		
Silver, total	ug/L	MW-14	03/09/2021	ND	4.0000		
Silver, total	ug/L	MW-14	09/09/2021	ND	4.0000		
Silver, total	ug/L	MW-14	03/14/2022	ND	4.0000		
Silver, total	ug/L	MW-14	09/01/2022	ND	4.0000		
Silver, total	ug/L	MW-14	03/06/2023	ND	4.0000		
Silver, total	ug/L	MW-14	09/08/2023	ND	4.0000		
Silver, total	ug/L	MW-14	03/20/2024	ND	4.0000		
Silver, total	ug/L	MW-14	09/25/2024	ND	4.0000		
Thallium, total	ug/L	MW-14	09/18/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	04/29/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	10/06/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	04/19/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	09/19/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	03/22/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	10/12/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	03/08/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	09/06/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-14	05/13/2019	ND	2.0000		
Thallium, total	ug/L	MW-14	09/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-14	03/30/2020	ND	2.0000		
Thallium, total	ug/L	MW-14	09/17/2020	ND	2.0000		
Thallium, total	ug/L	MW-14	03/09/2021	ND	2.0000		
Thallium, total	ug/L	MW-14	09/09/2021	ND	2.0000		
Thallium, total	ug/L	MW-14	03/14/2022	ND	2.0000		
Thallium, total	ug/L	MW-14	09/01/2022	ND	2.0000		
Thallium, total	ug/L	MW-14	03/06/2023	ND	2.0000		
Thallium, total	ug/L	MW-14	09/08/2023	ND	2.0000		
Thallium, total	ug/L	MW-14	03/20/2024	ND	2.0000		
Thallium, total	ug/L	MW-14	09/25/2024	ND	2.0000		
Vanadium, total	ug/L	MW-14	09/18/2014	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/29/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/06/2015	ND	20.0000		
Vanadium, total	ug/L	MW-14	04/19/2016	ND	20.0000		
Vanadium, total	ug/L	MW-14	09/19/2016	ND	20.0000		
Vanadium, total	ug/L	MW-14	03/22/2017	ND	20.0000		
Vanadium, total	ug/L	MW-14	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-14	03/08/2018	ND	20.0000		
Vanadium, total	ug/L	MW-14	09/06/2018	ND	20.0000		
Vanadium, total	ug/L	MW-14	05/13/2019	ND	20.0000		
Vanadium, total	ug/L	MW-14	09/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-14	03/30/2020	ND	20.0000		
Vanadium, total	ug/L	MW-14	09/17/2020	ND	20.0000		
Vanadium, total	ug/L	MW-14	03/09/2021	ND	20.0000		
Vanadium, total	ug/L	MW-14	09/09/2021	ND	20.0000		
Vanadium, total	ug/L	MW-14	03/14/2022	ND	20.0000		
Vanadium, total	ug/L	MW-14	09/01/2022	ND	20.0000		
Vanadium, total	ug/L	MW-14	03/06/2023	ND	20.0000		
Vanadium, total	ug/L	MW-14	09/08/2023	ND	20.0000		
Vanadium, total	ug/L	MW-14	03/20/2024	ND	20.0000		
Vanadium, total	ug/L	MW-14	09/25/2024	ND	20.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Zinc, total	ug/L	MW-14	09/18/2014		9.3000		
Zinc, total	ug/L	MW-14	04/29/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	10/06/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	04/19/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	09/19/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	03/22/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-14	03/08/2018		11.1000		
Zinc, total	ug/L	MW-14	09/06/2018		27.7000		
Zinc, total	ug/L	MW-14	05/13/2019		24.1000		
Zinc, total	ug/L	MW-14	09/26/2019		19.1000		
Zinc, total	ug/L	MW-14	03/30/2020		25.3000		
Zinc, total	ug/L	MW-14	09/17/2020	ND	20.0000		
Zinc, total	ug/L	MW-14	03/09/2021	ND	20.0000		
Zinc, total	ug/L	MW-14	09/09/2021	ND	20.0000		
Zinc, total	ug/L	MW-14	03/14/2022	ND	20.0000		
Zinc, total	ug/L	MW-14	09/01/2022	ND	20.0000		
Zinc, total	ug/L	MW-14	03/06/2023	ND	20.0000		
Zinc, total	ug/L	MW-14	09/08/2023	ND	20.0000		
Zinc, total	ug/L	MW-14	03/20/2024	ND	20.0000		
Zinc, total	ug/L	MW-14	09/25/2024	ND	20.0000		
Antimony, total	ug/L	MW-18	09/18/2014	ND	2.0000		
Antimony, total	ug/L	MW-18	04/29/2015	ND	2.0000		
Antimony, total	ug/L	MW-18	10/06/2015	ND	2.0000		
Antimony, total	ug/L	MW-18	04/19/2016	ND	2.0000		
Antimony, total	ug/L	MW-18	09/19/2016	ND	2.0000		
Antimony, total	ug/L	MW-18	03/21/2017	ND	2.0000		
Antimony, total	ug/L	MW-18	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-18	03/08/2018	ND	2.0000		
Antimony, total	ug/L	MW-18	09/06/2018	ND	2.0000		
Antimony, total	ug/L	MW-18	05/13/2019	ND	2.0000		
Antimony, total	ug/L	MW-18	09/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-18	03/30/2020	ND	2.0000		
Antimony, total	ug/L	MW-18	09/17/2020	ND	2.0000		
Antimony, total	ug/L	MW-18	03/09/2021	ND	2.0000		*
Antimony, total	ug/L	MW-18	09/09/2021	ND	2.0000		
Antimony, total	ug/L	MW-18	03/14/2022	ND	2.0000		
Antimony, total	ug/L	MW-18	09/01/2022	ND	2.0000		
Antimony, total	ug/L	MW-18	03/06/2023	ND	2.0000		
Antimony, total	ug/L	MW-18	09/08/2023	ND	2.0000		
Antimony, total	ug/L	MW-18	03/20/2024	ND	2.0000		
Antimony, total	ug/L	MW-18	09/25/2024	ND	2.0000		
Arsenic, total	ug/L	MW-18	09/18/2014	ND	4.0000		
Arsenic, total	ug/L	MW-18	04/29/2015	ND	4.0000		
Arsenic, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Arsenic, total	ug/L	MW-18	04/19/2016	ND	4.0000		
Arsenic, total	ug/L	MW-18	09/19/2016		4.4000		
Arsenic, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Arsenic, total	ug/L	MW-18	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-18	03/08/2018	ND	4.0000		
Arsenic, total	ug/L	MW-18	09/06/2018	ND	4.0000		
Arsenic, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Arsenic, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-18	03/30/2020	ND	4.0000		
Arsenic, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Arsenic, total	ug/L	MW-18	03/09/2021		19.9000		*
Arsenic, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Arsenic, total	ug/L	MW-18	03/14/2022		7.8000		*
Arsenic, total	ug/L	MW-18	09/01/2022	ND	4.0000		
Arsenic, total	ug/L	MW-18	03/06/2023	ND	4.0000		
Arsenic, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Arsenic, total	ug/L	MW-18	03/20/2024	ND	4.0000		
Arsenic, total	ug/L	MW-18	09/25/2024	ND	4.0000		
Barium, total	ug/L	MW-18	09/18/2014		333.0000		
Barium, total	ug/L	MW-18	04/29/2015		402.0000		
Barium, total	ug/L	MW-18	10/06/2015		355.0000		
Barium, total	ug/L	MW-18	04/19/2016		360.0000		
Barium, total	ug/L	MW-18	09/19/2016		439.0000		
Barium, total	ug/L	MW-18	03/21/2017		295.0000		
Barium, total	ug/L	MW-18	10/12/2017		554.0000		
Barium, total	ug/L	MW-18	03/08/2018		373.0000		
Barium, total	ug/L	MW-18	09/06/2018		352.0000		
Barium, total	ug/L	MW-18	05/13/2019		368.0000		
Barium, total	ug/L	MW-18	09/26/2019		372.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Barium, total	ug/L	MW-18	03/30/2020		418.0000		
Barium, total	ug/L	MW-18	09/17/2020		365.0000		
Barium, total	ug/L	MW-18	03/09/2021		1250.0000		*
Barium, total	ug/L	MW-18	06/03/2021		355.0000		
Barium, total	ug/L	MW-18	09/09/2021		361.0000		
Barium, total	ug/L	MW-18	03/14/2022		651.0000		*
Barium, total	ug/L	MW-18	09/01/2022		400.0000		
Barium, total	ug/L	MW-18	03/06/2023		407.0000		
Barium, total	ug/L	MW-18	09/08/2023		327.0000		
Barium, total	ug/L	MW-18	03/20/2024		378.0000		
Barium, total	ug/L	MW-18	09/25/2024		447.0000		
Beryllium, total	ug/L	MW-18	09/18/2014	ND	4.0000		
Beryllium, total	ug/L	MW-18	04/29/2015	ND	4.0000		
Beryllium, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Beryllium, total	ug/L	MW-18	04/19/2016	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/19/2016	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Beryllium, total	ug/L	MW-18	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/08/2018	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/06/2018	ND	4.0000		
Beryllium, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/30/2020	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/09/2021		4.5000		*
Beryllium, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/14/2022	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/01/2022	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/06/2023	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Beryllium, total	ug/L	MW-18	03/20/2024	ND	4.0000		
Beryllium, total	ug/L	MW-18	09/25/2024	ND	4.0000		
Cadmium, total	ug/L	MW-18	09/18/2014	ND	0.8000		
Cadmium, total	ug/L	MW-18	04/29/2015	ND	0.8000		
Cadmium, total	ug/L	MW-18	10/06/2015	ND	0.8000		
Cadmium, total	ug/L	MW-18	04/19/2016	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/19/2016	ND	0.8000		
Cadmium, total	ug/L	MW-18	03/21/2017	ND	0.8000		
Cadmium, total	ug/L	MW-18	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-18	03/08/2018	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/06/2018	ND	0.8000		
Cadmium, total	ug/L	MW-18	05/13/2019	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/26/2019	ND	0.8000		
Cadmium, total	ug/L	MW-18	03/30/2020	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/17/2020	ND	0.8000		
Cadmium, total	ug/L	MW-18	03/09/2021		1.4000		*
Cadmium, total	ug/L	MW-18	09/09/2021		0.8000		
Cadmium, total	ug/L	MW-18	03/14/2022	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/01/2022	ND	0.8000		
Cadmium, total	ug/L	MW-18	03/06/2023	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/08/2023	ND	0.8000		
Cadmium, total	ug/L	MW-18	03/20/2024	ND	0.8000		
Cadmium, total	ug/L	MW-18	09/25/2024	ND	0.8000		
Chromium, total	ug/L	MW-18	09/18/2014	ND	8.0000		
Chromium, total	ug/L	MW-18	04/29/2015	ND	8.0000		
Chromium, total	ug/L	MW-18	10/06/2015	ND	8.0000		
Chromium, total	ug/L	MW-18	04/19/2016	ND	8.0000		
Chromium, total	ug/L	MW-18	09/19/2016		15.4000		
Chromium, total	ug/L	MW-18	03/21/2017	ND	8.0000		
Chromium, total	ug/L	MW-18	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-18	03/08/2018		9.8000		
Chromium, total	ug/L	MW-18	09/06/2018	ND	8.0000		
Chromium, total	ug/L	MW-18	05/13/2019	ND	8.0000		
Chromium, total	ug/L	MW-18	09/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-18	03/30/2020		8.7000		
Chromium, total	ug/L	MW-18	09/17/2020	ND	8.0000		
Chromium, total	ug/L	MW-18	03/09/2021		73.4000		*
Chromium, total	ug/L	MW-18	09/09/2021	ND	8.0000		
Chromium, total	ug/L	MW-18	03/14/2022		33.2000		*
Chromium, total	ug/L	MW-18	09/01/2022	ND	8.0000		
Chromium, total	ug/L	MW-18	03/06/2023		9.7000		
Chromium, total	ug/L	MW-18	09/08/2023	ND	8.0000		
Chromium, total	ug/L	MW-18	03/20/2024		14.2000		
Chromium, total	ug/L	MW-18	09/25/2024		17.2000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Cobalt, total	ug/L	MW-18	09/18/2014		1.1000		
Cobalt, total	ug/L	MW-18	04/29/2015		3.1000		
Cobalt, total	ug/L	MW-18	10/06/2015	ND	0.8000		
Cobalt, total	ug/L	MW-18	04/19/2016		1.1000		
Cobalt, total	ug/L	MW-18	09/19/2016		10.6000		
Cobalt, total	ug/L	MW-18	03/21/2017	ND	0.8000		
Cobalt, total	ug/L	MW-18	10/12/2017		2.5000		
Cobalt, total	ug/L	MW-18	03/08/2018		4.8000		
Cobalt, total	ug/L	MW-18	09/06/2018	ND	0.8000		
Cobalt, total	ug/L	MW-18	05/13/2019	ND	0.8000		
Cobalt, total	ug/L	MW-18	09/26/2019	ND	0.8000		
Cobalt, total	ug/L	MW-18	03/30/2020		3.4000		
Cobalt, total	ug/L	MW-18	09/17/2020		1.2000		
Cobalt, total	ug/L	MW-18	03/09/2021		72.8000		*
Cobalt, total	ug/L	MW-18	09/09/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-18	03/14/2022		28.3000		*
Cobalt, total	ug/L	MW-18	09/01/2022		2.4000		
Cobalt, total	ug/L	MW-18	03/06/2023		6.1000		
Cobalt, total	ug/L	MW-18	09/08/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-18	03/20/2024		1.9000		
Cobalt, total	ug/L	MW-18	09/25/2024		11.2000		
Copper, total	ug/L	MW-18	09/18/2014	ND	4.0000		
Copper, total	ug/L	MW-18	04/29/2015	ND	4.0000		
Copper, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Copper, total	ug/L	MW-18	04/19/2016		10.8000		
Copper, total	ug/L	MW-18	09/19/2016		10.4000		
Copper, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Copper, total	ug/L	MW-18	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-18	03/08/2018		5.5000		
Copper, total	ug/L	MW-18	09/06/2018	ND	4.0000		
Copper, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Copper, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Copper, total	ug/L	MW-18	03/30/2020	ND	4.0000		
Copper, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Copper, total	ug/L	MW-18	03/09/2021		62.1000		*
Copper, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Copper, total	ug/L	MW-18	03/14/2022		22.1000		*
Copper, total	ug/L	MW-18	09/01/2022	ND	4.0000		
Copper, total	ug/L	MW-18	03/06/2023		4.9000		
Copper, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Copper, total	ug/L	MW-18	03/20/2024	ND	4.0000		
Copper, total	ug/L	MW-18	09/25/2024		10.6000		
Lead, total	ug/L	MW-18	09/18/2014	ND	4.0000		
Lead, total	ug/L	MW-18	04/29/2015	ND	4.0000		
Lead, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Lead, total	ug/L	MW-18	04/19/2016	ND	4.0000		
Lead, total	ug/L	MW-18	09/19/2016		8.7000		
Lead, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Lead, total	ug/L	MW-18	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-18	03/08/2018	ND	4.0000		
Lead, total	ug/L	MW-18	09/06/2018	ND	4.0000		
Lead, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Lead, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Lead, total	ug/L	MW-18	03/30/2020	ND	4.0000		
Lead, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Lead, total	ug/L	MW-18	03/09/2021		57.7000		*
Lead, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Lead, total	ug/L	MW-18	03/14/2022		20.0000		*
Lead, total	ug/L	MW-18	09/01/2022	ND	4.0000		
Lead, total	ug/L	MW-18	03/06/2023		4.8000		
Lead, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Lead, total	ug/L	MW-18	03/20/2024	ND	4.0000		
Lead, total	ug/L	MW-18	09/25/2024		8.5000		
Nickel, total	ug/L	MW-18	09/18/2014	ND	4.0000		
Nickel, total	ug/L	MW-18	04/29/2015		5.2000		
Nickel, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Nickel, total	ug/L	MW-18	04/19/2016	ND	4.0000		
Nickel, total	ug/L	MW-18	09/19/2016		13.6000		
Nickel, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Nickel, total	ug/L	MW-18	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-18	03/08/2018		9.7000		
Nickel, total	ug/L	MW-18	09/06/2018	ND	8.0000	4.0000	**
Nickel, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Nickel, total	ug/L	MW-18	09/26/2019	ND	4.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Nickel, total	ug/L	MW-18	03/30/2020		6.0000		
Nickel, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Nickel, total	ug/L	MW-18	03/09/2021		113.0000		*
Nickel, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Nickel, total	ug/L	MW-18	03/14/2022		48.4000		*
Nickel, total	ug/L	MW-18	09/01/2022		4.4000		
Nickel, total	ug/L	MW-18	03/06/2023		11.6000		
Nickel, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Nickel, total	ug/L	MW-18	03/20/2024		8.3000		
Nickel, total	ug/L	MW-18	09/25/2024		20.7000		
Selenium, total	ug/L	MW-18	09/18/2014	ND	4.0000		
Selenium, total	ug/L	MW-18	04/29/2015	ND	4.0000		
Selenium, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Selenium, total	ug/L	MW-18	04/19/2016	ND	4.0000		
Selenium, total	ug/L	MW-18	09/19/2016	ND	4.0000		
Selenium, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Selenium, total	ug/L	MW-18	10/12/2017		6.3000		
Selenium, total	ug/L	MW-18	03/08/2018	ND	4.0000		
Selenium, total	ug/L	MW-18	09/06/2018	ND	4.0000		
Selenium, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Selenium, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Selenium, total	ug/L	MW-18	03/30/2020	ND	4.0000		
Selenium, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Selenium, total	ug/L	MW-18	03/09/2021		10.6000		*
Selenium, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Selenium, total	ug/L	MW-18	03/14/2022	ND	4.0000		
Selenium, total	ug/L	MW-18	09/01/2022	ND	4.0000		
Selenium, total	ug/L	MW-18	03/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Selenium, total	ug/L	MW-18	03/20/2024	ND	4.0000		
Selenium, total	ug/L	MW-18	09/25/2024	ND	4.0000		
Silver, total	ug/L	MW-18	09/18/2014	ND	4.0000		
Silver, total	ug/L	MW-18	04/29/2015	ND	4.0000		
Silver, total	ug/L	MW-18	10/06/2015	ND	4.0000		
Silver, total	ug/L	MW-18	04/19/2016	ND	4.0000		
Silver, total	ug/L	MW-18	09/19/2016	ND	4.0000		
Silver, total	ug/L	MW-18	03/21/2017	ND	4.0000		
Silver, total	ug/L	MW-18	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-18	03/08/2018	ND	4.0000		
Silver, total	ug/L	MW-18	09/06/2018	ND	8.0000	4.0000	**
Silver, total	ug/L	MW-18	05/13/2019	ND	4.0000		
Silver, total	ug/L	MW-18	09/26/2019	ND	4.0000		
Silver, total	ug/L	MW-18	03/30/2020	ND	4.0000		
Silver, total	ug/L	MW-18	09/17/2020	ND	4.0000		
Silver, total	ug/L	MW-18	03/09/2021	ND	4.0000		*
Silver, total	ug/L	MW-18	09/09/2021	ND	4.0000		
Silver, total	ug/L	MW-18	03/14/2022	ND	4.0000		
Silver, total	ug/L	MW-18	09/01/2022	ND	4.0000		
Silver, total	ug/L	MW-18	03/06/2023	ND	4.0000		
Silver, total	ug/L	MW-18	09/08/2023	ND	4.0000		
Silver, total	ug/L	MW-18	03/20/2024	ND	4.0000		
Silver, total	ug/L	MW-18	09/25/2024	ND	4.0000		
Thallium, total	ug/L	MW-18	09/18/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	04/29/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	10/06/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	04/19/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	09/19/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	03/21/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	10/12/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	03/08/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	09/06/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-18	05/13/2019	ND	2.0000		
Thallium, total	ug/L	MW-18	09/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-18	03/30/2020	ND	2.0000		
Thallium, total	ug/L	MW-18	09/17/2020	ND	2.0000		
Thallium, total	ug/L	MW-18	03/09/2021	ND	2.0000		*
Thallium, total	ug/L	MW-18	09/09/2021	ND	2.0000		
Thallium, total	ug/L	MW-18	03/14/2022	ND	2.0000		
Thallium, total	ug/L	MW-18	09/01/2022	ND	2.0000		
Thallium, total	ug/L	MW-18	03/06/2023	ND	2.0000		
Thallium, total	ug/L	MW-18	09/08/2023	ND	2.0000		
Thallium, total	ug/L	MW-18	03/20/2024	ND	2.0000		
Thallium, total	ug/L	MW-18	09/25/2024	ND	2.0000		
Vanadium, total	ug/L	MW-18	09/18/2014	ND	20.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Vanadium, total	ug/L	MW-18	04/29/2015	ND	20.0000		
Vanadium, total	ug/L	MW-18	10/06/2015	ND	20.0000		
Vanadium, total	ug/L	MW-18	04/19/2016	ND	20.0000		
Vanadium, total	ug/L	MW-18	09/19/2016		27.5000		
Vanadium, total	ug/L	MW-18	03/21/2017	ND	20.0000		
Vanadium, total	ug/L	MW-18	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-18	03/08/2018	ND	20.0000		
Vanadium, total	ug/L	MW-18	09/06/2018	ND	20.0000		
Vanadium, total	ug/L	MW-18	05/13/2019	ND	20.0000		
Vanadium, total	ug/L	MW-18	09/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-18	03/30/2020	ND	20.0000		
Vanadium, total	ug/L	MW-18	09/17/2020	ND	20.0000		
Vanadium, total	ug/L	MW-18	03/09/2021		123.0000		*
Vanadium, total	ug/L	MW-18	09/09/2021	ND	20.0000		
Vanadium, total	ug/L	MW-18	03/14/2022		54.4000		*
Vanadium, total	ug/L	MW-18	09/01/2022	ND	20.0000		
Vanadium, total	ug/L	MW-18	03/06/2023	ND	20.0000		
Vanadium, total	ug/L	MW-18	09/08/2023	ND	20.0000		
Vanadium, total	ug/L	MW-18	03/20/2024	ND	20.0000		
Vanadium, total	ug/L	MW-18	09/25/2024		26.9000		
Zinc, total	ug/L	MW-18	09/18/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-18	04/29/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-18	10/06/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-18	04/19/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-18	09/19/2016		27.6000		
Zinc, total	ug/L	MW-18	03/21/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-18	10/12/2017		9.5000		
Zinc, total	ug/L	MW-18	03/08/2018		16.5000		
Zinc, total	ug/L	MW-18	09/06/2018		32.5000		
Zinc, total	ug/L	MW-18	05/13/2019		13.3000		
Zinc, total	ug/L	MW-18	09/26/2019		11.5000		
Zinc, total	ug/L	MW-18	03/30/2020	ND	20.0000		
Zinc, total	ug/L	MW-18	09/17/2020	ND	20.0000		
Zinc, total	ug/L	MW-18	03/09/2021		166.0000		*
Zinc, total	ug/L	MW-18	09/09/2021	ND	20.0000		
Zinc, total	ug/L	MW-18	03/14/2022		58.7000		*
Zinc, total	ug/L	MW-18	09/01/2022	ND	20.0000		
Zinc, total	ug/L	MW-18	03/06/2023	ND	20.0000		
Zinc, total	ug/L	MW-18	09/08/2023	ND	20.0000		
Zinc, total	ug/L	MW-18	03/20/2024	ND	20.0000		
Zinc, total	ug/L	MW-18	09/25/2024		29.0000		
Antimony, total	ug/L	MW-19	09/18/2014	ND	2.0000		
Antimony, total	ug/L	MW-19	04/28/2015	ND	2.0000		
Antimony, total	ug/L	MW-19	10/06/2015	ND	2.0000		
Antimony, total	ug/L	MW-19	04/19/2016	ND	2.0000		
Antimony, total	ug/L	MW-19	09/19/2016	ND	2.0000		
Antimony, total	ug/L	MW-19	03/22/2017	ND	2.0000		
Antimony, total	ug/L	MW-19	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-19	03/08/2018	ND	2.0000		
Antimony, total	ug/L	MW-19	09/06/2018	ND	2.0000		
Antimony, total	ug/L	MW-19	05/13/2019	ND	2.0000		
Antimony, total	ug/L	MW-19	09/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-19	03/30/2020	ND	2.0000		
Antimony, total	ug/L	MW-19	09/17/2020	ND	2.0000		
Antimony, total	ug/L	MW-19	03/09/2021	ND	2.0000		
Antimony, total	ug/L	MW-19	09/09/2021	ND	2.0000		
Antimony, total	ug/L	MW-19	03/14/2022	ND	2.0000		
Antimony, total	ug/L	MW-19	03/06/2023	ND	2.0000		
Antimony, total	ug/L	MW-19	09/08/2023	ND	2.0000		
Antimony, total	ug/L	MW-19	03/20/2024	ND	2.0000		
Antimony, total	ug/L	MW-19	09/25/2024	ND	2.0000		
Arsenic, total	ug/L	MW-19	09/18/2014	ND	4.0000		
Arsenic, total	ug/L	MW-19	04/28/2015	ND	4.0000		
Arsenic, total	ug/L	MW-19	10/06/2015		6.0000		
Arsenic, total	ug/L	MW-19	04/19/2016	ND	4.0000		
Arsenic, total	ug/L	MW-19	09/19/2016		6.1000		
Arsenic, total	ug/L	MW-19	03/22/2017	ND	4.0000		
Arsenic, total	ug/L	MW-19	10/12/2017	ND	4.0000		
Arsenic, total	ug/L	MW-19	03/08/2018	ND	4.0000		
Arsenic, total	ug/L	MW-19	09/06/2018	ND	4.0000		
Arsenic, total	ug/L	MW-19	05/13/2019	ND	4.0000		
Arsenic, total	ug/L	MW-19	09/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-19	03/30/2020	ND	4.0000		
Arsenic, total	ug/L	MW-19	09/17/2020	ND	4.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Arsenic, total	ug/L	MW-19	03/09/2021	ND	4.0000		
Arsenic, total	ug/L	MW-19	09/09/2021	ND	4.0000		
Arsenic, total	ug/L	MW-19	03/14/2022	ND	4.0000		
Arsenic, total	ug/L	MW-19	03/06/2023	ND	4.0000		
Arsenic, total	ug/L	MW-19	09/08/2023	ND	4.0000		
Arsenic, total	ug/L	MW-19	03/20/2024	ND	4.0000		
Arsenic, total	ug/L	MW-19	09/25/2024	ND	4.0000		
Barium, total	ug/L	MW-19	09/18/2014		380.0000		
Barium, total	ug/L	MW-19	04/28/2015		459.0000		
Barium, total	ug/L	MW-19	10/06/2015		431.0000		
Barium, total	ug/L	MW-19	04/19/2016		416.0000		
Barium, total	ug/L	MW-19	09/19/2016		503.0000		
Barium, total	ug/L	MW-19	03/22/2017		346.0000		
Barium, total	ug/L	MW-19	10/12/2017		343.0000		
Barium, total	ug/L	MW-19	03/08/2018		401.0000		
Barium, total	ug/L	MW-19	09/06/2018		361.0000		
Barium, total	ug/L	MW-19	05/13/2019		418.0000		
Barium, total	ug/L	MW-19	09/26/2019		409.0000		
Barium, total	ug/L	MW-19	03/30/2020		366.0000		
Barium, total	ug/L	MW-19	09/17/2020		614.0000		
Barium, total	ug/L	MW-19	03/09/2021		393.0000		
Barium, total	ug/L	MW-19	09/09/2021		402.0000		
Barium, total	ug/L	MW-19	03/14/2022		359.0000		
Barium, total	ug/L	MW-19	03/06/2023		336.0000		
Barium, total	ug/L	MW-19	09/08/2023		373.0000		
Barium, total	ug/L	MW-19	03/20/2024		26.9000		*
Barium, total	ug/L	MW-19	09/25/2024		532.0000		
Beryllium, total	ug/L	MW-19	09/18/2014	ND	4.0000		
Beryllium, total	ug/L	MW-19	04/28/2015	ND	4.0000		
Beryllium, total	ug/L	MW-19	10/06/2015	ND	4.0000		
Beryllium, total	ug/L	MW-19	04/19/2016	ND	4.0000		
Beryllium, total	ug/L	MW-19	09/19/2016	ND	4.0000		
Beryllium, total	ug/L	MW-19	03/22/2017	ND	4.0000		
Beryllium, total	ug/L	MW-19	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-19	03/08/2018	ND	4.0000		
Beryllium, total	ug/L	MW-19	09/06/2018	ND	4.0000		
Beryllium, total	ug/L	MW-19	05/13/2019	ND	4.0000		
Beryllium, total	ug/L	MW-19	09/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-19	03/30/2020	ND	4.0000		
Beryllium, total	ug/L	MW-19	09/17/2020	ND	4.0000		
Beryllium, total	ug/L	MW-19	03/09/2021	ND	4.0000		
Beryllium, total	ug/L	MW-19	09/09/2021	ND	4.0000		
Beryllium, total	ug/L	MW-19	03/14/2022	ND	4.0000		
Beryllium, total	ug/L	MW-19	03/06/2023	ND	4.0000		
Beryllium, total	ug/L	MW-19	09/08/2023	ND	4.0000		
Beryllium, total	ug/L	MW-19	03/20/2024	ND	4.0000		
Beryllium, total	ug/L	MW-19	09/25/2024	ND	4.0000		
Cadmium, total	ug/L	MW-19	09/18/2014	ND	0.8000		
Cadmium, total	ug/L	MW-19	04/28/2015	ND	0.8000		
Cadmium, total	ug/L	MW-19	10/06/2015	ND	0.8000		
Cadmium, total	ug/L	MW-19	04/19/2016	ND	0.8000		
Cadmium, total	ug/L	MW-19	09/19/2016	ND	0.8000		
Cadmium, total	ug/L	MW-19	03/22/2017	ND	0.8000		
Cadmium, total	ug/L	MW-19	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-19	03/08/2018	ND	0.8000		
Cadmium, total	ug/L	MW-19	09/06/2018	ND	0.8000		
Cadmium, total	ug/L	MW-19	05/13/2019	ND	0.8000		
Cadmium, total	ug/L	MW-19	09/26/2019		1.0000		
Cadmium, total	ug/L	MW-19	03/30/2020	ND	0.8000		
Cadmium, total	ug/L	MW-19	09/17/2020	ND	0.8000		
Cadmium, total	ug/L	MW-19	03/09/2021	ND	0.8000		
Cadmium, total	ug/L	MW-19	09/09/2021	ND	0.8000		
Cadmium, total	ug/L	MW-19	03/14/2022	ND	0.8000		
Cadmium, total	ug/L	MW-19	03/06/2023	ND	0.8000		
Cadmium, total	ug/L	MW-19	09/08/2023	ND	0.8000		
Cadmium, total	ug/L	MW-19	03/20/2024	ND	0.8000		
Cadmium, total	ug/L	MW-19	09/25/2024	ND	0.8000		
Chromium, total	ug/L	MW-19	09/18/2014	ND	8.0000		
Chromium, total	ug/L	MW-19	04/28/2015	ND	8.0000		
Chromium, total	ug/L	MW-19	10/06/2015	ND	8.0000		
Chromium, total	ug/L	MW-19	04/19/2016	ND	8.0000		
Chromium, total	ug/L	MW-19	09/19/2016		9.3000		
Chromium, total	ug/L	MW-19	03/22/2017	ND	8.0000		
Chromium, total	ug/L	MW-19	10/12/2017	ND	8.0000		

*   - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Chromium, total	ug/L	MW-19	03/08/2018	ND	8.0000		
Chromium, total	ug/L	MW-19	09/06/2018	ND	8.0000		
Chromium, total	ug/L	MW-19	05/13/2019	ND	8.0000		
Chromium, total	ug/L	MW-19	09/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-19	03/30/2020	ND	8.0000		
Chromium, total	ug/L	MW-19	09/17/2020	ND	8.0000		
Chromium, total	ug/L	MW-19	03/09/2021	ND	8.0000		
Chromium, total	ug/L	MW-19	09/09/2021	ND	8.0000		
Chromium, total	ug/L	MW-19	03/14/2022	ND	8.0000		
Chromium, total	ug/L	MW-19	03/06/2023	ND	8.0000		
Chromium, total	ug/L	MW-19	09/08/2023	ND	8.0000		
Chromium, total	ug/L	MW-19	03/20/2024	ND	8.0000		
Chromium, total	ug/L	MW-19	09/25/2024	ND	8.0000		
Cobalt, total	ug/L	MW-19	09/18/2014		1.7000		
Cobalt, total	ug/L	MW-19	04/28/2015		1.1000		
Cobalt, total	ug/L	MW-19	10/06/2015		2.6000		
Cobalt, total	ug/L	MW-19	04/19/2016	ND	0.8000		
Cobalt, total	ug/L	MW-19	09/19/2016		3.7000		
Cobalt, total	ug/L	MW-19	03/22/2017	ND	0.8000		
Cobalt, total	ug/L	MW-19	10/12/2017		0.9000		
Cobalt, total	ug/L	MW-19	03/08/2018		8.5000		
Cobalt, total	ug/L	MW-19	09/06/2018		6.3000		
Cobalt, total	ug/L	MW-19	05/13/2019		6.1000		
Cobalt, total	ug/L	MW-19	09/26/2019		9.7000		
Cobalt, total	ug/L	MW-19	03/30/2020		2.3000		
Cobalt, total	ug/L	MW-19	09/17/2020		2.9000		
Cobalt, total	ug/L	MW-19	03/09/2021		2.5000		
Cobalt, total	ug/L	MW-19	09/09/2021		5.3000		
Cobalt, total	ug/L	MW-19	03/14/2022		3.3000		
Cobalt, total	ug/L	MW-19	03/06/2023		3.6000		
Cobalt, total	ug/L	MW-19	09/08/2023		2.0000		
Cobalt, total	ug/L	MW-19	03/20/2024	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-19	09/25/2024		14.4000		
Copper, total	ug/L	MW-19	09/18/2014	ND	4.0000		
Copper, total	ug/L	MW-19	04/28/2015	ND	4.0000		
Copper, total	ug/L	MW-19	10/06/2015	ND	4.0000		
Copper, total	ug/L	MW-19	04/19/2016	ND	4.0000		
Copper, total	ug/L	MW-19	09/19/2016		6.8000		
Copper, total	ug/L	MW-19	03/22/2017	ND	4.0000		
Copper, total	ug/L	MW-19	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-19	03/08/2018	ND	4.0000		
Copper, total	ug/L	MW-19	09/06/2018	ND	4.0000		
Copper, total	ug/L	MW-19	05/13/2019	ND	4.0000		
Copper, total	ug/L	MW-19	09/26/2019	ND	4.0000		
Copper, total	ug/L	MW-19	03/30/2020	ND	4.0000		
Copper, total	ug/L	MW-19	09/17/2020	ND	4.0000		
Copper, total	ug/L	MW-19	03/09/2021	ND	4.0000		
Copper, total	ug/L	MW-19	09/09/2021	ND	4.0000		
Copper, total	ug/L	MW-19	03/14/2022	ND	4.0000		
Copper, total	ug/L	MW-19	03/06/2023	ND	4.0000		
Copper, total	ug/L	MW-19	09/08/2023	ND	4.0000		
Copper, total	ug/L	MW-19	03/20/2024	ND	4.0000		
Copper, total	ug/L	MW-19	09/25/2024	ND	4.0000		
Lead, total	ug/L	MW-19	09/18/2014	ND	4.0000		
Lead, total	ug/L	MW-19	04/28/2015	ND	4.0000		
Lead, total	ug/L	MW-19	10/06/2015	ND	4.0000		
Lead, total	ug/L	MW-19	04/19/2016	ND	4.0000		
Lead, total	ug/L	MW-19	09/19/2016		4.0000		
Lead, total	ug/L	MW-19	03/22/2017	ND	4.0000		
Lead, total	ug/L	MW-19	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-19	03/08/2018	ND	4.0000		
Lead, total	ug/L	MW-19	09/06/2018	ND	4.0000		
Lead, total	ug/L	MW-19	05/13/2019	ND	4.0000		
Lead, total	ug/L	MW-19	09/26/2019	ND	4.0000		
Lead, total	ug/L	MW-19	03/30/2020	ND	4.0000		
Lead, total	ug/L	MW-19	09/17/2020	ND	4.0000		
Lead, total	ug/L	MW-19	03/09/2021	ND	4.0000		
Lead, total	ug/L	MW-19	09/09/2021	ND	4.0000		
Lead, total	ug/L	MW-19	03/14/2022	ND	4.0000		
Lead, total	ug/L	MW-19	03/06/2023	ND	4.0000		
Lead, total	ug/L	MW-19	09/08/2023	ND	4.0000		
Lead, total	ug/L	MW-19	03/20/2024	ND	4.0000		
Lead, total	ug/L	MW-19	09/25/2024	ND	4.0000		
Nickel, total	ug/L	MW-19	09/18/2014	ND	4.0000		

*   - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Nickel, total	ug/L	MW-19	04/28/2015	ND	4.0000		
Nickel, total	ug/L	MW-19	10/06/2015	ND	4.0000		
Nickel, total	ug/L	MW-19	04/19/2016	ND	4.0000		
Nickel, total	ug/L	MW-19	09/19/2016		8.1000		
Nickel, total	ug/L	MW-19	03/22/2017	ND	4.0000		
Nickel, total	ug/L	MW-19	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-19	03/08/2018		5.2000		
Nickel, total	ug/L	MW-19	09/06/2018	ND	8.0000	4.0000	**
Nickel, total	ug/L	MW-19	05/13/2019		5.0000		
Nickel, total	ug/L	MW-19	09/26/2019		7.9000		
Nickel, total	ug/L	MW-19	03/30/2020	ND	4.0000		
Nickel, total	ug/L	MW-19	09/17/2020		5.6000		
Nickel, total	ug/L	MW-19	03/09/2021	ND	4.0000		
Nickel, total	ug/L	MW-19	09/09/2021	ND	4.0000		
Nickel, total	ug/L	MW-19	03/14/2022	ND	4.0000		
Nickel, total	ug/L	MW-19	03/06/2023		4.3000		
Nickel, total	ug/L	MW-19	09/08/2023	ND	4.0000		
Nickel, total	ug/L	MW-19	03/20/2024		8.9000		
Nickel, total	ug/L	MW-19	09/25/2024		15.7000		*
Selenium, total	ug/L	MW-19	09/18/2014	ND	4.0000		
Selenium, total	ug/L	MW-19	04/28/2015	ND	4.0000		
Selenium, total	ug/L	MW-19	10/06/2015	ND	4.0000		
Selenium, total	ug/L	MW-19	04/19/2016	ND	4.0000		
Selenium, total	ug/L	MW-19	09/19/2016	ND	4.0000		
Selenium, total	ug/L	MW-19	03/22/2017	ND	4.0000		
Selenium, total	ug/L	MW-19	10/12/2017	ND	4.0000		
Selenium, total	ug/L	MW-19	03/08/2018	ND	4.0000		
Selenium, total	ug/L	MW-19	09/06/2018	ND	4.0000		
Selenium, total	ug/L	MW-19	05/13/2019	ND	4.0000		
Selenium, total	ug/L	MW-19	09/26/2019		5.0000		
Selenium, total	ug/L	MW-19	03/30/2020	ND	4.0000		
Selenium, total	ug/L	MW-19	09/17/2020	ND	4.0000		
Selenium, total	ug/L	MW-19	03/09/2021	ND	4.0000		
Selenium, total	ug/L	MW-19	09/09/2021	ND	4.0000		
Selenium, total	ug/L	MW-19	03/14/2022	ND	4.0000		
Selenium, total	ug/L	MW-19	03/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-19	09/08/2023	ND	4.0000		
Selenium, total	ug/L	MW-19	03/20/2024	ND	4.0000		
Selenium, total	ug/L	MW-19	09/25/2024	ND	4.0000		
Silver, total	ug/L	MW-19	09/18/2014	ND	4.0000		
Silver, total	ug/L	MW-19	04/28/2015	ND	4.0000		
Silver, total	ug/L	MW-19	10/06/2015	ND	4.0000		
Silver, total	ug/L	MW-19	04/19/2016	ND	4.0000		
Silver, total	ug/L	MW-19	09/19/2016	ND	4.0000		
Silver, total	ug/L	MW-19	03/22/2017	ND	4.0000		
Silver, total	ug/L	MW-19	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-19	03/08/2018	ND	4.0000		
Silver, total	ug/L	MW-19	09/06/2018	ND	8.0000	4.0000	**
Silver, total	ug/L	MW-19	05/13/2019	ND	4.0000		
Silver, total	ug/L	MW-19	09/26/2019	ND	4.0000		
Silver, total	ug/L	MW-19	03/30/2020	ND	4.0000		
Silver, total	ug/L	MW-19	09/17/2020	ND	4.0000		
Silver, total	ug/L	MW-19	03/09/2021	ND	4.0000		
Silver, total	ug/L	MW-19	09/09/2021	ND	4.0000		
Silver, total	ug/L	MW-19	03/14/2022	ND	4.0000		
Silver, total	ug/L	MW-19	03/06/2023	ND	4.0000		
Silver, total	ug/L	MW-19	09/08/2023	ND	4.0000		
Silver, total	ug/L	MW-19	03/20/2024	ND	4.0000		
Silver, total	ug/L	MW-19	09/25/2024	ND	4.0000		
Thallium, total	ug/L	MW-19	09/18/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-19	04/28/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-19	10/06/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-19	04/19/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-19	09/19/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-19	03/22/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-19	10/12/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-19	03/08/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-19	09/06/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-19	05/13/2019	ND	2.0000		
Thallium, total	ug/L	MW-19	09/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-19	03/30/2020	ND	2.0000		
Thallium, total	ug/L	MW-19	09/17/2020	ND	2.0000		
Thallium, total	ug/L	MW-19	03/09/2021	ND	2.0000		
Thallium, total	ug/L	MW-19	09/09/2021	ND	2.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Thallium, total	ug/L	MW-19	03/14/2022	ND	2.0000		
Thallium, total	ug/L	MW-19	03/06/2023	ND	2.0000		
Thallium, total	ug/L	MW-19	09/08/2023	ND	2.0000		
Thallium, total	ug/L	MW-19	03/20/2024	ND	2.0000		
Thallium, total	ug/L	MW-19	09/25/2024	ND	2.0000		
Vanadium, total	ug/L	MW-19	09/18/2014	ND	20.0000		
Vanadium, total	ug/L	MW-19	04/28/2015	ND	20.0000		
Vanadium, total	ug/L	MW-19	10/06/2015	ND	20.0000		
Vanadium, total	ug/L	MW-19	04/19/2016	ND	20.0000		
Vanadium, total	ug/L	MW-19	09/19/2016		20.7000		
Vanadium, total	ug/L	MW-19	03/22/2017	ND	20.0000		
Vanadium, total	ug/L	MW-19	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-19	03/08/2018	ND	20.0000		
Vanadium, total	ug/L	MW-19	09/06/2018	ND	20.0000		
Vanadium, total	ug/L	MW-19	05/13/2019	ND	20.0000		
Vanadium, total	ug/L	MW-19	09/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-19	03/30/2020	ND	20.0000		
Vanadium, total	ug/L	MW-19	09/17/2020	ND	20.0000		
Vanadium, total	ug/L	MW-19	03/09/2021	ND	20.0000		
Vanadium, total	ug/L	MW-19	09/09/2021	ND	20.0000		
Vanadium, total	ug/L	MW-19	03/14/2022	ND	20.0000		
Vanadium, total	ug/L	MW-19	03/06/2023	ND	20.0000		
Vanadium, total	ug/L	MW-19	09/08/2023	ND	20.0000		
Vanadium, total	ug/L	MW-19	03/20/2024	ND	20.0000		
Vanadium, total	ug/L	MW-19	09/25/2024	ND	20.0000		
Zinc, total	ug/L	MW-19	09/18/2014		16.1000		
Zinc, total	ug/L	MW-19	04/28/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-19	10/06/2015		11.5000		
Zinc, total	ug/L	MW-19	04/19/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-19	09/19/2016		27.7000		
Zinc, total	ug/L	MW-19	03/22/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-19	10/12/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-19	03/08/2018		9.7000		
Zinc, total	ug/L	MW-19	09/06/2018	ND	20.0000		
Zinc, total	ug/L	MW-19	05/13/2019		30.2000		
Zinc, total	ug/L	MW-19	09/26/2019		68.3000		
Zinc, total	ug/L	MW-19	11/14/2019	ND	20.0000		
Zinc, total	ug/L	MW-19	03/30/2020	ND	20.0000		
Zinc, total	ug/L	MW-19	09/17/2020	ND	20.0000		
Zinc, total	ug/L	MW-19	03/09/2021	ND	20.0000		
Zinc, total	ug/L	MW-19	09/09/2021	ND	20.0000		
Zinc, total	ug/L	MW-19	03/14/2022	ND	20.0000		
Zinc, total	ug/L	MW-19	03/06/2023	ND	20.0000		
Zinc, total	ug/L	MW-19	09/08/2023	ND	20.0000		
Zinc, total	ug/L	MW-19	03/20/2024	ND	20.0000		
Zinc, total	ug/L	MW-19	09/25/2024	ND	20.0000		
Antimony, total	ug/L	MW-2	09/17/2014	ND	2.0000		
Antimony, total	ug/L	MW-2	04/29/2015	ND	2.0000		
Antimony, total	ug/L	MW-2	10/07/2015	ND	2.0000		
Antimony, total	ug/L	MW-2	04/19/2016	ND	2.0000		
Antimony, total	ug/L	MW-2	09/19/2016	ND	2.0000		
Antimony, total	ug/L	MW-2	03/22/2017	ND	2.0000		
Antimony, total	ug/L	MW-2	10/12/2017	ND	2.0000		
Antimony, total	ug/L	MW-2	03/08/2018	ND	2.0000		
Antimony, total	ug/L	MW-2	09/06/2018	ND	2.0000		
Antimony, total	ug/L	MW-2	05/13/2019	ND	2.0000		
Antimony, total	ug/L	MW-2	09/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-2	03/30/2020	ND	2.0000		
Antimony, total	ug/L	MW-2	09/17/2020	ND	2.0000		
Antimony, total	ug/L	MW-2	03/09/2021	ND	2.0000		
Antimony, total	ug/L	MW-2	09/09/2021	ND	2.0000		
Antimony, total	ug/L	MW-2	03/14/2022	ND	2.0000		
Antimony, total	ug/L	MW-2	09/01/2022	ND	2.0000		
Antimony, total	ug/L	MW-2	03/06/2023	ND	2.0000		
Antimony, total	ug/L	MW-2	09/08/2023	ND	2.0000		
Antimony, total	ug/L	MW-2	03/20/2024	ND	2.0000		
Antimony, total	ug/L	MW-2	09/26/2024	ND	2.0000		
Arsenic, total	ug/L	MW-2	09/17/2014	ND	4.0000		
Arsenic, total	ug/L	MW-2	04/29/2015	ND	4.0000		
Arsenic, total	ug/L	MW-2	10/07/2015	ND	4.0000		
Arsenic, total	ug/L	MW-2	04/19/2016	ND	4.0000		
Arsenic, total	ug/L	MW-2	09/19/2016	ND	4.0000		
Arsenic, total	ug/L	MW-2	03/22/2017	ND	4.0000		
Arsenic, total	ug/L	MW-2	10/12/2017	ND	4.0000		

*   - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Arsenic, total	ug/L	MW-2	03/08/2018	ND	4.0000		
Arsenic, total	ug/L	MW-2	09/06/2018	ND	4.0000		
Arsenic, total	ug/L	MW-2	05/13/2019	ND	4.0000		
Arsenic, total	ug/L	MW-2	09/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-2	03/30/2020	ND	4.0000		
Arsenic, total	ug/L	MW-2	09/17/2020	ND	4.0000		
Arsenic, total	ug/L	MW-2	03/09/2021	ND	4.0000		
Arsenic, total	ug/L	MW-2	09/09/2021	ND	4.0000		
Arsenic, total	ug/L	MW-2	03/14/2022	ND	4.0000		
Arsenic, total	ug/L	MW-2	09/01/2022	ND	4.0000		
Arsenic, total	ug/L	MW-2	03/06/2023	ND	4.0000		
Arsenic, total	ug/L	MW-2	09/08/2023	ND	4.0000		
Arsenic, total	ug/L	MW-2	03/20/2024	ND	4.0000		
Arsenic, total	ug/L	MW-2	09/26/2024	ND	4.0000		
Barium, total	ug/L	MW-2	09/17/2014		204.0000		
Barium, total	ug/L	MW-2	04/29/2015		258.0000		
Barium, total	ug/L	MW-2	10/07/2015		182.0000		
Barium, total	ug/L	MW-2	04/19/2016		291.0000		
Barium, total	ug/L	MW-2	09/19/2016		263.0000		
Barium, total	ug/L	MW-2	03/22/2017		177.0000		
Barium, total	ug/L	MW-2	10/12/2017		276.0000		
Barium, total	ug/L	MW-2	03/08/2018		173.0000		
Barium, total	ug/L	MW-2	09/06/2018		160.0000		
Barium, total	ug/L	MW-2	05/13/2019		172.0000		
Barium, total	ug/L	MW-2	09/26/2019		175.0000		
Barium, total	ug/L	MW-2	03/30/2020		169.0000		
Barium, total	ug/L	MW-2	09/17/2020		156.0000		
Barium, total	ug/L	MW-2	03/09/2021		174.0000		
Barium, total	ug/L	MW-2	09/09/2021		164.0000		
Barium, total	ug/L	MW-2	03/14/2022		162.0000		
Barium, total	ug/L	MW-2	09/01/2022		153.0000		
Barium, total	ug/L	MW-2	03/06/2023		157.0000		
Barium, total	ug/L	MW-2	09/08/2023		176.0000		
Barium, total	ug/L	MW-2	03/20/2024		219.0000		
Barium, total	ug/L	MW-2	09/26/2024		179.0000		
Beryllium, total	ug/L	MW-2	09/17/2014	ND	4.0000		
Beryllium, total	ug/L	MW-2	04/29/2015	ND	4.0000		
Beryllium, total	ug/L	MW-2	10/07/2015	ND	4.0000		
Beryllium, total	ug/L	MW-2	04/19/2016	ND	4.0000		
Beryllium, total	ug/L	MW-2	09/19/2016	ND	4.0000		
Beryllium, total	ug/L	MW-2	03/22/2017	ND	4.0000		
Beryllium, total	ug/L	MW-2	10/12/2017	ND	4.0000		
Beryllium, total	ug/L	MW-2	03/08/2018	ND	4.0000		
Beryllium, total	ug/L	MW-2	09/06/2018	ND	4.0000		
Beryllium, total	ug/L	MW-2	05/13/2019	ND	4.0000		
Beryllium, total	ug/L	MW-2	09/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-2	03/30/2020	ND	4.0000		
Beryllium, total	ug/L	MW-2	09/17/2020	ND	4.0000		
Beryllium, total	ug/L	MW-2	03/09/2021	ND	4.0000		
Beryllium, total	ug/L	MW-2	09/09/2021	ND	4.0000		
Beryllium, total	ug/L	MW-2	03/14/2022	ND	4.0000		
Beryllium, total	ug/L	MW-2	09/01/2022	ND	4.0000		
Beryllium, total	ug/L	MW-2	03/06/2023	ND	4.0000		
Beryllium, total	ug/L	MW-2	09/08/2023	ND	4.0000		
Beryllium, total	ug/L	MW-2	03/20/2024	ND	4.0000		
Beryllium, total	ug/L	MW-2	09/26/2024	ND	4.0000		
Cadmium, total	ug/L	MW-2	09/17/2014	ND	0.8000		
Cadmium, total	ug/L	MW-2	04/29/2015	ND	0.8000		
Cadmium, total	ug/L	MW-2	10/07/2015		0.8000		
Cadmium, total	ug/L	MW-2	04/19/2016	ND	0.8000		
Cadmium, total	ug/L	MW-2	09/19/2016	ND	0.8000		
Cadmium, total	ug/L	MW-2	03/22/2017		1.0000		
Cadmium, total	ug/L	MW-2	10/12/2017	ND	0.8000		
Cadmium, total	ug/L	MW-2	03/08/2018		0.8000		
Cadmium, total	ug/L	MW-2	09/06/2018	ND	0.8000		
Cadmium, total	ug/L	MW-2	05/13/2019		0.8000		
Cadmium, total	ug/L	MW-2	09/26/2019	ND	0.8000		
Cadmium, total	ug/L	MW-2	03/30/2020	ND	0.8000		
Cadmium, total	ug/L	MW-2	09/17/2020	ND	0.8000		
Cadmium, total	ug/L	MW-2	03/09/2021		0.9000		
Cadmium, total	ug/L	MW-2	09/09/2021		0.8000		
Cadmium, total	ug/L	MW-2	03/14/2022	ND	0.8000		
Cadmium, total	ug/L	MW-2	09/01/2022	ND	0.8000		
Cadmium, total	ug/L	MW-2	03/06/2023		0.9000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Cadmium, total	ug/L	MW-2	09/08/2023		0.8000		
Cadmium, total	ug/L	MW-2	03/20/2024	ND	0.8000		
Cadmium, total	ug/L	MW-2	09/26/2024	ND	0.8000		
Chromium, total	ug/L	MW-2	09/17/2014	ND	8.0000		
Chromium, total	ug/L	MW-2	04/29/2015	ND	8.0000		
Chromium, total	ug/L	MW-2	10/07/2015	ND	8.0000		
Chromium, total	ug/L	MW-2	04/19/2016		9.6000		
Chromium, total	ug/L	MW-2	09/19/2016	ND	8.0000		
Chromium, total	ug/L	MW-2	03/22/2017	ND	8.0000		
Chromium, total	ug/L	MW-2	10/12/2017	ND	8.0000		
Chromium, total	ug/L	MW-2	03/08/2018	ND	8.0000		
Chromium, total	ug/L	MW-2	09/06/2018	ND	8.0000		
Chromium, total	ug/L	MW-2	05/13/2019	ND	8.0000		
Chromium, total	ug/L	MW-2	09/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-2	03/30/2020	ND	8.0000		
Chromium, total	ug/L	MW-2	09/17/2020	ND	8.0000		
Chromium, total	ug/L	MW-2	03/09/2021	ND	8.0000		
Chromium, total	ug/L	MW-2	09/09/2021	ND	8.0000		
Chromium, total	ug/L	MW-2	03/14/2022	ND	8.0000		
Chromium, total	ug/L	MW-2	09/01/2022	ND	8.0000		
Chromium, total	ug/L	MW-2	03/06/2023	ND	8.0000		
Chromium, total	ug/L	MW-2	09/08/2023	ND	8.0000		
Chromium, total	ug/L	MW-2	03/20/2024	ND	8.0000		
Chromium, total	ug/L	MW-2	09/26/2024	ND	8.0000		
Cobalt, total	ug/L	MW-2	09/17/2014	ND	0.8000		
Cobalt, total	ug/L	MW-2	04/29/2015		1.7000		
Cobalt, total	ug/L	MW-2	10/07/2015	ND	0.8000		
Cobalt, total	ug/L	MW-2	04/19/2016		3.5000		
Cobalt, total	ug/L	MW-2	09/19/2016		2.2000		
Cobalt, total	ug/L	MW-2	03/22/2017	ND	0.8000		
Cobalt, total	ug/L	MW-2	10/12/2017	ND	0.8000		
Cobalt, total	ug/L	MW-2	03/08/2018	ND	2.0000	0.8000	**
Cobalt, total	ug/L	MW-2	09/06/2018	ND	0.8000		
Cobalt, total	ug/L	MW-2	05/13/2019	ND	0.8000		
Cobalt, total	ug/L	MW-2	09/26/2019	ND	0.8000		
Cobalt, total	ug/L	MW-2	03/30/2020	ND	0.8000		
Cobalt, total	ug/L	MW-2	09/17/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-2	03/09/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-2	09/09/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-2	03/14/2022		0.4000		
Cobalt, total	ug/L	MW-2	09/01/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-2	03/06/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-2	09/08/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-2	03/20/2024	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-2	09/26/2024	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-2	09/17/2014	ND	4.0000		
Copper, total	ug/L	MW-2	04/29/2015	ND	4.0000		
Copper, total	ug/L	MW-2	10/07/2015	ND	4.0000		
Copper, total	ug/L	MW-2	04/19/2016		5.1000		
Copper, total	ug/L	MW-2	09/19/2016	ND	4.0000		
Copper, total	ug/L	MW-2	03/22/2017	ND	4.0000		
Copper, total	ug/L	MW-2	10/12/2017	ND	4.0000		
Copper, total	ug/L	MW-2	03/08/2018	ND	4.0000		
Copper, total	ug/L	MW-2	09/06/2018	ND	4.0000		
Copper, total	ug/L	MW-2	05/13/2019	ND	4.0000		
Copper, total	ug/L	MW-2	09/26/2019	ND	4.0000		
Copper, total	ug/L	MW-2	03/30/2020	ND	4.0000		
Copper, total	ug/L	MW-2	09/17/2020	ND	4.0000		
Copper, total	ug/L	MW-2	03/09/2021	ND	4.0000		
Copper, total	ug/L	MW-2	09/09/2021	ND	4.0000		
Copper, total	ug/L	MW-2	03/14/2022	ND	4.0000		
Copper, total	ug/L	MW-2	09/01/2022	ND	4.0000		
Copper, total	ug/L	MW-2	03/06/2023	ND	4.0000		
Copper, total	ug/L	MW-2	09/08/2023	ND	4.0000		
Copper, total	ug/L	MW-2	03/20/2024	ND	4.0000		
Copper, total	ug/L	MW-2	09/26/2024	ND	4.0000		
Lead, total	ug/L	MW-2	09/17/2014	ND	4.0000		
Lead, total	ug/L	MW-2	04/29/2015	ND	4.0000		
Lead, total	ug/L	MW-2	10/07/2015	ND	4.0000		
Lead, total	ug/L	MW-2	04/19/2016	ND	4.0000		
Lead, total	ug/L	MW-2	09/19/2016	ND	4.0000		
Lead, total	ug/L	MW-2	03/22/2017	ND	4.0000		
Lead, total	ug/L	MW-2	10/12/2017	ND	4.0000		
Lead, total	ug/L	MW-2	03/08/2018	ND	4.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Lead, total	ug/L	MW-2	09/06/2018	ND	4.0000		
Lead, total	ug/L	MW-2	05/13/2019		5.4000		
Lead, total	ug/L	MW-2	09/26/2019	ND	4.0000		
Lead, total	ug/L	MW-2	03/30/2020	ND	4.0000		
Lead, total	ug/L	MW-2	09/17/2020	ND	4.0000		
Lead, total	ug/L	MW-2	03/09/2021	ND	4.0000		
Lead, total	ug/L	MW-2	09/09/2021	ND	4.0000		
Lead, total	ug/L	MW-2	03/14/2022	ND	4.0000		
Lead, total	ug/L	MW-2	09/01/2022	ND	4.0000		
Lead, total	ug/L	MW-2	03/06/2023	ND	4.0000		
Lead, total	ug/L	MW-2	09/08/2023	ND	4.0000		
Lead, total	ug/L	MW-2	03/20/2024	ND	4.0000		
Lead, total	ug/L	MW-2	09/26/2024	ND	4.0000		
Nickel, total	ug/L	MW-2	09/17/2014	ND	4.0000		
Nickel, total	ug/L	MW-2	04/29/2015	ND	4.0000		
Nickel, total	ug/L	MW-2	10/07/2015	ND	4.0000		
Nickel, total	ug/L	MW-2	04/19/2016		7.8000		
Nickel, total	ug/L	MW-2	09/19/2016	ND	4.0000		
Nickel, total	ug/L	MW-2	03/22/2017	ND	4.0000		
Nickel, total	ug/L	MW-2	10/12/2017	ND	4.0000		
Nickel, total	ug/L	MW-2	03/08/2018	ND	4.0000		
Nickel, total	ug/L	MW-2	09/06/2018	ND	8.0000	4.0000	**
Nickel, total	ug/L	MW-2	05/13/2019	ND	4.0000		
Nickel, total	ug/L	MW-2	09/26/2019	ND	4.0000		
Nickel, total	ug/L	MW-2	03/30/2020	ND	4.0000		
Nickel, total	ug/L	MW-2	09/17/2020	ND	4.0000		
Nickel, total	ug/L	MW-2	03/09/2021	ND	4.0000		
Nickel, total	ug/L	MW-2	09/09/2021	ND	4.0000		
Nickel, total	ug/L	MW-2	03/14/2022	ND	4.0000		
Nickel, total	ug/L	MW-2	09/01/2022		5.3000		
Nickel, total	ug/L	MW-2	03/06/2023		4.2000		
Nickel, total	ug/L	MW-2	09/08/2023	ND	4.0000		
Nickel, total	ug/L	MW-2	03/20/2024	ND	4.0000		
Nickel, total	ug/L	MW-2	09/26/2024	ND	4.0000		
Selenium, total	ug/L	MW-2	09/17/2014	ND	4.0000		
Selenium, total	ug/L	MW-2	04/29/2015	ND	4.0000		
Selenium, total	ug/L	MW-2	10/07/2015	ND	4.0000		
Selenium, total	ug/L	MW-2	04/19/2016	ND	4.0000		
Selenium, total	ug/L	MW-2	09/19/2016	ND	4.0000		
Selenium, total	ug/L	MW-2	03/22/2017	ND	4.0000		
Selenium, total	ug/L	MW-2	10/12/2017		4.4000		
Selenium, total	ug/L	MW-2	03/08/2018	ND	4.0000		
Selenium, total	ug/L	MW-2	09/06/2018	ND	4.0000		
Selenium, total	ug/L	MW-2	05/13/2019	ND	4.0000		
Selenium, total	ug/L	MW-2	09/26/2019	ND	4.0000		
Selenium, total	ug/L	MW-2	03/30/2020	ND	4.0000		
Selenium, total	ug/L	MW-2	09/17/2020	ND	4.0000		
Selenium, total	ug/L	MW-2	03/09/2021	ND	4.0000		
Selenium, total	ug/L	MW-2	09/09/2021	ND	4.0000		
Selenium, total	ug/L	MW-2	03/14/2022	ND	4.0000		
Selenium, total	ug/L	MW-2	09/01/2022	ND	4.0000		
Selenium, total	ug/L	MW-2	03/06/2023	ND	4.0000		
Selenium, total	ug/L	MW-2	09/08/2023	ND	4.0000		
Selenium, total	ug/L	MW-2	03/20/2024	ND	4.0000		
Selenium, total	ug/L	MW-2	09/26/2024	ND	4.0000		
Silver, total	ug/L	MW-2	09/17/2014	ND	4.0000		
Silver, total	ug/L	MW-2	04/29/2015	ND	4.0000		
Silver, total	ug/L	MW-2	10/07/2015	ND	4.0000		
Silver, total	ug/L	MW-2	04/19/2016	ND	4.0000		
Silver, total	ug/L	MW-2	09/19/2016	ND	4.0000		
Silver, total	ug/L	MW-2	03/22/2017	ND	4.0000		
Silver, total	ug/L	MW-2	10/12/2017	ND	4.0000		
Silver, total	ug/L	MW-2	03/08/2018	ND	4.0000		
Silver, total	ug/L	MW-2	09/06/2018	ND	8.0000	4.0000	**
Silver, total	ug/L	MW-2	05/13/2019	ND	4.0000		
Silver, total	ug/L	MW-2	09/26/2019	ND	4.0000		
Silver, total	ug/L	MW-2	03/30/2020	ND	4.0000		
Silver, total	ug/L	MW-2	09/17/2020	ND	4.0000		
Silver, total	ug/L	MW-2	03/09/2021	ND	4.0000		
Silver, total	ug/L	MW-2	09/09/2021	ND	4.0000		
Silver, total	ug/L	MW-2	03/14/2022	ND	4.0000		
Silver, total	ug/L	MW-2	09/01/2022	ND	4.0000		
Silver, total	ug/L	MW-2	03/06/2023	ND	4.0000		
Silver, total	ug/L	MW-2	09/08/2023	ND	4.0000		

*   - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Silver, total	ug/L	MW-2	03/20/2024	ND	4.0000		
Silver, total	ug/L	MW-2	09/26/2024	ND	4.0000		
Thallium, total	ug/L	MW-2	09/17/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-2	04/29/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-2	10/07/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-2	04/19/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-2	09/19/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-2	03/22/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-2	10/12/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-2	03/08/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-2	09/06/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-2	05/13/2019	ND	2.0000		
Thallium, total	ug/L	MW-2	09/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-2	03/30/2020	ND	2.0000		
Thallium, total	ug/L	MW-2	09/17/2020	ND	2.0000		
Thallium, total	ug/L	MW-2	03/09/2021	ND	2.0000		
Thallium, total	ug/L	MW-2	09/09/2021	ND	2.0000		
Thallium, total	ug/L	MW-2	03/14/2022	ND	2.0000		
Thallium, total	ug/L	MW-2	09/01/2022	ND	2.0000		
Thallium, total	ug/L	MW-2	03/06/2023	ND	2.0000		
Thallium, total	ug/L	MW-2	09/08/2023	ND	2.0000		
Thallium, total	ug/L	MW-2	03/20/2024	ND	2.0000		
Thallium, total	ug/L	MW-2	09/26/2024	ND	2.0000		
Vanadium, total	ug/L	MW-2	09/17/2014	ND	20.0000		
Vanadium, total	ug/L	MW-2	04/29/2015	ND	20.0000		
Vanadium, total	ug/L	MW-2	10/07/2015	ND	20.0000		
Vanadium, total	ug/L	MW-2	04/19/2016	ND	20.0000		
Vanadium, total	ug/L	MW-2	09/19/2016	ND	20.0000		
Vanadium, total	ug/L	MW-2	03/22/2017	ND	20.0000		
Vanadium, total	ug/L	MW-2	10/12/2017	ND	20.0000		
Vanadium, total	ug/L	MW-2	03/08/2018	ND	20.0000		
Vanadium, total	ug/L	MW-2	09/06/2018	ND	20.0000		
Vanadium, total	ug/L	MW-2	05/13/2019	ND	20.0000		
Vanadium, total	ug/L	MW-2	09/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-2	03/30/2020	ND	20.0000		
Vanadium, total	ug/L	MW-2	09/17/2020	ND	20.0000		
Vanadium, total	ug/L	MW-2	03/09/2021	ND	20.0000		
Vanadium, total	ug/L	MW-2	09/09/2021	ND	20.0000		
Vanadium, total	ug/L	MW-2	03/14/2022	ND	20.0000		
Vanadium, total	ug/L	MW-2	09/01/2022	ND	20.0000		
Vanadium, total	ug/L	MW-2	03/06/2023	ND	20.0000		
Vanadium, total	ug/L	MW-2	09/08/2023	ND	20.0000		
Vanadium, total	ug/L	MW-2	03/20/2024	ND	20.0000		
Vanadium, total	ug/L	MW-2	09/26/2024	ND	20.0000		
Zinc, total	ug/L	MW-2	09/17/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-2	04/29/2015		9.7000		
Zinc, total	ug/L	MW-2	10/07/2015		11.8000		
Zinc, total	ug/L	MW-2	04/19/2016		12.6000		
Zinc, total	ug/L	MW-2	09/19/2016		10.2000		
Zinc, total	ug/L	MW-2	03/22/2017		10.5000		
Zinc, total	ug/L	MW-2	10/12/2017		11.3000		
Zinc, total	ug/L	MW-2	03/08/2018		25.8000		
Zinc, total	ug/L	MW-2	09/06/2018		23.3000		
Zinc, total	ug/L	MW-2	05/13/2019		25.9000		
Zinc, total	ug/L	MW-2	09/26/2019		15.5000		
Zinc, total	ug/L	MW-2	03/30/2020	ND	20.0000		
Zinc, total	ug/L	MW-2	09/17/2020	ND	20.0000		
Zinc, total	ug/L	MW-2	03/09/2021	ND	20.0000		
Zinc, total	ug/L	MW-2	09/09/2021	ND	20.0000		
Zinc, total	ug/L	MW-2	03/14/2022	ND	20.0000		
Zinc, total	ug/L	MW-2	09/01/2022	ND	20.0000		
Zinc, total	ug/L	MW-2	03/06/2023	ND	20.0000		
Zinc, total	ug/L	MW-2	09/08/2023	ND	20.0000		
Zinc, total	ug/L	MW-2	03/20/2024	ND	20.0000		
Zinc, total	ug/L	MW-2	09/26/2024	ND	20.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Antimony, total	ug/L	GWD-1	09/25/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	GWD-1	09/25/2024	ND	4.0000	**	6.1000
Barium, total	ug/L	GWD-1	09/25/2024		619.0000	*	614.0000
Beryllium, total	ug/L	GWD-1	09/25/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	GWD-1	09/25/2024	ND	0.8000		1.0000
Chromium, total	ug/L	GWD-1	09/25/2024	ND	8.0000		17.2000
Cobalt, total	ug/L	GWD-1	09/25/2024		2.3000		14.4000
Copper, total	ug/L	GWD-1	09/25/2024	ND	4.0000		10.8000
Lead, total	ug/L	GWD-1	09/25/2024	ND	4.0000		8.7000
Nickel, total	ug/L	GWD-1	09/25/2024		4.1000		20.7000
Selenium, total	ug/L	GWD-1	09/25/2024	ND	4.0000		7.4000
Silver, total	ug/L	GWD-1	09/25/2024	ND	4.0000		4.0000
Thallium, total	ug/L	GWD-1	09/25/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	GWD-1	09/25/2024	ND	20.0000		27.5000
Zinc, total	ug/L	GWD-1	09/25/2024	ND	20.0000		68.3000
Antimony, total	ug/L	GWD-2	09/25/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	GWD-2	09/25/2024	ND	4.0000	**	6.1000
Barium, total	ug/L	GWD-2	09/25/2024		496.0000	**	614.0000
Beryllium, total	ug/L	GWD-2	09/25/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	GWD-2	09/25/2024	ND	0.8000		1.0000
Chromium, total	ug/L	GWD-2	09/25/2024	ND	8.0000		17.2000
Cobalt, total	ug/L	GWD-2	09/25/2024		3.6000		14.4000
Copper, total	ug/L	GWD-2	09/25/2024	ND	4.0000		10.8000
Lead, total	ug/L	GWD-2	09/25/2024	ND	4.0000		8.7000
Nickel, total	ug/L	GWD-2	09/25/2024		4.4000		20.7000
Selenium, total	ug/L	GWD-2	09/25/2024	ND	4.0000		7.4000
Silver, total	ug/L	GWD-2	09/25/2024	ND	4.0000		4.0000
Thallium, total	ug/L	GWD-2	09/25/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	GWD-2	09/25/2024	ND	20.0000		27.5000
Zinc, total	ug/L	GWD-2	09/25/2024	ND	20.0000		68.3000
Antimony, total	ug/L	MW-12	09/25/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-12	09/25/2024	ND	4.0000	**	6.1000
Barium, total	ug/L	MW-12	09/25/2024		509.0000	**	614.0000
Beryllium, total	ug/L	MW-12	09/25/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-12	09/25/2024	ND	0.8000		1.0000
Chromium, total	ug/L	MW-12	09/25/2024	ND	8.0000	**	17.2000
Cobalt, total	ug/L	MW-12	09/25/2024		0.9000	**	14.4000
Copper, total	ug/L	MW-12	09/25/2024	ND	4.0000	**	10.8000
Lead, total	ug/L	MW-12	09/25/2024	ND	4.0000	**	8.7000
Nickel, total	ug/L	MW-12	09/25/2024		10.2000	**	20.7000
Selenium, total	ug/L	MW-12	09/25/2024	ND	4.0000		7.4000
Silver, total	ug/L	MW-12	09/25/2024	ND	4.0000		4.0000
Thallium, total	ug/L	MW-12	09/25/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	MW-12	09/25/2024	ND	20.0000	**	27.5000
Zinc, total	ug/L	MW-12	09/25/2024	ND	20.0000		68.3000
Antimony, total	ug/L	MW-15	09/25/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-15	09/25/2024	ND	4.0000		6.1000
Barium, total	ug/L	MW-15	09/25/2024		545.0000		614.0000
Beryllium, total	ug/L	MW-15	09/25/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-15	09/25/2024	ND	0.8000		1.0000
Chromium, total	ug/L	MW-15	09/25/2024	ND	8.0000		17.2000
Cobalt, total	ug/L	MW-15	09/25/2024		0.4000		14.4000
Copper, total	ug/L	MW-15	09/25/2024	ND	4.0000		10.8000
Lead, total	ug/L	MW-15	09/25/2024	ND	4.0000		8.7000
Nickel, total	ug/L	MW-15	09/25/2024		11.4000		20.7000
Selenium, total	ug/L	MW-15	09/25/2024	ND	4.0000		7.4000
Silver, total	ug/L	MW-15	09/25/2024	ND	4.0000		4.0000
Thallium, total	ug/L	MW-15	09/25/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	MW-15	09/25/2024	ND	20.0000		27.5000
Zinc, total	ug/L	MW-15	09/25/2024	ND	20.0000		68.3000
Antimony, total	ug/L	MW-21	09/25/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-21	09/25/2024	ND	4.0000		6.1000
Barium, total	ug/L	MW-21	09/25/2024		341.0000		614.0000
Beryllium, total	ug/L	MW-21	09/25/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-21	09/25/2024	ND	0.8000		1.0000
Chromium, total	ug/L	MW-21	09/25/2024	ND	8.0000		17.2000
Cobalt, total	ug/L	MW-21	09/25/2024	ND	0.4000		14.4000
Copper, total	ug/L	MW-21	09/25/2024	ND	4.0000		10.8000
Lead, total	ug/L	MW-21	09/25/2024	ND	4.0000		8.7000
Nickel, total	ug/L	MW-21	09/25/2024	ND	4.0000		20.7000
Selenium, total	ug/L	MW-21	09/25/2024	ND	4.0000		7.4000
Silver, total	ug/L	MW-21	09/25/2024	ND	4.0000		4.0000

* - Current value failed - awaiting verification.
** - Current value passed - previous exceedance not verified.
*** - Current value failed - exceedance verified.
**** - Current value passed - awaiting one more verification.
***** - Insufficient background data to compute prediction limit.
ND = Not Detected, Result = detection limit.

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Thallium, total	ug/L	MW-21	09/25/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	MW-21	09/25/2024	ND	20.0000		27.5000
Zinc, total	ug/L	MW-21	09/25/2024	ND	20.0000		68.3000
Antimony, total	ug/L	MW-23	09/25/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-23	09/25/2024	ND	4.0000		6.1000
Barium, total	ug/L	MW-23	09/25/2024		306.0000		614.0000
Beryllium, total	ug/L	MW-23	09/25/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-23	09/25/2024	ND	0.8000		1.0000
Chromium, total	ug/L	MW-23	09/25/2024	ND	8.0000		17.2000
Cobalt, total	ug/L	MW-23	09/25/2024	ND	0.4000		14.4000
Copper, total	ug/L	MW-23	09/25/2024	ND	4.0000		10.8000
Lead, total	ug/L	MW-23	09/25/2024	ND	4.0000		8.7000
Nickel, total	ug/L	MW-23	09/25/2024	ND	4.0000		20.7000
Selenium, total	ug/L	MW-23	09/25/2024	ND	4.0000		7.4000
Silver, total	ug/L	MW-23	09/25/2024	ND	4.0000		4.0000
Thallium, total	ug/L	MW-23	09/25/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	MW-23	09/25/2024	ND	20.0000		27.5000
Zinc, total	ug/L	MW-23	09/25/2024	ND	20.0000		68.3000
Antimony, total	ug/L	MW-3	09/25/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-3	09/25/2024	ND	4.0000		6.1000
Barium, total	ug/L	MW-3	09/25/2024		755.0000	***	614.0000
Beryllium, total	ug/L	MW-3	09/25/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-3	09/25/2024	ND	0.8000		1.0000
Chromium, total	ug/L	MW-3	09/25/2024	ND	8.0000		17.2000
Cobalt, total	ug/L	MW-3	09/25/2024	ND	0.4000		14.4000
Copper, total	ug/L	MW-3	09/25/2024	ND	4.0000		10.8000
Lead, total	ug/L	MW-3	09/25/2024	ND	4.0000		8.7000
Nickel, total	ug/L	MW-3	09/25/2024	ND	4.0000		20.7000
Selenium, total	ug/L	MW-3	09/25/2024	ND	4.0000		7.4000
Silver, total	ug/L	MW-3	09/25/2024	ND	4.0000		4.0000
Thallium, total	ug/L	MW-3	09/25/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	MW-3	09/25/2024	ND	20.0000		27.5000
Zinc, total	ug/L	MW-3	09/25/2024	ND	20.0000		68.3000
Antimony, total	ug/L	MW-9	09/25/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-9	09/25/2024	ND	4.0000		6.1000
Barium, total	ug/L	MW-9	09/25/2024		316.0000		614.0000
Beryllium, total	ug/L	MW-9	09/25/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-9	09/25/2024	ND	0.8000		1.0000
Chromium, total	ug/L	MW-9	09/25/2024	ND	8.0000		17.2000
Cobalt, total	ug/L	MW-9	09/25/2024		0.6000		14.4000
Copper, total	ug/L	MW-9	09/25/2024	ND	4.0000		10.8000
Lead, total	ug/L	MW-9	09/25/2024	ND	4.0000		8.7000
Nickel, total	ug/L	MW-9	09/25/2024		4.6000		20.7000
Selenium, total	ug/L	MW-9	09/25/2024	ND	4.0000		7.4000
Silver, total	ug/L	MW-9	09/25/2024	ND	4.0000		4.0000
Thallium, total	ug/L	MW-9	09/25/2024	ND	2.0000		2.0000
Vanadium, total	ug/L	MW-9	09/25/2024	ND	20.0000		27.5000
Zinc, total	ug/L	MW-9	09/25/2024	ND	20.0000		68.3000

* - Current value failed - awaiting verification.
** - Current value passed - previous exceedance not verified.
*** - Current value failed - exceedance verified.
**** - Current value passed - awaiting one more verification.
***** - Insufficient background data to compute prediction limit.
ND = Not Detected, Result = detection limit.

Table 3

Detection Frequencies in Upgradient and Downgradient Wells

Constituent	Upgradient Detect	Upgradient N	Upgradient Proportion	Downgradient Detect	Downgradient N	Downgradient Proportion
Antimony, total	0	82	0.000	1	240	0.004
Arsenic, total	3	81	0.037	58	246	0.236
Barium, total	81	81	1.000	246	246	1.000
Beryllium, total	0	82	0.000	0	242	0.000
Cadmium, total	11	82	0.134	8	244	0.033
Chromium, total	8	81	0.099	28	240	0.117
Cobalt, total	35	81	0.432	109	243	0.449
Copper, total	7	81	0.086	59	242	0.244
Lead, total	5	81	0.062	42	242	0.174
Nickel, total	19	80	0.238	138	244	0.566
Selenium, total	14	83	0.169	1	242	0.004
Silver, total	0	82	0.000	0	240	0.000
Thallium, total	0	82	0.000	0	240	0.000
Vanadium, total	3	81	0.037	26	242	0.107
Zinc, total	29	82	0.354	100	242	0.413

N = Total number of measurements in all wells.
Detect = Total number of detections in all wells.
Proportion = Detect/N.

Table 4

Shapiro-Wilk Multiple Group Test of Normality

Constituent	Detect	N	Detect Freq	G raw	G log	G cbrt	G sqrt	G sqr	G cub	Crit Value	Dist Form	Model Type
Antimony, total	0	82	0.000									nonpar
Arsenic, total	3	81	0.037									nonpar
Barium, total	81	81	1.000	7.051	5.403					2.326	non-norm	nonpar
Beryllium, total	0	82	0.000									nonpar
Cadmium, total	11	82	0.134	2.566	2.544					2.326	non-norm	nonpar
Chromium, total	8	81	0.099	0.609	0.628					2.326	normal	nonpar
Cobalt, total	35	81	0.432	1.730	0.815					2.326	normal	nonpar
Copper, total	7	81	0.086	1.817	1.797					2.326	normal	nonpar
Lead, total	5	81	0.062	1.357	1.505					2.326	normal	nonpar
Nickel, total	19	80	0.238	0.597	0.831					2.326	normal	nonpar
Selenium, total	14	83	0.169	3.227	2.791					2.326	non-norm	nonpar
Silver, total	0	82	0.000									nonpar
Thallium, total	0	82	0.000									nonpar
Vanadium, total	3	81	0.037									nonpar
Zinc, total	29	82	0.354	2.541	1.374					2.326	lognor	nonpar

* - Distribution override for that constituent.
Fit to distribution is confirmed if G <= critical value.
Model type may not match distributional form when detection frequency < 50%.

Table 5

Summary Statistics and Prediction Limits

Constituent	Units	Detect	N	Mean	SD	alpha	Factor	Pred Limit	Type		Conf
Antimony, total	ug/L	0	82					2.0000	nonpar	***	0.99
Arsenic, total	ug/L	3	81					6.1000	nonpar		0.99
Barium, total	ug/L	81	81					614.0000	nonpar		0.99
Beryllium, total	ug/L	0	82					4.0000	nonpar	***	0.99
Cadmium, total	ug/L	11	82					1.0000	nonpar		0.99
Chromium, total	ug/L	8	81					17.2000	nonpar		0.99
Cobalt, total	ug/L	35	81					14.4000	nonpar		0.99
Copper, total	ug/L	7	81					10.8000	nonpar		0.99
Lead, total	ug/L	5	81					8.7000	nonpar		0.99
Nickel, total	ug/L	19	80					20.7000	nonpar		0.99
Selenium, total	ug/L	14	83					7.4000	nonpar		0.99
Silver, total	ug/L	0	82					4.0000	nonpar	***	0.99
Thallium, total	ug/L	0	82					2.0000	nonpar	***	0.99
Vanadium, total	ug/L	3	81					27.5000	nonpar		0.99
Zinc, total	ug/L	29	82					68.3000	nonpar		0.99

Conf = confidence level for passing initial test or one verification resample at all downgradient wells for a single constituent (nonparametric test only).
* - Insufficient Data.
** - Calculated limit raised to Manual Reporting Limit.
*** - Nonparametric limit based on ND value.
For transformed data, mean and SD in transformed units and prediction limit in original units.
All sample sizes and statistics are based on outlier free data.
For nonparametric limits, median reporting limits are substituted for extreme reporting limit values.

Table 6

Dixon's Test Outliers
5% Significance Level

Constituent	Units	Well	Date	Result	ND Qualifier	Date Range	N	Critical Value
Copper, total	ug/L	MW-14	03/30/2020	32.2000		09/18/2014-09/25/2024	22	0.4305
Barium, total	ug/L	MW-19	03/20/2024	26.9000		09/18/2014-09/25/2024	20	0.4501
Nickel, total	ug/L	MW-19	09/25/2024	15.7000		09/18/2014-09/25/2024	20	0.4501

N = Total number of independent measurements in background at each well.
Date Range = Dates of the first and last measurements included in background at each well.
Critical Value depends on the significance level and on N-1 when the two most extreme values are tested or N for the most extreme value.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Arsenic, total	ug/L	GWD-1	04/15/2008	ND	5.0000		6.1000
Arsenic, total	ug/L	GWD-1	06/18/2008	ND	5.0000		6.1000
Arsenic, total	ug/L	GWD-1	08/19/2008	ND	5.0000		6.1000
Arsenic, total	ug/L	GWD-1	10/18/2008	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	12/04/2008	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	03/16/2009	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	09/23/2009	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	04/12/2010	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	09/28/2010	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	05/03/2011	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	10/11/2011	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	04/24/2012		6.2000	*	6.1000
Arsenic, total	ug/L	GWD-1	09/11/2012		8.0000	*	6.1000
Arsenic, total	ug/L	GWD-1	04/05/2013	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	10/07/2015		8.1000	*	6.1000
Arsenic, total	ug/L	GWD-1	01/18/2016		5.0000		6.1000
Arsenic, total	ug/L	GWD-1	04/19/2016		6.4000	*	6.1000
Arsenic, total	ug/L	GWD-1	09/19/2016	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	03/21/2017	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	10/12/2017	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	03/08/2018	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	09/06/2018	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	05/13/2019	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	09/26/2019		4.1000		6.1000
Arsenic, total	ug/L	GWD-1	03/30/2020	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	09/17/2020	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	03/09/2021	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	09/09/2021	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	03/14/2022	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	03/06/2023	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-1	03/20/2024		11.4000	*	6.1000
Arsenic, total	ug/L	GWD-1	09/25/2024	ND	4.0000		6.1000
Barium, total	ug/L	GWD-1	04/15/2008		286.0000		614.0000
Barium, total	ug/L	GWD-1	06/18/2008		342.0000		614.0000
Barium, total	ug/L	GWD-1	08/19/2008		302.0000		614.0000
Barium, total	ug/L	GWD-1	10/18/2008		326.0000		614.0000
Barium, total	ug/L	GWD-1	12/04/2008		304.0000		614.0000
Barium, total	ug/L	GWD-1	03/16/2009		321.0000		614.0000
Barium, total	ug/L	GWD-1	09/23/2009		339.0000		614.0000
Barium, total	ug/L	GWD-1	04/12/2010		325.0000		614.0000
Barium, total	ug/L	GWD-1	09/28/2010		346.0000		614.0000
Barium, total	ug/L	GWD-1	05/03/2011		328.0000		614.0000
Barium, total	ug/L	GWD-1	10/11/2011		368.0000		614.0000
Barium, total	ug/L	GWD-1	04/24/2012		378.0000		614.0000
Barium, total	ug/L	GWD-1	09/11/2012		297.0000		614.0000
Barium, total	ug/L	GWD-1	04/05/2013		318.0000		614.0000
Barium, total	ug/L	GWD-1	10/07/2015		405.0000		614.0000
Barium, total	ug/L	GWD-1	04/19/2016		415.0000		614.0000
Barium, total	ug/L	GWD-1	09/19/2016		445.0000		614.0000
Barium, total	ug/L	GWD-1	03/21/2017		436.0000		614.0000
Barium, total	ug/L	GWD-1	10/12/2017		465.0000		614.0000
Barium, total	ug/L	GWD-1	03/08/2018		471.0000		614.0000
Barium, total	ug/L	GWD-1	09/06/2018		495.0000		614.0000
Barium, total	ug/L	GWD-1	05/13/2019		472.0000		614.0000
Barium, total	ug/L	GWD-1	09/26/2019		489.0000		614.0000
Barium, total	ug/L	GWD-1	03/30/2020		524.0000		614.0000
Barium, total	ug/L	GWD-1	09/17/2020		592.0000		614.0000
Barium, total	ug/L	GWD-1	03/09/2021		566.0000		614.0000
Barium, total	ug/L	GWD-1	06/03/2021		518.0000		614.0000
Barium, total	ug/L	GWD-1	09/09/2021		503.0000		614.0000
Barium, total	ug/L	GWD-1	03/06/2023		458.0000		614.0000
Barium, total	ug/L	GWD-1	03/20/2024		387.0000		614.0000
Barium, total	ug/L	GWD-1	09/25/2024		619.0000	*	614.0000
Arsenic, total	ug/L	GWD-2	10/10/2013	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-2	04/23/2014	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-2	09/18/2014	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-2	04/28/2015	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-2	10/07/2015	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-2	04/19/2016	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-2	09/19/2016	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-2	03/21/2017	ND	4.0000		6.1000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Arsenic, total	ug/L	GWD-2	10/12/2017	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-2	03/08/2018	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-2	09/06/2018	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-2	05/13/2019	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-2	09/26/2019	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-2	03/30/2020	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-2	09/17/2020		73.5000	*	6.1000
Arsenic, total	ug/L	GWD-2	12/03/2020	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-2	03/09/2021	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-2	09/09/2021	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-2	03/14/2022	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-2	03/06/2023	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-2	09/08/2023	ND	4.0000		6.1000
Arsenic, total	ug/L	GWD-2	03/20/2024		5.9000		6.1000
Arsenic, total	ug/L	GWD-2	06/14/2024		13.8000	*	6.1000
Arsenic, total	ug/L	GWD-2	09/25/2024	ND	4.0000		6.1000
Barium, total	ug/L	GWD-2	10/10/2013		293.0000		614.0000
Barium, total	ug/L	GWD-2	04/23/2014		251.0000		614.0000
Barium, total	ug/L	GWD-2	09/18/2014		307.0000		614.0000
Barium, total	ug/L	GWD-2	04/28/2015		341.0000		614.0000
Barium, total	ug/L	GWD-2	10/07/2015		316.0000		614.0000
Barium, total	ug/L	GWD-2	04/19/2016		329.0000		614.0000
Barium, total	ug/L	GWD-2	09/19/2016		321.0000		614.0000
Barium, total	ug/L	GWD-2	03/21/2017		330.0000		614.0000
Barium, total	ug/L	GWD-2	10/12/2017		354.0000		614.0000
Barium, total	ug/L	GWD-2	03/08/2018		357.0000		614.0000
Barium, total	ug/L	GWD-2	09/06/2018		333.0000		614.0000
Barium, total	ug/L	GWD-2	05/13/2019		385.0000		614.0000
Barium, total	ug/L	GWD-2	09/26/2019		405.0000		614.0000
Barium, total	ug/L	GWD-2	03/30/2020		484.0000		614.0000
Barium, total	ug/L	GWD-2	09/17/2020		824.0000	*	614.0000
Barium, total	ug/L	GWD-2	12/03/2020		534.0000		614.0000
Barium, total	ug/L	GWD-2	03/09/2021		544.0000		614.0000
Barium, total	ug/L	GWD-2	09/09/2021		554.0000		614.0000
Barium, total	ug/L	GWD-2	03/06/2023		574.0000		614.0000
Barium, total	ug/L	GWD-2	05/09/2023		565.0000		614.0000
Barium, total	ug/L	GWD-2	09/08/2023		825.0000	*	614.0000
Barium, total	ug/L	GWD-2	03/20/2024		665.0000	*	614.0000
Barium, total	ug/L	GWD-2	06/14/2024		870.0000	*	614.0000
Barium, total	ug/L	GWD-2	09/25/2024		496.0000		614.0000
Arsenic, total	ug/L	MW-12	04/15/2008		8.0000	*	6.1000
Arsenic, total	ug/L	MW-12	06/18/2008	ND	5.0000		6.1000
Arsenic, total	ug/L	MW-12	08/19/2008	ND	5.0000		6.1000
Arsenic, total	ug/L	MW-12	10/18/2008	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	12/04/2008		4.3000		6.1000
Arsenic, total	ug/L	MW-12	03/16/2009		5.1000		6.1000
Arsenic, total	ug/L	MW-12	09/23/2009		4.1000		6.1000
Arsenic, total	ug/L	MW-12	04/12/2010	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	09/28/2010	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	05/03/2011	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	10/10/2011	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	04/23/2012		7.8000	*	6.1000
Arsenic, total	ug/L	MW-12	09/10/2012		6.9000	*	6.1000
Arsenic, total	ug/L	MW-12	04/05/2013	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	10/11/2013		4.7000		6.1000
Arsenic, total	ug/L	MW-12	04/22/2014		6.8000	*	6.1000
Arsenic, total	ug/L	MW-12	09/18/2014		4.1000		6.1000
Arsenic, total	ug/L	MW-12	04/28/2015		4.6000		6.1000
Arsenic, total	ug/L	MW-12	10/07/2015	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	04/19/2016	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	09/19/2016		4.3000		6.1000
Arsenic, total	ug/L	MW-12	03/22/2017	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	10/12/2017	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	03/08/2018	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	09/06/2018	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	05/13/2019	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	09/26/2019	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	03/30/2020	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	09/17/2020	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	03/09/2021	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	09/09/2021	ND	4.0000		6.1000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Arsenic, total	ug/L	MW-12	03/14/2022	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	09/01/2022	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	03/06/2023		7.3000	*	6.1000
Arsenic, total	ug/L	MW-12	09/08/2023	ND	4.0000		6.1000
Arsenic, total	ug/L	MW-12	03/20/2024		15.9000	*	6.1000
Arsenic, total	ug/L	MW-12	09/25/2024	ND	4.0000		6.1000
Barium, total	ug/L	MW-12	04/15/2008		447.0000		614.0000
Barium, total	ug/L	MW-12	06/18/2008		430.0000		614.0000
Barium, total	ug/L	MW-12	08/19/2008		420.0000		614.0000
Barium, total	ug/L	MW-12	10/18/2008		405.0000		614.0000
Barium, total	ug/L	MW-12	12/04/2008		472.0000		614.0000
Barium, total	ug/L	MW-12	03/16/2009		494.0000		614.0000
Barium, total	ug/L	MW-12	09/23/2009		476.0000		614.0000
Barium, total	ug/L	MW-12	04/12/2010		421.0000		614.0000
Barium, total	ug/L	MW-12	09/28/2010		477.0000		614.0000
Barium, total	ug/L	MW-12	05/03/2011		440.0000		614.0000
Barium, total	ug/L	MW-12	10/10/2011		537.0000		614.0000
Barium, total	ug/L	MW-12	04/23/2012		471.0000		614.0000
Barium, total	ug/L	MW-12	09/10/2012		416.0000		614.0000
Barium, total	ug/L	MW-12	04/05/2013		461.0000		614.0000
Barium, total	ug/L	MW-12	10/11/2013		416.0000		614.0000
Barium, total	ug/L	MW-12	04/22/2014		366.0000		614.0000
Barium, total	ug/L	MW-12	09/18/2014		364.0000		614.0000
Barium, total	ug/L	MW-12	04/28/2015		409.0000		614.0000
Barium, total	ug/L	MW-12	10/07/2015		403.0000		614.0000
Barium, total	ug/L	MW-12	04/19/2016		396.0000		614.0000
Barium, total	ug/L	MW-12	09/19/2016		390.0000		614.0000
Barium, total	ug/L	MW-12	03/22/2017		303.0000		614.0000
Barium, total	ug/L	MW-12	10/12/2017		305.0000		614.0000
Barium, total	ug/L	MW-12	03/08/2018		295.0000		614.0000
Barium, total	ug/L	MW-12	09/06/2018		286.0000		614.0000
Barium, total	ug/L	MW-12	05/13/2019		280.0000		614.0000
Barium, total	ug/L	MW-12	09/26/2019		295.0000		614.0000
Barium, total	ug/L	MW-12	03/30/2020		397.0000		614.0000
Barium, total	ug/L	MW-12	09/17/2020		301.0000		614.0000
Barium, total	ug/L	MW-12	03/09/2021		416.0000		614.0000
Barium, total	ug/L	MW-12	09/09/2021		425.0000		614.0000
Barium, total	ug/L	MW-12	03/14/2022		544.0000		614.0000
Barium, total	ug/L	MW-12	09/01/2022		322.0000		614.0000
Barium, total	ug/L	MW-12	03/06/2023		547.0000		614.0000
Barium, total	ug/L	MW-12	09/08/2023		465.0000		614.0000
Barium, total	ug/L	MW-12	03/20/2024		856.0000	*	614.0000
Barium, total	ug/L	MW-12	09/25/2024		509.0000		614.0000
Chromium, total	ug/L	MW-12	04/15/2008		8.0000		17.2000
Chromium, total	ug/L	MW-12	06/18/2008	ND	5.0000		17.2000
Chromium, total	ug/L	MW-12	08/19/2008		6.0000		17.2000
Chromium, total	ug/L	MW-12	10/18/2008	ND	10.0000		17.2000
Chromium, total	ug/L	MW-12	12/04/2008	ND	10.0000		17.2000
Chromium, total	ug/L	MW-12	03/16/2009	ND	10.0000		17.2000
Chromium, total	ug/L	MW-12	09/23/2009	ND	10.0000		17.2000
Chromium, total	ug/L	MW-12	04/12/2010	ND	10.0000		17.2000
Chromium, total	ug/L	MW-12	09/28/2010	ND	10.0000		17.2000
Chromium, total	ug/L	MW-12	05/03/2011	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	10/10/2011		8.1000		17.2000
Chromium, total	ug/L	MW-12	04/23/2012	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	09/10/2012	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	04/05/2013	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	10/11/2013	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	04/22/2014	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	09/18/2014	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	04/28/2015	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	10/07/2015	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	04/19/2016	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	09/19/2016	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	03/22/2017	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	10/12/2017	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	03/08/2018	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	09/06/2018	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	05/13/2019	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	09/26/2019	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	03/30/2020	ND	8.0000		17.2000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Chromium, total	ug/L	MW-12	09/17/2020	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	03/09/2021	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	09/09/2021	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	03/14/2022	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	09/01/2022	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	03/06/2023		12.7000		17.2000
Chromium, total	ug/L	MW-12	09/08/2023	ND	8.0000		17.2000
Chromium, total	ug/L	MW-12	03/20/2024		22.7000	*	17.2000
Chromium, total	ug/L	MW-12	09/25/2024	ND	8.0000		17.2000
Cobalt, total	ug/L	MW-12	04/15/2008	ND	10.0000		14.4000
Cobalt, total	ug/L	MW-12	06/18/2008	ND	10.0000		14.4000
Cobalt, total	ug/L	MW-12	08/19/2008	ND	10.0000		14.4000
Cobalt, total	ug/L	MW-12	10/18/2008	ND	4.0000		14.4000
Cobalt, total	ug/L	MW-12	12/04/2008		4.3000		14.4000
Cobalt, total	ug/L	MW-12	03/16/2009		4.7000		14.4000
Cobalt, total	ug/L	MW-12	09/23/2009	ND	4.0000		14.4000
Cobalt, total	ug/L	MW-12	04/12/2010	ND	4.0000		14.4000
Cobalt, total	ug/L	MW-12	09/28/2010	ND	4.0000		14.4000
Cobalt, total	ug/L	MW-12	05/03/2011	ND	4.0000		14.4000
Cobalt, total	ug/L	MW-12	10/10/2011		4.3000		14.4000
Cobalt, total	ug/L	MW-12	04/23/2012	ND	4.0000		14.4000
Cobalt, total	ug/L	MW-12	09/10/2012	ND	4.0000		14.4000
Cobalt, total	ug/L	MW-12	04/05/2013	ND	4.0000		14.4000
Cobalt, total	ug/L	MW-12	10/11/2013	ND	4.0000		14.4000
Cobalt, total	ug/L	MW-12	04/22/2014	ND	4.0000		14.4000
Cobalt, total	ug/L	MW-12	09/18/2014		3.4000		14.4000
Cobalt, total	ug/L	MW-12	04/28/2015		2.6000		14.4000
Cobalt, total	ug/L	MW-12	10/07/2015		1.7000		14.4000
Cobalt, total	ug/L	MW-12	04/19/2016		2.0000		14.4000
Cobalt, total	ug/L	MW-12	09/19/2016		2.2000		14.4000
Cobalt, total	ug/L	MW-12	03/22/2017	ND	0.8000		14.4000
Cobalt, total	ug/L	MW-12	10/12/2017	ND	0.8000		14.4000
Cobalt, total	ug/L	MW-12	03/08/2018	ND	2.0000		14.4000
Cobalt, total	ug/L	MW-12	09/06/2018	ND	0.8000		14.4000
Cobalt, total	ug/L	MW-12	05/13/2019	ND	0.8000		14.4000
Cobalt, total	ug/L	MW-12	09/26/2019	ND	0.8000		14.4000
Cobalt, total	ug/L	MW-12	03/30/2020		6.7000		14.4000
Cobalt, total	ug/L	MW-12	09/17/2020		0.4000		14.4000
Cobalt, total	ug/L	MW-12	03/09/2021		1.3000		14.4000
Cobalt, total	ug/L	MW-12	09/09/2021		1.9000		14.4000
Cobalt, total	ug/L	MW-12	03/14/2022		0.8000		14.4000
Cobalt, total	ug/L	MW-12	09/01/2022		1.3000		14.4000
Cobalt, total	ug/L	MW-12	03/06/2023		8.2000		14.4000
Cobalt, total	ug/L	MW-12	09/08/2023		0.6000		14.4000
Cobalt, total	ug/L	MW-12	03/20/2024		21.3000	*	14.4000
Cobalt, total	ug/L	MW-12	09/25/2024		0.9000		14.4000
Copper, total	ug/L	MW-12	04/15/2008		12.0000	*	10.8000
Copper, total	ug/L	MW-12	06/18/2008		8.0000		10.8000
Copper, total	ug/L	MW-12	08/19/2008		5.0000		10.8000
Copper, total	ug/L	MW-12	10/18/2008	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	12/04/2008	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/16/2009		4.4000		10.8000
Copper, total	ug/L	MW-12	09/23/2009	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	04/12/2010		4.0000		10.8000
Copper, total	ug/L	MW-12	09/28/2010	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	05/03/2011	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	10/10/2011	ND	8.0000		10.8000
Copper, total	ug/L	MW-12	04/23/2012	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/10/2012	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	04/05/2013	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	10/11/2013	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	04/22/2014	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/18/2014	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	04/28/2015	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	10/07/2015	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	04/19/2016	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/19/2016	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/22/2017	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	10/12/2017	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/08/2018	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/06/2018	ND	4.0000		10.8000

*   - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Copper, total	ug/L	MW-12	05/13/2019	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/26/2019	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/30/2020		8.0000		10.8000
Copper, total	ug/L	MW-12	09/17/2020	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/09/2021	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/09/2021	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/14/2022	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	09/01/2022	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/06/2023		6.5000		10.8000
Copper, total	ug/L	MW-12	09/08/2023	ND	4.0000		10.8000
Copper, total	ug/L	MW-12	03/20/2024		18.0000	*	10.8000
Copper, total	ug/L	MW-12	09/25/2024	ND	4.0000		10.8000
Lead, total	ug/L	MW-12	04/15/2008		5.0000		8.7000
Lead, total	ug/L	MW-12	06/18/2008	ND	5.0000		8.7000
Lead, total	ug/L	MW-12	08/19/2008		8.0000		8.7000
Lead, total	ug/L	MW-12	10/18/2008	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	12/04/2008		4.7000		8.7000
Lead, total	ug/L	MW-12	03/16/2009		4.3000		8.7000
Lead, total	ug/L	MW-12	09/23/2009	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	04/12/2010	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/28/2010	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	05/03/2011	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	10/10/2011	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	04/23/2012	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/10/2012	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	04/05/2013	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	10/11/2013	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	04/22/2014	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/18/2014	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	04/28/2015	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	10/07/2015	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	04/19/2016	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/19/2016	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/22/2017	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	10/12/2017	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/08/2018	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/06/2018	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	05/13/2019		6.7000		8.7000
Lead, total	ug/L	MW-12	09/26/2019	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/30/2020		6.0000		8.7000
Lead, total	ug/L	MW-12	09/17/2020	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/09/2021	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/09/2021	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/14/2022	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	09/01/2022	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/06/2023		4.1000		8.7000
Lead, total	ug/L	MW-12	09/08/2023	ND	4.0000		8.7000
Lead, total	ug/L	MW-12	03/20/2024		8.9000	*	8.7000
Lead, total	ug/L	MW-12	09/25/2024	ND	4.0000		8.7000
Nickel, total	ug/L	MW-12	04/15/2008		14.0000		20.7000
Nickel, total	ug/L	MW-12	06/18/2008		8.0000		20.7000
Nickel, total	ug/L	MW-12	08/19/2008		6.0000		20.7000
Nickel, total	ug/L	MW-12	10/18/2008		5.3000		20.7000
Nickel, total	ug/L	MW-12	12/04/2008		6.9000		20.7000
Nickel, total	ug/L	MW-12	03/16/2009		10.1000		20.7000
Nickel, total	ug/L	MW-12	09/23/2009		6.5000		20.7000
Nickel, total	ug/L	MW-12	04/12/2010		10.2000		20.7000
Nickel, total	ug/L	MW-12	09/28/2010		6.2000		20.7000
Nickel, total	ug/L	MW-12	05/03/2011		9.3000		20.7000
Nickel, total	ug/L	MW-12	10/10/2011		13.4000		20.7000
Nickel, total	ug/L	MW-12	04/23/2012		7.5000		20.7000
Nickel, total	ug/L	MW-12	09/10/2012		6.3000		20.7000
Nickel, total	ug/L	MW-12	04/05/2013		9.1000		20.7000
Nickel, total	ug/L	MW-12	10/11/2013		5.2000		20.7000
Nickel, total	ug/L	MW-12	04/22/2014		6.2000		20.7000
Nickel, total	ug/L	MW-12	09/18/2014		5.8000		20.7000
Nickel, total	ug/L	MW-12	04/28/2015		4.6000		20.7000
Nickel, total	ug/L	MW-12	10/07/2015	ND	4.0000		20.7000
Nickel, total	ug/L	MW-12	04/19/2016		4.1000		20.7000
Nickel, total	ug/L	MW-12	09/19/2016	ND	4.0000		20.7000
Nickel, total	ug/L	MW-12	03/22/2017	ND	4.0000		20.7000

*   - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Nickel, total	ug/L	MW-12	10/12/2017	ND	4.0000		20.7000
Nickel, total	ug/L	MW-12	03/08/2018	ND	4.0000		20.7000
Nickel, total	ug/L	MW-12	09/06/2018	ND	8.0000		20.7000
Nickel, total	ug/L	MW-12	05/13/2019	ND	4.0000		20.7000
Nickel, total	ug/L	MW-12	09/26/2019		5.2000		20.7000
Nickel, total	ug/L	MW-12	03/30/2020		15.7000		20.7000
Nickel, total	ug/L	MW-12	06/25/2020		7.9000		20.7000
Nickel, total	ug/L	MW-12	09/17/2020		5.9000		20.7000
Nickel, total	ug/L	MW-12	03/09/2021		11.9000		20.7000
Nickel, total	ug/L	MW-12	09/09/2021		15.6000		20.7000
Nickel, total	ug/L	MW-12	12/08/2021		31.6000	*	20.7000
Nickel, total	ug/L	MW-12	03/14/2022		12.3000		20.7000
Nickel, total	ug/L	MW-12	09/01/2022		6.7000		20.7000
Nickel, total	ug/L	MW-12	03/06/2023		27.6000	*	20.7000
Nickel, total	ug/L	MW-12	09/08/2023		11.6000		20.7000
Nickel, total	ug/L	MW-12	03/20/2024		63.1000	*	20.7000
Nickel, total	ug/L	MW-12	09/25/2024		10.2000		20.7000
Vanadium, total	ug/L	MW-12	04/15/2008	ND	50.0000		27.5000
Vanadium, total	ug/L	MW-12	06/18/2008	ND	50.0000		27.5000
Vanadium, total	ug/L	MW-12	08/19/2008	ND	50.0000		27.5000
Vanadium, total	ug/L	MW-12	10/18/2008	ND	10.0000		27.5000
Vanadium, total	ug/L	MW-12	12/04/2008		10.6000		27.5000
Vanadium, total	ug/L	MW-12	03/16/2009		14.0000		27.5000
Vanadium, total	ug/L	MW-12	09/23/2009	ND	10.0000		27.5000
Vanadium, total	ug/L	MW-12	04/12/2010	ND	10.0000		27.5000
Vanadium, total	ug/L	MW-12	09/28/2010	ND	10.0000		27.5000
Vanadium, total	ug/L	MW-12	05/03/2011	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	10/10/2011	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	04/23/2012	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/10/2012	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	04/05/2013	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	10/11/2013	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	04/22/2014	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/18/2014	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	04/28/2015	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	10/07/2015	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	04/19/2016	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/19/2016	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/22/2017	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	10/12/2017	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/08/2018	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/06/2018	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	05/13/2019	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/26/2019	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/30/2020	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/17/2020	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/09/2021	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/09/2021	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/14/2022	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/01/2022	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/06/2023	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	09/08/2023	ND	20.0000		27.5000
Vanadium, total	ug/L	MW-12	03/20/2024		38.6000	*	27.5000
Vanadium, total	ug/L	MW-12	09/25/2024	ND	20.0000		27.5000
Barium, total	ug/L	MW-3	04/15/2008		572.0000		614.0000
Barium, total	ug/L	MW-3	06/18/2008		547.0000		614.0000
Barium, total	ug/L	MW-3	08/19/2008		624.0000	*	614.0000
Barium, total	ug/L	MW-3	10/18/2008		706.0000	*	614.0000
Barium, total	ug/L	MW-3	12/04/2008		700.0000	*	614.0000
Barium, total	ug/L	MW-3	03/16/2009		740.0000	*	614.0000
Barium, total	ug/L	MW-3	09/23/2009		826.0000	*	614.0000
Barium, total	ug/L	MW-3	04/12/2010		661.0000	*	614.0000
Barium, total	ug/L	MW-3	06/01/2010		790.0000	*	614.0000
Barium, total	ug/L	MW-3	09/28/2010		742.0000	*	614.0000
Barium, total	ug/L	MW-3	05/03/2011		647.0000	*	614.0000
Barium, total	ug/L	MW-3	10/11/2011		808.0000	*	614.0000
Barium, total	ug/L	MW-3	04/24/2012		844.0000	*	614.0000
Barium, total	ug/L	MW-3	09/10/2012		201.0000		614.0000
Barium, total	ug/L	MW-3	04/05/2013		727.0000	*	614.0000
Barium, total	ug/L	MW-3	10/10/2013		755.0000	*	614.0000
Barium, total	ug/L	MW-3	04/22/2014		758.0000	*	614.0000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

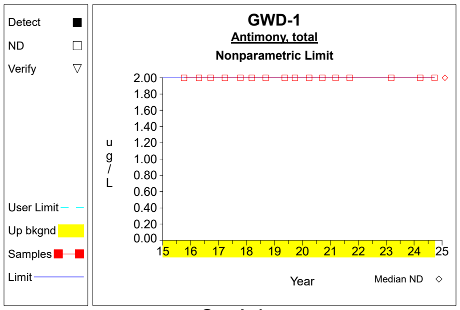
Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

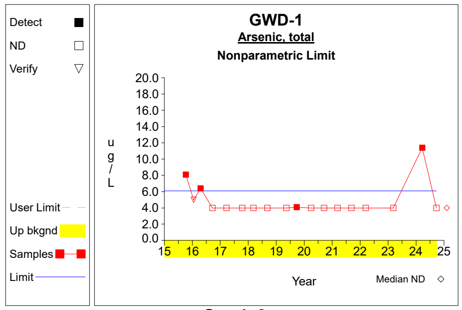
Constituent	Units	Well	Date		Result		Pred. Limit
Barium, total	ug/L	MW-3	09/18/2014		655.0000	*	614.0000
Barium, total	ug/L	MW-3	04/29/2015		761.0000	*	614.0000
Barium, total	ug/L	MW-3	10/07/2015		640.0000	*	614.0000
Barium, total	ug/L	MW-3	04/19/2016		748.0000	*	614.0000
Barium, total	ug/L	MW-3	09/19/2016		784.0000	*	614.0000
Barium, total	ug/L	MW-3	03/21/2017		710.0000	*	614.0000
Barium, total	ug/L	MW-3	10/12/2017		743.0000	*	614.0000
Barium, total	ug/L	MW-3	03/08/2018		1020.0000	*	614.0000
Barium, total	ug/L	MW-3	09/06/2018		796.0000	*	614.0000
Barium, total	ug/L	MW-3	05/13/2019		865.0000	*	614.0000
Barium, total	ug/L	MW-3	09/26/2019		951.0000	*	614.0000
Barium, total	ug/L	MW-3	03/30/2020		867.0000	*	614.0000
Barium, total	ug/L	MW-3	09/17/2020		884.0000	*	614.0000
Barium, total	ug/L	MW-3	03/09/2021		1090.0000	*	614.0000
Barium, total	ug/L	MW-3	09/09/2021		785.0000	*	614.0000
Barium, total	ug/L	MW-3	03/14/2022		843.0000	*	614.0000
Barium, total	ug/L	MW-3	09/01/2022		783.0000	*	614.0000
Barium, total	ug/L	MW-3	03/06/2023		785.0000	*	614.0000
Barium, total	ug/L	MW-3	09/08/2023		730.0000	*	614.0000
Barium, total	ug/L	MW-3	03/20/2024		747.0000	*	614.0000
Barium, total	ug/L	MW-3	09/25/2024		755.0000	*	614.0000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

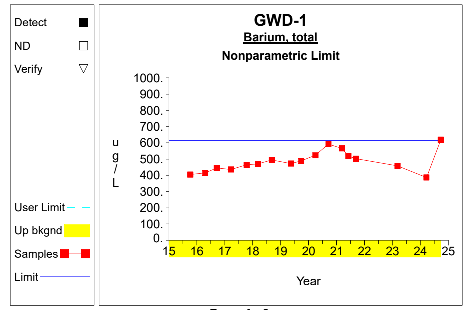
Up vs. Down Prediction Limits



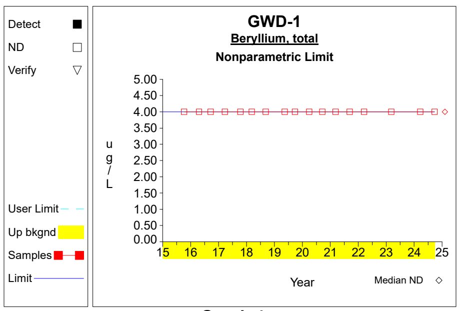
Graph 1



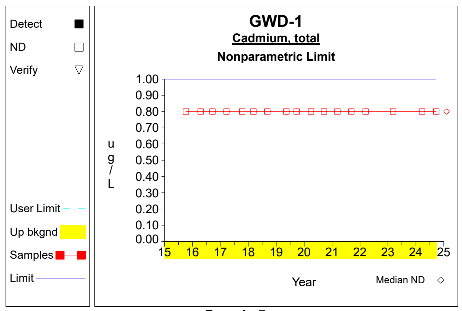
Graph 2



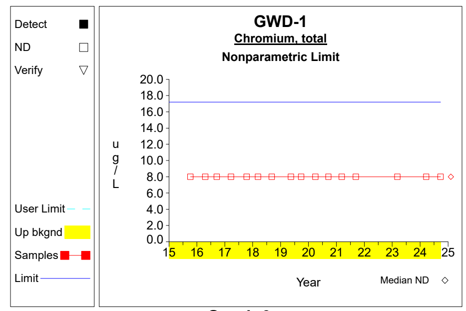
Graph 3



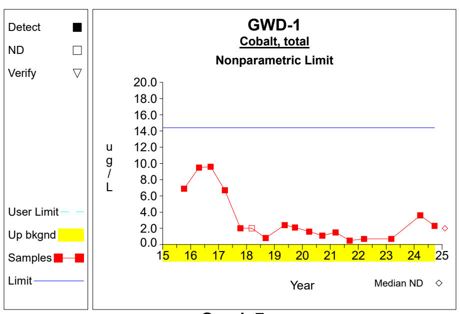
Graph 4



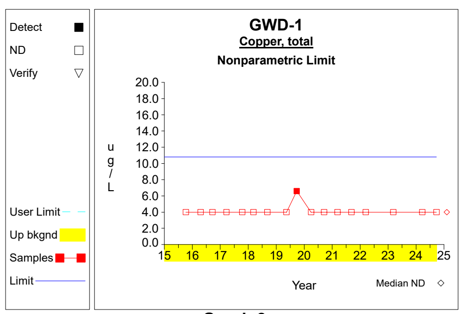
Graph 5



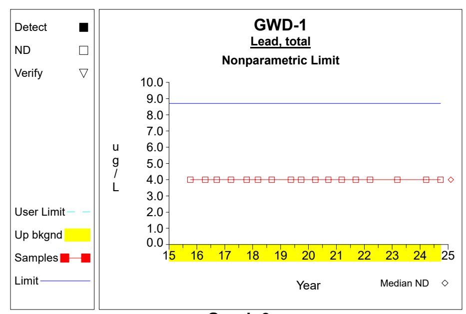
Graph 6



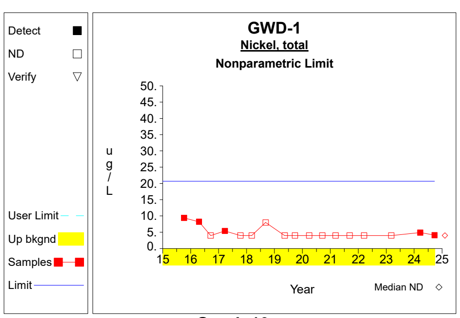
Graph 7



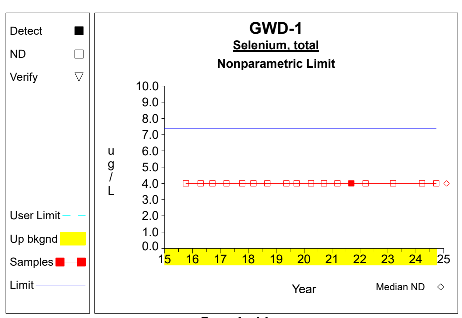
Graph 8



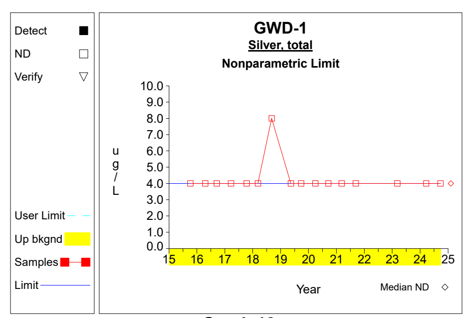
Graph 9



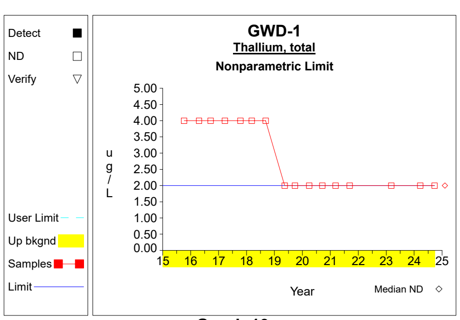
Graph 10



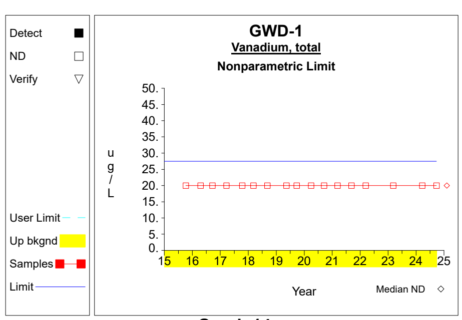
Graph 11



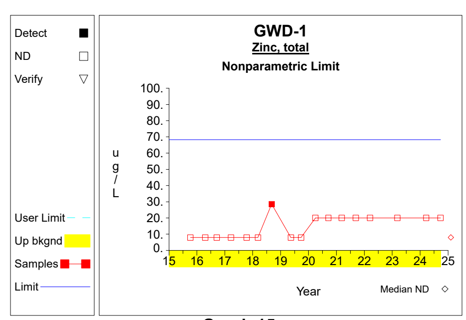
Graph 12



Graph 13

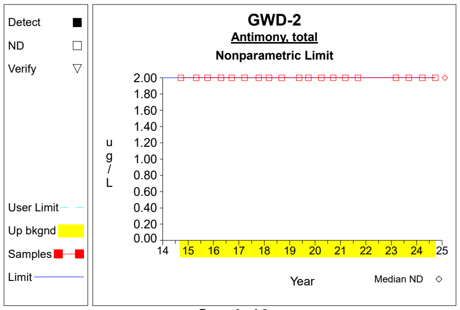


Graph 14

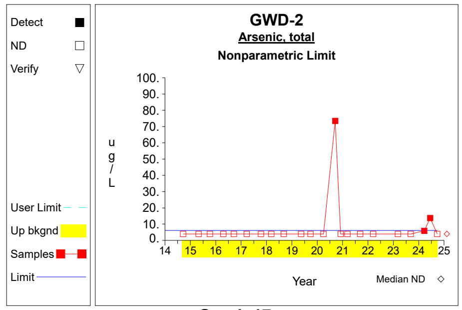


Graph 15

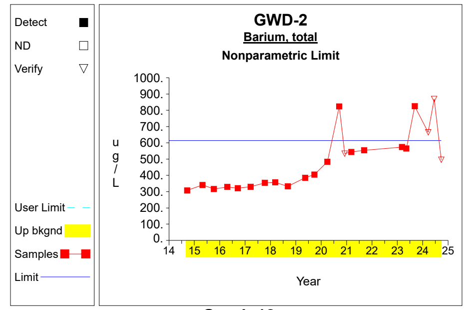
Up vs. Down Prediction Limits



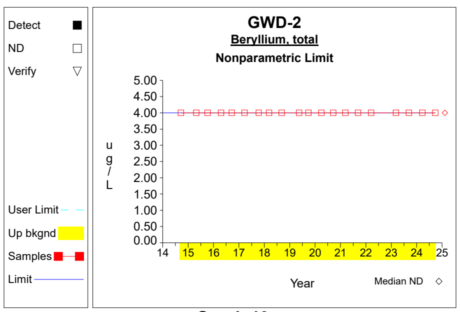
Graph 16



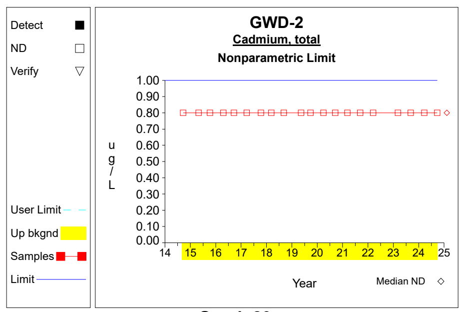
Graph 17



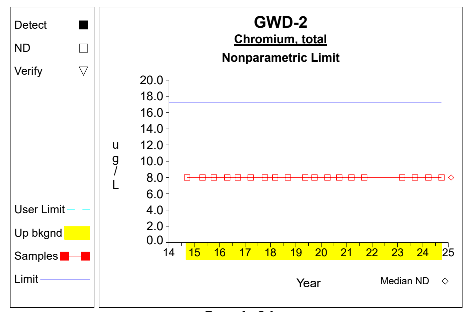
Graph 18



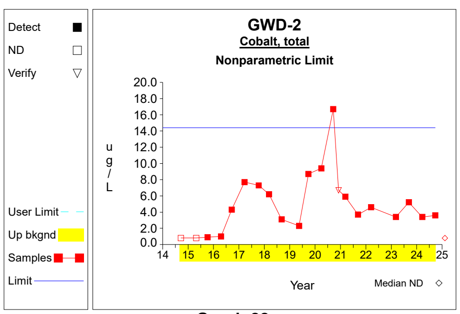
Graph 19



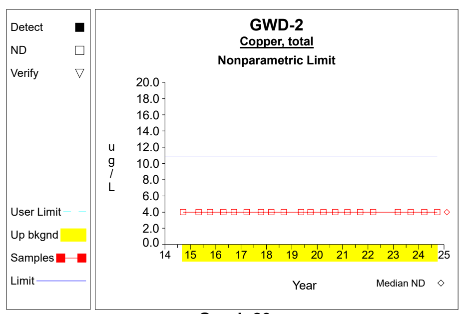
Graph 20



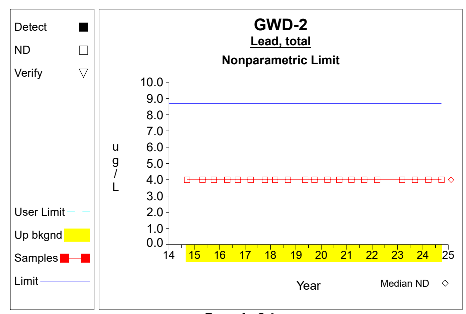
Graph 21



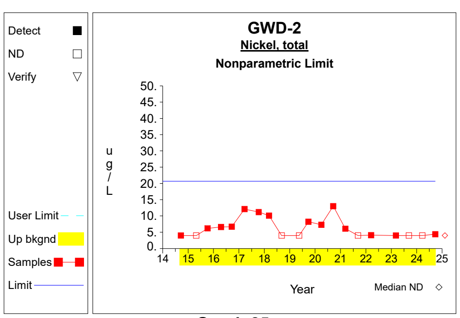
Graph 22



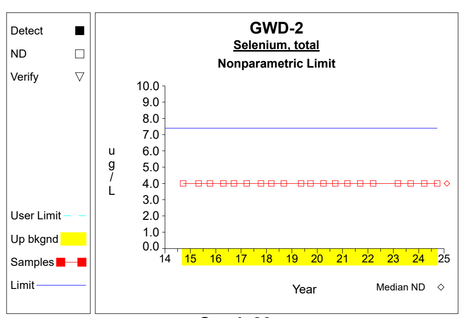
Graph 23



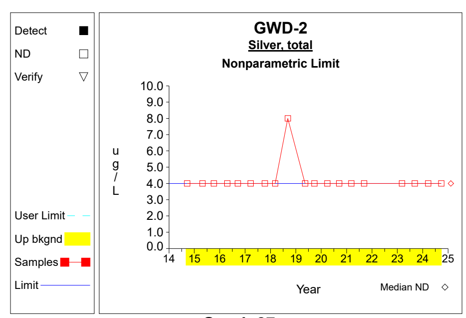
Graph 24



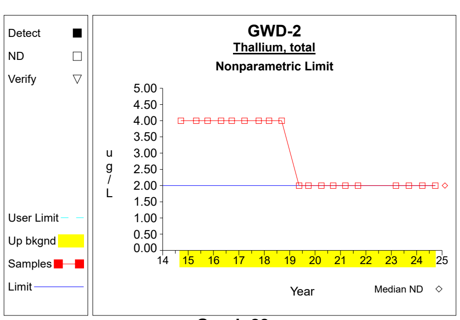
Graph 25



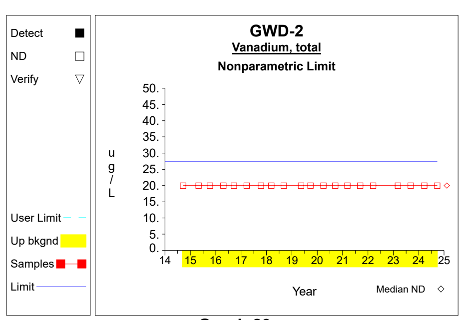
Graph 26



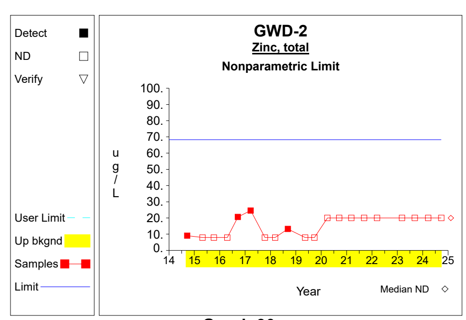
Graph 27



Graph 28

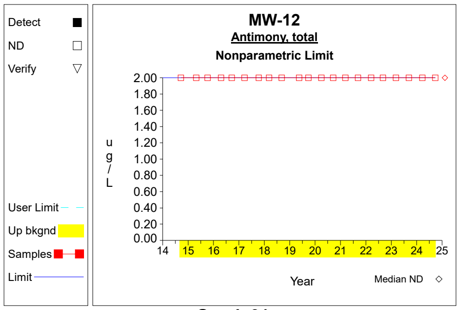


Graph 29

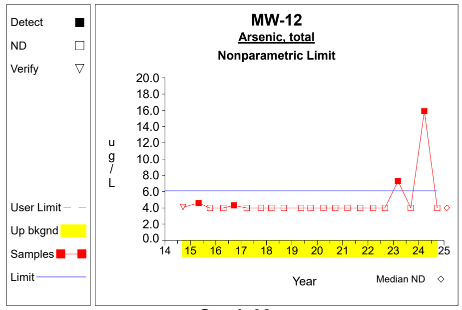


Graph 30

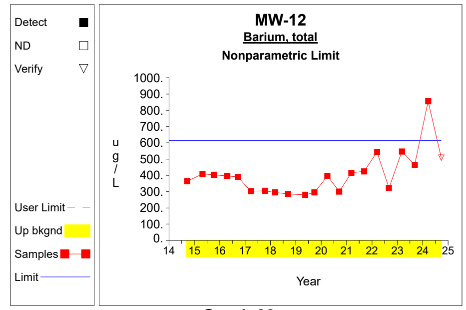
Up vs. Down Prediction Limits



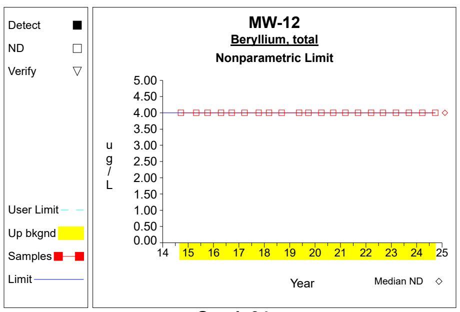
Graph 31



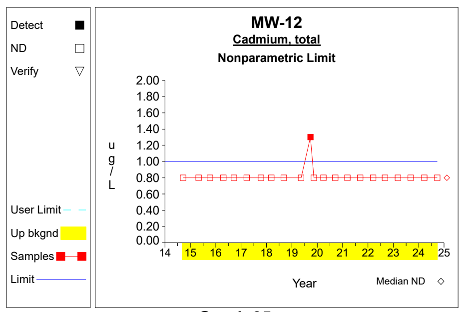
Graph 32



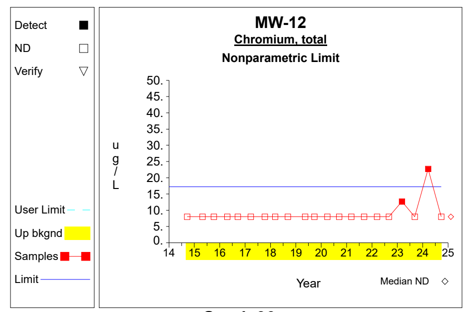
Graph 33



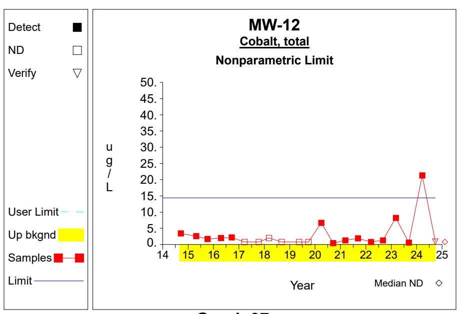
Graph 34



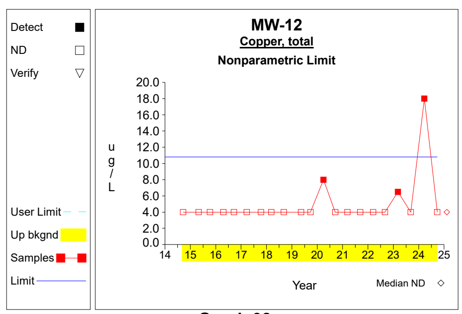
Graph 35



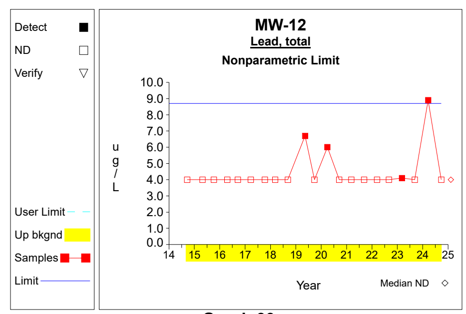
Graph 36



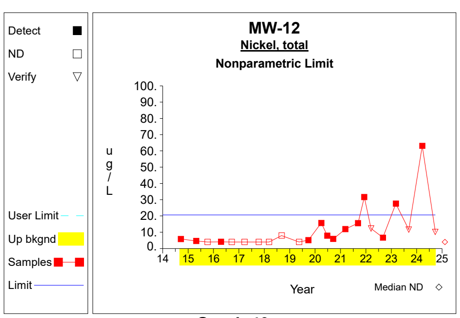
Graph 37



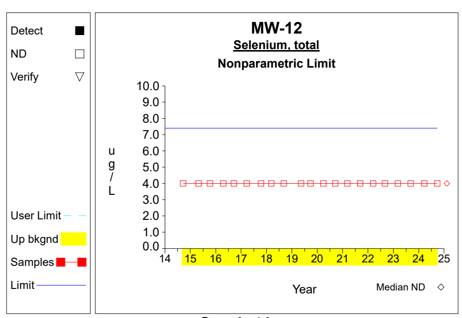
Graph 38



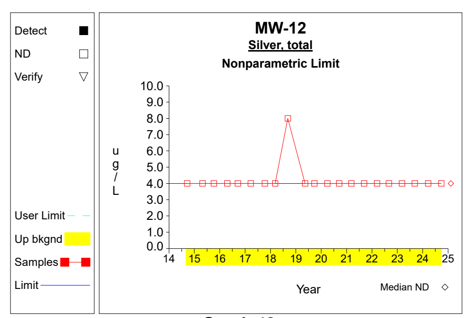
Graph 39



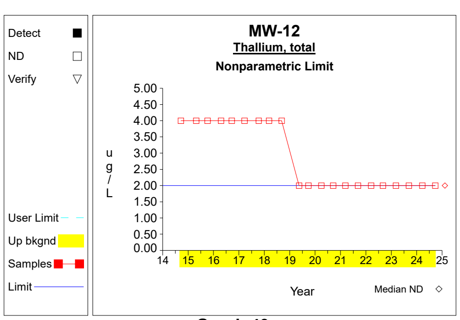
Graph 40



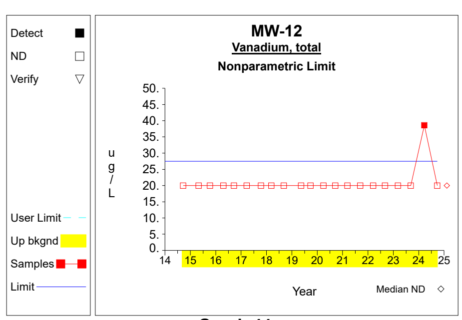
Graph 41



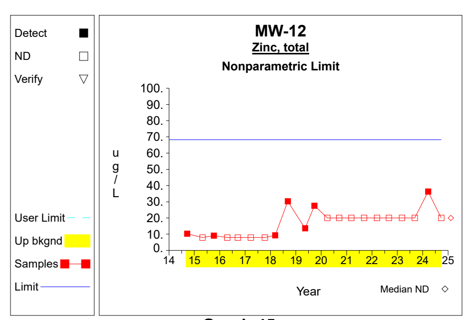
Graph 42



Graph 43

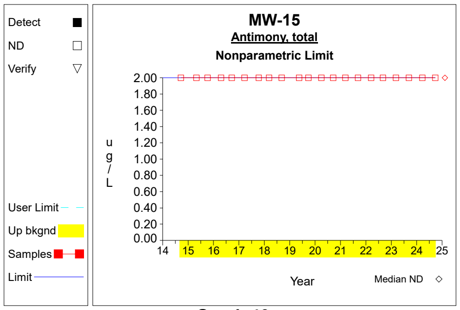


Graph 44

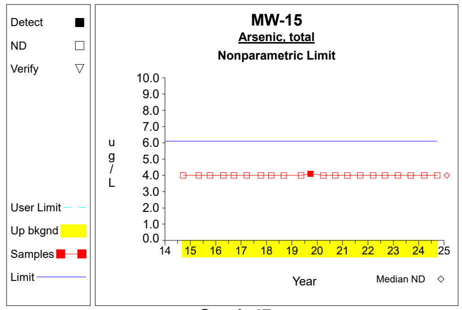


Graph 45

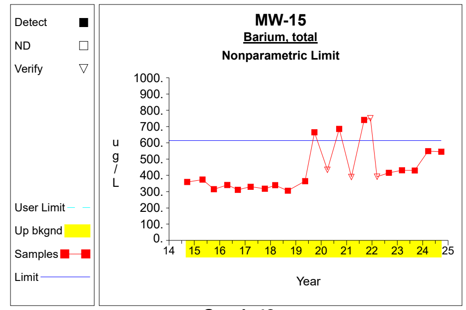
Up vs. Down Prediction Limits



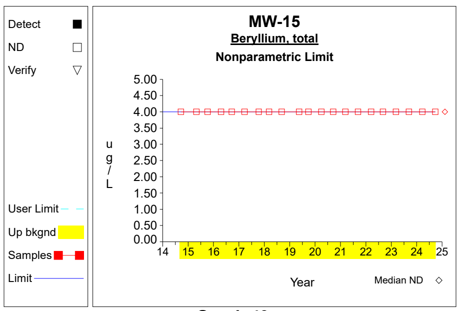
Graph 46



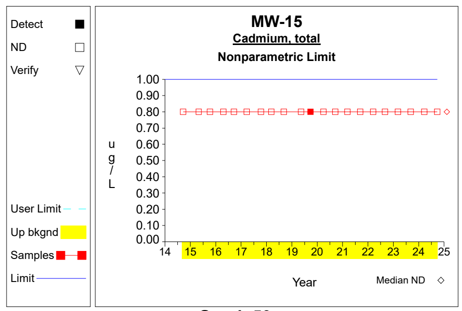
Graph 47



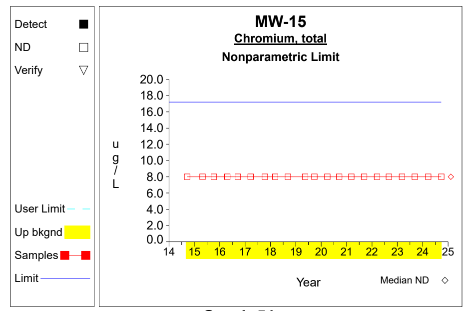
Graph 48



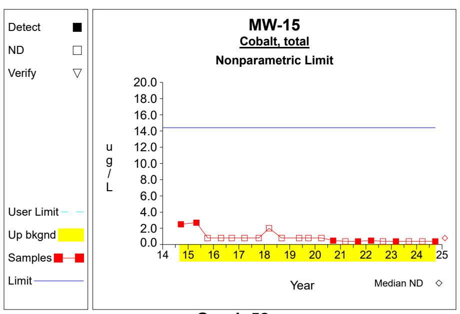
Graph 49



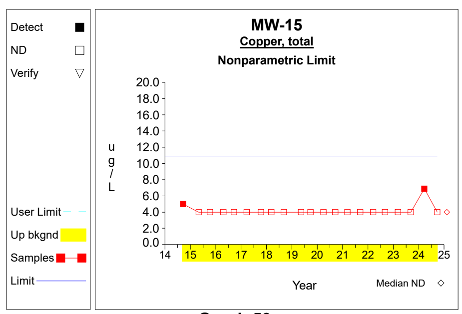
Graph 50



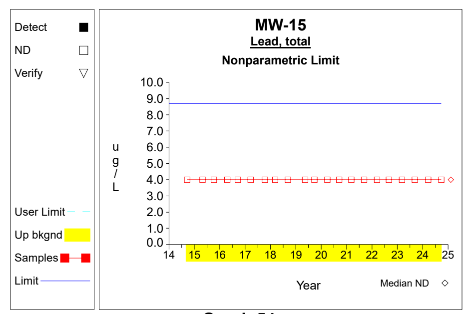
Graph 51



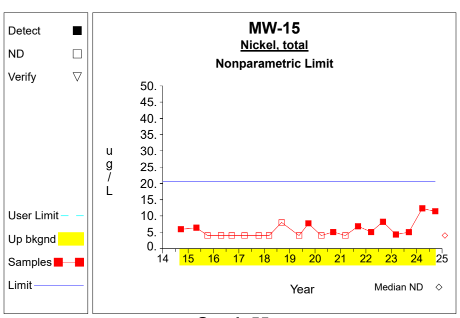
Graph 52



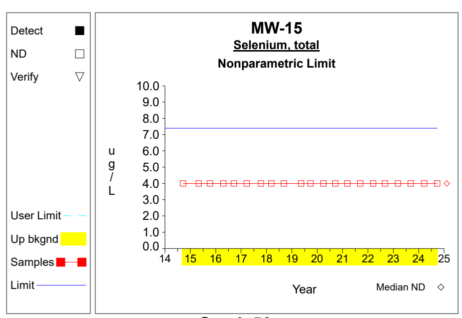
Graph 53



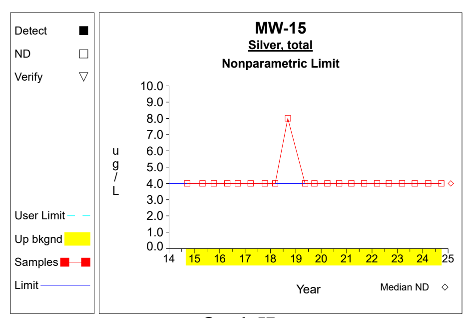
Graph 54



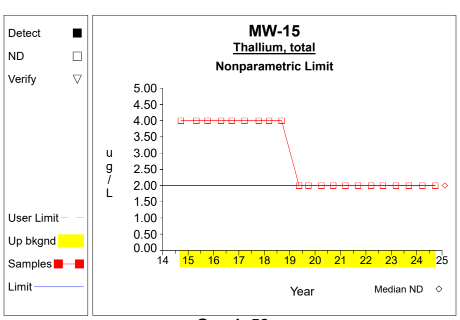
Graph 55



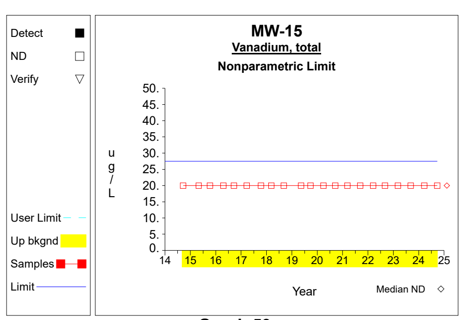
Graph 56



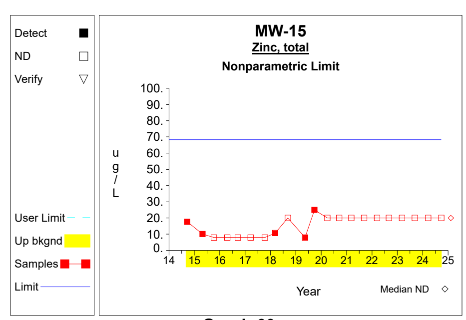
Graph 57



Graph 58

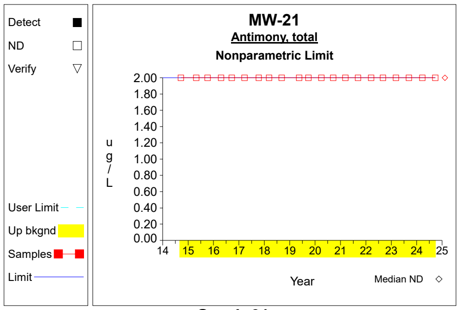


Graph 59

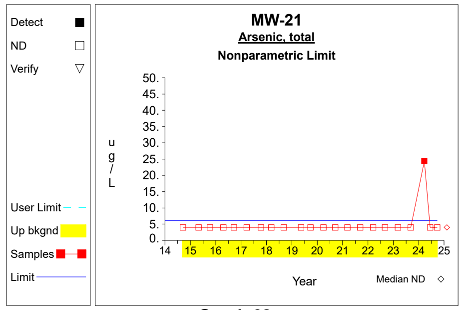


Graph 60

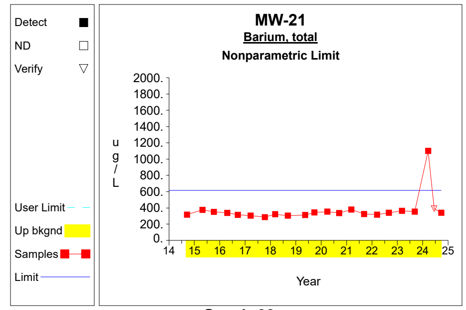
Up vs. Down Prediction Limits



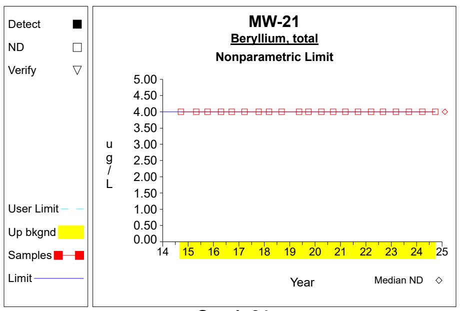
Graph 61



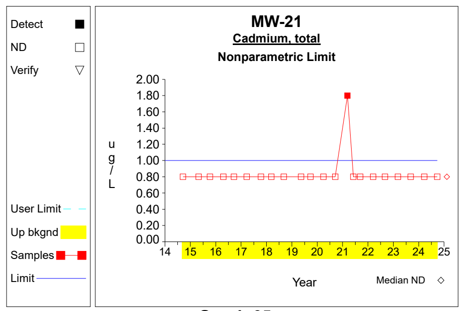
Graph 62



Graph 63



Graph 64



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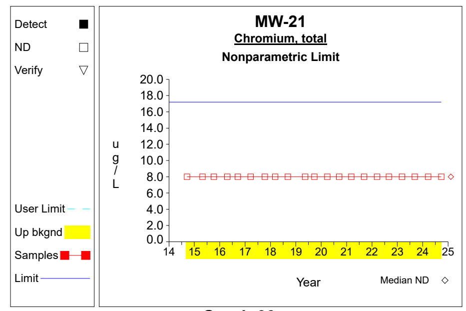
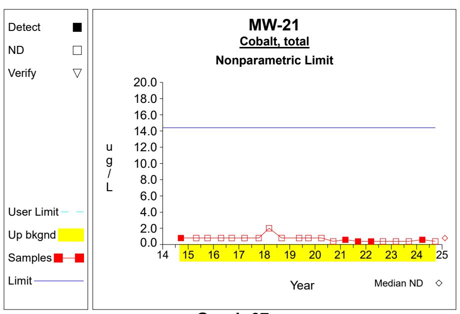
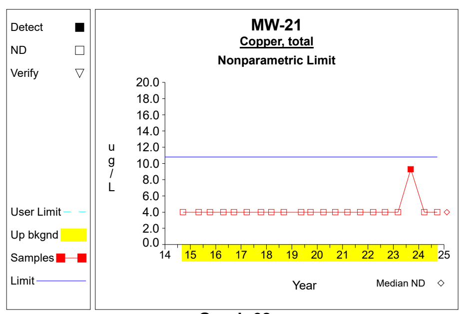


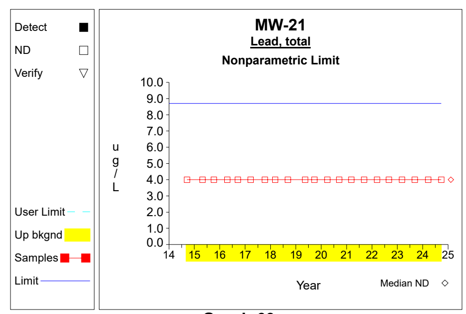
Graph 66



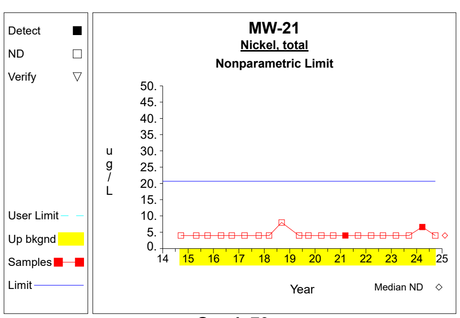
Graph 67



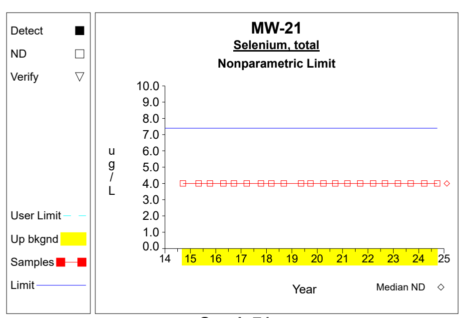
Graph 68



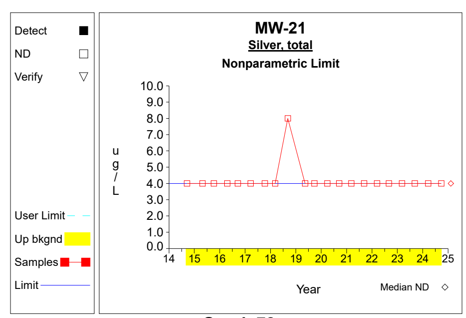
Graph 69



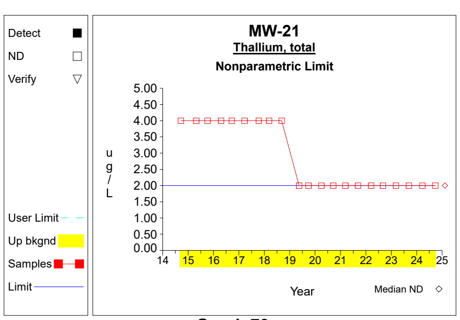
Graph 70



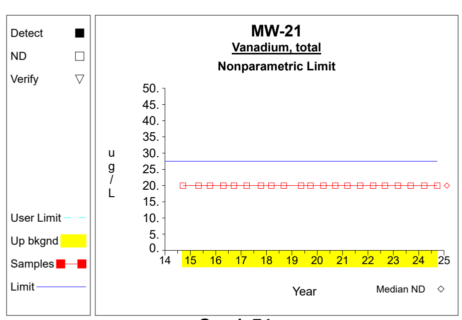
Graph 71



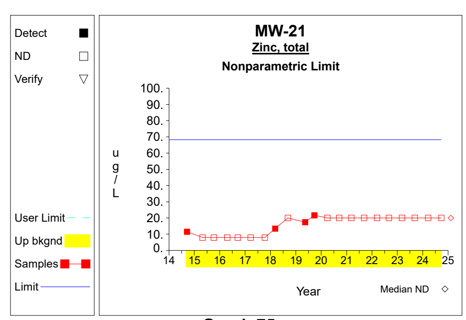
Graph 72



Graph 73

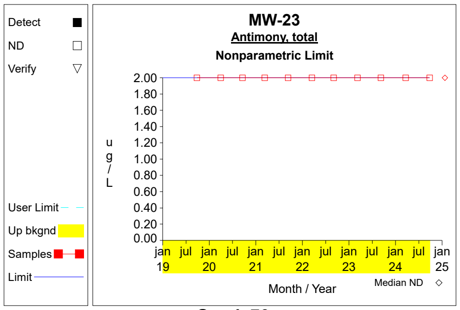


Graph 74

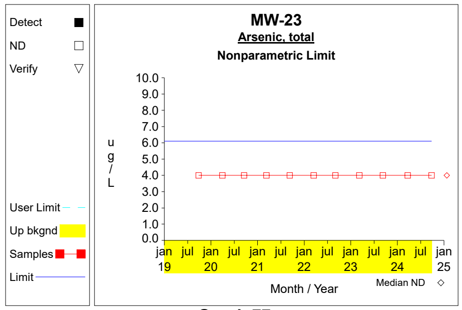


Graph 75

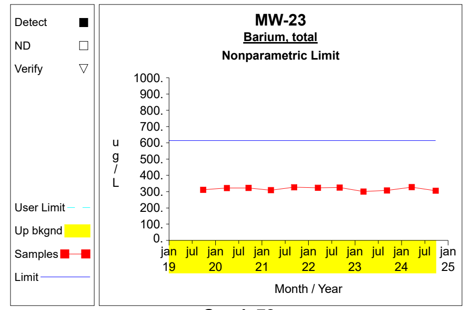
Up vs. Down Prediction Limits



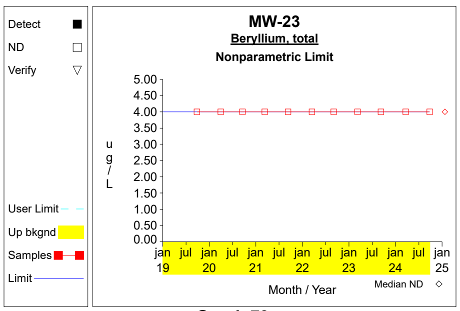
Graph 76



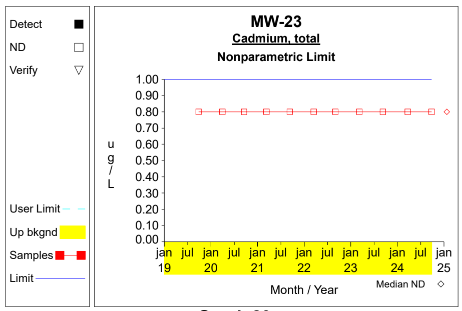
Graph 77



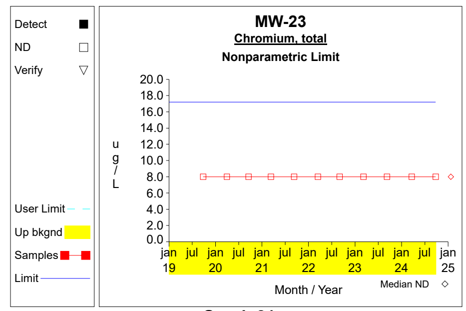
Graph 78



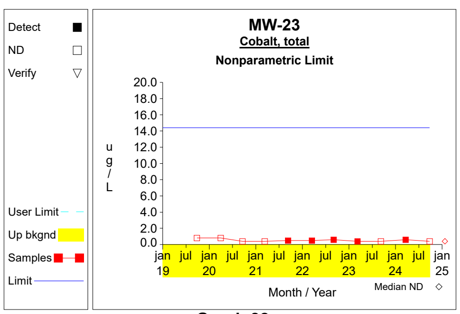
Graph 79



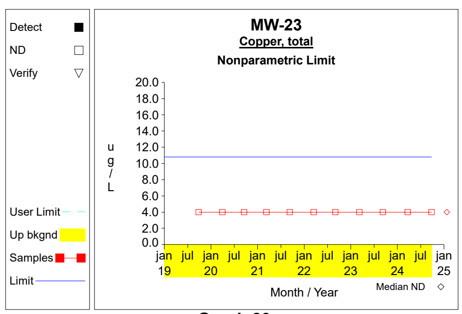
Graph 80



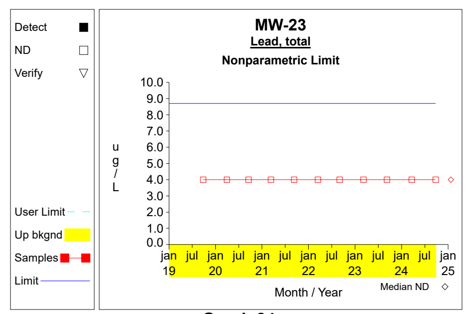
Graph 81



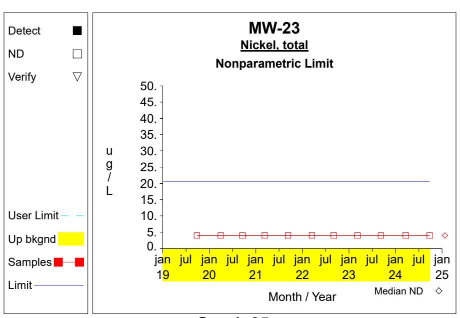
Graph 82



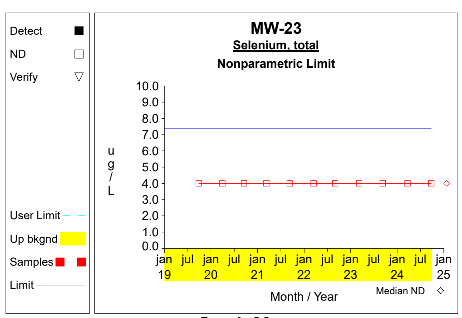
Graph 83



Graph 84



Graph 85



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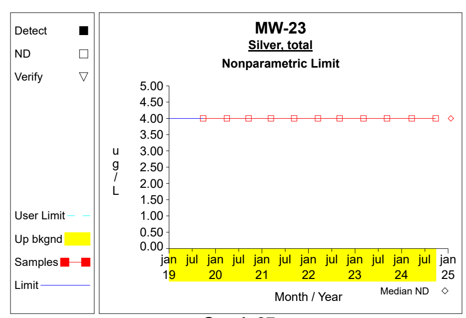
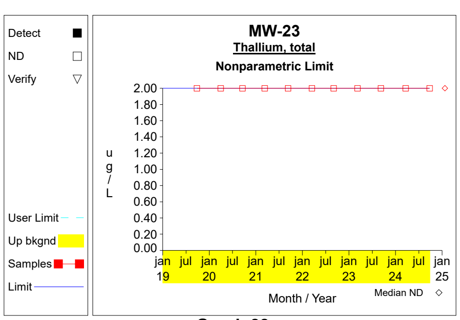
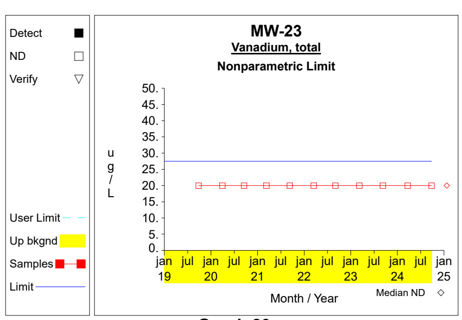


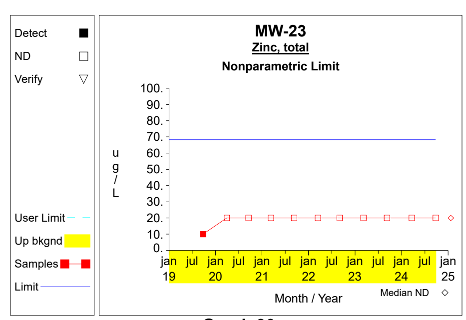
Graph 87



Graph 88

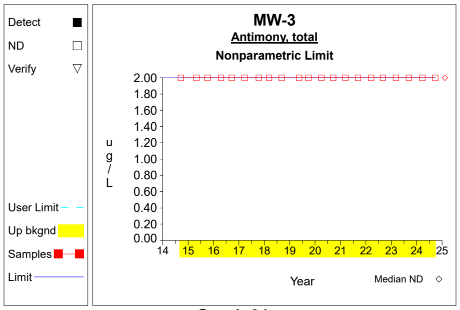


Graph 89

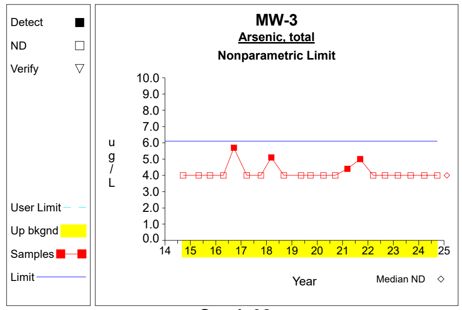


Graph 90

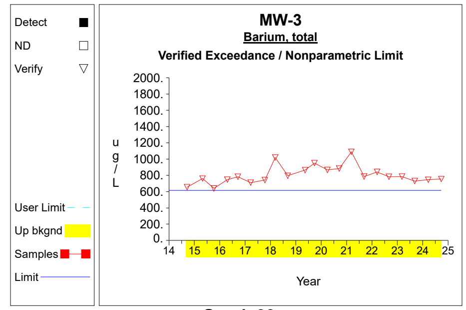
Up vs. Down Prediction Limits



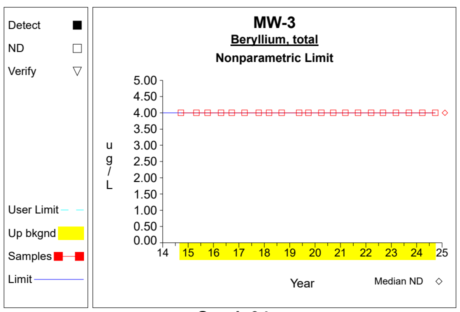
Graph 91



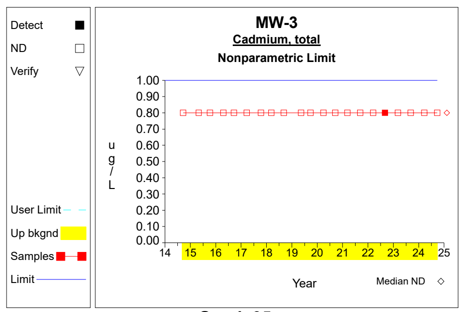
Graph 92



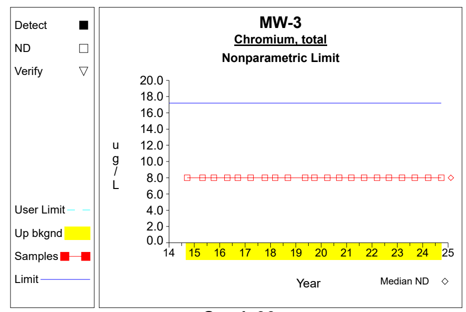
Graph 93



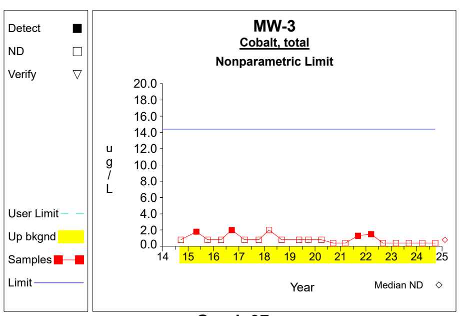
Graph 94



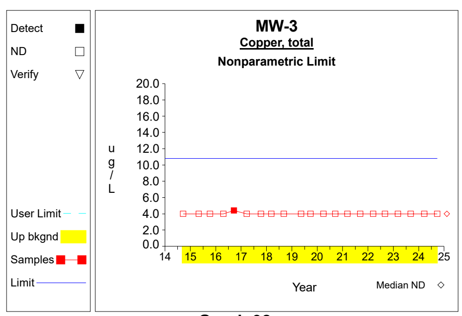
Graph 95



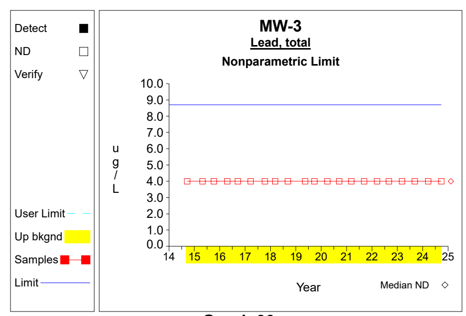
Graph 96



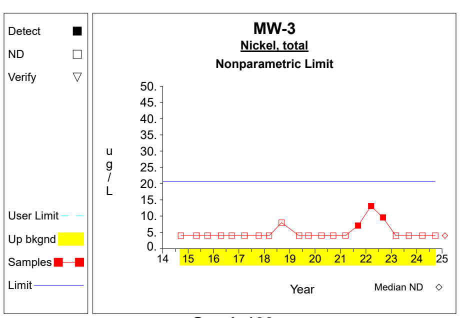
Graph 97



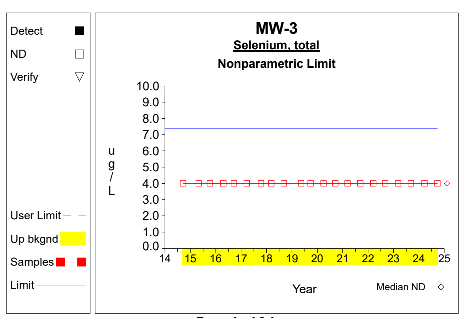
Graph 98



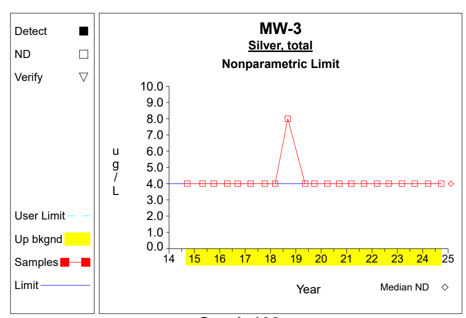
Graph 99



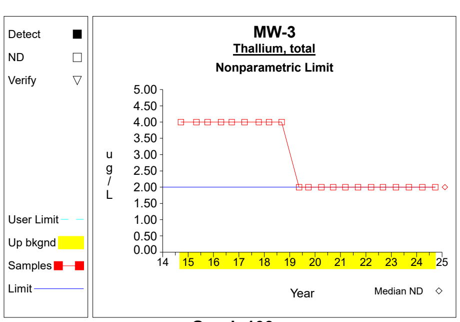
Graph 100



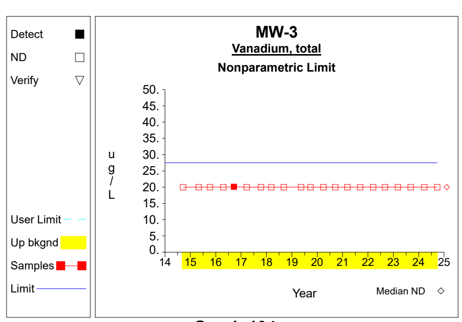
Graph 101



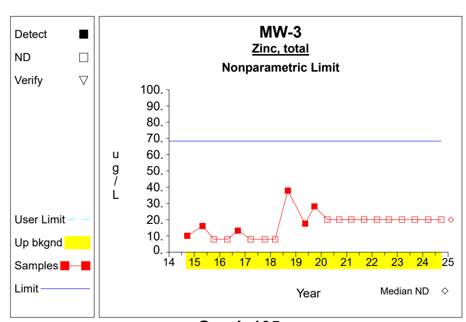
Graph 102



Graph 103

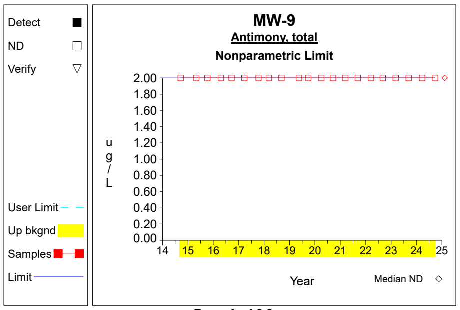


Graph 104

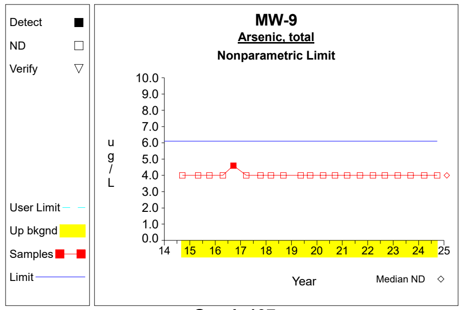


Graph 105

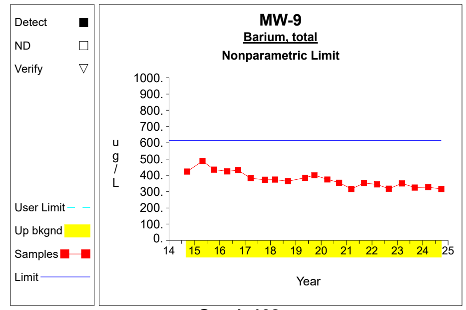
Up vs. Down Prediction Limits



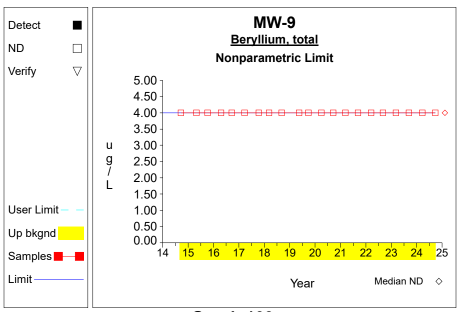
Graph 106



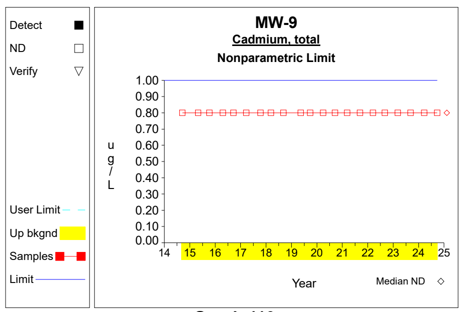
Graph 107



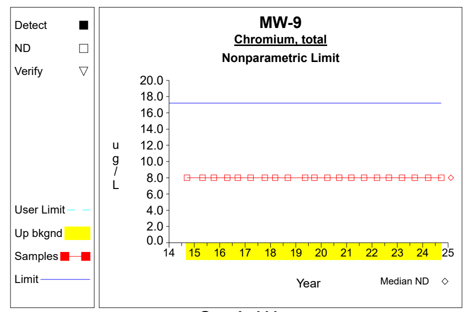
Graph 108



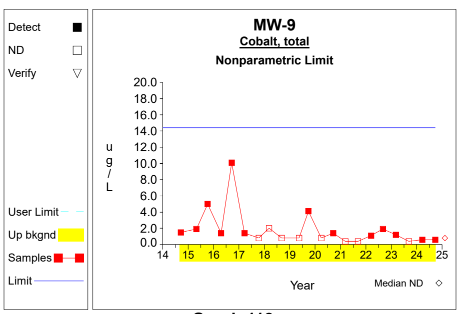
Graph 109



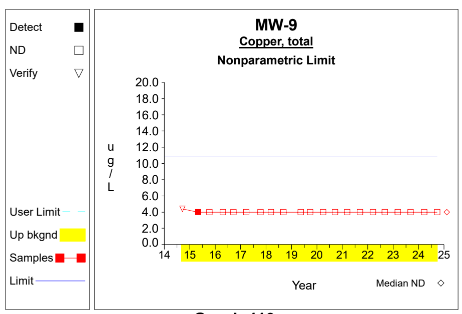
Graph 110



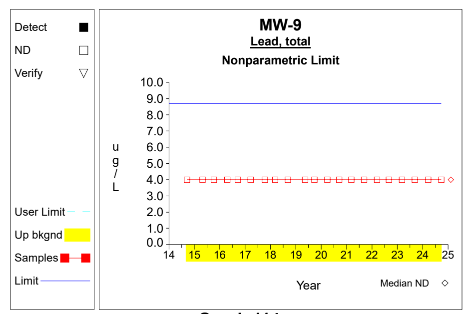
Graph 111



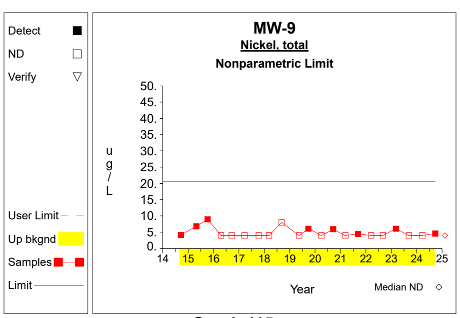
Graph 112



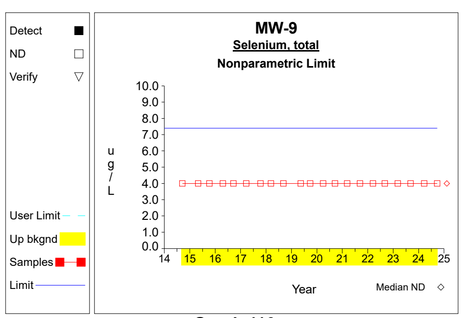
Graph 113



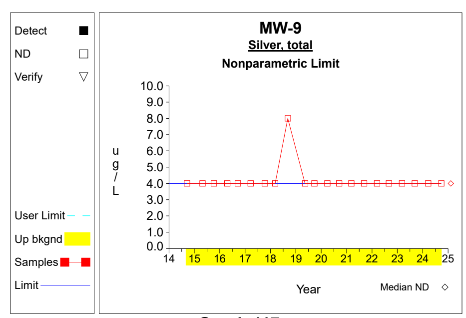
Graph 114



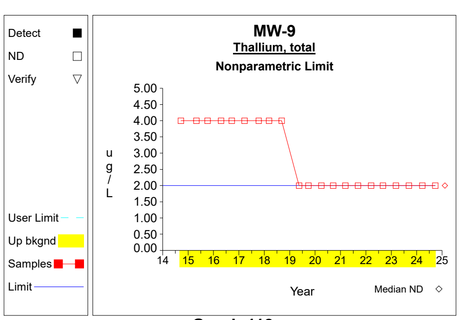
Graph 115



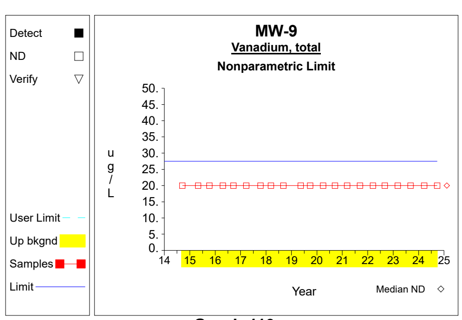
Graph 116



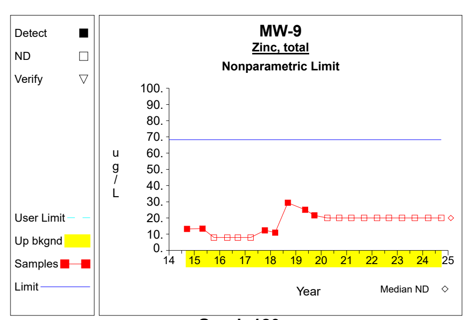
Graph 117



Graph 118

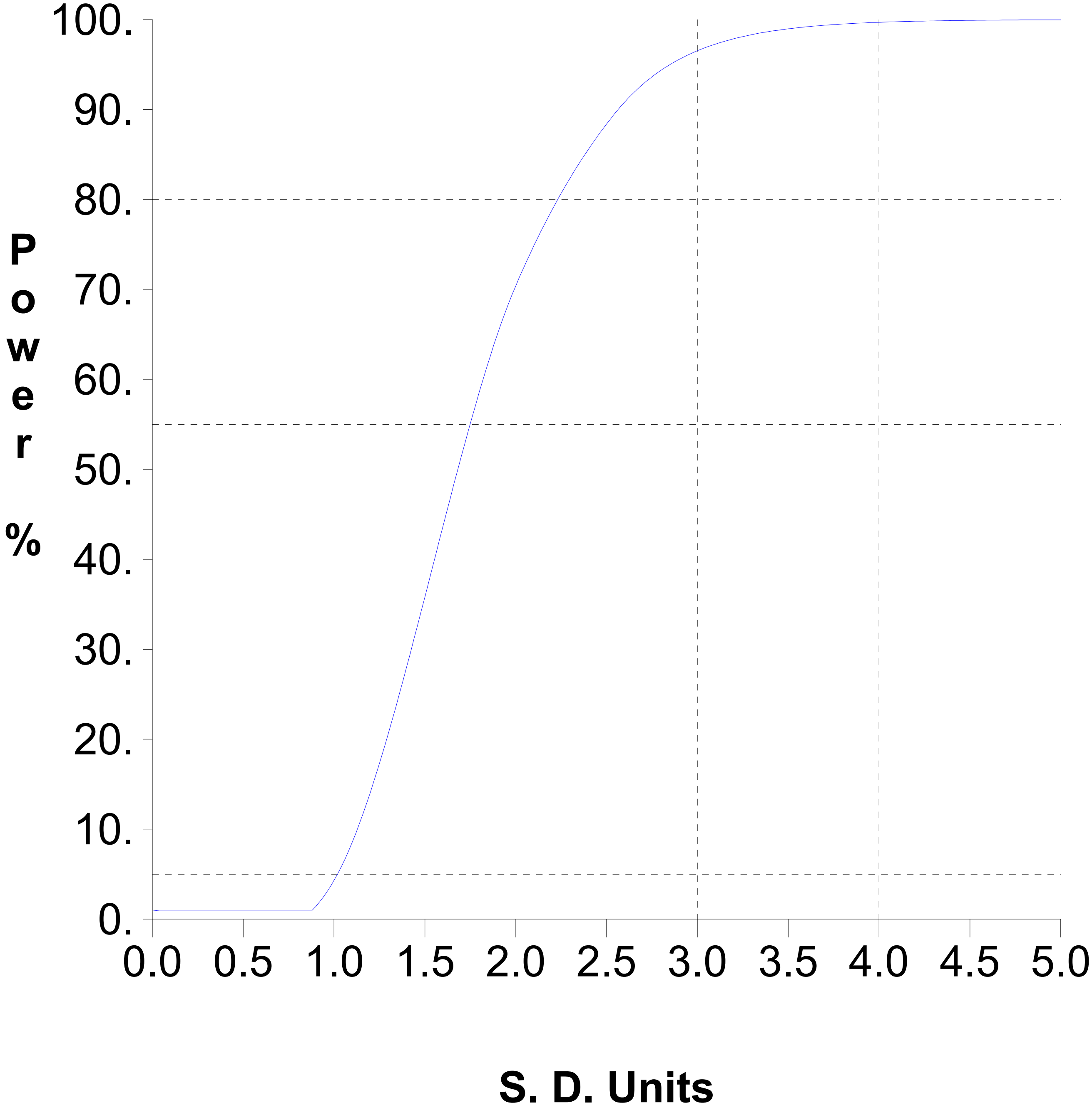


Graph 119



Graph 120

False Positive and False Negative Rates for Current Upgradient vs. Downgradient Monitoring Program



Worksheet 1 - Upgradient vs. Downgradient Comparisons
Antimony, total (ug/L)
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X)	Compute nonparametric prediction limit as median reporting limit in background.
	= **2.0**	
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 1 - Upgradient vs. Downgradient Comparisons
Arsenic, total (ug/L)
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = max(X)	Compute nonparametric prediction limit as largest background measurement.
	= **6.1**	
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 1 - Upgradient vs. Downgradient Comparisons
Barium, total (ug/L)
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = max(X)	Compute nonparametric prediction limit as largest background measurement.
	= **614.0**	
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 1 - Upgradient vs. Downgradient Comparisons
Beryllium, total (ug/L)
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X)	Compute nonparametric prediction limit as median reporting limit in background.
	= **4.0**	
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 1 - Upgradient vs. Downgradient Comparisons
Cadmium, total (ug/L)
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = max(X) = **1.0**	Compute nonparametric prediction limit as largest background measurement.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 1 - Upgradient vs. Downgradient Comparisons
Chromium, total (ug/L)
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = max(X) = **17.2**	Compute nonparametric prediction limit as largest background measurement.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 1 - Upgradient vs. Downgradient Comparisons
Cobalt, total (ug/L)
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = max(X) = **14.4**	Compute nonparametric prediction limit as largest background measurement.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 1 - Upgradient vs. Downgradient Comparisons
Copper, total (ug/L)
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = max(X) = **10.8**	Compute nonparametric prediction limit as largest background measurement.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 1 - Upgradient vs. Downgradient Comparisons
Lead, total (ug/L)
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = max(X) = **8.7**	Compute nonparametric prediction limit as largest background measurement.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 1 - Upgradient vs. Downgradient Comparisons
Nickel, total (ug/L)
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = max(X) = **20.7**	Compute nonparametric prediction limit as largest background measurement.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 1 - Upgradient vs. Downgradient Comparisons
Selenium, total (ug/L)
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = max(X) = **7.4**	Compute nonparametric prediction limit as largest background measurement.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 1 - Upgradient vs. Downgradient Comparisons
Silver, total (ug/L)
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X) = **4.0**	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 1 - Upgradient vs. Downgradient Comparisons
Thallium, total (ug/L)
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X) = **2.0**	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 1 - Upgradient vs. Downgradient Comparisons
Vanadium, total (ug/L)
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = max(X) = **27.5**	Compute nonparametric prediction limit as largest background measurement.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 1 - Upgradient vs. Downgradient Comparisons
Zinc, total (ug/L)
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = max(X) = **68.3**	Compute nonparametric prediction limit as largest background measurement.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Attachment C

Summary Tables and Graphs for the Intrawell Comparisons

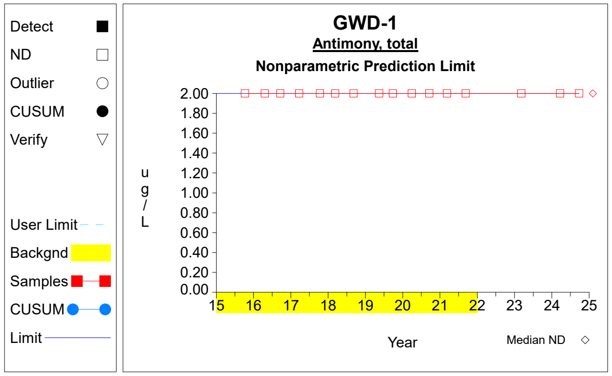
Table 1

Summary Statistics and Intermediate Computations for Combined Shewhart-CUSUM Control Charts

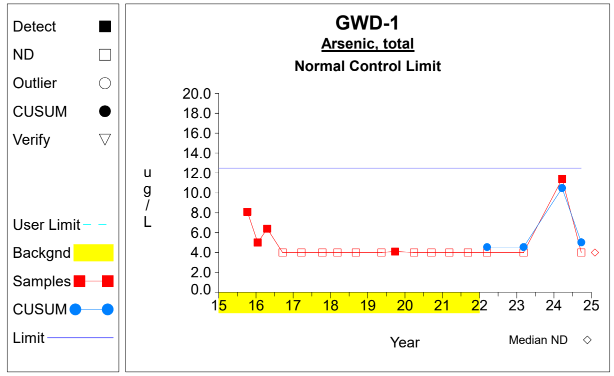
Constituent	Units	Well	N(back)	N(mon)	N(tot)	Mean	SD	R(i-1)	R(i)	S(i-1)	S(i)	Limit	Type	Conf	
Antimony, total	ug/L	GWD-1	13	3	30			2.0000	2.0000			2.0000	nonpar	.99	**
Arsenic, total	ug/L	GWD-1	14	4	32	4.5429	1.2233	11.4000	4.0000	10.4825	5.0222	12.4944	normal		
Barium, total	ug/L	GWD-1	14	3	31	485.4286	53.4383	387.0000	619.0000	485.4286	578.9213	832.7773	normal		
Beryllium, total	ug/L	GWD-1	13	4	31			4.0000	4.0000			4.0000	nonpar	.99	**
Cadmium, total	ug/L	GWD-1	13	4	31			0.8000	0.8000			0.8000	nonpar	.99	**
Chromium, total	ug/L	GWD-1	13	3	30			8.0000	8.0000			8.0000	nonpar	.99	**
Cobalt, total	ug/L	GWD-1	13	4	31	3.5923	3.3195	3.6000	2.3000	3.5923	3.5923	25.1691	normal		
Copper, total	ug/L	GWD-1	13	4	31			4.0000	4.0000			6.6000	nonpar	.99	**
Lead, total	ug/L	GWD-1	13	4	31			4.0000	4.0000			4.0000	nonpar	.99	**
Nickel, total	ug/L	GWD-1	13	4	31			4.9000	4.1000			9.4000	nonpar	.99	**
Selenium, total	ug/L	GWD-1	13	4	31			4.0000	4.0000			4.0000	nonpar	.99	**
Silver, total	ug/L	GWD-1	13	3	30			4.0000	4.0000			4.0000	nonpar	.99	**
Thallium, total	ug/L	GWD-1	13	3	30			2.0000	2.0000			4.0000	nonpar	.99	**
Vanadium, total	ug/L	GWD-1	13	4	31			20.0000	20.0000			20.0000	nonpar	.99	**
Zinc, total	ug/L	GWD-1	13	4	31			20.0000	20.0000			28.6000	nonpar	.99	**
Antimony, total	ug/L	GWD-2	13	6	21			2.0000	2.0000			2.0000	nonpar	.99	**
Arsenic, total	ug/L	GWD-2	12	9	24								nonpar *		**
Barium, total	ug/L	GWD-2	13	9	24	391.2308	138.4149	870.0000	496.0000	1561.8950	1187.8950	1290.9278	normal		
Beryllium, total	ug/L	GWD-2	13	7	22			4.0000	4.0000			4.0000	nonpar	.99	**
Cadmium, total	ug/L	GWD-2	13	7	22			0.8000	0.8000			0.8000	nonpar	.99	**
Chromium, total	ug/L	GWD-2	13	6	21			8.0000	8.0000			8.0000	nonpar	.99	**
Cobalt, total	ug/L	GWD-2	13	8	23	5.3231	4.6734	3.4000	3.6000	5.3231	5.3231	35.6999	normal		
Copper, total	ug/L	GWD-2	13	7	22			4.0000	4.0000			4.0000	nonpar	.99	**
Lead, total	ug/L	GWD-2	13	7	22			4.0000	4.0000			4.0000	nonpar	.99	**
Nickel, total	ug/L	GWD-2	13	7	22	7.4923	3.2214	4.0000	4.4000	7.4923	7.4923	28.4314	normal		
Selenium, total	ug/L	GWD-2	13	7	22			4.0000	4.0000			4.0000	nonpar	.99	**
Silver, total	ug/L	GWD-2	13	6	21			4.0000	4.0000			4.0000	nonpar	.99	**
Thallium, total	ug/L	GWD-2	13	6	21			2.0000	2.0000			4.0000	nonpar	.99	**
Vanadium, total	ug/L	GWD-2	13	7	22			20.0000	20.0000			20.0000	nonpar	.99	**
Zinc, total	ug/L	GWD-2	13	7	22	10.7308	5.5199	20.0000	20.0000	10.7308	10.7308	46.6099	normal		

N(back) and N(mon) = Non-outlier measurements in the background and monitoring periods.
N(tot) = All independent measurements for that constituent and well.
For transformed data, mean and SD in transformed units and control limit in original units.
Conf = confidence level for passing initial test or one verification resample (nonparametric test only).
* - Insufficient Data.
** - Detection Frequency < 25%.
*** - Zero Variance.

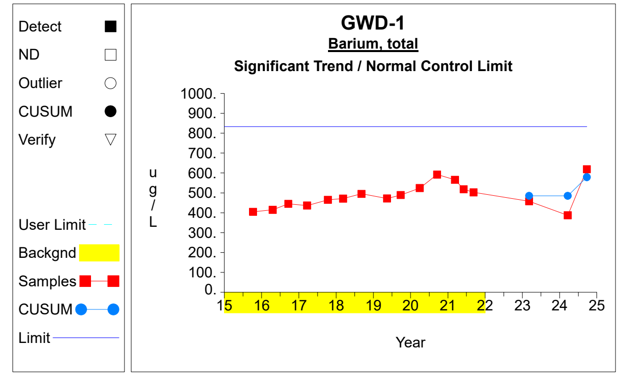
Intra-Well Control Charts / Prediction Limits



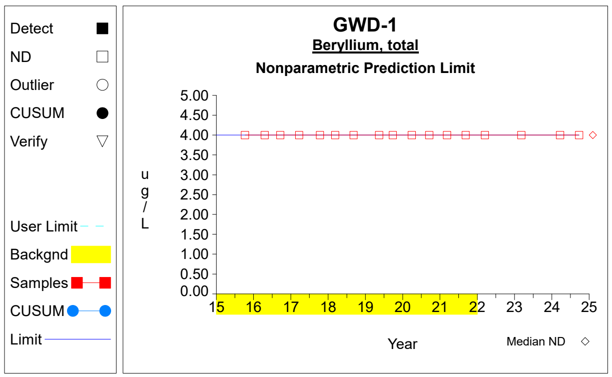
Graph 1



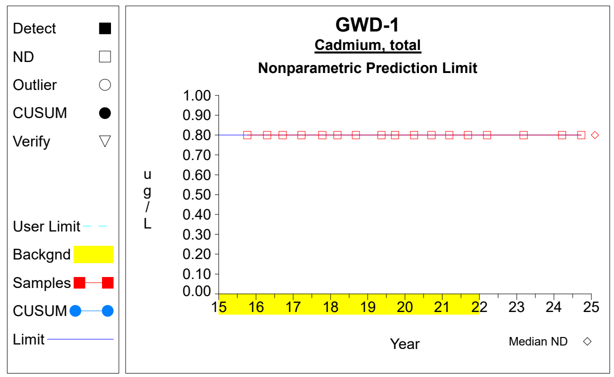
Graph 2



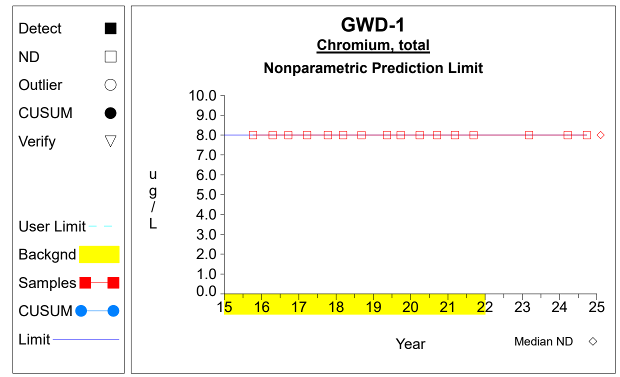
Graph 3



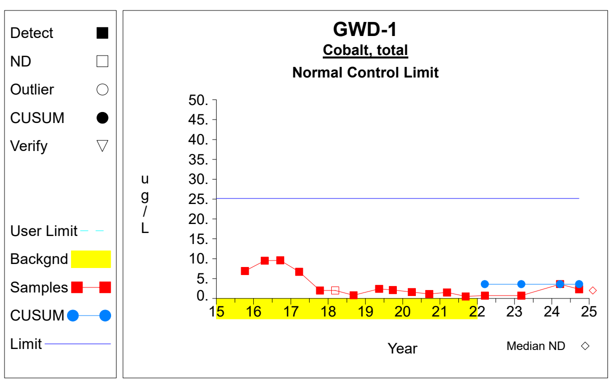
Graph 4



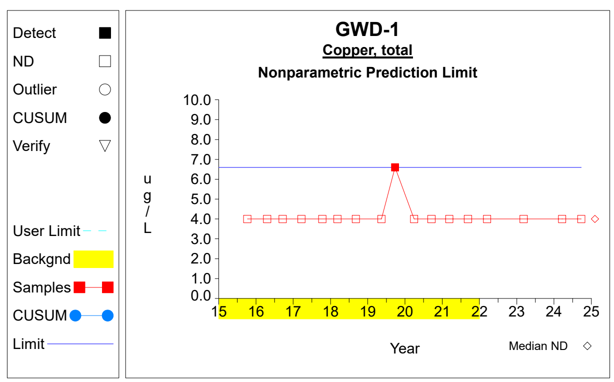
Graph 5



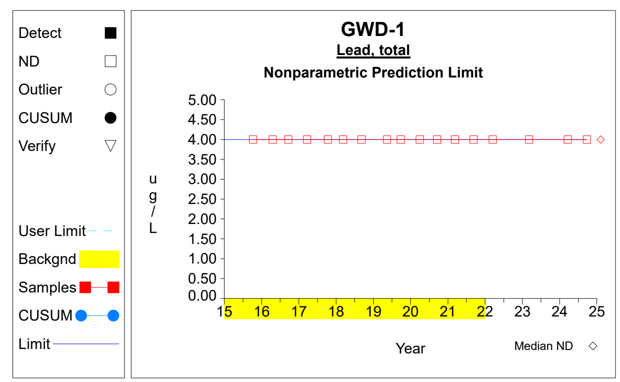
Graph 6



Graph 7

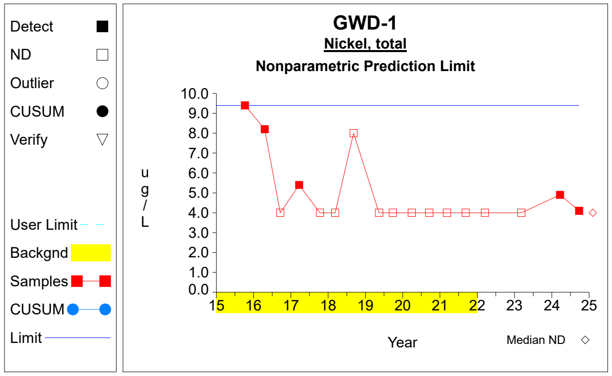


Graph 8

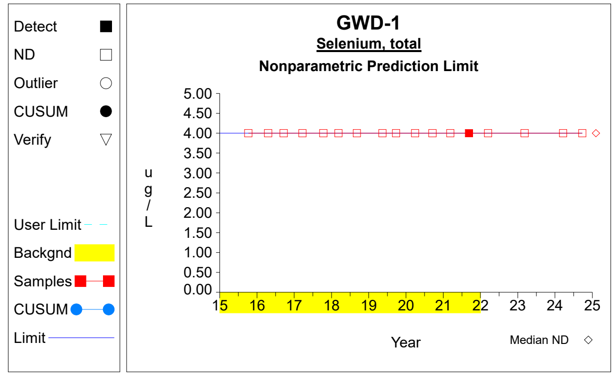


Graph 9

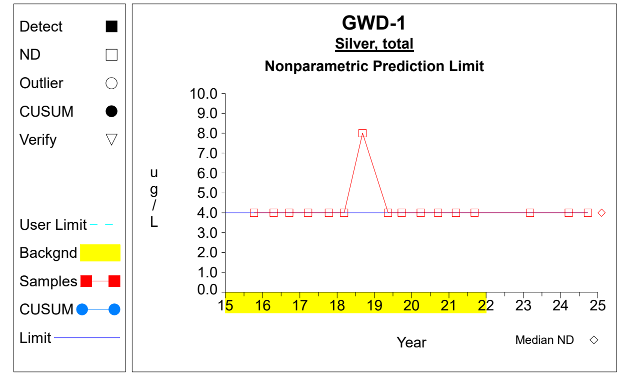
Intra-Well Control Charts / Prediction Limits



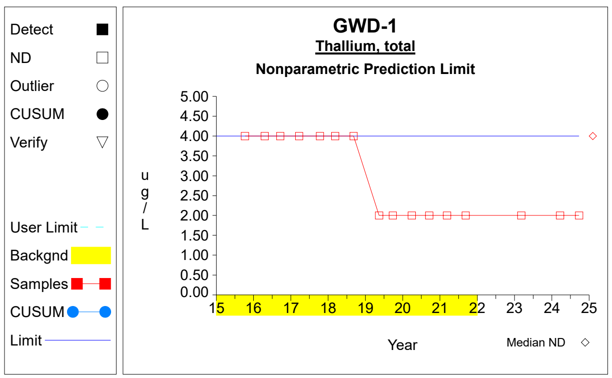
Graph 10



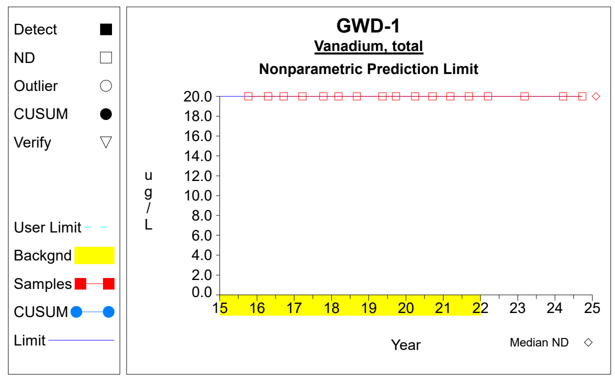
Graph 11



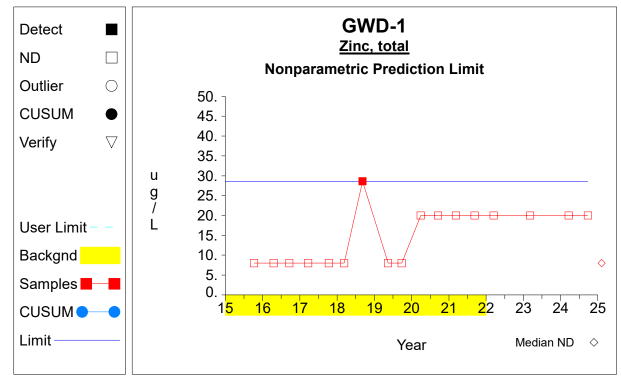
Graph 12



Graph 13



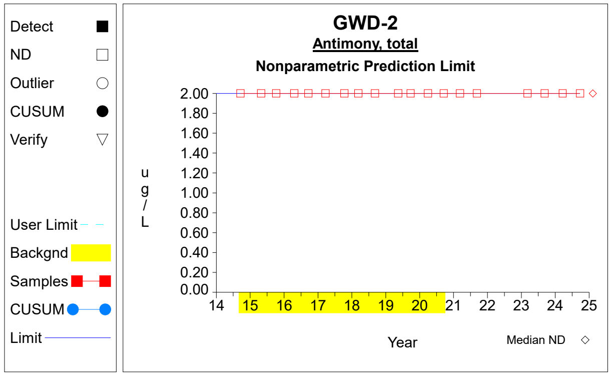
Graph 14



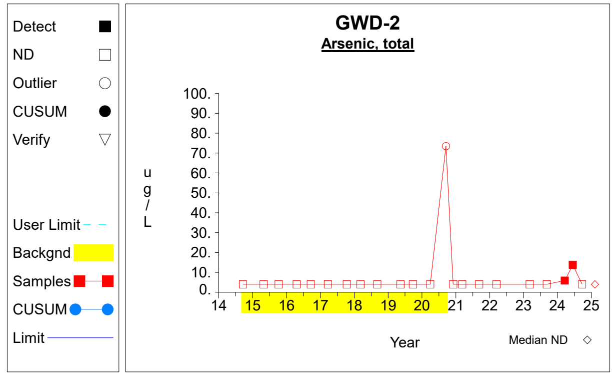
Graph 15

Fremont County [GW] October 2024

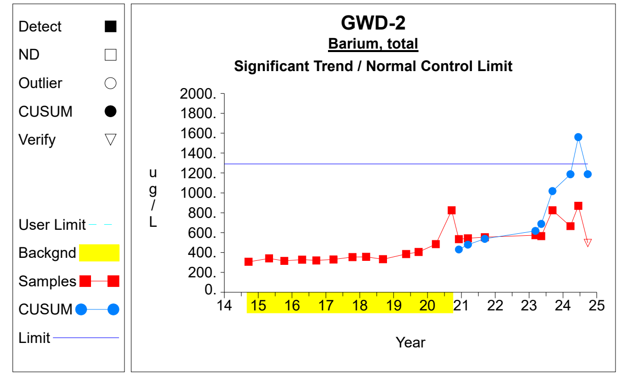
Intra-Well Control Charts / Prediction Limits



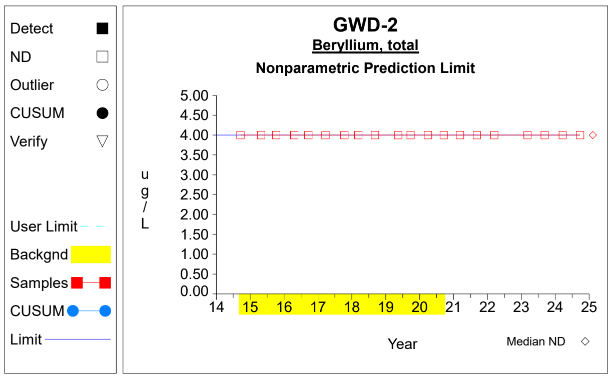
Graph 16



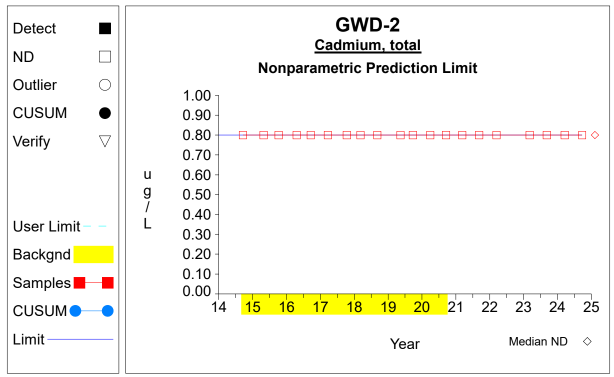
Graph 17



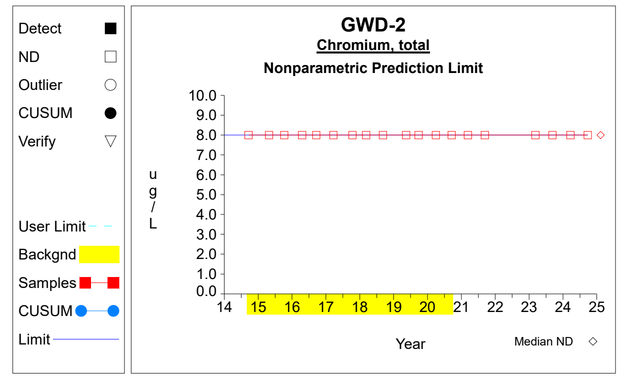
Graph 18



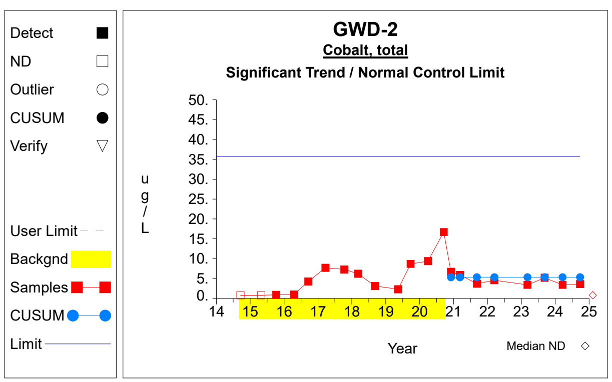
Graph 19



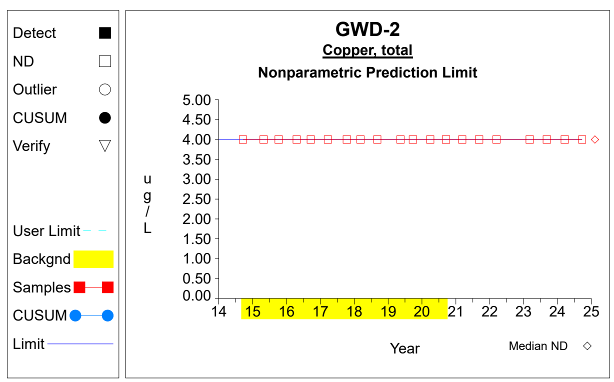
Graph 20



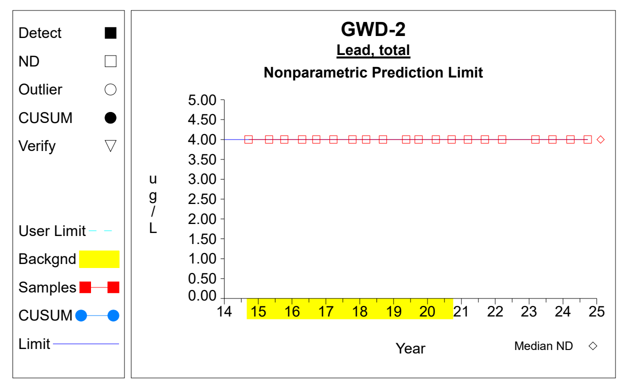
Graph 21



Graph 22



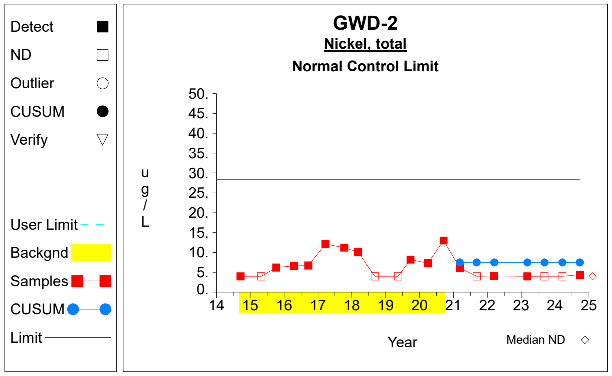
Graph 23



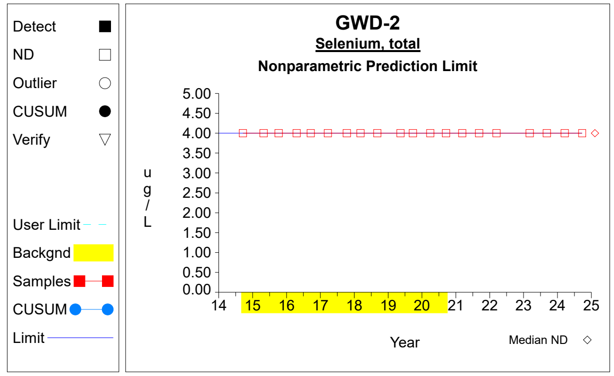
Graph 24

Prepared by: Otter Creek Environmental

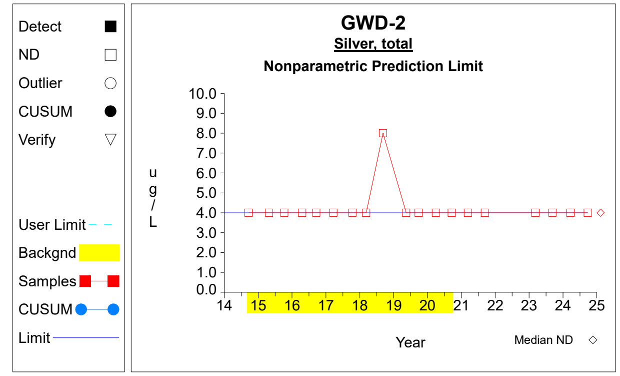
Intra-Well Control Charts / Prediction Limits



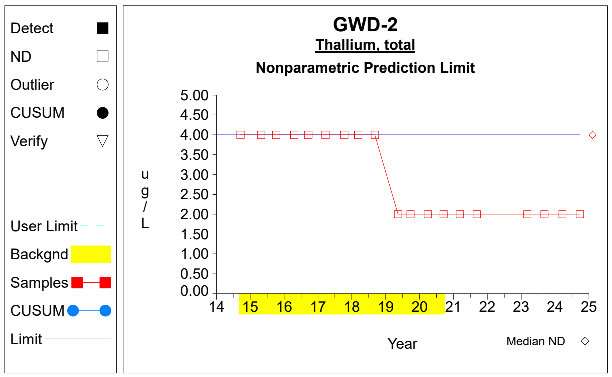
Graph 25



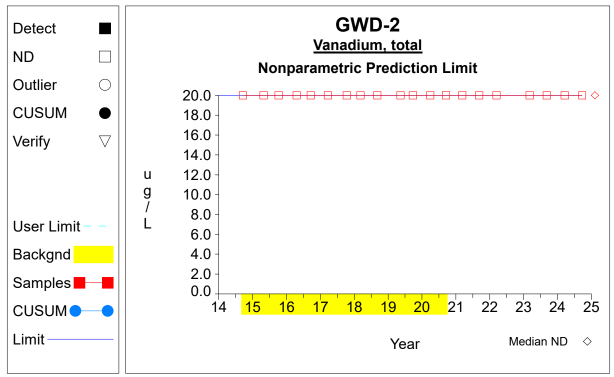
Graph 26



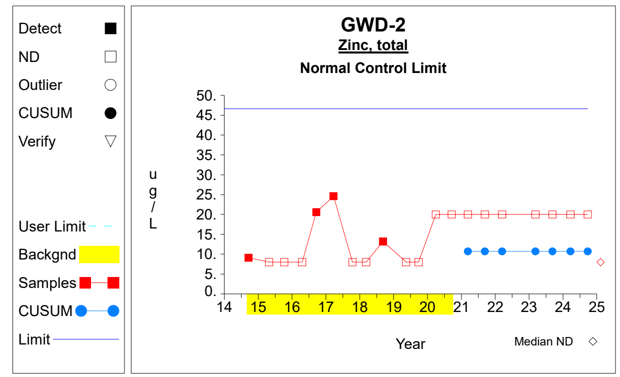
Graph 27



Graph 28



Graph 29



Graph 30

Prepared by: Otter Creek Environmental

False Positive and False Negative Rates for Current Intra-Well Control Charts Monitoring Program

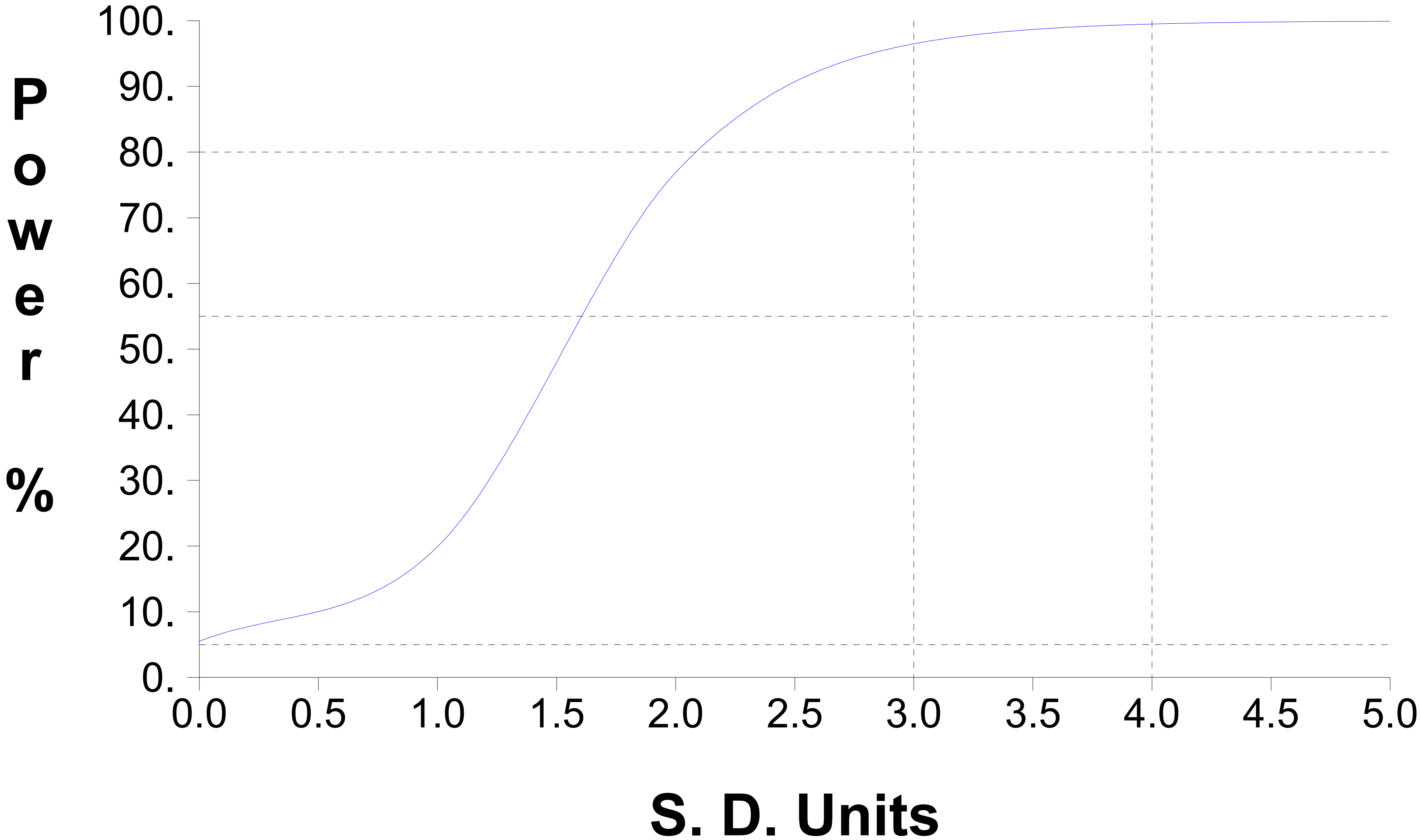


Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Antimony, total	ug/L	GWD-1	10/07/2015	yes	2.0000	ND				
Antimony, total	ug/L	GWD-1	04/19/2016	yes	2.0000	ND				
Antimony, total	ug/L	GWD-1	09/19/2016	yes	2.0000	ND				
Antimony, total	ug/L	GWD-1	03/21/2017	yes	2.0000	ND				
Antimony, total	ug/L	GWD-1	10/12/2017	yes	2.0000	ND				
Antimony, total	ug/L	GWD-1	03/08/2018	yes	2.0000	ND				
Antimony, total	ug/L	GWD-1	09/06/2018	yes	2.0000	ND				
Antimony, total	ug/L	GWD-1	05/13/2019	yes	2.0000	ND				
Antimony, total	ug/L	GWD-1	09/26/2019	yes	2.0000	ND				
Antimony, total	ug/L	GWD-1	03/30/2020	yes	2.0000	ND				
Antimony, total	ug/L	GWD-1	09/17/2020	yes	2.0000	ND				
Antimony, total	ug/L	GWD-1	03/09/2021	yes	2.0000	ND				
Antimony, total	ug/L	GWD-1	09/09/2021	yes	2.0000	ND				
Antimony, total	ug/L	GWD-1	03/06/2023		2.0000	ND				
Antimony, total	ug/L	GWD-1	03/20/2024		2.0000	ND				
Antimony, total	ug/L	GWD-1	09/25/2024		2.0000	ND				
Arsenic, total	ug/L	GWD-1	10/07/2015	yes	8.1000					
Arsenic, total	ug/L	GWD-1	01/18/2016	yes	5.0000					
Arsenic, total	ug/L	GWD-1	04/19/2016	yes	6.4000					
Arsenic, total	ug/L	GWD-1	09/19/2016	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-1	03/21/2017	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-1	10/12/2017	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-1	03/08/2018	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-1	09/06/2018	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-1	05/13/2019	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-1	09/26/2019	yes	4.1000					
Arsenic, total	ug/L	GWD-1	03/30/2020	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-1	09/17/2020	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-1	03/09/2021	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-1	09/09/2021	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-1	03/14/2022		4.0000	ND		4.5429		
Arsenic, total	ug/L	GWD-1	03/06/2023		4.0000	ND		4.5429		
Arsenic, total	ug/L	GWD-1	03/20/2024		11.4000			10.4825		
Arsenic, total	ug/L	GWD-1	09/25/2024		4.0000	ND		5.0222		
Barium, total	ug/L	GWD-1	10/07/2015	yes	405.0000					
Barium, total	ug/L	GWD-1	04/19/2016	yes	415.0000					
Barium, total	ug/L	GWD-1	09/19/2016	yes	445.0000					
Barium, total	ug/L	GWD-1	03/21/2017	yes	436.0000					
Barium, total	ug/L	GWD-1	10/12/2017	yes	465.0000					
Barium, total	ug/L	GWD-1	03/08/2018	yes	471.0000					
Barium, total	ug/L	GWD-1	09/06/2018	yes	495.0000					
Barium, total	ug/L	GWD-1	05/13/2019	yes	472.0000					
Barium, total	ug/L	GWD-1	09/26/2019	yes	489.0000					
Barium, total	ug/L	GWD-1	03/30/2020	yes	524.0000					
Barium, total	ug/L	GWD-1	09/17/2020	yes	592.0000					
Barium, total	ug/L	GWD-1	03/09/2021	yes	566.0000					
Barium, total	ug/L	GWD-1	06/03/2021	yes	518.0000					
Barium, total	ug/L	GWD-1	09/09/2021	yes	503.0000					
Barium, total	ug/L	GWD-1	03/06/2023		458.0000			485.4286		
Barium, total	ug/L	GWD-1	03/20/2024		387.0000			485.4286		

* - Outlier for that well and constituent.
** - Non-outlier detected sample Result and / or CUSUM value exceeds limit.
*** - ND value replaced with median RL.
**** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Barium, total	ug/L	GWD-1	09/25/2024		619.0000			578.9213		
Beryllium, total	ug/L	GWD-1	10/07/2015	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-1	04/19/2016	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-1	09/19/2016	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-1	03/21/2017	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-1	10/12/2017	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-1	03/08/2018	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-1	09/06/2018	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-1	05/13/2019	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-1	09/26/2019	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-1	03/30/2020	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-1	09/17/2020	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-1	03/09/2021	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-1	09/09/2021	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-1	03/14/2022		4.0000	ND				
Beryllium, total	ug/L	GWD-1	03/06/2023		4.0000	ND				
Beryllium, total	ug/L	GWD-1	03/20/2024		4.0000	ND				
Beryllium, total	ug/L	GWD-1	09/25/2024		4.0000	ND				
Cadmium, total	ug/L	GWD-1	10/07/2015	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-1	04/19/2016	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-1	09/19/2016	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-1	03/21/2017	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-1	10/12/2017	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-1	03/08/2018	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-1	09/06/2018	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-1	05/13/2019	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-1	09/26/2019	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-1	03/30/2020	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-1	09/17/2020	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-1	03/09/2021	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-1	09/09/2021	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-1	03/14/2022		0.8000	ND				
Cadmium, total	ug/L	GWD-1	03/06/2023		0.8000	ND				
Cadmium, total	ug/L	GWD-1	03/20/2024		0.8000	ND				
Cadmium, total	ug/L	GWD-1	09/25/2024		0.8000	ND				
Chromium, total	ug/L	GWD-1	10/07/2015	yes	8.0000	ND				
Chromium, total	ug/L	GWD-1	04/19/2016	yes	8.0000	ND				
Chromium, total	ug/L	GWD-1	09/19/2016	yes	8.0000	ND				
Chromium, total	ug/L	GWD-1	03/21/2017	yes	8.0000	ND				
Chromium, total	ug/L	GWD-1	10/12/2017	yes	8.0000	ND				
Chromium, total	ug/L	GWD-1	03/08/2018	yes	8.0000	ND				
Chromium, total	ug/L	GWD-1	09/06/2018	yes	8.0000	ND				
Chromium, total	ug/L	GWD-1	05/13/2019	yes	8.0000	ND				
Chromium, total	ug/L	GWD-1	09/26/2019	yes	8.0000	ND				
Chromium, total	ug/L	GWD-1	03/30/2020	yes	8.0000	ND				
Chromium, total	ug/L	GWD-1	09/17/2020	yes	8.0000	ND				
Chromium, total	ug/L	GWD-1	03/09/2021	yes	8.0000	ND				
Chromium, total	ug/L	GWD-1	09/09/2021	yes	8.0000	ND				
Chromium, total	ug/L	GWD-1	03/06/2023		8.0000	ND				
Chromium, total	ug/L	GWD-1	03/20/2024		8.0000	ND				

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Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Chromium, total	ug/L	GWD-1	09/25/2024		8.0000	ND				
Cobalt, total	ug/L	GWD-1	10/07/2015	yes	6.9000					
Cobalt, total	ug/L	GWD-1	04/19/2016	yes	9.5000					
Cobalt, total	ug/L	GWD-1	09/19/2016	yes	9.6000					
Cobalt, total	ug/L	GWD-1	03/21/2017	yes	6.7000					
Cobalt, total	ug/L	GWD-1	10/12/2017	yes	2.0000					
Cobalt, total	ug/L	GWD-1	03/08/2018	yes	2.0000	ND				
Cobalt, total	ug/L	GWD-1	09/06/2018	yes	0.8000					
Cobalt, total	ug/L	GWD-1	05/13/2019	yes	2.4000					
Cobalt, total	ug/L	GWD-1	09/26/2019	yes	2.1000					
Cobalt, total	ug/L	GWD-1	03/30/2020	yes	1.6000					
Cobalt, total	ug/L	GWD-1	09/17/2020	yes	1.1000					
Cobalt, total	ug/L	GWD-1	03/09/2021	yes	1.5000					
Cobalt, total	ug/L	GWD-1	09/09/2021	yes	0.5000					
Cobalt, total	ug/L	GWD-1	03/14/2022		0.7000			3.5923		
Cobalt, total	ug/L	GWD-1	03/06/2023		0.7000			3.5923		
Cobalt, total	ug/L	GWD-1	03/20/2024		3.6000			3.5923		
Cobalt, total	ug/L	GWD-1	09/25/2024		2.3000			3.5923		
Copper, total	ug/L	GWD-1	10/07/2015	yes	4.0000	ND				
Copper, total	ug/L	GWD-1	04/19/2016	yes	4.0000	ND				
Copper, total	ug/L	GWD-1	09/19/2016	yes	4.0000	ND				
Copper, total	ug/L	GWD-1	03/21/2017	yes	4.0000	ND				
Copper, total	ug/L	GWD-1	10/12/2017	yes	4.0000	ND				
Copper, total	ug/L	GWD-1	03/08/2018	yes	4.0000	ND				
Copper, total	ug/L	GWD-1	09/06/2018	yes	4.0000	ND				
Copper, total	ug/L	GWD-1	05/13/2019	yes	4.0000	ND				
Copper, total	ug/L	GWD-1	09/26/2019	yes	6.6000					
Copper, total	ug/L	GWD-1	03/30/2020	yes	4.0000	ND				
Copper, total	ug/L	GWD-1	09/17/2020	yes	4.0000	ND				
Copper, total	ug/L	GWD-1	03/09/2021	yes	4.0000	ND				
Copper, total	ug/L	GWD-1	09/09/2021	yes	4.0000	ND				
Copper, total	ug/L	GWD-1	03/14/2022		4.0000	ND				
Copper, total	ug/L	GWD-1	03/06/2023		4.0000	ND				
Copper, total	ug/L	GWD-1	03/20/2024		4.0000	ND				
Copper, total	ug/L	GWD-1	09/25/2024		4.0000	ND				
Lead, total	ug/L	GWD-1	10/07/2015	yes	4.0000	ND				
Lead, total	ug/L	GWD-1	04/19/2016	yes	4.0000	ND				
Lead, total	ug/L	GWD-1	09/19/2016	yes	4.0000	ND				
Lead, total	ug/L	GWD-1	03/21/2017	yes	4.0000	ND				
Lead, total	ug/L	GWD-1	10/12/2017	yes	4.0000	ND				
Lead, total	ug/L	GWD-1	03/08/2018	yes	4.0000	ND				
Lead, total	ug/L	GWD-1	09/06/2018	yes	4.0000	ND				
Lead, total	ug/L	GWD-1	05/13/2019	yes	4.0000	ND				
Lead, total	ug/L	GWD-1	09/26/2019	yes	4.0000	ND				
Lead, total	ug/L	GWD-1	03/30/2020	yes	4.0000	ND				
Lead, total	ug/L	GWD-1	09/17/2020	yes	4.0000	ND				
Lead, total	ug/L	GWD-1	03/09/2021	yes	4.0000	ND				
Lead, total	ug/L	GWD-1	09/09/2021	yes	4.0000	ND				
Lead, total	ug/L	GWD-1	03/14/2022		4.0000	ND				
Lead, total	ug/L	GWD-1	03/06/2023		4.0000	ND				

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Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Lead, total	ug/L	GWD-1	03/20/2024		4.0000	ND				
Lead, total	ug/L	GWD-1	09/25/2024		4.0000	ND				
Nickel, total	ug/L	GWD-1	10/07/2015	yes	9.4000					
Nickel, total	ug/L	GWD-1	04/19/2016	yes	8.2000					
Nickel, total	ug/L	GWD-1	09/19/2016	yes	4.0000	ND				
Nickel, total	ug/L	GWD-1	03/21/2017	yes	5.4000					
Nickel, total	ug/L	GWD-1	10/12/2017	yes	4.0000	ND				
Nickel, total	ug/L	GWD-1	03/08/2018	yes	4.0000	ND				
Nickel, total	ug/L	GWD-1	09/06/2018	yes	8.0000	ND			4.0000	***
Nickel, total	ug/L	GWD-1	05/13/2019	yes	4.0000	ND				
Nickel, total	ug/L	GWD-1	09/26/2019	yes	4.0000	ND				
Nickel, total	ug/L	GWD-1	03/30/2020	yes	4.0000	ND				
Nickel, total	ug/L	GWD-1	09/17/2020	yes	4.0000	ND				
Nickel, total	ug/L	GWD-1	03/09/2021	yes	4.0000	ND				
Nickel, total	ug/L	GWD-1	09/09/2021	yes	4.0000	ND				
Nickel, total	ug/L	GWD-1	03/14/2022		4.0000	ND				
Nickel, total	ug/L	GWD-1	03/06/2023		4.0000	ND				
Nickel, total	ug/L	GWD-1	03/20/2024		4.9000					
Nickel, total	ug/L	GWD-1	09/25/2024		4.1000					
Selenium, total	ug/L	GWD-1	10/07/2015	yes	4.0000	ND				
Selenium, total	ug/L	GWD-1	04/19/2016	yes	4.0000	ND				
Selenium, total	ug/L	GWD-1	09/19/2016	yes	4.0000	ND				
Selenium, total	ug/L	GWD-1	03/21/2017	yes	4.0000	ND				
Selenium, total	ug/L	GWD-1	10/12/2017	yes	4.0000	ND				
Selenium, total	ug/L	GWD-1	03/08/2018	yes	4.0000	ND				
Selenium, total	ug/L	GWD-1	09/06/2018	yes	4.0000	ND				
Selenium, total	ug/L	GWD-1	05/13/2019	yes	4.0000	ND				
Selenium, total	ug/L	GWD-1	09/26/2019	yes	4.0000	ND				
Selenium, total	ug/L	GWD-1	03/30/2020	yes	4.0000	ND				
Selenium, total	ug/L	GWD-1	09/17/2020	yes	4.0000	ND				
Selenium, total	ug/L	GWD-1	03/09/2021	yes	4.0000	ND				
Selenium, total	ug/L	GWD-1	09/09/2021	yes	4.0000					
Selenium, total	ug/L	GWD-1	03/14/2022		4.0000	ND				
Selenium, total	ug/L	GWD-1	03/06/2023		4.0000	ND				
Selenium, total	ug/L	GWD-1	03/20/2024		4.0000	ND				
Selenium, total	ug/L	GWD-1	09/25/2024		4.0000	ND				
Silver, total	ug/L	GWD-1	10/07/2015	yes	4.0000	ND				
Silver, total	ug/L	GWD-1	04/19/2016	yes	4.0000	ND				
Silver, total	ug/L	GWD-1	09/19/2016	yes	4.0000	ND				
Silver, total	ug/L	GWD-1	03/21/2017	yes	4.0000	ND				
Silver, total	ug/L	GWD-1	10/12/2017	yes	4.0000	ND				
Silver, total	ug/L	GWD-1	03/08/2018	yes	4.0000	ND				
Silver, total	ug/L	GWD-1	09/06/2018	yes	8.0000	ND			4.0000	***
Silver, total	ug/L	GWD-1	05/13/2019	yes	4.0000	ND				
Silver, total	ug/L	GWD-1	09/26/2019	yes	4.0000	ND				
Silver, total	ug/L	GWD-1	03/30/2020	yes	4.0000	ND				
Silver, total	ug/L	GWD-1	09/17/2020	yes	4.0000	ND				
Silver, total	ug/L	GWD-1	03/09/2021	yes	4.0000	ND				
Silver, total	ug/L	GWD-1	09/09/2021	yes	4.0000	ND				
Silver, total	ug/L	GWD-1	03/06/2023		4.0000	ND				

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Table 2

Analytical Data and CUSUM Summary

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Silver, total	ug/L	GWD-1	03/20/2024		4.0000	ND				
Silver, total	ug/L	GWD-1	09/25/2024		4.0000	ND				
Thallium, total	ug/L	GWD-1	10/07/2015	yes	4.0000	ND				
Thallium, total	ug/L	GWD-1	04/19/2016	yes	4.0000	ND				
Thallium, total	ug/L	GWD-1	09/19/2016	yes	4.0000	ND				
Thallium, total	ug/L	GWD-1	03/21/2017	yes	4.0000	ND				
Thallium, total	ug/L	GWD-1	10/12/2017	yes	4.0000	ND				
Thallium, total	ug/L	GWD-1	03/08/2018	yes	4.0000	ND				
Thallium, total	ug/L	GWD-1	09/06/2018	yes	4.0000	ND				
Thallium, total	ug/L	GWD-1	05/13/2019	yes	2.0000	ND			4.0000	***
Thallium, total	ug/L	GWD-1	09/26/2019	yes	2.0000	ND			4.0000	***
Thallium, total	ug/L	GWD-1	03/30/2020	yes	2.0000	ND			4.0000	***
Thallium, total	ug/L	GWD-1	09/17/2020	yes	2.0000	ND			4.0000	***
Thallium, total	ug/L	GWD-1	03/09/2021	yes	2.0000	ND			4.0000	***
Thallium, total	ug/L	GWD-1	09/09/2021	yes	2.0000	ND			4.0000	***
Thallium, total	ug/L	GWD-1	03/06/2023		2.0000	ND				
Thallium, total	ug/L	GWD-1	03/20/2024		2.0000	ND				
Thallium, total	ug/L	GWD-1	09/25/2024		2.0000	ND				
Vanadium, total	ug/L	GWD-1	10/07/2015	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-1	04/19/2016	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-1	09/19/2016	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-1	03/21/2017	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-1	10/12/2017	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-1	03/08/2018	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-1	09/06/2018	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-1	05/13/2019	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-1	09/26/2019	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-1	03/30/2020	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-1	09/17/2020	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-1	03/09/2021	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-1	09/09/2021	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-1	03/14/2022		20.0000	ND				
Vanadium, total	ug/L	GWD-1	03/06/2023		20.0000	ND				
Vanadium, total	ug/L	GWD-1	03/20/2024		20.0000	ND				
Vanadium, total	ug/L	GWD-1	09/25/2024		20.0000	ND				
Zinc, total	ug/L	GWD-1	10/07/2015	yes	8.0000	ND				
Zinc, total	ug/L	GWD-1	04/19/2016	yes	8.0000	ND				
Zinc, total	ug/L	GWD-1	09/19/2016	yes	8.0000	ND				
Zinc, total	ug/L	GWD-1	03/21/2017	yes	8.0000	ND				
Zinc, total	ug/L	GWD-1	10/12/2017	yes	8.0000	ND				
Zinc, total	ug/L	GWD-1	03/08/2018	yes	8.0000	ND				
Zinc, total	ug/L	GWD-1	09/06/2018	yes	28.6000					
Zinc, total	ug/L	GWD-1	05/13/2019	yes	8.0000	ND				
Zinc, total	ug/L	GWD-1	09/26/2019	yes	8.0000	ND				
Zinc, total	ug/L	GWD-1	03/30/2020	yes	20.0000	ND			8.0000	***
Zinc, total	ug/L	GWD-1	09/17/2020	yes	20.0000	ND			8.0000	***
Zinc, total	ug/L	GWD-1	03/09/2021	yes	20.0000	ND			8.0000	***
Zinc, total	ug/L	GWD-1	09/09/2021	yes	20.0000	ND			8.0000	***
Zinc, total	ug/L	GWD-1	03/14/2022		20.0000	ND				
Zinc, total	ug/L	GWD-1	03/06/2023		20.0000	ND				

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Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Zinc, total	ug/L	GWD-1	03/20/2024		20.0000	ND				
Zinc, total	ug/L	GWD-1	09/25/2024		20.0000	ND				
Antimony, total	ug/L	GWD-2	09/18/2014	yes	2.0000	ND				
Antimony, total	ug/L	GWD-2	04/28/2015	yes	2.0000	ND				
Antimony, total	ug/L	GWD-2	10/07/2015	yes	2.0000	ND				
Antimony, total	ug/L	GWD-2	04/19/2016	yes	2.0000	ND				
Antimony, total	ug/L	GWD-2	09/19/2016	yes	2.0000	ND				
Antimony, total	ug/L	GWD-2	03/21/2017	yes	2.0000	ND				
Antimony, total	ug/L	GWD-2	10/12/2017	yes	2.0000	ND				
Antimony, total	ug/L	GWD-2	03/08/2018	yes	2.0000	ND				
Antimony, total	ug/L	GWD-2	09/06/2018	yes	2.0000	ND				
Antimony, total	ug/L	GWD-2	05/13/2019	yes	2.0000	ND				
Antimony, total	ug/L	GWD-2	09/26/2019	yes	2.0000	ND				
Antimony, total	ug/L	GWD-2	03/30/2020	yes	2.0000	ND				
Antimony, total	ug/L	GWD-2	09/17/2020	yes	2.0000	ND				
Antimony, total	ug/L	GWD-2	03/09/2021		2.0000	ND				
Antimony, total	ug/L	GWD-2	09/09/2021		2.0000	ND				
Antimony, total	ug/L	GWD-2	03/06/2023		2.0000	ND				
Antimony, total	ug/L	GWD-2	09/08/2023		2.0000	ND				
Antimony, total	ug/L	GWD-2	03/20/2024		2.0000	ND				
Antimony, total	ug/L	GWD-2	09/25/2024		2.0000	ND				
Arsenic, total	ug/L	GWD-2	09/18/2014	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-2	04/28/2015	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-2	10/07/2015	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-2	04/19/2016	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-2	09/19/2016	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-2	03/21/2017	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-2	10/12/2017	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-2	03/08/2018	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-2	09/06/2018	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-2	05/13/2019	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-2	09/26/2019	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-2	03/30/2020	yes	4.0000	ND				
Arsenic, total	ug/L	GWD-2	09/17/2020	yes	73.5000		yes			*
Arsenic, total	ug/L	GWD-2	12/03/2020		4.0000	ND				
Arsenic, total	ug/L	GWD-2	03/09/2021		4.0000	ND				
Arsenic, total	ug/L	GWD-2	09/09/2021		4.0000	ND				
Arsenic, total	ug/L	GWD-2	03/14/2022		4.0000	ND				
Arsenic, total	ug/L	GWD-2	03/06/2023		4.0000	ND				
Arsenic, total	ug/L	GWD-2	09/08/2023		4.0000	ND				
Arsenic, total	ug/L	GWD-2	03/20/2024		5.9000					
Arsenic, total	ug/L	GWD-2	06/14/2024		13.8000					
Arsenic, total	ug/L	GWD-2	09/25/2024		4.0000	ND				
Barium, total	ug/L	GWD-2	09/18/2014	yes	307.0000					
Barium, total	ug/L	GWD-2	04/28/2015	yes	341.0000					
Barium, total	ug/L	GWD-2	10/07/2015	yes	316.0000					
Barium, total	ug/L	GWD-2	04/19/2016	yes	329.0000					
Barium, total	ug/L	GWD-2	09/19/2016	yes	321.0000					
Barium, total	ug/L	GWD-2	03/21/2017	yes	330.0000					
Barium, total	ug/L	GWD-2	10/12/2017	yes	354.0000					

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Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Barium, total	ug/L	GWD-2	03/08/2018	yes	357.0000					
Barium, total	ug/L	GWD-2	09/06/2018	yes	333.0000					
Barium, total	ug/L	GWD-2	05/13/2019	yes	385.0000					
Barium, total	ug/L	GWD-2	09/26/2019	yes	405.0000					
Barium, total	ug/L	GWD-2	03/30/2020	yes	484.0000					
Barium, total	ug/L	GWD-2	09/17/2020	yes	824.0000					
Barium, total	ug/L	GWD-2	12/03/2020		534.0000			430.1888		
Barium, total	ug/L	GWD-2	03/09/2021		544.0000			479.1468		
Barium, total	ug/L	GWD-2	09/09/2021		554.0000			538.1049		
Barium, total	ug/L	GWD-2	03/06/2023		574.0000			617.0629		
Barium, total	ug/L	GWD-2	05/09/2023		565.0000			687.0209		
Barium, total	ug/L	GWD-2	09/08/2023		825.0000			1016.9790		
Barium, total	ug/L	GWD-2	03/20/2024		665.0000			1186.9370		
Barium, total	ug/L	GWD-2	06/14/2024		870.0000			1561.8950		**
Barium, total	ug/L	GWD-2	09/25/2024		496.0000			1187.8950		
Beryllium, total	ug/L	GWD-2	09/18/2014	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-2	04/28/2015	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-2	10/07/2015	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-2	04/19/2016	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-2	09/19/2016	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-2	03/21/2017	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-2	10/12/2017	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-2	03/08/2018	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-2	09/06/2018	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-2	05/13/2019	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-2	09/26/2019	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-2	03/30/2020	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-2	09/17/2020	yes	4.0000	ND				
Beryllium, total	ug/L	GWD-2	03/09/2021		4.0000	ND				
Beryllium, total	ug/L	GWD-2	09/09/2021		4.0000	ND				
Beryllium, total	ug/L	GWD-2	03/14/2022		4.0000	ND				
Beryllium, total	ug/L	GWD-2	03/06/2023		4.0000	ND				
Beryllium, total	ug/L	GWD-2	09/08/2023		4.0000	ND				
Beryllium, total	ug/L	GWD-2	03/20/2024		4.0000	ND				
Beryllium, total	ug/L	GWD-2	09/25/2024		4.0000	ND				
Cadmium, total	ug/L	GWD-2	09/18/2014	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-2	04/28/2015	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-2	10/07/2015	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-2	04/19/2016	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-2	09/19/2016	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-2	03/21/2017	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-2	10/12/2017	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-2	03/08/2018	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-2	09/06/2018	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-2	05/13/2019	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-2	09/26/2019	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-2	03/30/2020	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-2	09/17/2020	yes	0.8000	ND				
Cadmium, total	ug/L	GWD-2	03/09/2021		0.8000	ND				
Cadmium, total	ug/L	GWD-2	09/09/2021		0.8000	ND				

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Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Cadmium, total	ug/L	GWD-2	03/14/2022		0.8000	ND				
Cadmium, total	ug/L	GWD-2	03/06/2023		0.8000	ND				
Cadmium, total	ug/L	GWD-2	09/08/2023		0.8000	ND				
Cadmium, total	ug/L	GWD-2	03/20/2024		0.8000	ND				
Cadmium, total	ug/L	GWD-2	09/25/2024		0.8000	ND				
Chromium, total	ug/L	GWD-2	09/18/2014	yes	8.0000	ND				
Chromium, total	ug/L	GWD-2	04/28/2015	yes	8.0000	ND				
Chromium, total	ug/L	GWD-2	10/07/2015	yes	8.0000	ND				
Chromium, total	ug/L	GWD-2	04/19/2016	yes	8.0000	ND				
Chromium, total	ug/L	GWD-2	09/19/2016	yes	8.0000	ND				
Chromium, total	ug/L	GWD-2	03/21/2017	yes	8.0000	ND				
Chromium, total	ug/L	GWD-2	10/12/2017	yes	8.0000	ND				
Chromium, total	ug/L	GWD-2	03/08/2018	yes	8.0000	ND				
Chromium, total	ug/L	GWD-2	09/06/2018	yes	8.0000	ND				
Chromium, total	ug/L	GWD-2	05/13/2019	yes	8.0000	ND				
Chromium, total	ug/L	GWD-2	09/26/2019	yes	8.0000	ND				
Chromium, total	ug/L	GWD-2	03/30/2020	yes	8.0000	ND				
Chromium, total	ug/L	GWD-2	09/17/2020	yes	8.0000	ND				
Chromium, total	ug/L	GWD-2	03/09/2021		8.0000	ND				
Chromium, total	ug/L	GWD-2	09/09/2021		8.0000	ND				
Chromium, total	ug/L	GWD-2	03/06/2023		8.0000	ND				
Chromium, total	ug/L	GWD-2	09/08/2023		8.0000	ND				
Chromium, total	ug/L	GWD-2	03/20/2024		8.0000	ND				
Chromium, total	ug/L	GWD-2	09/25/2024		8.0000	ND				
Cobalt, total	ug/L	GWD-2	09/18/2014	yes	0.8000	ND				
Cobalt, total	ug/L	GWD-2	04/28/2015	yes	0.8000	ND				
Cobalt, total	ug/L	GWD-2	10/07/2015	yes	0.9000					
Cobalt, total	ug/L	GWD-2	04/19/2016	yes	1.0000					
Cobalt, total	ug/L	GWD-2	09/19/2016	yes	4.3000					
Cobalt, total	ug/L	GWD-2	03/21/2017	yes	7.7000					
Cobalt, total	ug/L	GWD-2	10/12/2017	yes	7.3000					
Cobalt, total	ug/L	GWD-2	03/08/2018	yes	6.2000					
Cobalt, total	ug/L	GWD-2	09/06/2018	yes	3.1000					
Cobalt, total	ug/L	GWD-2	05/13/2019	yes	2.3000					
Cobalt, total	ug/L	GWD-2	09/26/2019	yes	8.7000					
Cobalt, total	ug/L	GWD-2	03/30/2020	yes	9.4000					
Cobalt, total	ug/L	GWD-2	09/17/2020	yes	16.7000					
Cobalt, total	ug/L	GWD-2	12/03/2020		6.7000			5.3231		
Cobalt, total	ug/L	GWD-2	03/09/2021		5.9000			5.3231		
Cobalt, total	ug/L	GWD-2	09/09/2021		3.7000			5.3231		
Cobalt, total	ug/L	GWD-2	03/14/2022		4.6000			5.3231		
Cobalt, total	ug/L	GWD-2	03/06/2023		3.4000			5.3231		
Cobalt, total	ug/L	GWD-2	09/08/2023		5.2000			5.3231		
Cobalt, total	ug/L	GWD-2	03/20/2024		3.4000			5.3231		
Cobalt, total	ug/L	GWD-2	09/25/2024		3.6000			5.3231		
Copper, total	ug/L	GWD-2	09/18/2014	yes	4.0000	ND				
Copper, total	ug/L	GWD-2	04/28/2015	yes	4.0000	ND				
Copper, total	ug/L	GWD-2	10/07/2015	yes	4.0000	ND				
Copper, total	ug/L	GWD-2	04/19/2016	yes	4.0000	ND				
Copper, total	ug/L	GWD-2	09/19/2016	yes	4.0000	ND				

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*** - ND value replaced with median RL.
**** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Copper, total	ug/L	GWD-2	03/21/2017	yes	4.0000	ND				
Copper, total	ug/L	GWD-2	10/12/2017	yes	4.0000	ND				
Copper, total	ug/L	GWD-2	03/08/2018	yes	4.0000	ND				
Copper, total	ug/L	GWD-2	09/06/2018	yes	4.0000	ND				
Copper, total	ug/L	GWD-2	05/13/2019	yes	4.0000	ND				
Copper, total	ug/L	GWD-2	09/26/2019	yes	4.0000	ND				
Copper, total	ug/L	GWD-2	03/30/2020	yes	4.0000	ND				
Copper, total	ug/L	GWD-2	09/17/2020	yes	4.0000	ND				
Copper, total	ug/L	GWD-2	03/09/2021		4.0000	ND				
Copper, total	ug/L	GWD-2	09/09/2021		4.0000	ND				
Copper, total	ug/L	GWD-2	03/14/2022		4.0000	ND				
Copper, total	ug/L	GWD-2	03/06/2023		4.0000	ND				
Copper, total	ug/L	GWD-2	09/08/2023		4.0000	ND				
Copper, total	ug/L	GWD-2	03/20/2024		4.0000	ND				
Copper, total	ug/L	GWD-2	09/25/2024		4.0000	ND				
Lead, total	ug/L	GWD-2	09/18/2014	yes	4.0000	ND				
Lead, total	ug/L	GWD-2	04/28/2015	yes	4.0000	ND				
Lead, total	ug/L	GWD-2	10/07/2015	yes	4.0000	ND				
Lead, total	ug/L	GWD-2	04/19/2016	yes	4.0000	ND				
Lead, total	ug/L	GWD-2	09/19/2016	yes	4.0000	ND				
Lead, total	ug/L	GWD-2	03/21/2017	yes	4.0000	ND				
Lead, total	ug/L	GWD-2	10/12/2017	yes	4.0000	ND				
Lead, total	ug/L	GWD-2	03/08/2018	yes	4.0000	ND				
Lead, total	ug/L	GWD-2	09/06/2018	yes	4.0000	ND				
Lead, total	ug/L	GWD-2	05/13/2019	yes	4.0000	ND				
Lead, total	ug/L	GWD-2	09/26/2019	yes	4.0000	ND				
Lead, total	ug/L	GWD-2	03/30/2020	yes	4.0000	ND				
Lead, total	ug/L	GWD-2	09/17/2020	yes	4.0000	ND				
Lead, total	ug/L	GWD-2	03/09/2021		4.0000	ND				
Lead, total	ug/L	GWD-2	09/09/2021		4.0000	ND				
Lead, total	ug/L	GWD-2	03/14/2022		4.0000	ND				
Lead, total	ug/L	GWD-2	03/06/2023		4.0000	ND				
Lead, total	ug/L	GWD-2	09/08/2023		4.0000	ND				
Lead, total	ug/L	GWD-2	03/20/2024		4.0000	ND				
Lead, total	ug/L	GWD-2	09/25/2024		4.0000	ND				
Nickel, total	ug/L	GWD-2	09/18/2014	yes	4.0000					
Nickel, total	ug/L	GWD-2	04/28/2015	yes	4.0000	ND				
Nickel, total	ug/L	GWD-2	10/07/2015	yes	6.2000					
Nickel, total	ug/L	GWD-2	04/19/2016	yes	6.6000					
Nickel, total	ug/L	GWD-2	09/19/2016	yes	6.7000					
Nickel, total	ug/L	GWD-2	03/21/2017	yes	12.1000					
Nickel, total	ug/L	GWD-2	10/12/2017	yes	11.2000					
Nickel, total	ug/L	GWD-2	03/08/2018	yes	10.1000					
Nickel, total	ug/L	GWD-2	09/06/2018	yes	4.0000	ND				
Nickel, total	ug/L	GWD-2	05/13/2019	yes	4.0000	ND				
Nickel, total	ug/L	GWD-2	09/26/2019	yes	8.2000					
Nickel, total	ug/L	GWD-2	03/30/2020	yes	7.3000					
Nickel, total	ug/L	GWD-2	09/17/2020	yes	13.0000					
Nickel, total	ug/L	GWD-2	03/09/2021		6.1000			7.4923		
Nickel, total	ug/L	GWD-2	09/09/2021		4.0000	ND		7.4923		

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*** - ND value replaced with median RL.
**** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Nickel, total	ug/L	GWD-2	03/14/2022		4.1000			7.4923		
Nickel, total	ug/L	GWD-2	03/06/2023		4.0000			7.4923		
Nickel, total	ug/L	GWD-2	09/08/2023		4.0000	ND		7.4923		
Nickel, total	ug/L	GWD-2	03/20/2024		4.0000	ND		7.4923		
Nickel, total	ug/L	GWD-2	09/25/2024		4.4000			7.4923		
Selenium, total	ug/L	GWD-2	09/18/2014	yes	4.0000	ND				
Selenium, total	ug/L	GWD-2	04/28/2015	yes	4.0000	ND				
Selenium, total	ug/L	GWD-2	10/07/2015	yes	4.0000	ND				
Selenium, total	ug/L	GWD-2	04/19/2016	yes	4.0000	ND				
Selenium, total	ug/L	GWD-2	09/19/2016	yes	4.0000	ND				
Selenium, total	ug/L	GWD-2	03/21/2017	yes	4.0000	ND				
Selenium, total	ug/L	GWD-2	10/12/2017	yes	4.0000	ND				
Selenium, total	ug/L	GWD-2	03/08/2018	yes	4.0000	ND				
Selenium, total	ug/L	GWD-2	09/06/2018	yes	4.0000	ND				
Selenium, total	ug/L	GWD-2	05/13/2019	yes	4.0000	ND				
Selenium, total	ug/L	GWD-2	09/26/2019	yes	4.0000	ND				
Selenium, total	ug/L	GWD-2	03/30/2020	yes	4.0000	ND				
Selenium, total	ug/L	GWD-2	09/17/2020	yes	4.0000	ND				
Selenium, total	ug/L	GWD-2	03/09/2021		4.0000	ND				
Selenium, total	ug/L	GWD-2	09/09/2021		4.0000	ND				
Selenium, total	ug/L	GWD-2	03/14/2022		4.0000	ND				
Selenium, total	ug/L	GWD-2	03/06/2023		4.0000	ND				
Selenium, total	ug/L	GWD-2	09/08/2023		4.0000	ND				
Selenium, total	ug/L	GWD-2	03/20/2024		4.0000	ND				
Selenium, total	ug/L	GWD-2	09/25/2024		4.0000	ND				
Silver, total	ug/L	GWD-2	09/18/2014	yes	4.0000	ND				
Silver, total	ug/L	GWD-2	04/28/2015	yes	4.0000	ND				
Silver, total	ug/L	GWD-2	10/07/2015	yes	4.0000	ND				
Silver, total	ug/L	GWD-2	04/19/2016	yes	4.0000	ND				
Silver, total	ug/L	GWD-2	09/19/2016	yes	4.0000	ND				
Silver, total	ug/L	GWD-2	03/21/2017	yes	4.0000	ND				
Silver, total	ug/L	GWD-2	10/12/2017	yes	4.0000	ND				
Silver, total	ug/L	GWD-2	03/08/2018	yes	4.0000	ND				
Silver, total	ug/L	GWD-2	09/06/2018	yes	8.0000	ND			4.0000	***
Silver, total	ug/L	GWD-2	05/13/2019	yes	4.0000	ND				
Silver, total	ug/L	GWD-2	09/26/2019	yes	4.0000	ND				
Silver, total	ug/L	GWD-2	03/30/2020	yes	4.0000	ND				
Silver, total	ug/L	GWD-2	09/17/2020	yes	4.0000	ND				
Silver, total	ug/L	GWD-2	03/09/2021		4.0000	ND				
Silver, total	ug/L	GWD-2	09/09/2021		4.0000	ND				
Silver, total	ug/L	GWD-2	03/06/2023		4.0000	ND				
Silver, total	ug/L	GWD-2	09/08/2023		4.0000	ND				
Silver, total	ug/L	GWD-2	03/20/2024		4.0000	ND				
Silver, total	ug/L	GWD-2	09/25/2024		4.0000	ND				
Thallium, total	ug/L	GWD-2	09/18/2014	yes	4.0000	ND				
Thallium, total	ug/L	GWD-2	04/28/2015	yes	4.0000	ND				
Thallium, total	ug/L	GWD-2	10/07/2015	yes	4.0000	ND				
Thallium, total	ug/L	GWD-2	04/19/2016	yes	4.0000	ND				
Thallium, total	ug/L	GWD-2	09/19/2016	yes	4.0000	ND				
Thallium, total	ug/L	GWD-2	03/21/2017	yes	4.0000	ND				

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**** - ND value replaced with manual RL.
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Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Thallium, total	ug/L	GWD-2	10/12/2017	yes	4.0000	ND				
Thallium, total	ug/L	GWD-2	03/08/2018	yes	4.0000	ND				
Thallium, total	ug/L	GWD-2	09/06/2018	yes	4.0000	ND				
Thallium, total	ug/L	GWD-2	05/13/2019	yes	2.0000	ND			4.0000	***
Thallium, total	ug/L	GWD-2	09/26/2019	yes	2.0000	ND			4.0000	***
Thallium, total	ug/L	GWD-2	03/30/2020	yes	2.0000	ND			4.0000	***
Thallium, total	ug/L	GWD-2	09/17/2020	yes	2.0000	ND			4.0000	***
Thallium, total	ug/L	GWD-2	03/09/2021		2.0000	ND				
Thallium, total	ug/L	GWD-2	09/09/2021		2.0000	ND				
Thallium, total	ug/L	GWD-2	03/06/2023		2.0000	ND				
Thallium, total	ug/L	GWD-2	09/08/2023		2.0000	ND				
Thallium, total	ug/L	GWD-2	03/20/2024		2.0000	ND				
Thallium, total	ug/L	GWD-2	09/25/2024		2.0000	ND				
Vanadium, total	ug/L	GWD-2	09/18/2014	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-2	04/28/2015	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-2	10/07/2015	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-2	04/19/2016	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-2	09/19/2016	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-2	03/21/2017	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-2	10/12/2017	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-2	03/08/2018	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-2	09/06/2018	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-2	05/13/2019	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-2	09/26/2019	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-2	03/30/2020	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-2	09/17/2020	yes	20.0000	ND				
Vanadium, total	ug/L	GWD-2	03/09/2021		20.0000	ND				
Vanadium, total	ug/L	GWD-2	09/09/2021		20.0000	ND				
Vanadium, total	ug/L	GWD-2	03/14/2022		20.0000	ND				
Vanadium, total	ug/L	GWD-2	03/06/2023		20.0000	ND				
Vanadium, total	ug/L	GWD-2	09/08/2023		20.0000	ND				
Vanadium, total	ug/L	GWD-2	03/20/2024		20.0000	ND				
Vanadium, total	ug/L	GWD-2	09/25/2024		20.0000	ND				
Zinc, total	ug/L	GWD-2	09/18/2014	yes	9.1000					
Zinc, total	ug/L	GWD-2	04/28/2015	yes	8.0000	ND				
Zinc, total	ug/L	GWD-2	10/07/2015	yes	8.0000	ND				
Zinc, total	ug/L	GWD-2	04/19/2016	yes	8.0000	ND				
Zinc, total	ug/L	GWD-2	09/19/2016	yes	20.6000					
Zinc, total	ug/L	GWD-2	03/21/2017	yes	24.6000					
Zinc, total	ug/L	GWD-2	10/12/2017	yes	8.0000	ND				
Zinc, total	ug/L	GWD-2	03/08/2018	yes	8.0000	ND				
Zinc, total	ug/L	GWD-2	09/06/2018	yes	13.2000					
Zinc, total	ug/L	GWD-2	05/13/2019	yes	8.0000	ND				
Zinc, total	ug/L	GWD-2	09/26/2019	yes	8.0000	ND				
Zinc, total	ug/L	GWD-2	03/30/2020	yes	20.0000	ND			8.0000	***
Zinc, total	ug/L	GWD-2	09/17/2020	yes	20.0000	ND			8.0000	***
Zinc, total	ug/L	GWD-2	03/09/2021		20.0000	ND		10.7308		
Zinc, total	ug/L	GWD-2	09/09/2021		20.0000	ND		10.7308		
Zinc, total	ug/L	GWD-2	03/14/2022		20.0000	ND		10.7308		
Zinc, total	ug/L	GWD-2	03/06/2023		20.0000	ND		10.7308		

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**** - ND value replaced with manual RL.
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Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Zinc, total	ug/L	GWD-2	09/08/2023		20.0000	ND		10.7308		
Zinc, total	ug/L	GWD-2	03/20/2024		20.0000	ND		10.7308		
Zinc, total	ug/L	GWD-2	09/25/2024		20.0000	ND		10.7308		

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*** - ND value replaced with median RL.
**** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 4

Dixon's Test Outliers
5% Significance Level

Constituent	Units	Well	Date	Result	ND Qualifier	Date Range	N	Critical Value
Arsenic, total	ug/L	GWD-2	09/17/2020	73.5000		09/18/2014-09/17/2020	13	0.5213

N = Total number of independent measurements in background at each well.
Date Range = Dates of the first and last measurements included in background at each well.
Critical Value depends on the significance level and on N-1 when the two most extreme values are tested or N for the most extreme value.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Antimony, total (ug/L) at GWD-1
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X) = **2.0**	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Arsenic, total (ug/L) at GWD-1
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **63.6** / **14** = **4.543**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**308.38** - **4044.96**/**14**) / (**14**-1))^{½} = **1.223**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **4.543** + **6.5** * **1.223** = **12.494**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **14** * (**14**-1) / 2 = **91**	Number of sample pairs during trend detection period.
5	S = **0.0**	Sen's estimator of trend.
6	var(S) = **208.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**91** - **2.326** * **208.667**^{½}) / 2 = **28.7**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1th largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.399**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Barium, total (ug/L) at GWD-1
Normal Control Limit

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **6796.0** / **14** = **485.429**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**3.34**x**10^6** - **4.62**x**10^7**/**14**) / (**14**-1))^{½} = **53.438**	Compute background sd.
3	SCL = **$\bar{X}$** + **F** * **S** = **485.429** + **6.5** * **53.438** = **832.777**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **14** * (**14**-1) / 2 = **91**	Number of sample pairs during trend detection period.
5	S = **21.534**	Sen's estimator of trend.
6	var(S) = **333.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **$Z_{.99}$** * **var(S)**^{½}) / 2 = (**91** - **2.326** * **333.667**^{½}) / 2 = **24.256**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1th largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **14.524**	One-sided lower confidence limit for slope.
9	LCL(S) > 0	**Significant increasing trend.**

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Beryllium, total (ug/L) at GWD-1
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X) = **4.0**	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Cadmium, total (ug/L) at GWD-1
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X) = **0.8**	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Chromium, total (ug/L) at GWD-1
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X) = **8.0**	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Cobalt, total (ug/L) at GWD-1
Normal Control Limit

Step	Equation	Description
1	$\bar{X} = \mathbf{sum[X]} / \mathbf{N}$	Compute background mean.
	$= \mathbf{46.7} / \mathbf{13}$	
	$= \mathbf{3.592}$	
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{1/2}$	Compute background sd.
	$= ((\mathbf{299.99} - \mathbf{2180.89}/\mathbf{13}) / (\mathbf{13}-1))^{1/2}$	
	$= \mathbf{3.32}$	
3	$SCL = \bar{\mathbf{X}} + \mathbf{F} * \mathbf{S}$	Compute combined Shewhart-CUSUM normal control limit.
	$= \mathbf{3.592} + \mathbf{6.5} * \mathbf{3.32}$	
	$= \mathbf{25.169}$	
4	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$	Number of sample pairs during trend detection period.
	$= \mathbf{13} * (\mathbf{13}-1) / 2$	
	$= \mathbf{78}$	
5	$S = \mathbf{-1.127}$	Sen's estimator of trend.
6	$var(S) = \mathbf{267.667}$	Variance estimate for slope.
7	$M_1(S) = (\mathbf{N'} - \mathbf{Z}_{.99} * \mathbf{var(S)}^{1/2}) / 2$	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1 th largest slope estimate. When M_1 is not an integer, interpolation is used.
	$= (\mathbf{78} - \mathbf{2.326} * \mathbf{267.667}^{1/2}) / 2$	
	$= \mathbf{19.973}$	
8	$LCL(S) = \mathbf{-2.094}$	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Copper, total (ug/L) at GWD-1
Nonparametric Prediction Limit

Step	Equation	Description
1	$PL = max(X)$	Compute nonparametric prediction limit as largest background measurement.
	$= \mathbf{6.6}$	
2	$Conf = \mathbf{0.99}$	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Lead, total (ug/L) at GWD-1
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X) = **4.0**	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Nickel, total (ug/L) at GWD-1
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = max(X) = **9.4**	Compute nonparametric prediction limit as largest background measurement.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Selenium, total (ug/L) at GWD-1
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = max(X) = **4.0**	Compute nonparametric prediction limit as largest background measurement.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Silver, total (ug/L) at GWD-1
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X) = **4.0**	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Thallium, total (ug/L) at GWD-1
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X)	Compute nonparametric prediction limit as median reporting limit in background.
	= **4.0**	
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Vanadium, total (ug/L) at GWD-1
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X)	Compute nonparametric prediction limit as median reporting limit in background.
	= **20.0**	
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Zinc, total (ug/L) at GWD-1
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = max(X)	Compute nonparametric prediction limit as largest background measurement.
	= **28.6**	
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Antimony, total (ug/L) at GWD-2
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X)	Compute nonparametric prediction limit as median reporting limit in background.
	= **2.0**	
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Barium, total (ug/L) at GWD-2
Normal Control Limit

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N**	Compute background mean.
	= **5086.0** / **13**	
	= **391.231**	
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½}	Compute background sd.
	= ((**2.22**x**10^6** - **2.59**x**10^7**/**13**) / (**13**-1))^{½}	
	= **138.415**	
3	SCL = **$\bar{X}$** + **F** * **S**	Compute combined Shewhart-CUSUM normal control limit.
	= **391.231** + **6.5** * **138.415**	
	= **1290.928**	
4	N' = **N** * (**N**-1) / 2	Number of sample pairs during trend detection period.
	= **13** * (**13**-1) / 2	
	= **78**	
5	S = **23.066**	Sen's estimator of trend.
6	var(S) = **268.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **$Z_{.99}$** * **var(S)**^{½}) / 2	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1th largest slope estimate. When M_1 is not an integer, interpolation is used.
	= (**78** - **2.326** * **268.667**^{½}) / 2	
	= **19.937**	
8	LCL(S) = **8.485**	One-sided lower confidence limit for slope.
9	LCL(S) > 0	**Significant increasing trend.**

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Beryllium, total (ug/L) at GWD-2
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X)	Compute nonparametric prediction limit as median reporting limit in background.
	= **4.0**	
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Cadmium, total (ug/L) at GWD-2
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X) = **0.8**	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Chromium, total (ug/L) at GWD-2
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X) = **8.0**	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Cobalt, total (ug/L) at GWD-2
Normal Control Limit

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **69.2** / **13** = **5.323**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**630.44** - **4788.64**/**13**) / (**13**-1))^{½} = **4.673**	Compute background sd.
3	SCL = $\bar{X}$ + **F** * **S** = **5.323** + **6.5** * **4.673** = **35.7**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **13** * (**13**-1) / 2 = **78**	Number of sample pairs during trend detection period.
5	S = **1.678**	Sen's estimator of trend.
6	var(S) = **267.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - $Z_{.99}$ * **var(S)**^{½}) / 2 = (**78** - **2.326** * **267.667**^{½}) / 2 = **19.973**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1th largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **0.37**	One-sided lower confidence limit for slope.
9	LCL(S) > 0	**Significant increasing trend.**

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Copper, total (ug/L) at GWD-2
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X) = **4.0**	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Lead, total (ug/L) at GWD-2
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X) = **4.0**	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Nickel, total (ug/L) at GWD-2
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **97.4** / **13** = **7.492**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))$^{1/2}$ = ((**854.28** - **9486.76**/**13**) / (**13**-1))$^{1/2}$ = **3.221**	Compute background sd.
3	SCL = $\overline{X}$ + **F** * **S** = **7.492** + **6.5** * **3.221** = **28.431**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **13** * (**13**-1) / 2 = **78**	Number of sample pairs during trend detection period.
5	S = **0.642**	Sen's estimator of trend.
6	var(S) = **260.0**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**$^{1/2}$) / 2 = (**78** - **2.326** * **260.0**$^{1/2}$) / 2 = **20.247**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1th largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.825**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Selenium, total (ug/L) at GWD-2
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X) = **4.0**	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Silver, total (ug/L) at GWD-2
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X) = **4.0**	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Thallium, total (ug/L) at GWD-2
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X) = **4.0**	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Vanadium, total (ug/L) at GWD-2
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = median(X) = **20.0**	Compute nonparametric prediction limit as median reporting limit in background.
2	Conf = **0.99**	Confidence level is based on N, K and resampling strategy (see Gibbons 1994).

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Zinc, total (ug/L) at GWD-2
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **139.5** / **13** = **10.731**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**1862.57** - **19460.25/13**) / (**13**-1))^{½} = **5.52**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **10.731** + **6.5** * **5.52** = **46.61**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **13** * (**13**-1) / 2 = **78**	Number of sample pairs during trend detection period.
5	S = **0.0**	Sen's estimator of trend.
6	var(S) = **176.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**78** - **2.326** * **176.667**^{½}) / 2 = **23.542**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1th largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.273**	One-sided lower confidence limit for slope.

Attachment D

Assessment Statistics for Verified Trace Metal Exceedances

Table 1

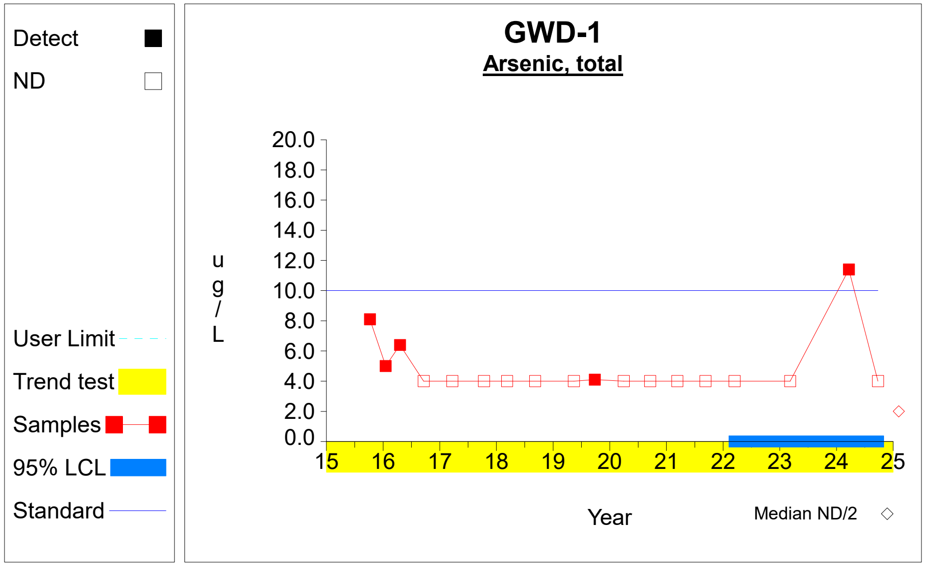
Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
Arsenic, total	ug/L	GWD-1	4	4.350	4.700	1.176	0.000	9.879	10.000		
Barium, total	ug/L	GWD-1	4	491.750	97.349	1.176	377.239	606.261	2000.000	inc	
Cobalt, total	ug/L	GWD-1	4	1.825	1.403	1.176	0.174	3.476	2.100		
Nickel, total	ug/L	GWD-1	4	3.250	1.480	1.176	1.509	4.991	100.000		
Arsenic, total	ug/L	GWD-2	4	5.925	5.563	1.176	0.000	12.468	10.000		
Barium, total	ug/L	GWD-2	4	714.000	169.884	1.176	514.167	913.833	2000.000	inc	
Cobalt, total	ug/L	GWD-2	4	3.900	0.872	1.176	2.875	4.925	2.100		**
Nickel, total	ug/L	GWD-2	4	3.100	1.281	1.176	1.594	4.606	100.000		
Arsenic, total	ug/L	MW-12	4	6.800	6.561	1.176	0.000	14.518	10.000		
Barium, total	ug/L	MW-12	4	594.250	177.688	1.176	385.238	803.262	2000.000		
Cobalt, total	ug/L	MW-12	4	7.750	9.693	1.176	0.000	19.152	2.100		
Nickel, total	ug/L	MW-12	4	28.125	24.616	1.176	0.000	57.081	100.000		
Arsenic, total	ug/L	MW-15	4	2.000	0.000	1.176	2.000	2.000	10.000		
Barium, total	ug/L	MW-15	4	488.750	67.282	1.176	409.607	567.893	2000.000		
Cobalt, total	ug/L	MW-15	4	0.400	0.000	1.176	0.400	0.400	2.100		
Nickel, total	ug/L	MW-15	4	8.250	4.183	1.176	3.330	13.170	100.000	dec	
Arsenic, total	ug/L	MW-19	4	2.000	0.000	1.176	2.000	2.000	10.000		
Barium, total	ug/L	MW-19	4	316.975	211.250	1.176	68.484	565.466	2000.000	dec	
Cobalt, total	ug/L	MW-19	4	5.500	5.981	1.176	0.000	12.535	2.100		
Nickel, total	ug/L	MW-19	4	7.725	6.041	1.176	0.619	14.831	100.000		
Arsenic, total	ug/L	MW-3	4	2.000	0.000	1.176	2.000	2.000	10.000		
Barium, total	ug/L	MW-3	4	754.250	22.998	1.176	727.197	781.303	2000.000	inc	
Cobalt, total	ug/L	MW-3	4	0.400	0.000	1.176	0.400	0.400	2.100		
Nickel, total	ug/L	MW-3	4	2.000	0.000	1.176	2.000	2.000	100.000		
Arsenic, total	ug/L	MW-9	4	2.000	0.000	1.176	2.000	2.000	10.000		
Barium, total	ug/L	MW-9	4	330.000	14.900	1.176	312.474	347.526	2000.000	dec	
Cobalt, total	ug/L	MW-9	4	1.100	0.663	1.176	0.320	1.880	2.100		
Nickel, total	ug/L	MW-9	4	3.675	2.029	1.176	1.289	6.061	100.000	dec	

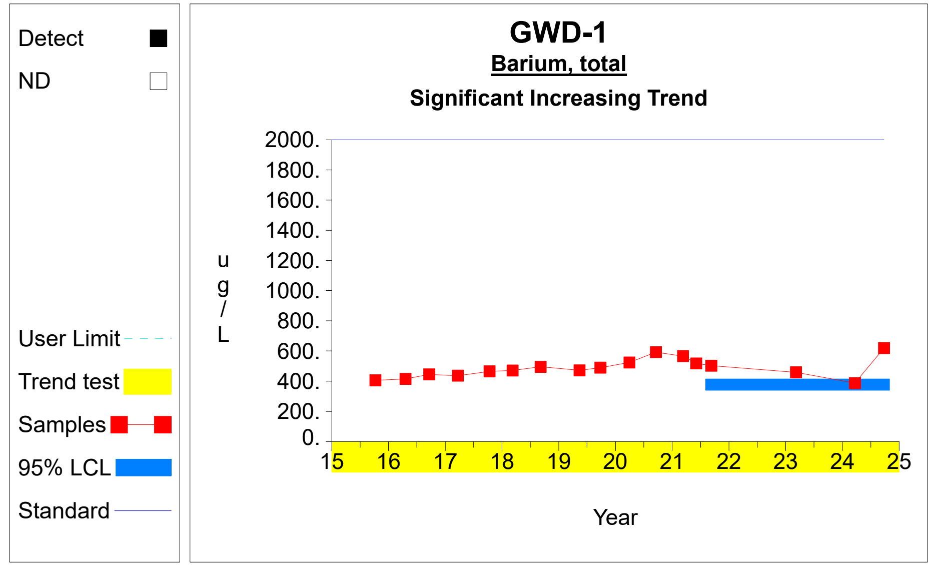
* - Insufficient Data
** - Significant Exceedance
LCL = Lower Confidence Limit
UCL = Upper Confidence Limit

Fremont County [GW] October 2024

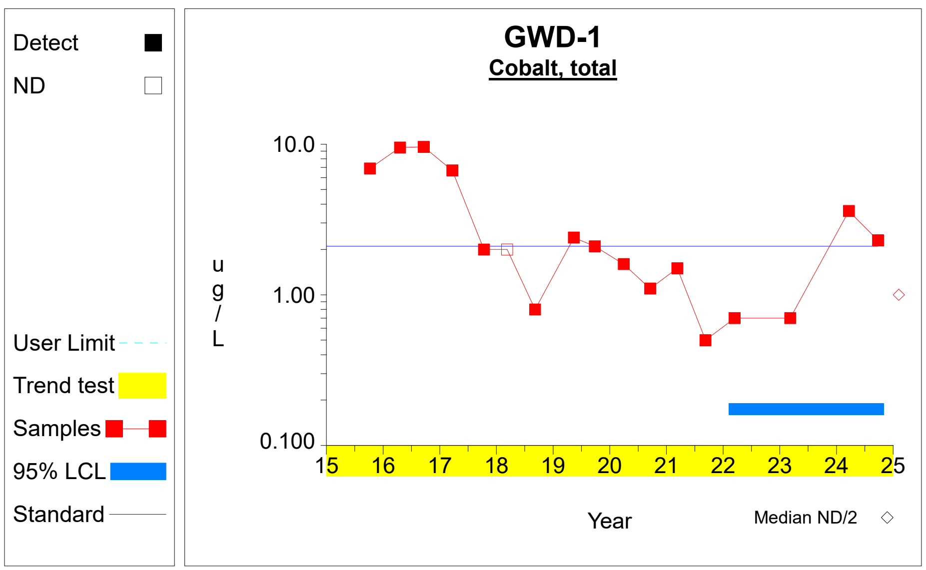
Confidence Limits (Assessment)



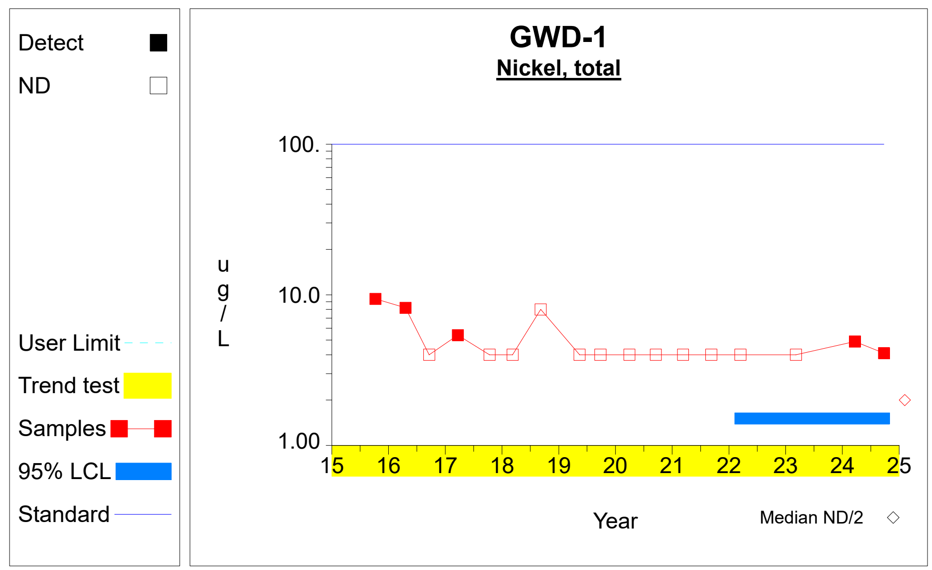
Graph 1



Graph 2



Graph 3



Graph 4

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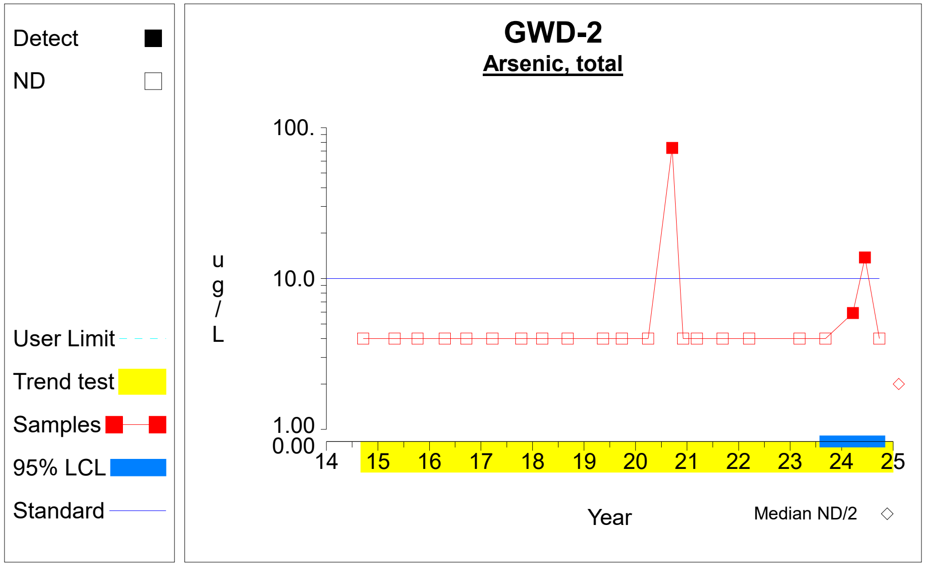
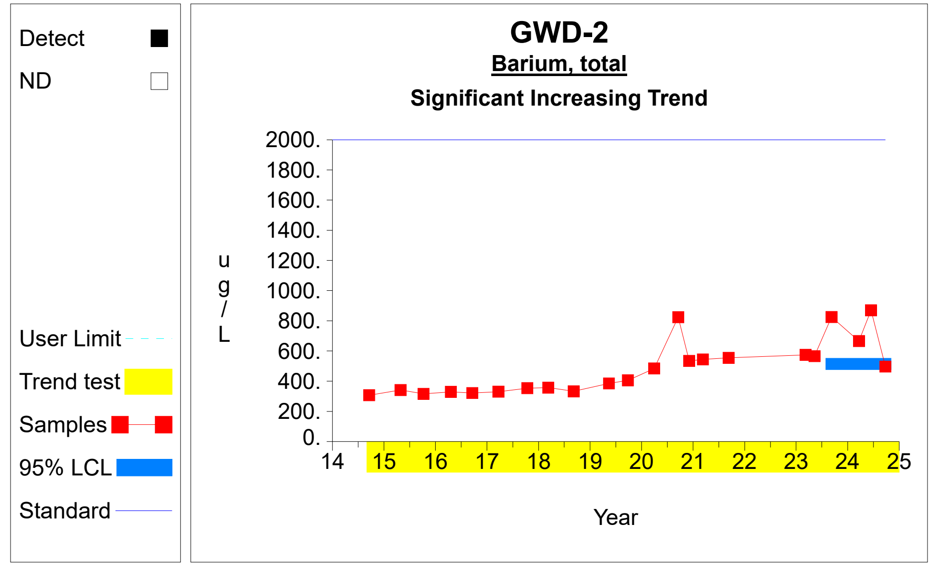
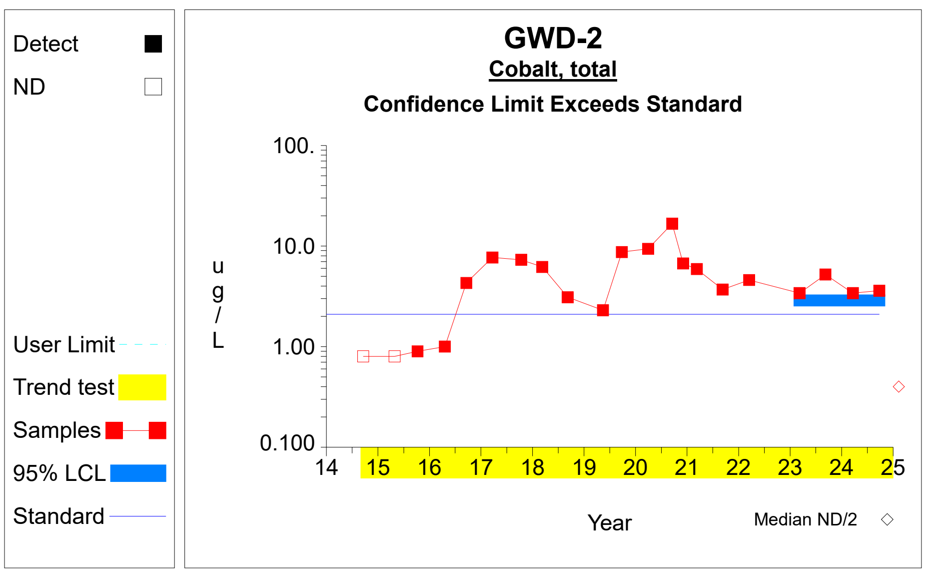
Confidence Limits (Assessment)



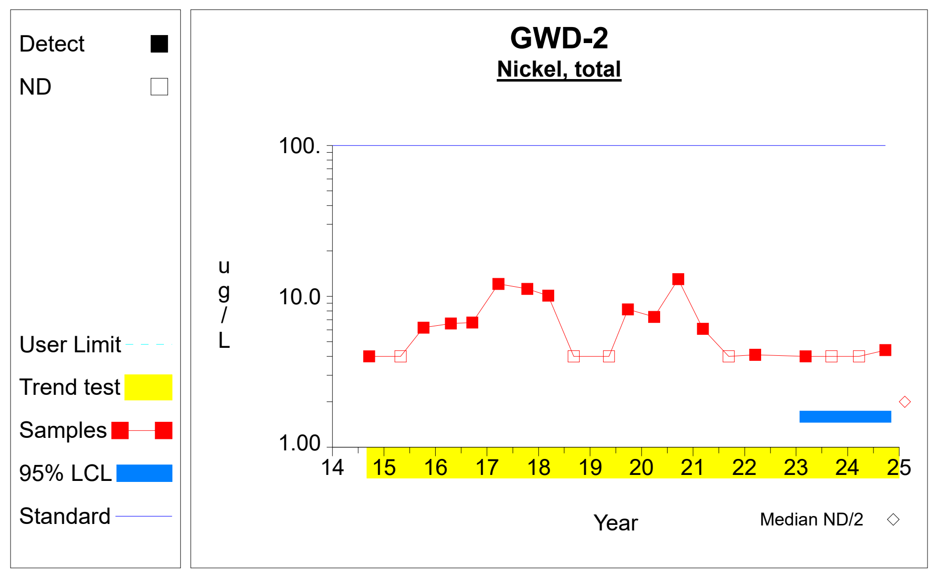
Graph 5



Graph 6



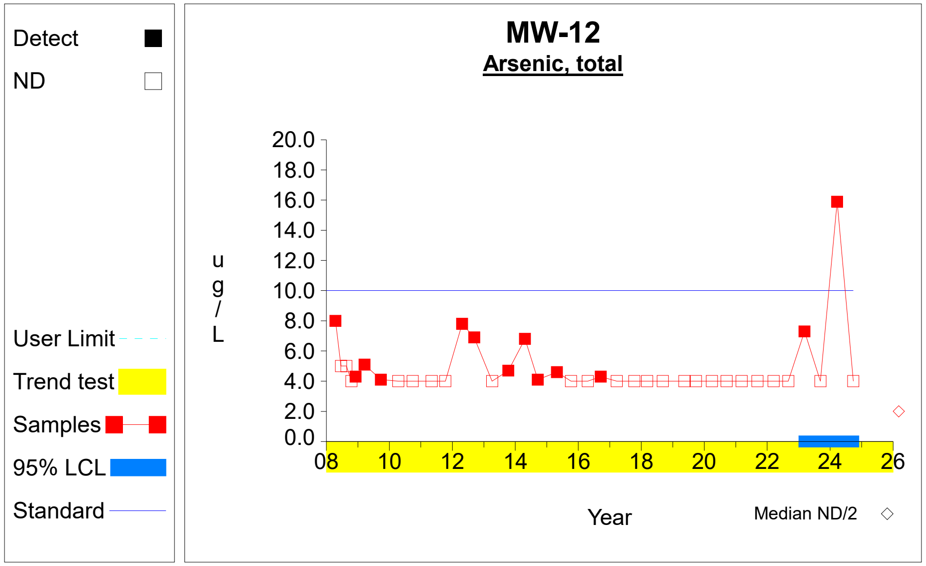
Graph 7



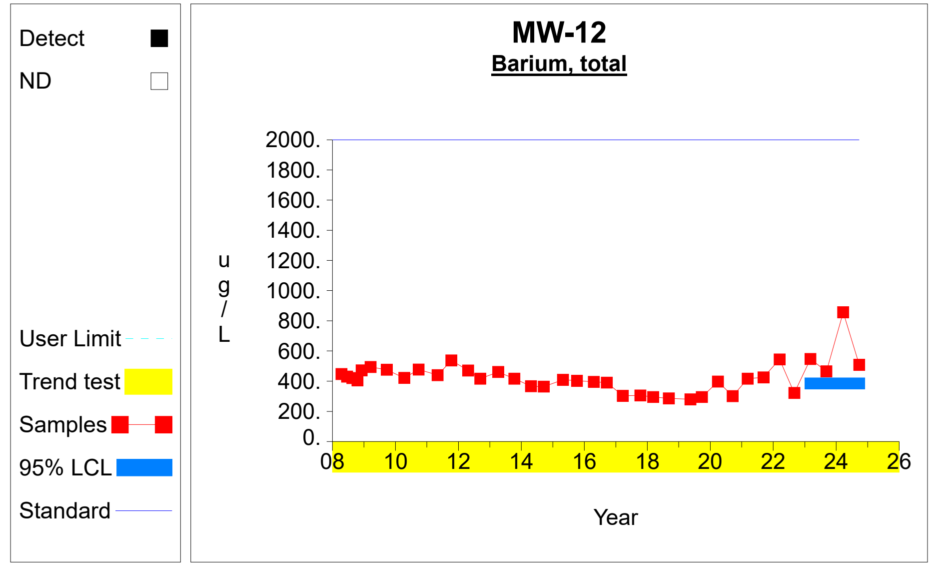
Graph 8

Prepared by: Otter Creek Environmental

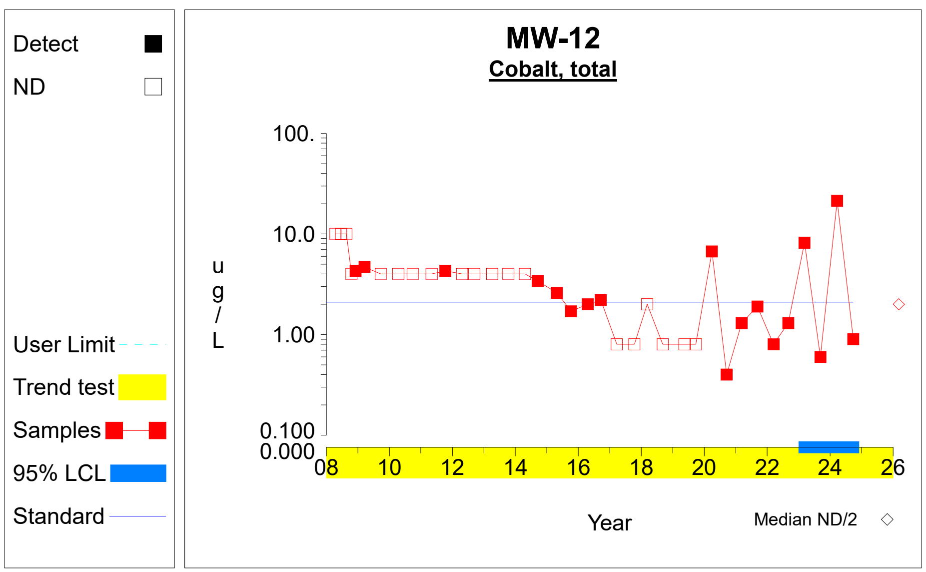
Confidence Limits (Assessment)



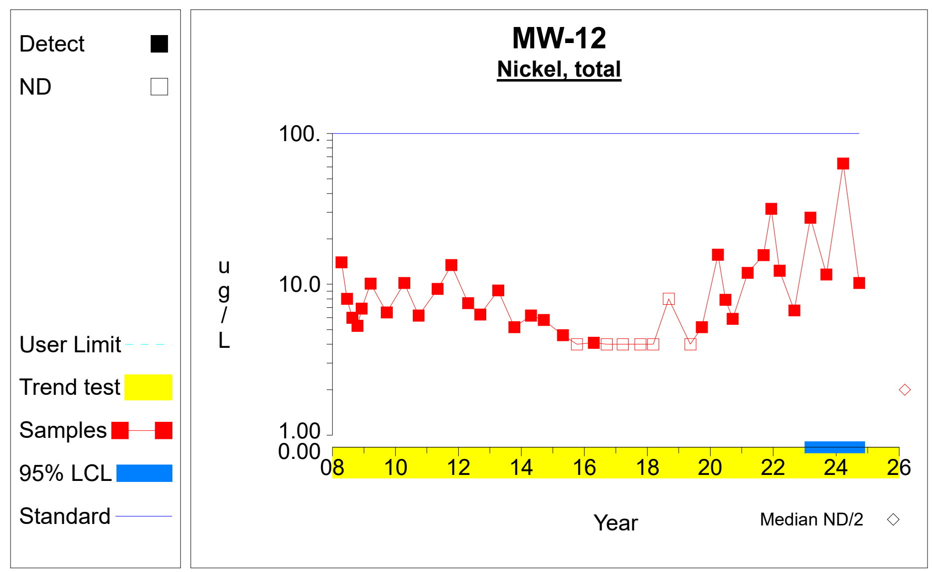
Graph 9



Graph 10



Graph 11

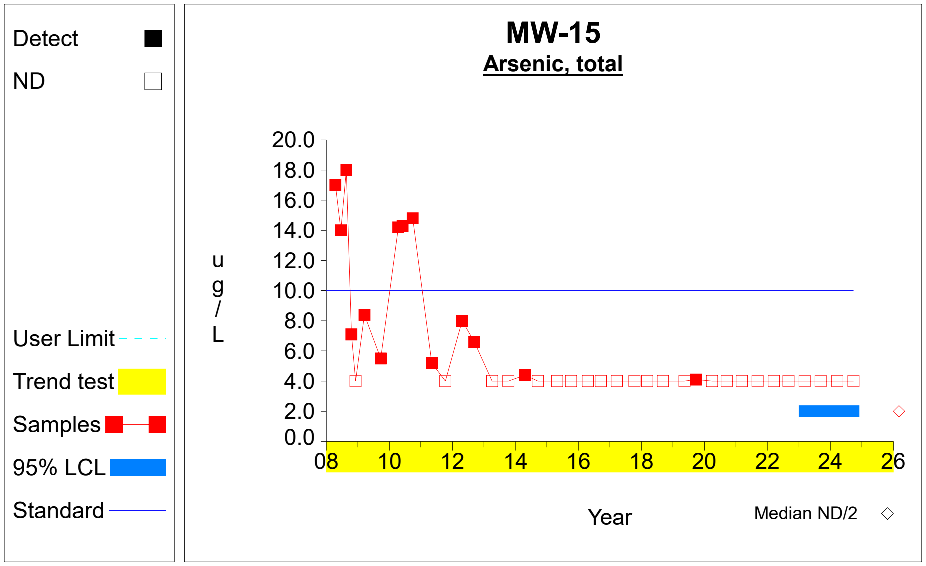


Graph 12

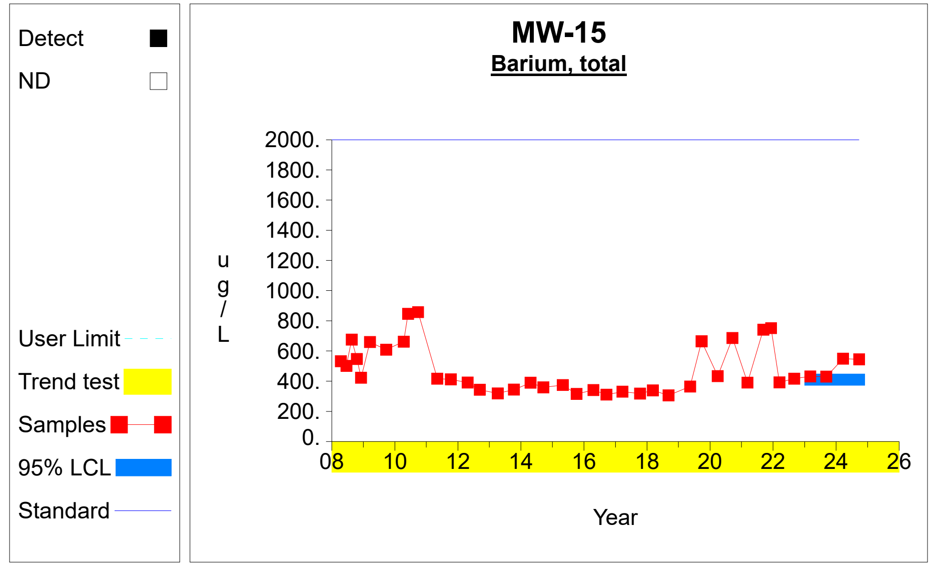
Prepared by: Otter Creek Environmental

Fremont County [GW] October 2024

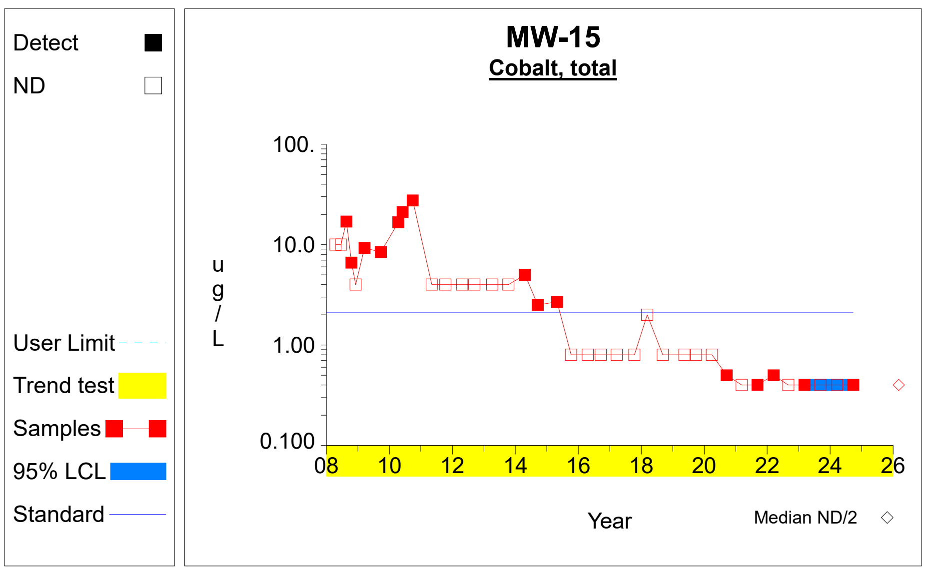
Confidence Limits (Assessment)



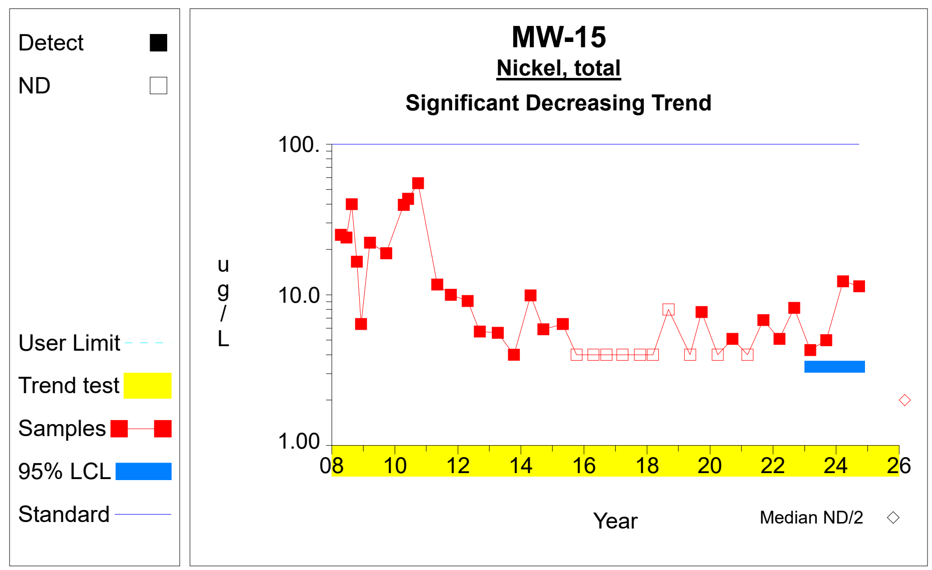
Graph 13



Graph 14



Graph 15

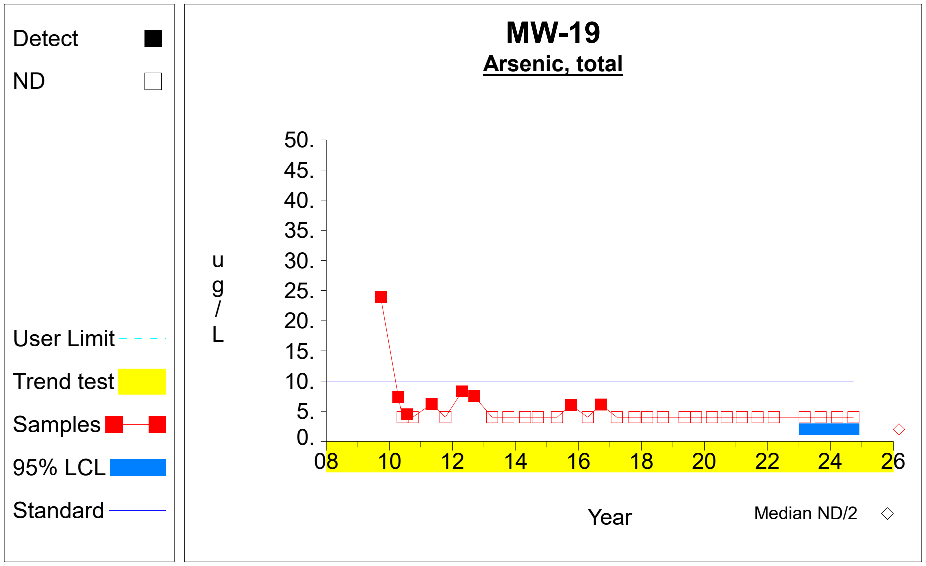


Graph 16

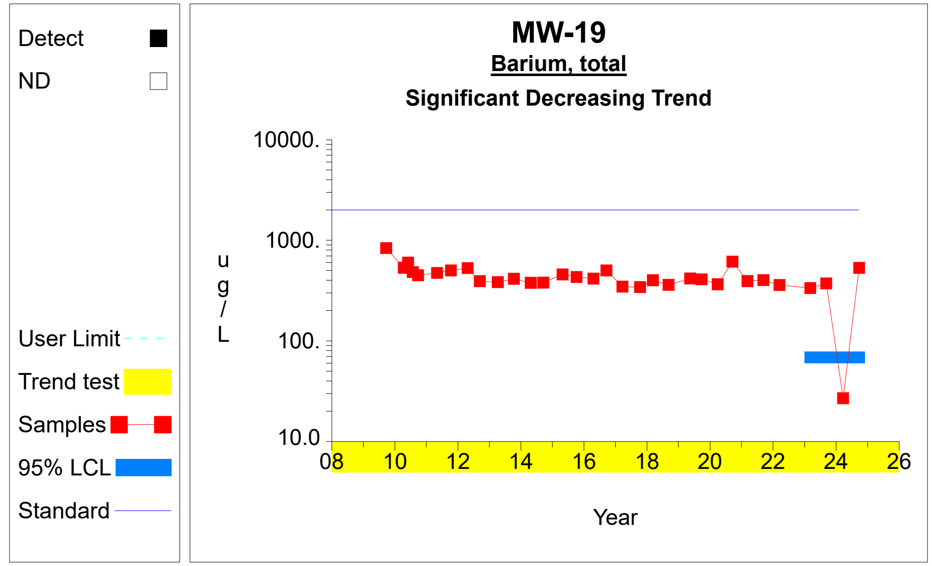
Prepared by: Otter Creek Environmental

Fremont County [GW] October 2024

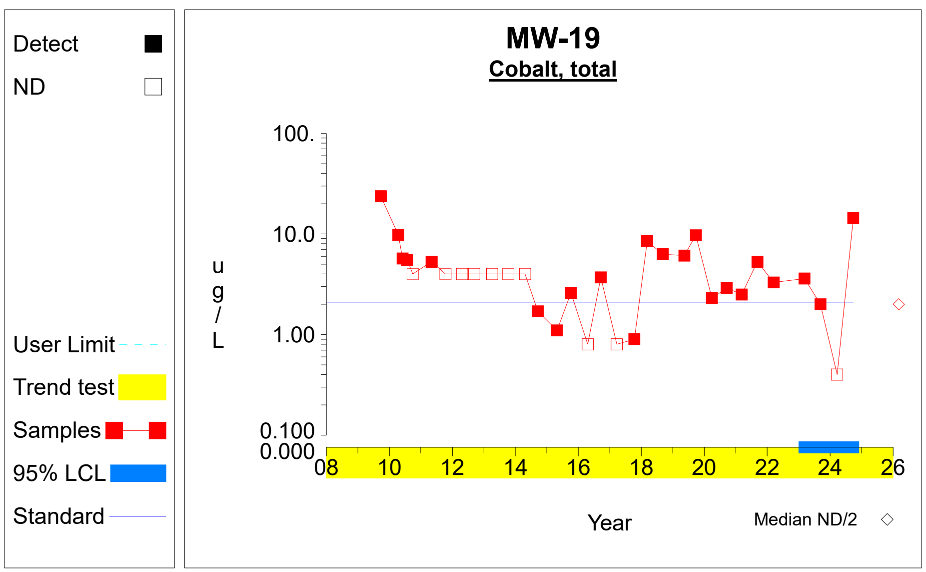
Confidence Limits (Assessment)



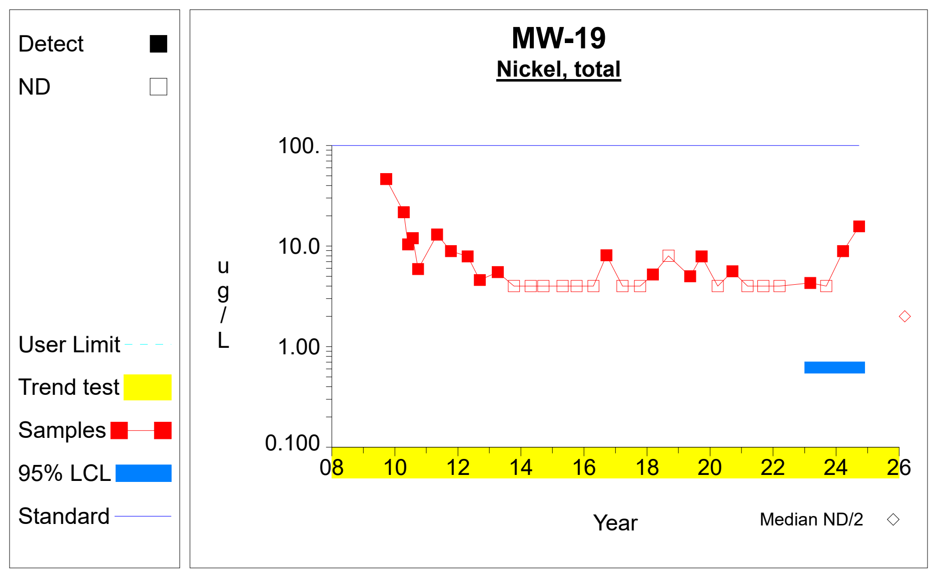
Graph 17



Graph 18



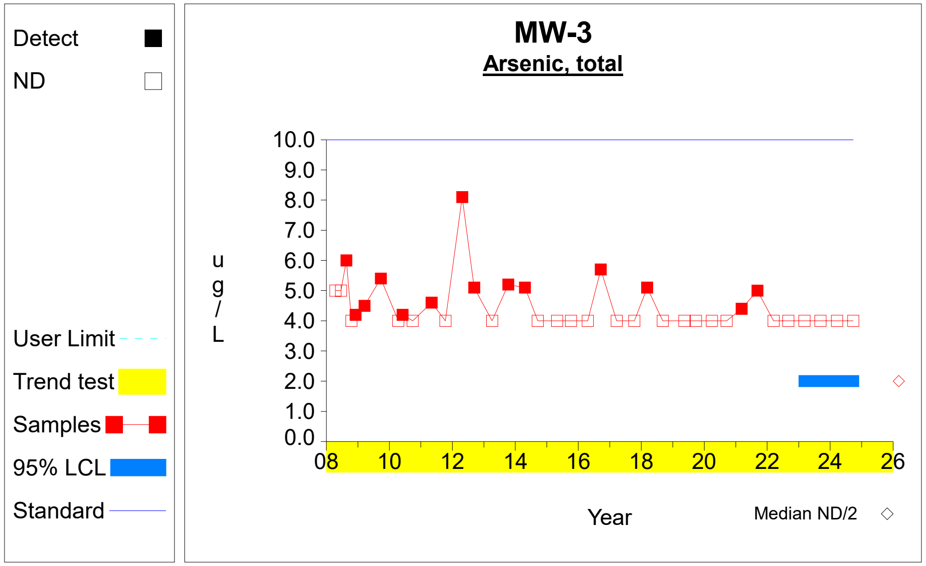
Graph 19



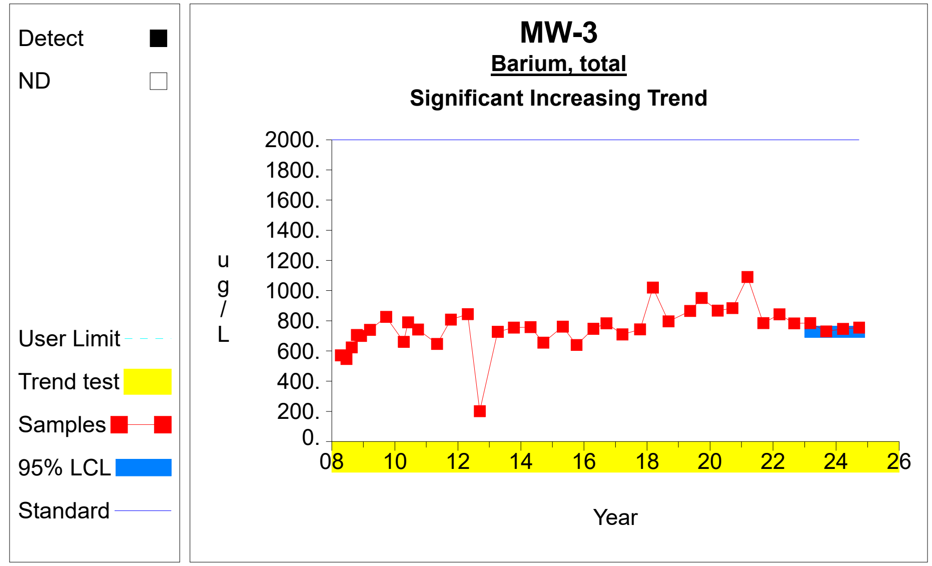
Graph 20

Prepared by: Otter Creek Environmental

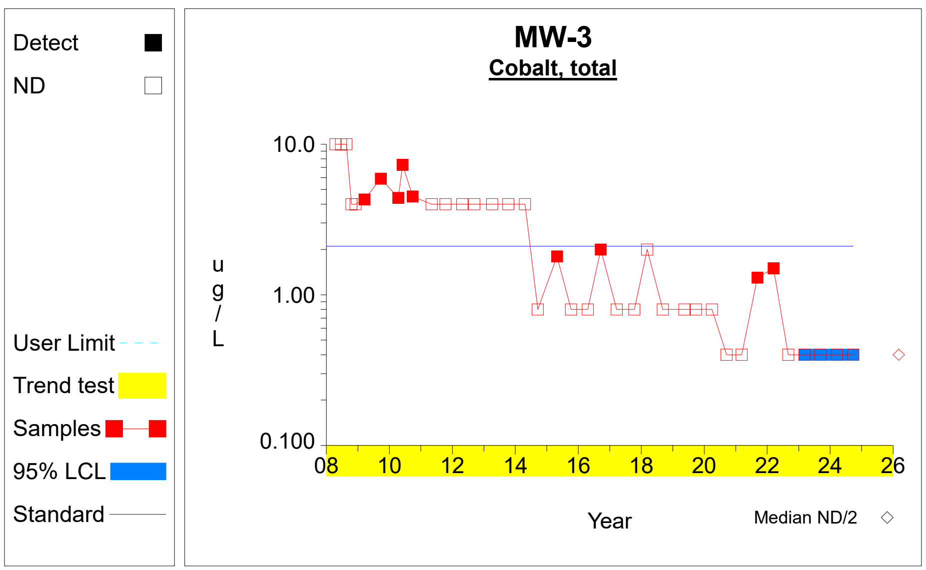
Confidence Limits (Assessment)



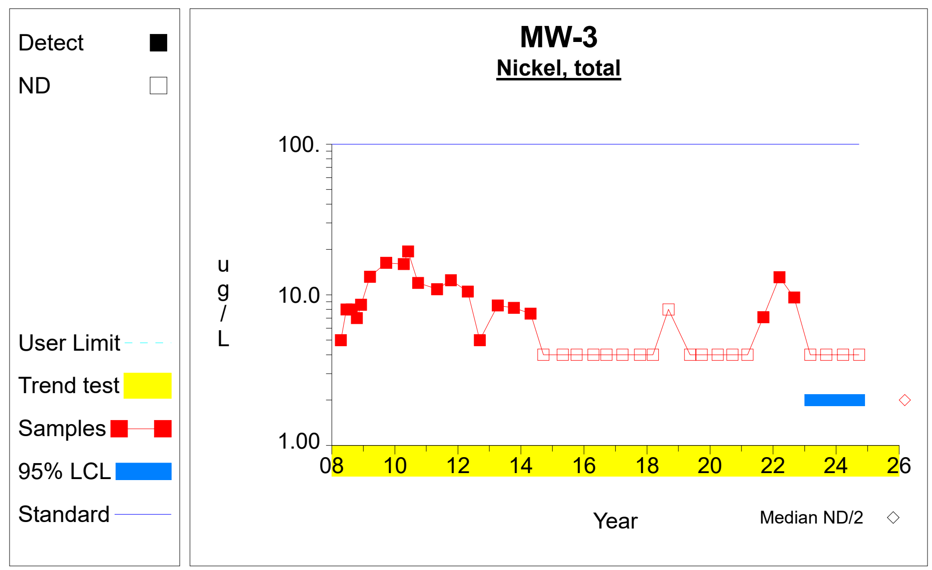
Graph 21



Graph 22



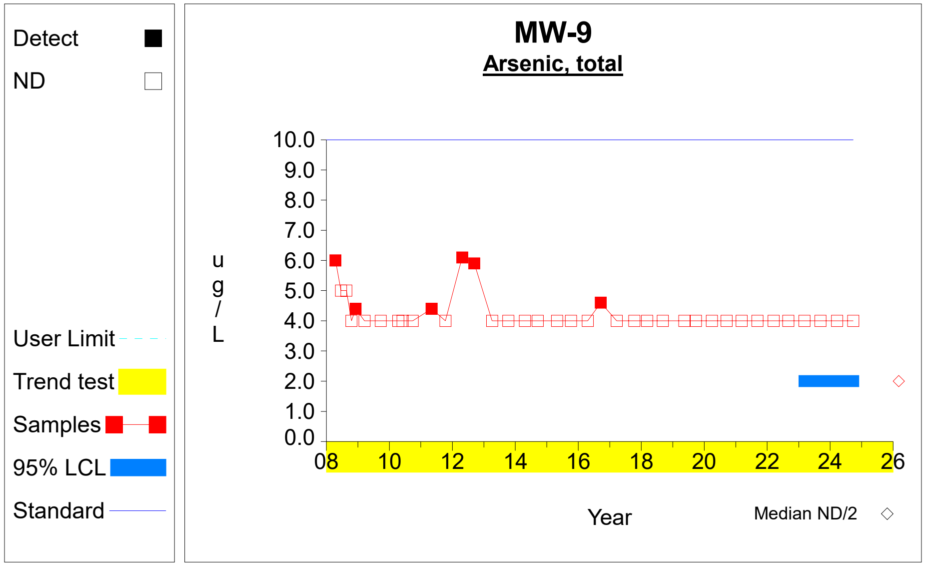
Graph 23



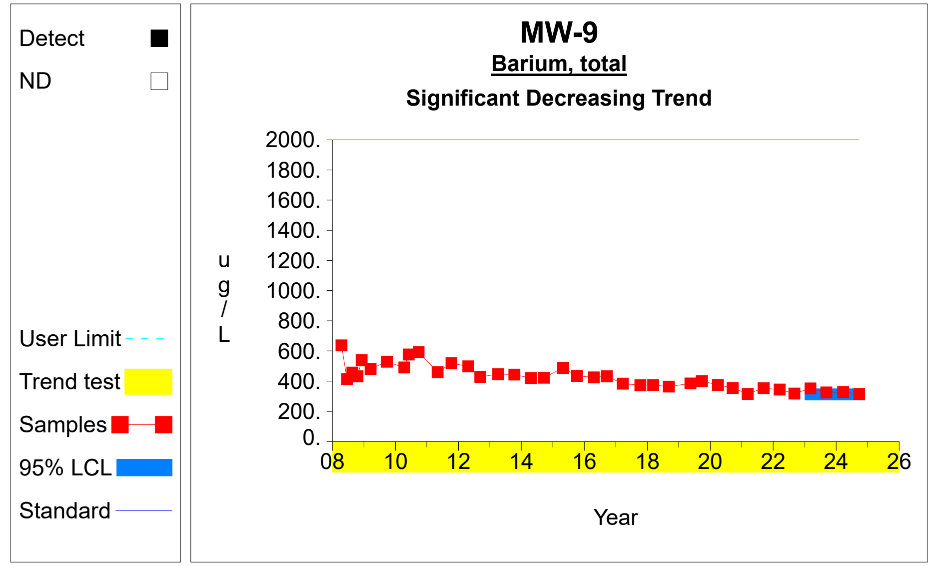
Graph 24

Prepared by: Otter Creek Environmental

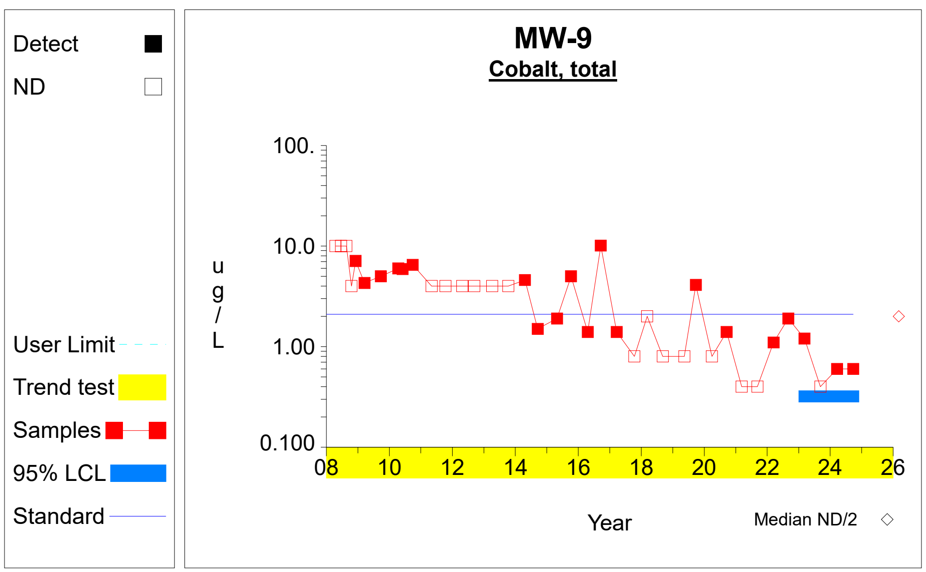
Confidence Limits (Assessment)



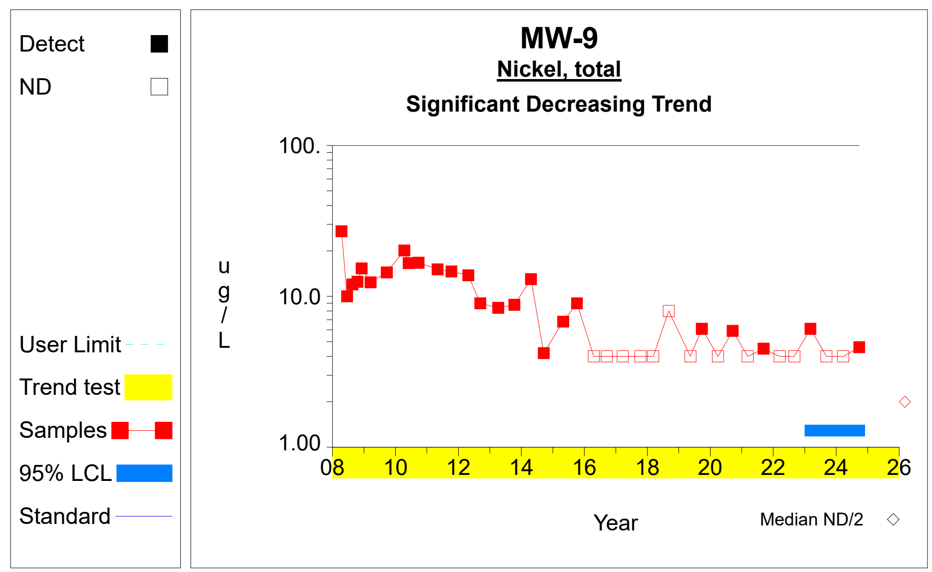
Graph 25



Graph 26



Graph 27



Graph 28

Worksheet 6 - Assessment Monitoring
Arsenic, total (ug/L) at GWD-1

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **17.4** / **4** = **4.35**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))^{½} = ((**141.96** - **302.76**/**4**) / (**4**-1))^{½} = **4.7**	Compute sd of the last 4 measurements.
3	LCL = $\overline{X}$ - **tS**/**N**^{½} = **4.35** - **2.353** * **4.7**/**4**^{½} = **0.0**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = $\overline{X}$ + **tS**/**N**^{½} = **4.35** + **2.353** * **4.7**/**4**^{½} = **9.879**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **18** * (**18**-1) / 2 = **153**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **428.333**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**153** ± **2.576** * **428.333**^{½}) / 2 = [**49.843**, **103.157**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the Mth largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**-0.42**, **0.0**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Barium, total (ug/L) at GWD-1

Step	Equation	Description
1	$\overline{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{1967.0} / \mathbf{4}$ $= \mathbf{491.75}$	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{1/2}$ $= ((\mathbf{995703.0} - \mathbf{3.87}\times\mathbf{10^6}/\mathbf{4}) / (\mathbf{4}-1))^{1/2}$ $= \mathbf{97.349}$	Compute sd of the last 4 measurements.
3	$LCL = \overline{\mathbf{X}} - \mathbf{tS}/\mathbf{N}^{1/2}$ $= \mathbf{491.75} - \mathbf{2.353} * \mathbf{97.349}/\mathbf{4}^{1/2}$ $= \mathbf{377.239}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \overline{\mathbf{X}} + \mathbf{tS}/\mathbf{N}^{1/2}$ $= \mathbf{491.75} + \mathbf{2.353} * \mathbf{97.349}/\mathbf{4}^{1/2}$ $= \mathbf{606.261}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{17} * (\mathbf{17}-1) / 2$ $= \mathbf{136}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{18.686}$	Sen's estimator of trend.
7	$var(S) = \mathbf{589.333}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{136} \pm \mathbf{2.576} * \mathbf{589.333}^{1/2}) / 2$ $= [\ \mathbf{36.732}, \mathbf{99.268}\ ]$	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the M^{th} largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$CL(S) = [\ \mathbf{0.273}, \mathbf{29.231}\ ]$	Two-sided confidence interval for slope.
10	$LCL(S) > 0$	**Significant increasing trend.**

Worksheet 6 - Assessment Monitoring
Cobalt, total (ug/L) at GWD-1

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **7.3** / **4** = **1.825**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))$^{1/2}$ = ((**19.23** - **53.29**/**4**) / (**4**-1))$^{1/2}$ = **1.403**	Compute sd of the last 4 measurements.
3	LCL = $\bar{X}$ - **tS**/**N**$^{1/2}$ = **1.825** - **2.353** * **1.403**/**4**$^{1/2}$ = **0.174**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = $\bar{X}$ + **tS**/**N**$^{1/2}$ = **1.825** + **2.353** * **1.403**/**4**$^{1/2}$ = **3.476**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **17** * (**17**-1) / 2 = **136**	Number of sample pairs during trend detection period.
6	S = **-0.541**	Sen's estimator of trend.
7	var(S) = **588.333**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**136** ± **2.576** * **588.333**$^{1/2}$) / 2 = [**36.759**, **99.241**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the Mth largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**-1.38**, **0.041**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Nickel, total (ug/L) at GWD-1

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **13.0** / **4** = **3.25**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))$^{1/2}$ = ((**48.82** - **169.0**/**4**) / (**4**-1))$^{1/2}$ = **1.48**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$** - **tS**/**N**$^{1/2}$ = **3.25** - **2.353** * **1.48**/**4**$^{1/2}$ = **1.509**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$** + **tS**/**N**$^{1/2}$ = **3.25** + **2.353** * **1.48**/**4**$^{1/2}$ = **4.991**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **17** * (**17**-1) / 2 = **136**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **376.667**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**136** ± **2.576** * **376.667**$^{1/2}$) / 2 = [**43.003**, **92.997**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the Mth largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**-0.416**, **0.0**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Arsenic, total (ug/L) at GWD-2

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **23.7** / **4** = **5.925**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2/N**) / (**N**-1))^{½} = ((**233.25** - **561.69/4**) / (**4**-1))^{½} = **5.563**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$ - tS/N**^{½} = **5.925** - **2.353** * **5.563/4**^{½} = **0.0**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$** + **tS/N**^{½} = **5.925** + **2.353** * **5.563/4**^{½} = **12.468**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **22** * (**22**-1) / 2 = **231**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **440.667**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**231** ± **2.576** * **440.667**^{½}) / 2 = [**88.462**, **142.538**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the Mth largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**0.0**, **0.0**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Barium, total (ug/L) at GWD-2

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **2856.0** / **4** = **714.0**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2/N**) / (**N**-1))^{½} = ((**2.13**x**10^6** - **8.16**x**10^6/4**) / (**4**-1))^{½} = **169.884**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$ - tS/N^{½}** = **714.0 - 2.353** * **169.884/4^{½}** = **514.167**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$ + tS/N^{½}** = **714.0** + **2.353** * **169.884/4^{½}** = **913.833**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **22** * (**22**-1) / 2 = **231**	Number of sample pairs during trend detection period.
6	S = **39.287**	Sen's estimator of trend.
7	var(S) = **1257.667**	Variance estimate for slope.
8	M(S) = (**N'** ± **$Z_{.995}$** * **var(S)^{½}**) / 2 = (**231** ± **2.576** * **1257.667^{½}**) / 2 = [**69.823**, **161.177**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the Mth largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**20.358**, **57.746**]	Two-sided confidence interval for slope.
10	LCL(S) > 0	**Significant increasing trend.**

Worksheet 6 - Assessment Monitoring
Cobalt, total (ug/L) at GWD-2

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **15.6** / **4** = **3.9**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2**/**N**) / (**N**-1))$^{1/2}$ = ((**63.12** - **243.36**/**4**) / (**4**-1))$^{1/2}$ = **0.872**	Compute sd of the last 4 measurements.
3	LCL = $\bar{X}$ - **tS**/**N**$^{1/2}$ = **3.9** - **2.353** * **0.872**/**4**$^{1/2}$ = **2.875**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = $\bar{X}$ + **tS**/**N**$^{1/2}$ = **3.9** + **2.353** * **0.872**/**4**$^{1/2}$ = **4.925**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **21** * (**21**-1) / 2 = **210**	Number of sample pairs during trend detection period.
6	S = **0.337**	Sen's estimator of trend.
7	var(S) = **1094.667**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**210** ± **2.576** * **1094.667**$^{1/2}$) / 2 = [**62.386**, **147.614**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the Mth largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**-0.544**, **0.87**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Nickel, total (ug/L) at GWD-2

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **12.4** / **4** = **3.1**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2/N**) / (**N**-1))$^{1/2}$ = ((**43.36 - 153.76/4**) / (**4**-1))$^{1/2}$ = **1.281**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$ - tS/N$^{1/2}$** = **3.1 - 2.353** * **1.281/4$^{1/2}$** = **1.594**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$ + tS/N$^{1/2}$** = **3.1** + **2.353** * **1.281/4$^{1/2}$** = **4.606**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **20** * (**20**-1) / 2 = **190**	Number of sample pairs during trend detection period.
6	S = **-0.242**	Sen's estimator of trend.
7	var(S) = **920.667**	Variance estimate for slope.
8	M(S) = (**N' ± $Z_{.995}$** * **var(S)$^{1/2}$**) / 2 = (**190** ± **2.576** * **920.667$^{1/2}$**) / 2 = [**55.919**, **134.081**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the M^{th} largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**-1.358**, **0.448**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Arsenic, total (ug/L) at MW-12

Step	Equation	Description
1	$\bar{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{27.2} / \mathbf{4}$ $= \mathbf{6.8}$	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{½}$ $= ((\mathbf{314.1} - \mathbf{739.84/4}) / (\mathbf{4}-1))^{½}$ $= \mathbf{6.561}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{\mathbf{X}} - \mathbf{tS/N}^{½}$ $= \mathbf{6.8} - \mathbf{2.353} * \mathbf{6.561/4}^{½}$ $= \mathbf{0.0}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\mathbf{X}} + \mathbf{tS/N}^{½}$ $= \mathbf{6.8} + \mathbf{2.353} * \mathbf{6.561/4}^{½}$ $= \mathbf{14.518}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{37} * (\mathbf{37}-1) / 2$ $= \mathbf{666}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \mathbf{4218.667}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{½}) / 2$ $= (\mathbf{666} \pm \mathbf{2.576} * \mathbf{4218.667}^{½}) / 2$ $= [\ \mathbf{249.343},\ \mathbf{416.657}\ ]$	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the M^{th} largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$CL(S) = [\ \mathbf{0.0},\ \mathbf{0.0}\ ]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Barium, total (ug/L) at MW-12

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **2377.0** / **4** = **594.25**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2/N**) / (**N**-1))$^{1/2}$ = ((**1.51**x**10^6** - **5.65**x**10^6/4**) / (**4**-1))$^{1/2}$ = **177.688**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$ - tS/N**$^{1/2}$ = **594.25 - 2.353** * **177.688/4**$^{1/2}$ = **385.238**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$** + **tS/N**$^{1/2}$ = **594.25** + **2.353** * **177.688/4**$^{1/2}$ = **803.262**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **37** * (**37**-1) / 2 = **666**	Number of sample pairs during trend detection period.
6	S = **-4.239**	Sen's estimator of trend.
7	var(S) = **5841.333**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**666** ± **2.576** * **5841.333**$^{1/2}$) / 2 = [**234.56**, **431.44**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the Mth largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**-12.422**, **4.058**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Cobalt, total (ug/L) at MW-12

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **31.0** / **4** = **7.75**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))^{½} = ((**522.1** - **961.0**/**4**) / (**4**-1))^{½} = **9.693**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$ - tS**/**N**^{½} = **7.75** - **2.353** * **9.693**/**4**^{½} = **0.0**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$** + **tS**/**N**^{½} = **7.75** + **2.353** * **9.693**/**4**^{½} = **19.152**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **37** * (**37**-1) / 2 = **666**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **4894.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**666** ± **2.576** * **4894.0**^{½}) / 2 = [**242.895**, **423.105**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the Mth largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**-0.079**, **0.0**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Nickel, total (ug/L) at MW-12

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N**	Compute the mean of the last 4 measurements.
	= **112.5** / **4**	
	= **28.125**	
2	S = ((**sum[X^2] - sum[X]^2/N**) / (**N**-1))$^{1/2}$	Compute sd of the last 4 measurements.
	= ((**4981.97** - **12656.25/4**) / (**4**-1))$^{1/2}$	
	= **24.616**	
3	LCL = $\bar{X}$ - **tS/N**$^{1/2}$	Compute lower confidence limit for the mean of the last 4 measurements.
	= **28.125** - **2.353** * **24.616/4**$^{1/2}$	
	= **0.0**	
4	UCL = $\bar{X}$ + **tS/N**$^{1/2}$	Compute upper confidence limit for the mean of the last 4 measurements.
	= **28.125** + **2.353** * **24.616/4**$^{1/2}$	
	= **57.081**	
5	N' = **N** * (**N**-1) / 2	Number of sample pairs during trend detection period.
	= **39** * (**39**-1) / 2	
	= **741**	
6	S = **0.084**	Sen's estimator of trend.
7	var(S) = **6786.333**	Variance estimate for slope.
8	M(S) = (**N'** ± $\mathbf{Z}_{.995}$ * **var(S)**$^{1/2}$) / 2	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the Mth largest slope estimates for the values shown. When the values are not integers, interpolation is used.
	= (**741** ± **2.576** * **6786.333**$^{1/2}$) / 2	
	= [**264.396**, **476.604**]	
9	CL(S) = [**-0.351**, **0.718**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Arsenic, total (ug/L) at MW-15

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **8.0** / **4** = **2.0**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**16.0** - **64.0**/**4**) / (**4**-1))^{½} = **0.0**	Compute sd of the last 4 measurements.
3	LCL = $\bar{X}$ - **tS**/**N**^{½} = **2.0** - **2.353** * **0.0**/**4**^{½} = **2.0**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = $\bar{X}$ + **tS**/**N**^{½} = **2.0** + **2.353** * **0.0**/**4**^{½} = **2.0**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **38** * (**38**-1) / 2 = **703**	Number of sample pairs during trend detection period.
6	S = **-0.287**	Sen's estimator of trend.
7	var(S) = **4701.667**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**703** ± **2.576** * **4701.667**^{½}) / 2 = [**263.184**, **439.816**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the Mth largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**-0.679**, **0.0**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Barium, total (ug/L) at MW-15

Step	Equation	Description
1	$\bar{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{1955.0} / \mathbf{4}$ $= \mathbf{488.75}$	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{1/2}$ $= ((\mathbf{969087.0} - \mathbf{3.82}\times\mathbf{10^6}/\mathbf{4}) / (\mathbf{4}-1))^{1/2}$ $= \mathbf{67.282}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{\mathbf{X}} - \mathbf{tS}/\mathbf{N}^{1/2}$ $= \mathbf{488.75} - \mathbf{2.353} * \mathbf{67.282}/\mathbf{4}^{1/2}$ $= \mathbf{409.607}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\mathbf{X}} + \mathbf{tS}/\mathbf{N}^{1/2}$ $= \mathbf{488.75} + \mathbf{2.353} * \mathbf{67.282}/\mathbf{4}^{1/2}$ $= \mathbf{567.893}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{39} * (\mathbf{39}-1) / 2$ $= \mathbf{741}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{-3.686}$	Sen's estimator of trend.
7	$var(S) = \mathbf{6832.667}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{741} \pm \mathbf{2.576} * \mathbf{6832.667}^{1/2}) / 2$ $= [\ \mathbf{264.034}, \mathbf{476.966}\ ]$	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the M^{th} largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$CL(S) = [\ \mathbf{-16.776}, \mathbf{8.948}\ ]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Cobalt, total (ug/L) at MW-15

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **1.6** / **4** = **0.4**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2**/**N**) / (**N**-1))$^{1/2}$ = ((**0.64** - **2.56**/**4**) / (**4**-1))$^{1/2}$ = **4.21**x**10^{-9}**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$** - **tS**/**N**$^{1/2}$ = **0.4** - **2.353** * **4.21**x**10^{-9}**/**4**$^{1/2}$ = **0.4**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$** + **tS**/**N**$^{1/2}$ = **0.4** + **2.353** * **4.21**x**10^{-9}**/**4**$^{1/2}$ = **0.4**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **38** * (**38**-1) / 2 = **703**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **4267.667**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**703** ± **2.576** * **4267.667**$^{1/2}$) / 2 = [**267.358**, **435.642**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the Mth largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**-0.061**, **0.0**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Nickel, total (ug/L) at MW-15

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **33.0** / **4** = **8.25**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2/N**) / (**N**-1))^{½} = ((**324.74 - 1089.0/4**) / (**4**-1))^{½} = **4.183**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$ - tS/N**^{½} = **8.25 - 2.353** * **4.183/4**^{½} = **3.33**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$** + **tS/N**^{½} = **8.25** + **2.353** * **4.183/4**^{½} = **13.17**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **38** * (**38**-1) / 2 = **703**	Number of sample pairs during trend detection period.
6	S = **-0.827**	Sen's estimator of trend.
7	var(S) = **6200.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**703** ± **2.576** * **6200.0**^{½}) / 2 = [**250.083**, **452.917**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the Mth largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**-1.776**, **-0.088**]	Two-sided confidence interval for slope.
10	UCL(S) < 0	**Significant decreasing trend.**

Worksheet 6 - Assessment Monitoring
Arsenic, total (ug/L) at MW-19

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **8.0** / **4** = **2.0**	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{1/2}$ $= ((\mathbf{16.0} - \mathbf{64.0}/\mathbf{4}) / (\mathbf{4}-1))^{1/2}$ = **0.0**	Compute sd of the last 4 measurements.
3	$LCL = \bar{\mathbf{X}} - \mathbf{tS}/\mathbf{N}^{1/2}$ $= \mathbf{2.0} - \mathbf{2.353} * \mathbf{0.0}/\mathbf{4}^{1/2}$ = **2.0**	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\mathbf{X}} + \mathbf{tS}/\mathbf{N}^{1/2}$ $= \mathbf{2.0} + \mathbf{2.353} * \mathbf{0.0}/\mathbf{4}^{1/2}$ = **2.0**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **32** * (**32**-1) / 2 = **496**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **2177.333**	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{496} \pm \mathbf{2.576} * \mathbf{2177.333}^{1/2}) / 2$ = [**187.899**, **308.101**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the M^{th} largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**0.0**, **0.0**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Barium, total (ug/L) at MW-19

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **1267.9** / **4** = **316.975**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2/N**) / (**N**-1))$^{1/2}$ = ((**535772.61** - **1.61**x**10^6/4**) / (**4**-1))$^{1/2}$ = **211.25**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$** - **tS/N**$^{1/2}$ = **316.975 - 2.353** * **211.25/4**$^{1/2}$ = **68.484**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$** + **tS/N**$^{1/2}$ = **316.975** + **2.353** * **211.25/4**$^{1/2}$ = **565.466**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **32** * (**32**-1) / 2 = **496**	Number of sample pairs during trend detection period.
6	S = **-10.91**	Sen's estimator of trend.
7	var(S) = **3802.667**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**496** ± **2.576** * **3802.667**$^{1/2}$) / 2 = [**168.574**, **327.426**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the Mth largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**-20.474**, **-3.459**]	Two-sided confidence interval for slope.
10	UCL(S) < 0	**Significant decreasing trend.**

Worksheet 6 - Assessment Monitoring
Cobalt, total (ug/L) at MW-19

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **22.0** / **4** = **5.5**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2**/**N**) / (**N**-1))^{½} = ((**228.32** - **484.0**/**4**) / (**4**-1))^{½} = **5.981**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$ - tS/N^{½}** = **5.5** - **2.353** * **5.981/4^{½}** = **0.0**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$ + tS/N^{½}** = **5.5** + **2.353** * **5.981/4^{½}** = **12.535**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **32** * (**32**-1) / 2 = **496**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **3636.667**	Variance estimate for slope.
8	M(S) = (**N'** ± **$Z_{.995}$** * **var(S)^{½}**) / 2 = (**496** ± **2.576** * **3636.667^{½}**) / 2 = [**170.327**, **325.673**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the M^{th} largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**-0.277**, **0.149**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Nickel, total (ug/L) at MW-19

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **30.9** / **4** = **7.725**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2/N**) / (**N**-1))$^{1/2}$ = ((**348.19** - **954.81/4**) / (**4**-1))$^{1/2}$ = **6.041**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$ - tS/N**$^{1/2}$ = **7.725** - **2.353** * **6.041/4**$^{1/2}$ = **0.619**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$ + tS/N**$^{1/2}$ = **7.725** + **2.353** * **6.041/4**$^{1/2}$ = **14.831**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **32** * (**32**-1) / 2 = **496**	Number of sample pairs during trend detection period.
6	S = **-0.325**	Sen's estimator of trend.
7	var(S) = **3467.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **$Z_{.995}$** * **var(S)**$^{1/2}$) / 2 = (**496** ± **2.576** * **3467.0**$^{1/2}$) / 2 = [**172.161**, **323.839**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the M^{th} largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**-0.925**, **0.0**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Arsenic, total (ug/L) at MW-3

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **8.0** / **4** = **2.0**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2/N**) / (**N**-1))^{½} = ((**16.0** - **64.0/4**) / (**4**-1))^{½} = **0.0**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$ - tS/N^{½}** = **2.0** - **2.353** * **0.0/4^{½}** = **2.0**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$ + tS/N^{½}** = **2.0** + **2.353** * **0.0/4^{½}** = **2.0**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **38** * (**38**-1) / 2 = **703**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **4697.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)^{½}**) / 2 = (**703** ± **2.576** * **4697.0^{½}**) / 2 = [**263.227**, **439.773**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the Mth largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**-0.047**, **0.0**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Barium, total (ug/L) at MW-3

Step	Equation	Description
1	$\bar{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{3017.0} / \mathbf{4}$ $= \mathbf{754.25}$	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{1/2}$ $= ((\mathbf{2.28}\times\mathbf{10^6} - \mathbf{9.10}\times\mathbf{10^6}/\mathbf{4}) / (\mathbf{4}-1))^{1/2}$ $= \mathbf{22.998}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{\mathbf{X}} - \mathbf{tS}/\mathbf{N}^{1/2}$ $= \mathbf{754.25} - \mathbf{2.353} * \mathbf{22.998}/\mathbf{4}^{1/2}$ $= \mathbf{727.197}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\mathbf{X}} + \mathbf{tS}/\mathbf{N}^{1/2}$ $= \mathbf{754.25} + \mathbf{2.353} * \mathbf{22.998}/\mathbf{4}^{1/2}$ $= \mathbf{781.303}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{38} * (\mathbf{38}-1) / 2$ $= \mathbf{703}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{9.848}$	Sen's estimator of trend.
7	$var(S) = \mathbf{6325.0}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{703} \pm \mathbf{2.576} * \mathbf{6325.0}^{1/2}) / 2$ $= [\ \mathbf{249.066}, \mathbf{453.934}\ ]$	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the Mth largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$CL(S) = [\ \mathbf{2.373}, \mathbf{20.344}\ ]$	Two-sided confidence interval for slope.
10	$LCL(S) > 0$	**Significant increasing trend.**

Worksheet 6 - Assessment Monitoring
Cobalt, total (ug/L) at MW-3

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **1.6** / **4** = **0.4**	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{1/2}$ $= ((\mathbf{0.64} - \mathbf{2.56}/\mathbf{4}) / (\mathbf{4}-1))^{1/2}$ $= \mathbf{4.21{\times}10^{-9}}$	Compute sd of the last 4 measurements.
3	$LCL = \mathbf{\overline{X}} - \mathbf{tS}/\mathbf{N}^{1/2}$ $= \mathbf{0.4} - \mathbf{2.353} * \mathbf{4.21{\times}10^{-9}}/\mathbf{4}^{1/2}$ $= \mathbf{0.4}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \mathbf{\overline{X}} + \mathbf{tS}/\mathbf{N}^{1/2}$ $= \mathbf{0.4} + \mathbf{2.353} * \mathbf{4.21{\times}10^{-9}}/\mathbf{4}^{1/2}$ $= \mathbf{0.4}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **38** * (**38**-1) / 2 = **703**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **3485.0**	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{703} \pm \mathbf{2.576} * \mathbf{3485.0}^{1/2}) / 2$ = [**275.464**, **427.536**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the M^{th} largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**0.0**, **0.0**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Nickel, total (ug/L) at MW-3

Step	Equation	Description
1	$\overline{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{8.0} / \mathbf{4}$ $= \mathbf{2.0}$	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{1/2}$ $= ((\mathbf{16.0} - \mathbf{64.0/4}) / (\mathbf{4}-1))^{1/2}$ $= \mathbf{0.0}$	Compute sd of the last 4 measurements.
3	$LCL = \overline{\mathbf{X}} - \mathbf{tS/N}^{1/2}$ $= \mathbf{2.0} - \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ $= \mathbf{2.0}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \overline{\mathbf{X}} + \mathbf{tS/N}^{1/2}$ $= \mathbf{2.0} + \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ $= \mathbf{2.0}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{38} * (\mathbf{38}-1) / 2$ $= \mathbf{703}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{-0.42}$	Sen's estimator of trend.
7	$var(S) = \mathbf{5628.0}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{703} \pm \mathbf{2.576} * \mathbf{5628.0}^{1/2}) / 2$ $= [\ \mathbf{254.874}, \mathbf{448.126}\ ]$	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the M^{th} largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	$CL(S) = [\ \mathbf{-0.802}, \mathbf{0.0}\ ]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Arsenic, total (ug/L) at MW-9

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **8.0** / **4** = **2.0**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2/N**) / (**N**-1))$^{1/2}$ = ((**16.0** - **64.0/4**) / (**4**-1))$^{1/2}$ = **0.0**	Compute sd of the last 4 measurements.
3	LCL = $\overline{X}$ - **tS/N**$^{1/2}$ = **2.0** - **2.353** * **0.0/4**$^{1/2}$ = **2.0**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = $\overline{X}$ + **tS/N**$^{1/2}$ = **2.0** + **2.353** * **0.0/4**$^{1/2}$ = **2.0**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **38** * (**38**-1) / 2 = **703**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **2523.333**	Variance estimate for slope.
8	M(S) = (**N'** ± $Z_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**703** ± **2.576** * **2523.333**$^{1/2}$) / 2 = [**286.8**, **416.2**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the M^{th} largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**0.0**, **0.0**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Barium, total (ug/L) at MW-9

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **1320.0** / **4** = **330.0**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))$^{1/2}$ = ((**436266.0** - **1.74**x**10^6**/**4**) / (**4**-1))$^{1/2}$ = **14.9**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$** - **tS**/**N**$^{1/2}$ = **330.0** - **2.353** * **14.9**/**4**$^{1/2}$ = **312.474**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$** + **tS**/**N**$^{1/2}$ = **330.0** + **2.353** * **14.9**/**4**$^{1/2}$ = **347.526**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **38** * (**38**-1) / 2 = **703**	Number of sample pairs during trend detection period.
6	S = **-12.54**	Sen's estimator of trend.
7	var(S) = **6325.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**703** ± **2.576** * **6325.0**$^{1/2}$) / 2 = [**249.066**, **453.934**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the Mth largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**-15.888**, **-9.081**]	Two-sided confidence interval for slope.
10	UCL(S) < 0	**Significant decreasing trend.**

Worksheet 6 - Assessment Monitoring
Cobalt, total (ug/L) at MW-9

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **4.4** / **4** = **1.1**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))^{½} = ((**6.16** - **19.36**/**4**) / (**4**-1))^{½} = **0.663**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$ - tS/N^{½}** = **1.1** - **2.353** * **0.663**/**4**^{½} = **0.32**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$ + tS/N^{½}** = **1.1** + **2.353** * **0.663**/**4**^{½} = **1.88**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **38** * (**38**-1) / 2 = **703**	Number of sample pairs during trend detection period.
6	S = **-0.067**	Sen's estimator of trend.
7	var(S) = **5623.333**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**703** ± **2.576** * **5623.333**^{½}) / 2 = [**254.914**, **448.086**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the Mth largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**-0.214**, **0.0**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Nickel, total (ug/L) at MW-9

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **14.7** / **4** = **3.675**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**66.37** - **216.09**/**4**) / (**4**-1))^{½} = **2.029**	Compute sd of the last 4 measurements.
3	LCL = $\bar{X}$ - **tS**/**N**^{½} = **3.675** - **2.353** * **2.029**/**4**^{½} = **1.289**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = $\bar{X}$ + **tS**/**N**^{½} = **3.675** + **2.353** * **2.029**/**4**^{½} = **6.061**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **38** * (**38**-1) / 2 = **703**	Number of sample pairs during trend detection period.
6	S = **-0.878**	Sen's estimator of trend.
7	var(S) = **6056.333**	Variance estimate for slope.
8	M(S) = (**N'** ± $Z_{.995}$ * **var(S)**^{½}) / 2 = (**703** ± **2.576** * **6056.333**^{½}) / 2 = [**251.265**, **451.735**]	Ordinal positions for two-sided lower confidence limits for slope. The LCL and UCL are the Mth largest slope estimates for the values shown. When the values are not integers, interpolation is used.
9	CL(S) = [**-1.236**, **-0.503**]	Two-sided confidence interval for slope.
10	UCL(S) < 0	**Significant decreasing trend.**

Attachment E

Summary of Historical VOC Detections

Table 1

Historical Volatile Organic Compound Detections

Constituent	Well	Date	Identifier	Result	Limit	Units
1,1-dichloroethane	GWD-1	6/18/2008		1.1	1.0	ug/L
Chloroethane	GWD-1	4/15/2008		2.0	1.0	ug/L
Chloroethane	GWD-1	6/18/2008		2.2	1.0	ug/L
Chloroethane	GWD-1	8/19/2008		1.9	1.0	ug/L
Chloroethane	GWD-1	12/04/2008		1.8	1.0	ug/L
Chloroethane	GWD-1	3/16/2009		1.4	1.0	ug/L
Chloroethane	GWD-1	4/12/2010		1.2	1.0	ug/L
Trichlorofluoromethane	GWD-1	9/23/2009		1.1	1.0	ug/L
Acetone	GWD-2	10/12/2017		18.2	10.0	ug/L
Chloroethane	GWD-2	10/07/2015		1	1	ug/L
Cis-1,2-dichloroethylene	GWD-2	10/07/2015		1	1	ug/L
Trichloroethylene	GWD-2	9/18/2014		1	1	ug/L
Trichlorofluoromethane	GWD-2	9/18/2014		1.9	1.0	ug/L
Acetone	MW-12	10/12/2017		12.9	10.0	ug/L
Chloromethane	MW-12	3/20/2024		1.4	1.0	ug/L
Acetone	MW-14	10/12/2017		10	10	ug/L
Trichloroethylene	MW-14	3/16/2009		2.8	1.0	ug/L
1,1-dichloroethane	MW-15	12/04/2008		1.3	1.0	ug/L
1,4-dichlorobenzene	MW-15	12/04/2008		4.3	1.0	ug/L
Acetone	MW-15	10/12/2017		15.5	10.0	ug/L
Benzene	MW-15	12/04/2008		2	1	ug/L
Bis(2-ethylhexyl) phthalate	MW-15	9/01/2022		7	6	ug/L
Chlorobenzene	MW-15	12/04/2008		14.3	1.0	ug/L
Chloroethane	MW-15	10/18/2008		1.6	1.0	ug/L
Acetone	MW-18	10/12/2017		10.2	10.0	ug/L
Trichlorofluoromethane	MW-19	4/12/2010		3.4	1.0	ug/L
Trichlorofluoromethane	MW-19	6/01/2010		4.1	1.0	ug/L
Trichlorofluoromethane	MW-19	7/27/2010		4.7	1.0	ug/L
Trichlorofluoromethane	MW-19	9/28/2010		2.8	1.0	ug/L
Trichlorofluoromethane	MW-19	10/11/2011		2.2	1.0	ug/L
Trichlorofluoromethane	MW-19	4/23/2012		1.1	1.0	ug/L
Acetone	MW-21	10/12/2017		15.3	10.0	ug/L
Cis-1,2-dichloroethylene	MW-21	3/14/2022		1.1	1.0	ug/L
1,1-dichloropropene	MW-3	9/09/2021		4.8	1.0	ug/L
Cis-1,2-dichloroethylene	MW-3	9/09/2021		1.1	1.0	ug/L
Cis-1,2-dichloroethylene	MW-3	3/14/2022		1.6	1.0	ug/L
Toluene	MW-3	10/10/2013		2.8	1.0	ug/L
Trichloroethylene	MW-3	10/10/2013		1	1	ug/L
1,2-dichloroethane	MW-9	9/23/1998		.5	.4	ug/L
Acetone	MW-9	10/12/2017		16.7	10.0	ug/L
Bis(2-ethylhexyl) phthalate	MW-9	6/01/2010		21	8	ug/L

Detections are shown for the constituents and sample points selected for the analysis
The Limit column refers to the laboratory reporting limit

Appendix C

Laboratory Reports for Reporting Period

With Chain of Custody

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC1559

Project Description

6046

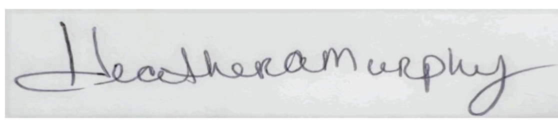
For:

Todd Whipple

HLW Engineering

PO Box 314

Story City, IA 50248



Heather Murphy

Customer Relationship Specialist

Thursday, April 11, 2024

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc., Newton. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC1559

HLW Engineering

Todd Whipple
PO Box 314
Story City, IA 50248

Project Name: 6046

Project / PO Number: N/A
Received: 03/21/2024
Reported: 04/11/2024

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
MW-19	1HC1559-01	Water	GRAB		03/20/24 09:44	03/21/24 09:48
MW-21	1HC1559-02	Water	GRAB		03/20/24 11:26	03/21/24 09:48
MW-23	1HC1559-03	Water	GRAB		03/20/24 11:03	03/21/24 09:48
GWD-1	1HC1559-04	Water	GRAB		03/20/24 11:50	03/21/24 09:48
GWD-2	1HC1559-05	Water	GRAB		03/20/24 11:14	03/21/24 09:48
Duplicate	1HC1559-06	Water	GRAB		03/20/24 09:22	03/21/24 09:48

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC1559

Analytical Testing Parameters

Client Sample ID:	MW-19			
Sample Matrix:	Water		**Collected By:**	JGH
Lab Sample ID:	1HC1559-01		**Collection Date:**	03/20/2024 9:44

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Acetone	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Chloroform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Benzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Toluene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Styrene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM

Client Sample ID:	MW-19		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1559-01	**Collection Date:**	03/20/2024 9:44

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
Bromoform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1230	CSM
Surrogate: Dibromofluoromethane	92.7	Limit: 80-126	% Rec	1		03/25/24 0000	03/25/24 1230	CSM
Surrogate: Dibromofluoromethane	92.7	Limit: 75-136	% Rec	1		03/25/24 0000	03/25/24 1230	CSM
Surrogate: 1,2-Dichloroethane-d4	96.2	Limit: 61-142	% Rec	1		03/25/24 0000	03/25/24 1230	CSM
Surrogate: 1,2-Dichloroethane-d4	96.2	Limit: 63-138	% Rec	1		03/25/24 0000	03/25/24 1230	CSM
Surrogate: Toluene-d8	97.3	Limit: 82-121	% Rec	1		03/25/24 0000	03/25/24 1230	CSM
Surrogate: Toluene-d8	97.3	Limit: 87-116	% Rec	1		03/25/24 0000	03/25/24 1230	CSM
Surrogate: 4-Bromofluorobenzene	98.9	Limit: 80-116	% Rec	1		03/25/24 0000	03/25/24 1230	CSM
Surrogate: 4-Bromofluorobenzene	98.9	Limit: 85-111	% Rec	1		03/25/24 0000	03/25/24 1230	CSM

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 1925	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 1925	RVV
Barium, total	**0.0269**	0.0040	mg/L	4		03/27/24 1157	03/28/24 1925	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 1925	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/27/24 1157	03/28/24 1925	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/27/24 1157	03/28/24 1925	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		03/27/24 1157	03/28/24 1925	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 1925	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 1925	RVV
Nickel, total	**0.0089**	0.0040	mg/L	4		03/27/24 1157	03/28/24 1925	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 1925	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 1925	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 1925	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 1925	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 1925	RVV

Client Sample ID:	MW-21			
Sample Matrix:	Water		**Collected By:**	JGH
Lab Sample ID:	1HC1559-02		**Collection Date:**	03/20/2024 11:26

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Acetone	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Chloroform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Benzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Toluene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Styrene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Bromoform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM

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CERTIFICATE OF ANALYSIS

1HC1559

Client Sample ID:	MW-21		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1559-02	**Collection Date:**	03/20/2024 11:26

Determination of Volatile Organic Compounds	**Result**	**RL**	**Units**	**DF**	**Note**	**Prepared**	**Analyzed**	**Analyst**
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1253	CSM
Surrogate: Dibromofluoromethane	93.0	Limit: 80-126	% Rec	1		03/25/24 0000	03/25/24 1253	CSM
Surrogate: Dibromofluoromethane	93.0	Limit: 75-136	% Rec	1		03/25/24 0000	03/25/24 1253	CSM
Surrogate: 1,2-Dichloroethane-d4	96.6	Limit: 61-142	% Rec	1		03/25/24 0000	03/25/24 1253	CSM
Surrogate: 1,2-Dichloroethane-d4	96.6	Limit: 63-138	% Rec	1		03/25/24 0000	03/25/24 1253	CSM
Surrogate: Toluene-d8	97.6	Limit: 87-116	% Rec	1		03/25/24 0000	03/25/24 1253	CSM
Surrogate: Toluene-d8	97.6	Limit: 82-121	% Rec	1		03/25/24 0000	03/25/24 1253	CSM
Surrogate: 4-Bromofluorobenzene	98.2	Limit: 85-111	% Rec	1		03/25/24 0000	03/25/24 1253	CSM
Surrogate: 4-Bromofluorobenzene	98.2	Limit: 80-116	% Rec	1		03/25/24 0000	03/25/24 1253	CSM

Determination of Total Metals	**Result**	**RL**	**Units**	**DF**	**Note**	**Prepared**	**Analyzed**	**Analyst**
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 1949	RVV
Arsenic, total	**0.0244**	0.0040	mg/L	4		03/27/24 1157	03/28/24 1949	RVV
Barium, total	**1.10**	0.0040	mg/L	4		03/27/24 1157	03/28/24 1949	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 1949	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/27/24 1157	03/28/24 1949	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/27/24 1157	03/28/24 1949	RVV
Cobalt, total	**0.0006**	0.0004	mg/L	4		03/27/24 1157	03/28/24 1949	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 1949	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 1949	RVV
Nickel, total	**0.0066**	0.0040	mg/L	4		03/27/24 1157	03/28/24 1949	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 1949	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 1949	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 1949	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 1949	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 1949	RVV

Client Sample ID:	MW-23			
Sample Matrix:	Water		**Collected By:**	JGH
Lab Sample ID:	1HC1559-03		**Collection Date:**	03/20/2024 11:03

Determination of Volatile Organic Compounds	**Result**	**RL**	**Units**	**DF**	**Note**	**Prepared**	**Analyzed**	**Analyst**
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Acetone	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Chloroform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Benzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Toluene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Styrene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Bromoform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM

Client Sample ID:	MW-23		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1559-03	**Collection Date:**	03/20/2024 11:03

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1316	CSM
Surrogate: Dibromofluoromethane	93.4	Limit: 75-136	% Rec	1		03/25/24 0000	03/25/24 1316	CSM
Surrogate: Dibromofluoromethane	93.4	Limit: 80-126	% Rec	1		03/25/24 0000	03/25/24 1316	CSM
Surrogate: 1,2-Dichloroethane-d4	97.2	Limit: 61-142	% Rec	1		03/25/24 0000	03/25/24 1316	CSM
Surrogate: 1,2-Dichloroethane-d4	97.2	Limit: 63-138	% Rec	1		03/25/24 0000	03/25/24 1316	CSM
Surrogate: Toluene-d8	97.6	Limit: 82-121	% Rec	1		03/25/24 0000	03/25/24 1316	CSM
Surrogate: Toluene-d8	97.6	Limit: 87-116	% Rec	1		03/25/24 0000	03/25/24 1316	CSM
Surrogate: 4-Bromofluorobenzene	98.9	Limit: 80-116	% Rec	1		03/25/24 0000	03/25/24 1316	CSM
Surrogate: 4-Bromofluorobenzene	98.9	Limit: 85-111	% Rec	1		03/25/24 0000	03/25/24 1316	CSM

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 1956	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 1956	RVV
Barium, total	**0.328**	0.0040	mg/L	4		03/27/24 1157	03/28/24 1956	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 1956	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/27/24 1157	03/28/24 1956	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/27/24 1157	03/28/24 1956	RVV
Cobalt, total	**0.0006**	0.0004	mg/L	4		03/27/24 1157	03/28/24 1956	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 1956	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 1956	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 1956	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 1956	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 1956	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 1956	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 1956	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 1956	RVV

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CERTIFICATE OF ANALYSIS

1HC1559

Client Sample ID:	GWD-1		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1559-04	**Collection Date:**	03/20/2024 11:50

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Acetone	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Chloroform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Benzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Toluene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Styrene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Bromoform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM

Client Sample ID:	GWD-1		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1559-04	**Collection Date:**	03/20/2024 11:50

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1339	CSM
Surrogate: Dibromofluoromethane	95.4	Limit: 80-126	% Rec	1		03/25/24 0000	03/25/24 1339	CSM
Surrogate: Dibromofluoromethane	95.4	Limit: 75-136	% Rec	1		03/25/24 0000	03/25/24 1339	CSM
Surrogate: 1,2-Dichloroethane-d4	98.7	Limit: 61-142	% Rec	1		03/25/24 0000	03/25/24 1339	CSM
Surrogate: 1,2-Dichloroethane-d4	98.7	Limit: 63-138	% Rec	1		03/25/24 0000	03/25/24 1339	CSM
Surrogate: Toluene-d8	98.4	Limit: 87-116	% Rec	1		03/25/24 0000	03/25/24 1339	CSM
Surrogate: Toluene-d8	98.4	Limit: 82-121	% Rec	1		03/25/24 0000	03/25/24 1339	CSM
Surrogate: 4-Bromofluorobenzene	99.2	Limit: 85-111	% Rec	1		03/25/24 0000	03/25/24 1339	CSM
Surrogate: 4-Bromofluorobenzene	99.2	Limit: 80-116	% Rec	1		03/25/24 0000	03/25/24 1339	CSM

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2002	RVV
Arsenic, total	**0.0114**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2002	RVV
Barium, total	**0.387**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2002	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2002	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/27/24 1157	03/28/24 2002	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/27/24 1157	03/28/24 2002	RVV
Cobalt, total	**0.0036**	0.0004	mg/L	4		03/27/24 1157	03/28/24 2002	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2002	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2002	RVV
Nickel, total	**0.0049**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2002	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2002	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2002	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2002	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 2002	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 2002	RVV

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC1559

Client Sample ID:	GWD-2		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1559-05	**Collection Date:**	03/20/2024 11:14

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Acetone	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Chloroform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Benzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Toluene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Styrene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Bromoform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM

Client Sample ID:	GWD-2		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1559-05	**Collection Date:**	03/20/2024 11:14

Determination of Volatile Organic Compounds	**Result**	**RL**	**Units**	**DF**	**Note**	**Prepared**	**Analyzed**	**Analyst**
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1402	CSM
Surrogate: Dibromofluoromethane	93.9	Limit: 75-136	% Rec	1		03/25/24 0000	03/25/24 1402	CSM
Surrogate: Dibromofluoromethane	93.9	Limit: 80-126	% Rec	1		03/25/24 0000	03/25/24 1402	CSM
Surrogate: 1,2-Dichloroethane-d4	98.7	Limit: 63-138	% Rec	1		03/25/24 0000	03/25/24 1402	CSM
Surrogate: 1,2-Dichloroethane-d4	98.7	Limit: 61-142	% Rec	1		03/25/24 0000	03/25/24 1402	CSM
Surrogate: Toluene-d8	97.9	Limit: 87-116	% Rec	1		03/25/24 0000	03/25/24 1402	CSM
Surrogate: Toluene-d8	97.9	Limit: 82-121	% Rec	1		03/25/24 0000	03/25/24 1402	CSM
Surrogate: 4-Bromofluorobenzene	98.9	Limit: 85-111	% Rec	1		03/25/24 0000	03/25/24 1402	CSM
Surrogate: 4-Bromofluorobenzene	98.9	Limit: 80-116	% Rec	1		03/25/24 0000	03/25/24 1402	CSM

Determination of Total Metals	**Result**	**RL**	**Units**	**DF**	**Note**	**Prepared**	**Analyzed**	**Analyst**
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2020	RVV
Arsenic, total	**0.0059**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2020	RVV
Barium, total	**0.665**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2020	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2020	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/27/24 1157	03/28/24 2020	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/27/24 1157	03/28/24 2020	RVV
Cobalt, total	**0.0034**	0.0004	mg/L	4		03/27/24 1157	03/28/24 2020	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2020	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2020	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2020	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2020	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2020	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2020	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 2020	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 2020	RVV

Client Sample ID:	Duplicate			
Sample Matrix:	Water		**Collected By:**	JGH
Lab Sample ID:	1HC1559-06		**Collection Date:**	03/20/2024 9:22

Determination of Volatile Organic Compounds	**Result**	**RL**	**Units**	**DF**	**Note**	**Prepared**	**Analyzed**	**Analyst**
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Acetone	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Chloroform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Benzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Toluene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Styrene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Bromoform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM

Client Sample ID:	Duplicate		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1559-06	**Collection Date:**	03/20/2024 9:22

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1425	CSM
Surrogate: Dibromofluoromethane	96.7	Limit: 75-136	% Rec	1		03/25/24 0000	03/25/24 1425	CSM
Surrogate: Dibromofluoromethane	96.7	Limit: 80-126	% Rec	1		03/25/24 0000	03/25/24 1425	CSM
Surrogate: 1,2-Dichloroethane-d4	100	Limit: 63-138	% Rec	1		03/25/24 0000	03/25/24 1425	CSM
Surrogate: 1,2-Dichloroethane-d4	100	Limit: 61-142	% Rec	1		03/25/24 0000	03/25/24 1425	CSM
Surrogate: Toluene-d8	97.9	Limit: 82-121	% Rec	1		03/25/24 0000	03/25/24 1425	CSM
Surrogate: Toluene-d8	97.9	Limit: 87-116	% Rec	1		03/25/24 0000	03/25/24 1425	CSM
Surrogate: 4-Bromofluorobenzene	98.6	Limit: 85-111	% Rec	1		03/25/24 0000	03/25/24 1425	CSM
Surrogate: 4-Bromofluorobenzene	98.6	Limit: 80-116	% Rec	1		03/25/24 0000	03/25/24 1425	CSM

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2026	RVV
Arsenic, total	**0.0145**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2026	RVV
Barium, total	**0.342**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2026	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2026	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/27/24 1157	03/28/24 2026	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/27/24 1157	03/28/24 2026	RVV
Cobalt, total	**0.0024**	0.0004	mg/L	4		03/27/24 1157	03/28/24 2026	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2026	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2026	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2026	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2026	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2026	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2026	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 2026	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 2026	RVV

Batch Log Summary

Method	Batch	Laboratory ID	Client / Source ID
EPA 8260B	1HC1381	1HC1381-BS1	
		1HC1381-BSD1	
		1HC1381-BLK1	
		1HC1559-01	MW-19
		1HC1559-02	MW-21
		1HC1559-03	MW-23
		1HC1559-04	GWD-1
		1HC1559-05	GWD-2
		1HC1559-06	Duplicate
		1HC1381-MS1	1HC1559-01
		1HC1381-MSD1	1HC1559-01

Method	Batch	Laboratory ID	Client / Source ID
EPA 6020A	1HC1499	1HC1499-BLK1	
		1HC1499-BS1	
		1HC1559-01	MW-19
		1HC1499-MSD1	1HC1559-01
		1HC1499-PS1	1HC1559-01
		1HC1559-02	MW-21
		1HC1559-03	MW-23
		1HC1559-04	GWD-1
		1HC1559-05	GWD-2
		1HC1559-06	Duplicate
		1HC1499-MS1	1HC1559-01

Batch Quality Control Summary: Microbac Laboratories, Inc., Newton

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1381 - EPA 5030B - EPA 8260B										
Blank (1HC1381-BLK1)		Prepared: 03/25/24 00:00 Analyzed: 03/25/24 10:56								
Chloromethane	<1.0	1.0	ug/L							
Vinyl Chloride	<1.0	1.0	ug/L							
Bromomethane	<1.0	1.0	ug/L							
Chloroethane	<1.0	1.0	ug/L							
Trichlorofluoromethane	<1.0	1.0	ug/L							
1,1-Dichloroethylene	<1.0	1.0	ug/L							
Acetone	<10.0	10.0	ug/L							
Methyl Iodide	<1.0	1.0	ug/L							
Carbon Disulfide	<1.0	1.0	ug/L							
Methylene Chloride	<5.0	5.0	ug/L							

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1381 - EPA 5030B - EPA 8260B										
Blank (1HC1381-BLK1)			Prepared: 03/25/24 00:00 Analyzed: 03/25/24 10:56							
Acrylonitrile	<5.0	5.0	ug/L							
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L							
1,1-Dichloroethane	<1.0	1.0	ug/L							
Vinyl Acetate	<5.0	5.0	ug/L							
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Bromochloromethane	<1.0	1.0	ug/L							
Chloroform	<1.0	1.0	ug/L							
1,1,1-Trichloroethane	<1.0	1.0	ug/L							
Carbon Tetrachloride	<1.0	1.0	ug/L							
Benzene	<1.0	1.0	ug/L							
1,2-Dichloroethane	<1.0	1.0	ug/L							
Trichloroethylene	<1.0	1.0	ug/L							
1,2-Dichloropropane	<1.0	1.0	ug/L							
Dibromomethane	<1.0	1.0	ug/L							
Bromodichloromethane	<1.0	1.0	ug/L							
cis-1,3-Dichloropropene	<1.0	1.0	ug/L							
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L							
Toluene	<1.0	1.0	ug/L							
trans-1,3-Dichloropropene	<1.0	1.0	ug/L							
1,1,2-Trichloroethane	<1.0	1.0	ug/L							
Tetrachloroethylene	<1.0	1.0	ug/L							
2-Hexanone (MBK)	<5.0	5.0	ug/L							
Dibromochloromethane	<1.0	1.0	ug/L							
1,2-Dibromoethane	<1.0	1.0	ug/L							
Chlorobenzene	<1.0	1.0	ug/L							
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L							
Ethylbenzene	<1.0	1.0	ug/L							
Xylenes, total	<2.0	2.0	ug/L							
Styrene	<1.0	1.0	ug/L							
Bromoform	<1.0	1.0	ug/L							
1,2,3-Trichloropropane	<1.0	1.0	ug/L							
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L							
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L							
1,4-Dichlorobenzene	<1.0	1.0	ug/L							
1,2-Dichlorobenzene	<1.0	1.0	ug/L							
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L							
Surrogate: Dibromofluoromethane	*46.1*		ug/L	*50.2*		*92.0*	*80-126*			
Surrogate: Dibromofluoromethane	*46.1*		ug/L	*50.2*		*92.0*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*47.8*		ug/L	*50.1*		*95.4*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*47.8*		ug/L	*50.1*		*95.4*	*61-142*			
Surrogate: Toluene-d8	*49.4*		ug/L	*50.4*		*98.1*	*87-116*			
Surrogate: Toluene-d8	*49.4*		ug/L	*50.4*		*98.1*	*82-121*			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1381 - EPA 5030B - EPA 8260B										
Blank (1HC1381-BLK1)			Prepared: 03/25/24 00:00 Analyzed: 03/25/24 10:56							
Surrogate: 4-Bromofluorobenzene	*49.7*		ug/L	*50.1*		*99.0*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*49.7*		ug/L	*50.1*		*99.0*	*80-116*			
LCS (1HC1381-BS1)			Prepared: 03/25/24 00:00 Analyzed: 03/25/24 09:47							
Chloromethane	34.14	1.0	ug/L	30.6		111	63-155			
Vinyl Chloride	30.00	1.0	ug/L	30.2		99.3	70-154			
Bromomethane	33.25	1.0	ug/L	28.8		115	52-176			
Chloroethane	31.64	1.0	ug/L	31.6		100	72-148			
Trichlorofluoromethane	28.39	1.0	ug/L	32.6		87.1	70-152			
1,1-Dichloroethylene	47.49	1.0	ug/L	50.0		95.0	70-148			
Acetone	101.0	10.0	ug/L	102		99.0	43-172			
Methyl Iodide	99.35	1.0	ug/L	99.7		99.7	69-170			
Carbon Disulfide	85.11	1.0	ug/L	101		84.3	72-162			
Methylene Chloride	45.53	5.0	ug/L	50.0		91.1	68-142			
Acrylonitrile	92.04	5.0	ug/L	100		91.7	67-144			
trans-1,2-Dichloroethylene	45.81	1.0	ug/L	50.0		91.6	66-148			
1,1-Dichloroethane	45.39	1.0	ug/L	50.0		90.8	66-143			
Vinyl Acetate	97.68	5.0	ug/L	102		95.9	43-153			
cis-1,2-Dichloroethylene	55.83	1.0	ug/L	49.5		113	71-149			
2-Butanone (MEK)	84.64	10.0	ug/L	103		81.9	52-159			
Bromochloromethane	48.63	1.0	ug/L	50.0		97.3	69-143			
Chloroform	46.67	1.0	ug/L	50.0		93.3	69-144			
1,1,1-Trichloroethane	38.46	1.0	ug/L	50.0		77.0	62-129			
Carbon Tetrachloride	41.91	1.0	ug/L	50.0		83.8	63-141			
Benzene	48.21	1.0	ug/L	50.0		96.4	71-134			
1,2-Dichloroethane	49.00	1.0	ug/L	50.0		98.0	72-132			
Trichloroethylene	46.32	1.0	ug/L	50.0		92.6	71-135			
1,2-Dichloropropane	48.61	1.0	ug/L	50.0		97.2	69-136			
Dibromomethane	53.24	1.0	ug/L	50.0		106	73-147			
Bromodichloromethane	45.46	1.0	ug/L	50.0		90.9	68-129			
cis-1,3-Dichloropropene	47.84	1.0	ug/L	50.3		95.1	65-134			
4-Methyl-2-pentanone (MIBK)	100.2	5.0	ug/L	101		98.9	58-147			
Toluene	47.28	1.0	ug/L	50.0		94.6	72-133			
trans-1,3-Dichloropropene	47.21	1.0	ug/L	50.4		93.6	67-130			
1,1,2-Trichloroethane	49.60	1.0	ug/L	50.0		99.2	69-135			
Tetrachloroethylene	46.89	1.0	ug/L	50.0		93.8	69-130			
2-Hexanone (MBK)	98.01	5.0	ug/L	103		94.9	55-144			
Dibromochloromethane	50.79	1.0	ug/L	49.5		103	73-127			
1,2-Dibromoethane	50.74	1.0	ug/L	50.0		101	67-132			
Chlorobenzene	50.47	1.0	ug/L	50.0		101	72-123			
1,1,1,2-Tetrachloroethane	50.50	1.0	ug/L	50.0		101	73-127			
Ethylbenzene	47.05	1.0	ug/L	50.0		94.1	71-127			
Xylenes, total	141.7	2.0	ug/L	150		94.4	74-127			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1381 - EPA 5030B - EPA 8260B										
LCS (1HC1381-BS1)				Prepared: 03/25/24 00:00 Analyzed: 03/25/24 09:47						
Styrene	48.09	1.0	ug/L	50.0		96.2	66-126			
Bromoform	50.35	1.0	ug/L	50.0		101	68-130			
1,2,3-Trichloropropane	52.57	1.0	ug/L	50.0		105	63-136			
trans-1,4-Dichloro-2-butene	92.41	5.0	ug/L	104		88.9	54-134			
1,1,2,2-Tetrachloroethane	49.48	1.0	ug/L	49.8		99.3	61-131			
1,4-Dichlorobenzene	49.17	1.0	ug/L	50.0		98.3	70-129			
1,2-Dichlorobenzene	48.34	1.0	ug/L	50.0		96.7	69-126			
1,2-Dibromo-3-chloropropane	48.81	5.0	ug/L	50.0		97.6	50-143			
Surrogate: Dibromofluoromethane	*46.3*		ug/L	*50.2*		*92.2*	*80-126*			
Surrogate: Dibromofluoromethane	*46.3*		ug/L	*50.2*		*92.2*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*46.4*		ug/L	*50.1*		*92.7*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*46.4*		ug/L	*50.1*		*92.7*	*61-142*			
Surrogate: Toluene-d8	*49.4*		ug/L	*50.4*		*98.1*	*87-116*			
Surrogate: Toluene-d8	*49.4*		ug/L	*50.4*		*98.1*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*50.0*		ug/L	*50.1*		*99.8*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*50.0*		ug/L	*50.1*		*99.8*	*80-116*			
LCS Dup (1HC1381-BSD1)				Prepared: 03/25/24 00:00 Analyzed: 03/25/24 10:10						
Chloromethane	32.35	1.0	ug/L	30.6		106	63-155	5.38	24	
Vinyl Chloride	28.38	1.0	ug/L	30.2		93.9	70-154	5.55	25	
Bromomethane	32.01	1.0	ug/L	28.8		111	52-176	3.80	27	
Chloroethane	32.75	1.0	ug/L	31.6		104	72-148	3.45	25	
Trichlorofluoromethane	27.60	1.0	ug/L	32.6		84.6	70-152	2.82	26	
1,1-Dichloroethylene	47.96	1.0	ug/L	50.0		95.9	70-148	0.985	24	
Acetone	97.53	10.0	ug/L	102		95.6	43-172	3.46	30	
Methyl Iodide	98.76	1.0	ug/L	99.7		99.1	69-170	0.596	30	
Carbon Disulfide	87.63	1.0	ug/L	101		86.8	72-162	2.92	24	
Methylene Chloride	46.61	5.0	ug/L	50.0		93.2	68-142	2.34	21	
Acrylonitrile	85.58	5.0	ug/L	100		85.3	67-144	7.27	24	
trans-1,2-Dichloroethylene	43.73	1.0	ug/L	50.0		87.5	66-148	4.65	27	
1,1-Dichloroethane	42.85	1.0	ug/L	50.0		85.7	66-143	5.76	24	
Vinyl Acetate	98.82	5.0	ug/L	102		97.0	43-153	1.16	30	
cis-1,2-Dichloroethylene	44.52	1.0	ug/L	49.5		90.0	71-149	22.5	26	
2-Butanone (MEK)	93.63	10.0	ug/L	103		90.6	52-159	10.1	27	
Bromochloromethane	46.35	1.0	ug/L	50.0		92.7	69-143	4.80	23	
Chloroform	44.50	1.0	ug/L	50.0		89.0	69-144	4.76	23	
1,1,1-Trichloroethane	36.47	1.0	ug/L	50.0		73.0	62-129	5.31	24	
Carbon Tetrachloride	39.43	1.0	ug/L	50.0		78.9	63-141	6.10	25	
Benzene	45.92	1.0	ug/L	50.0		91.8	71-134	4.87	24	
1,2-Dichloroethane	46.98	1.0	ug/L	50.0		94.0	72-132	4.21	24	
Trichloroethylene	44.32	1.0	ug/L	50.0		88.6	71-135	4.41	24	
1,2-Dichloropropane	46.64	1.0	ug/L	50.0		93.3	69-136	4.14	24	
Dibromomethane	50.53	1.0	ug/L	50.0		101	73-147	5.22	25	
Bromodichloromethane	43.46	1.0	ug/L	50.0		86.9	68-129	4.50	22	

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1381 - EPA 5030B - EPA 8260B										
LCS Dup (1HC1381-BSD1)			Prepared: 03/25/24 00:00 Analyzed: 03/25/24 10:10							
cis-1,3-Dichloropropene	45.18	1.0	ug/L	50.3		89.8	65-134	5.72	23	
4-Methyl-2-pentanone (MIBK)	95.41	5.0	ug/L	101		94.1	58-147	4.95	27	
Toluene	45.10	1.0	ug/L	50.0		90.2	72-133	4.72	24	
trans-1,3-Dichloropropene	44.55	1.0	ug/L	50.4		88.3	67-130	5.80	24	
1,1,2-Trichloroethane	47.36	1.0	ug/L	50.0		94.7	69-135	4.62	23	
Tetrachloroethylene	44.44	1.0	ug/L	50.0		88.9	69-130	5.37	25	
2-Hexanone (MBK)	100.1	5.0	ug/L	103		96.9	55-144	2.09	25	
Dibromochloromethane	48.34	1.0	ug/L	49.5		97.7	73-127	4.94	22	
1,2-Dibromoethane	48.54	1.0	ug/L	50.0		97.1	67-132	4.43	24	
Chlorobenzene	47.77	1.0	ug/L	50.0		95.5	72-123	5.50	23	
1,1,1,2-Tetrachloroethane	48.01	1.0	ug/L	50.0		96.0	73-127	5.06	24	
Ethylbenzene	44.68	1.0	ug/L	50.0		89.4	71-127	5.17	26	
Xylenes, total	134.0	2.0	ug/L	150		89.4	74-127	5.53	25	
Styrene	45.53	1.0	ug/L	50.0		91.1	66-126	5.47	23	
Bromoform	47.57	1.0	ug/L	50.0		95.1	68-130	5.68	23	
1,2,3-Trichloropropane	49.45	1.0	ug/L	50.0		98.9	63-136	6.12	24	
trans-1,4-Dichloro-2-butene	87.50	5.0	ug/L	104		84.2	54-134	5.46	27	
1,1,2,2-Tetrachloroethane	48.05	1.0	ug/L	49.8		96.4	61-131	2.93	29	
1,4-Dichlorobenzene	46.99	1.0	ug/L	50.0		94.0	70-129	4.53	24	
1,2-Dichlorobenzene	46.18	1.0	ug/L	50.0		92.4	69-126	4.57	26	
1,2-Dibromo-3-chloropropane	46.61	5.0	ug/L	50.0		93.2	50-143	4.61	30	
Surrogate: Dibromofluoromethane	*46.3*		ug/L	*50.2*		*92.3*	*80-126*			
Surrogate: Dibromofluoromethane	*46.3*		ug/L	*50.2*		*92.3*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*46.9*		ug/L	*50.1*		*93.6*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*46.9*		ug/L	*50.1*		*93.6*	*61-142*			
Surrogate: Toluene-d8	*49.6*		ug/L	*50.4*		*98.4*	*87-116*			
Surrogate: Toluene-d8	*49.6*		ug/L	*50.4*		*98.4*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*49.9*		ug/L	*50.1*		*99.6*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*49.9*		ug/L	*50.1*		*99.6*	*80-116*			
Matrix Spike (1HC1381-MS1)	**Source: 1HC1559-01**		Prepared: 03/25/24 00:00 Analyzed: 03/25/24 20:08							
Chloromethane	366.9	10.0	ug/L	306	ND	120	61-152			
Vinyl Chloride	341.5	10.0	ug/L	302	ND	113	66-149			
Bromomethane	345.5	10.0	ug/L	288	ND	120	43-171			
Chloroethane	379.3	10.0	ug/L	316	ND	120	69-148			
Trichlorofluoromethane	349.4	10.0	ug/L	326	ND	107	62-163			
1,1-Dichloroethylene	576.9	10.0	ug/L	500	ND	115	70-148			
Acetone	836.2	100	ug/L	1020	ND	82.0	45-173			
Methyl Iodide	1122	10.0	ug/L	997	ND	113	62-167			
Carbon Disulfide	1026	10.0	ug/L	1010	ND	102	71-163			
Methylene Chloride	459.8	50.0	ug/L	500	ND	92.0	69-140			
Acrylonitrile	798.7	50.0	ug/L	1000	ND	79.6	58-151			
trans-1,2-Dichloroethylene	495.2	10.0	ug/L	500	ND	99.0	69-144			
1,1-Dichloroethane	476.1	10.0	ug/L	500	ND	95.2	70-138			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1381 - EPA 5030B - EPA 8260B										
Matrix Spike (1HC1381-MS1)	**Source: 1HC1559-01**	Prepared: 03/25/24 00:00 Analyzed: 03/25/24 20:08								
Vinyl Acetate	972.7	50.0	ug/L	1020	ND	95.5	58-142			
cis-1,2-Dichloroethylene	477.9	10.0	ug/L	495	ND	96.6	68-151			
2-Butanone (MEK)	649.7	100	ug/L	1030	ND	62.9	50-160			
Bromochloromethane	492.1	10.0	ug/L	500	ND	98.4	65-143			
Chloroform	487.6	10.0	ug/L	500	ND	97.5	71-143			
1,1,1-Trichloroethane	421.4	10.0	ug/L	500	ND	84.3	63-133			
Carbon Tetrachloride	464.7	10.0	ug/L	500	ND	92.9	63-142			
Benzene	483.9	10.0	ug/L	500	ND	96.8	69-133			
1,2-Dichloroethane	465.1	10.0	ug/L	500	ND	93.0	63-138			
Trichloroethylene	476.0	10.0	ug/L	500	ND	95.2	71-133			
1,2-Dichloropropane	477.8	10.0	ug/L	500	ND	95.6	69-132			
Dibromomethane	501.9	10.0	ug/L	500	ND	100	70-147			
Bromodichloromethane	433.8	10.0	ug/L	500	ND	86.8	67-130			
cis-1,3-Dichloropropene	438.6	10.0	ug/L	503	ND	87.2	61-126			
4-Methyl-2-pentanone (MIBK)	890.1	50.0	ug/L	1010	ND	87.8	55-147			
Toluene	479.4	10.0	ug/L	500	ND	95.9	71-133			
trans-1,3-Dichloropropene	424.6	10.0	ug/L	504	ND	84.2	63-124			
1,1,2-Trichloroethane	473.3	10.0	ug/L	500	ND	94.7	69-133			
Tetrachloroethylene	483.4	10.0	ug/L	500	ND	96.7	70-124			
2-Hexanone (MBK)	910.3	50.0	ug/L	1030	ND	88.1	53-141			
Dibromochloromethane	469.4	10.0	ug/L	495	ND	94.8	74-122			
1,2-Dibromoethane	480.4	10.0	ug/L	500	ND	96.1	66-127			
Chlorobenzene	491.2	10.0	ug/L	500	ND	98.2	76-116			
1,1,1,2-Tetrachloroethane	482.9	10.0	ug/L	500	ND	96.6	77-121			
Ethylbenzene	471.9	10.0	ug/L	500	ND	94.4	73-124			
Xylenes, total	1410	20.0	ug/L	1500	ND	94.0	75-123			
Styrene	467.2	10.0	ug/L	500	ND	93.4	70-120			
Bromoform	449.4	10.0	ug/L	500	ND	89.9	70-124			
1,2,3-Trichloropropane	498.3	10.0	ug/L	500	ND	99.7	62-135			
trans-1,4-Dichloro-2-butene	812.2	50.0	ug/L	1040	ND	78.2	50-120			
1,1,2,2-Tetrachloroethane	469.3	10.0	ug/L	498	ND	94.1	63-126			
1,4-Dichlorobenzene	471.7	10.0	ug/L	500	ND	94.3	72-119			
1,2-Dichlorobenzene	463.7	10.0	ug/L	500	ND	92.7	71-117			
1,2-Dibromo-3-chloropropane	429.7	50.0	ug/L	500	ND	85.9	49-134			
Surrogate: Dibromofluoromethane	*494*		ug/L	*502*		*98.5*	*80-126*			
Surrogate: Dibromofluoromethane	*494*		ug/L	*502*		*98.5*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*493*		ug/L	*501*		*98.4*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*493*		ug/L	*501*		*98.4*	*61-142*			
Surrogate: Toluene-d8	*503*		ug/L	*504*		*99.8*	*87-116*			
Surrogate: Toluene-d8	*503*		ug/L	*504*		*99.8*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*504*		ug/L	*501*		*101*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*504*		ug/L	*501*		*101*	*80-116*			
Matrix Spike Dup (1HC1381-MSD1)	**Source: 1HC1559-01**	Prepared: 03/25/24 00:00 Analyzed: 03/25/24 20:31								

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1381 - EPA 5030B - EPA 8260B										
Matrix Spike Dup (1HC1381-MSD1)	**Source: 1HC1559-01**	Prepared: 03/25/24 00:00 Analyzed: 03/25/24 20:31								
Chloromethane	194.2	10.0	ug/L	306	ND	63.4	61-152	61.6	26	QM-05
Vinyl Chloride	176.5	10.0	ug/L	302	ND	58.4	66-149	63.7	23	QM-05
Bromomethane	191.4	10.0	ug/L	288	ND	66.5	43-171	57.4	29	QM-05
Chloroethane	195.7	10.0	ug/L	316	ND	61.9	69-148	63.9	25	QM-05
Trichlorofluoromethane	178.1	10.0	ug/L	326	ND	54.6	62-163	64.9	25	QM-05
1,1-Dichloroethylene	298.0	10.0	ug/L	500	ND	59.6	70-148	63.8	22	QM-05
Acetone	439.0	100	ug/L	1020	ND	43.0	45-173	62.3	30	QM-05
Methyl Iodide	577.6	10.0	ug/L	997	ND	57.9	62-167	64.1	24	QM-05
Carbon Disulfide	523.5	10.0	ug/L	1010	ND	51.8	71-163	64.9	22	QM-05
Methylene Chloride	271.1	50.0	ug/L	500	ND	54.2	69-140	51.6	19	QM-05
Acrylonitrile	431.0	50.0	ug/L	1000	ND	42.9	58-151	59.8	15	QM-05
trans-1,2-Dichloroethylene	258.9	10.0	ug/L	500	ND	51.8	69-144	62.7	22	QM-05
1,1-Dichloroethane	249.3	10.0	ug/L	500	ND	49.9	70-138	62.5	20	QM-05
Vinyl Acetate	481.0	50.0	ug/L	1020	ND	47.2	58-142	67.6	24	QM-05
cis-1,2-Dichloroethylene	252.3	10.0	ug/L	495	ND	51.0	68-151	61.8	22	QM-05
2-Butanone (MEK)	295.5	100	ug/L	1030	ND	28.6	50-160	74.9	23	QM-05
Bromochloromethane	262.0	10.0	ug/L	500	ND	52.4	65-143	61.0	22	QM-05
Chloroform	259.5	10.0	ug/L	500	ND	51.9	71-143	61.1	21	QM-05
1,1,1-Trichloroethane	221.8	10.0	ug/L	500	ND	44.4	63-133	62.1	23	QM-05
Carbon Tetrachloride	242.9	10.0	ug/L	500	ND	48.6	63-142	62.7	22	QM-05
Benzene	256.5	10.0	ug/L	500	ND	51.3	69-133	61.4	18	QM-05
1,2-Dichloroethane	253.1	10.0	ug/L	500	ND	50.6	63-138	59.0	20	QM-05
Trichloroethylene	251.5	10.0	ug/L	500	ND	50.3	71-133	61.7	23	QM-05
1,2-Dichloropropane	255.9	10.0	ug/L	500	ND	51.2	69-132	60.5	20	QM-05
Dibromomethane	272.8	10.0	ug/L	500	ND	54.6	70-147	59.1	22	QM-05
Bromodichloromethane	233.9	10.0	ug/L	500	ND	46.8	67-130	59.9	21	QM-05
cis-1,3-Dichloropropene	239.2	10.0	ug/L	503	ND	47.5	61-126	58.8	21	QM-05
4-Methyl-2-pentanone (MIBK)	479.4	50.0	ug/L	1010	ND	47.3	55-147	60.0	23	QM-05
Toluene	250.4	10.0	ug/L	500	ND	50.1	71-133	62.8	19	QM-05
trans-1,3-Dichloropropene	229.2	10.0	ug/L	504	ND	45.5	63-124	59.8	21	QM-05
1,1,2-Trichloroethane	256.0	10.0	ug/L	500	ND	51.2	69-133	59.6	19	QM-05
Tetrachloroethylene	256.8	10.0	ug/L	500	ND	51.4	70-124	61.2	24	QM-05
2-Hexanone (MBK)	487.9	50.0	ug/L	1030	ND	47.2	53-141	60.4	24	QM-05
Dibromochloromethane	258.8	10.0	ug/L	495	ND	52.3	74-122	57.8	21	QM-05
1,2-Dibromoethane	260.3	10.0	ug/L	500	ND	52.1	66-127	59.4	23	QM-05
Chlorobenzene	262.3	10.0	ug/L	500	ND	52.5	76-116	60.8	21	QM-05
1,1,1,2-Tetrachloroethane	261.1	10.0	ug/L	500	ND	52.2	77-121	59.6	25	QM-05
Ethylbenzene	246.3	10.0	ug/L	500	ND	49.3	73-124	62.8	20	QM-05
Xylenes, total	732.4	20.0	ug/L	1500	ND	48.8	75-123	63.2	20	QM-05
Styrene	248.1	10.0	ug/L	500	ND	49.6	70-120	61.3	23	QM-05
Bromoform	248.4	10.0	ug/L	500	ND	49.7	70-124	57.6	22	QM-05
1,2,3-Trichloropropane	266.5	10.0	ug/L	500	ND	53.3	62-135	60.6	28	QM-05
trans-1,4-Dichloro-2-butene	433.6	50.0	ug/L	1040	ND	41.7	50-120	60.8	26	QM-05

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1381 - EPA 5030B - EPA 8260B										
Matrix Spike Dup (1HC1381-MSD1)	**Source: 1HC1559-01**	Prepared: 03/25/24 00:00 Analyzed: 03/25/24 20:31								
1,1,2,2-Tetrachloroethane	247.9	10.0	ug/L	498	ND	49.7	63-126	61.7	24	QM-05
1,4-Dichlorobenzene	246.8	10.0	ug/L	500	ND	49.4	72-119	62.6	24	QM-05
1,2-Dichlorobenzene	245.8	10.0	ug/L	500	ND	49.2	71-117	61.4	24	QM-05
1,2-Dibromo-3-chloropropane	234.0	50.0	ug/L	500	ND	46.8	49-134	59.0	28	QM-05
Surrogate: Dibromofluoromethane	*490*		ug/L	*502*		*97.7*	*80-126*			
Surrogate: Dibromofluoromethane	*490*		ug/L	*502*		*97.7*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*483*		ug/L	*501*		*96.4*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*483*		ug/L	*501*		*96.4*	*61-142*			
Surrogate: Toluene-d8	*498*		ug/L	*504*		*98.8*	*87-116*			
Surrogate: Toluene-d8	*498*		ug/L	*504*		*98.8*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*506*		ug/L	*501*		*101*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*506*		ug/L	*501*		*101*	*80-116*			

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1499 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Blank (1HC1499-BLK1)		Prepared: 03/27/24 11:57 Analyzed: 03/28/24 19:13								
Antimony, total	<0.0020	0.0020	mg/L							
Arsenic, total	<0.0040	0.0040	mg/L							
Barium, total	<0.0040	0.0040	mg/L							
Beryllium, total	<0.0020	0.0020	mg/L							
Cadmium, total	<0.0008	0.0008	mg/L							
Chromium, total	<0.0080	0.0080	mg/L							
Cobalt, total	<0.0004	0.0004	mg/L							
Copper, total	<0.0040	0.0040	mg/L							
Lead, total	<0.0040	0.0040	mg/L							
Nickel, total	<0.0040	0.0040	mg/L							
Selenium, total	<0.0040	0.0040	mg/L							
Silver, total	<0.0040	0.0040	mg/L							
Thallium, total	<0.0020	0.0020	mg/L							
Vanadium, total	<0.0200	0.0200	mg/L							
Zinc, total	<0.0200	0.0200	mg/L							
LCS (1HC1499-BS1)		Prepared: 03/27/24 11:57 Analyzed: 03/28/24 19:19								
Antimony, total	0.0905	0.0020	mg/L	0.100		90.5	80-120			
Arsenic, total	0.0912	0.0040	mg/L	0.100		91.2	80-120			
Barium, total	0.0974	0.0040	mg/L	0.100		97.4	80-120			
Beryllium, total	0.0938	0.0020	mg/L	0.100		93.8	80-120			
Cadmium, total	0.0904	0.0008	mg/L	0.100		90.4	80-120			
Chromium, total	0.0900	0.0080	mg/L	0.100		90.0	80-120			
Cobalt, total	0.0933	0.0004	mg/L	0.100		93.3	80-120			
Copper, total	0.0933	0.0040	mg/L	0.100		93.3	80-120			
Lead, total	0.0937	0.0040	mg/L	0.100		93.7	80-120			

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1499 - EPA 3005A Total Recoverable Metals - EPA 6020A										
LCS (1HC1499-BS1)			Prepared: 03/27/24 11:57 Analyzed: 03/28/24 19:19							
Nickel, total	0.0919	0.0040	mg/L	0.100		91.9	80-120			
Selenium, total	0.0897	0.0040	mg/L	0.100		89.7	80-120			
Silver, total	0.0935	0.0040	mg/L	0.100		93.5	80-120			
Thallium, total	0.0920	0.0020	mg/L	0.100		92.0	80-120			
Vanadium, total	0.0926	0.0200	mg/L	0.100		92.6	80-120			
Zinc, total	0.0907	0.0200	mg/L	0.100		90.7	80-120			
Matrix Spike (1HC1499-MS1)	**Source: 1HC1559-01**		Prepared: 03/27/24 11:57 Analyzed: 03/29/24 11:51							
Antimony, total	0.0838	0.0020	mg/L	0.100	ND	83.8	75-125			
Arsenic, total	0.0890	0.0040	mg/L	0.100	0.0021	86.9	75-125			
Barium, total	0.117	0.0040	mg/L	0.100	0.0269	89.6	75-125			
Beryllium, total	0.0792	0.0040	mg/L	0.100	ND	79.2	75-125			
Cadmium, total	0.0793	0.0008	mg/L	0.100	ND	79.3	75-125			
Chromium, total	0.0805	0.0080	mg/L	0.100	0.0008	79.7	75-125			
Cobalt, total	0.0898	0.0004	mg/L	0.100	ND	89.8	75-125			
Copper, total	0.0812	0.0040	mg/L	0.100	ND	81.2	75-125			
Lead, total	0.0805	0.0040	mg/L	0.100	ND	80.5	75-125			
Nickel, total	0.0922	0.0040	mg/L	0.100	0.0089	83.3	75-125			
Selenium, total	0.0812	0.0040	mg/L	0.100	ND	81.2	75-125			
Silver, total	0.0854	0.0040	mg/L	0.100	ND	85.4	75-125			
Thallium, total	0.0819	0.0020	mg/L	0.100	0.0003	81.5	75-125			
Vanadium, total	0.0869	0.0200	mg/L	0.100	ND	86.9	75-125			
Zinc, total	0.0841	0.0200	mg/L	0.100	ND	84.1	75-125			
Matrix Spike Dup (1HC1499-MSD1)	**Source: 1HC1559-01**		Prepared: 03/27/24 11:57 Analyzed: 03/28/24 19:37							
Antimony, total	0.0968	0.0020	mg/L	0.100	ND	96.8	75-125	14.3	20	
Arsenic, total	0.0993	0.0040	mg/L	0.100	0.0021	97.2	75-125	10.9	20	
Barium, total	0.132	0.0040	mg/L	0.100	0.0269	105	75-125	12.3	20	
Beryllium, total	0.0909	0.0020	mg/L	0.100	ND	90.9	75-125	13.8	20	
Cadmium, total	0.0914	0.0008	mg/L	0.100	ND	91.4	75-125	14.3	20	
Chromium, total	0.0939	0.0080	mg/L	0.100	0.0008	93.1	75-125	15.4	20	
Cobalt, total	0.101	0.0004	mg/L	0.100	ND	101	75-125	11.9	20	
Copper, total	0.0895	0.0040	mg/L	0.100	ND	89.5	75-125	9.73	20	
Lead, total	0.0920	0.0040	mg/L	0.100	ND	92.0	75-125	13.3	20	
Nickel, total	0.103	0.0040	mg/L	0.100	0.0089	94.2	75-125	11.2	20	
Selenium, total	0.0918	0.0040	mg/L	0.100	ND	91.8	75-125	12.2	20	
Silver, total	0.0950	0.0040	mg/L	0.100	ND	95.0	75-125	10.7	20	
Thallium, total	0.0936	0.0020	mg/L	0.100	0.0003	93.3	75-125	13.4	20	
Vanadium, total	0.100	0.0200	mg/L	0.100	ND	100	75-125	14.1	20	
Zinc, total	0.0939	0.0200	mg/L	0.100	ND	93.9	75-125	11.1	20	
Post Spike (1HC1499-PS1)	**Source: 1HC1559-01**		Prepared: 03/27/24 11:57 Analyzed: 03/28/24 19:43							
Antimony, total	0.0790		mg/L	0.0800	0.0002	98.4	80-120			
Arsenic, total	0.0830		mg/L	0.0800	0.0020	101	80-120			
Barium, total	0.109		mg/L	0.0800	0.0264	103	80-120			
Beryllium, total	0.0763		mg/L	0.0800	0.00001	95.4	80-120			

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1499 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Post Spike (1HC1499-PS1)	**Source: 1HC1559-01**		Prepared: 03/27/24 11:57 Analyzed: 03/28/24 19:43							
Cadmium, total	0.0752		mg/L	0.0800	0.00008	93.9	80-120			
Chromium, total	0.0763		mg/L	0.0800	0.0008	94.5	80-120			
Cobalt, total	0.0833		mg/L	0.0800	0.0002	104	80-120			
Copper, total	0.0764		mg/L	0.0800	0.0006	94.7	80-120			
Lead, total	0.0772		mg/L	0.0800	0.000008	96.5	80-120			
Nickel, total	0.0865		mg/L	0.0800	0.0087	97.3	80-120			
Selenium, total	0.0745		mg/L	0.0800	0.0003	92.7	80-120			
Silver, total	0.0793		mg/L	0.0800	0.0003	98.8	80-120			
Thallium, total	0.0791		mg/L	0.0800	0.0003	98.4	80-120			
Vanadium, total	0.0838		mg/L	0.0800	0.0065	96.5	80-120			
Zinc, total	0.0779		mg/L	0.0800	0.0077	87.8	80-120			

Definitions

QM-05: The spike recovery and/or RPD was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.

RL: Reporting Limit

RPD: Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler   Temp: 0.0°C

Cooler Inspection Checklist

Custody Seals	No	Containers Intact	Yes
COC/Labels Agree	Yes	Preservation Confirmed	No
Received On Ice	Yes		

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Heather Murphy

Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
04/11/24 08:15

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES A Microbac Company

600 East 17th Street S
Newton, IA 50208
641-792-8451

1HC1559
HLW Engineering
PM: Heather Murphy

Printed: 2/21/2024 2:08:54P
www.keystonelabs.com

SITE INFORMATION

Sampler: JGH

Project: Fremont Co-New Regs
6046

REPORT T

Todd Whipple
HLW Engineering
PO Box 314
Story City, IA 50248

Casey Moyer
Fremont County Landfill
PO Box 487, 2870 250th St
Sidney, IA 51652

SPECIAL INSTRUCTIONS

None

Turn Around Time
☒ Standard ☐ RUSH, need by __/__/__

LAB USE ONLY

Work Order 1HC1559
Temperature 0.0
Turn-Cooler: No

☐ Custody Seal
☒ Containers Intact
☒ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
-001	MW-19	Water	GRAB	3/20/24	9:44	7	lndfill-app1-voc-group	lndfll-app1-metals-6020	01
-001	MW-21	Water	GRAB	3/20/24	11:26	7	lndfill-app1-voc-group	lndfll-app1-metals-6020	02
-001	MW-23	Water	GRAB	3/20/24	11:03	7	lndfill-app1-voc-group	lndfll-app1-metals-6020	03
-001	GWD-1	Water	GRAB	3/20/24	11:50	7	lndfill-app1-voc-group	lndfll-app1-metals-6020	04
-001	GWD-2	Water	GRAB	3/20/24	11:14	7	lndfill-app1-voc-group	lndfll-app1-metals-6020	05
-001	Duplicate	Water	GRAB	3/20/24	9:22	7	lndfill-app1-voc-group	lndfll-app1-metals-6020	06

Relinquished By: J. C[illegible] Date/Time: 3/21/24

Received By Date/Time

Relinquished By Date/Time

Received for Lab By: Maher Date/Time: 3/21 9:48

Remarks:

Original - Lab Copy Yellow - Sampler Copy

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC1560

Project Description

6046

For:

Todd Whipple

HLW Engineering

PO Box 314

Story City, IA 50248

Heather Murphy

Customer Relationship Specialist

Thursday, April 11, 2024

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc., Newton. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

CERTIFICATE OF ANALYSIS

1HC1560

HLW Engineering

Todd Whipple
PO Box 314
Story City, IA 50248

Project Name: 6046

Project / PO Number: N/A
Received: 03/21/2024
Reported: 04/11/2024

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
MW-2 (b)	1HC1560-01	Water	GRAB		03/20/24 08:52	03/21/24 09:48
MW-18 (b)	1HC1560-02	Water	GRAB		03/20/24 08:27	03/21/24 09:48
MW-3	1HC1560-03	Water	GRAB		03/20/24 10:43	03/21/24 09:48
MW-9	1HC1560-04	Water	GRAB		03/20/24 10:30	03/21/24 09:48
MW-12	1HC1560-05	Water	GRAB		03/20/24 10:05	03/21/24 09:48
MW-14	1HC1560-06	Water	GRAB		03/20/24 09:22	03/21/24 09:48
MW-15	1HC1560-07	Water	GRAB		03/20/24 11:46	03/21/24 09:48

Analytical Testing Parameters

Client Sample ID:	MW-2 (b)		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1560-01	**Collection Date:**	03/20/2024 8:52

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Acetone	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Chloroform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Benzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Toluene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Styrene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM

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Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC1560

Client Sample ID:	MW-2 (b)		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1560-01	**Collection Date:**	03/20/2024 8:52

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
Bromoform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1448	CSM
Surrogate: Dibromofluoromethane	96.7	Limit: 80-126	% Rec	1		03/25/24 0000	03/25/24 1448	CSM
Surrogate: Dibromofluoromethane	96.7	Limit: 75-136	% Rec	1		03/25/24 0000	03/25/24 1448	CSM
Surrogate: 1,2-Dichloroethane-d4	101	Limit: 61-142	% Rec	1		03/25/24 0000	03/25/24 1448	CSM
Surrogate: 1,2-Dichloroethane-d4	101	Limit: 63-138	% Rec	1		03/25/24 0000	03/25/24 1448	CSM
Surrogate: Toluene-d8	97.8	Limit: 87-116	% Rec	1		03/25/24 0000	03/25/24 1448	CSM
Surrogate: Toluene-d8	97.8	Limit: 82-121	% Rec	1		03/25/24 0000	03/25/24 1448	CSM
Surrogate: 4-Bromofluorobenzene	98.9	Limit: 85-111	% Rec	1		03/25/24 0000	03/25/24 1448	CSM
Surrogate: 4-Bromofluorobenzene	98.9	Limit: 80-116	% Rec	1		03/25/24 0000	03/25/24 1448	CSM

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2032	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2032	RVV
Barium, total	**0.219**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2032	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2032	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/27/24 1157	03/28/24 2032	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/27/24 1157	03/28/24 2032	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		03/27/24 1157	03/28/24 2032	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2032	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2032	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2032	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2032	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2032	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2032	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 2032	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 2032	RVV

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC1560

Client Sample ID:	MW-18 (b)			
Sample Matrix:	Water		**Collected By:**	JGH
Lab Sample ID:	1HC1560-02		**Collection Date:**	03/20/2024 8:27

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Acetone	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Chloroform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Benzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Toluene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Styrene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Bromoform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM

Client Sample ID:	MW-18 (b)		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1560-02	**Collection Date:**	03/20/2024 8:27

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1510	CSM
Surrogate: Dibromofluoromethane	96.5	Limit: 75-136	% Rec	1		03/25/24 0000	03/25/24 1510	CSM
Surrogate: Dibromofluoromethane	96.5	Limit: 80-126	% Rec	1		03/25/24 0000	03/25/24 1510	CSM
Surrogate: 1,2-Dichloroethane-d4	101	Limit: 63-138	% Rec	1		03/25/24 0000	03/25/24 1510	CSM
Surrogate: 1,2-Dichloroethane-d4	101	Limit: 61-142	% Rec	1		03/25/24 0000	03/25/24 1510	CSM
Surrogate: Toluene-d8	98.2	Limit: 82-121	% Rec	1		03/25/24 0000	03/25/24 1510	CSM
Surrogate: Toluene-d8	98.2	Limit: 87-116	% Rec	1		03/25/24 0000	03/25/24 1510	CSM
Surrogate: 4-Bromofluorobenzene	99.0	Limit: 85-111	% Rec	1		03/25/24 0000	03/25/24 1510	CSM
Surrogate: 4-Bromofluorobenzene	99.0	Limit: 80-116	% Rec	1		03/25/24 0000	03/25/24 1510	CSM

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2038	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2038	RVV
Barium, total	**0.378**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2038	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2038	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/27/24 1157	03/28/24 2038	RVV
Chromium, total	**0.0142**	0.0080	mg/L	4		03/27/24 1157	03/28/24 2038	RVV
Cobalt, total	**0.0019**	0.0004	mg/L	4		03/27/24 1157	03/28/24 2038	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2038	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2038	RVV
Nickel, total	**0.0083**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2038	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2038	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2038	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2038	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 2038	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 2038	RVV

Client Sample ID:	MW-3		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1560-03	**Collection Date:**	03/20/2024 10:43

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Acetone	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Chloroform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Benzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Toluene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Styrene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Bromoform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM

CERTIFICATE OF ANALYSIS

1HC1560

Client Sample ID:	MW-3		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1560-03	**Collection Date:**	03/20/2024 10:43

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1533	CSM
Surrogate: Dibromofluoromethane	97.0	Limit: 75-136	% Rec	1		03/25/24 0000	03/25/24 1533	CSM
Surrogate: Dibromofluoromethane	97.0	Limit: 80-126	% Rec	1		03/25/24 0000	03/25/24 1533	CSM
Surrogate: 1,2-Dichloroethane-d4	101	Limit: 63-138	% Rec	1		03/25/24 0000	03/25/24 1533	CSM
Surrogate: 1,2-Dichloroethane-d4	101	Limit: 61-142	% Rec	1		03/25/24 0000	03/25/24 1533	CSM
Surrogate: Toluene-d8	98.4	Limit: 82-121	% Rec	1		03/25/24 0000	03/25/24 1533	CSM
Surrogate: Toluene-d8	98.4	Limit: 87-116	% Rec	1		03/25/24 0000	03/25/24 1533	CSM
Surrogate: 4-Bromofluorobenzene	99.6	Limit: 85-111	% Rec	1		03/25/24 0000	03/25/24 1533	CSM
Surrogate: 4-Bromofluorobenzene	99.6	Limit: 80-116	% Rec	1		03/25/24 0000	03/25/24 1533	CSM

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2044	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2044	RVV
Barium, total	**0.747**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2044	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2044	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/27/24 1157	03/28/24 2044	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/27/24 1157	03/28/24 2044	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		03/27/24 1157	03/28/24 2044	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2044	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2044	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2044	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2044	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2044	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2044	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 2044	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 2044	RVV

Client Sample ID:	MW-9			
Sample Matrix:	Water		**Collected By:**	JGH
Lab Sample ID:	1HC1560-04		**Collection Date:**	03/20/2024 10:30

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Acetone	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Chloroform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Benzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Toluene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Styrene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Bromoform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM

Client Sample ID:	MW-9		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1560-04	**Collection Date:**	03/20/2024 10:30

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1556	CSM
Surrogate: Dibromofluoromethane	96.2	Limit: 75-136	% Rec	1		03/25/24 0000	03/25/24 1556	CSM
Surrogate: Dibromofluoromethane	96.2	Limit: 80-126	% Rec	1		03/25/24 0000	03/25/24 1556	CSM
Surrogate: 1,2-Dichloroethane-d4	100	Limit: 61-142	% Rec	1		03/25/24 0000	03/25/24 1556	CSM
Surrogate: 1,2-Dichloroethane-d4	100	Limit: 63-138	% Rec	1		03/25/24 0000	03/25/24 1556	CSM
Surrogate: Toluene-d8	97.7	Limit: 87-116	% Rec	1		03/25/24 0000	03/25/24 1556	CSM
Surrogate: Toluene-d8	97.7	Limit: 82-121	% Rec	1		03/25/24 0000	03/25/24 1556	CSM
Surrogate: 4-Bromofluorobenzene	98.0	Limit: 80-116	% Rec	1		03/25/24 0000	03/25/24 1556	CSM
Surrogate: 4-Bromofluorobenzene	98.0	Limit: 85-111	% Rec	1		03/25/24 0000	03/25/24 1556	CSM

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2051	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2051	RVV
Barium, total	**0.328**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2051	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2051	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/27/24 1157	03/28/24 2051	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/27/24 1157	03/28/24 2051	RVV
Cobalt, total	**0.0006**	0.0004	mg/L	4		03/27/24 1157	03/28/24 2051	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2051	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2051	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2051	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2051	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2051	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2051	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 2051	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 2051	RVV

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CERTIFICATE OF ANALYSIS

1HC1560

Client Sample ID:	MW-12			
Sample Matrix:	Water		**Collected By:**	JGH
Lab Sample ID:	1HC1560-05		**Collection Date:**	03/20/2024 10:05

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	**1.4**	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Acetone	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Chloroform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Benzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Toluene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Styrene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Bromoform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM

Client Sample ID:	MW-12		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1560-05	**Collection Date:**	03/20/2024 10:05

Determination of Volatile Organic Compounds	**Result**	**RL**	**Units**	**DF**	**Note**	**Prepared**	**Analyzed**	**Analyst**
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1619	CSM
Surrogate: Dibromofluoromethane	97.4	Limit: 75-136	% Rec	1		03/25/24 0000	03/25/24 1619	CSM
Surrogate: Dibromofluoromethane	97.4	Limit: 80-126	% Rec	1		03/25/24 0000	03/25/24 1619	CSM
Surrogate: 1,2-Dichloroethane-d4	101	Limit: 63-138	% Rec	1		03/25/24 0000	03/25/24 1619	CSM
Surrogate: 1,2-Dichloroethane-d4	101	Limit: 61-142	% Rec	1		03/25/24 0000	03/25/24 1619	CSM
Surrogate: Toluene-d8	99.4	Limit: 82-121	% Rec	1		03/25/24 0000	03/25/24 1619	CSM
Surrogate: Toluene-d8	99.4	Limit: 87-116	% Rec	1		03/25/24 0000	03/25/24 1619	CSM
Surrogate: 4-Bromofluorobenzene	98.7	Limit: 80-116	% Rec	1		03/25/24 0000	03/25/24 1619	CSM
Surrogate: 4-Bromofluorobenzene	98.7	Limit: 85-111	% Rec	1		03/25/24 0000	03/25/24 1619	CSM

Determination of Total Metals	**Result**	**RL**	**Units**	**DF**	**Note**	**Prepared**	**Analyzed**	**Analyst**
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2057	RVV
Arsenic, total	**0.0159**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2057	RVV
Barium, total	**0.856**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2057	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2057	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/27/24 1157	03/28/24 2057	RVV
Chromium, total	**0.0227**	0.0080	mg/L	4		03/27/24 1157	03/28/24 2057	RVV
Cobalt, total	**0.0213**	0.0004	mg/L	4		03/27/24 1157	03/28/24 2057	RVV
Copper, total	**0.0180**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2057	RVV
Lead, total	**0.0089**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2057	RVV
Nickel, total	**0.0631**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2057	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2057	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2057	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2057	RVV
Vanadium, total	**0.0386**	0.0200	mg/L	4		03/27/24 1157	03/28/24 2057	RVV
Zinc, total	**0.0363**	0.0200	mg/L	4		03/27/24 1157	03/28/24 2057	RVV

Client Sample ID:	MW-14		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1560-06	**Collection Date:**	03/20/2024 9:22

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Acetone	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Chloroform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Benzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Toluene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Styrene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Bromoform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM

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CERTIFICATE OF ANALYSIS

1HC1560

Client Sample ID:	MW-14		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1560-06	**Collection Date:**	03/20/2024 9:22

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1642	CSM
Surrogate: Dibromofluoromethane	97.5	Limit: 75-136	% Rec	1		03/25/24 0000	03/25/24 1642	CSM
Surrogate: Dibromofluoromethane	97.5	Limit: 80-126	% Rec	1		03/25/24 0000	03/25/24 1642	CSM
Surrogate: 1,2-Dichloroethane-d4	101	Limit: 61-142	% Rec	1		03/25/24 0000	03/25/24 1642	CSM
Surrogate: 1,2-Dichloroethane-d4	101	Limit: 63-138	% Rec	1		03/25/24 0000	03/25/24 1642	CSM
Surrogate: Toluene-d8	98.5	Limit: 87-116	% Rec	1		03/25/24 0000	03/25/24 1642	CSM
Surrogate: Toluene-d8	98.5	Limit: 82-121	% Rec	1		03/25/24 0000	03/25/24 1642	CSM
Surrogate: 4-Bromofluorobenzene	99.2	Limit: 80-116	% Rec	1		03/25/24 0000	03/25/24 1642	CSM
Surrogate: 4-Bromofluorobenzene	99.2	Limit: 85-111	% Rec	1		03/25/24 0000	03/25/24 1642	CSM

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2103	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2103	RVV
Barium, total	**0.248**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2103	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2103	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/27/24 1157	03/28/24 2103	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/27/24 1157	03/28/24 2103	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		03/27/24 1157	03/28/24 2103	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2103	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2103	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2103	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2103	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2103	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2103	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 2103	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 2103	RVV

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Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC1560

Client Sample ID:	MW-15		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1560-07	**Collection Date:**	03/20/2024 11:46

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Acetone	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Chloroform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Benzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Toluene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Styrene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Bromoform	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM

Client Sample ID:	MW-15		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1560-07	**Collection Date:**	03/20/2024 11:46

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/25/24 0000	03/25/24 1705	CSM
Surrogate: Dibromofluoromethane	97.9	Limit: 75-136	% Rec	1		03/25/24 0000	03/25/24 1705	CSM
Surrogate: Dibromofluoromethane	97.9	Limit: 80-126	% Rec	1		03/25/24 0000	03/25/24 1705	CSM
Surrogate: 1,2-Dichloroethane-d4	102	Limit: 63-138	% Rec	1		03/25/24 0000	03/25/24 1705	CSM
Surrogate: 1,2-Dichloroethane-d4	102	Limit: 61-142	% Rec	1		03/25/24 0000	03/25/24 1705	CSM
Surrogate: Toluene-d8	98.5	Limit: 82-121	% Rec	1		03/25/24 0000	03/25/24 1705	CSM
Surrogate: Toluene-d8	98.5	Limit: 87-116	% Rec	1		03/25/24 0000	03/25/24 1705	CSM
Surrogate: 4-Bromofluorobenzene	98.1	Limit: 80-116	% Rec	1		03/25/24 0000	03/25/24 1705	CSM
Surrogate: 4-Bromofluorobenzene	98.1	Limit: 85-111	% Rec	1		03/25/24 0000	03/25/24 1705	CSM

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2109	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2109	RVV
Barium, total	**0.549**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2109	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2109	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/27/24 1157	03/28/24 2109	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/27/24 1157	03/28/24 2109	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		03/27/24 1157	03/28/24 2109	RVV
Copper, total	**0.0069**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2109	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2109	RVV
Nickel, total	**0.0123**	0.0040	mg/L	4		03/27/24 1157	03/28/24 2109	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2109	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/27/24 1157	03/28/24 2109	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/27/24 1157	03/28/24 2109	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 2109	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/27/24 1157	03/28/24 2109	RVV

Batch Log Summary

Method	Batch	Laboratory ID	Client / Source ID
EPA 8260B	1HC1381	1HC1381-BS1	
		1HC1381-BSD1	
		1HC1381-BLK1	
		1HC1560-01	MW-2 (b)
		1HC1560-02	MW-18 (b)
		1HC1560-03	MW-3
		1HC1560-04	MW-9
		1HC1560-05	MW-12
		1HC1560-06	MW-14
		1HC1560-07	MW-15
		1HC1381-MS1	1HC1559-01
		1HC1381-MSD1	1HC1559-01

Method	Batch	Laboratory ID	Client / Source ID
EPA 6020A	1HC1499	1HC1499-BLK1	
		1HC1499-BS1	
		1HC1499-MSD1	1HC1559-01
		1HC1499-PS1	1HC1559-01
		1HC1560-01	MW-2 (b)
		1HC1560-02	MW-18 (b)
		1HC1560-03	MW-3
		1HC1560-04	MW-9
		1HC1560-05	MW-12
		1HC1560-06	MW-14
		1HC1560-07	MW-15
		1HC1499-MS1	1HC1559-01

Batch Quality Control Summary: Microbac Laboratories, Inc., Newton

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1381 - EPA 5030B - EPA 8260B										
Blank (1HC1381-BLK1)			Prepared: 03/25/24 00:00 Analyzed: 03/25/24 10:56							
Chloromethane	<1.0	1.0	ug/L							
Vinyl Chloride	<1.0	1.0	ug/L							
Bromomethane	<1.0	1.0	ug/L							
Chloroethane	<1.0	1.0	ug/L							
Trichlorofluoromethane	<1.0	1.0	ug/L							
1,1-Dichloroethylene	<1.0	1.0	ug/L							
Acetone	<10.0	10.0	ug/L							
Methyl Iodide	<1.0	1.0	ug/L							

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1381 - EPA 5030B - EPA 8260B										
Blank (1HC1381-BLK1)			Prepared: 03/25/24 00:00 Analyzed: 03/25/24 10:56							
Carbon Disulfide	<1.0	1.0	ug/L							
Methylene Chloride	<5.0	5.0	ug/L							
Acrylonitrile	<5.0	5.0	ug/L							
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L							
1,1-Dichloroethane	<1.0	1.0	ug/L							
Vinyl Acetate	<5.0	5.0	ug/L							
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Bromochloromethane	<1.0	1.0	ug/L							
Chloroform	<1.0	1.0	ug/L							
1,1,1-Trichloroethane	<1.0	1.0	ug/L							
Carbon Tetrachloride	<1.0	1.0	ug/L							
Benzene	<1.0	1.0	ug/L							
1,2-Dichloroethane	<1.0	1.0	ug/L							
Trichloroethylene	<1.0	1.0	ug/L							
1,2-Dichloropropane	<1.0	1.0	ug/L							
Dibromomethane	<1.0	1.0	ug/L							
Bromodichloromethane	<1.0	1.0	ug/L							
cis-1,3-Dichloropropene	<1.0	1.0	ug/L							
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L							
Toluene	<1.0	1.0	ug/L							
trans-1,3-Dichloropropene	<1.0	1.0	ug/L							
1,1,2-Trichloroethane	<1.0	1.0	ug/L							
Tetrachloroethylene	<1.0	1.0	ug/L							
2-Hexanone (MBK)	<5.0	5.0	ug/L							
Dibromochloromethane	<1.0	1.0	ug/L							
1,2-Dibromoethane	<1.0	1.0	ug/L							
Chlorobenzene	<1.0	1.0	ug/L							
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L							
Ethylbenzene	<1.0	1.0	ug/L							
Xylenes, total	<2.0	2.0	ug/L							
Styrene	<1.0	1.0	ug/L							
Bromoform	<1.0	1.0	ug/L							
1,2,3-Trichloropropane	<1.0	1.0	ug/L							
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L							
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L							
1,4-Dichlorobenzene	<1.0	1.0	ug/L							
1,2-Dichlorobenzene	<1.0	1.0	ug/L							
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L							
Surrogate: Dibromofluoromethane	*46.1*		ug/L	*50.2*		*92.0*	*80-126*			
Surrogate: Dibromofluoromethane	*46.1*		ug/L	*50.2*		*92.0*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*47.8*		ug/L	*50.1*		*95.4*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*47.8*		ug/L	*50.1*		*95.4*	*61-142*			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1381 - EPA 5030B - EPA 8260B										
Blank (1HC1381-BLK1)			Prepared: 03/25/24 00:00 Analyzed: 03/25/24 10:56							
Surrogate: Toluene-d8	*49.4*		ug/L	*50.4*		*98.1*	*87-116*			
Surrogate: Toluene-d8	*49.4*		ug/L	*50.4*		*98.1*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*49.7*		ug/L	*50.1*		*99.0*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*49.7*		ug/L	*50.1*		*99.0*	*80-116*			
LCS (1HC1381-BS1)			Prepared: 03/25/24 00:00 Analyzed: 03/25/24 09:47							
Chloromethane	34.14	1.0	ug/L	30.6		111	63-155			
Vinyl Chloride	30.00	1.0	ug/L	30.2		99.3	70-154			
Bromomethane	33.25	1.0	ug/L	28.8		115	52-176			
Chloroethane	31.64	1.0	ug/L	31.6		100	72-148			
Trichlorofluoromethane	28.39	1.0	ug/L	32.6		87.1	70-152			
1,1-Dichloroethylene	47.49	1.0	ug/L	50.0		95.0	70-148			
Acetone	101.0	10.0	ug/L	102		99.0	43-172			
Methyl Iodide	99.35	1.0	ug/L	99.7		99.7	69-170			
Carbon Disulfide	85.11	1.0	ug/L	101		84.3	72-162			
Methylene Chloride	45.53	5.0	ug/L	50.0		91.1	68-142			
Acrylonitrile	92.04	5.0	ug/L	100		91.7	67-144			
trans-1,2-Dichloroethylene	45.81	1.0	ug/L	50.0		91.6	66-148			
1,1-Dichloroethane	45.39	1.0	ug/L	50.0		90.8	66-143			
Vinyl Acetate	97.68	5.0	ug/L	102		95.9	43-153			
cis-1,2-Dichloroethylene	55.83	1.0	ug/L	49.5		113	71-149			
2-Butanone (MEK)	84.64	10.0	ug/L	103		81.9	52-159			
Bromochloromethane	48.63	1.0	ug/L	50.0		97.3	69-143			
Chloroform	46.67	1.0	ug/L	50.0		93.3	69-144			
1,1,1-Trichloroethane	38.46	1.0	ug/L	50.0		77.0	62-129			
Carbon Tetrachloride	41.91	1.0	ug/L	50.0		83.8	63-141			
Benzene	48.21	1.0	ug/L	50.0		96.4	71-134			
1,2-Dichloroethane	49.00	1.0	ug/L	50.0		98.0	72-132			
Trichloroethylene	46.32	1.0	ug/L	50.0		92.6	71-135			
1,2-Dichloropropane	48.61	1.0	ug/L	50.0		97.2	69-136			
Dibromomethane	53.24	1.0	ug/L	50.0		106	73-147			
Bromodichloromethane	45.46	1.0	ug/L	50.0		90.9	68-129			
cis-1,3-Dichloropropene	47.84	1.0	ug/L	50.3		95.1	65-134			
4-Methyl-2-pentanone (MIBK)	100.2	5.0	ug/L	101		98.9	58-147			
Toluene	47.28	1.0	ug/L	50.0		94.6	72-133			
trans-1,3-Dichloropropene	47.21	1.0	ug/L	50.4		93.6	67-130			
1,1,2-Trichloroethane	49.60	1.0	ug/L	50.0		99.2	69-135			
Tetrachloroethylene	46.89	1.0	ug/L	50.0		93.8	69-130			
2-Hexanone (MBK)	98.01	5.0	ug/L	103		94.9	55-144			
Dibromochloromethane	50.79	1.0	ug/L	49.5		103	73-127			
1,2-Dibromoethane	50.74	1.0	ug/L	50.0		101	67-132			
Chlorobenzene	50.47	1.0	ug/L	50.0		101	72-123			
1,1,1,2-Tetrachloroethane	50.50	1.0	ug/L	50.0		101	73-127			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1381 - EPA 5030B - EPA 8260B										
LCS (1HC1381-BS1)			Prepared: 03/25/24 00:00 Analyzed: 03/25/24 09:47							
Ethylbenzene	47.05	1.0	ug/L	50.0		94.1	71-127			
Xylenes, total	141.7	2.0	ug/L	150		94.4	74-127			
Styrene	48.09	1.0	ug/L	50.0		96.2	66-126			
Bromoform	50.35	1.0	ug/L	50.0		101	68-130			
1,2,3-Trichloropropane	52.57	1.0	ug/L	50.0		105	63-136			
trans-1,4-Dichloro-2-butene	92.41	5.0	ug/L	104		88.9	54-134			
1,1,2,2-Tetrachloroethane	49.48	1.0	ug/L	49.8		99.3	61-131			
1,4-Dichlorobenzene	49.17	1.0	ug/L	50.0		98.3	70-129			
1,2-Dichlorobenzene	48.34	1.0	ug/L	50.0		96.7	69-126			
1,2-Dibromo-3-chloropropane	48.81	5.0	ug/L	50.0		97.6	50-143			
Surrogate: Dibromofluoromethane	*46.3*		ug/L	*50.2*		*92.2*	*80-126*			
Surrogate: Dibromofluoromethane	*46.3*		ug/L	*50.2*		*92.2*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*46.4*		ug/L	*50.1*		*92.7*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*46.4*		ug/L	*50.1*		*92.7*	*61-142*			
Surrogate: Toluene-d8	*49.4*		ug/L	*50.4*		*98.1*	*87-116*			
Surrogate: Toluene-d8	*49.4*		ug/L	*50.4*		*98.1*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*50.0*		ug/L	*50.1*		*99.8*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*50.0*		ug/L	*50.1*		*99.8*	*80-116*			
LCS Dup (1HC1381-BSD1)			Prepared: 03/25/24 00:00 Analyzed: 03/25/24 10:10							
Chloromethane	32.35	1.0	ug/L	30.6		106	63-155	5.38	24	
Vinyl Chloride	28.38	1.0	ug/L	30.2		93.9	70-154	5.55	25	
Bromomethane	32.01	1.0	ug/L	28.8		111	52-176	3.80	27	
Chloroethane	32.75	1.0	ug/L	31.6		104	72-148	3.45	25	
Trichlorofluoromethane	27.60	1.0	ug/L	32.6		84.6	70-152	2.82	26	
1,1-Dichloroethylene	47.96	1.0	ug/L	50.0		95.9	70-148	0.985	24	
Acetone	97.53	10.0	ug/L	102		95.6	43-172	3.46	30	
Methyl Iodide	98.76	1.0	ug/L	99.7		99.1	69-170	0.596	30	
Carbon Disulfide	87.63	1.0	ug/L	101		86.8	72-162	2.92	24	
Methylene Chloride	46.61	5.0	ug/L	50.0		93.2	68-142	2.34	21	
Acrylonitrile	85.58	5.0	ug/L	100		85.3	67-144	7.27	24	
trans-1,2-Dichloroethylene	43.73	1.0	ug/L	50.0		87.5	66-148	4.65	27	
1,1-Dichloroethane	42.85	1.0	ug/L	50.0		85.7	66-143	5.76	24	
Vinyl Acetate	98.82	5.0	ug/L	102		97.0	43-153	1.16	30	
cis-1,2-Dichloroethylene	44.52	1.0	ug/L	49.5		90.0	71-149	22.5	26	
2-Butanone (MEK)	93.63	10.0	ug/L	103		90.6	52-159	10.1	27	
Bromochloromethane	46.35	1.0	ug/L	50.0		92.7	69-143	4.80	23	
Chloroform	44.50	1.0	ug/L	50.0		89.0	69-144	4.76	23	
1,1,1-Trichloroethane	36.47	1.0	ug/L	50.0		73.0	62-129	5.31	24	
Carbon Tetrachloride	39.43	1.0	ug/L	50.0		78.9	63-141	6.10	25	
Benzene	45.92	1.0	ug/L	50.0		91.8	71-134	4.87	24	
1,2-Dichloroethane	46.98	1.0	ug/L	50.0		94.0	72-132	4.21	24	
Trichloroethylene	44.32	1.0	ug/L	50.0		88.6	71-135	4.41	24	
1,2-Dichloropropane	46.64	1.0	ug/L	50.0		93.3	69-136	4.14	24	

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1381 - EPA 5030B - EPA 8260B										
LCS Dup (1HC1381-BSD1)			Prepared: 03/25/24 00:00 Analyzed: 03/25/24 10:10							
Dibromomethane	50.53	1.0	ug/L	50.0		101	73-147	5.22	25	
Bromodichloromethane	43.46	1.0	ug/L	50.0		86.9	68-129	4.50	22	
cis-1,3-Dichloropropene	45.18	1.0	ug/L	50.3		89.8	65-134	5.72	23	
4-Methyl-2-pentanone (MIBK)	95.41	5.0	ug/L	101		94.1	58-147	4.95	27	
Toluene	45.10	1.0	ug/L	50.0		90.2	72-133	4.72	24	
trans-1,3-Dichloropropene	44.55	1.0	ug/L	50.4		88.3	67-130	5.80	24	
1,1,2-Trichloroethane	47.36	1.0	ug/L	50.0		94.7	69-135	4.62	23	
Tetrachloroethylene	44.44	1.0	ug/L	50.0		88.9	69-130	5.37	25	
2-Hexanone (MBK)	100.1	5.0	ug/L	103		96.9	55-144	2.09	25	
Dibromochloromethane	48.34	1.0	ug/L	49.5		97.7	73-127	4.94	22	
1,2-Dibromoethane	48.54	1.0	ug/L	50.0		97.1	67-132	4.43	24	
Chlorobenzene	47.77	1.0	ug/L	50.0		95.5	72-123	5.50	23	
1,1,1,2-Tetrachloroethane	48.01	1.0	ug/L	50.0		96.0	73-127	5.06	24	
Ethylbenzene	44.68	1.0	ug/L	50.0		89.4	71-127	5.17	26	
Xylenes, total	134.0	2.0	ug/L	150		89.4	74-127	5.53	25	
Styrene	45.53	1.0	ug/L	50.0		91.1	66-126	5.47	23	
Bromoform	47.57	1.0	ug/L	50.0		95.1	68-130	5.68	23	
1,2,3-Trichloropropane	49.45	1.0	ug/L	50.0		98.9	63-136	6.12	24	
trans-1,4-Dichloro-2-butene	87.50	5.0	ug/L	104		84.2	54-134	5.46	27	
1,1,2,2-Tetrachloroethane	48.05	1.0	ug/L	49.8		96.4	61-131	2.93	29	
1,4-Dichlorobenzene	46.99	1.0	ug/L	50.0		94.0	70-129	4.53	24	
1,2-Dichlorobenzene	46.18	1.0	ug/L	50.0		92.4	69-126	4.57	26	
1,2-Dibromo-3-chloropropane	46.61	5.0	ug/L	50.0		93.2	50-143	4.61	30	
Surrogate: Dibromofluoromethane	*46.3*		ug/L	*50.2*		*92.3*	*80-126*			
Surrogate: Dibromofluoromethane	*46.3*		ug/L	*50.2*		*92.3*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*46.9*		ug/L	*50.1*		*93.6*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*46.9*		ug/L	*50.1*		*93.6*	*61-142*			
Surrogate: Toluene-d8	*49.6*		ug/L	*50.4*		*98.4*	*87-116*			
Surrogate: Toluene-d8	*49.6*		ug/L	*50.4*		*98.4*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*49.9*		ug/L	*50.1*		*99.6*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*49.9*		ug/L	*50.1*		*99.6*	*80-116*			
Matrix Spike (1HC1381-MS1)	**Source: 1HC1559-01**		Prepared: 03/25/24 00:00 Analyzed: 03/25/24 20:08							
Chloromethane	366.9	10.0	ug/L	306	ND	120	61-152			
Vinyl Chloride	341.5	10.0	ug/L	302	ND	113	66-149			
Bromomethane	345.5	10.0	ug/L	288	ND	120	43-171			
Chloroethane	379.3	10.0	ug/L	316	ND	120	69-148			
Trichlorofluoromethane	349.4	10.0	ug/L	326	ND	107	62-163			
1,1-Dichloroethylene	576.9	10.0	ug/L	500	ND	115	70-148			
Acetone	836.2	100	ug/L	1020	ND	82.0	45-173			
Methyl Iodide	1122	10.0	ug/L	997	ND	113	62-167			
Carbon Disulfide	1026	10.0	ug/L	1010	ND	102	71-163			
Methylene Chloride	459.8	50.0	ug/L	500	ND	92.0	69-140			
Acrylonitrile	798.7	50.0	ug/L	1000	ND	79.6	58-151			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1381 - EPA 5030B - EPA 8260B										
Matrix Spike (1HC1381-MS1)	**Source: 1HC1559-01**		Prepared: 03/25/24 00:00 Analyzed: 03/25/24 20:08							
trans-1,2-Dichloroethylene	495.2	10.0	ug/L	500	ND	99.0	69-144			
1,1-Dichloroethane	476.1	10.0	ug/L	500	ND	95.2	70-138			
Vinyl Acetate	972.7	50.0	ug/L	1020	ND	95.5	58-142			
cis-1,2-Dichloroethylene	477.9	10.0	ug/L	495	ND	96.6	68-151			
2-Butanone (MEK)	649.7	100	ug/L	1030	ND	62.9	50-160			
Bromochloromethane	492.1	10.0	ug/L	500	ND	98.4	65-143			
Chloroform	487.6	10.0	ug/L	500	ND	97.5	71-143			
1,1,1-Trichloroethane	421.4	10.0	ug/L	500	ND	84.3	63-133			
Carbon Tetrachloride	464.7	10.0	ug/L	500	ND	92.9	63-142			
Benzene	483.9	10.0	ug/L	500	ND	96.8	69-133			
1,2-Dichloroethane	465.1	10.0	ug/L	500	ND	93.0	63-138			
Trichloroethylene	476.0	10.0	ug/L	500	ND	95.2	71-133			
1,2-Dichloropropane	477.8	10.0	ug/L	500	ND	95.6	69-132			
Dibromomethane	501.9	10.0	ug/L	500	ND	100	70-147			
Bromodichloromethane	433.8	10.0	ug/L	500	ND	86.8	67-130			
cis-1,3-Dichloropropene	438.6	10.0	ug/L	503	ND	87.2	61-126			
4-Methyl-2-pentanone (MIBK)	890.1	50.0	ug/L	1010	ND	87.8	55-147			
Toluene	479.4	10.0	ug/L	500	ND	95.9	71-133			
trans-1,3-Dichloropropene	424.6	10.0	ug/L	504	ND	84.2	63-124			
1,1,2-Trichloroethane	473.3	10.0	ug/L	500	ND	94.7	69-133			
Tetrachloroethylene	483.4	10.0	ug/L	500	ND	96.7	70-124			
2-Hexanone (MBK)	910.3	50.0	ug/L	1030	ND	88.1	53-141			
Dibromochloromethane	469.4	10.0	ug/L	495	ND	94.8	74-122			
1,2-Dibromoethane	480.4	10.0	ug/L	500	ND	96.1	66-127			
Chlorobenzene	491.2	10.0	ug/L	500	ND	98.2	76-116			
1,1,1,2-Tetrachloroethane	482.9	10.0	ug/L	500	ND	96.6	77-121			
Ethylbenzene	471.9	10.0	ug/L	500	ND	94.4	73-124			
Xylenes, total	1410	20.0	ug/L	1500	ND	94.0	75-123			
Styrene	467.2	10.0	ug/L	500	ND	93.4	70-120			
Bromoform	449.4	10.0	ug/L	500	ND	89.9	70-124			
1,2,3-Trichloropropane	498.3	10.0	ug/L	500	ND	99.7	62-135			
trans-1,4-Dichloro-2-butene	812.2	50.0	ug/L	1040	ND	78.2	50-120			
1,1,2,2-Tetrachloroethane	469.3	10.0	ug/L	498	ND	94.1	63-126			
1,4-Dichlorobenzene	471.7	10.0	ug/L	500	ND	94.3	72-119			
1,2-Dichlorobenzene	463.7	10.0	ug/L	500	ND	92.7	71-117			
1,2-Dibromo-3-chloropropane	429.7	50.0	ug/L	500	ND	85.9	49-134			
Surrogate: Dibromofluoromethane	*494*		ug/L	*502*		*98.5*	*80-126*			
Surrogate: Dibromofluoromethane	*494*		ug/L	*502*		*98.5*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*493*		ug/L	*501*		*98.4*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*493*		ug/L	*501*		*98.4*	*61-142*			
Surrogate: Toluene-d8	*503*		ug/L	*504*		*99.8*	*87-116*			
Surrogate: Toluene-d8	*503*		ug/L	*504*		*99.8*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*504*		ug/L	*501*		*101*	*85-111*			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1381 - EPA 5030B - EPA 8260B										
Matrix Spike (1HC1381-MS1)	**Source: 1HC1559-01**	Prepared: 03/25/24 00:00 Analyzed: 03/25/24 20:08								
Surrogate: 4-Bromofluorobenzene	*504*		ug/L	*501*		*101*	*80-116*			
Matrix Spike Dup (1HC1381-MSD1)	**Source: 1HC1559-01**	Prepared: 03/25/24 00:00 Analyzed: 03/25/24 20:31								
Chloromethane	194.2	10.0	ug/L	306	ND	63.4	61-152	61.6	26	QM-05
Vinyl Chloride	176.5	10.0	ug/L	302	ND	58.4	66-149	63.7	23	QM-05
Bromomethane	191.4	10.0	ug/L	288	ND	66.5	43-171	57.4	29	QM-05
Chloroethane	195.7	10.0	ug/L	316	ND	61.9	69-148	63.9	25	QM-05
Trichlorofluoromethane	178.1	10.0	ug/L	326	ND	54.6	62-163	64.9	25	QM-05
1,1-Dichloroethylene	298.0	10.0	ug/L	500	ND	59.6	70-148	63.8	22	QM-05
Acetone	439.0	100	ug/L	1020	ND	43.0	45-173	62.3	30	QM-05
Methyl Iodide	577.6	10.0	ug/L	997	ND	57.9	62-167	64.1	24	QM-05
Carbon Disulfide	523.5	10.0	ug/L	1010	ND	51.8	71-163	64.9	22	QM-05
Methylene Chloride	271.1	50.0	ug/L	500	ND	54.2	69-140	51.6	19	QM-05
Acrylonitrile	431.0	50.0	ug/L	1000	ND	42.9	58-151	59.8	15	QM-05
trans-1,2-Dichloroethylene	258.9	10.0	ug/L	500	ND	51.8	69-144	62.7	22	QM-05
1,1-Dichloroethane	249.3	10.0	ug/L	500	ND	49.9	70-138	62.5	20	QM-05
Vinyl Acetate	481.0	50.0	ug/L	1020	ND	47.2	58-142	67.6	24	QM-05
cis-1,2-Dichloroethylene	252.3	10.0	ug/L	495	ND	51.0	68-151	61.8	22	QM-05
2-Butanone (MEK)	295.5	100	ug/L	1030	ND	28.6	50-160	74.9	23	QM-05
Bromochloromethane	262.0	10.0	ug/L	500	ND	52.4	65-143	61.0	22	QM-05
Chloroform	259.5	10.0	ug/L	500	ND	51.9	71-143	61.1	21	QM-05
1,1,1-Trichloroethane	221.8	10.0	ug/L	500	ND	44.4	63-133	62.1	23	QM-05
Carbon Tetrachloride	242.9	10.0	ug/L	500	ND	48.6	63-142	62.7	22	QM-05
Benzene	256.5	10.0	ug/L	500	ND	51.3	69-133	61.4	18	QM-05
1,2-Dichloroethane	253.1	10.0	ug/L	500	ND	50.6	63-138	59.0	20	QM-05
Trichloroethylene	251.5	10.0	ug/L	500	ND	50.3	71-133	61.7	23	QM-05
1,2-Dichloropropane	255.9	10.0	ug/L	500	ND	51.2	69-132	60.5	20	QM-05
Dibromomethane	272.8	10.0	ug/L	500	ND	54.6	70-147	59.1	22	QM-05
Bromodichloromethane	233.9	10.0	ug/L	500	ND	46.8	67-130	59.9	21	QM-05
cis-1,3-Dichloropropene	239.2	10.0	ug/L	503	ND	47.5	61-126	58.8	21	QM-05
4-Methyl-2-pentanone (MIBK)	479.4	50.0	ug/L	1010	ND	47.3	55-147	60.0	23	QM-05
Toluene	250.4	10.0	ug/L	500	ND	50.1	71-133	62.8	19	QM-05
trans-1,3-Dichloropropene	229.2	10.0	ug/L	504	ND	45.5	63-124	59.8	21	QM-05
1,1,2-Trichloroethane	256.0	10.0	ug/L	500	ND	51.2	69-133	59.6	19	QM-05
Tetrachloroethylene	256.8	10.0	ug/L	500	ND	51.4	70-124	61.2	24	QM-05
2-Hexanone (MBK)	487.9	50.0	ug/L	1030	ND	47.2	53-141	60.4	24	QM-05
Dibromochloromethane	258.8	10.0	ug/L	495	ND	52.3	74-122	57.8	21	QM-05
1,2-Dibromoethane	260.3	10.0	ug/L	500	ND	52.1	66-127	59.4	23	QM-05
Chlorobenzene	262.3	10.0	ug/L	500	ND	52.5	76-116	60.8	21	QM-05
1,1,1,2-Tetrachloroethane	261.1	10.0	ug/L	500	ND	52.2	77-121	59.6	25	QM-05
Ethylbenzene	246.3	10.0	ug/L	500	ND	49.3	73-124	62.8	20	QM-05
Xylenes, total	732.4	20.0	ug/L	1500	ND	48.8	75-123	63.2	20	QM-05
Styrene	248.1	10.0	ug/L	500	ND	49.6	70-120	61.3	23	QM-05

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1381 - EPA 5030B - EPA 8260B										
Matrix Spike Dup (1HC1381-MSD1)	**Source: 1HC1559-01**	Prepared: 03/25/24 00:00 Analyzed: 03/25/24 20:31								
Bromoform	248.4	10.0	ug/L	500	ND	49.7	70-124	57.6	22	QM-05
1,2,3-Trichloropropane	266.5	10.0	ug/L	500	ND	53.3	62-135	60.6	28	QM-05
trans-1,4-Dichloro-2-butene	433.6	50.0	ug/L	1040	ND	41.7	50-120	60.8	26	QM-05
1,1,2,2-Tetrachloroethane	247.9	10.0	ug/L	498	ND	49.7	63-126	61.7	24	QM-05
1,4-Dichlorobenzene	246.8	10.0	ug/L	500	ND	49.4	72-119	62.6	24	QM-05
1,2-Dichlorobenzene	245.8	10.0	ug/L	500	ND	49.2	71-117	61.4	24	QM-05
1,2-Dibromo-3-chloropropane	234.0	50.0	ug/L	500	ND	46.8	49-134	59.0	28	QM-05
Surrogate: Dibromofluoromethane	*490*		ug/L	*502*		*97.7*	*80-126*			
Surrogate: Dibromofluoromethane	*490*		ug/L	*502*		*97.7*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*483*		ug/L	*501*		*96.4*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*483*		ug/L	*501*		*96.4*	*61-142*			
Surrogate: Toluene-d8	*498*		ug/L	*504*		*98.8*	*87-116*			
Surrogate: Toluene-d8	*498*		ug/L	*504*		*98.8*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*506*		ug/L	*501*		*101*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*506*		ug/L	*501*		*101*	*80-116*			

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1499 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Blank (1HC1499-BLK1)		Prepared: 03/27/24 11:57 Analyzed: 03/28/24 19:13								
Antimony, total	<0.0020	0.0020	mg/L							
Arsenic, total	<0.0040	0.0040	mg/L							
Barium, total	<0.0040	0.0040	mg/L							
Beryllium, total	<0.0020	0.0020	mg/L							
Cadmium, total	<0.0008	0.0008	mg/L							
Chromium, total	<0.0080	0.0080	mg/L							
Cobalt, total	<0.0004	0.0004	mg/L							
Copper, total	<0.0040	0.0040	mg/L							
Lead, total	<0.0040	0.0040	mg/L							
Nickel, total	<0.0040	0.0040	mg/L							
Selenium, total	<0.0040	0.0040	mg/L							
Silver, total	<0.0040	0.0040	mg/L							
Thallium, total	<0.0020	0.0020	mg/L							
Vanadium, total	<0.0200	0.0200	mg/L							
Zinc, total	<0.0200	0.0200	mg/L							
LCS (1HC1499-BS1)		Prepared: 03/27/24 11:57 Analyzed: 03/28/24 19:19								
Antimony, total	0.0905	0.0020	mg/L	0.100		90.5	80-120			
Arsenic, total	0.0912	0.0040	mg/L	0.100		91.2	80-120			
Barium, total	0.0974	0.0040	mg/L	0.100		97.4	80-120			
Beryllium, total	0.0938	0.0020	mg/L	0.100		93.8	80-120			
Cadmium, total	0.0904	0.0008	mg/L	0.100		90.4	80-120			
Chromium, total	0.0900	0.0080	mg/L	0.100		90.0	80-120			

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1499 - EPA 3005A Total Recoverable Metals - EPA 6020A										
LCS (1HC1499-BS1)			Prepared: 03/27/24 11:57 Analyzed: 03/28/24 19:19							
Cobalt, total	0.0933	0.0004	mg/L	0.100		93.3	80-120			
Copper, total	0.0933	0.0040	mg/L	0.100		93.3	80-120			
Lead, total	0.0937	0.0040	mg/L	0.100		93.7	80-120			
Nickel, total	0.0919	0.0040	mg/L	0.100		91.9	80-120			
Selenium, total	0.0897	0.0040	mg/L	0.100		89.7	80-120			
Silver, total	0.0935	0.0040	mg/L	0.100		93.5	80-120			
Thallium, total	0.0920	0.0020	mg/L	0.100		92.0	80-120			
Vanadium, total	0.0926	0.0200	mg/L	0.100		92.6	80-120			
Zinc, total	0.0907	0.0200	mg/L	0.100		90.7	80-120			
Matrix Spike (1HC1499-MS1)	**Source: 1HC1559-01**		Prepared: 03/27/24 11:57 Analyzed: 03/29/24 11:51							
Antimony, total	0.0838	0.0020	mg/L	0.100	ND	83.8	75-125			
Arsenic, total	0.0890	0.0040	mg/L	0.100	0.0021	86.9	75-125			
Barium, total	0.117	0.0040	mg/L	0.100	0.0269	89.6	75-125			
Beryllium, total	0.0792	0.0040	mg/L	0.100	ND	79.2	75-125			
Cadmium, total	0.0793	0.0008	mg/L	0.100	ND	79.3	75-125			
Chromium, total	0.0805	0.0080	mg/L	0.100	0.0008	79.7	75-125			
Cobalt, total	0.0898	0.0004	mg/L	0.100	ND	89.8	75-125			
Copper, total	0.0812	0.0040	mg/L	0.100	ND	81.2	75-125			
Lead, total	0.0805	0.0040	mg/L	0.100	ND	80.5	75-125			
Nickel, total	0.0922	0.0040	mg/L	0.100	0.0089	83.3	75-125			
Selenium, total	0.0812	0.0040	mg/L	0.100	ND	81.2	75-125			
Silver, total	0.0854	0.0040	mg/L	0.100	ND	85.4	75-125			
Thallium, total	0.0819	0.0020	mg/L	0.100	0.0003	81.5	75-125			
Vanadium, total	0.0869	0.0200	mg/L	0.100	ND	86.9	75-125			
Zinc, total	0.0841	0.0200	mg/L	0.100	ND	84.1	75-125			
Matrix Spike Dup (1HC1499-MSD1)	**Source: 1HC1559-01**		Prepared: 03/27/24 11:57 Analyzed: 03/28/24 19:37							
Antimony, total	0.0968	0.0020	mg/L	0.100	ND	96.8	75-125	14.3	20	
Arsenic, total	0.0993	0.0040	mg/L	0.100	0.0021	97.2	75-125	10.9	20	
Barium, total	0.132	0.0040	mg/L	0.100	0.0269	105	75-125	12.3	20	
Beryllium, total	0.0909	0.0020	mg/L	0.100	ND	90.9	75-125	13.8	20	
Cadmium, total	0.0914	0.0008	mg/L	0.100	ND	91.4	75-125	14.3	20	
Chromium, total	0.0939	0.0080	mg/L	0.100	0.0008	93.1	75-125	15.4	20	
Cobalt, total	0.101	0.0004	mg/L	0.100	ND	101	75-125	11.9	20	
Copper, total	0.0895	0.0040	mg/L	0.100	ND	89.5	75-125	9.73	20	
Lead, total	0.0920	0.0040	mg/L	0.100	ND	92.0	75-125	13.3	20	
Nickel, total	0.103	0.0040	mg/L	0.100	0.0089	94.2	75-125	11.2	20	
Selenium, total	0.0918	0.0040	mg/L	0.100	ND	91.8	75-125	12.2	20	
Silver, total	0.0950	0.0040	mg/L	0.100	ND	95.0	75-125	10.7	20	
Thallium, total	0.0936	0.0020	mg/L	0.100	0.0003	93.3	75-125	13.4	20	
Vanadium, total	0.100	0.0200	mg/L	0.100	ND	100	75-125	14.1	20	
Zinc, total	0.0939	0.0200	mg/L	0.100	ND	93.9	75-125	11.1	20	
Post Spike (1HC1499-PS1)	**Source: 1HC1559-01**		Prepared: 03/27/24 11:57 Analyzed: 03/28/24 19:43							
Antimony, total	0.0790		mg/L	0.0800	0.0002	98.4	80-120			

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1499 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Post Spike (1HC1499-PS1)	**Source: 1HC1559-01**	Prepared: 03/27/24 11:57 Analyzed: 03/28/24 19:43								
Arsenic, total	0.0830		mg/L	0.0800	0.0020	101	80-120			
Barium, total	0.109		mg/L	0.0800	0.0264	103	80-120			
Beryllium, total	0.0763		mg/L	0.0800	0.00001	95.4	80-120			
Cadmium, total	0.0752		mg/L	0.0800	0.00008	93.9	80-120			
Chromium, total	0.0763		mg/L	0.0800	0.0008	94.5	80-120			
Cobalt, total	0.0833		mg/L	0.0800	0.0002	104	80-120			
Copper, total	0.0764		mg/L	0.0800	0.0006	94.7	80-120			
Lead, total	0.0772		mg/L	0.0800	0.000008	96.5	80-120			
Nickel, total	0.0865		mg/L	0.0800	0.0087	97.3	80-120			
Selenium, total	0.0745		mg/L	0.0800	0.0003	92.7	80-120			
Silver, total	0.0793		mg/L	0.0800	0.0003	98.8	80-120			
Thallium, total	0.0791		mg/L	0.0800	0.0003	98.4	80-120			
Vanadium, total	0.0838		mg/L	0.0800	0.0065	96.5	80-120			
Zinc, total	0.0779		mg/L	0.0800	0.0077	87.8	80-120			

Definitions

QM-05: The spike recovery and/or RPD was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.

RL: Reporting Limit

RPD: Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler   Temp: 0.0°C

Cooler Inspection Checklist

Custody Seals	No	Containers Intact	Yes
COC/Labels Agree	No	Preservation Confirmed	No
Received On Ice	Yes		

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Heather Murphy

Customer Relationship Specialist

heather.murphy@microbac.com

04/11/24 08:14

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES A Microbac Company

600 East 17th Street South
Newton, IA 50208
641-792-8451

1HC1560
HLW Engineering
PM: Heather Murphy

Page 1 of
ed: 2/21/2024 2:08:54P

www.keystonelabs.com

SITE INFORMATION

Sampler: JGH

Project: Fremont Co-New Regs
6046

REPORT TO

Todd Whipple
HLW Engineering
PO Box 314
Story City, IA 50248

Casey Mover
Fremont County Landfill
PO Box 487, 2870 250th St
Sidney, IA 51652

SPECIAL INSTRUCTIONS

None

Turn Around Time
☒ Standard ☐ RUSH, need by __/__/__

LAB USE ONLY

Work Order 1HC1560
Temperature 0.0
Turn-Cooler: No

☐ Custody Seal
☒ Containers Intact
☐ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
-001	MW-2 (b)	Water	GRAB	3/20/24	8:52	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	01
-001	MW-18 (b)	Water	GRAB	3/20/24	8:27	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	02
-001	MW-3	Water	GRAB	3/20/24	10:43	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	03
-001	MW-9	Water	GRAB	3/20/24	10:30	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	04
-001	MW-12	Water	GRAB	3/20/24	10:05	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	05
-001	MW-14	Water	GRAB	3/20/24	9:22	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	06
-001	MW-15	Water	GRAB	3/20/24	11:46	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	07

Relinquished By: J. Colbert Date/Time: 3/21/24

Received By Date/Time

Relinquished By Date/Time

Received for Lab By: Mahy Date/Time: 3/21/24 9:48

Remarks:

Original - Lab Copy Yellow - Sampler Copy

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HF1550

Project Description

6046

For:

Todd Whipple

HLW Engineering

PO Box 314

Story City, IA 50248

Heather Murphy

Customer Relationship Specialist

Tuesday, July 9, 2024

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc., Newton. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HF1550

HLW Engineering

Todd Whipple
PO Box 314
Story City, IA 50248

Project Name: 6046

Project / PO Number: N/A
Received: 06/20/2024
Reported: 07/09/2024

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
GWD-2	1HF1550-01	Aqueous	GRAB		06/14/24 13:36	06/20/24 10:17
MW-21	1HF1550-02	Aqueous	GRAB		06/14/24 13:36	06/20/24 10:17

Analytical Testing Parameters

Client Sample ID:	GWD-2		
Sample Matrix:	Aqueous	**Collected By:**	JGH
Lab Sample ID:	1HF1550-01	**Collection Date:**	06/14/2024 13:36

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	**0.0138**	0.0040	mg/L	4		06/25/24 1518	07/08/24 1848	RVV
Barium, total	**0.870**	0.0040	mg/L	4		06/25/24 1518	07/08/24 1848	RVV

Client Sample ID:	MW-21		
Sample Matrix:	Aqueous	**Collected By:**	JGH
Lab Sample ID:	1HF1550-02	**Collection Date:**	06/14/2024 13:36

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	<0.0040	0.0040	mg/L	4		06/25/24 1518	07/08/24 1854	RVV
Barium, total	**0.391**	0.0040	mg/L	4		06/25/24 1518	07/08/24 1854	RVV

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Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HF1550

Batch Log Summary

Method	Batch	Laboratory ID	Client / Source ID
EPA 6020A	1HF1334	1HF1334-BLK1	
		1HF1334-BS1	
		1HF1550-01	GWD-2
		1HF1550-02	MW-21
		1HF1334-MS1	1HF1731-01
		1HF1334-MSD1	1HF1731-01
		1HF1334-PS1	1HF1731-01

Batch Quality Control Summary: Microbac Laboratories, Inc., Newton

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HF1334 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Blank (1HF1334-BLK1)			Prepared: 06/25/24 15:18 Analyzed: 07/08/24 18:18							
Arsenic, total	<0.0040	0.0040	mg/L							
Barium, total	<0.0040	0.0040	mg/L							
LCS (1HF1334-BS1)			Prepared: 06/25/24 15:18 Analyzed: 07/08/24 18:24							
Arsenic, total	0.0963	0.0040	mg/L	0.100		96.3	80-120			
Barium, total	0.105	0.0040	mg/L	0.100		105	80-120			
Matrix Spike (1HF1334-MS1)	**Source: 1HF1731-01**		Prepared: 06/25/24 15:18 Analyzed: 07/08/24 19:07							
Arsenic, total	0.0983	0.0040	mg/L	0.100	0.0012	97.1	75-125			
Barium, total	0.250	0.0040	mg/L	0.100	0.150	99.5	75-125			
Matrix Spike Dup (1HF1334-MSD1)	**Source: 1HF1731-01**		Prepared: 06/25/24 15:18 Analyzed: 07/08/24 19:13							
Arsenic, total	0.103	0.0040	mg/L	0.100	0.0012	102	75-125	4.79	20	
Barium, total	0.259	0.0040	mg/L	0.100	0.150	108	75-125	3.53	20	
Post Spike (1HF1334-PS1)	**Source: 1HF1731-01**		Prepared: 06/25/24 15:18 Analyzed: 07/08/24 19:19							
Arsenic, total	0.0799		mg/L	0.0800	0.0012	98.3	80-120			
Barium, total	0.235		mg/L	0.0800	0.147	109	80-120			

Definitions

RL: Reporting Limit
RPD: Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler   Temp: 0.0°C

Cooler Inspection Checklist

Custody Seals	No	Containers Intact	Yes
COC/Labels Agree	Yes	Preservation Confirmed	No
Received On Ice	Yes		

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Heather Murphy

Customer Relationship Specialist

heather.murphy@microbac.com

07/09/24 15:35

CHAIN OF CUSTO[DY]

Keystone LABORATORIES, INC.

☐ 600 E. 17th St. S. Newton, IA 50208 Phone: 641-792-8451 Fax: 641-792-7989

☐ 3012 Ansborou[gh] Waterloo, IA 50[701] Phone: 319-23[5] Fax: 319-23[5]

[...] VanBuren St [...]ville, IA 52544 [Phone]: 641-437-7023 [Fax]: 641-437-7040

1 H F 1 5 5 0
HLW Engineering
PM: Heather Murphy

PAGE 1 OF 1

PRINT OR TYPE INFORMATION BELOW		REPORT TO:		BILL TO:	
SAMPLER:	JGH	NAME:	TODD WHIPPLE	NAME:	~~CASEY~~ CASEY MOYER
SITE NAME:	FREMONT CO SLF	COMPANY NAME:	HLW ENGINEERING	COMPANY NAME:	FREMONT CO SLF
ADDRESS:		ADDRESS:	PO BOX 314	ADDRESS:	2879 - 250TH
CITY/ST/ZIP:		CITY/ST/ZIP:	STORY CITY, IA 50248	CITY/ST/ZIP:	SIDNEY, IA 50652
PHONE:		PHONE:	515-733-4144	PHONE:	
		FAX:	515-733-4146	Keystone Quote No: (If Applicable)	

LAB USE ONLY
LABORATORY WORK ORDER NO. 1HF1550
SAMPLE TEMPERATURE UPON RECEIPT: 0.0 °C

CLIENT SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	NO. OF CONTAINERS	MATRIX	GRAB/COMPOSITE	As, TOTAL		Ba, TOTAL						SAMPLE CONDITION/COMMENTS	LABORATORY SAMPLE NUMBER
GWD-1	—	—	NO SAMPLE	1	WATER	G	X								ON ICE	
GWD-2	6/17/24	13:36		1	WATER	G	X		X							01
MW21	6/17/24	13:28		1	WATER	G	X		X							02

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Turn-Around:
J. [signature]	Date 6/19/24 Time		Date Time	☐ Standard ☐ Rush ____ Contact Lab Prior to Submission
Relinquished by: (Signature)	Date Time	Received for Lab by: (Signature) [signature]	Date 6-20-24 Time 10:17	Remarks:

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1863

Project Description

6046

For:

Todd Whipple

HLW Engineering

204 West Broad St

Story City, IA 50248

Heather Murphy

Customer Relationship Specialist

Tuesday, October 15, 2024

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc., Newton. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1863

HLW Engineering

Todd Whipple
204 West Broad St
Story City, IA 50248

Project Name: 6046

Project / PO Number: N/A
Received: 09/26/2024
Reported: 10/15/2024

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
MW-2 (b)	1HI1863-01	Aqueous	GRAB		09/26/24 09:50	09/26/24 10:03
MW-18 (b)	1HI1863-02	Aqueous	GRAB		09/25/24 09:35	09/26/24 10:03
MW-3	1HI1863-03	Aqueous	GRAB		09/25/24 11:33	09/26/24 10:03
MW-9	1HI1863-04	Aqueous	GRAB		09/25/24 11:46	09/26/24 10:03
MW-12	1HI1863-05	Aqueous	GRAB		09/25/24 12:10	09/26/24 10:03
MW-14	1HI1863-06	Aqueous	GRAB		09/25/24 12:40	09/26/24 10:03
MW-15	1HI1863-07	Aqueous	GRAB		09/25/24 10:14	09/26/24 10:03
MW-19	1HI1863-08	Aqueous	GRAB		09/25/24 12:30	09/26/24 10:03
MW-21	1HI1863-09	Aqueous	GRAB		09/25/24 10:46	09/26/24 10:03
MW-23	1HI1863-10	Aqueous	GRAB		09/25/24 11:14	09/26/24 10:03
GWD-1	1HI1863-11	Aqueous	GRAB		09/25/24 10:26	09/26/24 10:03
GWD-2	1HI1863-12	Aqueous	GRAB		09/25/24 11:03	09/26/24 10:03
Duplicate	1HI1863-13	Aqueous	GRAB		09/25/24 00:00	09/26/24 10:03

Analytical Testing Parameters

Client Sample ID:	MW-2 (b)		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-01	**Collection Date:**	09/26/2024 9:50

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1508	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1508	BDF
Acrylonitrile	<5.0	5.0	ug/L	1			10/01/24 1508	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1508	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1508	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1508	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1508	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1508	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1508	BDF

Client Sample ID:	MW-2 (b)		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-01	**Collection Date:**	09/26/2024 9:50

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1			10/01/24 1508	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1508	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1508	BDF
Surrogate: Dibromofluoromethane	96.2	Limit: 75-136	% Rec	1			10/01/24 1508	BDF
Surrogate: Dibromofluoromethane	96.2	Limit: 57-134	% Rec	1			10/01/24 1508	BDF
Surrogate: 1,2-Dichloroethane-d4	103	Limit: 61-142	% Rec	1			10/01/24 1508	BDF
Surrogate: 1,2-Dichloroethane-d4	103	Limit: 53-140	% Rec	1			10/01/24 1508	BDF
Surrogate: Toluene-d8	98.7	Limit: 82-121	% Rec	1			10/01/24 1508	BDF
Surrogate: Toluene-d8	98.7	Limit: 86-114	% Rec	1			10/01/24 1508	BDF
Surrogate: 4-Bromofluorobenzene	100	Limit: 80-116	% Rec	1			10/01/24 1508	BDF
Surrogate: 4-Bromofluorobenzene	100	Limit: 78-121	% Rec	1			10/01/24 1508	BDF

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 1935	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 1935	RVV
Barium, total	**0.179**	0.0040	mg/L	4		10/01/24 0825	10/02/24 1935	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 1935	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/01/24 0825	10/02/24 1935	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/01/24 0825	10/02/24 1935	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		10/01/24 0825	10/02/24 1935	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 1935	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 1935	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 1935	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 1935	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 1935	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 1935	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 1935	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 1935	RVV

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CERTIFICATE OF ANALYSIS

1HI1863

Client Sample ID:	MW-18 (b)			
Sample Matrix:	Aqueous		**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-02		**Collection Date:**	09/25/2024 9:35

Determination of Volatile Organic Compounds	**Result**	**RL**	**Units**	**DF**	**Note**	**Prepared**	**Analyzed**	**Analyst**
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1530	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1530	BDF
Acrylonitrile	<5.0	5.0	ug/L	1			10/01/24 1530	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1530	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1530	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1530	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1530	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1530	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1530	BDF

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CERTIFICATE OF ANALYSIS

1HI1863

Client Sample ID:	MW-18 (b)		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-02	**Collection Date:**	09/25/2024 9:35

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1			10/01/24 1530	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1530	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1530	BDF
Surrogate: Dibromofluoromethane	95.3	Limit: 57-134	% Rec	1			10/01/24 1530	BDF
Surrogate: Dibromofluoromethane	95.3	Limit: 75-136	% Rec	1			10/01/24 1530	BDF
Surrogate: 1,2-Dichloroethane-d4	102	Limit: 61-142	% Rec	1			10/01/24 1530	BDF
Surrogate: 1,2-Dichloroethane-d4	102	Limit: 53-140	% Rec	1			10/01/24 1530	BDF
Surrogate: Toluene-d8	97.8	Limit: 86-114	% Rec	1			10/01/24 1530	BDF
Surrogate: Toluene-d8	97.8	Limit: 82-121	% Rec	1			10/01/24 1530	BDF
Surrogate: 4-Bromofluorobenzene	103	Limit: 80-116	% Rec	1			10/01/24 1530	BDF
Surrogate: 4-Bromofluorobenzene	103	Limit: 78-121	% Rec	1			10/01/24 1530	BDF

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2000	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2000	RVV
Barium, total	**0.447**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2000	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2000	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/01/24 0825	10/02/24 2000	RVV
Chromium, total	**0.0172**	0.0080	mg/L	4		10/01/24 0825	10/02/24 2000	RVV
Cobalt, total	**0.0112**	0.0004	mg/L	4		10/01/24 0825	10/02/24 2000	RVV
Copper, total	**0.0106**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2000	RVV
Lead, total	**0.0085**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2000	RVV
Nickel, total	**0.0207**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2000	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2000	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2000	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2000	RVV
Vanadium, total	**0.0269**	0.0200	mg/L	4		10/01/24 0825	10/02/24 2000	RVV
Zinc, total	**0.0290**	0.0200	mg/L	4		10/01/24 0825	10/02/24 2000	RVV

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1863

Client Sample ID:	MW-3		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-03	**Collection Date:**	09/25/2024 11:33

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
Acetone	<10.0	10.0	ug/L	1			10/03/24 1820	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/03/24 1820	BDF
Acrylonitrile	<5.0	5.0	ug/L	1		09/28/24 0000	09/29/24 0013	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/03/24 1820	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/03/24 1820	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
Chloroform	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
Benzene	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/03/24 1820	BDF
Toluene	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/03/24 1820	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/03/24 1820	BDF
Styrene	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
Bromoform	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/03/24 1820	BDF

Client Sample ID:	MW-3		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-03	**Collection Date:**	09/25/2024 11:33

Determination of Volatile Organic Compounds	**Result**	**RL**	**Units**	**DF**	**Note**	**Prepared**	**Analyzed**	**Analyst**
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1			10/03/24 1820	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/03/24 1820	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/03/24 1820	BDF
Surrogate: Dibromofluoromethane	68.9	Limit: 57-134	% Rec	1		09/28/24 0000	09/29/24 0013	BDF
Surrogate: Dibromofluoromethane	93.9	Limit: 75-136	% Rec	1			10/03/24 1820	BDF
Surrogate: 1,2-Dichloroethane-d4	90.8	Limit: 61-142	% Rec	1			10/03/24 1820	BDF
Surrogate: 1,2-Dichloroethane-d4	65.7	Limit: 53-140	% Rec	1		09/28/24 0000	09/29/24 0013	BDF
Surrogate: Toluene-d8	105	Limit: 86-114	% Rec	1		09/28/24 0000	09/29/24 0013	BDF
Surrogate: Toluene-d8	97.7	Limit: 82-121	% Rec	1			10/03/24 1820	BDF
Surrogate: 4-Bromofluorobenzene	82.6	Limit: 78-121	% Rec	1		09/28/24 0000	09/29/24 0013	BDF
Surrogate: 4-Bromofluorobenzene	97.2	Limit: 80-116	% Rec	1			10/03/24 1820	BDF

Determination of Total Metals	**Result**	**RL**	**Units**	**DF**	**Note**	**Prepared**	**Analyzed**	**Analyst**
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2018	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2018	RVV
Barium, total	**0.755**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2018	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2018	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/01/24 0825	10/02/24 2018	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/01/24 0825	10/02/24 2018	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		10/01/24 0825	10/02/24 2018	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2018	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2018	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2018	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2018	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2018	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2018	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2018	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2018	RVV

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CERTIFICATE OF ANALYSIS

1HI1863

Client Sample ID:	MW-9		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-04	**Collection Date:**	09/25/2024 11:46

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
Acetone	<10.0	10.0	ug/L	1			10/03/24 1843	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/03/24 1843	BDF
Acrylonitrile	<5.0	5.0	ug/L	1		09/28/24 0000	09/29/24 0036	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/03/24 1843	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/03/24 1843	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
Chloroform	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
Benzene	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/03/24 1843	BDF
Toluene	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/03/24 1843	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/03/24 1843	BDF
Styrene	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
Bromoform	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/03/24 1843	BDF

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CERTIFICATE OF ANALYSIS

1HI1863

Client Sample ID:	MW-9		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-04	**Collection Date:**	09/25/2024 11:46

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1			10/03/24 1843	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/03/24 1843	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/03/24 1843	BDF
Surrogate: Dibromofluoromethane	95.8	Limit: 57-134	% Rec	1		09/28/24 0000	09/29/24 0036	BDF
Surrogate: Dibromofluoromethane	93.0	Limit: 75-136	% Rec	1			10/03/24 1843	BDF
Surrogate: 1,2-Dichloroethane-d4	90.7	Limit: 61-142	% Rec	1			10/03/24 1843	BDF
Surrogate: 1,2-Dichloroethane-d4	94.4	Limit: 53-140	% Rec	1		09/28/24 0000	09/29/24 0036	BDF
Surrogate: Toluene-d8	100	Limit: 86-114	% Rec	1		09/28/24 0000	09/29/24 0036	BDF
Surrogate: Toluene-d8	97.6	Limit: 82-121	% Rec	1			10/03/24 1843	BDF
Surrogate: 4-Bromofluorobenzene	83.2	Limit: 78-121	% Rec	1		09/28/24 0000	09/29/24 0036	BDF
Surrogate: 4-Bromofluorobenzene	96.8	Limit: 80-116	% Rec	1			10/03/24 1843	BDF

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2024	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2024	RVV
Barium, total	**0.316**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2024	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2024	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/01/24 0825	10/02/24 2024	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/01/24 0825	10/02/24 2024	RVV
Cobalt, total	**0.0006**	0.0004	mg/L	4		10/01/24 0825	10/02/24 2024	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2024	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2024	RVV
Nickel, total	**0.0046**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2024	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2024	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2024	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2024	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2024	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2024	RVV

Client Sample ID:	MW-12			
Sample Matrix:	Aqueous		**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-05		**Collection Date:**	09/25/2024 12:10

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
Acetone	<10.0	10.0	ug/L	1			10/03/24 1906	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/03/24 1906	BDF
Acrylonitrile	<5.0	5.0	ug/L	1		09/28/24 0000	09/29/24 0058	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/03/24 1906	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/03/24 1906	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
Chloroform	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
Benzene	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/03/24 1906	BDF
Toluene	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/03/24 1906	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/03/24 1906	BDF
Styrene	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
Bromoform	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/03/24 1906	BDF

Client Sample ID:	MW-12		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-05	**Collection Date:**	09/25/2024 12:10

Determination of Volatile Organic Compounds	**Result**	**RL**	**Units**	**DF**	**Note**	**Prepared**	**Analyzed**	**Analyst**
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1			10/03/24 1906	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/03/24 1906	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/03/24 1906	BDF
Surrogate: Dibromofluoromethane	88.7	Limit: 57-134	% Rec	1		09/28/24 0000	09/29/24 0058	BDF
Surrogate: Dibromofluoromethane	94.7	Limit: 75-136	% Rec	1			10/03/24 1906	BDF
Surrogate: 1,2-Dichloroethane-d4	89.9	Limit: 53-140	% Rec	1		09/28/24 0000	09/29/24 0058	BDF
Surrogate: 1,2-Dichloroethane-d4	92.0	Limit: 61-142	% Rec	1			10/03/24 1906	BDF
Surrogate: Toluene-d8	97.3	Limit: 82-121	% Rec	1			10/03/24 1906	BDF
Surrogate: Toluene-d8	98.8	Limit: 86-114	% Rec	1		09/28/24 0000	09/29/24 0058	BDF
Surrogate: 4-Bromofluorobenzene	78.1	Limit: 78-121	% Rec	1		09/28/24 0000	09/29/24 0058	BDF
Surrogate: 4-Bromofluorobenzene	97.0	Limit: 80-116	% Rec	1			10/03/24 1906	BDF

Determination of Total Metals	**Result**	**RL**	**Units**	**DF**	**Note**	**Prepared**	**Analyzed**	**Analyst**
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2030	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2030	RVV
Barium, total	**0.509**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2030	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2030	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/01/24 0825	10/02/24 2030	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/01/24 0825	10/02/24 2030	RVV
Cobalt, total	**0.0009**	0.0004	mg/L	4		10/01/24 0825	10/02/24 2030	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2030	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2030	RVV
Nickel, total	**0.0102**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2030	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2030	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2030	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2030	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2030	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2030	RVV

Client Sample ID:	MW-14		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-06	**Collection Date:**	09/25/2024 12:40

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
Acetone	<10.0	10.0	ug/L	1			10/03/24 1928	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/03/24 1928	BDF
Acrylonitrile	<5.0	5.0	ug/L	1		09/28/24 0000	09/29/24 0120	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/03/24 1928	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/03/24 1928	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
Chloroform	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
Benzene	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/03/24 1928	BDF
Toluene	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/03/24 1928	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/03/24 1928	BDF
Styrene	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
Bromoform	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/03/24 1928	BDF

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CERTIFICATE OF ANALYSIS

1HI1863

Client Sample ID:	MW-14		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-06	**Collection Date:**	09/25/2024 12:40

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1			10/03/24 1928	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/03/24 1928	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/03/24 1928	BDF
Surrogate: Dibromofluoromethane	81.9	Limit: 57-134	% Rec	1		09/28/24 0000	09/29/24 0120	BDF
Surrogate: Dibromofluoromethane	94.7	Limit: 75-136	% Rec	1			10/03/24 1928	BDF
Surrogate: 1,2-Dichloroethane-d4	81.3	Limit: 53-140	% Rec	1		09/28/24 0000	09/29/24 0120	BDF
Surrogate: 1,2-Dichloroethane-d4	92.7	Limit: 61-142	% Rec	1			10/03/24 1928	BDF
Surrogate: Toluene-d8	99.5	Limit: 86-114	% Rec	1		09/28/24 0000	09/29/24 0120	BDF
Surrogate: Toluene-d8	97.5	Limit: 82-121	% Rec	1			10/03/24 1928	BDF
Surrogate: 4-Bromofluorobenzene	75.9	Limit: 78-121	% Rec	1	**S2**	09/28/24 0000	09/29/24 0120	BDF
Surrogate: 4-Bromofluorobenzene	98.1	Limit: 80-116	% Rec	1			10/03/24 1928	BDF

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2036	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2036	RVV
Barium, total	**0.241**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2036	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2036	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/01/24 0825	10/02/24 2036	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/01/24 0825	10/02/24 2036	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		10/01/24 0825	10/02/24 2036	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2036	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2036	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2036	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2036	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2036	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2036	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2036	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2036	RVV

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1863

Client Sample ID:	MW-15		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-07	**Collection Date:**	09/25/2024 10:14

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
Acetone	<10.0	10.0	ug/L	1			10/03/24 1951	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/03/24 1951	BDF
Acrylonitrile	<5.0	5.0	ug/L	1		09/28/24 0000	09/29/24 0143	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/03/24 1951	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/03/24 1951	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
Chloroform	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
Benzene	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/03/24 1951	BDF
Toluene	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/03/24 1951	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/03/24 1951	BDF
Styrene	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
Bromoform	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/03/24 1951	BDF

Client Sample ID:	MW-15		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-07	**Collection Date:**	09/25/2024 10:14

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1			10/03/24 1951	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/03/24 1951	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/03/24 1951	BDF
Surrogate: Dibromofluoromethane	66.4	Limit: 57-134	% Rec	1		09/28/24 0000	09/29/24 0143	BDF
Surrogate: Dibromofluoromethane	95.0	Limit: 75-136	% Rec	1			10/03/24 1951	BDF
Surrogate: 1,2-Dichloroethane-d4	62.9	Limit: 53-140	% Rec	1		09/28/24 0000	09/29/24 0143	BDF
Surrogate: 1,2-Dichloroethane-d4	92.2	Limit: 61-142	% Rec	1			10/03/24 1951	BDF
Surrogate: Toluene-d8	106	Limit: 86-114	% Rec	1		09/28/24 0000	09/29/24 0143	BDF
Surrogate: Toluene-d8	97.2	Limit: 82-121	% Rec	1			10/03/24 1951	BDF
Surrogate: 4-Bromofluorobenzene	78.9	Limit: 78-121	% Rec	1		09/28/24 0000	09/29/24 0143	BDF
Surrogate: 4-Bromofluorobenzene	97.5	Limit: 80-116	% Rec	1			10/03/24 1951	BDF

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2043	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2043	RVV
Barium, total	**0.545**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2043	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2043	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/01/24 0825	10/02/24 2043	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/01/24 0825	10/02/24 2043	RVV
Cobalt, total	**0.0004**	0.0004	mg/L	4		10/01/24 0825	10/02/24 2043	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2043	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2043	RVV
Nickel, total	**0.0114**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2043	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2043	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2043	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2043	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2043	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2043	RVV

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1863

Client Sample ID:	MW-19		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-08	**Collection Date:**	09/25/2024 12:30

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
Acetone	<10.0	10.0	ug/L	1			10/03/24 2013	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/03/24 2013	BDF
Acrylonitrile	<5.0	5.0	ug/L	1		09/28/24 0000	09/29/24 0205	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/03/24 2013	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/03/24 2013	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
Chloroform	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
Benzene	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/03/24 2013	BDF
Toluene	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/03/24 2013	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/03/24 2013	BDF
Styrene	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
Bromoform	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/03/24 2013	BDF

Client Sample ID:	MW-19		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-08	**Collection Date:**	09/25/2024 12:30

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1			10/03/24 2013	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/03/24 2013	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/03/24 2013	BDF
Surrogate: Dibromofluoromethane	95.2	Limit: 75-136	% Rec	1			10/03/24 2013	BDF
Surrogate: Dibromofluoromethane	73.6	Limit: 57-134	% Rec	1		09/28/24 0000	09/29/24 0205	BDF
Surrogate: 1,2-Dichloroethane-d4	93.6	Limit: 61-142	% Rec	1			10/03/24 2013	BDF
Surrogate: 1,2-Dichloroethane-d4	73.7	Limit: 53-140	% Rec	1		09/28/24 0000	09/29/24 0205	BDF
Surrogate: Toluene-d8	109	Limit: 86-114	% Rec	1		09/28/24 0000	09/29/24 0205	BDF
Surrogate: Toluene-d8	97.3	Limit: 82-121	% Rec	1			10/03/24 2013	BDF
Surrogate: 4-Bromofluorobenzene	79.8	Limit: 78-121	% Rec	1		09/28/24 0000	09/29/24 0205	BDF
Surrogate: 4-Bromofluorobenzene	96.8	Limit: 80-116	% Rec	1			10/03/24 2013	BDF

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2049	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2049	RVV
Barium, total	**0.532**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2049	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2049	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/01/24 0825	10/02/24 2049	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/01/24 0825	10/02/24 2049	RVV
Cobalt, total	**0.0144**	0.0004	mg/L	4		10/01/24 0825	10/02/24 2049	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2049	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2049	RVV
Nickel, total	**0.0157**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2049	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2049	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2049	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2049	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2049	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2049	RVV

Client Sample ID:	MW-21		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-09	**Collection Date:**	09/25/2024 10:46

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1553	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1553	BDF
Acrylonitrile	<5.0	5.0	ug/L	1			10/01/24 1553	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1553	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1553	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1553	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1553	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1553	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1553	BDF

Client Sample ID:	MW-21		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-09	**Collection Date:**	09/25/2024 10:46

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1			10/01/24 1553	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1553	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1553	BDF
Surrogate: Dibromofluoromethane	97.6	Limit: 57-134	% Rec	1			10/01/24 1553	BDF
Surrogate: Dibromofluoromethane	97.6	Limit: 75-136	% Rec	1			10/01/24 1553	BDF
Surrogate: 1,2-Dichloroethane-d4	104	Limit: 61-142	% Rec	1			10/01/24 1553	BDF
Surrogate: 1,2-Dichloroethane-d4	104	Limit: 53-140	% Rec	1			10/01/24 1553	BDF
Surrogate: Toluene-d8	99.0	Limit: 86-114	% Rec	1			10/01/24 1553	BDF
Surrogate: Toluene-d8	99.0	Limit: 82-121	% Rec	1			10/01/24 1553	BDF
Surrogate: 4-Bromofluorobenzene	105	Limit: 80-116	% Rec	1			10/01/24 1553	BDF
Surrogate: 4-Bromofluorobenzene	105	Limit: 78-121	% Rec	1			10/01/24 1553	BDF

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2055	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2055	RVV
Barium, total	**0.341**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2055	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2055	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/01/24 0825	10/02/24 2055	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/01/24 0825	10/02/24 2055	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		10/01/24 0825	10/02/24 2055	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2055	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2055	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2055	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2055	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2055	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2055	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2055	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2055	RVV

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CERTIFICATE OF ANALYSIS

1HI1863

Client Sample ID:	MW-23		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-10	**Collection Date:**	09/25/2024 11:14

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1615	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1615	BDF
Acrylonitrile	<5.0	5.0	ug/L	1			10/01/24 1615	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1615	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1615	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1615	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1615	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1615	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1615	BDF

Client Sample ID:	MW-23		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-10	**Collection Date:**	09/25/2024 11:14

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1			10/01/24 1615	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1615	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1615	BDF
Surrogate: Dibromofluoromethane	96.0	Limit: 57-134	% Rec	1			10/01/24 1615	BDF
Surrogate: Dibromofluoromethane	96.0	Limit: 75-136	% Rec	1			10/01/24 1615	BDF
Surrogate: 1,2-Dichloroethane-d4	103	Limit: 53-140	% Rec	1			10/01/24 1615	BDF
Surrogate: 1,2-Dichloroethane-d4	103	Limit: 61-142	% Rec	1			10/01/24 1615	BDF
Surrogate: Toluene-d8	98.8	Limit: 82-121	% Rec	1			10/01/24 1615	BDF
Surrogate: Toluene-d8	98.8	Limit: 86-114	% Rec	1			10/01/24 1615	BDF
Surrogate: 4-Bromofluorobenzene	102	Limit: 80-116	% Rec	1			10/01/24 1615	BDF
Surrogate: 4-Bromofluorobenzene	102	Limit: 78-121	% Rec	1			10/01/24 1615	BDF

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2101	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2101	RVV
Barium, total	**0.306**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2101	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2101	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/01/24 0825	10/02/24 2101	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/01/24 0825	10/02/24 2101	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		10/01/24 0825	10/02/24 2101	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2101	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2101	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2101	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2101	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2101	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2101	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2101	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2101	RVV

Client Sample ID:	GWD-1			
Sample Matrix:	Aqueous		**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-11		**Collection Date:**	09/25/2024 10:26

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1638	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1638	BDF
Acrylonitrile	<5.0	5.0	ug/L	1			10/01/24 1638	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1638	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1638	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1638	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1638	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1638	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1638	BDF

Client Sample ID:	GWD-1		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-11	**Collection Date:**	09/25/2024 10:26

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1			10/01/24 1638	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1638	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1638	BDF
Surrogate: Dibromofluoromethane	96.7	Limit: 75-136	% Rec	1			10/01/24 1638	BDF
Surrogate: Dibromofluoromethane	96.7	Limit: 57-134	% Rec	1			10/01/24 1638	BDF
Surrogate: 1,2-Dichloroethane-d4	103	Limit: 53-140	% Rec	1			10/01/24 1638	BDF
Surrogate: 1,2-Dichloroethane-d4	103	Limit: 61-142	% Rec	1			10/01/24 1638	BDF
Surrogate: Toluene-d8	99.9	Limit: 82-121	% Rec	1			10/01/24 1638	BDF
Surrogate: Toluene-d8	99.9	Limit: 86-114	% Rec	1			10/01/24 1638	BDF
Surrogate: 4-Bromofluorobenzene	103	Limit: 78-121	% Rec	1			10/01/24 1638	BDF
Surrogate: 4-Bromofluorobenzene	103	Limit: 80-116	% Rec	1			10/01/24 1638	BDF

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2107	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2107	RVV
Barium, total	**0.619**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2107	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2107	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/01/24 0825	10/02/24 2107	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/01/24 0825	10/02/24 2107	RVV
Cobalt, total	**0.0023**	0.0004	mg/L	4		10/01/24 0825	10/02/24 2107	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2107	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2107	RVV
Nickel, total	**0.0041**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2107	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2107	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2107	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2107	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2107	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2107	RVV

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1863

Client Sample ID:	GWD-2		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-12	**Collection Date:**	09/25/2024 11:03

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 8260B								
Chloromethane	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1700	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1700	BDF
Acrylonitrile	<5.0	5.0	ug/L	1			10/01/24 1700	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1700	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1700	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1700	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1700	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1700	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1700	BDF

Client Sample ID:	GWD-2		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-12	**Collection Date:**	09/25/2024 11:03

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1			10/01/24 1700	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1700	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1700	BDF
Surrogate: Dibromofluoromethane	96.5	Limit: 75-136	% Rec	1			10/01/24 1700	BDF
Surrogate: Dibromofluoromethane	96.5	Limit: 57-134	% Rec	1			10/01/24 1700	BDF
Surrogate: 1,2-Dichloroethane-d4	104	Limit: 53-140	% Rec	1			10/01/24 1700	BDF
Surrogate: 1,2-Dichloroethane-d4	104	Limit: 61-142	% Rec	1			10/01/24 1700	BDF
Surrogate: Toluene-d8	99.4	Limit: 86-114	% Rec	1			10/01/24 1700	BDF
Surrogate: Toluene-d8	99.4	Limit: 82-121	% Rec	1			10/01/24 1700	BDF
Surrogate: 4-Bromofluorobenzene	102	Limit: 78-121	% Rec	1			10/01/24 1700	BDF
Surrogate: 4-Bromofluorobenzene	102	Limit: 80-116	% Rec	1			10/01/24 1700	BDF

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2113	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2113	RVV
Barium, total	**0.496**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2113	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2113	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/01/24 0825	10/02/24 2113	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/01/24 0825	10/02/24 2113	RVV
Cobalt, total	**0.0036**	0.0004	mg/L	4		10/01/24 0825	10/02/24 2113	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2113	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2113	RVV
Nickel, total	**0.0044**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2113	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2113	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2113	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2113	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2113	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2113	RVV

Client Sample ID:	Duplicate		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1863-13	**Collection Date:**	09/25/2024

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Antimony, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2132	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2132	RVV
Barium, total	**0.496**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2132	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2132	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		10/01/24 0825	10/02/24 2132	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		10/01/24 0825	10/02/24 2132	RVV
Cobalt, total	**0.0004**	0.0004	mg/L	4		10/01/24 0825	10/02/24 2132	RVV
Copper, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2132	RVV
Lead, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2132	RVV
Nickel, total	**0.0111**	0.0040	mg/L	4		10/01/24 0825	10/02/24 2132	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2132	RVV
Silver, total	<0.0040	0.0040	mg/L	4		10/01/24 0825	10/02/24 2132	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		10/01/24 0825	10/02/24 2132	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2132	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		10/01/24 0825	10/02/24 2132	RVV

Batch Log Summary

Method	Batch	Laboratory ID	Client / Source ID
EPA 8260B	1HI1578	1HI1578-BS1	
		1HI1578-BSD1	
		1HI1578-MS1	1HI1863-03
		1HI1578-MSD1	1HI1863-03
		1HI1578-BLK1	
		1HI1863-03	MW-3
		1HI1863-04	MW-9
		1HI1863-05	MW-12
		1HI1863-06	MW-14
		1HI1863-07	MW-15
		1HI1863-08	MW-19

Method	Batch	Laboratory ID	Client / Source ID
EPA 6020A	1HJ0009	1HJ0009-BLK1	
		1HJ0009-BS1	
		1HI1863-01	MW-2 (b)
		1HJ0009-MS1	1HI1863-01
		1HJ0009-MSD1	1HI1863-01
		1HJ0009-PS1	1HI1863-01
		1HI1863-02	MW-18 (b)
		1HI1863-03	MW-3
		1HI1863-04	MW-9
		1HI1863-05	MW-12
		1HI1863-06	MW-14
		1HI1863-07	MW-15
		1HI1863-08	MW-19
		1HI1863-09	MW-21
		1HI1863-10	MW-23
		1HI1863-11	GWD-1
		1HI1863-12	GWD-2
		1HI1863-13	Duplicate

Method	Batch	Laboratory ID	Client / Source ID
EPA 8260B	1HJ0118	1HJ0118-BS1	
		1HJ0118-BLK1	
		1HI1863-01	MW-2 (b)
		1HI1863-02	MW-18 (b)
		1HI1863-09	MW-21
		1HI1863-10	MW-23
		1HI1863-11	GWD-1

Method	Batch	Laboratory ID	Client / Source ID
EPA 8260B	1HJ0118	1HI1863-12	GWD-2
		1HJ0118-MS1	1HI1863-09
		1HJ0118-MSD1	1HI1863-09
EPA 8260B	1HJ0341	1HJ0341-BS1	
		1HJ0341-BLK1	
		1HJ0341-MS1	1HJ0275-05
		1HJ0341-MSD1	1HJ0275-05
		1HI1863-03	MW-3
		1HI1863-04	MW-9
		1HI1863-05	MW-12
		1HI1863-06	MW-14
		1HI1863-07	MW-15
		1HI1863-08	MW-19

Batch Quality Control Summary: Microbac Laboratories, Inc., Newton

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HI1578 - EPA 5030B - EPA 8260B										
Blank (1HI1578-BLK1)			Prepared: 09/28/24 00:00 Analyzed: 09/28/24 18:37							
Acrylonitrile	<5.0	5.0	ug/L							
Surrogate: Dibromofluoromethane	*31.9*		ug/L	*50.2*		*63.6*	*57-134*			
Surrogate: 1,2-Dichloroethane-d4	*31.3*		ug/L	*50.4*		*62.1*	*53-140*			
Surrogate: Toluene-d8	*55.4*		ug/L	*50.5*		*110*	*86-114*			
Surrogate: 4-Bromofluorobenzene	*42.5*		ug/L	*50.2*		*84.7*	*78-121*			
LCS (1HI1578-BS1)			Prepared: 09/28/24 00:00 Analyzed: 09/28/24 16:46							
Acrylonitrile	33.36	5.0	ug/L	50.2		66.5	56-135			
Surrogate: Dibromofluoromethane	*45.3*		ug/L	*50.2*		*90.3*	*57-134*			
Surrogate: 1,2-Dichloroethane-d4	*44.8*		ug/L	*50.4*		*89.1*	*53-140*			
Surrogate: Toluene-d8	*49.7*		ug/L	*50.5*		*98.4*	*86-114*			
Surrogate: 4-Bromofluorobenzene	*47.4*		ug/L	*50.2*		*94.5*	*78-121*			
LCS Dup (1HI1578-BSD1)			Prepared: 09/28/24 00:00 Analyzed: 09/28/24 17:08							
Acrylonitrile	25.42	5.0	ug/L	50.2		50.6	56-135	27.0	16	Q3
Surrogate: Dibromofluoromethane	*38.8*		ug/L	*50.2*		*77.2*	*57-134*			
Surrogate: 1,2-Dichloroethane-d4	*39.3*		ug/L	*50.4*		*78.0*	*53-140*			
Surrogate: Toluene-d8	*48.9*		ug/L	*50.5*		*96.9*	*86-114*			
Surrogate: 4-Bromofluorobenzene	*47.7*		ug/L	*50.2*		*95.1*	*78-121*			
Matrix Spike (1HI1578-MS1)	**Source: 1HI1863-03**		Prepared: 09/28/24 00:00 Analyzed: 09/28/24 17:30							
Acrylonitrile	144.8	20.0	ug/L	201	ND	72.1	38-147			
Surrogate: Dibromofluoromethane	*175*		ug/L	*201*		*87.1*	*57-134*			
Surrogate: 1,2-Dichloroethane-d4	*184*		ug/L	*201*		*91.3*	*53-140*			
Surrogate: Toluene-d8	*203*		ug/L	*202*		*101*	*86-114*			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HI1578 - EPA 5030B - EPA 8260B										
Matrix Spike (1HI1578-MS1)	**Source: 1HI1863-03**		Prepared: 09/28/24 00:00 Analyzed: 09/28/24 17:30							
Surrogate: 4-Bromofluorobenzene	*198*		ug/L	*201*		*98.5*	*78-121*			
Matrix Spike Dup (1HI1578-MSD1)	**Source: 1HI1863-03**		Prepared: 09/28/24 00:00 Analyzed: 09/28/24 17:53							
Acrylonitrile	145.8	20.0	ug/L	201	ND	72.6	38-147	0.716	30	
Surrogate: Dibromofluoromethane	*180*		ug/L	*201*		*89.5*	*57-134*			
Surrogate: 1,2-Dichloroethane-d4	*192*		ug/L	*201*		*95.5*	*53-140*			
Surrogate: Toluene-d8	*203*		ug/L	*202*		*101*	*86-114*			
Surrogate: 4-Bromofluorobenzene	*197*		ug/L	*201*		*98.4*	*78-121*			
Batch 1HJ0118 - EPA 5030B - EPA 8260B										
Blank (1HJ0118-BLK1)			Prepared & Analyzed: 10/01/24 09:50							
Chloromethane	<1.0	1.0	ug/L							
Vinyl Chloride	<1.0	1.0	ug/L							
Bromomethane	<1.0	1.0	ug/L							
Chloroethane	<1.0	1.0	ug/L							
Trichlorofluoromethane	<1.0	1.0	ug/L							
1,1-Dichloroethylene	<1.0	1.0	ug/L							
Acetone	<10.0	10.0	ug/L							
Methyl Iodide	<1.0	1.0	ug/L							
Carbon Disulfide	<1.0	1.0	ug/L							
Methylene Chloride	<5.0	5.0	ug/L							
Acrylonitrile	<5.0	5.0	ug/L							
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L							
1,1-Dichloroethane	<1.0	1.0	ug/L							
Vinyl Acetate	<5.0	5.0	ug/L							
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Bromochloromethane	<1.0	1.0	ug/L							
Chloroform	<1.0	1.0	ug/L							
1,1,1-Trichloroethane	<1.0	1.0	ug/L							
Carbon Tetrachloride	<1.0	1.0	ug/L							
Benzene	<1.0	1.0	ug/L							
1,2-Dichloroethane	<1.0	1.0	ug/L							
Trichloroethylene	<1.0	1.0	ug/L							
1,2-Dichloropropane	<1.0	1.0	ug/L							
Dibromomethane	<1.0	1.0	ug/L							
Bromodichloromethane	<1.0	1.0	ug/L							
cis-1,3-Dichloropropene	<1.0	1.0	ug/L							
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L							
Toluene	<1.0	1.0	ug/L							
trans-1,3-Dichloropropene	<1.0	1.0	ug/L							
1,1,2-Trichloroethane	<1.0	1.0	ug/L							

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0118 - EPA 5030B - EPA 8260B										
Blank (1HJ0118-BLK1)			Prepared & Analyzed: 10/01/24 09:50							
Tetrachloroethylene	<1.0	1.0	ug/L							
2-Hexanone (MBK)	<5.0	5.0	ug/L							
Dibromochloromethane	<1.0	1.0	ug/L							
1,2-Dibromoethane	<1.0	1.0	ug/L							
Chlorobenzene	<1.0	1.0	ug/L							
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L							
Ethylbenzene	<1.0	1.0	ug/L							
Xylenes, total	<2.0	2.0	ug/L							
Styrene	<1.0	1.0	ug/L							
Bromoform	<1.0	1.0	ug/L							
1,2,3-Trichloropropane	<1.0	1.0	ug/L							
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L							
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L							
1,4-Dichlorobenzene	<1.0	1.0	ug/L							
1,2-Dichlorobenzene	<1.0	1.0	ug/L							
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L							
Surrogate: Dibromofluoromethane	*50.2*		ug/L	*50.2*		*100*	*57-134*			
Surrogate: Dibromofluoromethane	*50.2*		ug/L	*50.2*		*100*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*53.4*		ug/L	*50.4*		*106*	*53-140*			
Surrogate: 1,2-Dichloroethane-d4	*53.4*		ug/L	*50.4*		*106*	*61-142*			
Surrogate: Toluene-d8	*58.5*		ug/L	*50.5*		*116*	*86-114*			*S1*
Surrogate: Toluene-d8	*58.5*		ug/L	*50.5*		*116*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*52.4*		ug/L	*50.2*		*104*	*78-121*			
Surrogate: 4-Bromofluorobenzene	*52.4*		ug/L	*50.2*		*104*	*80-116*			
LCS (1HJ0118-BS1)			Prepared & Analyzed: 10/01/24 08:43							
Chloromethane	35.45	1.0	ug/L	30.0		118	63-155			
Vinyl Chloride	34.15	1.0	ug/L	30.0		114	70-154			
Bromomethane	26.59	1.0	ug/L	30.0		88.6	52-176			
Chloroethane	42.35	1.0	ug/L	30.0		141	72-148			
Trichlorofluoromethane	36.28	1.0	ug/L	30.0		121	70-152			
1,1-Dichloroethylene	109.8	1.0	ug/L	100		110	70-148			
Acetone	113.9	10.0	ug/L	101		113	43-172			
Methyl Iodide	111.9	1.0	ug/L	102		110	69-170			
Carbon Disulfide	111.5	1.0	ug/L	103		109	72-162			
Methylene Chloride	104.3	5.0	ug/L	100		104	68-142			
Acrylonitrile	102.6	5.0	ug/L	100		102	56-135			
trans-1,2-Dichloroethylene	107.7	1.0	ug/L	100		108	66-148			
1,1-Dichloroethane	107.8	1.0	ug/L	100		108	66-143			
Vinyl Acetate	109.9	5.0	ug/L	100		110	43-153			
cis-1,2-Dichloroethylene	100.4	1.0	ug/L	100		100	71-149			
2-Butanone (MEK)	106.3	10.0	ug/L	102		104	52-159			
Bromochloromethane	107.7	1.0	ug/L	100		108	69-143			
Chloroform	100.5	1.0	ug/L	100		101	69-144			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0118 - EPA 5030B - EPA 8260B										
LCS (1HJ0118-BS1)			Prepared & Analyzed: 10/01/24 08:43							
1,1,1-Trichloroethane	96.61	1.0	ug/L	100		96.6	62-129			
Carbon Tetrachloride	102.4	1.0	ug/L	100		102	63-141			
Benzene	97.99	1.0	ug/L	100		98.0	71-134			
1,2-Dichloroethane	101.2	1.0	ug/L	100		101	72-132			
Trichloroethylene	98.43	1.0	ug/L	100		98.4	71-135			
1,2-Dichloropropane	88.64	1.0	ug/L	100		88.6	69-136			
Dibromomethane	94.24	1.0	ug/L	100		94.2	73-147			
Bromodichloromethane	91.97	1.0	ug/L	100		92.0	68-129			
cis-1,3-Dichloropropene	92.02	1.0	ug/L	100		92.0	65-134			
4-Methyl-2-pentanone (MIBK)	104.6	5.0	ug/L	100		105	58-147			
Toluene	92.25	1.0	ug/L	100		92.2	72-133			
trans-1,3-Dichloropropene	94.18	1.0	ug/L	100		94.2	67-130			
1,1,2-Trichloroethane	93.09	1.0	ug/L	100		93.1	69-135			
Tetrachloroethylene	103.1	1.0	ug/L	100		103	69-130			
2-Hexanone (MBK)	109.0	5.0	ug/L	99.3		110	55-144			
Dibromochloromethane	109.2	1.0	ug/L	100		109	73-127			
1,2-Dibromoethane	109.0	1.0	ug/L	100		109	67-132			
Chlorobenzene	99.38	1.0	ug/L	100		99.4	72-123			
1,1,1,2-Tetrachloroethane	98.24	1.0	ug/L	100		98.2	73-127			
Ethylbenzene	98.02	1.0	ug/L	100		98.0	71-127			
Xylenes, total	306.7	2.0	ug/L	300		102	74-127			
Styrene	100.4	1.0	ug/L	100		100	66-126			
Bromoform	97.39	1.0	ug/L	100		97.4	68-130			
1,2,3-Trichloropropane	104.2	1.0	ug/L	100		104	63-136			
trans-1,4-Dichloro-2-butene	97.18	5.0	ug/L	103		94.5	54-134			
1,1,2,2-Tetrachloroethane	121.3	1.0	ug/L	100		121	61-131			
1,4-Dichlorobenzene	98.93	1.0	ug/L	100		98.9	70-129			
1,2-Dichlorobenzene	97.42	1.0	ug/L	100		97.4	69-126			
1,2-Dibromo-3-chloropropane	96.60	5.0	ug/L	100		96.6	50-143			
Surrogate: Dibromofluoromethane	*51.2*		ug/L	*50.2*		*102*	*57-134*			
Surrogate: Dibromofluoromethane	*51.2*		ug/L	*50.2*		*102*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*52.8*		ug/L	*50.4*		*105*	*53-140*			
Surrogate: 1,2-Dichloroethane-d4	*52.8*		ug/L	*50.4*		*105*	*61-142*			
Surrogate: Toluene-d8	*48.4*		ug/L	*50.5*		*95.8*	*86-114*			
Surrogate: Toluene-d8	*48.4*		ug/L	*50.5*		*95.8*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*50.8*		ug/L	*50.2*		*101*	*78-121*			
Surrogate: 4-Bromofluorobenzene	*50.8*		ug/L	*50.2*		*101*	*80-116*			
Matrix Spike (1HJ0118-MS1)	**Source: 1HI1863-09**		Prepared & Analyzed: 10/01/24 20:23							
Chloromethane	333.0	10.0	ug/L	300	ND	111	61-152			
Vinyl Chloride	321.9	10.0	ug/L	300	ND	107	66-149			
Bromomethane	258.6	10.0	ug/L	300	ND	86.2	43-171			
Chloroethane	336.1	10.0	ug/L	300	ND	112	69-148			
Trichlorofluoromethane	327.7	10.0	ug/L	300	ND	109	62-163			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0118 - EPA 5030B - EPA 8260B										
Matrix Spike (1HJ0118-MS1)	**Source: 1HI1863-09**		Prepared & Analyzed: 10/01/24 20:23							
1,1-Dichloroethylene	1032	10.0	ug/L	1000	ND	103	70-148			
Acetone	1179	100	ug/L	1010	ND	116	45-173			
Methyl Iodide	906.5	10.0	ug/L	1020	ND	89.0	62-167			
Carbon Disulfide	1012	10.0	ug/L	1030	ND	98.5	71-163			
Methylene Chloride	979.0	50.0	ug/L	1000	ND	97.9	69-140			
Acrylonitrile	1000	50.0	ug/L	1000	ND	99.7	38-147			
trans-1,2-Dichloroethylene	1008	10.0	ug/L	1000	ND	101	69-144			
1,1-Dichloroethane	1006	10.0	ug/L	1000	ND	101	70-138			
Vinyl Acetate	994.0	50.0	ug/L	1000	ND	99.4	58-142			
cis-1,2-Dichloroethylene	916.2	10.0	ug/L	1000	ND	91.6	68-151			
2-Butanone (MEK)	1067	100	ug/L	1020	ND	105	50-160			
Bromochloromethane	1002	10.0	ug/L	1000	ND	100	65-143			
Chloroform	930.4	10.0	ug/L	1000	ND	93.0	71-143			
1,1,1-Trichloroethane	881.5	10.0	ug/L	1000	ND	88.2	63-133			
Carbon Tetrachloride	931.7	10.0	ug/L	1000	ND	93.2	63-142			
Benzene	968.5	10.0	ug/L	1000	ND	96.8	69-133			
1,2-Dichloroethane	991.6	10.0	ug/L	1000	ND	99.2	63-138			
Trichloroethylene	1018	10.0	ug/L	1000	ND	102	71-133			
1,2-Dichloropropane	979.6	10.0	ug/L	1000	ND	98.0	69-132			
Dibromomethane	931.9	10.0	ug/L	1000	ND	93.2	70-147			
Bromodichloromethane	901.0	10.0	ug/L	1000	ND	90.1	67-130			
cis-1,3-Dichloropropene	891.5	10.0	ug/L	1000	ND	89.2	61-126			
4-Methyl-2-pentanone (MIBK)	1042	50.0	ug/L	1000	ND	104	55-147			
Toluene	922.3	10.0	ug/L	1000	ND	92.2	71-133			
trans-1,3-Dichloropropene	905.5	10.0	ug/L	1000	ND	90.6	63-124			
1,1,2-Trichloroethane	915.3	10.0	ug/L	1000	ND	91.5	69-133			
Tetrachloroethylene	1023	10.0	ug/L	1000	ND	102	70-124			
2-Hexanone (MBK)	1129	50.0	ug/L	993	ND	114	53-141			
Dibromochloromethane	994.0	10.0	ug/L	1000	ND	99.4	74-122			
1,2-Dibromoethane	988.7	10.0	ug/L	1000	ND	98.9	66-127			
Chlorobenzene	998.0	10.0	ug/L	1000	ND	99.8	76-116			
1,1,1,2-Tetrachloroethane	981.2	10.0	ug/L	1000	ND	98.1	77-121			
Ethylbenzene	1000	10.0	ug/L	1000	ND	100	73-124			
Xylenes, total	3273	20.0	ug/L	3000	ND	109	75-123			
Styrene	1091	10.0	ug/L	1000	ND	109	70-120			
Bromoform	1020	10.0	ug/L	1000	ND	102	70-124			
1,2,3-Trichloropropane	1129	10.0	ug/L	1000	ND	113	62-135			
trans-1,4-Dichloro-2-butene	981.7	50.0	ug/L	1030	ND	95.5	50-120			
1,1,2,2-Tetrachloroethane	1439	10.0	ug/L	1000	ND	144	63-126			M1
1,4-Dichlorobenzene	991.4	10.0	ug/L	1000	ND	99.1	72-119			
1,2-Dichlorobenzene	986.2	10.0	ug/L	1000	ND	98.6	71-117			
1,2-Dibromo-3-chloropropane	981.4	50.0	ug/L	1000	ND	98.1	49-134			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0118 - EPA 5030B - EPA 8260B										
Matrix Spike (1HJ0118-MS1)	**Source: 1HI1863-09**		Prepared & Analyzed: 10/01/24 20:23							
Surrogate: Dibromofluoromethane	*464*		ug/L	*502*		*92.4*	*57-134*			
Surrogate: Dibromofluoromethane	*464*		ug/L	*502*		*92.4*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*488*		ug/L	*504*		*97.0*	*53-140*			
Surrogate: 1,2-Dichloroethane-d4	*488*		ug/L	*504*		*97.0*	*61-142*			
Surrogate: Toluene-d8	*477*		ug/L	*505*		*94.5*	*86-114*			
Surrogate: Toluene-d8	*477*		ug/L	*505*		*94.5*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*545*		ug/L	*502*		*109*	*78-121*			
Surrogate: 4-Bromofluorobenzene	*545*		ug/L	*502*		*109*	*80-116*			
Matrix Spike Dup (1HJ0118-MSD1)	**Source: 1HI1863-09**		Prepared & Analyzed: 10/01/24 20:45							
Chloromethane	301.7	10.0	ug/L	300	ND	101	61-152	9.86	26	
Vinyl Chloride	294.3	10.0	ug/L	300	ND	98.1	66-149	8.96	23	
Bromomethane	236.9	10.0	ug/L	300	ND	79.0	43-171	8.76	29	
Chloroethane	308.9	10.0	ug/L	300	ND	103	69-148	8.43	25	
Trichlorofluoromethane	310.4	10.0	ug/L	300	ND	103	62-163	5.42	25	
1,1-Dichloroethylene	960.4	10.0	ug/L	1000	ND	96.0	70-148	7.15	22	
Acetone	1113	100	ug/L	1010	ND	110	45-173	5.74	30	
Methyl Iodide	915.9	10.0	ug/L	1020	ND	89.9	62-167	1.03	24	
Carbon Disulfide	945.9	10.0	ug/L	1030	ND	92.1	71-163	6.73	22	
Methylene Chloride	927.3	50.0	ug/L	1000	ND	92.7	69-140	5.42	19	
Acrylonitrile	969.0	50.0	ug/L	1000	ND	96.5	38-147	3.20	30	
trans-1,2-Dichloroethylene	954.2	10.0	ug/L	1000	ND	95.4	69-144	5.53	22	
1,1-Dichloroethane	956.7	10.0	ug/L	1000	ND	95.7	70-138	4.99	20	
Vinyl Acetate	963.2	50.0	ug/L	1000	ND	96.3	58-142	3.15	24	
cis-1,2-Dichloroethylene	881.9	10.0	ug/L	1000	ND	88.2	68-151	3.82	22	
2-Butanone (MEK)	1027	100	ug/L	1020	ND	101	50-160	3.76	23	
Bromochloromethane	981.0	10.0	ug/L	1000	ND	98.1	65-143	2.16	22	
Chloroform	900.4	10.0	ug/L	1000	ND	90.0	71-143	3.28	21	
1,1,1-Trichloroethane	862.9	10.0	ug/L	1000	ND	86.3	63-133	2.13	23	
Carbon Tetrachloride	921.0	10.0	ug/L	1000	ND	92.1	63-142	1.16	22	
Benzene	933.4	10.0	ug/L	1000	ND	93.3	69-133	3.69	18	
1,2-Dichloroethane	964.1	10.0	ug/L	1000	ND	96.4	63-138	2.81	20	
Trichloroethylene	941.9	10.0	ug/L	1000	ND	94.2	71-133	7.80	23	
1,2-Dichloropropane	962.8	10.0	ug/L	1000	ND	96.3	69-132	1.73	20	
Dibromomethane	969.0	10.0	ug/L	1000	ND	96.9	70-147	3.90	22	
Bromodichloromethane	869.0	10.0	ug/L	1000	ND	86.9	67-130	3.62	21	
cis-1,3-Dichloropropene	866.0	10.0	ug/L	1000	ND	86.6	61-126	2.90	21	
4-Methyl-2-pentanone (MIBK)	1042	50.0	ug/L	1000	ND	104	55-147	0.0384	23	
Toluene	887.6	10.0	ug/L	1000	ND	88.8	71-133	3.83	19	
trans-1,3-Dichloropropene	892.1	10.0	ug/L	1000	ND	89.2	63-124	1.49	21	
1,1,2-Trichloroethane	896.3	10.0	ug/L	1000	ND	89.6	69-133	2.10	19	
Tetrachloroethylene	1007	10.0	ug/L	1000	ND	101	70-124	1.62	24	
2-Hexanone (MBK)	1123	50.0	ug/L	993	ND	113	53-141	0.471	24	
Dibromochloromethane	977.6	10.0	ug/L	1000	ND	97.8	74-122	1.66	21	

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0118 - EPA 5030B - EPA 8260B										
Matrix Spike Dup (1HJ0118-MSD1)	**Source: 1HI1863-09**	Prepared & Analyzed: 10/01/24 20:45								
1,2-Dibromoethane	970.3	10.0	ug/L	1000	ND	97.0	66-127	1.88	23	
Chlorobenzene	981.2	10.0	ug/L	1000	ND	98.1	76-116	1.70	21	
1,1,1,2-Tetrachloroethane	962.0	10.0	ug/L	1000	ND	96.2	77-121	1.98	25	
Ethylbenzene	969.7	10.0	ug/L	1000	ND	97.0	73-124	3.08	20	
Xylenes, total	3036	20.0	ug/L	3000	ND	101	75-123	7.52	20	
Styrene	1006	10.0	ug/L	1000	ND	101	70-120	8.16	23	
Bromoform	1025	10.0	ug/L	1000	ND	103	70-124	0.538	22	
1,2,3-Trichloropropane	1079	10.0	ug/L	1000	ND	108	62-135	4.52	28	
trans-1,4-Dichloro-2-butene	913.3	50.0	ug/L	1030	ND	88.8	50-120	7.22	26	
1,1,2,2-Tetrachloroethane	1242	10.0	ug/L	1000	ND	124	63-126	14.7	24	
1,4-Dichlorobenzene	972.1	10.0	ug/L	1000	ND	97.2	72-119	1.97	24	
1,2-Dichlorobenzene	967.1	10.0	ug/L	1000	ND	96.7	71-117	1.96	24	
1,2-Dibromo-3-chloropropane	1035	50.0	ug/L	1000	ND	103	49-134	5.28	28	
Surrogate: Dibromofluoromethane	*467*		ug/L	*502*		*93.0*	*57-134*			
Surrogate: Dibromofluoromethane	*467*		ug/L	*502*		*93.0*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*493*		ug/L	*504*		*97.9*	*53-140*			
Surrogate: 1,2-Dichloroethane-d4	*493*		ug/L	*504*		*97.9*	*61-142*			
Surrogate: Toluene-d8	*472*		ug/L	*505*		*93.5*	*86-114*			
Surrogate: Toluene-d8	*472*		ug/L	*505*		*93.5*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*532*		ug/L	*502*		*106*	*78-121*			
Surrogate: 4-Bromofluorobenzene	*532*		ug/L	*502*		*106*	*80-116*			
Batch 1HJ0341 - EPA 5030B - EPA 8260B										
Blank (1HJ0341-BLK1)		Prepared & Analyzed: 10/03/24 16:13								
Chloromethane	<1.0	1.0	ug/L							
Vinyl Chloride	<1.0	1.0	ug/L							
Bromomethane	<1.0	1.0	ug/L							
Chloroethane	<1.0	1.0	ug/L							
Trichlorofluoromethane	<1.0	1.0	ug/L							
1,1-Dichloroethylene	<1.0	1.0	ug/L							
Acetone	<10.0	10.0	ug/L							
Methyl Iodide	<1.0	1.0	ug/L							
Carbon Disulfide	<1.0	1.0	ug/L							
Methylene Chloride	<5.0	5.0	ug/L							
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L							
1,1-Dichloroethane	<1.0	1.0	ug/L							
Vinyl Acetate	<5.0	5.0	ug/L							
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L							
2-Butanone (MEK)	<10.0	10.0	ug/L							
Bromochloromethane	<1.0	1.0	ug/L							
Chloroform	<1.0	1.0	ug/L							
1,1,1-Trichloroethane	<1.0	1.0	ug/L							
Carbon Tetrachloride	<1.0	1.0	ug/L							

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0341 - EPA 5030B - EPA 8260B										
Blank (1HJ0341-BLK1)			Prepared & Analyzed: 10/03/24 16:13							
Benzene	<1.0	1.0	ug/L							
1,2-Dichloroethane	<1.0	1.0	ug/L							
Trichloroethylene	<1.0	1.0	ug/L							
1,2-Dichloropropane	<1.0	1.0	ug/L							
Dibromomethane	<1.0	1.0	ug/L							
Bromodichloromethane	<1.0	1.0	ug/L							
cis-1,3-Dichloropropene	<1.0	1.0	ug/L							
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L							
Toluene	<1.0	1.0	ug/L							
trans-1,3-Dichloropropene	<1.0	1.0	ug/L							
1,1,2-Trichloroethane	<1.0	1.0	ug/L							
Tetrachloroethylene	<1.0	1.0	ug/L							
2-Hexanone (MBK)	<5.0	5.0	ug/L							
Dibromochloromethane	<1.0	1.0	ug/L							
1,2-Dibromoethane	<1.0	1.0	ug/L							
Chlorobenzene	<1.0	1.0	ug/L							
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L							
Ethylbenzene	<1.0	1.0	ug/L							
Xylenes, total	<2.0	2.0	ug/L							
Styrene	<1.0	1.0	ug/L							
Bromoform	<1.0	1.0	ug/L							
1,2,3-Trichloropropane	<1.0	1.0	ug/L							
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L							
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L							
1,4-Dichlorobenzene	<1.0	1.0	ug/L							
1,2-Dichlorobenzene	<1.0	1.0	ug/L							
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L							
Surrogate: Dibromofluoromethane	*46.9*		ug/L	*50.2*		*93.5*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*46.1*		ug/L	*50.4*		*91.6*	*61-142*			
Surrogate: Toluene-d8	*49.4*		ug/L	*50.5*		*97.9*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*49.2*		ug/L	*50.2*		*98.1*	*80-116*			
LCS (1HJ0341-BS1)			Prepared & Analyzed: 10/03/24 15:05							
Chloromethane	29.61	1.0	ug/L	30.0		98.7	63-155			
Vinyl Chloride	25.80	1.0	ug/L	30.0		86.0	70-154			
Bromomethane	29.84	1.0	ug/L	30.0		99.5	52-176			
Chloroethane	28.25	1.0	ug/L	30.0		94.2	72-148			
Trichlorofluoromethane	28.40	1.0	ug/L	30.0		94.7	70-152			
1,1-Dichloroethylene	81.74	1.0	ug/L	100		81.7	70-148			
Acetone	134.9	10.0	ug/L	101		133	43-172			
Methyl Iodide	110.8	1.0	ug/L	102		109	69-170			
Carbon Disulfide	86.48	1.0	ug/L	103		84.2	72-162			
Methylene Chloride	86.75	5.0	ug/L	100		86.8	68-142			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0341 - EPA 5030B - EPA 8260B										
LCS (1HJ0341-BS1)			Prepared & Analyzed: 10/03/24 15:05							
trans-1,2-Dichloroethylene	82.53	1.0	ug/L	100		82.5	66-148			
1,1-Dichloroethane	81.24	1.0	ug/L	100		81.2	66-143			
Vinyl Acetate	87.98	5.0	ug/L	100		88.0	43-153			
cis-1,2-Dichloroethylene	74.74	1.0	ug/L	100		74.7	71-149			
2-Butanone (MEK)	106.8	10.0	ug/L	102		105	52-159			
Bromochloromethane	90.74	1.0	ug/L	100		90.7	69-143			
Chloroform	86.69	1.0	ug/L	100		86.7	69-144			
1,1,1-Trichloroethane	83.18	1.0	ug/L	100		83.2	62-129			
Carbon Tetrachloride	97.71	1.0	ug/L	100		97.7	63-141			
Benzene	94.37	1.0	ug/L	100		94.4	71-134			
1,2-Dichloroethane	92.39	1.0	ug/L	100		92.4	72-132			
Trichloroethylene	89.50	1.0	ug/L	100		89.5	71-135			
1,2-Dichloropropane	86.55	1.0	ug/L	100		86.6	69-136			
Dibromomethane	91.62	1.0	ug/L	100		91.6	73-147			
Bromodichloromethane	87.48	1.0	ug/L	100		87.5	68-129			
cis-1,3-Dichloropropene	89.24	1.0	ug/L	100		89.2	65-134			
4-Methyl-2-pentanone (MIBK)	83.29	5.0	ug/L	100		83.2	58-147			
Toluene	96.03	1.0	ug/L	100		96.0	72-133			
trans-1,3-Dichloropropene	94.02	1.0	ug/L	100		94.0	67-130			
1,1,2-Trichloroethane	96.16	1.0	ug/L	100		96.2	69-135			
Tetrachloroethylene	94.71	1.0	ug/L	100		94.7	69-130			
2-Hexanone (MBK)	98.47	5.0	ug/L	99.3		99.2	55-144			
Dibromochloromethane	95.83	1.0	ug/L	100		95.8	73-127			
1,2-Dibromoethane	90.68	1.0	ug/L	100		90.7	67-132			
Chlorobenzene	97.53	1.0	ug/L	100		97.5	72-123			
1,1,1,2-Tetrachloroethane	96.63	1.0	ug/L	100		96.6	73-127			
Ethylbenzene	91.29	1.0	ug/L	100		91.3	71-127			
Xylenes, total	276.4	2.0	ug/L	300		92.1	74-127			
Styrene	96.27	1.0	ug/L	100		96.3	66-126			
Bromoform	95.14	1.0	ug/L	100		95.1	68-130			
1,2,3-Trichloropropane	89.64	1.0	ug/L	100		89.6	63-136			
trans-1,4-Dichloro-2-butene	78.98	5.0	ug/L	103		76.8	54-134			
1,1,2,2-Tetrachloroethane	86.99	1.0	ug/L	100		87.0	61-131			
1,4-Dichlorobenzene	97.51	1.0	ug/L	100		97.5	70-129			
1,2-Dichlorobenzene	100.5	1.0	ug/L	100		101	69-126			
1,2-Dibromo-3-chloropropane	107.4	5.0	ug/L	100		107	50-143			
Surrogate: Dibromofluoromethane	*46.5*		ug/L	*50.2*		*92.6*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*45.1*		ug/L	*50.4*		*89.6*	*61-142*			
Surrogate: Toluene-d8	*50.0*		ug/L	*50.5*		*99.0*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*50.5*		ug/L	*50.2*		*101*	*80-116*			
Matrix Spike (1HJ0341-MS1)	**Source: 1HJ0275-05**		Prepared & Analyzed: 10/03/24 17:35							
Chloromethane	308.9	10.0	ug/L	300	ND	103	61-152			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0341 - EPA 5030B - EPA 8260B										
Matrix Spike (1HJ0341-MS1)	**Source: 1HJ0275-05**	Prepared & Analyzed: 10/03/24 17:35								
Vinyl Chloride	264.7	10.0	ug/L	300	ND	88.2	66-149			
Bromomethane	300.7	10.0	ug/L	300	ND	100	43-171			
Chloroethane	290.0	10.0	ug/L	300	ND	96.7	69-148			
Trichlorofluoromethane	291.4	10.0	ug/L	300	ND	97.1	62-163			
1,1-Dichloroethylene	830.8	10.0	ug/L	1000	ND	83.1	70-148			
Acetone	1997	100	ug/L	1010	ND	197	45-173			M1
Methyl Iodide	1037	10.0	ug/L	1020	ND	102	62-167			
Carbon Disulfide	874.3	10.0	ug/L	1030	ND	85.1	71-163			
Methylene Chloride	869.9	50.0	ug/L	1000	ND	87.0	69-140			
trans-1,2-Dichloroethylene	834.6	10.0	ug/L	1000	ND	83.5	69-144			
1,1-Dichloroethane	817.1	10.0	ug/L	1000	ND	81.7	70-138			
Vinyl Acetate	869.2	50.0	ug/L	1000	ND	86.9	58-142			
cis-1,2-Dichloroethylene	746.9	10.0	ug/L	1000	ND	74.7	68-151			
2-Butanone (MEK)	1434	100	ug/L	1020	ND	141	50-160			
Bromochloromethane	884.5	10.0	ug/L	1000	ND	88.4	65-143			
Chloroform	872.3	10.0	ug/L	1000	ND	87.2	71-143			
1,1,1-Trichloroethane	835.8	10.0	ug/L	1000	ND	83.6	63-133			
Carbon Tetrachloride	987.7	10.0	ug/L	1000	ND	98.8	63-142			
Benzene	934.2	10.0	ug/L	1000	ND	93.4	69-133			
1,2-Dichloroethane	914.3	10.0	ug/L	1000	ND	91.4	63-138			
Trichloroethylene	890.8	10.0	ug/L	1000	ND	89.1	71-133			
1,2-Dichloropropane	850.7	10.0	ug/L	1000	ND	85.1	69-132			
Dibromomethane	902.7	10.0	ug/L	1000	ND	90.3	70-147			
Bromodichloromethane	860.5	10.0	ug/L	1000	ND	86.0	67-130			
cis-1,3-Dichloropropene	888.1	10.0	ug/L	1000	ND	88.8	61-126			
4-Methyl-2-pentanone (MIBK)	892.3	50.0	ug/L	1000	ND	89.1	55-147			
Toluene	949.9	10.0	ug/L	1000	ND	95.0	71-133			
trans-1,3-Dichloropropene	931.3	10.0	ug/L	1000	ND	93.1	63-124			
1,1,2-Trichloroethane	940.3	10.0	ug/L	1000	ND	94.0	69-133			
Tetrachloroethylene	942.3	10.0	ug/L	1000	ND	94.2	70-124			
2-Hexanone (MBK)	1364	50.0	ug/L	993	ND	137	53-141			
Dibromochloromethane	947.7	10.0	ug/L	1000	ND	94.8	74-122			
1,2-Dibromoethane	898.6	10.0	ug/L	1000	ND	89.9	66-127			
Chlorobenzene	956.2	10.0	ug/L	1000	ND	95.6	76-116			
1,1,1,2-Tetrachloroethane	946.0	10.0	ug/L	1000	ND	94.6	77-121			
Ethylbenzene	904.5	10.0	ug/L	1000	ND	90.4	73-124			
Xylenes, total	2725	20.0	ug/L	3000	ND	90.8	75-123			
Styrene	943.8	10.0	ug/L	1000	ND	94.4	70-120			
Bromoform	928.3	10.0	ug/L	1000	ND	92.8	70-124			
1,2,3-Trichloropropane	883.3	10.0	ug/L	1000	ND	88.3	62-135			
trans-1,4-Dichloro-2-butene	783.5	50.0	ug/L	1030	ND	76.2	50-120			
1,1,2,2-Tetrachloroethane	860.5	10.0	ug/L	1000	ND	86.0	63-126			
1,4-Dichlorobenzene	965.3	10.0	ug/L	1000	ND	96.5	72-119			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0341 - EPA 5030B - EPA 8260B										
Matrix Spike (1HJ0341-MS1)	**Source: 1HJ0275-05**		Prepared & Analyzed: 10/03/24 17:35							
1,2-Dichlorobenzene	992.3	10.0	ug/L	1000	ND	99.2	71-117			
1,2-Dibromo-3-chloropropane	1043	50.0	ug/L	1000	ND	104	49-134			
Surrogate: Dibromofluoromethane	*465*		ug/L	*502*		*92.6*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*453*		ug/L	*504*		*89.9*	*61-142*			
Surrogate: Toluene-d8	*495*		ug/L	*505*		*98.1*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*501*		ug/L	*502*		*99.9*	*80-116*			
Matrix Spike Dup (1HJ0341-MSD1)	**Source: 1HJ0275-05**		Prepared & Analyzed: 10/03/24 17:58							
Chloromethane	278.2	10.0	ug/L	300	ND	92.7	61-152	10.5	26	
Vinyl Chloride	235.8	10.0	ug/L	300	ND	78.6	66-149	11.5	23	
Bromomethane	276.5	10.0	ug/L	300	ND	92.2	43-171	8.39	29	
Chloroethane	261.3	10.0	ug/L	300	ND	87.1	69-148	10.4	25	
Trichlorofluoromethane	262.8	10.0	ug/L	300	ND	87.6	62-163	10.3	25	
1,1-Dichloroethylene	750.8	10.0	ug/L	1000	ND	75.1	70-148	10.1	22	
Acetone	1789	100	ug/L	1010	ND	177	45-173	11.0	30	M1
Methyl Iodide	948.2	10.0	ug/L	1020	ND	93.1	62-167	8.93	24	
Carbon Disulfide	792.2	10.0	ug/L	1030	ND	77.1	71-163	9.85	22	
Methylene Chloride	814.4	50.0	ug/L	1000	ND	81.4	69-140	6.59	19	
trans-1,2-Dichloroethylene	760.9	10.0	ug/L	1000	ND	76.1	69-144	9.24	22	
1,1-Dichloroethane	752.1	10.0	ug/L	1000	ND	75.2	70-138	8.28	20	
Vinyl Acetate	842.4	50.0	ug/L	1000	ND	84.2	58-142	3.13	24	
cis-1,2-Dichloroethylene	689.1	10.0	ug/L	1000	ND	68.9	68-151	8.05	22	
2-Butanone (MEK)	1292	100	ug/L	1020	ND	127	50-160	10.4	23	
Bromochloromethane	826.4	10.0	ug/L	1000	ND	82.6	65-143	6.79	22	
Chloroform	806.2	10.0	ug/L	1000	ND	80.6	71-143	7.88	21	
1,1,1-Trichloroethane	762.7	10.0	ug/L	1000	ND	76.3	63-133	9.15	23	
Carbon Tetrachloride	906.8	10.0	ug/L	1000	ND	90.7	63-142	8.54	22	
Benzene	867.2	10.0	ug/L	1000	ND	86.7	69-133	7.44	18	
1,2-Dichloroethane	866.9	10.0	ug/L	1000	ND	86.7	63-138	5.32	20	
Trichloroethylene	822.0	10.0	ug/L	1000	ND	82.2	71-133	8.03	23	
1,2-Dichloropropane	801.2	10.0	ug/L	1000	ND	80.1	69-132	5.99	20	
Dibromomethane	858.5	10.0	ug/L	1000	ND	85.8	70-147	5.02	22	
Bromodichloromethane	818.2	10.0	ug/L	1000	ND	81.8	67-130	5.04	21	
cis-1,3-Dichloropropene	839.3	10.0	ug/L	1000	ND	83.9	61-126	5.65	21	
4-Methyl-2-pentanone (MIBK)	818.5	50.0	ug/L	1000	ND	81.8	55-147	8.63	23	
Toluene	879.8	10.0	ug/L	1000	ND	88.0	71-133	7.66	19	
trans-1,3-Dichloropropene	885.0	10.0	ug/L	1000	ND	88.5	63-124	5.10	21	
1,1,2-Trichloroethane	902.4	10.0	ug/L	1000	ND	90.2	69-133	4.11	19	
Tetrachloroethylene	869.2	10.0	ug/L	1000	ND	86.9	70-124	8.07	24	
2-Hexanone (MBK)	1253	50.0	ug/L	993	ND	126	53-141	8.53	24	
Dibromochloromethane	910.9	10.0	ug/L	1000	ND	91.1	74-122	3.96	21	
1,2-Dibromoethane	861.1	10.0	ug/L	1000	ND	86.1	66-127	4.26	23	
Chlorobenzene	897.5	10.0	ug/L	1000	ND	89.8	76-116	6.33	21	

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0341 - EPA 5030B - EPA 8260B										
Matrix Spike Dup (1HJ0341-MSD1)	**Source: 1HJ0275-05**		Prepared & Analyzed: 10/03/24 17:58							
1,1,1,2-Tetrachloroethane	896.2	10.0	ug/L	1000	ND	89.6	77-121	5.41	25	
Ethylbenzene	843.6	10.0	ug/L	1000	ND	84.4	73-124	6.97	20	
Xylenes, total	2548	20.0	ug/L	3000	ND	84.9	75-123	6.71	20	
Styrene	891.8	10.0	ug/L	1000	ND	89.2	70-120	5.67	23	
Bromoform	909.5	10.0	ug/L	1000	ND	91.0	70-124	2.05	22	
1,2,3-Trichloropropane	853.4	10.0	ug/L	1000	ND	85.3	62-135	3.44	28	
trans-1,4-Dichloro-2-butene	753.4	50.0	ug/L	1030	ND	73.3	50-120	3.92	26	
1,1,2,2-Tetrachloroethane	816.5	10.0	ug/L	1000	ND	81.6	63-126	5.25	24	
1,4-Dichlorobenzene	901.3	10.0	ug/L	1000	ND	90.1	72-119	6.86	24	
1,2-Dichlorobenzene	932.4	10.0	ug/L	1000	ND	93.2	71-117	6.22	24	
1,2-Dibromo-3-chloropropane	984.0	50.0	ug/L	1000	ND	98.4	49-134	5.86	28	
Surrogate: Dibromofluoromethane	*469*		ug/L	*502*		*93.4*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*451*		ug/L	*504*		*89.5*	*61-142*			
Surrogate: Toluene-d8	*498*		ug/L	*505*		*98.6*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*503*		ug/L	*502*		*100*	*80-116*			

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0009 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Blank (1HJ0009-BLK1)			Prepared: 10/01/24 08:25 Analyzed: 10/02/24 19:17							
Antimony, total	<0.0020	0.0020	mg/L							
Arsenic, total	<0.0040	0.0040	mg/L							
Barium, total	<0.0040	0.0040	mg/L							
Beryllium, total	<0.0040	0.0040	mg/L							
Cadmium, total	<0.0008	0.0008	mg/L							
Chromium, total	<0.0080	0.0080	mg/L							
Cobalt, total	<0.0004	0.0004	mg/L							
Copper, total	<0.0040	0.0040	mg/L							
Lead, total	<0.0040	0.0040	mg/L							
Nickel, total	<0.0040	0.0040	mg/L							
Selenium, total	<0.0040	0.0040	mg/L							
Silver, total	<0.0040	0.0040	mg/L							
Thallium, total	<0.0020	0.0020	mg/L							
Vanadium, total	<0.0200	0.0200	mg/L							
Zinc, total	<0.0200	0.0200	mg/L							
LCS (1HJ0009-BS1)			Prepared: 10/01/24 08:25 Analyzed: 10/02/24 19:23							
Antimony, total	0.0943	0.0020	mg/L	0.100		94.3	80-120			
Arsenic, total	0.0935	0.0040	mg/L	0.100		93.5	80-120			
Barium, total	0.105	0.0040	mg/L	0.100		105	80-120			
Beryllium, total	0.0994	0.0040	mg/L	0.100		99.4	80-120			
Cadmium, total	0.0986	0.0008	mg/L	0.100		98.6	80-120			
Chromium, total	0.0940	0.0080	mg/L	0.100		94.0	80-120			

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0009 - EPA 3005A Total Recoverable Metals - EPA 6020A										
LCS (1HJ0009-BS1)			Prepared: 10/01/24 08:25 Analyzed: 10/02/24 19:23							
Cobalt, total	0.0990	0.0004	mg/L	0.100		99.0	80-120			
Copper, total	0.0998	0.0040	mg/L	0.100		99.8	80-120			
Lead, total	0.0970	0.0040	mg/L	0.100		97.0	80-120			
Nickel, total	0.100	0.0040	mg/L	0.100		100	80-120			
Selenium, total	0.0932	0.0040	mg/L	0.100		93.2	80-120			
Silver, total	0.0978	0.0040	mg/L	0.100		97.8	80-120			
Thallium, total	0.0934	0.0020	mg/L	0.100		93.4	80-120			
Vanadium, total	0.0968	0.0200	mg/L	0.100		96.8	80-120			
Zinc, total	0.100	0.0200	mg/L	0.100		100	80-120			
Matrix Spike (1HJ0009-MS1)		**Source: 1HI1863-01**	Prepared: 10/01/24 08:25 Analyzed: 10/02/24 19:41							
Antimony, total	0.0975	0.0020	mg/L	0.100	0.0011	96.4	75-125			
Arsenic, total	0.0974	0.0040	mg/L	0.100	0.0011	96.3	75-125			
Barium, total	0.275	0.0040	mg/L	0.100	0.179	96.1	75-125			
Beryllium, total	0.0988	0.0040	mg/L	0.100	ND	98.8	75-125			
Cadmium, total	0.0964	0.0008	mg/L	0.100	0.0006	95.8	75-125			
Chromium, total	0.0973	0.0080	mg/L	0.100	0.0036	93.7	75-125			
Cobalt, total	0.100	0.0004	mg/L	0.100	ND	100	75-125			
Copper, total	0.0971	0.0040	mg/L	0.100	0.0018	95.3	75-125			
Lead, total	0.0957	0.0040	mg/L	0.100	ND	95.7	75-125			
Nickel, total	0.102	0.0040	mg/L	0.100	0.0033	98.2	75-125			
Selenium, total	0.0972	0.0040	mg/L	0.100	0.0017	97.2	75-125			
Silver, total	0.0965	0.0040	mg/L	0.100	ND	96.5	75-125			
Thallium, total	0.0937	0.0020	mg/L	0.100	ND	93.7	75-125			
Vanadium, total	0.100	0.0200	mg/L	0.100	ND	100	75-125			
Zinc, total	0.109	0.0200	mg/L	0.100	ND	109	75-125			
Matrix Spike Dup (1HJ0009-MSD1)		**Source: 1HI1863-01**	Prepared: 10/01/24 08:25 Analyzed: 10/02/24 19:47							
Antimony, total	0.0981	0.0020	mg/L	0.100	0.0011	97.0	75-125	0.652	20	
Arsenic, total	0.0968	0.0040	mg/L	0.100	0.0011	95.7	75-125	0.579	20	
Barium, total	0.294	0.0040	mg/L	0.100	0.179	115	75-125	6.63	20	
Beryllium, total	0.0968	0.0040	mg/L	0.100	ND	96.8	75-125	2.09	20	
Cadmium, total	0.0969	0.0008	mg/L	0.100	0.0006	96.3	75-125	0.495	20	
Chromium, total	0.0984	0.0080	mg/L	0.100	0.0036	94.8	75-125	1.12	20	
Cobalt, total	0.102	0.0004	mg/L	0.100	ND	102	75-125	1.44	20	
Copper, total	0.0977	0.0040	mg/L	0.100	0.0018	95.8	75-125	0.600	20	
Lead, total	0.0975	0.0040	mg/L	0.100	ND	97.5	75-125	1.94	20	
Nickel, total	0.104	0.0040	mg/L	0.100	0.0033	100	75-125	2.05	20	
Selenium, total	0.0943	0.0040	mg/L	0.100	0.0017	94.3	75-125	3.08	20	
Silver, total	0.0993	0.0040	mg/L	0.100	ND	99.3	75-125	2.89	20	
Thallium, total	0.0954	0.0020	mg/L	0.100	ND	95.4	75-125	1.84	20	
Vanadium, total	0.102	0.0200	mg/L	0.100	ND	102	75-125	1.79	20	
Zinc, total	0.111	0.0200	mg/L	0.100	ND	111	75-125	1.63	20	
Post Spike (1HJ0009-PS1)		**Source: 1HI1863-01**	Prepared: 10/01/24 08:25 Analyzed: 10/02/24 19:54							
Antimony, total	0.0760		mg/L	0.0800	0.0011	93.6	80-120			

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0009 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Post Spike (1HJ0009-PS1)	**Source: 1HI1863-01**		Prepared: 10/01/24 08:25 Analyzed: 10/02/24 19:54							
Arsenic, total	0.0768		mg/L	0.0800	0.0011	94.7	80-120			
Barium, total	0.265		mg/L	0.0800	0.176	111	80-120			
Beryllium, total	0.0731		mg/L	0.0800	0.000002	91.3	80-120			
Cadmium, total	0.0746		mg/L	0.0800	0.0006	92.5	80-120			
Chromium, total	0.0750		mg/L	0.0800	0.0035	89.3	80-120			
Cobalt, total	0.0794		mg/L	0.0800	0.0002	99.0	80-120			
Copper, total	0.0762		mg/L	0.0800	0.0018	93.0	80-120			
Lead, total	0.0734		mg/L	0.0800	0.00004	91.7	80-120			
Nickel, total	0.0797		mg/L	0.0800	0.0033	95.5	80-120			
Selenium, total	0.0738		mg/L	0.0800	0.0017	90.1	80-120			
Silver, total	0.0751		mg/L	0.0800	-0.00003	93.9	80-120			
Thallium, total	0.0717		mg/L	0.0800	0.00008	89.5	80-120			
Vanadium, total	0.0795		mg/L	0.0800	0.0046	93.6	80-120			
Zinc, total	0.0863		mg/L	0.0800	0.0150	89.1	80-120			

Definitions

M1:	Matrix spike recovery is above acceptance limits.
Q12:	Analysis of acrolein and/or acrylonitrile was performed from a sample that was field preserved to pH < 2, which is less than the pH range of 4-5 specified in the test method and required for NPDES compliance per 40CFR Part 136.
Q3:	LCS recovery is below acceptance limits. The reported value is estimated.
RL:	Reporting Limit
RPD:	Relative Percent Difference
S1:	Surrogate recovery is above acceptance limits.
S2:	Surrogate recovery is below acceptance limits.

Cooler Receipt Log

Cooler ID: Default Cooler   Temp: 0.0°C

Cooler Inspection Checklist

Custody Seals	No	Containers Intact	Yes
COC/Labels Agree	Yes	Preservation Confirmed	No
Received On Ice	Yes		

Report Comments

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Heather Murphy

Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
10/15/24 14:11

CHAIN OF CUSTODY RECORD

MICROBAC®

600 East 17th Street South
Newton, IA 50208
641-792-8451

1 H I 1 8 6 3
HLW Engineering
PM: Heather Murphy

Page 1 of
...ed: 8/26/2024 4:32:01P
...w.keystonelabs.com

SITE INFORMATION

Sampler: Todd Whipple

Project: Fremont Co-New Regs
6046

REPORT TO

Todd Whipple
HLW Engineering
PO Box 314
Story City, IA 50248

INVOICE TO

Casey ...
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

SPECIAL INSTRUCTIONS

None

Turn Around Time
☐ Standard ☐ RUSH, need by __/__/__

LAB USE ONLY

Work Order: 1HI1863
Temperature: 0.0
Turn-Cooler: No

☐ Custody Seal
☑ Containers Intact
☑ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
-001	MW-2 (b)	Aqueous	GRAB	9/25/24	9:50	7	lndfill-app1-voc-group	lndfll-app1-metals-6020	01
-001	MW-18 (b)	Aqueous	GRAB	9/25/24	9:35	7	lndfill-app1-voc-group	lndfll-app1-metals-6020	02
-001	MW-3	Aqueous	GRAB	9/25/24	11:33	7	lndfill-app1-voc-group	lndfll-app1-metals-6020	03
-001	MW-8	Aqueous	GRAB	9/25/24	11:46	7	lndfill-app1-voc-group	lndfll-app1-metals-6020	04
-001	MW-12	Aqueous	GRAB	9/25/24	12:10	7	lndfill-app1-voc-group	lndfll-app1-metals-6020	05
-001	MW-14	Aqueous	GRAB	9/25/24	12:40	7	lndfill-app1-voc-group	lndfll-app1-metals-6020	06
-001	MW-15	Aqueous	GRAB	9/25/24	10:14	7	lndfill-app1-voc-group	lndfll-app1-metals-6020	07

Relinquished By: Todd Whipple Date/Time: 9/26/24

Received By: Date/Time:

Relinquished By: Date/Time:

Received for Lab By: [signature] Date/Time: 9-26-24 10:03

Remarks:

Original - Lab Copy Yellow - Sampler Copy

CHAIN OF CUSTODY RECORD

MICROBAC®
600 East 17th Street South
Newton, IA 50208
641-792-8451

1HI1863
HLW Engineering
PM: Heather Murphy

ted: 8/26/2024 4:32:01P
ww.keystonelabs.com

SITE INFORMATION

Sampler: TODD WHIPPLE

Project: Fremont Co-New Regs
6046

REPORT TO

Todd Whipple
HLW Engineering
PO Box 314
Story City, IA 50248

INVOICE TO

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

SPECIAL INSTRUCTIONS

None

Turn Around Time
☐ Standard ☐ RUSH, need by __/__/__

LAB USE ONLY

Work Order 1HI1863
Temperature 0.0
Turn-Cooler: No

☐ Custody Seal
☑ Containers Intact
☑ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
-001	MW-19	Aqueous	GRAB	9/25/24	12:30	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	08
-001	MW-21	Aqueous	GRAB	9/25/24	10:46	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	09
-001	MW-23	Aqueous	GRAB	9/25/24	11:14	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	10
-001	GWD-1	Aqueous	GRAB	9/25/24	10:26	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	11
-001	GWD-2	Aqueous	GRAB	9/25/24	11:03	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	12
-001	Duplicate	Aqueous	GRAB	9/25/24	✓	~~3~~ 1	~~lndfill-app1-voc-group~~	lndfill-app1-metals-6020	13

Relinquished By: Todd Whipple Date/Time: 9/24/24

Received By Date/Time

Relinquished By Date/Time

Received for Lab By: [signature] Date/Time: 9-26-24 10:03

Remarks:

Original - Lab Copy Yellow - Sampler Copy

Appendix D

Summary of Field Turbidity Measurements

Fremont County Sanitary Landfill

Field Turbidity Over Time

No-Purge Sampling

	3/21/17	10/12/17	3/8/18	9/6/18	5/13/19	9/26/19	11/14/19	3/30/20	6/25/20
Well	**NTU**	**NTU**	**NTU**	**NTU**	**NTU**	**NTU**	**NTU**	**NTU**	**NTU**
2	1.31	8.61	9.96	0.75	0.72	1.63		6.92	
3	1.72	5.33	8.91	0.38	2.53	0.59		0.56	
9	7.02	19.8	0.44	0.64	4.86	0.57		0.48	
12	8.12	4.05	1.39	0.24	1.56	0.76	3.08	5.15	0.97
14	4.2	8.52	1.3	0.51	0.79	0.98		0.69	1.25
15	5.3	6.41	0.52	1.56	1.1	0.63		7	
18	2.08	23.6	81.1	0.33	7.38	0.87		41.8	
19	24.9	3.23	1.61	1.58	1.58	0.6	33.2	0.61	
21	1.29	8.05	0.35	0.46	0.88	0.62		0.74	
23						1.06		0.34	
GWD-1	8.27	0.99	0.71	0.49	0.4	0.48		0.64	
GWD-2	11.1	2.95	0.54	0.39	0.63	0.47		0.55	
Max	**24.90**	**23.60**	**81.10**	**1.58**	**7.38**	**1.63**	**33.20**	**41.80**	**1.25**
Min	**1.29**	**0.99**	**0.35**	**0.24**	**0.40**	**0.47**	**3.08**	**0.34**	**0.97**
Median	**5.30**	**6.41**	**1.30**	**0.49**	**1.10**	**0.63**	**18.14**	**0.67**	**1.11**
Average	**6.85**	**8.32**	**9.71**	**0.67**	**2.04**	**0.77**	**18.14**	**5.46**	**1.11**

Fremont

Field Turbic

No-Purge S

	9/17/20	12/3/20	3/9/21	6/3/21	9/9/21	12/8/21	3/14/22	6/14/22	9/1/22	3/6/23	5/9/23
Well	**NTU**	**NTU**	**NTU**	**NTU**	**NTU**	**NTU**	**NTU**	**NTU**	**NTU**	**NTU**	**NTU**
2	3.34		3.59		2.71		2.56		2.44	6.83	
3	0.34		9.13		0.58		0.89		0.58	0.61	
9	0.43		1.39		2.14		9.7		0.59	17.1	
12	1.98		9.25		7.72	17.5	3.34		5.83	62.7	
14	0.37	0.72	0.83		0.85		0.71		6.81	7.44	
15	0.5		0.69		0.51	2.05	0.88		0.98	2.85	
18	13.9		779	3.77	1.02		260		58.1	24.4	
19	0.89		0.66		2.2		4.8			3.89	
21	0.55		5.98	3.53	0.87		1.01	11.25	0.99	0.62	
23	0.7		0.53		1.05		0.76		0.68	0.98	
GWD-1	3.36		20.1	0.96	0.67		2.39			1.63	
GWD-2	89.9	0.6	1.72		0.73		0.51			0.69	1.07
Max	**89.90**	**0.72**	**779.00**	**3.77**	**7.72**	**17.50**	**260.00**	**11.25**	**58.10**	**62.70**	**1.07**
Min	**0.34**	**0.60**	**0.53**	**0.96**	**0.51**	**2.05**	**0.51**	**11.25**	**0.58**	**0.61**	**1.07**
Median	**0.80**	**0.66**	**2.66**	**3.53**	**0.95**	**9.78**	**1.70**	**11.25**	**0.99**	**3.37**	**1.07**
Average	**9.69**	**0.66**	**69.41**	**2.75**	**1.75**	**9.78**	**23.96**	**11.25**	**8.56**	**10.81**	**1.07**

Fremont

Field Turbic

No-Purge S

	9/8/23	3/20/24	6/14/24	9/25/24	Max	Min	Ave	Std Dev
Well	**NTU**	**NTU**	**NTU**	**NTU**				
2	1.5	2.42		2.93	**9.96**	**0.72**	**3.64**	**2.85**
3	1.08	1.27		2.06	**9.13**	**0.34**	**2.29**	**2.91**
9	2.18	4.48		3.33	**19.80**	**0.43**	**4.70**	**6.01**
12	5.41	18.5		3.88	**62.70**	**0.24**	**8.50**	**14.09**
14	1.5	1.64		2.33	**8.52**	**0.37**	**2.30**	**2.60**
15	1.72	0.95		5.11	**7.00**	**0.50**	**2.28**	**2.22**
18	1.27	5.3		31.47	**779.00**	**0.33**	**78.55**	**191.00**
19	1.77	1.6		2.53	**33.20**	**0.60**	**5.35**	**9.45**
21	3.03	6.53	0.53	2.76	**11.25**	**0.35**	**2.63**	**3.12**
23	1.14	0.6		1.82	**1.82**	**0.34**	**0.88**	**0.40**
GWD-1		11.0		2.04	**20.10**	**0.40**	**3.61**	**5.51**
GWD-2	1.24	4.27	0.41	1.88	**89.90**	**0.39**	**6.65**	**20.93**
Max	**5.41**	**18.50**	**0.53**	**31.47**				
Min	**1.08**	**0.60**	**0.41**	**1.82**				
Median	**1.50**	**3.35**	**0.47**	**2.65**				
Average	**1.99**	**4.88**	**0.47**	**5.18**				

Appendix E

Summary of Prediction Limit Exceedances
2022 - Present

Spring 2022		Fall 2022	
MW-3*	Barium	MW-3*	Barium
	Cis-1,2-dichloroethylene		

Spring 2023		Fall 2023	
MW-3*	Barium	MW-3*	Barium
MW-12*	Arsenic	MW-12*	None
	Nickel		
GWD-2*	Barium	GWD-2*	Barium

Spring 2024		Fall 2024	
MW-3*	Barium	MW-3*	Barium
MW-12*	Arsenic	MW-12*	None
	Nickel		
	Barium**		
	Chromium**		
	Cobalt**		
	Copper**		
	Lead**		
	Vanadium**		

*** = Assessment Monitoring Well**
**** = Not Verified**

Note that Groundwater Underdrains (GWD-1 & GWD-2) are evaluated by Intrawell Statistical methods beginning in June, 2024 and there are no control limit exceedances.

Appendix F

Summary of Assessment Monitoring Results

The full Appendix II sample events are highlighted in green.

Date	bis(2ethylhexyl)phthalate (ug/L)				
	MW-3	**MW-12**	**MW-15**	**GWD-1***	**GWD-2***
9/23/2009	NT	NT	NT	**<8**	NT
6/1/2010	**<8**	NT	**<8**	NT	NT
10/11/2011	**<8**	NT	**<8**	**<8**	NT
10/10/2013	NT	**<8**	**<8**	NT	NT
9/18/2014	NT	NT	NT	NT	NT
4/29/2015	NT	NT	NT	NT	NT
10/6/2015	NT	NT	NT	NT	NT
4/19/2016	NT	NT	NT	NT	NT
9/19/2016	**<8**	NT	NT	NT	NT
3/21/2017	NT	NT	NT	NT	NT
10/12/2017	NT	NT	NT	NT	NT
3/8/2018	NT	NT	NT	NT	NT
9/6/2018	NT	NT	NT	NT	NT
5/13/2019	NT	NT	NT	NT	NT
9/26/2019	NT	NT	NT	NT	NT
3/30/2020	NT	NT	NT	NT	NT
9/17/2020	NT	NT	NT	NT	NT
3/9/2021	NT	NT	NT	NT	NT
9/9/2021	**<6**	NT	NT	NT	NT
3/14/2022	NT	NT	NT	NT	NT
9/1/2022	NT	**<6**	**7.0**	NT	NT
3/6/2023	NT	NT	NT	NT	NT
5/9/2023	NT	NT	**<6**	NT	NT
9/8/2023	NT	**<6**	**<6**	NT	**<6**
3/20/2024	NT	NT	NT	NT	NT
9/25/2024	NT	NT	NT	NT	NT

* GWD-1 and GWD-2 are evaluated by Intrawell Statistical methods beginning in June, 2024 and are not in the assessment monitoring program.

Appendix G

Leachate Collection System Performance Evaluation Report

Appendix G.1- Treatment Agreement with Shenandoah POTW

January 24, 2022

ROGER MCQUEEN - MAYOR
SHENANDOAH CITY
PO BOX 338
500 W CLARINDA AVE
SHENANDOAH, IOWA 51601

RE: NPDES Final Permit #3659001

To whom it may concern,

Enclosed is the final NPDES permit that authorizes the discharge of wastewater from the Shenandoah City wastewater treatment facility. This final permit is the same as the draft permit sent on November 30, 2021. The issuance date of this permit is February 1, 2022; please become familiar with all limits and requirements in the enclosed final permit.

The facility will be required to use new discharge monitoring report (DMR) forms. Paper and electronic DMR forms are available from your regional Field Office. The facility is strongly encouraged to use the electronic reporting form. Please contact Dan Olson at 712-243-1934 (Field Office 4) or dan.olson@dnr.iowa.gov for more information or to request forms.

If you have any questions, please contact me at 515-725-8418 or at derek.dusenbery@dnr.iowa.gov.

Sincerely,

Derek Dusenbery Digitally signed by Derek Dusenbery Date: 2022.01.24 13:28:27 -06'00'

Derek Dusenbery
Environmental Specialist
NPDES Permit Writer

IOWA DEPARTMENT OF NATURAL RESOURCES

National Pollutant Discharge Elimination System (NPDES) Permit

OWNER NAME & ADDRESS

CITY OF SHENANDOAH
CITY HALL, P.O. BOX 338
SHENANDOAH, IA 51601

FACILITY NAME & ADDRESS

SHENANDOAH CITY OF STP
WEST OF TOWN OFF 190TH STREET AND
WEST SHERIDAN AVENUE
SHENANDOAH, IA 51601

Section 24, T69N, R40W
Fremont County

IOWA NPDES PERMIT NUMBER: 3659001
DATE OF ISSUANCE: 02/01/2022
DATE OF EXPIRATION: 01/31/2027

YOU ARE REQUIRED TO FILE FOR RENEWAL OF THIS PERMIT BY: 08/04/2026
EPA NUMBER: IA0032328

This permit is issued pursuant to the authority of section 402(b) of the Clean Water Act (33 U.S.C. 1342(b)), Iowa Code section 455B.174, and rule 567-64.3, Iowa Administrative Code. You are authorized to operate the disposal system and to discharge the pollutants specified in this permit in accordance with the effluent limitations, monitoring requirements and other terms set forth in this permit.

You may appeal any condition of this permit by filing a written notice of appeal and request for administrative hearing with the director of the department within 30 days of permit issuance.

Any existing, unexpired Iowa operation permit or Iowa NPDES permit previously issued by the department for the facility identified above is revoked by the issuance of this permit. This provision does not apply to any authorization to discharge under the terms and conditions of a general permit issued by the department or to any permit issued exclusively for the discharge of stormwater.

FOR THE DEPARTMENT OF NATURAL RESOURCES

By Derek Dusenbery

Digitally signed by Derek Dusenbery
Date: 2022.01.24 12:24:00 -06'00'

Derek Dusenbery
NPDES Section, Environmental Services Division

Facility Name: SHENANDOAH CITY OF STP
Permit Number: 3659001

Outfall No.: 001 DISCHARGE FROM A TRICKLING FILTER WASTEWATER TREATMENT FACILITY.
Receiving Stream: UNNAMED CREEK
Route of Flow: UNNAMED CREEK TO EAST NISHNABOTNA RIVER

Class A2 waters are secondary contact recreational use waters in which recreational or other uses may result in contact with the water that is either incidental or accidental. During the recreational use, the probability of ingesting appreciable quantities of water is minimal. Class A2 uses include fishing, commercial and recreational boating, any limited contact incidental to shoreline activities and activities in which users do not swim or float in the water body while on a boating activity.

Waters designated Class B(WW2) are those in which flow or other physical characteristics are capable of supporting a resident aquatic community that includes a variety of native nongame fish and invertebrate species. The flow and other physical characteristics limit the maintenance of warm water game fish populations. These waters generally consist of small perennially flowing streams.

Outfall No.: 002 DISCHARGE TO GOLF COURSE IRRIGATION SYSTEM.
Receiving Stream: GOLF COURSE
Route of Flow: GOLF COURSE

Class A1 waters are primary contact recreational use waters in which recreational or other uses may result in prolonged and direct contact with the water, involving considerable risks of ingesting water in quantities sufficient to pose a health hazard. Such activities would include, but not be limited to, swimming, diving, water skiing, and water contact recreational canoeing.

Outfall No.: 003 BYPASS OF ETHANOL PLANT RETURN FLOW
Receiving Stream: UNNAMED CREEK
Route of Flow: UNNAMED CREEK TO EAST NISHNABOTNA RIVER

Class A2 waters are secondary contact recreational use waters in which recreational or other uses may result in contact with the water that is either incidental or accidental. During the recreational use, the probability of ingesting appreciable quantities of water is minimal. Class A2 uses include fishing, commercial and recreational boating, any limited contact incidental to shoreline activities and activities in which users do not swim or float in the water body while on a boating activity.

Waters designated Class B(WW2) are those in which flow or other physical characteristics are capable of supporting a resident aquatic community that includes a variety of native nongame fish and invertebrate species. The flow and other physical characteristics limit the maintenance of warm water game fish populations. These waters generally consist of small perennially flowing streams.

Bypasses from any portion of a treatment facility or from a sanitary sewer collection system designed to carry only sewage are prohibited.

Facility Name: SHENANDOAH CITY OF STP
Permit Number: 3659001

Effluent Limitations:

You are prohibited from discharging pollutants except in compliance with the following effluent limitations:

001 DISCHARGE FROM A TRICKLING FILTER WASTEWATER TREATMENT FACILITY.

Outfall: 001 Effective Dates: 02/01/2022 to 01/31/2027			
Parameter	**Season**	**Limit Type**	**Limits**
CBOD5			**85% Removal Required**
	Yearly	7 Day Average	40 MG/L 627 LBS/DAY
	Yearly	30 Day Average	25 MG/L 392 LBS/DAY
TOTAL SUSPENDED SOLIDS			**85% Removal Required**
	Yearly	7 Day Average	45 MG/L 706 LBS/DAY
	Yearly	30 Day Average	30 MG/L 470 LBS/DAY
ACUTE TOXICITY, CERIODAPHNIA			
	Yearly	Daily Maximum	1 NO TOXICITY
ACUTE TOXICITY, PIMEPHALES			
	Yearly	Daily Maximum	1 NO TOXICITY
DISSOLVED OXYGEN			
	Yearly	Daily Minimum	5.0 MG/L
PH			
	Yearly	Daily Maximum	9.0 STD UNITS
	Yearly	Daily Minimum	6.5 STD UNITS

Facility Name: SHENANDOAH CITY OF STP

Permit Number: 3659001

Outfall: 001 Effective Dates: 02/01/2022 to 04/30/2026				
Parameter	**Season**	**Limit Type**	**Limits**	
AMMONIA NITROGEN (N)				
	JAN	30 Day Average	19 MG/L	258 LBS/DAY
	JAN	Daily Maximum	19 MG/L	276 LBS/DAY
	FEB	30 Day Average	19 MG/L	266 LBS/DAY
	FEB	Daily Maximum	19 MG/L	266 LBS/DAY
	MAR	30 Day Average	18 MG/L	225 LBS/DAY
	MAR	Daily Maximum	18 MG/L	263 LBS/DAY
	APR	30 Day Average	10 MG/L	98 LBS/DAY
	APR	Daily Maximum	19 MG/L	273 LBS/DAY
	MAY	30 Day Average	9.0 MG/L	85 LBS/DAY
	MAY	Daily Maximum	18 MG/L	265 LBS/DAY
	JUN	30 Day Average	6.1 MG/L	59 LBS/DAY
	JUN	Daily Maximum	17 MG/L	253 LBS/DAY
	JUL	30 Day Average	7.0 MG/L	64 LBS/DAY
	JUL	Daily Maximum	21 MG/L	306 LBS/DAY
	AUG	30 Day Average	6.4 MG/L	59 LBS/DAY
	AUG	Daily Maximum	19 MG/L	281 LBS/DAY
	SEP	30 Day Average	6.9 MG/L	66 LBS/DAY
	SEP	Daily Maximum	20 MG/L	289 LBS/DAY
	OCT	30 Day Average	15 MG/L	135 LBS/DAY
	OCT	Daily Maximum	19 MG/L	276 LBS/DAY
	NOV	30 Day Average	17 MG/L	166 LBS/DAY
	NOV	Daily Maximum	17 MG/L	257 LBS/DAY
	DEC	30 Day Average	19 MG/L	195 LBS/DAY
	DEC	Daily Maximum	19 MG/L	280 LBS/DAY

Facility Name: SHENANDOAH CITY OF STP
Permit Number: 3659001

Outfall: 001 Effective Dates: 05/01/2026 to 01/31/2027				
Parameter	Season	Limit Type	Limits	
AMMONIA NITROGEN (N)				
	JAN	30 Day Average	3.4 MG/L	53.4 LBS/DAY
	JAN	Daily Maximum	15.2 MG/L	238.1 LBS/DAY
	FEB	30 Day Average	4.0 MG/L	62.0 LBS/DAY
	FEB	Daily Maximum	14.2 MG/L	222.6 LBS/DAY
	MAR	30 Day Average	3.4 MG/L	53.4 LBS/DAY
	MAR	Daily Maximum	14.7 MG/L	230.3 LBS/DAY
	APR	30 Day Average	1.5 MG/L	23.9 LBS/DAY
	APR	Daily Maximum	15.7 MG/L	246.2 LBS/DAY
	MAY	30 Day Average	1.7 MG/L	27.3 LBS/DAY
	MAY	Daily Maximum	15.2 MG/L	238.1 LBS/DAY
	JUN	30 Day Average	1.3 MG/L	20.5 LBS/DAY
	JUN	Daily Maximum	14.4 MG/L	226.4 LBS/DAY
	JUL	30 Day Average	1.0 MG/L	15.8 LBS/DAY
	JUL	Daily Maximum	14.3 MG/L	217.9 LBS/DAY
	AUG	30 Day Average	1.0 MG/L	15.0 LBS/DAY
	AUG	Daily Maximum	13.7 MG/L	208.5 LBS/DAY
	SEP	30 Day Average	1.1 MG/L	16.6 LBS/DAY
	SEP	Daily Maximum	16.5 MG/L	258.6 LBS/DAY
	OCT	30 Day Average	1.6 MG/L	24.4 LBS/DAY
	OCT	Daily Maximum	15.7 MG/L	246.2 LBS/DAY
	NOV	30 Day Average	2.3 MG/L	36.4 LBS/DAY
	NOV	Daily Maximum	14.7 MG/L	230.3 LBS/DAY
	DEC	30 Day Average	2.5 MG/L	38.8 LBS/DAY
	DEC	Daily Maximum	16.0 MG/L	250.3 LBS/DAY

Facility Name: SHENANDOAH CITY OF STP

Permit Number: 3659001

Outfall: 001 Effective Dates: 05/01/2026 to 01/31/2027			
Parameter	**Season**	**Limit Type**	**Limits**
E. COLI			
	MAR	Geometric Mean	134 #/100 ML
	APR	Geometric Mean	134 #/100 ML
	MAY	Geometric Mean	134 #/100 ML
	JUN	Geometric Mean	134 #/100 ML
	JUL	Geometric Mean	134 #/100 ML
	AUG	Geometric Mean	134 #/100 ML
	SEP	Geometric Mean	134 #/100 ML
	OCT	Geometric Mean	134 #/100 ML
	NOV	Geometric Mean	134 #/100 ML

Outfall: 001 Effective Dates: 01/01/2027 to 01/31/2027			
Parameter	**Season**	**Limit Type**	**Limits**
SELENIUM, TOTAL (AS SE)			
	Yearly	30 Day Average	0.005 MG/L 0.0784 LBS/DAY
	Yearly	Daily Maximum	0.0193 MG/L 0.3026 LBS/DAY
COPPER, TOTAL (AS CU)			
	Yearly	30 Day Average	0.01687 MG/L 0.2645 LBS/DAY
	Yearly	Daily Maximum	0.0269 MG/L 0.4217 LBS/DAY

Monitoring and Reporting Requirements

(a) Samples and measurements taken shall be representative of the volume and nature of the monitored wastewater.

(b) Analytical and sampling methods specified in 40 CFR Part 136 or other methods approved in writing by the department shall be utilized. All effluent samples for which a limit applies must be analyzed using sufficiently sensitive methods (i.e. testing procedures) approved under 567 IAC Chapter 63 and 40 CFR Part 136 for the analysis of pollutants or pollutant parameters or as required under 40 CFR chapter I, subchapter N or O.

For the purposes of this paragraph, an approved method is sufficiently sensitive when:

(1) the method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or
(2) the method has the lowest ML of the approved analytical methods for the measured pollutant or pollutant parameter.

Samples collected for operational testing need not be analyzed by approved analytical methods; however, commonly accepted test methods should be used.

(c) You are required to report all data including calculated results needed to determine compliance with the limitations contained in this permit. The results of any monitoring not specified in this permit performed at the compliance monitoring point and analyzed according to 40 CFR Part 136 shall be included in the calculation and reporting of any data submitted in accordance with this permit. This includes daily maximums and minimums, 30-day averages and 7-day averages for all parameters that have concentration (mg/l) and mass (lbs/day) limits. In addition, flow data shall be reported in million gallons per day (MGD).

(d) Records of monitoring activities and results shall include for all samples: the date, exact place and time of the sampling; the dates the analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such analyses.

(e) Results of all monitoring shall be recorded on forms provided by, or approved by, the department, and shall be submitted to the appropriate regional field office of the department by the fifteenth day following the close of the reporting period. Your reporting period is on a MONTHLY basis, ending on the last day of each reporting period.

(f) Operational performance monitoring for treatment unit process control shall be conducted to ensure that the facility is properly operated in accordance with its design. The results of any operational performance monitoring need not be reported to the department, but shall be maintained in accordance with rule 567 IAC 63.2 (455B). The results of any operational performance monitoring specified in this permit shall be submitted to the department in accordance with these reporting requirements.

(g) Chapter 63 of the rules provides you with further explanation of your monitoring requirements.

Facility Name: SHENANDOAH CITY OF STP
Permit Number: 3659001

Outfall	Wastewater Parameter	Sample Frequency	Sample Type	Monitoring Location
The following monitoring requirements shall be in effect from 02/01/2022 to 01/31/2027				
001	BIOCHEMICAL OXYGEN DEMAND (BOD5)	2 TIMES PER WEEK	24 HOUR COMPOSITE	RAW WASTE
001	FLOW	7/WEEK OR DAILY	24 HOUR TOTAL	RAW WASTE
001	NITROGEN, TOTAL (AS N)	1 TIME PER WEEK	24 HOUR COMPOSITE	RAW WASTE
001	NITROGEN, TOTAL KJELDAHL (AS N)	1 EVERY MONTH	24 HOUR COMPOSITE	RAW WASTE
001	PH	2 TIMES PER WEEK	GRAB	RAW WASTE
001	PHOSPHORUS, TOTAL (AS P)	1 TIME PER WEEK	24 HOUR COMPOSITE	RAW WASTE
001	TEMPERATURE	2 TIMES PER WEEK	GRAB	RAW WASTE
001	TOTAL SUSPENDED SOLIDS	1 TIME PER WEEK	24 HOUR COMPOSITE	RAW WASTE
001	*E. COLI*	SEE SPECIAL MONITORING	GRAB	EFFLUENT AFTER DISINFECTION - GEO MEAN
001	ACUTE TOXICITY, CERIODAPHNIA	1 EVERY 12 MONTHS	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	ACUTE TOXICITY, PIMEPHALES	1 EVERY 12 MONTHS	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	AMMONIA NITROGEN (N)	2 TIMES PER WEEK	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	CBOD5	2 TIMES PER WEEK	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	COPPER, TOTAL (AS CU)	1 EVERY MONTH	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	DISSOLVED OXYGEN	2 TIMES PER WEEK	GRAB	EFFLUENT AFTER DISINFECTION
001	NITROGEN, TOTAL (AS N)	1 TIME PER WEEK	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	PH	2 TIMES PER WEEK	GRAB	EFFLUENT AFTER DISINFECTION
001	PHOSPHORUS, TOTAL (AS P)	1 TIME PER WEEK	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	SELENIUM, TOTAL (AS SE)	1 EVERY MONTH	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	TEMPERATURE	2 TIMES PER WEEK	GRAB	EFFLUENT AFTER DISINFECTION
001	TOTAL SUSPENDED SOLIDS	1 TIME PER WEEK	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
001	ZINC, TOTAL (AS ZN)	1 EVERY MONTH	24 HOUR COMPOSITE	EFFLUENT AFTER DISINFECTION
002	FLOW	7/WEEK OR DAILY	24 HOUR COMPOSITE	PRIOR TO LAND APPLICATION
002	NITROGEN, TOTAL (AS N)	1 EVERY 2 MONTHS	24 HOUR COMPOSITE	PRIOR TO LAND APPLICATION

Facility Name: SHENANDOAH CITY OF STP
Permit Number: 3659001

Special Monitoring Requirements

Outfall Description

001 ***E. COLI***

Except as specified in the effluent monitoring study portion of the compliance schedule in this permit, monitoring for *E. coli* is not required until the final *E. coli* limit is effective. All E.coli sample results must be reported in the Monthly Operation Report. If E.coli monitoring is not conducted during the time from the end of the effluent monitoring study to the final compliance date, the facility shall indicate on the Monthly Operation Report that monitoring is not required by using the "NOT REQ/MP" no discharge code.

The limit for *E. coli* specified in the limit pages of this permit is a geometric mean. The disinfection season is established in the Iowa Administrative Code, Subparagraph 567 IAC 61.3(3)"a"(1), and is in effect from March 15 to November 15. Any disinfection system (chlorine, UV light, etc.) shall be operated to comply with the limit during the entire disinfection season.

The facility must collect and analyze a minimum of five samples in one calendar month during each 3-month period from March 15 to November 15. The 3-month periods are March – May, June – August, and September – November. The collection of five samples in each 3-month period will result in a minimum of 15 samples being collected during a calendar year. For example, for the first 3-month period, the operator may choose April as the calendar month to collect the 5 individual *E. coli* samples to determine compliance with the limits. The operator may also choose the months of March or May as well, as long as each of the 5 samples is collected during a single calendar month. The same principle applies to the other two 3-month periods during the disinfection season. The following requirements apply to the individual samples collected in one calendar month:

Samples must be spaced over one calendar month.
No more than one sample can be collected on any one day.
There must be a minimum of two days between each sample.
No more than two samples may be collected in a period of seven consecutive days.

If the effluent has been disinfected using chlorine, ultraviolet light (UV), or any other process intended to disrupt the biological integrity of the *E. coli*, the samples shall be analyzed using the Most Probable Number method found in Standard Method 9223B (Colilert® or Colilert-18® made by IDEXX Laboratories, Inc.). If the effluent has not been disinfected the samples may be analyzed using either the MPN method above or EPA Method 1603: Escherichia coli (*E. coli*) in water by membrane filtration using modified membrane-thermotolerant *E. coli* agar (modified mTEC) or mColiBlue-24® made by the Hach Company.

The geometric mean must be calculated using all valid sample results collected during a month. The geometric mean formula is as follows: Geometric Mean = (Sample one * Sample two * Sample three * Sample four *Sample five…Sample N)^(1/N), which is the Nth root of the result of the multiplication of all of the sample results where N = the number of samples. If a sample result is a less than value, the value reported by the lab without the less than sign should be used in the geometric mean calculation.

The geometric mean can be calculated in one of the following ways:
Use a scientific calculator that can calculate the powers of numbers.
Enter the samples in Microsoft Excel and use the function "GEOMEAN" to perform the calculation.
Use the geometric mean calculator on the Iowa DNR webpage at:

http://www.iowadnr.gov/Environmental-Protection/Water-Quality/NPDES-Wastewater-Permitting/NPDES-Operator-Information/Bacteria-Sampling

Special Monitoring Requirements - Continued

NITROGEN, TOTAL (AS N)

Total nitrogen shall be determined by testing for Total Kjeldahl Nitrogen (TKN) and nitrate + nitrite nitrogen and reporting the sum of the TKN and nitrate + nitrite results (reported as N). Nitrate + nitrite can be analyzed together or separately.

METALS

Sample and analyze your final effluent for parameters listed below at the frequency shown on the Monitoring and Reporting Requirements pages of this permit. EPA approved test methods shall be used to test at a detection level at or below the levels listed after each parameter. If a sample result is not at a detection level which is low enough to demonstrate compliance with the limit in the permit, the facility will be considered to be non-compliant with that limit.

Copper 0.01687 mg/L
Selenium 0.0050 mg/L
Zinc 0.2156 mg/L

FLOW (OUTFALL 002)

Disinfected effluent shall be held in a retention pond with a detention time of at least 20 days prior to reuse as irrigation on a golf course. For this purpose, effluent may be disinfected using any common treatment technology, and either an existing pond or a pond constructed specifically for effluent retention may be used.

Also, a golf course utilizing treated final effluent shall take all of the following actions:
(1) Clearly state on all scorecards that treated final effluent is used for irrigation of the golf course and oral contact with golf balls and tees should be avoided;
(2) Post signs that warn against consumption of water at all water hazards;
(3) Color code, label, or tag all piping and sprinklers associated with the distribution or transmission of the treated final effluent to clearly warn against the consumptive use of the contents; and
(4) Restrict the access of the public to any area of the golf course where spraying is being conducted.

GOLF COURSE

A minimum total residual chlorine level of 0.5 mg/l must be maintained at a minimum of 15 minutes contact time of chlorine to wastewater prior to the irrigation of the golf course with treatment plant effluent.

In addition, a golf course utilizing treated final effluent shall take all of the following actions:
(1) Clearly state on all scorecards that treated final effluent is used for irrigation of the golf course and oral contact with golf balls and tees should be avoided;
(2) Post signs that warn against consumption of water at all water hazards;
(3) Color code, label, or tag all piping and sprinklers associated with the distribution or transmission of the treated final effluent to clearly warn against the consumptive use of the contents; and
(4) Restrict the access of the public to any area of the golf course where spraying is being conducted.

ADDITIONAL OPERATING, MONITORING AND REPORTING REQUIREMENTS

In addition to the monitoring requirements specified elsewhere in this permit, you shall collect at least one grab sample of the final effluent from outfall 001 on a day when the plant is operating normally. The sample(s) you collect must be representative of the actual discharge and shall be analyzed for chloride, sulfate, and oil & grease using sufficiently sensitive methods (i.e., testing procedures) approved under 567 IAC Chapter 63 and 40 CFR Part 136.

For the purposes of this paragraph, an approved method is "sufficiently sensitive" when:
(1) the method reporting limit is at or below 389 mg/L for chloride and 1,514 mg/L for sulfate; or
(2) the level of the measured pollutant in the discharge is high enough that the method detects and quantifies the level of the pollutant in the discharge; or
(3) the method has the lowest reporting limit of the approved analytical methods for the measured pollutant.

The lab report(s) with the analytical result(s) shall be submitted to the email address below no later than *[Insert date of 3 months from permit issuance]*. The analytical result(s) will be evaluated and the department will reopen this permit if it is determined that there is a reasonable potential for the discharge to cause or contribute to a water quality standards violation for cadmium or lead.

npdes.mail@dnr.iowa.gov
Subject: Additional Monitoring (3659001)

Facility Name: SHENANDOAH CITY OF STP
Permit Number: 3659001

Significant Industrial User Discharges:

Significant Industrial User: AMERICANA COMPANIES

Outfall #	**Outfall Description**
001	PROCESS WASTEWATER PRIOR TO MIXING WITH ANY OTHER WASTES

Significant Industrial User Effluent Limitations

You are prohibited from discharging pollutants except in compliance with the following effluent limitations:

Outfall: 001 Effective Dates: 02/01/2022 to 01/31/2027

Parameter	Season	Limit Type	Limit Values	
FLOW				
	Yearly	30 Day Average	0.072 MGD	
	Yearly	DAILY MAXIMUM	0.072 MGD	
ZINC, TOTAL (AS ZN)				
	Yearly	30 Day Average	1.48 MG/L	0.888 LBS/DAY
	Yearly	DAILY MAXIMUM	2.61 MG/L	1.57 LBS/DAY
CADMIUM, TOTAL (AS CD)				
	Yearly	30 Day Average	0.07 MG/L	0.42 LBS/DAY
	Yearly	DAILY MAXIMUM	0.11 MG/L	0.07 LBS/DAY
CHROMIUM, TOTAL (AS CR)				
	Yearly	30 Day Average	1.01 MG/L	0.606 LBS/DAY
	Yearly	DAILY MAXIMUM	2.77 MG/L	1.66 LBS/DAY
CYANIDE, TOTAL (AS CN)				
	Yearly	30 Day Average	0.45 MG/L	0.270 LBS/DAY
	Yearly	DAILY MAXIMUM	1.20 MG/L	0.72 LBS/DAY
NICKEL, TOTAL (AS NI)				
	Yearly	30 Day Average	2.38 MG/L	1.42 LBS/DAY
	Yearly	DAILY MAXIMUM	3.90 MG/L	2.34 LBS/DAY

Facility Name: SHENANDOAH CITY OF STP
Permit Number: 3659001

Outfall: 001 Effective Dates: 02/01/2022 to 01/31/2027				
Parameter	**Season**	**Limit Type**	**Limit Values**	
OIL AND GREASE				
	Yearly	30 Day Average	50 MG/L	
	Yearly	DAILY MAXIMUM	100 MG/L	
SILVER, TOTAL (AS AG)				
	Yearly	30 Day Average	0.24 MG/L	0.144 LBS/DAY
	Yearly	DAILY MAXIMUM	0.43 MG/L	0.26 LBS/DAY
TOTAL TOXIC ORGANICS				
	Yearly	DAILY MAXIMUM	2.13 LBS/DAY	
COPPER, TOTAL (AS CU)				
	Yearly	30 Day Average	2.07 MG/L	1.24 LBS/DAY
	Yearly	DAILY MAXIMUM	3.28 MG/L	1.97 LBS/DAY
LEAD, TOTAL (AS PB)				
	Yearly	30 Day Average	0.43 MG/L	0.258 LBS/DAY
	Yearly	DAILY MAXIMUM	0.60 MG/L	0.36 LBS/DAY
PH				
	Yearly	DAILY MAXIMUM	10 STD UNITS	
	Yearly	DAILY MINIMUM	5 STD UNITS	

Monitoring and Reporting Requirements

(a) Samples and measurements taken shall be representative of the volume and nature of the monitored wastewater.

(b) Analytical and sampling methods specified in 40 CFR Part 136 or other methods approved in writing by the department shall be utilized. All effluent samples for which a limit applies must be analyzed using sufficiently sensitive methods (i.e. testing procedures) approved under 567 IAC Chapter 63 and 40 CFR Part 136 for the analysis of pollutants or pollutant parameters or as required under 40 CFR chapter I, subchapter N or O.

For the purposes of this paragraph, an approved method is sufficiently sensitive when:

(1) the method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or
(2) the method has the lowest ML of the approved analytical methods for the measured pollutant or pollutant parameter.

Samples collected for operational testing need not be analyzed by approved analytical methods; however, commonly accepted test methods should be used.

(c) You are required to report all data including calculated results needed to determine compliance with the limitations contained in this permit. The results of any monitoring not specified in this permit performed at the compliance monitoring point and analyzed according to 40 CFR Part 136 shall be included in the calculation and reporting of any data submitted in accordance with this permit. This includes daily maximums and minimums, 30-day averages and 7-day averages for all parameters that have concentration (mg/l) and mass (lbs/day) limits. In addition, flow data shall be reported in million gallons per day (MGD).

(d) Records of monitoring activities and results shall include for all samples: the date, exact place and time of the sampling; the dates the analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such analyses.

(e) Results of all monitoring shall be recorded on forms provided by, or approved by, the department, and shall be submitted to the appropriate regional field office of the department by the fifteenth day following the close of the reporting period. Your reporting period is on a MONTHLY basis, ending on the last day of each reporting period.

(f) Operational performance monitoring for treatment unit process control shall be conducted to ensure that the facility is properly operated in accordance with its design. The results of any operational performance monitoring need not be reported to the department, but shall be maintained in accordance with rule 567 IAC 63.2 (455B). The results of any operational performance monitoring specified in this permit shall be submitted to the department in accordance with these reporting requirements.

(g) Chapter 63 of the rules provides you with further explanation of your monitoring requirements.

AMERICANA COMPANIES				
Outfall	**Wastewater Parameter**	**Sample Frequency**	**Sample Type**	**Monitoring Location**
001	CADMIUM, TOTAL (AS CD)	1 EVERY MONTH	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	CHROMIUM, TOTAL (AS CR)	1 EVERY MONTH	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	COPPER, TOTAL (AS CU)	1 EVERY MONTH	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	CYANIDE, TOTAL (AS CN)	1 EVERY MONTH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	FLOW	7/WEEK OR DAILY	24 HOUR TOTAL	PRIOR TO DISCHARGE TO CITY SEWER
001	LEAD, TOTAL (AS PB)	1 EVERY MONTH	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	NICKEL, TOTAL (AS NI)	1 EVERY MONTH	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	OIL AND GREASE	1 EVERY MONTH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	PH	1 EVERY MONTH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	SILVER, TOTAL (AS AG)	1 EVERY MONTH	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	TOTAL TOXIC ORGANICS	1 EVERY MONTH	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	ZINC, TOTAL (AS ZN)	1 TIME PER WEEK	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER

AMERICANA COMPANIES Special Monitoring Requirements

Outfall #	**Description**
001	**TOTAL TOXIC ORGANICS** In lieu of monitoring for total toxic organics (TTO), you may make the following certification statement on each monthly discharge report: "based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitation or (pretreatment standard) for TTO. I certify that to the best on my knowledge and belief, no dumping of concentrated toxic organics into the wastewater has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the solvent management plan submitted to the department of natural resources."

Facility Name: SHENANDOAH CITY OF STP
Permit Number: 3659001

Significant Industrial User Discharges:

Significant Industrial User: PAGE COUNTY SANITARY LANDFILL

Outfall #	**Outfall Description**
001	Batch Discharge by Truck

Significant Industrial User Effluent Limitations

You are prohibited from discharging pollutants except in compliance with the following effluent limitations:

Outfall: 001 Effective Dates: 02/01/2022 to 01/31/2027			
Parameter	**Season**	**Limit Type**	**Limit Values**
FLOW			
	Yearly	30 Day Average	0.022000 MGD
	Yearly	DAILY MAXIMUM	0.03000 MGD
BIOCHEMICAL OXYGEN DEMAND (BOD5)			
	Yearly	30 Day Average	9.174 LBS/DAY
	Yearly	DAILY MAXIMUM	25.02 LBS/DAY
TOTAL SUSPENDED SOLIDS			
	Yearly	30 Day Average	18.35 LBS/DAY
	Yearly	DAILY MAXIMUM	50.04 LBS/DAY
AMMONIA NITROGEN (N)			
	Yearly	30 Day Average	12.843 LBS/DAY
	Yearly	DAILY MAXIMUM	35.03 LBS/DAY
PH			
	Yearly	30 Day Average	8.5 STD UNITS
	Yearly	DAILY MINIMUM	5.8 STD UNITS

Monitoring and Reporting Requirements

(a) Samples and measurements taken shall be representative of the volume and nature of the monitored wastewater.

(b) Analytical and sampling methods specified in 40 CFR Part 136 or other methods approved in writing by the department shall be utilized. All effluent samples for which a limit applies must be analyzed using sufficiently sensitive methods (i.e. testing procedures) approved under 567 IAC Chapter 63 and 40 CFR Part 136 for the analysis of pollutants or pollutant parameters or as required under 40 CFR chapter I, subchapter N or O.

For the purposes of this paragraph, an approved method is sufficiently sensitive when:

(1) the method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or
(2) the method has the lowest ML of the approved analytical methods for the measured pollutant or pollutant parameter.

Samples collected for operational testing need not be analyzed by approved analytical methods; however, commonly accepted test methods should be used.

(c) You are required to report all data including calculated results needed to determine compliance with the limitations contained in this permit. The results of any monitoring not specified in this permit performed at the compliance monitoring point and analyzed according to 40 CFR Part 136 shall be included in the calculation and reporting of any data submitted in accordance with this permit. This includes daily maximums and minimums, 30-day averages and 7-day averages for all parameters that have concentration (mg/l) and mass (lbs/day) limits. In addition, flow data shall be reported in million gallons per day (MGD).

(d) Records of monitoring activities and results shall include for all samples: the date, exact place and time of the sampling; the dates the analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such analyses.

(e) Results of all monitoring shall be recorded on forms provided by, or approved by, the department, and shall be submitted to the appropriate regional field office of the department by the fifteenth day following the close of the reporting period. Your reporting period is on a MONTHLY basis, ending on the last day of each reporting period.

(f) Operational performance monitoring for treatment unit process control shall be conducted to ensure that the facility is properly operated in accordance with its design. The results of any operational performance monitoring need not be reported to the department, but shall be maintained in accordance with rule 567 IAC 63.2 (455B). The results of any operational performance monitoring specified in this permit shall be submitted to the department in accordance with these reporting requirements.

(g) Chapter 63 of the rules provides you with further explanation of your monitoring requirements.

Facility Name: SHENANDOAH CITY OF STP
Permit Number: 3659001

PAGE COUNTY SANITARY LANDFILL				
Outfall	**Wastewater Parameter**	**Sample Frequency**	**Sample Type**	**Monitoring Location**
001	AMMONIA NITROGEN (N)	1 EVERY BATCH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	BIOCHEMICAL OXYGEN DEMAND (BOD5)	1 EVERY BATCH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	FLOW	1 EVERY BATCH	24 HOUR TOTAL	PRIOR TO DISCHARGE TO CITY SEWER
001	PH	1 EVERY BATCH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	SANITARY LANDFILL LEACHATE	1 EVERY 12 MONTHS	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	TOTAL SUSPENDED SOLIDS	1 EVERY BATCH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER

ADDITIONAL MONITORING REQUIREMENTS
PAGE COUNTY SANITARY LANDFILL

The permittee shall analyze a representative sample of the landfill leachate discharge from Page County Sanitary Landfill at least annually for each of the pollutants listed below. In addition, the permittee shall monitor the volume of waste discharged and pH, Ammonia Nitrogen, BOD5, and TSS at the frequencies specified on page 18 of this permit.

Pollutant:

Biochemical Oxygen Demand (BOD5)
Ammonia Nitrogen (NH3-N)
Ph
Sulfate (as SO4)
Chromium, Total (as Cr)
Iron, Total (as Fe)
Nickel, Total (as Ni)
Zinc, Total (as Zn)
Chlorobenzene
p-Cresol
Toluene
Total Suspended Solids
Oil and Grease (O&G)
Chloride (as Cl)
Arsenic, Total (as As)
Copper, Total (as Cu)
Lead, Total (as Pb)
Selenium, Total (as Se)
Benzoic Acid
Ethylbenzene
Phenol

The permittee will indicate completion of the annual leachate monitoring by entering a “1” in the “LEACHAT” column on the Discharge Monitoring Report (DMR) spreadsheet on the day that the samples are collected. Select the No Discharge Indicator “NOT REQUIRED/MP” on the DMR spreadsheet during the months that the monitoring is not required.

Results of annual monitoring shall be submitted to the addresses below:

NPDES.mail@dnr.iowa.gov
Subject: Landfill Leachate Scan (3659001)

Iowa DNR Field Office 4
1401 Sunnyside Ln.
Atlantic, IA 50022

Facility Name: SHENANDOAH CITY OF STP
Permit Number: 3659001

Significant Industrial User Discharges:

Significant Industrial User: FREMONT COUNTY SANITARY LANDFILL

Outfall #	**Outfall Description**
001	Batch Discharge by Truck

Significant Industrial User Effluent Limitations

You are prohibited from discharging pollutants except in compliance with the following effluent limitations:

Outfall: 001 Effective Dates: 02/01/2022 to 01/31/2027			
Parameter	**Season**	**Limit Type**	**Limit Values**
FLOW			
	Yearly	30 Day Average	0.022000 MGD
	Yearly	DAILY MAXIMUM	0.030000 MGD
BIOCHEMICAL OXYGEN DEMAND (BOD5)			
	Yearly	30 Day Average	83.00 LBS/DAY
	Yearly	DAILY MAXIMUM	83.00 LBS/DAY
TOTAL SUSPENDED SOLIDS			
	Yearly	30 Day Average	25.00 LBS/DAY
	Yearly	DAILY MAXIMUM	25.00 LBS/DAY
AMMONIA NITROGEN (N)			
	Yearly	30 Day Average	12.843 LBS/DAY
	Yearly	DAILY MAXIMUM	35.028 LBS/DAY
NITROGEN, TOTAL KJELDAHL (AS N)			
	Yearly	30 Day Average	33.36 LBS/DAY
	Yearly	DAILY MAXIMUM	33.36 LBS/DAY
PH			
	Yearly	DAILY MAXIMUM	9.5 STD UNITS
	Yearly	DAILY MINIMUM	5.5 STD UNITS

Monitoring and Reporting Requirements

(a) Samples and measurements taken shall be representative of the volume and nature of the monitored wastewater.

(b) Analytical and sampling methods specified in 40 CFR Part 136 or other methods approved in writing by the department shall be utilized. All effluent samples for which a limit applies must be analyzed using sufficiently sensitive methods (i.e. testing procedures) approved under 567 IAC Chapter 63 and 40 CFR Part 136 for the analysis of pollutants or pollutant parameters or as required under 40 CFR chapter I, subchapter N or O.

For the purposes of this paragraph, an approved method is sufficiently sensitive when:

(1) the method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or
(2) the method has the lowest ML of the approved analytical methods for the measured pollutant or pollutant parameter.

Samples collected for operational testing need not be analyzed by approved analytical methods; however, commonly accepted test methods should be used.

(c) You are required to report all data including calculated results needed to determine compliance with the limitations contained in this permit. The results of any monitoring not specified in this permit performed at the compliance monitoring point and analyzed according to 40 CFR Part 136 shall be included in the calculation and reporting of any data submitted in accordance with this permit. This includes daily maximums and minimums, 30-day averages and 7-day averages for all parameters that have concentration (mg/l) and mass (lbs/day) limits. In addition, flow data shall be reported in million gallons per day (MGD).

(d) Records of monitoring activities and results shall include for all samples: the date, exact place and time of the sampling; the dates the analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such analyses.

(e) Results of all monitoring shall be recorded on forms provided by, or approved by, the department, and shall be submitted to the appropriate regional field office of the department by the fifteenth day following the close of the reporting period. Your reporting period is on a MONTHLY basis, ending on the last day of each reporting period.

(f) Operational performance monitoring for treatment unit process control shall be conducted to ensure that the facility is properly operated in accordance with its design. The results of any operational performance monitoring need not be reported to the department, but shall be maintained in accordance with rule 567 IAC 63.2 (455B). The results of any operational performance monitoring specified in this permit shall be submitted to the department in accordance with these reporting requirements.

(g) Chapter 63 of the rules provides you with further explanation of your monitoring requirements.

Facility Name: SHENANDOAH CITY OF STP
Permit Number: 3659001

FREMONT COUNTY SANITARY LANDFILL				
Outfall	**Wastewater Parameter**	**Sample Frequency**	**Sample Type**	**Monitoring Location**
001	AMMONIA NITROGEN (N)	1 EVERY BATCH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	BIOCHEMICAL OXYGEN DEMAND (BOD5)	1 EVERY BATCH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	FLOW	1 EVERY BATCH	24 HOUR TOTAL	PRIOR TO DISCHARGE TO CITY SEWER
001	NITROGEN, TOTAL KJELDAHL (AS N)	1 EVERY BATCH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	PH	1 EVERY BATCH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	SANITARY LANDFILL LEACHATE	1 EVERY 12 MONTHS	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	TOTAL SUSPENDED SOLIDS	1 EVERY BATCH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER

ADDITIONAL MONITORING REQUIREMENTS
FREMONT COUNTY SANITARY LANDFILL

The permittee shall analyze a representative sample of the landfill leachate discharge from Fremont County Sanitary Landfill at least annually for each of the pollutants listed below. In addition, the permittee shall monitor the volume of waste discharged and pH, Ammonia Nitrogen, BOD5, and TSS at the frequencies specified on page 21 of this permit.

Pollutant:

Biochemical Oxygen Demand (BOD5)
Ammonia Nitrogen (NH3-N)
Ph
Sulfate (as SO4)
Chromium, Total (as Cr)
Iron, Total (as Fe)
Nickel, Total (as Ni)
Zinc, Total (as Zn)
Chlorobenzene
p-Cresol
Toluene
Total Suspended Solids
Oil and Grease (O&G)
Chloride (as Cl)
Arsenic, Total (as As)
Copper, Total (as Cu)
Lead, Total (as Pb)
Selenium, Total (as Se)
Benzoic Acid
Ethylbenzene
Phenol

The permittee will indicate completion of the annual leachate monitoring by entering a “1” in the “LEACHAT” column on the Discharge Monitoring Report (DMR) spreadsheet on the day that the samples are collected. Select the No Discharge Indicator “NOT REQUIRED/MP” on the DMR spreadsheet during the months that the monitoring is not required. Results of annual monitoring shall be submitted to the addresses below:

NPDES.mail@dnr.iowa.gov
Subject: Landfill Leachate Scan (3659001)

Iowa DNR Field Office 4
1401 Sunnyside Ln.
Atlantic, IA 50022

Facility Name: SHENANDOAH CITY OF STP
Permit Number: 3659001

Significant Industrial User Discharges:

Significant Industrial User: GREEN PLAINS RENEWABLE ENERGY

Outfall #	**Outfall Description**
001	DISCHARGE OF COOLING WATER

Significant Industrial User Effluent Limitations

You are prohibited from discharging pollutants except in compliance with the following effluent limitations:

Outfall: 001 Effective Dates: 02/01/2022 to 01/31/2027			
Parameter	**Season**	**Limit Type**	**Limit Values**
FLOW			
	Yearly	30 Day Average	0.230 MGD
	Yearly	DAILY MAXIMUM	0.3 MGD
BIOCHEMICAL OXYGEN DEMAND (BOD5)			
	Yearly	30 Day Average	30 LBS/DAY
	Yearly	DAILY MAXIMUM	45 LBS/DAY
TOTAL SUSPENDED SOLIDS			
	Yearly	30 Day Average	35 LBS/DAY
	Yearly	DAILY MAXIMUM	45 LBS/DAY
AMMONIA NITROGEN (N)			
	Yearly	30 Day Average	3.0 LBS/DAY
	Yearly	DAILY MAXIMUM	10 LBS/DAY
NITROGEN, TOTAL KJELDAHL (AS N)			
	Yearly	30 Day Average	10 LBS/DAY
	Yearly	DAILY MAXIMUM	15 LBS/DAY
OIL AND GREASE			
	Yearly	30 Day Average	15 MG/L
	Yearly	DAILY MAXIMUM	30 MG/L
PH			
	Yearly	DAILY MAXIMUM	8.0 STD UNITS
	Yearly	DAILY MINIMUM	7.0 STD UNITS

Monitoring and Reporting Requirements

(a) Samples and measurements taken shall be representative of the volume and nature of the monitored wastewater.

(b) Analytical and sampling methods specified in 40 CFR Part 136 or other methods approved in writing by the department shall be utilized. All effluent samples for which a limit applies must be analyzed using sufficiently sensitive methods (i.e. testing procedures) approved under 567 IAC Chapter 63 and 40 CFR Part 136 for the analysis of pollutants or pollutant parameters or as required under 40 CFR chapter I, subchapter N or O.

For the purposes of this paragraph, an approved method is sufficiently sensitive when:

(1) the method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or
(2) the method has the lowest ML of the approved analytical methods for the measured pollutant or pollutant parameter.

Samples collected for operational testing need not be analyzed by approved analytical methods; however, commonly accepted test methods should be used.

(c) You are required to report all data including calculated results needed to determine compliance with the limitations contained in this permit. The results of any monitoring not specified in this permit performed at the compliance monitoring point and analyzed according to 40 CFR Part 136 shall be included in the calculation and reporting of any data submitted in accordance with this permit. This includes daily maximums and minimums, 30-day averages and 7-day averages for all parameters that have concentration (mg/l) and mass (lbs/day) limits. In addition, flow data shall be reported in million gallons per day (MGD).

(d) Records of monitoring activities and results shall include for all samples: the date, exact place and time of the sampling; the dates the analyses were performed; who performed the analyses; the analytical techniques or methods used; and the results of such analyses.

(e) Results of all monitoring shall be recorded on forms provided by, or approved by, the department, and shall be submitted to the appropriate regional field office of the department by the fifteenth day following the close of the reporting period. Your reporting period is on a MONTHLY basis, ending on the last day of each reporting period.

(f) Operational performance monitoring for treatment unit process control shall be conducted to ensure that the facility is properly operated in accordance with its design. The results of any operational performance monitoring need not be reported to the department, but shall be maintained in accordance with rule 567 IAC 63.2 (455B). The results of any operational performance monitoring specified in this permit shall be submitted to the department in accordance with these reporting requirements.

(g) Chapter 63 of the rules provides you with further explanation of your monitoring requirements.

Facility Name: SHENANDOAH CITY OF STP
Permit Number: 3659001

GREEN PLAINS RENEWABLE ENERGY				
Outfall	**Wastewater Parameter**	**Sample Frequency**	**Sample Type**	**Monitoring Location**
001	AMMONIA NITROGEN (N)	1 EVERY MONTH	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	BIOCHEMICAL OXYGEN DEMAND (BOD5)	1 EVERY MONTH	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	FLOW	7/WEEK OR DAILY	24 HOUR TOTAL	PRIOR TO DISCHARGE TO CITY SEWER
001	NITROGEN, TOTAL KJELDAHL (AS N)	1 EVERY MONTH	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER
001	OIL AND GREASE	1 EVERY MONTH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	PH	1 EVERY MONTH	GRAB	PRIOR TO DISCHARGE TO CITY SEWER
001	TOTAL SUSPENDED SOLIDS	1 EVERY MONTH	24 HOUR COMPOSITE	PRIOR TO DISCHARGE TO CITY SEWER

Outfall Number: 001

Ceriodaphnia and Pimephales Toxicity Effluent Testing

1. For facilities that have not been required to conduct toxicity testing by a previous NPDES permit, the initial annual toxicity test shall be conducted within three (3) months of permit issuance. For facilities that have been required to conduct toxicity testing by a previous NPDES permit, the initial annual toxicity test shall be conducted within twelve months (12) of the last toxicity test.

2. The test organisms that are to be used for acute toxicity testing shall be Ceriodaphnia dubia and Pimephales promelas. The acute toxicity testing procedures used to demonstrate compliance with permit limits shall be those listed in 40 CFR Part 136 and adopted by reference in rule 567 IAC 63.1(1). The method for measuring acute toxicity is specified in USEPA, October 2002, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition. USEPA, Office of Water, Washington, D.C., EPA 821-R-02-012.

3. The diluted effluent sample must contain a minimum of 100.00 % effluent and no more than 0.00 % of culture water.

4. One valid positive toxicity result will require, at a minimum, quarterly testing for effluent toxicity until three successive tests are determined not to be positive.

5. Two successive valid positive toxicity results or three positive results out of five successive valid effluent toxicity tests will require a toxicity reduction evaluation to be completed to eliminate the toxicity.

6. A non-toxic test result shall be indicated as a "1" on the monthly operation report. A toxic test result shall be indicated as a "2" on the monthly operation report. DNR Form 542-1381 shall also be submitted to the DNR field office along with the monthly operation report.

Ceriodaphnia and Pimephales Toxicity Effluent Limits

The maximum limit of "1" for the parameters Acute Toxicity, Ceriodaphnia and Acute Toxicity, Pimephales means no positive toxicity results.

Definition: "Positive toxicity result" means a statistical difference of mortality rate between the control and the diluted effluent sample. For more information, see USEPA, October 2002, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, USEPA, Office of Water, Washington, D.C., EPA 821-R-02-012.

Design Capacity

Design: 1

The design capacity for the treatment works is specified in Construction Permit Number 88-41-S, issued Thursday,17 Oct 2002. The treatment plant is designed to treat:

* An average dry weather (ADW) flow of 0.8670 Million Gallons Per Day (MGD).
* An average wet weather (AWW) flow of 1.8800 Million Gallons Per Day (MGD).
* A maximum wet weather (MWW) flow of 5.4000 Million Gallons Per Day (MGD).
* A design 5-day biochemical oxygen demand (BOD5) load of 1,450 lbs/day.
* A design Total Kjeldahl Nitrogen (TKN) load of 322.00 lbs/day.

Operator Certification Type/Grade: WW/III

Wastes in such volumes or quantities as to exceed the design capacity of the treatment works or reduce the effluent quality below that specified in the operation permit of the treatment works are considered to be a waste which interferes with the operation or performance of the treatment works and are prohibited by subrule IAC 567-62.1(7).

SEWAGE SLUDGE HANDLING AND DISPOSAL REQUIREMENTS

"Sewage sludge" is solid, semisolid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge does not include the grit and screenings generated during preliminary treatment.

1. The permittee shall comply with all existing Federal and State laws and regulations that apply to the use and disposal of sewage sludge and with technical standards developed pursuant to Section 405(d) of the Clean Water Act when such standards are promulgated. If an applicable numerical limit or management practice for pollutants in sewage sludge is promulgated after issuance of this permit that is more stringent than a sludge pollutant limit or management practice specified in existing Federal or State laws or regulations, this permit shall be modified, or revoked and reissued, to conform to the regulations promulgated under Section 405(d) of the Clean Water Act. The permittee shall comply with the limitation no later than the compliance deadline specified in the applicable regulations.

2. The permittee shall provide written notice to the Department of Natural Resources prior to any planned changes in sludge disposal practices.

3. Land application of sewage sludge shall be conducted in accordance with criteria established in rule IAC 567 67.1 through 67.11 (455B).

SIGNIFICANT INDUSTRIAL USER LIMITATIONS, MONITORING AND REPORTING REQUIREMENTS

1. You must enforce the pollutant limits for each significant industrial user that are listed elsewhere in this permit. Violation of a treatment agreement limit is prohibited by subrule 567 IAC 62.1(6). Monitoring of each significant industrial user is required elsewhere in this permit.

   You are required to notify the department, in writing, of any of the following:

   (a) 180 days prior to the introduction of pollutants to your facility from a significant industrial user. A significant industrial user means an industrial user of a treatment works that:

   (1) Discharges an average of 25,000 gallons per day or more of process wastewater excluding sanitary, noncontact cooling and boiler blowdown wastewater;
   (2) Contributes a process waste stream which makes up five percent or more of the average dry weather hydraulic or organic capacity of the publicly-owned treatment works:
   (3) Is subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; or
   (4) Is designated by the department as a significant industrial user on the basis that the contributing industry, either singly or in combination with other contributing industries, has a reasonable potential for adversely affecting the operation of or effluent quality from the publicly-owned treatment works or for violating any pretreatment standards or requirements.

   (b) 60 days prior to a proposed expansion, production increase or process modification that may result in the discharge of a new pollutant or a discharge in excess of limitations stated in the existing treatment agreement.

   (c) 10 days prior to any commitment by you to accept waste from any new significant industrial user. Your written notification must include a new or revised treatment agreement in accordance with rule 64.3(5)(455B).

2. You shall require all users of your facility to comply with Sections 204(b), 307, and 308 of the Clean Water Act.

   (a) Section 204(b) requires that all users of the treatment works constructed with funds provided under Sections 201(g) or 601 of the Act to pay their proportionate share of the costs of operation, maintenance and replacement of the treatment works.

   (b) Section 307 of the Act requires users to comply with pretreatment standards promulgated by EPA for pollutants that would cause interference with the treatment process or would pass through the treatment works.

   (c) Section 308 of the Act requires users to allow access at reasonable times to state and EPA inspectors for the purpose of sampling the discharge and reviewing and copying records.

Nutrient Reduction Requirements

In support of the Iowa Nutrient Reduction Strategy you shall prepare and submit a report that evaluates the feasibility and reasonableness of reducing the amounts of nitrogen and phosphorus discharged into surface water. The report shall be submitted no later than ***11-1-2023*** and shall address the following:

- A description of the existing treatment facility with particular emphasis on its capabilities for removing nitrogen and phosphorus. The description shall include monitoring data that define the current amounts of total nitrogen and total phosphorus in both the raw wastewater and the final effluent.

- A description and evaluation of operational changes to the existing treatment facility that could be implemented to reduce the amounts of total nitrogen and total phosphorus discharged in the final effluent and the feasibility and reasonableness of each. Your evaluation must discuss the projected degree of total nitrogen and total phosphorus reduction achievable for each operational change. When evaluating feasibility you must consider what, if any, effect operational changes would have on the removal of other pollutants (e.g. $CBOD_5$, TSS). When evaluating reasonableness you shall include estimates of the additional cost, if any, to implement such changes and for a publicly-owned treatment works the impact on user rates.

- A description and evaluation of new or additional treatment technologies that would achieve significant reductions in the amounts of total nitrogen and total phosphorus discharged in the final effluent with a goal of achieving annual average concentrations of 10 mg/L total nitrogen and 1 mg/L total phosphorus for plants treating typical domestic strength sewage. For purposes of this evaluation typical domestic sewage is considered to contain approximately 25 – 35 mg/L total nitrogen and 4 - 8 mg/L total phosphorus. For plants treating wastewater with total nitrogen and/or total phosphorus concentrations greater than typical domestic strength sewage, the evaluation shall include the projected reductions in the total nitrogen and phosphorus effluent concentrations achievable with the application of feasible and reasonable treatment technology with a goal of achieving at least a 66 % reduction in nitrogen and 75% reduction in total phosphorus. For each treatment technology the report shall assess its feasibility, reasonableness, practicability, the availability of equipment, capital costs, annual operating costs, impact on user rates and any non-water quality environmental impacts (e.g. additional air pollution, increased sludge production, etc.).

- Based on the evaluations of operational changes and new or additional treatment technologies the report must select the preferred method(s) for reducing total nitrogen and total phosphorus in the final effluent, the rationale for the selected method(s) and an estimate of the effluent quality achievable.

- In addition to selecting operational changes and/or new or additional treatment technologies, the permittee may evaluate and propose to implement practices within the watershed that may achieve greater reductions in nitrogen and phosphorous than the preferred method(s) alone. Such evaluations are particularly encouraged when no feasible or reasonable operational changes or additional treatment technologies can be identified or when the schedule for installing the selected technology exceeds ten years.

- The report must include a schedule for making operational changes and/or installing new or additional treatment technologies to achieve the concentration and/or percentage removal goals listed above. Additional financial justification must be included in the report if no operational changes or treatment technologies are feasible or reasonable.

The schedule will be incorporated into the NPDES permit by amendment. Effluent discharge limits will be based on one full year of operating data after implementation of the operational changes or completion of plant modifications and a six month optimization period.

The report shall be sent to the following email:
npdes.mail@dnr.iowa.gov
Subject: Nutrient Reduction Requirement (3659001)

Ammonia Nitrogen and *E. coli* Compliance Schedule

The facility shall make necessary improvements to meet the new/more stringent ammonia nitrogen and *E. coli* limits according to the following schedule **unless an approved alternative schedule is submitted to the Department**:

- Submit an Alternatives Implementation Compliance Plan (AICP) by 8/1/2022. The AICP shall be in accordance with 567 IAC 64.7(5)"*g*" and shall include an updated Disadvantaged Community Analysis.

- Complete a Self-Assessment Matrix and submit a Work Record Request form to DNR's Wastewater Engineering Section by 2/1/2023. The forms and instructions are available on the DNR website at http://www.iowadnr.gov/InsideDNR/RegulatoryWater/WastewaterConstruction.aspx. Questions on the forms should be directed to either Terry Kirschenman at 515/725-8422 or Emy Liu at 515/725-8421.

- Submit a Facility Plan by 4/1/2023. The Facility Plan shall be in accordance with Chapter 11.2 of the Iowa Wastewater Facilities Design Standards adopted April 25, 1979.

- Submit progress report by 1/1/2024.

- Submit final plans and specifications by 7/1/2024.

- Award contract for construction of wastewater treatment improvements by 12/1/2024.

- Submit progress report by 9/1/2025.

- Complete construction of wastewater treatment improvements by 4/1/2026.

- Achieve compliance with the more stringent limits by 5/1/2026.

Within fourteen (14) days following all dates of compliance, the permittee shall provide written notice of compliance with the scheduled event. All written notices and progress reports shall be sent to the following address:

Iowa Department of Natural Resources
Environmental Services Division
Regional Office # 4
1401 Sunnyside Lane
Atlantic, IA 50022

59 Month Copper and Selenium Compliance Schedule

The facility shall meet the final limits for copper and selenium listed on the limits pages of this permit according to the following schedule:

- The facility shall submit a compliance strategy by February 1, 2023. The compliance strategy must describe the steps the facility will take to comply with the final effluent limits as soon as possible, but no later than January 1, 2027.

- The facility shall submit progress reports every 12 months until compliance with final effluent limits is achieved, with the first progress report due February 1, 2024. The progress reports shall detail completion of the steps described in the compliance strategy.

- Achieve compliance with final effluent limits by January 1, 2027.

Within fourteen (14) days following all dates of compliance, the permittee shall provide written notice of compliance with the scheduled event. All written notices and progress reports shall be sent to the following address:

Iowa Department of Natural Resources
Environmental Services Division
Regional Office # 4
1401 Sunnyside Lane
Atlantic, IA 50022

STANDARD CONDITIONS

1. **ADMINISTRATIVE RULES**
Rules of this Department that govern the operation of your facility in connection with this permit are published in Part 567 of the Iowa Administrative Code (IAC) in Chapters 60-65, 67, and 121. Reference to the term "rule" in this permit means the designated provision of Part 567 of the IAC. Reference to the term "CFR" means the Code of Federal Regulations.

2. **DEFINITIONS**
   (a) 7 day average means the sum of the total daily discharges by mass, volume, or concentration during a 7 consecutive day period, divided by the total number of days during the period that measurements were made. Four 7 consecutive day periods shall be used each month to calculate the 7-day average. The first 7-day period shall begin with the first day of the month.
   (b) 30 day average means the sum of the total daily discharges by mass, volume, or concentration during a calendar month, divided by the total number of days during the month that measurements were made.
   (c) Daily maximum means the total discharge by mass, volume, or concentration during a twenty-four hour period.

3. **DUTY TO PROVIDE INFORMATION**
You must furnish to the Director, within a reasonable time, any information the Director may request to determine compliance with this permit or determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, in accordance with 567 IAC 64.3(11)"*c*". You must also furnish to the Director, upon request, copies of any records required to be kept by this permit.

4. **MONITORING AND RECORDS OF OPERATION**
   (a) Maintenance of records. You shall retain for a minimum of three years all paper and electronic records of monitoring activities and results including all original strip chart recordings for continuous monitoring instrumentation and calibration and maintenance records. ***{See 567 IAC 63.2(3)}***
   (b) Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years, or both. ***{See 40 CFR 122.41(j)(5)}***

5. **SIGNATORY REQUIREMENTS**
Applications, reports or other information submitted to the Department in connection with this permit must be signed and certified in accordance with 567 IAC 64.3(8).

6. **OTHER INFORMATION**
Where you become aware that you failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, you must promptly submit such facts or information. Where you become aware that you failed to submit any relevant facts in the submission of in any report to the director, including records of operation, you shall promptly submit such facts or information.
{See 567 IAC 60.4(2)"a" and 567 IAC 63.7}

7. **TRANSFER OF TITLE OR OWNER ADDRESS CHANGE**
If title to your facility, or any part of it, is transferred the new owner shall be subject to this permit. You are required to notify the new owner of the requirements of this permit in writing prior to any transfer of title. The Director shall be notified in writing within 30 days of the transfer. No transfer of the authorization to discharge from the facility represented by the permit shall take place prior to notifying the department of the transfer of title. Whenever the address of the owner is changed, the department shall be notified in writing within 30 days of the address change. Electronic notification is not sufficient; all title transfers or address changes must be reported to the department by mail. ***{See 567 IAC 64.14}***

8. **PROPER OPERATION AND MAINTENANCE**
All facilities and control systems shall be operated as efficiently as possible and maintained in good working order. A sufficient number of staff, adequately trained and knowledgeable in the operation of your facility shall be retained at all times and adequate laboratory controls and appropriate quality assurance procedures shall be provided to maintain compliance with the conditions of this permit.
{See 40 CFR 122.41(e) and 567 IAC 64.7(7)"f"}

9. **PERMIT MODIFICATION, SUSPENSION OR REVOCATION**
   (a) This permit may be modified, suspended, or revoked and reissued for cause including but not limited to those specified in 567 IAC 64.3(11).
   (b) This permit may be modified due to conditions or information on which this permit is based, including any new standard the department may adopt that would change the required effluent limits. ***{See 567 IAC 64.3(11)}***
   (c) If a toxic pollutant is present in your discharge and more stringent standards for toxic pollutants are established under Section 307(a) of the Clean Water Act, this permit will be modified in accordance with the new standards.
   {See 40 CFR 122.62(a)(6) and 567 IAC 64.7(7)"g"}

   The filing of a request for a permit modification, revocation or suspension, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

10. **DUTY TO REAPPLY AND PERMIT CONTINUATION**
If you wish to continue to discharge after the expiration date of this permit, you must file a complete application for reissuance at least 180 days prior to the expiration date of this permit. If a timely and sufficient application is submitted, this permit will remain in effect until the Department makes a final determination on the permit application. ***{See 567 IAC 64.8(1) and Iowa Code 17A.18}***

11. **DUTY TO COMPLY**
You must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Issuance of this permit does not relieve you of the responsibility to comply with all local, state and federal laws, ordinances, regulations or other legal requirements applying to the operation of your facility. ***{See 40 CFR 122.41(a) and 567 IAC 64.7(4)"e"}***

STANDARD CONDITIONS

12. DUTY TO MITIGATE

You shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. ***{See 40 CFR 122.41(d) and 567 IAC 64.7(7)"i"}***

13. TWENTY-FOUR HOUR REPORTING

You shall report any noncompliance that may endanger human health or the environment, including, but not limited to, violations of maximum daily limits for any toxic pollutant (listed as toxic under 307(a)(1) of the Clean Water Act) or hazardous substance (as designated in 40 CFR Part 116 pursuant to 311 of the Clean Water Act). Information shall be provided orally within 24 hours from the time you become aware of the circumstances. A written submission that includes a description of noncompliance and its cause; the period of noncompliance including exact dates and times, whether the noncompliance has been corrected or the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent a reoccurrence of the noncompliance must be provided within 5 days of the occurrence. ***{See 567 IAC 63.12}***

14. OTHER NONCOMPLIANCE

You shall report all instances of noncompliance not reported under Condition #13 at the time monitoring reports are submitted. You shall give advance notice to the appropriate regional field office of the department of any planned activity which may result in noncompliance with permit requirements. ***{See 567 IAC 63.14}***

15. INSPECTION OF PREMISES, RECORDS, EQUIPMENT, METHODS AND DISCHARGES

You are required to permit authorized personnel to:

(a) Enter upon the premises where a regulated facility or activity is located or conducted or where records are kept under conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) Inspect, at reasonable times, any facilities, equipment, practices or operations regulated or required under this permit; and

(d) Sample or monitor, at reasonable times, to assure compliance or as otherwise authorized by the Clean Water Act.

16. FAILURE TO SUBMIT FEES

This permit may be revoked, in whole or in part, if the appropriate permit fees are not submitted within thirty (30) days of the date of notification that such fees are due.
{See 567 IAC 64.16(1)}

17. NEED TO HALT OR REDUCE ACTIVITY

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. ***{See 40 CFR 122.41(c) and 567 IAC 64.7(7)"j"}***

18. NOTICE OF CHANGED CONDITIONS

You are required to notify the director of any changes in existing conditions or information on which this permit is based. This includes, but is not limited to, the following:

(a) If your facility is a publicly owned treatment works (POTW) or otherwise may accept waste for treatment from an indirect discharger or industrial contributor (See 567 IAC 64.3(5) for further notice requirements).

(b) If your facility is a POTW and there is any substantial change in the volume or character of pollutants being introduced to the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit. ***{See 40 CFR 122.42(b)}***

(c) As soon as you know or have reason to believe that any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in this permit. ***{See 40 CFR 122.42(a)}***

(d) If you have begun or will begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

19. PLANNED CHANGES

The permittee shall give notice to the appropriate regional field office of the department 30 days prior to any planned physical alterations or additions to the permitted facility. Notice is required only when:

(a) Notice has not been given to any other section of the department. (Note: Facility expansions, production increases, or process modifications which may result in new or increased discharges of pollutants must be reported to the Director in advance. If such discharges will exceed effluent limitations, your report must include an application for a new permit. If any modification of, addition to, or construction of a disposal system is to be made, you must first obtain a written permit from this Department. In addition, no construction activity that will result in disturbance of one acre or more shall be initiated without first obtaining coverage under NPDES General Permit No. 2 for "Storm water discharge associated with construction activity.") ***{See 567 IAC 64.7(7)"a" and 64.2}***

(b) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as defined in 567 IAC 60.2;

(c) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices; or

(d) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in the permit. ***{See 567 IAC 63.13 and 63.14}***

20. USE OF CERTIFIED LABORATORIES

Analyses of wastewater, groundwater or sewage sludge that are required to be submitted to the department as a result of this permit must be performed by a laboratory certified by the State of Iowa. Routine, on-site monitoring for pH, temperature, dissolved oxygen, total residual chlorine and other pollutants that must be analyzed immediately upon sample collection, settleable solids, physical measurements, and operational monitoring tests specified in 567 IAC 63.3(4) are excluded from this requirement.

21. BYPASSES

(a) Definition. “Bypass” means the diversion of waste streams from any portion of a treatment facility or collection system. A bypass does not include internal operational waste stream diversions that are part of the design of the treatment facility, maintenance diversions where redundancy is provided, diversions of wastewater from one point in a collection system to another point in a collection system, or wastewater backups into buildings that are caused in the building lateral or private sewer line.

(b) Prohibitions.

i. Bypasses from any portion of a treatment facility or from a sanitary sewer collection system designed to carry only sewage are prohibited.

ii. Bypass is prohibited and the department may not assess a civil penalty against a permittee for bypass if the permittee has complied with all of the following:

(1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

(2) There were no feasible alternatives to the bypass such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The permittee submitted notices as required by paragraph (d) of this section.

(c) The Director may approve an anticipated bypass after considering its adverse effects if the Director determines that it will meet the three conditions listed above and a request for bypass has been submitted to the Department in accordance with 567 IAC 63.6(2).

(d) Reporting bypasses. Bypasses shall be reported in accordance with 567 IAC 63.6.

22. UPSET PROVISION

(a) Definition. “Upset” means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(b) Effect of an upset. An upset constitutes an affirmative defense in an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph *“c”* of this condition are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(c) Conditions necessary for demonstration of an upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate through properly signed operating logs or other relevant evidence that;

i. An upset occurred and that the permittee can identify the cause(s) of the upset;

ii. The permitted facility was at the time being properly operated;

iii. The permittee submitted notice of the upset to the Department in accordance with 567 IAC 63.6(3); and

iv. The permittee complied with any remedial measures required in accordance with 567 IAC 63.6(6)”*b*”.

(d) Burden of Proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

23. PROPERTY RIGHTS

This permit does not convey any property rights of any sort or any exclusive privilege. ***{See 567 IAC 64.4(3)“b”}***

24. EFFECT OF A PERMIT

Compliance with a permit during its term constitutes compliance, for purposes of enforcement, with Sections 301, 302, 306, 307, 318, 403 and 405(a)-(b) of the Clean Water Act, and equivalent limitations and standards set out in 567 IAC Chapters 61 and 62. ***{See 567 IAC 64.4(3)“a”}***

25. SEVERABILITY

The provisions of this permit are severable and if any provision or application of any provision to any circumstance is found to be invalid by this department or a court of law, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected by such finding.

Appendix G.2- Volumes Hauled to Treatment

Fremont County Sanitary Landfill
IDNR Permit No. 36-SDP-1-74P
Leachate hauled to Shenandoah POTW

2024

Month	Total Gallons	Shenandoah Gallons	Coin* Gallons
January	53,760	53760	0
February	60,060	60060	0
March	35,700	35700	0
April	39,060	39060	0
May	59,220	59220	0
June	67,200	67200	0
July	47,040	47040	0
August	34,020	30,660	3,360
September	33,600	20,160	13,440
October	26,040	26040	0
November	28,980	28980	0
December	33,180	33180	0
TOTAL	**517,860**	**501,060**	**16,800**

* Disposal at Coin was temporary and in response to a sudden shut-down of the Shenandoah WWTP related to truck-hauled wastes.

Appendix G.3 – Summary of Monthly Lagoon Testing & Monthly Laboratory Reports

Fremont County SLF
2024 Leachate Testing

Date Collected			Ammonia, N	Kjeldahl, N	BOD5	pH	TSS	Flow Limit (gal/day)
1/3/2024	Concentration (mg/L)	C	246	230	23	6.8	126	
	conversion to lbs/gal	Y = "C x 8.346X10(-6)"	0.002053116	0.00191958	0.000191958		0.001051596	
	Limit (lbs/day)	L	12.843	33.36	83	5.5 to 9.5	25	
	Gal/Day to hit Limit	R = "L /Y"	6,255.37	17,378.80	432,386.25		23,773.39	22,000.00
1/31/2024	Concentration (mg/L)	C	246	403	26	7	143	
	conversion to lbs/gal	Y = "C x 8.346X10(-6)"	0.002053116	0.003363438	0.000216996		0.001193478	
	Limit (lbs/day)	L	12.843	33.36	83	5.5 to 9.5	25	
	Gal/Day to hit Limit	R = "L /Y"	6,255.37	9,918.42	382,495.53		20,947.18	22,000.00
3/4/2024	Concentration (mg/L)	C	402	381	25	6.9	128	
	conversion to lbs/gal	Y = "C x 8.346X10(-6)"	0.003355092	0.003179826	0.00020865		0.001068288	
	Limit (lbs/day)	L	12.843	33.36	83	5.5 to 9.5	25	
	Gal/Day to hit Limit	R = "L /Y"	3,827.91	10,491.14	397,795.35		23,401.93	22,000.00
3/20/2024	Concentration (mg/L)	C	425	224	42	7.1	260	
	conversion to lbs/gal	Y = "C x 8.346X10(-6)"	0.00354705	0.001869504	0.000350532		0.00216996	
	Limit (lbs/day)	L	12.843	33.36	83	5.5 to 9.5	25	
	Gal/Day to hit Limit	R = "L /Y"	3,620.76	17,844.31	236,782.95		11,520.95	22,000.00
4/3/2024	Concentration (mg/L)	C	380	378	36	7	129	
	conversion to lbs/gal	Y = "C x 8.346X10(-6)"	0.00317148	0.003154788	0.000300456		0.001076634	
	Limit (lbs/day)	L	12.843	33.36	83	5.5 to 9.5	25	
	Gal/Day to hit Limit	R = "L /Y"	4,049.53	10,574.40	276,246.77		23,220.52	22,000.00
5/1/2024 corrected 6/12/2024	Concentration (mg/L)	C	389	377	19	6.8	123	
	conversion to lbs/gal	Y = "C x 8.346X10(-6)"	0.003246594	0.003146442	0.000158574		0.001026558	
	Limit (lbs/day)	L	12.843	33.36	83	5.5 to 9.5	25	
	Gal/Day to hit Limit	R = "L /Y"	3,955.84	10,602.45	523,414.94		24,353.23	22,000.00
6/3/2024	Concentration (mg/L)	C	234	242	18	7	39	
	conversion to lbs/gal	Y = "C x 8.346X10(-6)"	0.001952964	0.002019732	0.000150228		0.000325494	
	Limit (lbs/day)	L	12.843	33.36	83	5.5 to 9.5	25	
	Gal/Day to hit Limit	R = "L /Y"	6,576.16	16,517.04	552,493.54		76,806.33	22,000.00

Fremont County SLF
2024 Leachate Testing

Date Collected			Ammonia, N	Kjeldahl, N	BOD5	pH	TSS	Flow Limit (gal/day)
7/1/2024	Concentration (mg/L)	C	285	225	21	6.9	143	
	conversion to lbs/gal	Y = "C x 8.346X10(-6)"	0.00237861	0.00187785	0.000175266		0.001193478	
	Limit (lbs/day)	L	12.843	33.36	83	5.5 to 9.5	25	
	Gal/Day to hit Limit	R = "L /Y"	5,399.37	17,765.00	473,565.89		20,947.18	22,000.00
8/5/2024	Concentration (mg/L)	C	248	241	15	6.9	156	
	conversion to lbs/gal	Y = "C x 8.346X10(-6)"	0.002069808	0.002011386	0.00012519		0.001301976	
	Limit (lbs/day)	L	12.843	33.36	83	5.5 to 9.5	25	
	Gal/Day to hit Limit	R = "L /Y"	6,204.92	16,585.58	662,992.25		19,201.58	22,000.00
9/3/2024	Concentration (mg/L)	C	361	244	17	6.7	154	
	conversion to lbs/gal	Y = "C x 8.346X10(-6)"	0.003012906	0.002036424	0.000141882		0.001285284	
	Limit (lbs/day)	L	12.843	33.36	83	5.5 to 9.5	25	
	Gal/Day to hit Limit	R = "L /Y"	4,262.66	16,381.66	584,993.16		19,450.95	22,000.00
10/2/2024	Concentration (mg/L)	C	330	354	23	6.8	498	
	conversion to lbs/gal	Y = "C x 8.346X10(-6)"	0.00275418	0.002954484	0.000191958		0.004156308	
	Limit (lbs/day)	L	12.843	33.36	83	5.5 to 9.5	25	
	Gal/Day to hit Limit	R = "L /Y"	4,663.09	11,291.31	432,386.25		6,014.95	22,000.00
11/4/2024	Concentration (mg/L)	C	374	415	33	7	134	
	conversion to lbs/gal	Y = "C x 8.346X10(-6)"	0.003121404	0.00346359	0.000275418		0.001118364	
	Limit (lbs/day)	L	12.843	33.36	83	5.5 to 9.5	25	
	Gal/Day to hit Limit	R = "L /Y"	4,114.49	9,631.62	301,360.11		22,354.08	22,000.00
12/2/2024 corrected 12/30/2024	Concentration (mg/L)	C	254	246	18	6.8	141	
	conversion to lbs/gal	Y = "C x 8.346X10(-6)"	0.002119884	0.002053116	0.000150228		0.001176786	
	Limit (lbs/day)	L	12.843	33.36	83	5.5 to 9.5	25	
	Gal/Day to hit Limit	R = "L /Y"	6,058.35	16,248.47	552,493.54		21,244.30	22,000.00

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1HA0231

Fremont County Landfill

Casey Moyer
PO Box 487, 2879 250th St
Sidney, IA 51652

Project Name: Routine Leachate

Project / PO Number: / Leachate Sampling
Received: 01/04/2024
Reported: 01/22/2024

Analytical Testing Parameters

Client Sample ID: Leachate Tank
Sample Matrix: Water
Lab Sample ID: 1HA0231-01
Collected By: moyer, Casey
Collection Date: 01/03/2024 7:45

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 351.2								
Nitrogen, Kjeldahl, total	**230**	10.0	mg/L	1			01/11/24 1021	AKK
SM 4500 H+ B								
pH	**6.8**	0.5	pH	1	**I-03**	01/04/24 1438	01/04/24 1613	CHP
SM 5210 B								
BOD (5 day)	**23**	5	mg/L	3		01/04/24 1406	01/04/24 1512	BDF
TIMBERLINE								
Nitrogen, Ammonia	**246**	2.00	mg/L	20		01/19/24 1017	01/22/24 0929	LJS
USGS I-3765-85								
Total Suspended Solids (TSS)	**126**	1	mg/L	1		01/05/24 1539	01/08/24 1230	MEA

Definitions

I-03: Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
RL: Reporting Limit

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Heather Murphy

Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
01/22/24 11:44

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES
A Microbac Company

600 East 17th Street Sout
Newton, IA 50208
641-792-8451

1 H A 0 2 3 1
Fremont County Landfill
PM: Heather Murphy

nted: 12/5/2023 4:26:45P

www.keystonelabs.com

SITE INFORMATION
Sampler: Casey Moyer
Project: Routine Leachate
Leachate Sampling

REPORT TO
Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

SPECIAL INSTRUCTIONS
None

Turn Around Time
☒ Standard ☐ RUSH, need by __/__/__

LAB USE ONLY
Work Order 1HA0231
Temperature 3.2
Turn-Cooler: Yes

☐ Custody Seal
☒ Containers Intact
☐ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
-001	Leachate Tank	Water	GRAB	/ /			bod-5210, dilution, nh3-timberline, ph-4500, tkn-351.2, tss-i-3765-85	01

Casey Moyer 1-3-24 7:45 Am
Relinquished By Date/Time

Relinquished By Date/Time

Received By Date/Time

Jcho McMurry 1/4/24 1035
Received for Lab By Date/Time

Remarks:

Original - Lab Copy Yellow - Sampler Copy

Keystone Laboratories - Newton

CERTIFICATE OF ANALYSIS

1HB0047

Fremont County Landfill

Casey Moyer
PO Box 487, 2879 250th St
Sidney, IA 51652

Project Name: Routine Leachate

Project / PO Number: / Leachate Sampling
Received: 02/01/2024
Reported: 02/12/2024

Analytical Testing Parameters

Client Sample ID:	Leachate Tank		
Sample Matrix:	Water	**Collected By:**	Moyer, Casey
Lab Sample ID:	1HB0047-01	**Collection Date:**	01/31/2024 8:00

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 351.2								
Nitrogen, Kjeldahl, total	**403**	50.0	mg/L	1			02/05/24 1220	AKK
SM 4500 H+ B								
pH	**7.0**	0.5	pH	1	**I-03**		02/01/24 1349	BSS
SM 5210 B								
BOD (5 day)	**26**	6	mg/L	3		02/01/24 1520	02/01/24 1520	BDF
TIMBERLINE								
Nitrogen, Ammonia	**246**	20.0	mg/L	200		02/08/24 1043	02/08/24 1429	LJS
USGS I-3765-85								
Total Suspended Solids (TSS)	**143**	1	mg/L	1		02/02/24 0941	02/05/24 1007	MEAH

Definitions

I-03: Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.

RL: Reporting Limit

Report Comments

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Reviewed and Approved By:

Heather Murphy

Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
02/12/24 10:09

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES
A Microbac Company

600 East 17th Street So
Newton, IA 50208
641-792-8451

1HB0047
Fremont County Landfill
PM: Heather Murphy

Printed: 1/9/2024 9:27:39A
www.keystonelabs.or

SITE INFORMATION

Sampler: Casey Moyer

Project: Routine Leachate

Leachate Sampling

REPORT TO

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

SPECIAL INSTRUCTIONS

None

Turn Around Time
☒ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY

Work Order 1HB0047
Temperature 2.9
Turn-Cooler: Yes

☐ Custody Seal
☒ Containers Intact
☐ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
-001	Leachate Tank	Water	GRAB	/ /			bod-5210, dilution, nh3-timberline, ph-4500, tkn-351.2, tss-i-3765-85	01

Casey Moyer 1-31-24 8:00 am
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

Amy Hohstetler 2-1-24 10:20
Received for Lab By Date/Time

Remarks:

Original - Lab Copy Yellow - Sampler Copy

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Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0208

Fremont County Landfill

Casey Moyer
PO Box 487, 2879 250th St
Sidney, IA 51652

Project Name: Leachate Sampling

Project / PO Number: N/A
Received: 03/05/2024
Reported: 03/19/2024

Analytical Testing Parameters

Client Sample ID:	Leachate Tank		
Sample Matrix:	Water	**Collected By:**	Moyer, Casey
Lab Sample ID:	1HC0208-01	**Collection Date:**	03/04/2024 7:30

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 351.2								
Nitrogen, Kjeldahl, total	**381**	10.0	mg/L	1			03/11/24 0906	AKK
SM 4500 H+ B								
pH	**6.9**	0.5	pH	1	**I-03**	03/05/24 1518	03/05/24 1521	BSS
SM 5210 B								
BOD (5 day)	**25**	6	mg/L	3		03/05/24 1627	03/05/24 1710	MND
TIMBERLINE								
Nitrogen, Ammonia	**402**	20.0	mg/L	200		03/13/24 0934	03/18/24 1436	LJS
USGS I-3765-85								
Total Suspended Solids (TSS)	**128**	1	mg/L	1		03/07/24 1415	03/08/24 1120	MEAH

Definitions

I-03: Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.

RL: Reporting Limit

Report Comments

Reviewed and Approved By:

Sue Thompson

Sue Thompson
Client Services Manager
03/19/24 07:07

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES
A Microbac Company

600 East 17th Street S
Newton, IA 50208
641-792-8451

1HC0208
Fremont County Landfill
PM: Heather Murphy

Printed: 2/5/2024 8:53:03A
www.keystonelabs.com

SITE INFORMATION

Sampler: Casey Moyer

Project: Routine Leachate

Leachate Sampling

REPORT TO

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

SPECIAL INSTRUCTIONS

None

Turn Around Time

☑ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY

Work Order 1HC0208

Temperature 3.4

Turn-Cooler: Yes

☐ Custody Seal
☑ Containers Intact
☐ COC/Labels Agree
☐ Preservation Confirmed
☑ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
-001	Leachate Tank	Water	GRAB	/ /			bod-5210, dilution, nh3-timberline, ph-4500, tkn-351.2, tss-i-3765-85	01

Relinquished By	Date/Time	Relinquished By	Date/Time
Casey Moyer	3-4-24 7:30 AM		

Received By	Date/Time	Received for Lab By	Date/Time
		Jacko McMurry	3/5/24 1035

Remarks:

Original - Lab Copy Yellow - Sampler Copy

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CERTIFICATE OF ANALYSIS

1HD0406

Fremont County Landfill

Casey Moyer
PO Box 487, 2879 250th St
Sidney, IA 51652

Project Name: Leachate Sampling

Project / PO Number: N/A
Received: 04/04/2024
Reported: 04/17/2024

Analytical Testing Parameters

Client Sample ID:	Leachate Tank		
Sample Matrix:	Water	**Collected By:**	Moyer, Casey
Lab Sample ID:	1HD0406-01	**Collection Date:**	04/03/2024 8:30

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 351.2								
Nitrogen, Kjeldahl, total	**378**	10.0	mg/L	1			04/09/24 0956	AKK
SM 4500 H+ B								
pH	**7.0**	0.5	pH	1	**I-03**		04/05/24 1604	BSS
SM 5210 B								
BOD (5 day)	**36**	6	mg/L	3			04/04/24 1711	MND
TIMBERLINE								
Nitrogen, Ammonia	**380**	10.0	mg/L	100		04/08/24 1605	04/09/24 1158	LJS
USGS I-3765-85								
Total Suspended Solids (TSS)	**129**	1	mg/L	1		04/09/24 1541	04/10/24 1610	MEAH

Definitions

I-03: Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.

RL: Reporting Limit

Report Comments

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Reviewed and Approved By:

Heather Murphy
Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
04/17/24 08:25

Keystone LABORATORIES
A Microbac Company

600 East 17th Stre
Newton, IA 50208
641-792-8451

1 H D 0 4 0 6
Fremont County Landfill
PM: Heather Murphy

SITE INFORMATION

Sampler: Casey Moyer

Project: Routine Leachate
Leachate Sampling

REPORT TO

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

INVOICE TO

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

SPECIAL INSTRUCTIONS

None

Turn Around Time
☒ Standard ☐ RUSH, need by __/__/__

LAB USE ONLY

Work Order: 1HD0406
Temperature: 0.1
Turn-Cooler: Yes

☐ Custody Seal
☐ Containers Intact
☐ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
-001	Leachate Tank	Water	GRAB	/ /			bod-5210, dilution, nh3-timberline, ph-4500, tkn-351.2, tss-i-3765-85	01

Relinquished By	Date/Time	Relinquished By	Date/Time
Casey Moyer	4-3-24 8:30 AM		
Received By	**Date/Time**	**Received for Lab By**	**Date/Time**
		Heather Murphy	4/4/24 10:30AM

Remarks:

Original - Lab Copy Yellow - Sampler Copy

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Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HE0166

Fremont County Landfill

Casey Moyer
PO Box 487, 2879 250th St
Sidney, IA 51652

Project Name: Leachate Sampling

Project / PO Number: N/A
Received: 05/02/2024
Reported: 06/18/2024

Case Narrative

Amended Report, June 12, 2024: The Ammonia Nitrogen result originally reported for sample 01 was not correct due to an error during the analysis. The sample was re-analyzed and that result is included in this report.

James Eggers
Quality Assurance Officer

Analytical Testing Parameters

Client Sample ID:	Leachate Tank		
Sample Matrix:	Aqueous	**Collected By:**	MOYER, Casey
Lab Sample ID:	1HE0166-01	**Collection Date:**	05/01/2024 7:20

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 351.2								
Nitrogen, Kjeldahl, total	**377**	10.0	mg/L	1		05/14/24 1026	05/15/24 1444	AKK
SM 4500 H+ B								
pH	**6.8**	0.5	pH	1	**I-03**	05/03/24 0907	05/03/24 1634	BSS
SM 5210 B								
BOD (5 day)	**19**	6	mg/L	3			05/02/24 1404	MND
TIMBERLINE								
Nitrogen, Ammonia	**389**	10.0	mg/L	100	**I-02**	06/05/24 0938	06/05/24 1314	LNH
USGS I-3765-85								
Total Suspended Solids (TSS)	**123**	1	mg/L	1		05/07/24 1704	05/08/24 1317	MEAH

Definitions

I-02: This result was analyzed outside of the EPA recommended holding time.
I-03: Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.
RL: Reporting Limit

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Heather Murphy

Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
06/18/24 08:14

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES *A Microbac Company*

600 East 17th Street South
Newton, IA 50208
641-792-8451

1HE0166
Fremont County Landfill
PM: Heather Murphy

www.keystonelabs.com

SITE INFORMATION

Sampler: Casey Moyer

Project: Routine Leachate
PWSID# Leachate Sampling

REPORT TO

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

SPECIAL INSTRUCTIONS

None

Turn Around Time
[X] Standard [ ] RUSH, need by __/__/__

LAB USE ONLY

Work Order: 1HE0166
Temperature: 0.0
Turn-Cooler: Yes

[ ] Custody Seal
[X] Containers Intact
[ ] COC/Labels Agree
[ ] Preservation Confirmed
[X] Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
-001	/ Leachate Tank	Water	GRAB	/ /			chloride bod-5210 nh3-timberline ph-4500 tkn-351.2 tss-i-3765-85	01

Casey Moyer 4-1-24 7:20 AM
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

Amy Hochstetler 5/2/24 10:34
Received for Lab By Date/Time

Original - Lab Copy Yellow - Sampler Copy

Remarks:

Valid Bacteria Sample Types

RT Routine	RP-UP Repeat Up
SP Special	RP-DN Repeat Down
NC New Line Ext (ONLY)	RP-OR Repeat Original
RL Replacement	RP-OT Repeat Other

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Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HF0133

Fremont County Landfill

Casey Moyer
PO Box 487, 2879 250th St
Sidney, IA 51652

Project Name: Leachate Sampling

Project / PO Number: N/A
Received: 06/04/2024
Reported: 06/14/2024

Analytical Testing Parameters

Client Sample ID:	Leachate Tank		
Sample Matrix:	Aqueous	**Collected By:**	Meyer, Casey
Lab Sample ID:	1HF0133-01	**Collection Date:**	06/03/2024 6:30

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 351.2								
Nitrogen, Kjeldahl, total	**242**	10.0	mg/L	1		06/13/24 0953	06/14/24 1307	AKK
SM 4500 H+ B								
pH	**7.0**	0.5	pH	1	**I-03**		06/05/24 1327	BSS
SM 5210 B								
BOD (5 day)	**18**	6	mg/L	3			06/04/24 1530	KDA
TIMBERLINE								
Nitrogen, Ammonia	**234**	10.0	mg/L	100		06/13/24 0654	06/13/24 1101	LNH
USGS I-3765-85								
Total Suspended Solids (TSS)	**39**	1	mg/L	1		06/06/24 0917	06/07/24 1045	RDH

Definitions

I-03: Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.

RL: Reporting Limit

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Heather Murphy

Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
06/14/24 16:15

Keystone LABORATORIES A Microbac Company

600 East 17th Street S
Newton, IA 50208
641-792-8451

1HF0133
Fremont County Landfill
PM: Heather Murphy

SITE INFORMATION

Sampler: Casey Moyer

Project: Routine Leachate

Leachate Sampling

REPORT TO

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

SPECIAL INSTRUCTIONS

None

Turn Around Time

[X] Standard [ ] RUSH, need by __/__/__

LAB USE ONLY

Work Order 1HF0133

Temperature 4.6

Turn-Cooler: Yes

[ ] Custody Seal
[X] Containers Intact
[ ] COC/Labels Agree
[ ] Preservation Confirmed
[X] Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
-001	Leachate Tank	Aqueous	GRAB	/ /			bod-5210, nh3-timberline, fl-351.2, dilution, ph-4500, tss-i-3765-85	01

Casey Moyer 6-3-24 6:30 AM
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

Amy Hochstetler 6/4/24 10:35
Received for Lab By Date/Time

Remarks:

Original - Lab Copy Yellow - Sampler Copy

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HG0198

Fremont County Landfill

Casey Moyer
PO Box 487, 2879 250th St
Sidney, IA 51652

Project Name: Leachate Sampling

Project / PO Number: N/A
Received: 07/02/2024
Reported: 07/16/2024

Analytical Testing Parameters

Client Sample ID:	Leachate Tank		
Sample Matrix:	Aqueous	**Collected By:**	CM
Lab Sample ID:	1HG0198-01	**Collection Date:**	07/01/2024 6:40

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 351.2								
Nitrogen, Kjeldahl, total	**225**	10.0	mg/L	1			07/10/24 0814	AKK
SM 4500 H+ B								
pH	**6.9**	0.5	pH	1	**I-03**	07/02/24 1605	07/02/24 1608	BSS
SM 5210 B								
BOD (5 day)	**21**	6	mg/L	3			07/02/24 1455	MND
TIMBERLINE								
Nitrogen, Ammonia	**285**	10.0	mg/L	100		07/15/24 0750	07/15/24 1144	LNH
USGS I-3765-85								
Total Suspended Solids (TSS)	**143**	1	mg/L	1		07/03/24 0809	07/05/24 1230	MEAH

Definitions

I-03: Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.

RL: Reporting Limit

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Heather Murphy

Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
07/16/24 13:43

CHAIN OF CUSTODY RECORD

MICROBAC®

600 East 17th Street S
Newton, IA 50208
641-792-8451

1HG0198
Fremont County Landfill
PM: Heather Murphy

Page 1 o
Printed: 6/5/2024 9:36:38A
www.keystonelabs.co

SITE INFORMATION

Sampler: Casey Moyer

Project: Routine Leachate
Leachate Sampling

REPORT TO

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

SPECIAL INSTRUCTIONS

None

Turn Around Time

☒ Standard ☐ RUSH, need by __/__/__

LAB USE ONLY

Work Order: 1HG0198
Temperature: 1.8
Turn-Cooler: Yes

☐ Custody Seal
☒ Containers Intact
☒ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
-001	Leachate Tank	Aqueous	GRAB	/ /			bod-5210, dilution, nh3-timberline, ph-4500, tkn-351.2, tss-i-3765-85	01

Relinquished By: Casey Moyer Date/Time: 7-1-24 6:40 AM

Received By: Date/Time:

Relinquished By: Date/Time:

Received for Lab By: [signature] Date/Time: 07/02/24 10:30

Remarks:

Original - Lab Copy Yellow - Sampler Copy

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HH0429

Fremont County Landfill

Casey Moyer
PO Box 487, 2879 250th St
Sidney, IA 51652

Project Name: Leachate Sampling

Project / PO Number: N/A
Received: 08/06/2024
Reported: 08/20/2024

Analytical Testing Parameters

Client Sample ID:	Leachate Tank		
Sample Matrix:	Aqueous	**Collected By:**	Moyer, Casey
Lab Sample ID:	1HH0429-01	**Collection Date:**	08/05/2024 6:30

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 351.2								
Nitrogen, Kjeldahl, total	**241**	20.0	mg/L	1			08/09/24 1200	AKK
SM 4500 H+ B								
pH	**6.9**	0.5	pH	1	**H4**	08/07/24 1651	08/07/24 1654	BSS
SM 5210 B								
BOD (5 day)	**15**	6	mg/L	3		08/06/24 1312	08/06/24 1536	MND
TIMBERLINE								
Nitrogen, Ammonia	**248**	2.00	mg/L	20		08/19/24 0829	08/19/24 1024	LNH
USGS I-3765-85								
Total Suspended Solids (TSS)	**156**	1	mg/L	1		08/08/24 0741	08/08/24 1345	MEAH

Definitions

H4: The test was performed outside of the EPA recommended holding time of 15 minutes.

RL: Reporting Limit

Report Comments

Reviewed and Approved By:

Heather Murphy

Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
08/20/24 08:39

CHAIN

MICROBAC®

600 East 17th S
Newton, IA 502(
641-792-8451

1HH0429
Fremont County Landfill
PM: Heather Murphy

Printed: 7/3/2024 8:19:47A

www.keystonelabs.con

SITE INFORMATION

Sampler: Casey Moyer

Project: Routine Leachate

Leachate Sampling

REPORT TO

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

INVOICE TO

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

SPECIAL INSTRUCTIONS

None

Turn Around Time

☒ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY

Work Order 1HH0429

Temperature 0.0

Turn-Cooler: Yes

- ☐ Custody Seal
- ☒ Containers Intact
- ☒ COC/Labels Agree
- ☐ Preservation Confirmed
- ☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
-001	Leachate Tank	Aqueous	GRAB	/ /			bod-5210 nh3-timberline tkn-351.2	dilution ph-4500 tss-i-3765-85	01

Casey Moyer 8-5-24 6:30 AM
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

[signature] 8-6-24 10:30
Received for Lab By Date/Time

Remarks:

Original - Lab Copy Yellow - Sampler Copy

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CERTIFICATE OF ANALYSIS

1HI0102

Fremont County Landfill

Casey Moyer
PO Box 487, 2879 250th St
Sidney, IA 51652

Project Name: Leachate Sampling

Project / PO Number: N/A
Received: 09/04/2024
Reported: 09/16/2024

Analytical Testing Parameters

Client Sample ID:	Leachate Tank		
Sample Matrix:	Aqueous	**Collected By:**	Moyer, Casey
Lab Sample ID:	1HI0102-01	**Collection Date:**	09/03/2024 7:00

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 351.2								
Nitrogen, Kjeldahl, total	**244**	10.0	mg/L	1		09/11/24 0947	09/16/24 1202	AKK
SM 4500 H+ B								
pH	**6.7**	0.5	pH	1	**H4**	09/04/24 1311	09/04/24 1650	BSS
SM 5210 B								
BOD (5 day)	**17**	6	mg/L	3	**K3**	09/04/24 1417	09/04/24 1524	KDA
TIMBERLINE								
Nitrogen, Ammonia	**361**	10.0	mg/L	100		09/12/24 1319	09/14/24 1727	JAC
USGS I-3765-85								
Total Suspended Solids (TSS)	**154**	1	mg/L	1		09/06/24 0754	09/06/24 0912	MEAH

Definitions

H4:	The test was performed outside of the EPA recommended holding time of 15 minutes.
K3:	Glucose/glutamic acid recovery was above acceptance limits. The reported value is estimated.
RL:	Reporting Limit

Report Comments

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Reviewed and Approved By:

Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
09/16/24 16:51

CHAIN OF

1 H I 0 1 0 2
Fremont County Landfill
PM: Heather Murphy

MICROBAC®
600 East 17th Stree
Newton, IA 50208
641-792-8451

Printed: 8/6/2024 3:42:21P
www.keystonelabs.com

SITE INFORMATION

Sampler: Casey Moyer

Project: Routine Leachate

Leachate Sampling

REPORT TO

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

...TO

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

SPECIAL INSTRUCTIONS

None

Turn Around Time

[X] Standard   [ ] RUSH, need by __/__/__

LAB USE ONLY

Work Order 1HI0102

Temperature 0.9

Turn-Cooler: Yes

[ ] Custody Seal
[X] Containers Intact
[X] COC/Labels Agree
[ ] Preservation Confirmed
[X] Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
-001	Leachate Tank	Aqueous	GRAB	/ /			bod-5210, nh3-timberline, tkn-351.2, dilution, ph-4500, tss-i-3765-85	1

Casey Moyer 9-3-24 7:40 AM
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

[signature] 9/4/24 1041
Received for Lab By Date/Time

Remarks:

Original - Lab Copy Yellow - Sampler Copy

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CERTIFICATE OF ANALYSIS

1HJ0288

Fremont County Landfill

Casey Moyer
PO Box 487, 2879 250th St
Sidney, IA 51652

Project Name: Leachate Sampling

Project / PO Number: N/A
Received: 10/03/2024
Reported: 10/17/2024

Analytical Testing Parameters

Client Sample ID:	Leachate Tank		
Sample Matrix:	Aqueous	**Collected By:**	Moyer, Casey
Lab Sample ID:	1HJ0288-01	**Collection Date:**	10/02/2024 7:00

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 351.2								
Nitrogen, Kjeldahl, total	**354**	10.0	mg/L	1		10/14/24 1623	10/16/24 1411	SGB
SM 4500 H+ B								
pH	**6.8**	0.5	pH	1	**H4**	10/04/24 1543	10/04/24 1547	BSS
SM 5210 B								
BOD (5 day)	**23**	6	mg/L	3			10/03/24 1423	MND
TIMBERLINE								
Nitrogen, Ammonia	**330**	10.0	mg/L	100		10/07/24 0843	10/07/24 1428	JAC
USGS I-3765-85								
Total Suspended Solids (TSS)	**498**	1	mg/L	1		10/07/24 1336	10/08/24 1215	MEAH

Definitions

H4: The test was performed outside of the EPA recommended holding time of 15 minutes.

RL: Reporting Limit

Report Comments

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Reviewed and Approved By:

Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
10/17/24 08:21

CHAIN OF

MICROBAC®

600 East 17th Stree
Newton, IA 50208
641-792-8451

1HJ0288
Fremont County Landfill
PM: Heather Murphy

Printed: 8/6/2024 3:42:21P
www.keystonelabs.com

Page 2 of 2

SITE INFORMATION
Sampler: Casey Moyer
Project: Routine Leachate
Leachate Sampling

REPORT TO
Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

INVOICE TO
Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

SPECIAL INSTRUCTIONS
None

Turn Around Time
☒ Standard ☐ RUSH, need by __/__/__

LAB USE ONLY
Work Order 1HI0102
Temperature 0.9/1.3
Turn-Cooler: Yes

☐ Custody Seal
☒ Containers Intact
☒ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
-001	Leachate Tank	Aqueous	GRAB	/ /			bod-5210 nh3-timberline tkn-351.2 dilution ph-4500 tss-i-2765-85	1

Last month wrong bottles.
This month no paper work.
Big Bottle straight leachate.
Small bottle poly sulfuric.

Relinquished By	Date/Time	Relinquished By	Date/Time
Casey Moyer	10-2-24 7:00 AM ~~9-3-24 7:00 AM~~		
Received By	**Date/Time**	**Received for Lab By**	**Date/Time**
		J Hannes Clymer	9/4/24 1041

Remarks:

Original - Lab Copy Yellow - Sampler Copy

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CERTIFICATE OF ANALYSIS

1HK0213

Fremont County Landfill

Casey Moyer
PO Box 487, 2879 250th St
Sidney, IA 51652

Project Name: Leachate Sampling

Project / PO Number: N/A
Received: 11/05/2024
Reported: 11/21/2024

Analytical Testing Parameters

Client Sample ID:	Leachate Tank		
Sample Matrix:	Aqueous	**Collected By:**	Moyer, Casey
Lab Sample ID:	1HK0213-01	**Collection Date:**	11/04/2024 7:30

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 351.2, Rv. 2 (1993)								
Nitrogen, Kjeldahl, total	**415**	10.0	mg/L	1		11/12/24 0906	11/14/24 1535	SGB
SM 4500-H+ B-2011								
pH	**7.0**	0.5	pH	1	**H4**		11/06/24 1322	BSS
SM 5210 B-2016								
BOD (5 day)	**33**	6	mg/L	3		11/05/24 1408	11/05/24 1553	MND
TIMBERLINE								
Nitrogen, Ammonia	**557**	10.0	mg/L	100		11/07/24 0850	11/07/24 1429	SDF
Nitrogen, Ammonia	**374**	10.0	mg/L	100		11/18/24 1528	11/19/24 1154	SDF
USGS I-3765-85								
Total Suspended Solids (TSS)	**134**	1	mg/L	1		11/06/24 1432	11/07/24 1200	AKK

Definitions

H4: The test was performed outside of the EPA recommended holding time of 15 minutes.

RL: Reporting Limit

Report Comments

Reviewed and Approved By:

Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
11/21/24 08:15

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CHAIN OF CUSTODY RECORD

1HK0213
Fremont County Landfill
PM: Heather Murphy

Keystone LABORATORIES A Microbac Company

600 East 17th Street S
Newton, IA 50208
641-792-8451

Printed: 10/9/2024 10:28:52A
www.keystonelabs.com

SITE INFORMATION

Sampler: Casey Moyer

Project: Routine Leachate

Leachate Sampling

REPORT TO

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

INVOICE TO

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

SPECIAL INSTRUCTIONS

None

Turn Around Time
[X] Standard [ ] RUSH, need by __/__/__

LAB USE ONLY

Work Order: 1HK0213
Temperature: 1.1
Turn-Cooler: Yes

- [ ] Custody Seal
- [X] Containers Intact
- [X] COC/Labels Agree
- [ ] Preservation Confirmed
- [X] Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
-001	Leachate Tank	Aqueous	GRAB	/ /			bod-5210, nh3-timberline, tkn-351.2, dilution, ph-4500, tss-i-3765-85	1

Casey Moyer 11-4-24 7:30 AM
Relinquished By — Date/Time

Received By — Date/Time

Relinquished By — Date/Time

[signature] 11/5/24 10:00
Received for Lab By — Date/Time

Remarks:

Original - Lab Copy Yellow - Sampler Copy

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CERTIFICATE OF ANALYSIS

1HL0128

Revised Report: Amended - See Case Narrative

Fremont County Landfill

Casey Moyer
PO Box 487, 2879 250th St
Sidney, IA 51652

Project Name: Leachate Sampling

Project / PO Number: N/A
Received: 12/03/2024
Reported: 12/30/2024

Case Narrative

The result for TKN is lower than the Ammonia for sample 1HL0128. Both analyses have been reanalyzed confirming the reported results.

Tammy McDermott
Quality Assurance Specialist

Analytical Testing Parameters

Client Sample ID:	Leachate Tank		
Sample Matrix:	Aqueous	**Collected By:**	Moyer, Casey
Lab Sample ID:	1HL0128-01	**Collection Date:**	12/02/2024 7:45

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 351.2, Rv. 2 (1993)								
Nitrogen, Kjeldahl, total	**246**	50.0	mg/L	1			12/26/24 1544	AKK
SM 4500-H+ B-2011								
pH	**6.8**	0.5	pH	1	**H4**	12/05/24 1059	12/05/24 1357	BSS
SM 5210 B-2016								
BOD (5 day)	**18**	6	mg/L	3		12/03/24 1335	12/03/24 1614	MND
TIMBERLINE								
Nitrogen, Ammonia	**254**	10.0	mg/L	100		12/23/24 1622	12/24/24 1129	RAF
USGS I-3765-85								
Total Suspended Solids (TSS)	**141**	12	mg/L	13		12/04/24 1432	12/05/24 1110	MEAH

Definitions

H4: The test was performed outside of the EPA recommended holding time of 15 minutes.

RL: Reporting Limit

Report Comments

Reviewed and Approved By:

Sue Thompson

Sue Thompson
Client Services Manager
12/30/24 17:13

CHAIN OF CUSTODY

Keystone LABORATORIES
A Microbac Company

600 East 17th Street South
Newton, IA 50208
641-792-8451

www.keystonelabs.com

1HL0128
Fremont County Landfill
PM: Heather Murphy

Page 1 of
ted: 11/7/2024 1:52:00P

SITE INFORMATION

Sampler: Casey Moyer

Project: Routine Leachate

Leachate Sampling

REPORT TO

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

INVOICE TO

Casey Moyer
Fremont County Landfill
PO Box 487, 2879 250th St
Sidney, IA 51652

SPECIAL INSTRUCTIONS

None

Turn Around Time

☒ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY

Work Order: 1HL0128

Temperature: 0.0

Turn-Cooler: Yes

☐ Custody Seal
☒ Containers Intact
☒ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
-001	Leachate Tank	Aqueous	GRAB	/ /			bod-5210, dilution, nh3-timberline, ph-4500, tkn-351.2, tss-i-3765-85	1

Sample dates 11.2.24
logged in as 12.2.24
Time on sample 0745

Relinquished By	Date/Time	Relinquished By	Date/Time
Casey Moyer	11-2-24 7:45AM		

Received By	Date/Time	Received for Lab By	Date/Time
		Heather Murphy	12/3/24 10:27AM

Remarks:

Original - Lab Copy Yellow - Sampler Copy

Appendix G.4 – Annual Leachate Testing Laboratory Report

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC1428

Project Description

Leachate Sampling

For:

Todd Whipple

HLW Engineering

PO Box 314

Story City, IA 50248

Heather Murphy

Heather Murphy

Customer Relationship Specialist

Thursday, April 4, 2024

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc., Newton. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC1428

HLW Engineering

Todd Whipple
PO Box 314
Story City, IA 50248

Project Name: Leachate Sampling

Project / PO Number: N/A
Received: 03/21/2024
Reported: 04/04/2024

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
Leachate Tank	1HC1428-01	Water	GRAB		03/20/24 12:30	03/21/24 09:48

Analytical Testing Parameters

Client Sample ID:	Leachate Tank		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1428-01	**Collection Date:**	03/20/2024 12:30

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 624			**Method Notes:** PH-6, R-06					
Chloromethane	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
Vinyl Chloride	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
Bromomethane	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
Chloroethane	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
1,1-Dichloroethylene	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
Methylene Chloride	<500	500	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
trans-1,2-Dichloroethylene	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
1,1-Dichloroethane	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
cis-1,2-Dichloroethylene	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
Chloroform	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
1,1,1-Trichloroethane	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
Carbon Tetrachloride	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
Benzene	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
1,2-Dichloroethane	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
Trichloroethylene	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
1,2-Dichloropropane	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
Bromodichloromethane	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
2-Chloroethylvinyl ether	<1000	1000	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
cis-1,3-Dichloropropene	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
Toluene	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
trans-1,3-Dichloropropene	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
1,1,2-Trichloroethane	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
Tetrachloroethylene	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
Dibromochloromethane	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
Chlorobenzene	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
Ethylbenzene	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
Bromoform	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
1,1,2,2-Tetrachloroethane	<100	100	ug/L	100		03/27/24 0000	03/27/24 1403	CSM
Surrogate: Dibromofluoromethane	91.4	Limit: 79-129	% Rec	100		03/27/24 0000	03/27/24 1403	CSM
Surrogate: 1,2-Dichloroethane-d4	96.2	Limit: 66-134	% Rec	100		03/27/24 0000	03/27/24 1403	CSM
Surrogate: Toluene-d8	98.3	Limit: 91-113	% Rec	100		03/27/24 0000	03/27/24 1403	CSM
Surrogate: 4-Bromofluorobenzene	99.3	Limit: 83-112	% Rec	100		03/27/24 0000	03/27/24 1403	CSM

Determination of Base/Neutral/Acid Extractable Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 625								
Bis(2-Chloroethyl) Ether	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
2-Chlorophenol	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
1,3-Dichlorobenzene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
1,4-Dichlorobenzene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Benzyl Alcohol	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP

Client Sample ID:	Leachate Tank			
Sample Matrix:	Water		**Collected By:**	JGH
Lab Sample ID:	1HC1428-01		**Collection Date:**	03/20/2024 12:30

Determination of Base/Neutral/Acid Extractable Compounds	**Result**	**RL**	**Units**	**DF**	**Note**	**Prepared**	**Analyzed**	**Analyst**
1,2-Dichlorobenzene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Bis[2-Chloroisopropyl]ether	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
n-Nitroso-di-n-propylamine	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Hexachloroethane	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Nitrobenzene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Isophorone	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
2-Nitrophenol	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
2,4-Dimethylphenol	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Bis (2-Chloroethoxy) Methane	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
2,4-Dichlorophenol	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
1,2,4-Trichlorobenzene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Naphthalene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Hexachlorobutadiene	<20	20	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
4-Chloro-3-methylphenol	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Hexachlorocyclopentadiene	<20	20	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
2,4,6-Trichlorophenol	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
2,4,5-Trichlorophenol	<50	50	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
2-Chloronaphthalene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Dimethylphthalate	<15	15	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Acenaphthylene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
2,6-Dinitrotoluene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Acenaphthene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
2,4-Dinitrophenol	<20	20	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Dibenzofuran	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
2,4-Dinitrotoluene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
4-Nitrophenol	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Diethyl Phthalate	<30	30	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Fluorene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
4-Chlorophenyl Phenyl Ether	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
4,6-Dinitro-2-methylphenol	<20	20	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
N-Nitrosodiphenylamine	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
4-Bromophenyl Phenyl Ether	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Hexachlorobenzene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Pentachlorophenol	<20	20	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Phenanthrene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Anthracene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Di-n-butyl Phthalate	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Fluoranthene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Pyrene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Butyl Benzyl Phthalate	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Benzo(a)anthracene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Chrysene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Bis(2-Ethylhexyl) Phthalate	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP

Client Sample ID:	Leachate Tank		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1428-01	**Collection Date:**	03/20/2024 12:30

Determination of Base/Neutral/Acid Extractable Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
Di-n-octyl Phthalate	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Indeno(1,2,3-cd)Pyrene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
3,3´-Dichlorobenzidine	<20	20	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Benzo(b)Fluoranthene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Benzo(k)Fluoranthene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Benzo(a)Pyrene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Dibenzo(a,h)anthracene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Benzo(g,h,i)perylene	<10	10	ug/L	1		03/25/24 1217	04/01/24 1225	EPP
Surrogate: 2-Fluorophenol	74.3	Limit: 19-139	% Rec	1		03/25/24 1217	04/01/24 1225	EPP
Surrogate: Phenol-d6	83.3	Limit: 14-154	% Rec	1		03/25/24 1217	04/01/24 1225	EPP
Surrogate: Nitrobenzene-d5	90.0	Limit: 17-146	% Rec	1		03/25/24 1217	04/01/24 1225	EPP
Surrogate: 2-Fluorobiphenyl	71.3	Limit: 18-122	% Rec	1		03/25/24 1217	04/01/24 1225	EPP
Surrogate: 2,4,6-Tribromophenol	89.1	Limit: 21-151	% Rec	1		03/25/24 1217	04/01/24 1225	EPP
Surrogate: Terphenyl-dl4	38.3	Limit: 27-131	% Rec	1		03/25/24 1217	04/01/24 1225	EPP

Determination of Organochlorine Insecticides & PCBs	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 608								
Gamma-BHC [Lindane]	<0.50	0.50	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Beta-BHC	<0.50	0.50	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Heptachlor	<0.50	0.50	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Delta-BHC	<0.50	0.50	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Aldrin	<0.50	0.50	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Heptachlor Epoxide	<0.50	0.50	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Endosulfan I	<0.50	0.50	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
4,4`-DDE	<0.50	0.50	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Dieldrin	<0.50	0.50	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Endrin	<0.50	0.50	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
4,4`-DDD	<0.50	0.50	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Endosulfan II	<0.50	0.50	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
4,4`-DDT	<0.50	0.50	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Endrin Aldehyde	<0.50	0.50	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Endosulfan Sulfate	<0.50	0.50	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Chlordane	<1.00	1.00	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Toxaphene	<2.00	2.00	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Arochlor 1016	<2.00	2.00	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Arochlor 1221	<2.00	2.00	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Arochlor 1232	<2.00	2.00	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Arochlor 1242	<2.00	2.00	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Arochlor 1248	<2.00	2.00	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Arochlor 1254	<2.00	2.00	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Arochlor 1260	<2.00	2.00	ug/L	1		03/26/24 1240	04/03/24 1344	EPP
Surrogate: Decachlorobiphenyl	82.0	Limit: 19-120	% Rec	1		03/26/24 1240	04/03/24 1344	EPP
Surrogate: Tetrachloro-m-xylene	87.4	Limit: 30-119	% Rec	1		03/26/24 1240	04/03/24 1344	EPP

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC1428

Client Sample ID:	Leachate Tank		
Sample Matrix:	Water	**Collected By:**	JGH
Lab Sample ID:	1HC1428-01	**Collection Date:**	03/20/2024 12:30

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
5310B								
Total Organic Carbon	**245**	50.0	mg/L	100		03/27/24 0000	03/27/24 1221	CSM
EPA 351.2								
Nitrogen, Kjeldahl, total	**224**	12.5	mg/L	10			03/25/24 1158	AKK
SM 4500 H+ B								
pH	**7.1**	0.5	pH	1	**I-03**	03/26/24 1608	03/26/24 1610	BSS
SM 5210 B								
BOD (5 day)	**42**	6	mg/L	3			03/21/24 1618	MND
TIMBERLINE								
Nitrogen, Ammonia	**425**	10.0	mg/L	100		04/01/24 1336	04/01/24 1653	LJS
USGS I-1750-85								
Total Dissolved Solids (TDS)	**2710**	5	mg/L	1		03/22/24 0755	03/22/24 1030	MEAH
USGS I-3765-85								
Total Suspended Solids (TSS)	**260**	1	mg/L	1		03/27/24 0801	03/27/24 1227	MEAH

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
200.7								
Iron, total	**38.6**	0.100	mg/L	1		03/25/24 1529	03/26/24 1955	JAR
245.1								
Mercury, total	<0.00050	0.00050	mg/L	1		03/22/24 1503	03/26/24 1434	JAR
EPA 200.8								
Arsenic, total	**0.0648**	0.0020	mg/L	4		03/25/24 0850	03/26/24 0303	RVV
Barium, total	**1.56**	0.0020	mg/L	4		03/25/24 0850	03/26/24 0303	RVV
Cadmium, total	<0.0002	0.0002	mg/L	4		03/25/24 0850	03/26/24 0303	RVV
Chromium, total	**0.0256**	0.0020	mg/L	4		03/25/24 0850	03/26/24 0303	RVV
Copper, total	**0.0025**	0.0020	mg/L	4		03/25/24 0850	03/26/24 0303	RVV
Lead, total	**0.0016**	0.0008	mg/L	4		03/25/24 0850	03/26/24 0303	RVV
Nickel, total	**0.0699**	0.0040	mg/L	4		03/25/24 0850	03/26/24 0303	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/25/24 0850	03/26/24 0303	RVV
Silver, total	<0.0020	0.0020	mg/L	4		03/25/24 0850	03/26/24 0303	RVV
Zinc, total	**0.0248**	0.0200	mg/L	4		03/25/24 0850	03/26/24 0303	RVV

Batch Log Summary

Method	Batch	Laboratory ID	Client / Source ID
SM 5210 B	1HC1230	1HC1230-BLK1	
		1HC1230-SRM1	
		1HC1230-DUP1	1HC1390-02
		1HC1428-01	Leachate Tank

Method	Batch	Laboratory ID	Client / Source ID
USGS I-1750-85	1HC1249	1HC1428-01	Leachate Tank
		1HC1249-BS1	
		1HC1249-DUP1	1HC1428-01
		1HC1249-BLK1	

Method	Batch	Laboratory ID	Client / Source ID
245.1	1HC1285	1HC1285-BLK1	
		1HC1285-BS1	
		1HC1285-MS1	1HC1142-01
		1HC1285-MSD1	1HC1142-01
		1HC1428-01	Leachate Tank

Method	Batch	Laboratory ID	Client / Source ID
EPA 200.8	1HC1319	1HC1319-BLK1	
		1HC1319-BS1	
		1HC1319-MS1	1HC1302-02
		1HC1319-MSD1	1HC1302-02
		1HC1319-PS1	1HC1302-02
		1HC1428-01	Leachate Tank

Method	Batch	Laboratory ID	Client / Source ID
EPA 351.2	1HC1340	1HC1340-MSD1	1HC1394-02
		1HC1340-MS1	1HC1394-02
		1HC1428-01	Leachate Tank
		1HC1340-BS1	
		1HC1340-BLK1	

Method	Batch	Laboratory ID	Client / Source ID
EPA 625	1HC1348	1HC1348-BLK1	
		1HC1348-BS1	
		1HC1348-BSD1	
		1HC1428-01	Leachate Tank

Method	Batch	Laboratory ID	Client / Source ID
200.7	1HC1368	1HC1368-BLK1	

Method	Batch	Laboratory ID	Client / Source ID
200.7	1HC1368	1HC1368-BS1	
		1HC1428-01	Leachate Tank
		1HC1368-MS1	1HC1428-01
		1HC1368-MSD1	1HC1428-01
		1HC1368-PS1	1HC1428-01

Method	Batch	Laboratory ID	Client / Source ID
EPA 608	1HC1424	1HC1424-BLK1	
		1HC1424-BS1	
		1HC1424-BSD1	
		1HC1428-01	Leachate Tank

Method	Batch	Laboratory ID	Client / Source ID
SM 4500 H+ B	1HC1449	1HC1428-01	Leachate Tank
		1HC1449-DUP1	1HC1393-01
		1HC1449-SRM1	
		1HC1449-SRM2	

Method	Batch	Laboratory ID	Client / Source ID
USGS I-3765-85	1HC1459	1HC1459-BLK1	
		1HC1428-01	Leachate Tank
		1HC1459-DUP1	1HC1426-04
		1HC1459-BS1	

Method	Batch	Laboratory ID	Client / Source ID
EPA 624	1HC1543	1HC1543-BS1	
		1HC1543-BSD1	
		1HC1543-BLK1	
		1HC1428-01	Leachate Tank
		1HC1543-MS1	1HC1329-01
		1HC1543-MSD1	1HC1329-01

Method	Batch	Laboratory ID	Client / Source ID
5310B	1HC1664	1HC1664-BS1	
		1HC1664-BSD1	
		1HC1664-BLK1	
		1HC1428-01	Leachate Tank
		1HC1664-DUP1	1HC1212-01

Method	Batch	Laboratory ID	Client / Source ID
TIMBERLINE	1HD0047	1HD0047-BLK1	
		1HD0047-BS1	
		1HD0047-MS1	1HC1365-02
		1HD0047-MSD1	1HC1365-02
		1HC1428-01	Leachate Tank

Batch Quality Control Summary: Microbac Laboratories, Inc., Newton

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1543 - EPA 5030B - EPA 624										
Blank (1HC1543-BLK1)				Prepared: 03/27/24 00:00 Analyzed: 03/27/24 11:10						
Chloromethane	<1.0	1.0	ug/L							
Vinyl Chloride	<1.0	1.0	ug/L							
Bromomethane	<1.0	1.0	ug/L							
Chloroethane	<1.0	1.0	ug/L							
1,1-Dichloroethylene	<1.0	1.0	ug/L							
Methylene Chloride	<5.0	5.0	ug/L							
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L							
1,1-Dichloroethane	<1.0	1.0	ug/L							
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L							
Chloroform	<1.0	1.0	ug/L							
1,1,1-Trichloroethane	<1.0	1.0	ug/L							
Carbon Tetrachloride	<1.0	1.0	ug/L							
Benzene	<1.0	1.0	ug/L							
1,2-Dichloroethane	<1.0	1.0	ug/L							
Trichloroethylene	<1.0	1.0	ug/L							
1,2-Dichloropropane	<1.0	1.0	ug/L							
Bromodichloromethane	<1.0	1.0	ug/L							
2-Chloroethylvinyl ether	<10.0	10.0	ug/L							
cis-1,3-Dichloropropene	<1.0	1.0	ug/L							
Toluene	<1.0	1.0	ug/L							
trans-1,3-Dichloropropene	<1.0	1.0	ug/L							
1,1,2-Trichloroethane	<1.0	1.0	ug/L							
Tetrachloroethylene	<1.0	1.0	ug/L							
Dibromochloromethane	<1.0	1.0	ug/L							
Chlorobenzene	<1.0	1.0	ug/L							
Ethylbenzene	<1.0	1.0	ug/L							
Bromoform	<1.0	1.0	ug/L							
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L							
Surrogate: Dibromofluoromethane	*56.7*		ug/L	*50.2*		*113*	*79-129*			
Surrogate: 1,2-Dichloroethane-d4	*60.6*		ug/L	*50.1*		*121*	*66-134*			
Surrogate: Toluene-d8	*42.4*		ug/L	*50.4*		*84.2*	*91-113*			*S-GC*
Surrogate: 4-Bromofluorobenzene	*53.0*		ug/L	*50.1*		*106*	*83-112*			
LCS (1HC1543-BS1)				Prepared: 03/27/24 00:00 Analyzed: 03/27/24 10:02						
Chloromethane	35.32	1.0	ug/L	30.6		115	63-145			
Vinyl Chloride	30.34	1.0	ug/L	30.2		100	68-145			
Bromomethane	33.15	1.0	ug/L	28.8		115	69-150			
Chloroethane	33.31	1.0	ug/L	31.6		105	74-134			
1,1-Dichloroethylene	50.05	1.0	ug/L	50.0		100	76-139			
Methylene Chloride	46.06	5.0	ug/L	50.0		92.1	67-141			
trans-1,2-Dichloroethylene	47.69	1.0	ug/L	50.0		95.4	71-137			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1543 - EPA 5030B - EPA 624										
LCS (1HC1543-BS1)			Prepared: 03/27/24 00:00 Analyzed: 03/27/24 10:02							
1,1-Dichloroethane	46.14	1.0	ug/L	50.0		92.3	72-130			
cis-1,2-Dichloroethylene	48.11	1.0	ug/L	49.5		97.2	81-134			
2-Butanone (MEK)	88.52	10.0	ug/L	103		85.7	44-158			
Chloroform	47.60	1.0	ug/L	50.0		95.2	76-132			
1,1,1-Trichloroethane	39.76	1.0	ug/L	50.0		79.6	65-122			
Carbon Tetrachloride	43.42	1.0	ug/L	50.0		86.8	66-132			
Benzene	48.42	1.0	ug/L	50.0		96.8	77-130			
1,2-Dichloroethane	47.35	1.0	ug/L	50.0		94.7	75-124			
Trichloroethylene	47.54	1.0	ug/L	50.0		95.1	79-126			
1,2-Dichloropropane	48.55	1.0	ug/L	50.0		97.1	79-128			
Dibromomethane	51.04	1.0	ug/L	50.0		102	71-139			
Bromodichloromethane	44.40	1.0	ug/L	50.0		88.8	76-122			
2-Chloroethylvinyl ether	99.69	10.0	ug/L	103		97.2	50-169			
cis-1,3-Dichloropropene	46.40	1.0	ug/L	50.3		92.2	74-122			
Toluene	47.62	1.0	ug/L	50.0		95.2	76-128			
trans-1,3-Dichloropropene	44.98	1.0	ug/L	50.4		89.2	73-125			
1,1,2-Trichloroethane	47.81	1.0	ug/L	50.0		95.6	74-126			
Tetrachloroethylene	47.10	1.0	ug/L	50.0		94.2	68-124			
Dibromochloromethane	48.26	1.0	ug/L	49.5		97.5	76-125			
Chlorobenzene	49.37	1.0	ug/L	50.0		98.7	77-120			
Ethylbenzene	46.80	1.0	ug/L	50.0		93.6	76-118			
Xylenes, total	140.2	2.0	ug/L	150		93.5	74-121			
Bromoform	47.43	1.0	ug/L	50.0		94.9	68-128			
1,1,2,2-Tetrachloroethane	47.04	1.0	ug/L	49.8		94.4	62-128			
1,3-Dichlorobenzene	47.14	1.0	ug/L	50.0		94.3	72-123			
1,4-Dichlorobenzene	47.98	1.0	ug/L	50.0		96.0	75-120			
1,2-Dichlorobenzene	47.35	1.0	ug/L	50.0		94.7	72-121			
Surrogate: Dibromofluoromethane	*47.6*		ug/L	*50.2*		*94.9*	*79-129*			
Surrogate: 1,2-Dichloroethane-d4	*47.7*		ug/L	*50.1*		*95.2*	*66-134*			
Surrogate: Toluene-d8	*49.9*		ug/L	*50.4*		*99.0*	*91-113*			
Surrogate: 4-Bromofluorobenzene	*49.9*		ug/L	*50.1*		*99.5*	*83-112*			
LCS Dup (1HC1543-BSD1)			Prepared: 03/27/24 00:00 Analyzed: 03/27/24 10:24							
Chloromethane	35.36	1.0	ug/L	30.6		115	63-145	0.113	27	
Vinyl Chloride	31.01	1.0	ug/L	30.2		103	68-145	2.18	30	
Bromomethane	34.50	1.0	ug/L	28.8		120	69-150	3.99	30	
Chloroethane	35.20	1.0	ug/L	31.6		111	74-134	5.52	29	
1,1-Dichloroethylene	51.48	1.0	ug/L	50.0		103	76-139	2.82	30	
Methylene Chloride	48.71	5.0	ug/L	50.0		97.4	67-141	5.59	25	
trans-1,2-Dichloroethylene	48.59	1.0	ug/L	50.0		97.2	71-137	1.87	29	
1,1-Dichloroethane	45.05	1.0	ug/L	50.0		90.1	72-130	2.39	27	
cis-1,2-Dichloroethylene	46.38	1.0	ug/L	49.5		93.7	81-134	3.66	23	
2-Butanone (MEK)	61.42	10.0	ug/L	103		59.5	44-158	36.1	25	QR-02

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1543 - EPA 5030B - EPA 624										
LCS Dup (1HC1543-BSD1)			Prepared: 03/27/24 00:00 Analyzed: 03/27/24 10:24							
Chloroform	46.67	1.0	ug/L	50.0		93.3	76-132	1.97	26	
1,1,1-Trichloroethane	38.48	1.0	ug/L	50.0		77.0	65-122	3.27	29	
Carbon Tetrachloride	42.46	1.0	ug/L	50.0		84.9	66-132	2.24	30	
Benzene	47.26	1.0	ug/L	50.0		94.5	77-130	2.42	27	
1,2-Dichloroethane	46.45	1.0	ug/L	50.0		92.9	75-124	1.92	25	
Trichloroethylene	46.26	1.0	ug/L	50.0		92.5	79-126	2.73	28	
1,2-Dichloropropane	47.34	1.0	ug/L	50.0		94.7	79-128	2.52	26	
Dibromomethane	50.14	1.0	ug/L	50.0		100	71-139	1.78	27	
Bromodichloromethane	43.55	1.0	ug/L	50.0		87.1	76-122	1.93	24	
2-Chloroethylvinyl ether	97.42	10.0	ug/L	103		95.0	50-169	2.30	28	
cis-1,3-Dichloropropene	45.50	1.0	ug/L	50.3		90.4	74-122	1.96	27	
Toluene	46.20	1.0	ug/L	50.0		92.4	76-128	3.03	28	
trans-1,3-Dichloropropene	44.19	1.0	ug/L	50.4		87.6	73-125	1.77	27	
1,1,2-Trichloroethane	47.59	1.0	ug/L	50.0		95.2	74-126	0.461	26	
Tetrachloroethylene	45.69	1.0	ug/L	50.0		91.4	68-124	3.04	28	
Dibromochloromethane	47.45	1.0	ug/L	49.5		95.9	76-125	1.69	23	
Chlorobenzene	48.22	1.0	ug/L	50.0		96.4	77-120	2.36	27	
Ethylbenzene	45.41	1.0	ug/L	50.0		90.8	76-118	3.01	27	
Xylenes, total	136.3	2.0	ug/L	150		90.9	74-121	2.82	27	
Bromoform	46.24	1.0	ug/L	50.0		92.5	68-128	2.54	25	
1,1,2,2-Tetrachloroethane	46.83	1.0	ug/L	49.8		93.9	62-128	0.447	28	
1,3-Dichlorobenzene	45.77	1.0	ug/L	50.0		91.5	72-123	2.95	29	
1,4-Dichlorobenzene	46.73	1.0	ug/L	50.0		93.5	75-120	2.64	26	
1,2-Dichlorobenzene	45.97	1.0	ug/L	50.0		91.9	72-121	2.96	30	
Surrogate: Dibromofluoromethane	*47.9*		ug/L	*50.2*		*95.4*	*79-129*			
Surrogate: 1,2-Dichloroethane-d4	*47.3*		ug/L	*50.1*		*94.4*	*66-134*			
Surrogate: Toluene-d8	*49.9*		ug/L	*50.4*		*99.0*	*91-113*			
Surrogate: 4-Bromofluorobenzene	*50.0*		ug/L	*50.1*		*99.6*	*83-112*			
Matrix Spike (1HC1543-MS1)	**Source: 1HC1329-01**		Prepared: 03/27/24 00:00 Analyzed: 03/27/24 18:14							
Chloromethane	340.4	10.0	ug/L	306	ND	111	50-155			
Vinyl Chloride	296.8	10.0	ug/L	302	ND	98.2	64-148			
Bromomethane	317.1	10.0	ug/L	288	ND	110	50-159			
Chloroethane	324.5	10.0	ug/L	316	ND	103	65-144			
1,1-Dichloroethylene	493.0	10.0	ug/L	500	ND	98.6	78-139			
Methylene Chloride	447.9	50.0	ug/L	500	ND	89.6	65-144			
trans-1,2-Dichloroethylene	458.6	10.0	ug/L	500	ND	91.7	67-142			
1,1-Dichloroethane	445.4	10.0	ug/L	500	ND	89.1	71-133			
cis-1,2-Dichloroethylene	525.9	10.0	ug/L	495	ND	106	76-142			
2-Butanone (MEK)	1092	100	ug/L	1030	ND	106	48-169			
Chloroform	456.3	10.0	ug/L	500	ND	91.3	75-133			
1,1,1-Trichloroethane	382.5	10.0	ug/L	500	ND	76.5	66-120			
Carbon Tetrachloride	420.5	10.0	ug/L	500	ND	84.1	67-132			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1543 - EPA 5030B - EPA 624										
Matrix Spike (1HC1543-MS1)	**Source: 1HC1329-01**	Prepared: 03/27/24 00:00 Analyzed: 03/27/24 18:14								
Benzene	480.8	10.0	ug/L	500	ND	96.2	79-128			
1,2-Dichloroethane	468.9	10.0	ug/L	500	ND	93.8	74-124			
Trichloroethylene	467.1	10.0	ug/L	500	ND	93.4	82-122			
1,2-Dichloropropane	475.5	10.0	ug/L	500	ND	95.1	80-126			
Dibromomethane	506.9	10.0	ug/L	500	ND	101	62-141			
Bromodichloromethane	431.1	10.0	ug/L	500	ND	86.2	77-119			
2-Chloroethylvinyl ether	988.0	100	ug/L	1030	ND	96.3	10-157			
cis-1,3-Dichloropropene	438.6	10.0	ug/L	503	ND	87.2	69-120			
Toluene	470.3	10.0	ug/L	500	ND	94.1	80-125			
trans-1,3-Dichloropropene	420.2	10.0	ug/L	504	ND	83.3	70-122			
1,1,2-Trichloroethane	473.4	10.0	ug/L	500	ND	94.7	73-127			
Tetrachloroethylene	471.2	10.0	ug/L	500	ND	94.2	70-122			
Dibromochloromethane	464.6	10.0	ug/L	495	ND	93.9	75-122			
Chlorobenzene	484.3	10.0	ug/L	500	ND	96.9	81-114			
Ethylbenzene	462.1	10.0	ug/L	500	ND	92.4	79-113			
Xylenes, total	1378	20.0	ug/L	1500	ND	91.9	79-114			
Bromoform	450.0	10.0	ug/L	500	ND	90.0	66-126			
1,1,2,2-Tetrachloroethane	465.0	10.0	ug/L	498	ND	93.3	56-132			
1,3-Dichlorobenzene	455.4	10.0	ug/L	500	ND	91.1	69-125			
1,4-Dichlorobenzene	465.8	10.0	ug/L	500	ND	93.2	73-119			
1,2-Dichlorobenzene	457.4	10.0	ug/L	500	ND	91.5	71-117			
Surrogate: Dibromofluoromethane	*462*		ug/L	*502*		*92.0*	*79-129*			
Surrogate: 1,2-Dichloroethane-d4	*468*		ug/L	*501*		*93.6*	*66-134*			
Surrogate: Toluene-d8	*498*		ug/L	*504*		*98.8*	*91-113*			
Surrogate: 4-Bromofluorobenzene	*502*		ug/L	*501*		*100*	*83-112*			
Matrix Spike Dup (1HC1543-MSD1)	**Source: 1HC1329-01**	Prepared: 03/27/24 00:00 Analyzed: 03/27/24 18:37								
Chloromethane	340.8	10.0	ug/L	306	ND	111	50-155	0.117	19	
Vinyl Chloride	298.7	10.0	ug/L	302	ND	98.8	64-148	0.638	24	
Bromomethane	309.7	10.0	ug/L	288	ND	108	50-159	2.36	17	
Chloroethane	332.6	10.0	ug/L	316	ND	105	65-144	2.47	28	
1,1-Dichloroethylene	474.0	10.0	ug/L	500	ND	94.8	78-139	3.93	20	
Methylene Chloride	439.9	50.0	ug/L	500	ND	88.0	65-144	1.80	16	
trans-1,2-Dichloroethylene	445.9	10.0	ug/L	500	ND	89.2	67-142	2.81	18	
1,1-Dichloroethane	435.4	10.0	ug/L	500	ND	87.1	71-133	2.27	16	
cis-1,2-Dichloroethylene	445.2	10.0	ug/L	495	ND	90.0	76-142	16.6	17	
2-Butanone (MEK)	723.4	100	ug/L	1030	ND	70.0	48-169	40.6	17	QR-02
Chloroform	443.9	10.0	ug/L	500	ND	88.8	75-133	2.75	16	
1,1,1-Trichloroethane	371.8	10.0	ug/L	500	ND	74.4	66-120	2.84	15	
Carbon Tetrachloride	407.1	10.0	ug/L	500	ND	81.4	67-132	3.24	15	
Benzene	465.9	10.0	ug/L	500	ND	93.2	79-128	3.15	12	
1,2-Dichloroethane	469.2	10.0	ug/L	500	ND	93.8	74-124	0.0640	12	
Trichloroethylene	452.7	10.0	ug/L	500	ND	90.5	82-122	3.13	13	

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1543 - EPA 5030B - EPA 624										
Matrix Spike Dup (1HC1543-MSD1)	**Source: 1HC1329-01**		Prepared: 03/27/24 00:00 Analyzed: 03/27/24 18:37							
1,2-Dichloropropane	465.3	10.0	ug/L	500	ND	93.1	80-126	2.17	10	
Dibromomethane	508.1	10.0	ug/L	500	ND	102	62-141	0.236	11	
Bromodichloromethane	425.9	10.0	ug/L	500	ND	85.2	77-119	1.21	10	
2-Chloroethylvinyl ether	1003	100	ug/L	1030	ND	97.8	10-157	1.55	30	
cis-1,3-Dichloropropene	434.6	10.0	ug/L	503	ND	86.4	69-120	0.916	10	
Toluene	456.5	10.0	ug/L	500	ND	91.3	80-125	2.98	12	
trans-1,3-Dichloropropene	422.4	10.0	ug/L	504	ND	83.8	70-122	0.522	10	
1,1,2-Trichloroethane	474.0	10.0	ug/L	500	ND	94.8	73-127	0.127	10	
Tetrachloroethylene	450.7	10.0	ug/L	500	ND	90.1	70-122	4.45	15	
Dibromochloromethane	469.8	10.0	ug/L	495	ND	94.9	75-122	1.11	12	
Chlorobenzene	475.9	10.0	ug/L	500	ND	95.2	81-114	1.75	12	
Ethylbenzene	448.1	10.0	ug/L	500	ND	89.6	79-113	3.08	13	
Xylenes, total	1340	20.0	ug/L	1500	ND	89.3	79-114	2.83	12	
Bromoform	454.6	10.0	ug/L	500	ND	90.9	66-126	1.02	16	
1,1,2,2-Tetrachloroethane	470.2	10.0	ug/L	498	ND	94.3	56-132	1.11	29	
1,3-Dichlorobenzene	446.6	10.0	ug/L	500	ND	89.3	69-125	1.95	18	
1,4-Dichlorobenzene	462.4	10.0	ug/L	500	ND	92.5	73-119	0.733	21	
1,2-Dichlorobenzene	455.6	10.0	ug/L	500	ND	91.1	71-117	0.394	23	
Surrogate: Dibromofluoromethane	*463*		ug/L	*502*		*92.3*	*79-129*			
Surrogate: 1,2-Dichloroethane-d4	*463*		ug/L	*501*		*92.4*	*66-134*			
Surrogate: Toluene-d8	*498*		ug/L	*504*		*98.8*	*91-113*			
Surrogate: 4-Bromofluorobenzene	*498*		ug/L	*501*		*99.2*	*83-112*			

Determination of Base/Neutral/Acid Extractable Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1348 - EPA 625 BNA - EPA 625										
Blank (1HC1348-BLK1)			Prepared: 03/25/24 12:17 Analyzed: 03/29/24 16:48							
Bis(2-Chloroethyl) Ether	<10	10	ug/L							
2-Chlorophenol	<10	10	ug/L							
1,3-Dichlorobenzene	<10	10	ug/L							
1,4-Dichlorobenzene	<10	10	ug/L							
Benzyl Alcohol	<10	10	ug/L							
1,2-Dichlorobenzene	<10	10	ug/L							
Bis[2-Chloroisopropyl]ether	<10	10	ug/L							
n-Nitroso-di-n-propylamine	<10	10	ug/L							
Hexachloroethane	<10	10	ug/L							
Nitrobenzene	<10	10	ug/L							
Isophorone	<10	10	ug/L							
2-Nitrophenol	<10	10	ug/L							
2,4-Dimethylphenol	<10	10	ug/L							

Determination of Base/Neutral/Acid Extractable Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1348 - EPA 625 BNA - EPA 625										
Blank (1HC1348-BLK1)			Prepared: 03/25/24 12:17 Analyzed: 03/29/24 16:48							
Bis (2-Chloroethoxy) Methane	<10	10	ug/L							
Benzoic acid	<50	50	ug/L							
2,4-Dichlorophenol	<10	10	ug/L							
1,2,4-Trichlorobenzene	<10	10	ug/L							
Naphthalene	<10	10	ug/L							
Hexachlorobutadiene	<20	20	ug/L							
4-Chloro-3-methylphenol	<10	10	ug/L							
Hexachlorocyclopentadiene	<20	20	ug/L							
2,4,6-Trichlorophenol	<10	10	ug/L							
2,4,5-Trichlorophenol	<50	50	ug/L							
2-Chloronaphthalene	<10	10	ug/L							
Dimethylphthalate	<15	15	ug/L							
Acenaphthylene	<10	10	ug/L							
2,6-Dinitrotoluene	<10	10	ug/L							
Acenaphthene	<10	10	ug/L							
2,4-Dinitrophenol	<20	20	ug/L							
Dibenzofuran	<10	10	ug/L							
2,4-Dinitrotoluene	<10	10	ug/L							
4-Nitrophenol	<10	10	ug/L							
Diethyl Phthalate	<30	30	ug/L							
Fluorene	<10	10	ug/L							
4-Chlorophenyl Phenyl Ether	<10	10	ug/L							
4,6-Dinitro-2-methylphenol	<20	20	ug/L							
N-Nitrosodiphenylamine	<10	10	ug/L							
4-Bromophenyl Phenyl Ether	<10	10	ug/L							
Hexachlorobenzene	<10	10	ug/L							
Pentachlorophenol	<20	20	ug/L							
Phenanthrene	<10	10	ug/L							
Anthracene	<10	10	ug/L							
Di-n-butyl Phthalate	<10	10	ug/L							
Fluoranthene	<10	10	ug/L							
Pyrene	<10	10	ug/L							
Butyl Benzyl Phthalate	<10	10	ug/L							
Benzo(a)anthracene	<10	10	ug/L							
Chrysene	<10	10	ug/L							
Bis(2-Ethylhexyl) Phthalate	<10	10	ug/L							
Di-n-octyl Phthalate	<10	10	ug/L							
Indeno(1,2,3-cd)Pyrene	<10	10	ug/L							
3,3´-Dichlorobenzidine	<20	20	ug/L							
Benzo(b)Fluoranthene	<10	10	ug/L							
Benzo(k)Fluoranthene	<10	10	ug/L							
Benzo(a)Pyrene	<10	10	ug/L							

Determination of Base/Neutral/Acid Extractable Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1348 - EPA 625 BNA - EPA 625										
Blank (1HC1348-BLK1)			Prepared: 03/25/24 12:17 Analyzed: 03/29/24 16:48							
Dibenzo(a,h)anthracene	<10	10	ug/L							
Benzo(g,h,i)perylene	<10	10	ug/L							
Surrogate: 2-Fluorophenol	*20.2*		ug/L	*29.6*		*68.3*	*19-139*			
Surrogate: Phenol-d6	*21.2*		ug/L	*30.5*		*69.4*	*14-154*			
Surrogate: Nitrobenzene-d5	*20.9*		ug/L	*30.0*		*69.6*	*17-146*			
Surrogate: 2-Fluorobiphenyl	*19.7*		ug/L	*28.8*		*68.4*	*18-122*			
Surrogate: 2,4,6-Tribromophenol	*27.2*		ug/L	*29.7*		*91.3*	*21-151*			
Surrogate: Terphenyl-dl4	*27.0*		ug/L	*28.8*		*93.8*	*27-131*			
LCS (1HC1348-BS1)			Prepared: 03/25/24 12:17 Analyzed: 03/29/24 17:13							
Bis(2-Chloroethyl) Ether	12.4	10	ug/L	25.0		49.7	35-150			
2-Chlorophenol	19.3	10	ug/L	25.0		77.4	51-117			
1,3-Dichlorobenzene	12.3	10	ug/L	25.0		49.1	27-91.3			
1,4-Dichlorobenzene	12.6	10	ug/L	25.0		50.4	28-92.6			
Benzyl Alcohol	17.7	10	ug/L	25.0		70.8	22-147			
1,2-Dichlorobenzene	13.2	10	ug/L	25.0		52.7	32-94.8			
Bis[2-Chloroisopropyl]ether	18.1	10	ug/L	25.0		72.4	40-125			
n-Nitroso-di-n-propylamine	16.8	10	ug/L	25.0		67.4	47-136			
Hexachloroethane	<10	10	ug/L	25.0		32.4	13-110			
Nitrobenzene	19.4	10	ug/L	25.0		77.4	46-133			
Isophorone	19.3	10	ug/L	25.0		77.1	48-130			
2-Nitrophenol	21.3	10	ug/L	25.0		85.3	54-116			
2,4-Dimethylphenol	22.2	10	ug/L	25.0		88.8	47-121			
Bis (2-Chloroethoxy) Methane	<10	10	ug/L	25.0		34.6	25-110			
2,4-Dichlorophenol	22.6	10	ug/L	25.0		90.2	50-118			
1,2,4-Trichlorobenzene	11.1	10	ug/L	25.0		44.4	27-95.5			
Naphthalene	14.8	10	ug/L	25.0		59.1	42-107			
Hexachlorobutadiene	<20	20	ug/L	25.0		19.7	10-110			
4-Chloro-3-methylphenol	22.9	10	ug/L	25.0		91.5	54-138			
2,4,6-Trichlorophenol	23.3	10	ug/L	25.0		93.4	46-127			
2,4,5-Trichlorophenol	<50	50	ug/L	25.0		93.0	62-119			
2-Chloronaphthalene	12.2	10	ug/L	25.0		48.9	38-118			
Dimethylphthalate	22.0	15	ug/L	25.0		88.2	58-125			
Acenaphthylene	14.7	10	ug/L	25.0		58.9	41-116			
2,6-Dinitrotoluene	22.3	10	ug/L	25.0		89.3	58-126			
Acenaphthene	16.3	10	ug/L	25.0		65.3	45-117			
2,4-Dinitrophenol	20.9	20	ug/L	25.0		83.6	21-138			
Dibenzofuran	17.7	10	ug/L	25.0		70.8	51-126			
2,4-Dinitrotoluene	20.3	10	ug/L	25.0		81.2	52-134			
4-Nitrophenol	22.2	10	ug/L	25.0		88.9	41-149			
Diethyl Phthalate	<30	30	ug/L	25.0		88.7	53-132			
Fluorene	18.8	10	ug/L	25.0		75.2	47-126			
4-Chlorophenyl Phenyl Ether	17.9	10	ug/L	25.0		71.4	47-124			

Determination of Base/Neutral/Acid Extractable Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1348 - EPA 625 BNA - EPA 625										
LCS (1HC1348-BS1)			Prepared: 03/25/24 12:17 Analyzed: 03/29/24 17:13							
4,6-Dinitro-2-methylphenol	20.3	20	ug/L	25.0		81.2	50-139			
N-Nitrosodiphenylamine	19.3	10	ug/L	25.0		77.2	29-129			
4-Bromophenyl Phenyl Ether	19.9	10	ug/L	25.0		79.4	48-125			
Hexachlorobenzene	20.1	10	ug/L	25.0		80.3	29-137			
Pentachlorophenol	20.0	20	ug/L	25.0		79.8	15-154			
Phenanthrene	20.2	10	ug/L	25.0		80.7	45-136			
Anthracene	20.2	10	ug/L	25.0		80.8	43-135			
Di-n-butyl Phthalate	21.8	10	ug/L	25.0		87.0	42-153			
Fluoranthene	21.5	10	ug/L	25.0		86.0	42-143			
Pyrene	20.8	10	ug/L	25.0		83.1	40-146			
Butyl Benzyl Phthalate	20.6	10	ug/L	25.0		82.5	40-151			
Benzo(a)anthracene	20.5	10	ug/L	25.0		82.1	48-136			
Chrysene	21.1	10	ug/L	25.0		84.3	50-136			
Bis(2-Ethylhexyl) Phthalate	23.9	10	ug/L	25.0		95.4	34-180			
Di-n-octyl Phthalate	22.4	10	ug/L	25.0		89.8	40-165			
Indeno(1,2,3-cd)Pyrene	18.6	10	ug/L	25.0		74.2	39-152			
Benzo(b)Fluoranthene	20.6	10	ug/L	25.0		82.4	52-140			
Benzo(k)Fluoranthene	21.8	10	ug/L	25.0		87.2	47-147			
Benzo(a)Pyrene	20.6	10	ug/L	25.0		82.5	38-142			
Dibenzo(a,h)anthracene	17.5	10	ug/L	25.0		69.8	37-153			
Benzo(g,h,i)perylene	17.6	10	ug/L	25.0		70.6	39-157			
Surrogate: 2-Fluorophenol	*21.5*		ug/L	*29.6*		*72.7*	*19-139*			
Surrogate: Phenol-d6	*22.1*		ug/L	*30.5*		*72.5*	*14-154*			
Surrogate: Nitrobenzene-d5	*24.3*		ug/L	*30.0*		*80.9*	*17-146*			
Surrogate: 2-Fluorobiphenyl	*23.0*		ug/L	*28.8*		*79.8*	*18-122*			
Surrogate: 2,4,6-Tribromophenol	*29.5*		ug/L	*29.7*		*99.2*	*21-151*			
Surrogate: Terphenyl-dl4	*27.3*		ug/L	*28.8*		*94.6*	*27-131*			
LCS Dup (1HC1348-BSD1)			Prepared: 03/25/24 12:17 Analyzed: 03/29/24 17:37							
Bis(2-Chloroethyl) Ether	12.6	10	ug/L	25.0		50.6	35-150	1.76	30	
2-Chlorophenol	19.6	10	ug/L	25.0		78.5	51-117	1.49	27	
1,3-Dichlorobenzene	13.3	10	ug/L	25.0		53.3	27-91.3	8.20	30	
1,4-Dichlorobenzene	13.6	10	ug/L	25.0		54.5	28-92.6	7.78	30	
Benzyl Alcohol	17.7	10	ug/L	25.0		71.0	22-147	0.226	30	
1,2-Dichlorobenzene	14.3	10	ug/L	25.0		57.0	32-94.8	7.87	30	
Bis[2-Chloroisopropyl]ether	19.0	10	ug/L	25.0		76.0	40-125	4.80	26	
n-Nitroso-di-n-propylamine	17.2	10	ug/L	25.0		68.9	47-136	2.17	29	
Hexachloroethane	<10	10	ug/L	25.0		32.4	13-110	0.123	30	
Nitrobenzene	18.5	10	ug/L	25.0		74.2	46-133	4.33	19	
Isophorone	18.3	10	ug/L	25.0		73.2	48-130	5.16	23	
2-Nitrophenol	21.3	10	ug/L	25.0		85.0	54-116	0.329	25	
2,4-Dimethylphenol	20.7	10	ug/L	25.0		83.0	47-121	6.85	29	
Bis (2-Chloroethoxy) Methane	17.6	10	ug/L	25.0		70.4	25-110	68.2	30	QR-02

Determination of Base/Neutral/Acid Extractable Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1348 - EPA 625 BNA - EPA 625										
LCS Dup (1HC1348-BSD1)			Prepared: 03/25/24 12:17 Analyzed: 03/29/24 17:37							
2,4-Dichlorophenol	21.4	10	ug/L	25.0		85.5	50-118	5.33	21	
1,2,4-Trichlorobenzene	10.3	10	ug/L	25.0		41.0	27-95.5	7.87	30	
Naphthalene	14.7	10	ug/L	25.0		58.9	42-107	0.271	26	
Hexachlorobutadiene	<20	20	ug/L	25.0		17.8	10-110	10.2	30	
4-Chloro-3-methylphenol	22.0	10	ug/L	25.0		87.8	54-138	4.15	12	
2,4,6-Trichlorophenol	25.6	10	ug/L	25.0		102	46-127	9.04	21	
2,4,5-Trichlorophenol	<50	50	ug/L	25.0		102	62-119	9.62	15	
2-Chloronaphthalene	13.3	10	ug/L	25.0		53.0	38-118	8.08	24	
Dimethylphthalate	24.4	15	ug/L	25.0		97.7	58-125	10.2	20	
Acenaphthylene	18.2	10	ug/L	25.0		72.9	41-116	21.3	30	
2,6-Dinitrotoluene	24.1	10	ug/L	25.0		96.5	58-126	7.75	20	
Acenaphthene	18.1	10	ug/L	25.0		72.6	45-117	10.5	27	
2,4-Dinitrophenol	23.2	20	ug/L	25.0		92.7	21-138	10.3	22	
Dibenzofuran	19.2	10	ug/L	25.0		76.8	51-126	8.13	15	
2,4-Dinitrotoluene	23.0	10	ug/L	25.0		92.1	52-134	12.6	22	
4-Nitrophenol	24.0	10	ug/L	25.0		96.2	41-149	7.91	28	
Diethyl Phthalate	<30	30	ug/L	25.0		100	53-132	12.2	22	
Fluorene	20.5	10	ug/L	25.0		81.8	47-126	8.40	27	
4-Chlorophenyl Phenyl Ether	19.9	10	ug/L	25.0		79.6	47-124	10.8	20	
4,6-Dinitro-2-methylphenol	22.0	20	ug/L	25.0		87.9	50-139	7.95	25	
N-Nitrosodiphenylamine	23.5	10	ug/L	25.0		94.2	29-129	19.8	30	
4-Bromophenyl Phenyl Ether	23.2	10	ug/L	25.0		92.9	48-125	15.6	18	
Hexachlorobenzene	23.5	10	ug/L	25.0		94.2	29-137	15.9	30	
Pentachlorophenol	22.2	20	ug/L	25.0		88.6	15-154	10.4	29	
Phenanthrene	23.4	10	ug/L	25.0		93.5	45-136	14.6	27	
Anthracene	22.9	10	ug/L	25.0		91.5	43-135	12.4	28	
Di-n-butyl Phthalate	24.8	10	ug/L	25.0		99.4	42-153	13.2	29	
Fluoranthene	24.3	10	ug/L	25.0		97.2	42-143	12.2	30	
Pyrene	24.8	10	ug/L	25.0		99.2	40-146	17.7	25	
Butyl Benzyl Phthalate	24.4	10	ug/L	25.0		97.8	40-151	16.9	29	
Benzo(a)anthracene	23.8	10	ug/L	25.0		95.1	48-136	14.7	30	
Chrysene	24.1	10	ug/L	25.0		96.4	50-136	13.4	30	
Bis(2-Ethylhexyl) Phthalate	29.4	10	ug/L	25.0		118	34-180	20.8	30	
Di-n-octyl Phthalate	26.0	10	ug/L	25.0		104	40-165	14.8	30	
Indeno(1,2,3-cd)Pyrene	21.4	10	ug/L	25.0		85.6	39-152	14.3	30	
Benzo(b)Fluoranthene	23.5	10	ug/L	25.0		93.9	52-140	13.1	30	
Benzo(k)Fluoranthene	26.0	10	ug/L	25.0		104	47-147	17.6	30	
Benzo(a)Pyrene	25.0	10	ug/L	25.0		100	38-142	19.2	30	
Dibenzo(a,h)anthracene	21.4	10	ug/L	25.0		85.6	37-153	20.2	30	
Benzo(g,h,i)perylene	20.4	10	ug/L	25.0		81.4	39-157	14.3	30	
Surrogate: 2-Fluorophenol	*20.2*		ug/L	*29.6*		*68.2*	*19-139*			

Determination of Base/Neutral/Acid Extractable Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1348 - EPA 625 BNA - EPA 625										
LCS Dup (1HC1348-BSD1)				Prepared: 03/25/24 12:17 Analyzed: 03/29/24 17:37						
Surrogate: Phenol-d6	*21.5*		ug/L	*30.5*		*70.6*	*14-154*			
Surrogate: Nitrobenzene-d5	*21.9*		ug/L	*30.0*		*72.8*	*17-146*			
Surrogate: 2-Fluorobiphenyl	*23.7*		ug/L	*28.8*		*82.2*	*18-122*			
Surrogate: 2,4,6-Tribromophenol	*30.6*		ug/L	*29.7*		*103*	*21-151*			
Surrogate: Terphenyl-dl4	*30.2*		ug/L	*28.8*		*105*	*27-131*			

Determination of Organochlorine Insecticides & PCBs	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1424 - EPA 608 OC/PCB - EPA 608										
Blank (1HC1424-BLK1)				Prepared: 03/26/24 12:40 Analyzed: 04/03/24 12:16						
Gamma-BHC [Lindane]	<0.05	0.05	ug/L							
Beta-BHC	<0.05	0.05	ug/L							
Heptachlor	<0.05	0.05	ug/L							
Delta-BHC	<0.05	0.05	ug/L							
Aldrin	<0.05	0.05	ug/L							
Heptachlor Epoxide	<0.05	0.05	ug/L							
Endosulfan I	<0.05	0.05	ug/L							
4,4`-DDE	<0.05	0.05	ug/L							
Dieldrin	<0.05	0.05	ug/L							
Endrin	<0.05	0.05	ug/L							
4,4`-DDD	<0.05	0.05	ug/L							
Endosulfan II	<0.05	0.05	ug/L							
4,4`-DDT	<0.05	0.05	ug/L							
Endrin Aldehyde	<0.05	0.05	ug/L							
Endosulfan Sulfate	<0.05	0.05	ug/L							
Chlordane	<0.10	0.10	ug/L							
Toxaphene	<0.20	0.20	ug/L							
Arochlor 1016	<0.20	0.20	ug/L							
Arochlor 1221	<0.20	0.20	ug/L							
Arochlor 1232	<0.20	0.20	ug/L							
Arochlor 1242	<0.20	0.20	ug/L							
Arochlor 1248	<0.20	0.20	ug/L							
Arochlor 1254	<0.20	0.20	ug/L							
Arochlor 1260	<0.20	0.20	ug/L							
Surrogate: Tetrachloro-m-xylene	*0.503*		ug/L	*0.600*		*83.8*	*30-119*			
Surrogate: Decachlorobiphenyl	*0.241*		ug/L	*0.600*		*40.2*	*19-120*			
LCS (1HC1424-BS1)				Prepared: 03/26/24 12:40 Analyzed: 04/03/24 12:31						
Gamma-BHC [Lindane]	0.256	0.05	ug/L	0.250		102	37-127			
Beta-BHC	0.239	0.05	ug/L	0.250		95.4	36-131			

Determination of Organochlorine Insecticides & PCBs	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1424 - EPA 608 OC/PCB - EPA 608										
LCS (1HC1424-BS1)			Prepared: 03/26/24 12:40 Analyzed: 04/03/24 12:31							
Heptachlor	0.271	0.05	ug/L	0.250		108	36-128			
Delta-BHC	0.287	0.05	ug/L	0.250		115	29-147			
Aldrin	0.239	0.05	ug/L	0.250		95.5	41-120			
Heptachlor Epoxide	0.243	0.05	ug/L	0.250		97.1	50-132			
Endosulfan I	0.260	0.05	ug/L	0.250		104	50-133			
4,4`-DDE	0.265	0.05	ug/L	0.250		106	46-140			
Dieldrin	0.235	0.05	ug/L	0.250		93.9	41-138			
Endrin	0.338	0.05	ug/L	0.250		135	32-152			
4,4`-DDD	0.239	0.05	ug/L	0.250		95.7	44-150			
Endosulfan II	0.251	0.05	ug/L	0.250		100	45-141			
4,4`-DDT	0.300	0.05	ug/L	0.250		120	46-145			
Endrin Aldehyde	0.245	0.05	ug/L	0.250		98.0	33-145			
Endosulfan Sulfate	0.255	0.05	ug/L	0.250		102	52-133			
Surrogate: Decachlorobiphenyl	*0.364*		ug/L	*0.600*		*60.6*	*19-120*			
Surrogate: Tetrachloro-m-xylene	*0.552*		ug/L	*0.600*		*92.1*	*30-119*			
LCS Dup (1HC1424-BSD1)			Prepared: 03/26/24 12:40 Analyzed: 04/03/24 12:46							
Gamma-BHC [Lindane]	0.252	0.05	ug/L	0.250		101	37-127	1.59	30	
Beta-BHC	0.222	0.05	ug/L	0.250		89.0	36-131	6.97	30	
Heptachlor	0.271	0.05	ug/L	0.250		108	36-128	0.0129	30	
Delta-BHC	0.281	0.05	ug/L	0.250		112	29-147	2.22	30	
Aldrin	0.238	0.05	ug/L	0.250		95.4	41-120	0.132	30	
Heptachlor Epoxide	0.240	0.05	ug/L	0.250		95.9	50-132	1.26	30	
Endosulfan I	0.262	0.05	ug/L	0.250		105	50-133	0.580	30	
4,4`-DDE	0.260	0.05	ug/L	0.250		104	46-140	1.88	30	
Dieldrin	0.229	0.05	ug/L	0.250		91.4	41-138	2.59	30	
Endrin	0.334	0.05	ug/L	0.250		134	32-152	1.19	30	
4,4`-DDD	0.234	0.05	ug/L	0.250		93.7	44-150	2.15	30	
Endosulfan II	0.243	0.05	ug/L	0.250		97.3	45-141	3.13	30	
4,4`-DDT	0.295	0.05	ug/L	0.250		118	46-145	1.82	30	
Endrin Aldehyde	0.227	0.05	ug/L	0.250		90.6	33-145	7.81	30	
Endosulfan Sulfate	0.252	0.05	ug/L	0.250		101	52-133	1.39	30	
Surrogate: Tetrachloro-m-xylene	*0.482*		ug/L	*0.600*		*80.2*	*30-119*			
Surrogate: Decachlorobiphenyl	*0.261*		ug/L	*0.600*		*43.5*	*19-120*			

Determination of Conventional Chemistry Parameters	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1230 - General Prep Micro - SM 5210 B										
Blank (1HC1230-BLK1)			Prepared & Analyzed: 03/21/24 15:03							

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC1428

Determination of Conventional Chemistry Parameters	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1230 - General Prep Micro - SM 5210 B										
Blank (1HC1230-BLK1)			Prepared & Analyzed: 03/21/24 15:03							
BOD (5 day)	<2	2	mg/L							B-06
Duplicate (1HC1230-DUP1)	**Source: 1HC1390-02**		Prepared & Analyzed: 03/21/24 15:43							
BOD (5 day)	265	60	mg/L		334			22.9	29	
Reference (1HC1230-SRM1)			Prepared & Analyzed: 03/21/24 15:09							
BOD (5 day)	174	100	mg/L	198		88.0	84.6-115.4			
Batch 1HC1249 - Wet Chem Preparation - USGS I-1750-85										
Blank (1HC1249-BLK1)			Prepared: 03/22/24 07:55 Analyzed: 03/22/24 10:30							
Total Dissolved Solids (TDS)	<5	5	mg/L							
LCS (1HC1249-BS1)			Prepared: 03/22/24 07:55 Analyzed: 03/22/24 10:30							
Total Dissolved Solids (TDS)	99	5	mg/L	100		98.8	71-114			
Duplicate (1HC1249-DUP1)	**Source: 1HC1428-01**		Prepared: 03/22/24 07:55 Analyzed: 03/22/24 10:30							
Total Dissolved Solids (TDS)	2560	5	mg/L		2710			5.68	30	
Batch 1HC1340 - Wet Chem Preparation - EPA 351.2										
Blank (1HC1340-BLK1)			Prepared & Analyzed: 03/25/24 11:58							
Nitrogen, Kjeldahl, total	<0.50	0.50	mg/L							
LCS (1HC1340-BS1)			Prepared & Analyzed: 03/25/24 11:58							
Nitrogen, Kjeldahl, total	19.0	0.50	mg/L	20.0		94.8	90-110			
Matrix Spike (1HC1340-MS1)	**Source: 1HC1394-02**		Prepared & Analyzed: 03/25/24 11:58							
Nitrogen, Kjeldahl, total	51.1	1.25	mg/L	50.0	7.81	86.7	90-110			QM-07
Matrix Spike Dup (1HC1340-MSD1)	**Source: 1HC1394-02**		Prepared & Analyzed: 03/25/24 11:58							
Nitrogen, Kjeldahl, total	58.4	1.25	mg/L	50.0	7.81	101	90-110	13.3	10	QM-07
Batch 1HC1449 - Wet Chem Preparation - SM 4500 H+ B										
Duplicate (1HC1449-DUP1)	**Source: 1HC1393-01**		Prepared: 03/26/24 16:08 Analyzed: 03/26/24 16:10							
pH	7.0	0.5	pH		7.0			0.0711	10	
Reference (1HC1449-SRM1)			Prepared: 03/26/24 16:08 Analyzed: 03/26/24 16:10							
pH	7.0	0.5	pH	7.00		99.4	90-110			
Reference (1HC1449-SRM2)			Prepared: 03/26/24 16:08 Analyzed: 03/26/24 16:10							
pH	7.0	0.5	pH	7.00		99.5	90-110			
Batch 1HC1459 - Wet Chem Preparation - USGS I-3765-85										
Blank (1HC1459-BLK1)			Prepared: 03/27/24 08:01 Analyzed: 03/27/24 12:27							
Total Suspended Solids (TSS)	<1	1	mg/L							
LCS (1HC1459-BS1)			Prepared: 03/27/24 08:01 Analyzed: 03/27/24 12:27							
Total Suspended Solids (TSS)	14.0	1	mg/L	15.0		93.3	74-114			

Determination of Conventional Chemistry Parameters	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1459 - Wet Chem Preparation - USGS I-3765-85										
Duplicate (1HC1459-DUP1)	**Source: 1HC1426-04**		Prepared: 03/27/24 08:01 Analyzed: 03/27/24 12:27							
Total Suspended Solids (TSS)	<1	1	mg/L		3.5				30	
Batch 1HC1664 - TOC/DOC - 5310B										
Blank (1HC1664-BLK1)			Prepared: 03/27/24 00:00 Analyzed: 03/27/24 10:28							
Total Organic Carbon	<0.50	0.50	mg/L							
LCS (1HC1664-BS1)			Prepared: 03/27/24 00:00 Analyzed: 03/27/24 09:58							
Total Organic Carbon	5.42	0.50	mg/L	5.00		108	86-120			
LCS Dup (1HC1664-BSD1)			Prepared: 03/27/24 00:00 Analyzed: 03/27/24 10:14							
Total Organic Carbon	5.36	0.50	mg/L	5.00		107	86-120	1.00	10	
Duplicate (1HC1664-DUP1)	**Source: 1HC1212-01**		Prepared: 03/27/24 00:00 Analyzed: 03/29/24 15:17							
Total Organic Carbon	34.20	0.50	mg/L		35.49			3.70	20	
Batch 1HD0047 - General Prep HPLC/IC - TIMBERLINE										
Blank (1HD0047-BLK1)			Prepared: 04/01/24 13:36 Analyzed: 04/01/24 14:59							
Nitrogen, Ammonia	<0.10	0.10	mg/L							
LCS (1HD0047-BS1)			Prepared: 04/01/24 13:36 Analyzed: 04/01/24 15:01							
Nitrogen, Ammonia	4.99	0.10	mg/L	5.00		99.9	90-114			
Matrix Spike (1HD0047-MS1)	**Source: 1HC1365-02**		Prepared: 04/01/24 13:36 Analyzed: 04/01/24 15:02							
Nitrogen, Ammonia	5.87	0.10	mg/L	5.00	0.722	103	84-115			
Matrix Spike Dup (1HD0047-MSD1)	**Source: 1HC1365-02**		Prepared: 04/01/24 13:36 Analyzed: 04/01/24 15:04							
Nitrogen, Ammonia	5.86	0.10	mg/L	5.00	0.722	103	84-115	0.142	20	

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1285 - EPA 7470A Hg Water - 245.1										
Blank (1HC1285-BLK1)			Prepared: 03/22/24 15:03 Analyzed: 03/26/24 14:00							
Mercury, total	<0.00050	0.00050	mg/L							
LCS (1HC1285-BS1)			Prepared: 03/22/24 15:03 Analyzed: 03/26/24 14:02							
Mercury, total	0.00214	0.00050	mg/L	0.00250		85.8	85-115			
Matrix Spike (1HC1285-MS1)	**Source: 1HC1142-01**		Prepared: 03/22/24 15:03 Analyzed: 03/26/24 14:07							
Mercury, total	0.00236	0.00050	mg/L	0.00250	ND	94.5	70-130			
Matrix Spike Dup (1HC1285-MSD1)	**Source: 1HC1142-01**		Prepared: 03/22/24 15:03 Analyzed: 03/26/24 14:09							
Mercury, total	0.00242	0.00050	mg/L	0.00250	ND	96.8	70-130	2.47	10	
Batch 1HC1319 - EPA 200.2 Total ICP-MS - EPA 200.8										
Blank (1HC1319-BLK1)			Prepared: 03/25/24 08:50 Analyzed: 03/26/24 02:13							
Arsenic, total	<0.0020	0.0020	mg/L							

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1319 - EPA 200.2 Total ICP-MS - EPA 200.8										
Blank (1HC1319-BLK1)			Prepared: 03/25/24 08:50 Analyzed: 03/26/24 02:13							
Barium, total	<0.0020	0.0020	mg/L							
Cadmium, total	<0.0002	0.0002	mg/L							
Chromium, total	<0.0008	0.0008	mg/L							
Copper, total	<0.0020	0.0020	mg/L							
Lead, total	<0.0008	0.0008	mg/L							
Nickel, total	<0.0040	0.0040	mg/L							
Selenium, total	<0.0040	0.0040	mg/L							
Silver, total	<0.0020	0.0020	mg/L							
Zinc, total	<0.0200	0.0200	mg/L							
LCS (1HC1319-BS1)			Prepared: 03/25/24 08:50 Analyzed: 03/26/24 02:20							
Arsenic, total	0.0943	0.0020	mg/L	0.100		94.3	85-115			
Barium, total	0.103	0.0020	mg/L	0.100		103	85-115			
Cadmium, total	0.0931	0.0002	mg/L	0.100		93.1	85-115			
Chromium, total	0.0915	0.0008	mg/L	0.100		91.5	85-115			
Copper, total	0.0989	0.0020	mg/L	0.100		98.9	85-115			
Lead, total	0.0975	0.0008	mg/L	0.100		97.5	85-115			
Nickel, total	0.0938	0.0040	mg/L	0.100		93.8	85-115			
Selenium, total	0.0935	0.0040	mg/L	0.100		93.5	85-115			
Silver, total	0.0976	0.0020	mg/L	0.100		97.6	85-115			
Zinc, total	0.0956	0.0200	mg/L	0.100		95.6	85-115			
Matrix Spike (1HC1319-MS1)	**Source: 1HC1302-02**		Prepared: 03/25/24 08:50 Analyzed: 03/26/24 02:32							
Arsenic, total	0.0967	0.0020	mg/L	0.100	0.0015	95.2	70-130			
Barium, total	0.185	0.0020	mg/L	0.100	0.0817	104	70-130			
Cadmium, total	0.0916	0.0002	mg/L	0.100	ND	91.6	70-130			
Chromium, total	0.0910	0.0008	mg/L	0.100	0.0009	90.1	70-130			
Copper, total	0.104	0.0020	mg/L	0.100	0.0109	93.2	70-130			
Lead, total	0.0911	0.0008	mg/L	0.100	ND	91.1	70-130			
Nickel, total	0.0930	0.0040	mg/L	0.100	0.0022	90.9	70-130			
Selenium, total	0.0908	0.0040	mg/L	0.100	0.0012	89.6	70-130			
Silver, total	0.0953	0.0020	mg/L	0.100	ND	95.3	70-130			
Zinc, total	0.112	0.0200	mg/L	0.100	0.0221	90.4	70-130			
Matrix Spike Dup (1HC1319-MSD1)	**Source: 1HC1302-02**		Prepared: 03/25/24 08:50 Analyzed: 03/26/24 02:38							
Arsenic, total	0.0953	0.0020	mg/L	0.100	0.0015	93.9	70-130	1.42	20	
Barium, total	0.186	0.0020	mg/L	0.100	0.0817	104	70-130	0.105	20	
Cadmium, total	0.0913	0.0002	mg/L	0.100	ND	91.3	70-130	0.343	20	
Chromium, total	0.0904	0.0008	mg/L	0.100	0.0009	89.5	70-130	0.693	20	
Copper, total	0.105	0.0020	mg/L	0.100	0.0109	93.7	70-130	0.434	20	
Lead, total	0.0915	0.0008	mg/L	0.100	ND	91.5	70-130	0.401	20	
Nickel, total	0.0922	0.0040	mg/L	0.100	0.0022	90.0	70-130	0.877	20	
Selenium, total	0.0938	0.0040	mg/L	0.100	0.0012	92.6	70-130	3.25	20	
Silver, total	0.0956	0.0020	mg/L	0.100	ND	95.6	70-130	0.350	20	
Zinc, total	0.112	0.0200	mg/L	0.100	0.0221	89.8	70-130	0.525	20	
Post Spike (1HC1319-PS1)	**Source: 1HC1302-02**		Prepared: 03/25/24 08:50 Analyzed: 03/26/24 02:44							

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1319 - EPA 200.2 Total ICP-MS - EPA 200.8										
Post Spike (1HC1319-PS1)	**Source: 1HC1302-02**		Prepared: 03/25/24 08:50 Analyzed: 03/26/24 02:44							
Arsenic, total	0.0809		mg/L	0.0800	0.0014	99.4	70-130			
Barium, total	0.167		mg/L	0.0800	0.0801	109	70-130			
Cadmium, total	0.0768		mg/L	0.0800	0.00001	96.0	70-130			
Chromium, total	0.0763		mg/L	0.0800	0.0008	94.4	70-130			
Copper, total	0.0885		mg/L	0.0800	0.0107	97.3	70-130			
Lead, total	0.0790		mg/L	0.0800	0.0004	98.3	70-130			
Nickel, total	0.0792		mg/L	0.0800	0.0021	96.4	70-130			
Selenium, total	0.0755		mg/L	0.0800	0.0011	92.9	70-130			
Silver, total	0.0809		mg/L	0.0800	0.0001	101	70-130			
Zinc, total	0.0965		mg/L	0.0800	0.0217	93.6	70-130			
Batch 1HC1368 - EPA 200.2 Total ICP-OES (200.7) - 200.7										
Blank (1HC1368-BLK1)			Prepared: 03/25/24 15:29 Analyzed: 03/26/24 19:44							
Iron, total	<0.100	0.100	mg/L							
LCS (1HC1368-BS1)			Prepared: 03/25/24 15:29 Analyzed: 03/26/24 19:49							
Iron, total	2.37	0.100	mg/L	2.20		108	85-115			
Matrix Spike (1HC1368-MS1)	**Source: 1HC1428-01**		Prepared: 03/25/24 15:29 Analyzed: 03/26/24 20:06							
Iron, total	43.7	0.100	mg/L	2.20	38.6	235	70-130			QM-4X
Matrix Spike Dup (1HC1368-MSD1)	**Source: 1HC1428-01**		Prepared: 03/25/24 15:29 Analyzed: 03/26/24 20:27							
Iron, total	44.2	0.100	mg/L	2.20	38.6	254	70-130	0.926	20	QM-4X
Post Spike (1HC1368-PS1)	**Source: 1HC1428-01**		Prepared: 03/25/24 15:29 Analyzed: 03/26/24 20:37							
Iron, total	47.8		mg/L	8.80	38.6	104	85-115			

Definitions

B-06: Unseeded Blank equals .27mg/L

I-03: Analyte required to be analyzed within 15 minutes of sampling. Analysis performed upon receipt of sample at laboratory.

PH-6: Insufficient preservative to adjust the sample pH to less than 2, value measured at 7 pH units. Sample was analyzed within 7 days recommended for non-preserved samples.

QM-07: The spike recovery and/or RPD was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

QM-4X: The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration.

QR-02: The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

R-06: The Reporting Limits for this analysis are elevated due to excessive sediment in the sample container.

RL: Reporting Limit

RPD: Relative Percent Difference

S-GC: Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

Cooler Receipt Log

Cooler ID: Default Cooler   Temp: 0.0°C

Cooler Inspection Checklist

Custody Seals	No	Containers Intact	Yes
COC/Labels Agree	Yes	Preservation Confirmed	No
Received On Ice	Yes		

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Heather A Murphy

Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
04/04/24 16:39

Keystone LABORATORIES A Microbac Company

600 East 17th Street
Newton, IA 50208
641-792-8451

1 H C 1 4 2 8
HLW Engineering
PM: Heather Murphy

SITE INFORMATION

Sampler: JGH

Project: Fremont County-Leachate
Leachate Sampling

REPORT TO

Todd Whipple
HLW Engineering
PO Box 314
Story City, IA 50248

INVOICE TO

Casey Moyer
Fremont County Landfill
PO Box 487, 2870 250th St
Sidney, IA 51652

SPECIAL INSTRUCTIONS

None

Turn Around Time
☒ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY

Work Order 1HC1428
Temperature 0.0
Turn-Cooler: No

☐ Custody Seal
☒ Containers Intact
☒ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
-001	Leachate Tank	Water	GRAB	3/20/24	12:30	12	608-107, 624@dibromochloromethane, 624-105, 625-116, ag-t-200.8, as-t-200.8, ba-t-200.8, bod-5210, cd-t-200.8, cr-t-200.8, cu-t-200.8, fe-t-200.7, hg-t-245.1, nh3-timberline, ni-t-200.8, pb-t-200.8, ph-4500, se-t-200.8, tds-i-1750-85, tkn-351.2, toc-5310b, tss-i-3765-85, zn-t-200.8	01

Relinquished By	Date/Time	Relinquished By	Date/Time
J. Clift	3/21/24		
Received By	**Date/Time**	**Received for Lab By**	**Date/Time**
		Maher	3/21/24 9:48

Remarks: