November 25, 2024

Mr. Geoffrey Spain
IDNR – Land Quality Bureau
6200 Park Avenue, Suite 200
Des Moines, Iowa 50321

HLW Engineering Group
Engineering Management

RE: 1945 LANDFILL - NEWTON SANITARY LANDFILL
2024 ANNUAL WATER QUALITY REPORT & LANDFILL GAS REPORT
PERMIT # 50-SDP-1-75P

Dear Mr. Spain:

This letter forwards the results of water quality testing and explosive gas monitoring at the 1945 Landfill – Newton Sanitary Landfill that were performed in accordance with the Revised Permit dated March 4, 2022 (Doc #102501).

Hydrologic Monitoring System Plan (HMSP) & Gas Monitoring System Plan (GMSP)

1) Based on the discovery of VOC in SW-101R in 2019, a Passive Engineered Conveyance Structure (PECS) was constructed to remedy the water quality in accordance with the IDNR Memorandum of Understanding dated August 7, 2012. Construction Certification of the PECS was submitted to IDNR on May 7, 2020 (Doc #97694). Monitoring point PECS-1 was added to the HMSP in 2021 to document the absence of VOC in water as it exits the PECS.
2) Monitoring Well MW-45 was plugged on May 24, 2021, and replaced with MW-45R in the HMSP. This was approved on June 8, 2021 (Doc #100635).
3) On March 4, 2024, and September 23, 2024, each point in the HMSP (Figure 1, 2 & 3) for the 1945 Landfill was sampled in accordance with the Revised Permit dated March 4, 2022 (Doc #102501). Each sample was analyzed for parameters listed in Appendix I and/or Appendix II, IAC 567, Chapter 113.
4) Water Elevation Measurements were collected at each well at the time of sample collection. Figure 3 is attached illustrating the Groundwater Contours across the site.
5) Liquid levels in leachate piezometers LPZ-209, LPZ-210, and LPZ-211 were measured in 2024 according to the Permit. The IDNR letter dated October 5, 2020 (Doc #98580) allowed the frequency of leachate head measurements in leachate piezometers LPZ-209, LPZ-210, and LPZ-211 to be reduced from monthly to quarterly.
6) Explosive Gas was monitored quarterly in site structures and in subsurface gas probes 1-10 as approved by Permit Special Provision 5.
7) A Monitoring Well Maintenance Performance Reevaluation (MWMPR) is due every five (5) years. The most recent was submitted to IDNR May 11, 2021 (Doc #100448). The MWMPR concluded that all wells were performing satisfactorily and that no changes to the HMSP were necessary. The next MWMPR is due in 2026.

Results of the HMSP Activities

The Keystone Analytical Reports for March 4, 2024 and September 23, 2024 sample analyses from the 1945 Landfill are included in Attachment A. The Field Sampling Forms for each sample collection event are included in Attachment B. Note that MW-45 was plugged and abandoned on May 24, 2021, and replaced with MW45R. MW-45R has been dry since installation and is discussed further in a later section of this report.

PECS Performance

Review of the current year data indicates that no VOC were detected in PECS-1 on March 4, 2024 and that no VOC were detected <u>and</u> verified in PECS-1 on September 23, 2024 (per resample on November 14, 2024). The data indicate that the PECS is performing satisfactorily.

A summary of water quality testing performed to date since issuance of the Revised Permit dated December 20, 2023 (Doc #108517) follows.

Date	MW-44	MW-45 MW-45R	MW-56	MW-57	MW-64	MW-65	SW-101R
9/14/2016	Appendix I	Appendix I	**Appendix II**	Appendix I	**Appendix II**	**Appendix II**	---
9/8/2017	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I	---
12/5/2017	As, Co	---	Ni	Ba	---	---	---
3/19/2018	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I	---
9/11/2018	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I	---
3/26/2019	**Appendix II**	Appendix I	Appendix I	Appendix I	**Appendix II**	**Appendix II**	---
9/4/2019	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I	---
3/26/2020	**Appendix II**	**Appendix II**	Appendix I	Appendix I	Appendix I	Appendix I	**Appendix II**
6/18/2020	---	---	---	Ba, Cu	---	---	---
9/15/2020	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I
12/3/2020	---	Co	---	Ba	---	---	---
3/2/2021	Appendix I	**Broken**	Appendix I	Appendix I	Appendix I	Appendix I	**Appendix II**
9/7/2021	Appendix I	Dry	**Appendix II**	Appendix I	Appendix I	Appendix I	Appendix I
3/24/2022	Appendix I	Dry	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I
6/13/2022	---	---	---	---	---	---	As
8/31/2022	Appendix I	Dry	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I
11/15/2022	---	---	---	Ba, Cu	---	---	---
3/2/2023	Appendix I	Dry	Appendix I	**Appendix II**	Appendix I	Appendix I	Appendix I
9/12/2023	Appendix I	Dry	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I
3/4/2024	Appendix I	Dry	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I
9/23/2024	Appendix I	Dry	Appendix I	Appendix I	Appendix I	Appendix I	Appendix I

MW-44, MW-56, MW-64, MW-65, and SW-101R are part of on-going approved corrective actions and full Appendix II sampling is no longer required at the referenced sampling points. Review of the frequency of full Appendix II sampling in the assessment monitoring program (only MW-57) indicates that MW-57 should have had the full Appendix II sample collected in 2024. This was an oversight by HLW. The full Appendix II sample is scheduled to be collected in March, 2025.

Review of the current year's data indicates that a total of nine (9) different compounds were detected at this site based on the downgradient wells sampled. A summary of detected compounds (to date) from the Appendix I/Appendix II list and the reported concentration at each monitoring well is also included in Attachment A.

Barium, cobalt, nickel, and zinc are generally detected at all site monitoring wells during each year. The remaining inorganic compounds, when detected, are reported less frequently at far fewer wells.

Note that no compounds exclusive to the Appendix II list have been detected to date, only Appendix I compounds have been detected. The exception to this statement is the single detection of bis(2-ethylhexyl) phthalate at MW-57 on March 2, 2023 (7.0 ug/L).

Review of the Summary of Appendix I Detections (Attachment A) indicates that VOC detections are restricted to well MW-56, MW-64, and SW-101R. MW-56 has been tested for supplemental VOC since May 10, 1995 (Amendment #2 to the December 29, 1994 Permit). MW-64 and MW-65 have been tested for supplemental

VOC since March 24, 1998 (Amendment #1 to the December 29, 1997 Permit). The supplemental VOC associated with the Appendix II sampling list was performed at MW-64 and MW-65 on March 14, 2016, and on March 26, 2019. The supplemental VOC associated with the Appendix II sampling list was performed at SW-101R on March 26, 2020, and on March 2, 2021. No additional VOC were detected at MW-64, MW-65, or SW-101R.

Compound concentrations that exceeded the Prediction limit in 2024 are summarized as:

MW-44 – arsenic, cobalt, nickel
MW-56 – 1,1-dichloroethane
MW-57 – none
MW-64 – vinyl chloride, 1,1-dichloroethane, cis-1,2-dichloroethene, arsenic, cobalt, nickel, zinc
MW-65 – arsenic, cobalt, copper, nickel
SW-101R - vinyl chloride, cis-1,2-dichloroethene

Comparison to GWPS
<u>VOC -</u> VOC concentrations are not detected at MW-44, MW-45R, MW-57, or MW-65. All reported VOC concentrations at MW-56, MW-64, and SW—101R have been below the Statewide Standard for Protected Groundwater included in IAC 567, Chapter 137, the groundwater protection standard (GWPS), except for vinyl chloride at MW-56, MW-64, and SW-101R.

MW-56 - 9/14/2016 – vinyl chloride (2.8 ug/L), exceeds the GWPS of 2.0 ug/L
9/08/2017 - vinyl chloride (4.2 ug/L), exceeds the GWPS of 2.0 ug/L
9/07/2021 - vinyl chloride (2.2 ug/L), exceeds the GWPS of 2.0 ug/L

MW-64 - 9/14/2016 – vinyl chloride (23.7 ug/L), exceeds the GWPS of 2.0 ug/L
9/08/2017 - vinyl chloride (17.4 ug/L), exceeds the GWPS of 2.0 ug/L
3/19/2018 - vinyl chloride (14.4 ug/L), exceeds the GWPS of 2.0 ug/L
9/11/2018 - vinyl chloride (7.9 ug/L), exceeds the GWPS of 2.0 ug/L
3/26/2019 - vinyl chloride (7.0 ug/L), exceeds the GWPS of 2.0 ug/L
9/4/2019 - vinyl chloride (5.6 ug/L), exceeds the GWPS of 2.0 ug/L
3/26/2020 - vinyl chloride (3.7 ug/L), exceeds the GWPS of 2.0 ug/L
9/15/2020 - vinyl chloride (5.6 ug/L), exceeds the GWPS of 2.0 ug/L
3/2/2021 - vinyl chloride (3.4 ug/L), exceeds the GWPS of 2.0 ug/L
9/7/2021 - vinyl chloride (2.6 ug/L), exceeds the GWPS of 2.0 ug/L
3/4/2024 - vinyl chloride (2.7 ug/L), exceeds the GWPS of 2.0 ug/L

SW-101R - 9/7/2021 - vinyl chloride (4.6 ug/L), exceeds the GWPS of 2.0 ug/L
3/24/2022 - vinyl chloride (6.5 ug/L), exceeds the GWPS of 2.0 ug/L
8/31/2022 - vinyl chloride (3.9 ug/L), exceeds the GWPS of 2.0 ug/L
3/2/2023 - vinyl chloride (5.9 ug/L), exceeds the GWPS of 2.0 ug/L
9/12/2023 - vinyl chloride (4.4 ug/L), exceeds the GWPS of 2.0 ug/L
3/4/2024 - vinyl chloride (5.3 ug/L), exceeds the GWPS of 2.0 ug/L
9/23/2024 - vinyl chloride (3.1 ug/L), exceeds the GWPS of 2.0 ug/L

Further evaluation of the vinyl chloride at MW-56 and MW-64 is included in the Remedial Action Effectiveness Evaluation section of this report in accordance with IDNR requirements set forth in the June 6, 2019 Letter (Doc #95334).

Water quality analyses at PECS-1 (the passive engineered conveyance system below SW-101R) indicates that VOC compounds (including vinyl chloride) are undetected (as confirmed by verification sampling on November 14, 2024) to date and are reported as less than the method reporting limit (1 ug/L).

Inorganic Compounds - Cobalt is detected in the background at concentrations that exceed the GWPS, indicating that cobalt is native to groundwater in the region and the Site-Specific GWPS is warranted, as the prediction limit exceeds the Statewide Standard. For this site 0.0069 mg/L is utilized as the Site-Specific GWPS (a value equal to the Prediction Limit derived from the background). Use of a Site-Specific GWPS was approved by IDNR on May 23, 2018 (Doc # 92438).

Results of Appendix I analyses at the site monitoring wells indicate the following inorganic compound concentrations that exceed the GWPS (also highlighted in yellow in the Summary Table in Attachment A).

MW-44 -
9/08/2017 - cobalt (7.3 ug/L), exceeds the GWPS of 6.9 ug/L
3/19/2018 - cobalt (8.9 ug/L), exceeds the GWPS of 6.9 ug/L
9/11/2018 - cobalt (8.4 ug/L), exceeds the GWPS of 6.9 ug/L
3/26/2019 - cobalt (10.2 ug/L), exceeds the GWPS of 6.9 ug/L
9/4/2019 - cobalt (8.7 ug/L), exceeds the GWPS of 6.9 ug/L
3/26/2020 - cobalt (9.2 ug/L), exceeds the GWPS of 6.9 ug/L
9/15/2020 - cobalt (14.5 ug/L), exceeds the GWPS of 6.9 ug/L
3/2/2021 - cobalt (8.8 ug/L), exceeds the GWPS of 6.9 ug/L
9/7/2021 - cobalt (8.1 ug/L), exceeds the GWPS of 6.9 ug/L
3/24/2022 - cobalt (11.0 ug/L), exceeds the GWPS of 6.9 ug/L
8/31/2022 - cobalt (11.6 ug/L), exceeds the GWPS of 6.9 ug/L
3/2/2023 - cobalt (8.8 ug/L), exceeds the GWPS of 6.9 ug/L
9/12/2023 - cobalt (10.7 ug/L), exceeds the GWPS of 6.9 ug/L
3/4/2024 - cobalt (9.7 ug/L), exceeds the GWPS of 6.9 ug/L
9/23/2024 - cobalt (10.3 ug/L), exceeds the GWPS of 6.9 ug/L

9/15/2020 - arsenic (13.1 ug/L), exceeds the GWPS of 10.0 ug/L
9/12/2023 - arsenic (10.8 ug/L), exceeds the GWPS of 10.0 ug/L
9/23/2024 - arsenic (11.9 ug/L), exceeds the GWPS of 10.0 ug/L

MW-64 -
9/14/2016 - cobalt (27.0 ug/L), exceeds the GWPS of 6.9 ug/L
9/08/2017 - cobalt (34.4 ug/L), exceeds the GWPS of 6.9 ug/L
3/19/2018 - cobalt (19.1 ug/L), exceeds the GWPS of 6.9 ug/L
9/11/2018 - cobalt (25.1 ug/L), exceeds the GWPS of 6.9 ug/L
3/26/2019 - cobalt (16.1 ug/L), exceeds the GWPS of 6.9 ug/L
9/4/2019 - cobalt (23.0 ug/L), exceeds the GWPS of 6.9 ug/L
3/26/2020 - cobalt (14.7 ug/L), exceeds the GWPS of 6.9 ug/L
9/15/2020 - cobalt (20.8 ug/L), exceeds the GWPS of 6.9 ug/L
3/2/2021 - cobalt (14.6 ug/L), exceeds the GWPS of 6.9 ug/L
9/7/2021 - cobalt (21.0 ug/L), exceeds the GWPS of 6.9 ug/L
3/24/2022 - cobalt (11.8 ug/L), exceeds the GWPS of 6.9 ug/L
8/31/2022 - cobalt (21.6 ug/L), exceeds the GWPS of 6.9 ug/L
3/2/2023 - cobalt (11.0 ug/L), exceeds the GWPS of 6.9 ug/L
9/12/2023 - cobalt (18.7 ug/L), exceeds the GWPS of 6.9 ug/L
3/4/2024 - cobalt (12.0 ug/L), exceeds the GWPS of 6.9 ug/L
9/23/2024 - cobalt (17.9 ug/L), exceeds the GWPS of 6.9 ug/L

9/14/2016 - arsenic (21.6 ug/L), exceeds the GWPS of 10.0 ug/L
3/19/2018 - arsenic (19.3 ug/L), exceeds the GWPS of 10.0 ug/L

9/11/2018 - arsenic (24.2 ug/L), exceeds the GWPS of 10.0 ug/L
3/26/2019 - arsenic (40.2 ug/L), exceeds the GWPS of 10.0 ug/L
9/4/2019 - arsenic (22.2 ug/L), exceeds the GWPS of 10.0 ug/L
3/26/2020 - arsenic (40.3 ug/L), exceeds the GWPS of 10.0 ug/L
9/15/2020 - arsenic (21.1 ug/L), exceeds the GWPS of 10.0 ug/L
3/2/2021 - arsenic (20.2 ug/L), exceeds the GWPS of 10.0 ug/L
9/7/2021 - arsenic (25.2 ug/L), exceeds the GWPS of 10.0 ug/L
3/24/2022 - arsenic (19.2 ug/L), exceeds the GWPS of 10.0 ug/L
8/31/2022 - arsenic (27.4 ug/L), exceeds the GWPS of 10.0 ug/L
3/2/2023 - arsenic (26.4 ug/L), exceeds the GWPS of 10.0 ug/L
9/12/2023 - arsenic (23.1 ug/L), exceeds the GWPS of 10.0 ug/L
3/4/2024 - arsenic (29.6 ug/L), exceeds the GWPS of 10.0 ug/L
9/23/2024 - arsenic (30.6 ug/L), exceeds the GWPS of 10.0 ug/L

MW-65 - 9/14/2016 - cobalt (10.7 ug/L), exceeds the GWPS of 6.9 ug/L
3/19/2018 - cobalt (8.8 ug/L), exceeds the GWPS of 6.9 ug/L
9/11/2018 - cobalt (11.3 ug/L), exceeds the GWPS of 6.9 ug/L
3/26/2019 - cobalt (10.0 ug/L), exceeds the GWPS of 6.9 ug/L
3/2/2023 - cobalt (9.3 ug/L), exceeds the GWPS of 6.9 ug/L
3/4/2024 - cobalt (9.2 ug/L), exceeds the GWPS of 6.9 ug/L

There have been no inorganic compound concentrations detected to date at MW-56, MW-57, or SW-101R that have exceeded a GWPS.

Confidence Limit Comparisons
The compounds with detections that exceed the current site prediction limits (highlighted in red text in the Summary Table in Attachment A) have the 95% lower confidence limits (LCL) calculated 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.

The confidence limit calculations are based on the most recent four (4) results and afford the values to be presented as a running trend. The Fall, 2024 results are as follows:

MW-44 arsenic 95% LCL (1.449 ug/L) is below the GWPS of 10.0 ug/L.
cobalt 95% LCL (8.903 ug/L) **exceeds** the Site Specific GWPS of 6.9 ug/L.
nickel 95% LCL (9.248 ug/L) is below the GWPS of 100.0 ug/L.
zinc 95% LCL (10.000 ug/L) is below the GWPS of 2,000.0 ug/L.

MW-56 vinyl chloride 95% LCL (0.500 ug/L) is below the GWPS of 2.0 ug/L.
1,1-DCA 95% LCL (0.463 ug/L) is below the GWPS of 140.0 ug/L.
benzene 95% LCL (0.500 ug/L) is below the GWPS of 5.0 ug/L.
nickel 95% LCL (2.040 ug/L) is below the GWPS of 100.0 ug/L.
zinc 95% LCL (10.0 ug/L) is below the GWPS of 2,000.0 ug/L.

MW-57 barium 95% LCL (208.264 ug/L) is below the GWPS of 2,000.0 ug/L.
copper 95% LCL (2.000 ug/L) is below the GWPS of 1,300.0 ug/L.

MW-64	vinyl chloride 95% LCL (1.487) ug/L is below the GWPS of 2.0 ug/L. 1,1-DCA 95% LCL (1.425 ug/L) is below the GWPS of 140.0 ug/L. Cis-1,2-dichloroethene 95% LCL (2.483 ug/L) is below the GWPS of 70.0 ug/L. arsenic 95% LCL (23.432 ug/L) **exceeds** the GWPS of 10.0 ug/L. cobalt 95% LCL (10.241 ug/L) **exceeds** the Site Specific GWPS of 6.9 ug/L. copper 95% LCL (2.000 ug/L) is below the GWPS of 1300.0 ug/L. nickel 95% LCL (29.199 ug/L) is below the GWPS of 100.0 ug/L. zinc 95% LCL (0.000 ug/L) is below the GWPS of 2,000.0 ug/L.
MW-65	arsenic 95% LCL (2.729 ug/L) is below the GWPS of 10.0 ug/L. cobalt 95% LCL (3.304 ug/L) is below the Site Specific GWPS of 6.9 ug/L. copper 95% LCL (0.717 ug/L) is below the GWPS of 1300.0 ug/L. nickel 95% LCL (7.629 ug/L) is below the GWPS of 100.0 ug/L. zinc 95% LCL (7.346 ug/L) is below the GWPS of 2,000.0 ug/L.
SW-101R	vinyl chloride 95% LCL (3.243 ug/L) exceeds the GWPS of 2.0 ug/L.

The Confidence Intervals (95% LCL and 95% UCL) for inorganic compounds are summarized in Attachment D of the October, 2024 Otter Creek Report (Attachment C)). The Confidence Intervals (95% LCL and 95% UCL) for VOC are summarized in Attachment E of the October, 2024 Otter Creek Report (Attachment C).

Based on the findings, remedial actions at the historic facility were warranted near MW-44 and MW-64. Remedial measures were previously implemented along the east side of the facility near MW-44 and MW-64. Performance of the existing remedial measures are evaluated in the report section below.

Remedial Action Effectiveness Evaluation

A remedial groundwater collection system was completed along the east side of the 1945 Landfill and was accepted by the City of Newton in 1985 and is currently in operation. This Site Remedial Action and Mitigation Plan (SRAMP) was completed to control impacted groundwater in the vicinity of MW-44.

An additional remedial groundwater collection system was completed along the east side of the 1945 Landfill and was accepted by the City of Newton on September 13, 1995 and is currently in operation. This Site Remedial Action and Mitigation Plan (SRAMP) was completed to control impacted groundwater in the vicinity of MW-56.

The arsenic and cobalt concentrations at MW-44 and MW-64 are summarized in Attachment A. To date, the concentrations appear relatively static.

Tables and graphs illustrating the VOC data trends over time are developed and are included in Attachment D. The vinyl chloride data has been collected routinely at MW-56 since installation of the SRAMP (beginning in December, 1995) and at MW-64 and MW-65 since installation of the monitoring wells (January, 1998).

MW-64 is installed very near (and upgradient) the manhole at the north end of the SRAMP system along the east side of the 1945 landfill. MW-56 is located downgradient of MW-64. MW-65 is located further downgradient of MW-64 and MW-56, near the south site boundary.

Review of the information in Attachment E illustrates a steady to decreasing trend in all VOC contaminant concentrations over time at MW-56, MW-64, and MW-65. VOC have not been detected at MW-44. Review of the raw data indicates that normal variability in contaminant concentrations occurs and that occasional increases/decreases are noted between consecutive sampling episodes.

At MW-65 (furthest downgradient), benzene, vinyl chloride, chlorobenzene, cis-1,2-dichloroethane, and 1,1-dichloroethane have historically been undetected to date, and are reported as below the laboratory method detection limit. The exception is the detection of vinyl chloride at MW-65 (1.2 ug/L) in September, 2008; and again (3.1 ug/L) in September, 2013.

The cobalt and VOC data illustrates an overall decreasing trend in the contaminant concentrations with distance from the waste boundary. It is interpreted that the two (2) SRAMP (installed in 1985 and 1995) are effective in controlling contaminant concentrations in the vicinity of MW-44, MW-56, and MW-64, that contaminant concentrations are captured prior to transport to MW-65, and the impacted groundwater is not released from the site.

Trend Analysis Monitoring Point MW-44

A trend analysis of arsenic and cobalt was prepared and submitted to IDNR on October 17, 2023 (Doc #107956). No trends were identified in the data at MW-44.

Evaluation of HMSP Monitoring Point MW-45R

As documented in the March 23, 2021 Report (Doc #100024), former MW-45 was the only HMSP well in the 1945 landfill that was completed in the shale bedrock. All other wells were completed in the overlying unconsolidated tills or mining spoils. The conclusion was made in the March 23, 2021 Report (Doc #100024), that the detected cobalt concentrations in bedrock well MW-45 were likely naturally elevated relative to the background concentrations found within the unconsolidated clay soils. Intrawell statistical evaluation of all monitoring results from MW-45 were completed and did not indicate any statistical increases and established background for cobalt concentrations within the shale bedrock at 10.669 (see Doc # 100024).

MW-45R was constructed on May 24, 2021, as a replacement well for MW-45 which was found to be broken. MW-45R was intentionally completed in the unconsolidated soils (tills and mining spoils) situated above the shale bedrock in order to establish a replacement well that corresponded to the other wells in the HMSP, including the site background wells.

Water elevation measurements at MW-45R have been collected semi-annually (or more frequently) and all measurements record the well as dry.

Review of the soils and hydrologic information in the vicinity of former MW-45 and MW-45R indicate that the unconsolidated soils thin significantly moving south from the south waste boundary of the 1945 landfill. The unconsolidated soils are 24 feet thick at MW-45R and thin to 12.5 feet thick at former MW-45. It is surmised that the unconsolidated soils at MW-45 were most likely found to be dry at MW-45 during drilling of well cluster MW-45/MW-46 in 1990 and resulted in both the "shallow" well (MW-45) and the "deep" well (MW-46) being completed in the underlying shale bedrock with screen intervals that overlap.

Review of the water table contour map (Figure 3) indicates that flow is predominantly east toward the creek, not to the south. The dry soils that thin to the south and the observed groundwater flow surface that slopes eastward suggest that ground water flow to the south within the unconsolidated soils along the south side of the 1945 landfill is minimal.

It appears that the water table elevation in the vicinity of MW-45R will remain dry over the long term. It is recommended that MW-45R remain in the HMSP for the site to incorporate any future water quality data for the south side of the site should it be obtained. Additionally, maintaining MW-45R in the HMSP will document the absence of water flow to the south.

Quality Assurance/Quality Control
A blind duplicate sample was collected at MW-78 during the March 4, 2024 sampling episode. A blind duplicate sample was collected at MW-59 during the September 23, 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 the 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/or 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 were all within the limits established and indicate that the data quality is acceptable without restriction.

Water Elevation Measurements
Water elevation measurements were collected at each well during sampling on March 4, 2024, and September 23, 2024 (included in the Table in Attachment E). Review of the water elevation data for 2024 does not indicate excessive variability compared to historic water elevation data. The variability in water levels appears to be cyclic over time. A copy of the September, 2024 Water Table Contour Map (Figure 3) is included herein and illustrates groundwater flow paths across the site. The shape of the water table surface illustrated in the map is relatively unchanged from the previous year's map.

Leachate Control System Performance Evaluation
Leachate collection system components do not exist in the 1945 Landfill. There are three (3) leachate piezometers installed in the 1945 landfill. The three (3) piezometers are designated LPZ-209, LPZ-210, and LPZ-211. The leachate levels collected at LPZ-209, LPZ-210, and LPZ-211 (through September, 2024) are summarized in Attachment F. The recorded levels appear relatively static and do not demonstrate significant variations over time.

The IDNR letter dated October 5, 2020 (Doc #98580) allowed the frequency of leachate head measurements in leachate piezometers LPZ-209, LPZ-210, and LPZ-211 to be reduced from monthly to quarterly. Leachate levels at LPZ-209, LPZ-210, and LPZ-211 will be recorded in March, June, September, and December of each year.

Explosive Gas Monitoring from the Well Headspace
The 2024 quarterly explosive gas monitoring that was performed in the breathing zone, within the structures, and in the subsurface gas probes (in accordance with Permit Special Provision 5) is summarized in the Table in Attachment G. The results of the monitoring indicate that gas concentrations were undetected in the breathing zone and in the structures near the 1945 Landfill. Gas concentrations in the subsurface gas probes near the 1945 Landfill are reported as below actionable levels, if detected during any event.

Note that the blue shaded points in the Table included in Attachment H are associated with the 1945 Landfill. The remaining gas monitoring points (unshaded) are associated with Areas A, B, C, and D and will be discussed in the AWQR for Areas A, B, C, and D which will be submitted to IDNR by January 31, 2025.

Ending Regulation under IAC 567, Chapter 113

The water quality data in this report supports ending regulation under IAC 567, Chapter 113.

A Request to End Regulation under Chapter 113 for the 1945 SLF was submitted to IDNR on April 14, 2023 (Doc #106380). An IDNR response was received on October 5, 2023. A Trend Analysis for MW-44 was submitted to IDNR on October 17, 2023 (Doc #107965) in response to the IDNR letter. IDNR staff visited the site on October 18, 2023 to view site conditions to determine eligibility of the 1945 SLF for an Environmental Covenant (EC). The results of this site visit were documented in the Fall, 2023 Semi-Annual Engineer's Inspection Report dated October 24, 2023 (Doc #108033). The items identified during the IDNR site visit are presented and an updated status is presented below:

- *Remove derecho waste stockpile from the cap over the waste boundary of the 1945 SLF.* The stockpile is being removed incrementally as it is used for alternative daily cover as approved in the SDP Permit. The majority of the stockpile has been removed, Mr. Ward expects the entire stockpile to be removed by the Spring, 2025 semi-annual inspection. Upon removal the area will be restored with soil added as needed and seeded.
- *Stake the waste boundary of the 1945 SLF.* Mr. Ward indicated that this work will be done after the derecho stockpile is removed.
- *Remove or fill the remaining structures on the perimeter of the 1945 SLF from the previous leachate force main, two manhole structures associated with the pump station and an air relief valve manhole.* One (of the three) structures has been removed and backfilled.
- *Remove the rubble that protrudes through the cap.* This material has been removed and fill added to restore the cap. The area needs to be seeded.

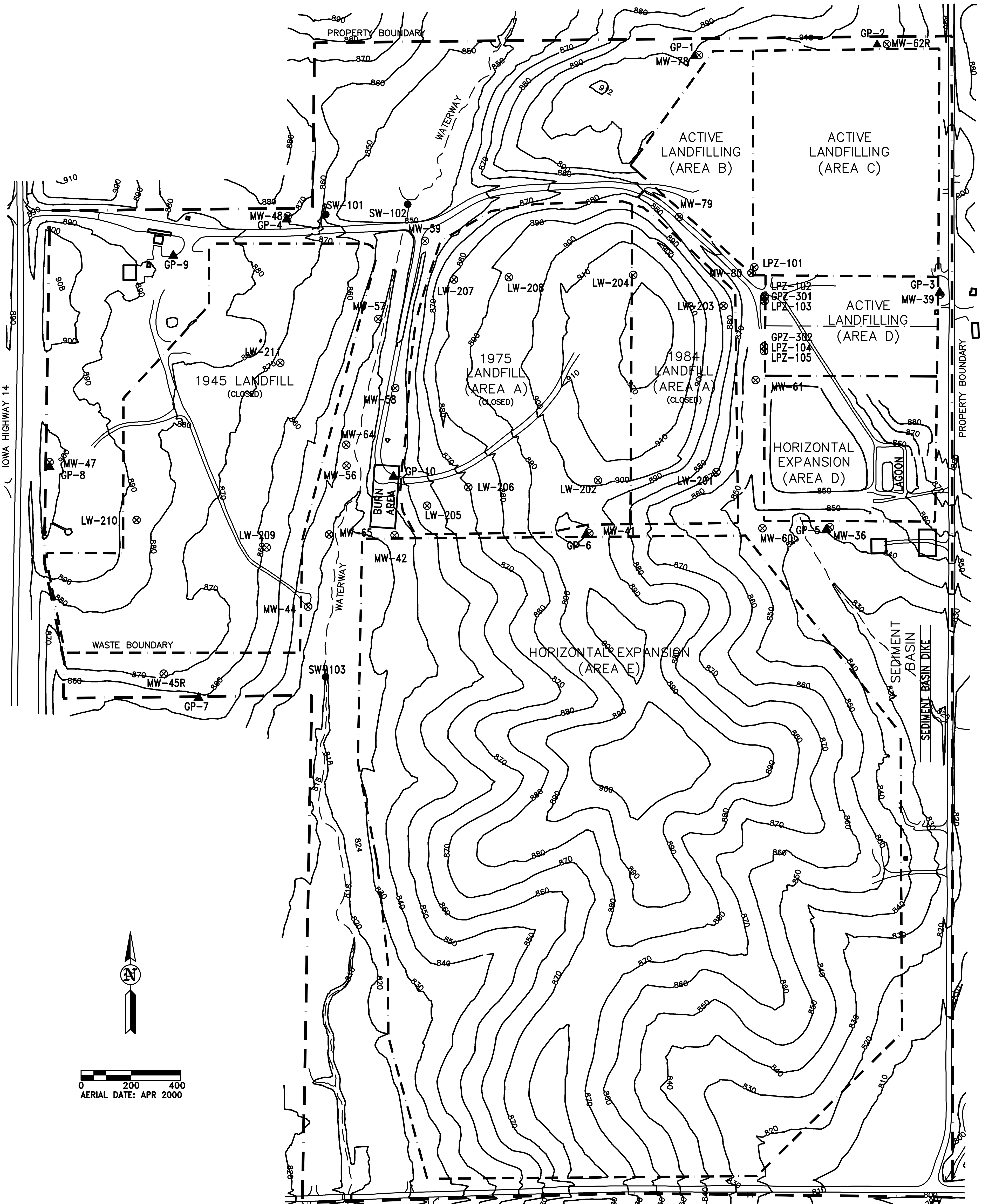
It is anticipated that once these items are addressed an updated request to end regulation will be submitted to IDNR.

Please feel free to contact our office at (515) 733-4144 with any questions you may have.

DOUGLAS J. LUZBETAK LICENSED 12654 IOWA PROFESSIONAL ENGINEER	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa. 11/25/24 DOUGLAS J. LUZBETAK, P.E. DATE License number 12654 My license renewal date is December 31, 2024. Pages or sheets covered by this seal: All except Attachment A + C

cc: *Joe Grife, Public Works Director, Newton, Iowa*
Mike Ward, Public Works Operations Superintendent, Newton, Iowa

HLW Engineering Group, 204 West Broad Street, P.O. Box 314, Story City, Iowa 50248
(515) 733-4144 ◇◇◇ (515) 733-4146 Fax



HLW Engineering Group

204 West Broad Street, P.O. Box 314
Story City, Iowa 50248
Phone: (515) 733-4144
FAX: (515) 733-4146

SITE PLAN (TOTAL PROPERTY)

NEWTON SANITARY LANDFILL
MEWTON, IOWA

FIGURE:	1	
REVISION	NO.	DATE
DRAWN DRA	PROJECT NO. 6002	DATE 10-10-24

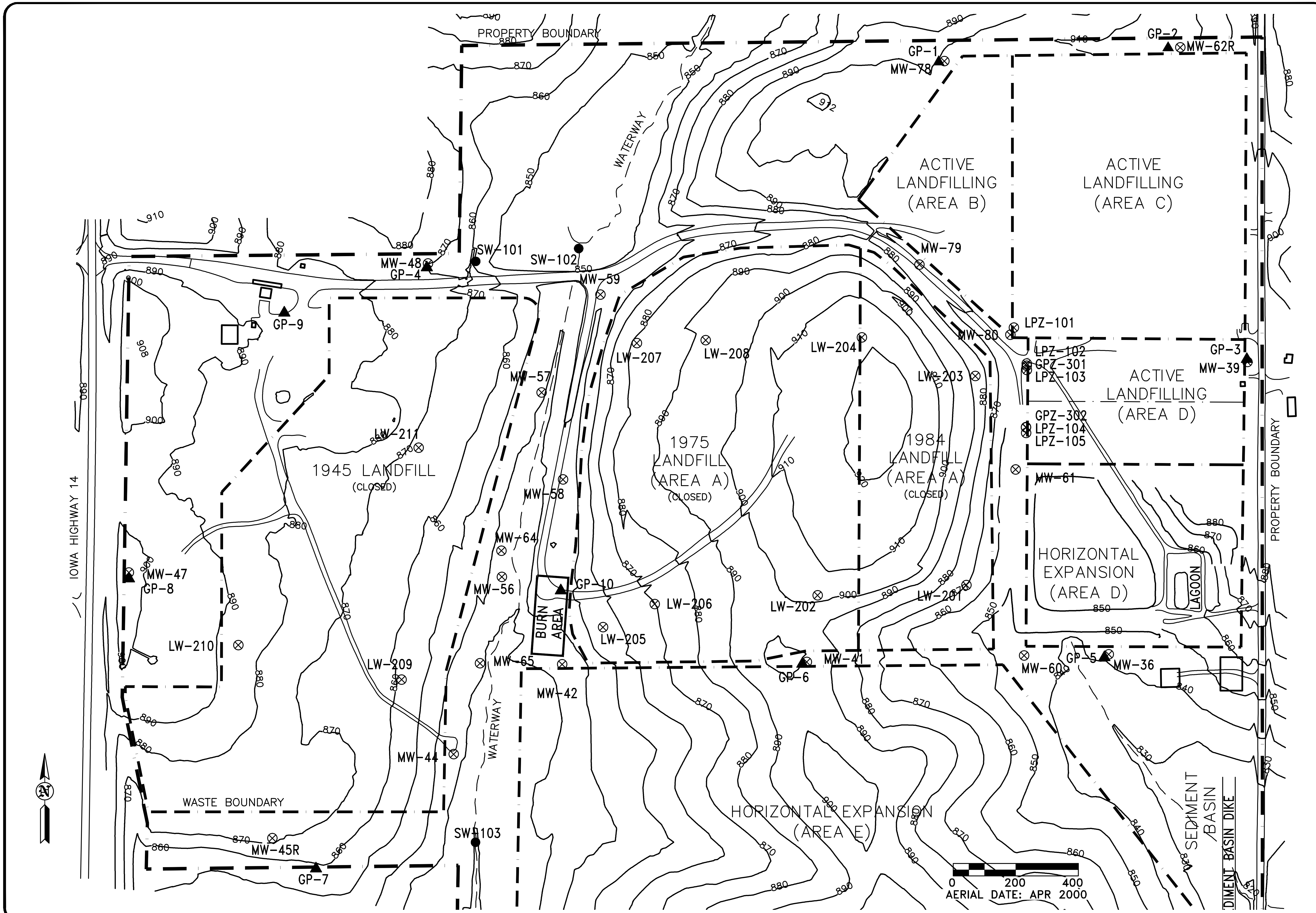


FIGURE: 2

REVISION	NO.	DATE
DRAWN DRA	PROJECT NO. 6002	DATE 10-10-24

SITE PLAN (WASTE AREA)

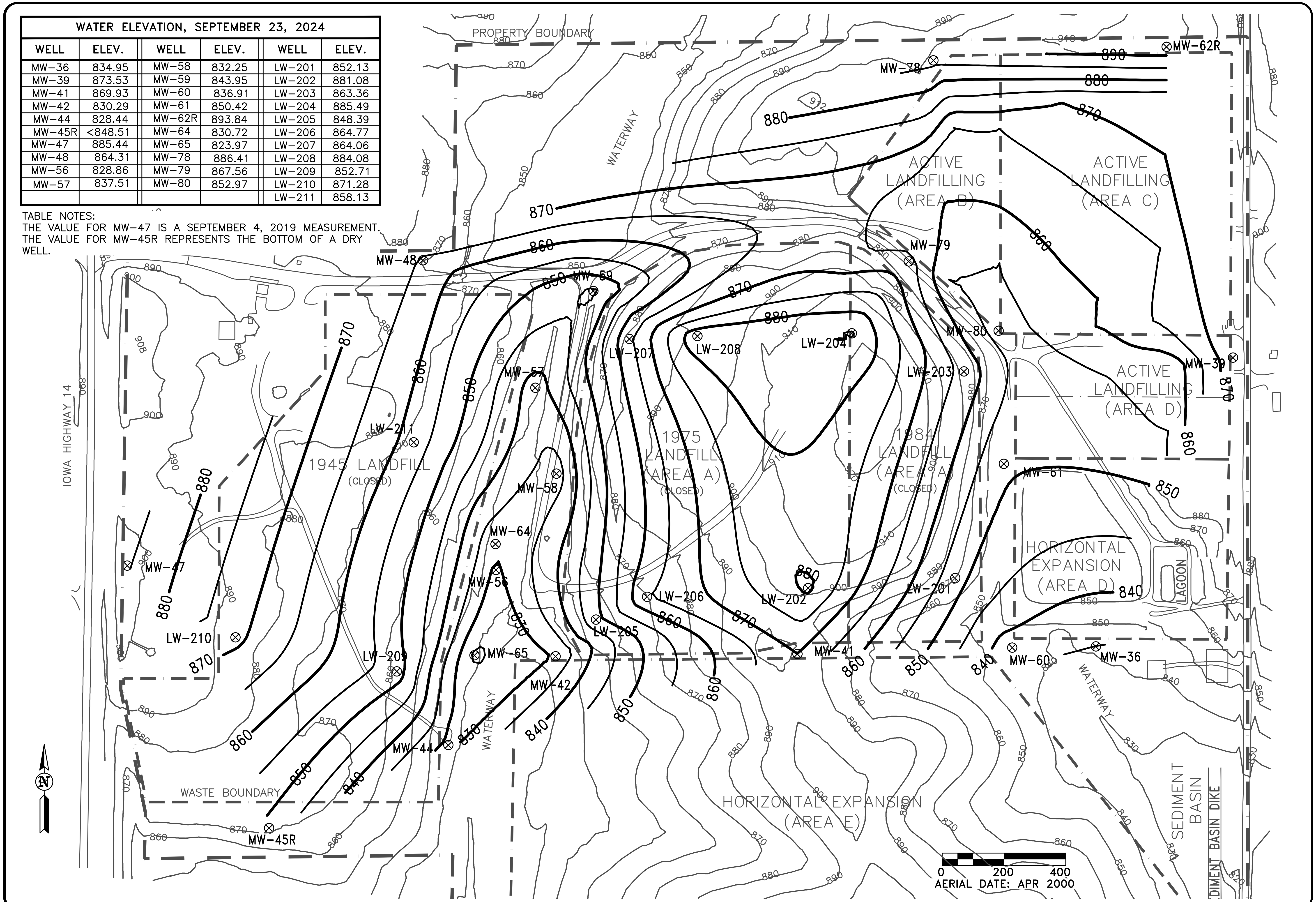
NEWTON SANITARY LANDFILL
NEWTON, IOWA

HLW Engineering Group
204 West Broad Street, P.O. Box 314
Story City, Iowa 50248
Phone: (515) 733-4144
FAX: (515) 733-4146

HLW Engineering Group

WATER ELEVATION, SEPTEMBER 23, 2024					
WELL	ELEV.	WELL	ELEV.	WELL	ELEV.
MW-36	834.95	MW-58	832.25	LW-201	852.13
MW-39	873.53	MW-59	843.95	LW-202	881.08
MW-41	869.93	MW-60	836.91	LW-203	863.36
MW-42	830.29	MW-61	850.42	LW-204	885.49
MW-44	828.44	MW-62R	893.84	LW-205	848.39
MW-45R	<848.51	MW-64	830.72	LW-206	864.77
MW-47	885.44	MW-65	823.97	LW-207	864.06
MW-48	864.31	MW-78	886.41	LW-208	884.08
MW-56	828.86	MW-79	867.56	LW-209	852.71
MW-57	837.51	MW-80	852.97	LW-210	871.28
				LW-211	858.13

TABLE NOTES:
THE VALUE FOR MW-47 IS A SEPTEMBER 4, 2019 MEASUREMENT.
THE VALUE FOR MW-45R REPRESENTS THE BOTTOM OF A DRY WELL.



GROUNDWATER CONTOURS

NEWTON SANITARY LANDFILL
MEWTON, IOWA

HLW Engineering Group
204 West Broad Street, P.O. Box 314
Story City, Iowa 50248
Phone: (515) 733-4144
FAX: (515) 733-4146

HLW HLW Engineering Group

FIGURE:	3
REVISION	NO.	DATE
DRAWN DRA	PROJECT NO. 6002	DATE 10-10-24

ATTACHMENT A

Water Quality Results & Summary

HMSP Sampling & Testing Results
1945 Landfill - Newton Sanitary Landfill - 50-SDP-1-75P
Summary of Appendix I Detections

Compound	Date	Site Predicton Limit	Statewide Standard IAC-137	Units	MW-44	MW-45 MW-45R	MW-56	MW-57	MW-64	MW-65	SW-101R
Turbidity (field)	9/14/2016	N/A	N/A	NTU	1.29	5.15	5.37	10.8	15.3	121.0	
Turbidity (field)	9/8/2017	N/A	N/A	NTU	0.42	0.45	0.75	1.4	4.69	41.2	
Turbidity (field)	3/19/2018	N/A	N/A	NTU	0.62	0.3	0.4	0.45	3.4	15.6	
Turbidity (field)	9/11/2018	N/A	N/A	NTU	3.37	4.43	1.07	0.97	17.92	6.9	
Turbidity (field)	3/26/2019	N/A	N/A	NTU	18.7	23.1	1.04	0.58	90	89.4	
Turbidity (field)	9/4/2019	N/A	N/A	NTU	1.43	7.66	1.15	11.04	6.87	15.21	
Turbidity (field)	3/26/2020	N/A	N/A	NTU	24.7	2.79	1.06	553	27.5	57.3	1.7
Turbidity (field)	6/18/2020	N/A	N/A	NTU	NT	NT	NT	134	NT	NT	NT
Turbidity (field)	9/15/2020	N/A	N/A	NTU	3.96	3.51	1.7	10.29	22.8	18.7	3.0
Turbidity (field)	3/2/2021	N/A	N/A	NTU	4.64	106.1	2.58	4.47	20.24	28.05	1.93
Turbidity (field)	9/7/2021	N/A	N/A	NTU	6.15	Dry	2.37	5.75	16.17	10.82	1.79
Turbidity (field)	3/24/2022	N/A	N/A	NTU	30.4	Dry	1.93	4.51	5.53	7.25	6.51
Turbidity (field)	8/31/2022	N/A	N/A	NTU	4.9	Dry	1.38	2.09	8.32	22.24	1.85
Turbidity (field)	11/15/2022	N/A	N/A	NTU	NT	NT	NT	2.98	NT	NT	NT
Turbidity (field)	3/2/2023	N/A	N/A	NTU	4.52	Dry	0.93	1.63	43.66	106.50	3.12
Turbidity (field)	9/12/2023	N/A	N/A	NTU	31.68	Dry	3.43	6.23	10.27	6.9	1.6
Turbidity (field)	3/4/2024	N/A	N/A	NTU	13.5	Dry	24.57	2.74	39.53	2.99	3.13
Turbidity (field)	9/23/2024	N/A	N/A	NTU	16.18	Dry	2.31	3.86	31.93	42.2	2.6

Compound	Date	Site Predicton Limit	Statewide Standard IAC-137	Units	MW-44	MW-45 MW-45R	MW-56	MW-57	MW-64	MW-65	SW-101R
Vinyl Chloride	9/14/2016	1	2	ug/L	<1	<1	**2.8**	<1	**23.7**	<1	
Vinyl Chloride	9/8/2017	1	2	ug/L	<1	<1	**4.2**	<1	**17.4**	<1	
Vinyl Chloride	3/19/2018	1	2	ug/L	<1	<1	<1	<1	**14.4**	<1	
Vinyl Chloride	9/11/2018	1	2	ug/L	<1	<1	<1	<1	**7.9**	<1	
Vinyl Chloride	3/26/2019	1	2	ug/L	<1	<1	<1	<1	**7.0**	<1	
Vinyl Chloride	9/4/2019	1	2	ug/L	<1	<1	<1	<1	**5.6**	<1	
Vinyl Chloride	3/26/2020	1	2	ug/L	<1	<1	<1	<1	**3.7**	<1	<1
Vinyl Chloride	9/15/2020	1	2	ug/L	<1	<1	**1.9**	<1	**5.6**	<1	**1.8**
Vinyl Chloride	3/2/2021	1	2	ug/L	<1	<1	<1	<1	**3.4**	<1	**1.8**
Vinyl Chloride	9/7/2021	1	2	ug/L	<1	Dry	**2.2**	<1	**2.6**	<1	**4.6**
Vinyl Chloride	3/24/2022	1	2	ug/L	<1	Dry	<1	<1	**1.6**	<1	**6.5**
Vinyl Chloride	8/31/2022	1	2	ug/L	<1	Dry	<1	<1	**1.7**	<1	**3.9**
Vinyl Chloride	3/2/2023	1	2	ug/L	<1	Dry	<1	<1	**1.9**	<1	**5.9**
Vinyl Chloride	9/12/2023	1	2	ug/L	<1	Dry	<1	<1	**1.8**	<1	**4.4**
Vinyl Chloride	3/4/2024	1	2	ug/L	<1	Dry	<1	<1	**2.7**	<1	**5.3**
Vinyl Chloride	9/23/2024	1	2	ug/L	<1	Dry	<1	<1	**1.7**	<1	**3.1**
1,1-Dichloroethane	9/14/2016	1	140	ug/L	<1	<1	**5.0**	<1	**1.9**	<1	
1,1-Dichloroethane	9/8/2017	1	140	ug/L	<1	<1	**10.4**	<1	**2.0**	<1	
1,1-Dichloroethane	3/19/2018	1	140	ug/L	<1	<1	<1	<1	**2.6**	<1	
1,1-Dichloroethane	9/11/2018	1	140	ug/L	<1	<1	<1	<1	**1.2**	<1	
1,1-Dichloroethane	3/26/2019	1	140	ug/L	<1	<1	<1	<1	**2.4**	<1	
1,1-Dichloroethane	9/4/2019	1	140	ug/L	<1	<1	**4.7**	<1	**2.3**	<1	
1,1-Dichloroethane	3/26/2020	1	140	ug/L	<1	<1	<1	<1	**2.4**	<1	<1
1,1-Dichloroethane	9/15/2020	1	140	ug/L	<1	<1	**6.9**	<1	**1.8**	<1	<1
1,1-Dichloroethane	3/2/2021	1	140	ug/L	<1	<1	<1	<1	**2.7**	<1	<1
1,1-Dichloroethane	9/7/2021	1	140	ug/L	<1	Dry	**8.4**	<1	**1.6**	<1	<1
1,1-Dichloroethane	3/24/2022	1	140	ug/L	<1	Dry	<1	<1	**2.1**	<1	<1
1,1-Dichloroethane	8/31/2022	1	140	ug/L	<1	Dry	**7.4**	<1	**1.6**	<1	<1
1,1-Dichloroethane	3/2/2023	1	140	ug/L	<1	Dry	<1	<1	**2.3**	<1	<1
1,1-Dichloroethane	9/12/2023	1	140	ug/L	<1	Dry	**4.0**	<1	**1.8**	<1	<1
1,1-Dichloroethane	3/4/2024	1	140	ug/L	<1	Dry	**1.7**	<1	**1.5**	<1	<1
1,1-Dichloroethane	9/23/2024	1	140	ug/L	<1	Dry	**2.6**	<1	**1.7**	<1	<1
cis-1,2-Dichloroethylene	9/14/2016	1	70	ug/L	<1	<1	<1	<1	**36.4**	<1	
cis-1,2-Dichloroethylene	9/8/2017	1	70	ug/L	<1	<1	<1	<1	**23.7**	<1	
cis-1,2-Dichloroethylene	3/19/2018	1	70	ug/L	<1	<1	<1	<1	**17.2**	<1	
cis-1,2-Dichloroethylene	9/11/2018	1	70	ug/L	<1	<1	<1	<1	**15.1**	<1	
cis-1,2-Dichloroethylene	3/26/2019	1	70	ug/L	<1	<1	<1	<1	**9.7**	<1	
cis-1,2-Dichloroethylene	9/4/2019	1	70	ug/L	<1	<1	<1	<1	**8.3**	<1	
cis-1,2-Dichloroethylene	3/26/2020	1	70	ug/L	<1	<1	<1	<1	**4.6**	<1	**2.6**
cis-1,2-Dichloroethylene	9/15/2020	1	70	ug/L	<1	<1	<1	<1	**6.4**	<1	**1.8**
cis-1,2-Dichloroethylene	3/2/2021	1	70	ug/L	<1	<1	<1	<1	**7.4**	<1	**2.1**
cis-1,2-Dichloroethylene	9/7/2021	1	70	ug/L	<1	Dry	<1	<1	**7.4**	<1	**5.9**
cis-1,2-Dichloroethylene	3/24/2022	1	70	ug/L	<1	Dry	<1	<1	**3.9**	<1	**5.5**
cis-1,2-Dichloroethylene	8/31/2022	1	70	ug/L	<1	Dry	<1	<1	**5.4**	<1	**6.1**
cis-1,2-Dichloroethylene	3/2/2023	1	70	ug/L	<1	Dry	<1	<1	**3.3**	<1	**5.9**
cis-1,2-Dichloroethylene	9/12/2023	1	70	ug/L	<1	Dry	<1	<1	**4.5**	<1	**6.0**
cis-1,2-Dichloroethylene	3/4/2024	1	70	ug/L	<1	Dry	<1	<1	**2.4**	<1	**4.0**
cis-1,2-Dichloroethylene	9/23/2024	1	70	ug/L	<1	Dry	<1	<1	**4.1**	<1	**3.4**
Benzene	9/14/2016	1	5	ug/L	<1	<1	<1	<1	<1	<1	
Benzene	9/8/2017	1	5	ug/L	<1	<1	**1.4**	<1	<1	<1	
Benzene	3/19/2018	1	5	ug/L	<1	<1	<1	<1	<1	<1	
Benzene	9/11/2018	1	5	ug/L	<1	<1	<1	<1	<1	<1	
Benzene	3/26/2019	1	5	ug/L	<1	<1	<1	<1	<1	<1	
Benzene	9/4/2019	1	5	ug/L	<1	<1	<1	<1	<1	<1	
Benzene	3/26/2020	1	5	ug/L	<1	<1	<1	<1	<1	<1	<1
Benzene	9/15/2020	1	5	ug/L	<1	<1	<1	<1	<1	<1	<1
Benzene	3/2/2021	1	5	ug/L	<1	<1	<1	<1	<1	<1	<1
Benzene	9/7/2021	1	5	ug/L	<1	Dry	**1.0**	<1	<1	<1	<1
Benzene	3/24/2022	1	5	ug/L	<1	Dry	<1	<1	<1	<1	<1
Benzene	8/31/2022	1	5	ug/L	<1	Dry	<1	<1	<1	<1	<1
Benzene	3/2/2023	1	5	ug/L	<1	Dry	<1	<1	<1	<1	<1
Benzene	9/12/2023	1	5	ug/L	<1	Dry	<1	<1	<1	<1	<1
Benzene	3/4/2024	1	5	ug/L	<1	Dry	<1	<1	<1	<1	<1
Benzene	9/23/2024	1	5	ug/L	<1	Dry	<1	<1	<1	<1	<1

Compound	Date	Site Predicton Limit	Statewide Standard IAC-137	Units	MW-44	MW-45 MW-45R	MW-56	MW-57	MW-64	MW-65	SW-101R	
Silver, total	9/14/2016	0.0064	0.1	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004		
Silver, total	9/8/2017	0.0064	0.1	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004		
Silver, total	3/19/2018	0.0064	0.1	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004		
Silver, total	9/11/2018	0.0064	0.1	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004		
Silver, total	3/26/2019	0.0064	0.1	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004		
Silver, total	9/4/2019	0.0064	0.1	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004		
Silver, total	3/26/2020	0.0064	0.1	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	
Silver, total	9/15/2020	0.0064	0.1	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	
Silver, total	3/2/2021	0.0064	0.1	mg/L	<0.004	NT	<0.004	<0.004	<0.004	<0.004	<0.004	
Silver, total	9/7/2021	0.0064	0.1	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	<0.004	<0.004	
Silver, total	3/24/2022	0.0064	0.1	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	<0.004	<0.004	
Silver, total	8/31/2022	0.0064	0.1	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	<0.004	<0.004	
Silver, total	3/2/2023	0.0064	0.1	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	<0.004	<0.004	
Silver, total	9/12/2023	0.0064	0.1	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	<0.004	<0.004	
Silver, total	3/4/2024	0.0064	0.1	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	<0.004	<0.004	
Silver, total	9/23/2024	0.0064	0.1	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	<0.004	<0.004	
Arsenic, total	9/14/2016	0.0044	0.01	mg/L	<0.004	<0.004	<0.004	<0.004	0.0216	0.008		
Arsenic, total	9/8/2017	0.0044	0.01	mg/L	0.0056	<0.004	<0.004	0.0041	0.0079	<0.004		
Arsenic, total	3/19/2018	0.0044	0.01	mg/L	<0.004	<0.004	<0.004	<0.004	0.0193	<0.004		
Arsenic, total	9/11/2018	0.0044	0.01	mg/L	<0.004	<0.004	<0.004	<0.004	0.0242	<0.004		
Arsenic, total	3/26/2019	0.0044	0.01	mg/L	0.0066	<0.004	<0.004	<0.004	0.0402	0.0058		
Arsenic, total	9/4/2019	0.0073	0.01	mg/L	0.0079	<0.004	<0.004	<0.004	0.0222	0.0040		
Arsenic, total	3/26/2020	0.0073	0.01	mg/L	<0.004	<0.004	<0.004	0.0045	0.0403	<0.004	0.0055	
Arsenic, total	9/15/2020	0.0073	0.01	mg/L	0.0131	<0.004	<0.004	0.0055	0.0211	0.0041	0.0054	
Arsenic, total	3/2/2021	0.0073	0.01	mg/L	<0.004	NT	<0.004	<0.004	0.0202	<0.004	<0.004	
Arsenic, total	9/7/2021	0.0073	0.01	mg/L	0.0094	Dry	<0.004	0.0047	0.0252	<0.004	0.0069	
Arsenic, total	3/24/2022	0.0073	0.01	mg/L	0.0076	Dry	<0.004	<0.004	0.0192	<0.004	0.0152	
Arsenic, total	6/13/2022	0.0073	0.01	mg/L	NT	NT	NT	NT	NT	NT	<0.05	lab error - MI
Arsenic, total	8/31/2022	0.0073	0.01	mg/L	0.01	Dry	<0.004	0.004	0.0274	0.0043	0.0047	
Arsenic, total	3/2/2023	0.0073	0.01	mg/L	<0.004	Dry	<0.004	<0.004	0.0264	0.0095	0.0057	
Arsenic, total	9/12/2023	0.0073	0.01	mg/L	0.0108	Dry	<0.004	<0.004	0.0231	<0.004	0.0041	
Arsenic, total	3/4/2024	0.0073	0.01	mg/L	0.0041	Dry	<0.004	<0.004	0.0296	0.0067	<0.004	
Arsenic, total	9/23/2024	0.0073	0.01	mg/L	0.0119	Dry	<0.004	<0.004	0.0306	0.0079	0.0047	
Barium, total	9/14/2016	0.452	2	mg/L	0.129	0.0418	0.0303	0.301	0.0569	0.0305		
Barium, total	9/8/2017	0.445	2	mg/L	0.130	0.0364	0.0289	0.563	0.0574	0.0192		
Barium, total	3/19/2018	0.405	2	mg/L	0.109	0.0403	0.0154	0.279	0.0594	0.0183		
Barium, total	9/11/2018	0.399	2	mg/L	0.120	0.0333	0.0269	0.189	0.0625	0.0321		
Barium, total	3/26/2019	0.394	2	mg/L	0.135	0.0538	0.0230	0.287	0.1410	0.033		
Barium, total	9/4/2019	0.392	2	mg/L	0.128	0.0352	0.0316	0.344	0.0551	0.0239		
Barium, total	3/26/2020	0.392	2	mg/L	0.126	0.0366	0.0209	0.513	0.0962	0.0139	0.232	
Barium, total	6/18/2020	0.392	2	mg/L	NT	NT	NT	0.301	NT	NT	NT	
Barium, total	9/15/2020	0.392	2	mg/L	0.269	0.0265	0.0287	0.517	0.0576	0.0101	0.243	
Barium, total	3/2/2021	0.392	2	mg/L	0.110	NT	0.0159	0.112	0.0588	0.0143	0.157	
Barium, total	9/7/2021	0.392	2	mg/L	0.144	Dry	0.0335	0.507	0.0516	0.0186	0.265	
Barium, total	3/24/2022	0.391	2	mg/L	0.134	Dry	0.0132	0.317	0.0512	0.0129	0.363	
Barium, total	8/31/2022	0.393	2	mg/L	0.173	Dry	0.0286	0.509	0.0400	0.0169	0.265	
Barium, total	11/15/2022	0.393	2	mg/L	NT	NT	NT	0.500	NT	NT	NT	
Barium, total	3/2/2023	0.357	2	mg/L	0.121	Dry	0.0138	0.254	0.0612	0.0399	0.266	
Barium, total	9/12/2023	0.357	2	mg/L	0.175	Dry	0.0258	0.445	0.0433	0.0191	0.249	
Barium, total	3/4/2024	0.357	2	mg/L	0.126	Dry	0.0235	0.250	0.0685	0.030	0.240	
Barium, total	9/23/2024	0.357	2	mg/L	0.142	Dry	0.0392	0.302	0.0528	0.0354	0.236	
Cobalt, total	9/14/2016	0.0045	0.0069*	mg/L	0.0063	0.0080	0.0040	<0.0008	0.0270	0.0107		
Cobalt, total	9/8/2017	0.0069	0.0069*	mg/L	0.0073	0.0078	0.0031	0.0042	0.0344	0.0031		
Cobalt, total	3/19/2018	0.0069	0.0069*	mg/L	0.0089	0.0087	<0.0008	<0.0008	0.0191	0.0088		
Cobalt, total	9/11/2018	0.0069	0.0069*	mg/L	0.0084	0.0066	<0.0008	<0.0008	0.0251	0.0113		
Cobalt, total	3/26/2019	0.0069	0.0069*	mg/L	0.0102	0.0083	<0.0008	<0.0008	0.0161	0.0100		
Cobalt, total	9/4/2019	0.0069	0.0069*	mg/L	0.0087	0.0074	0.0032	<0.0008	0.0230	0.0037		
Cobalt, total	3/26/2020	0.0069	0.0069*	mg/L	0.0092	0.0080	<0.0008	0.0011	0.0147	0.0016	0.0035	
Cobalt, total	9/15/2020	0.0069	0.0069*	mg/L	0.0145	0.0074	0.0027	0.0024	0.0208	0.0027	0.0038	
Cobalt, total	3/2/2021	0.0069	0.0069*	mg/L	0.0088	NT	0.0018	0.0010	0.0146	0.0032	0.0022	
Cobalt, total	9/7/2021	0.0069	0.0069*	mg/L	0.0081	Dry	0.0037	0.0031	0.0210	0.0021	0.0051	
Cobalt, total	3/24/2022	0.0069	0.0069*	mg/L	0.011	Dry	<0.0004	0.0007	0.0118	0.0007	0.0031	
Cobalt, total	8/31/2022	0.0069	0.0069*	mg/L	0.0116	Dry	0.0033	0.0035	0.0216	0.0055	0.0066	
Cobalt, total	3/2/2023	0.0069	0.0069*	mg/L	0.0088	Dry	<0.0004	0.0005	0.0110	0.0093	0.003	
Cobalt, total	9/12/2023	0.0069	0.0069*	mg/L	0.0107	Dry	0.0021	0.0005	0.0187	0.0052	0.0041	
Cobalt, total	3/4/2024	0.0069	0.0069*	mg/L	0.0097	Dry	0.0006	0.0004	0.0120	0.0092	0.0027	
Cobalt, total	9/23/2024	0.0069	0.0069*	mg/L	0.0103	Dry	0.0025	0.0010	0.0179	0.0034	0.0039	
Copper, total	9/14/2016	0.0105	1.3	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	0.0067		
Copper, total	9/8/2017	0.0105	1.3	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004		
Copper, total	3/19/2018	0.004	1.3	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004		
Copper, total	9/11/2018	0.004	1.3	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	0.008		
Copper, total	3/26/2019	0.004	1.3	mg/L	<0.004	0.004	<0.004	<0.004	0.0042	0.004		
Copper, total	9/4/2019	0.004	1.3	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004		
Copper, total	3/26/2020	0.004	1.3	mg/L	<0.004	<0.004	<0.004	0.0042	<0.004	<0.004	<0.004	
Copper, total	6/18/2020	0.004	1.3	mg/L	NT	NT	NT	<0.004	NT	NT	NT	
Copper, total	9/15/2020	0.004	1.3	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	
Copper, total	3/2/2021	0.004	1.3	mg/L	<0.004	NT	<0.004	<0.004	<0.004	0.0103	<0.004	
Copper, total	9/7/2021	0.004	1.3	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	<0.004	<0.004	
Copper, total	3/24/2022	0.004	1.3	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	<0.004	<0.004	
Copper, total	8/31/2022	0.004	1.3	mg/L	<0.004	Dry	<0.004	0.0050	<0.004	0.0044	<0.004	
Copper, total	11/15/2022	0.004	1.3	mg/L	NT	NT	NT	0.0043	NT	NT	NT	
Copper, total	3/2/2023	0.004	1.3	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	0.0052	<0.004	
Copper, total	9/12/2023	0.004	1.3	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	<0.004	<0.004	
Copper, total	3/4/2024	0.004	1.3	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	<0.004	<0.004	
Copper, total	9/23/2024	0.004	1.3	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	0.0087	<0.004	
Nickel, total	9/14/2016	0.0134	0.1	mg/L	0.0173	0.0053	0.0122	0.0043	0.0563	0.0282		
Nickel, total	9/8/2017	0.0134	0.1	mg/L	0.0160	0.0045	0.0138	0.0090	0.0731	0.0109		
Nickel, total	3/19/2018	0.0087	0.1	mg/L	0.0127	0.0041	<0.004	0.0041	0.0462	0.0153		
Nickel, total	9/11/2018	0.0087	0.1	mg/L	0.0128	<0.004	<0.004	<0.004	0.0554	0.0248		
Nickel, total	3/26/2019	0.0087	0.1	mg/L	0.0119	0.0081	<0.004	<0.004	0.0416	0.0123		
Nickel, total	9/4/2019	0.0087	0.1	mg/L	0.0117	<0.004	0.007	<0.004	0.0459	0.0092		
Nickel, total	3/26/2020	0.0087	0.1	mg/L	0.0132	<0.004	<0.004	<0.004	0.0394	0.0076	0.0065	
Nickel, total	9/15/2020	0.0087	0.1	mg/L	0.0262	0.0045	0.0109	0.0059	0.0466	0.0058	0.0053	
Nickel, total	3/2/2021	0.0087	0.1	mg/L	0.0097	NT	<0.004	<0.004	0.0354	0.0074	<0.004	
Nickel, total	9/7/2021	0.0087	0.1	mg/L	0.0132	Dry	0.0131	0.0059	0.0499	0.0045	0.0064	
Nickel, total	3/24/2022	0.0087	0.1	mg/L	0.0122	Dry	<0.004	<0.004	0.0330	<0.004	<0.004	
Nickel, total	8/31/2022	0.0087	0.1	mg/L	0.0135	Dry	0.0101	0.0060	0.0499	0.0130	0.0075	
Nickel, total	3/2/2023	0.0087	0.1	mg/L	0.0100	Dry	<0.004	<0.004	0.0306	0.0207	<0.004	
Nickel, total	9/12/2023	0.0087	0.1	mg/L	0.0132	Dry	0.0096	<0.004	0.0431	0.0073	0.0049	
Nickel, total	3/4/2024	0.0087	0.1	mg/L	0.0100	Dry	0.0047	<0.004	0.0320	0.0149	<0.004	
Nickel, total	9/23/2024	0.0087	0.1	mg/L	0.0109	Dry	0.0073	0.0046	0.0426	0.0135	0.0047	
Selenium, total	9/14/2016	0.0094	0.05	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004		
Selenium, total	9/8/2017	0.0106	0.05	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004		
Selenium, total	3/19/2018	0.0106	0.05	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004		
Selenium, total	9/11/2018	0.0106	0.05	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004		
Selenium, total	3/26/2019	0.0106	0.05	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004		
Selenium, total	9/4/2019	0.0106	0.05	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004		
Selenium, total	3/26/2020	0.0106	0.05	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	
Selenium, total	9/15/2020	0.0106	0.05	mg/L	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	
Selenium, total	3/2/2021	0.0106	0.05	mg/L	<0.004	NT	<0.004	<0.004	<0.004	<0.004	<0.004	
Selenium, total	9/7/2021	0.0106	0.05	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	<0.004	<0.004	
Selenium, total	3/24/2022	0.0106	0.05	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	<0.004	<0.004	
Selenium, total	8/31/2022	0.0106	0.05	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	<0.004	<0.004	
Selenium, total	3/2/2023	0.0106	0.05	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	0.0082	<0.004	
Selenium, total	9/12/2023	0.0106	0.05	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	<0.004	<0.004	
Selenium, total	3/4/2024	0.0106	0.05	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	<0.004	<0.004	
Selenium, total	9/23/2024	0.0106	0.05	mg/L	<0.004	Dry	<0.004	<0.004	<0.004	<0.004	<0.004	
Zinc, total	9/14/2016	0.0323	2	mg/L	<0.008	<0.008	0.0194	<0.008	0.0111	0.0383		
Zinc, total	9/8/2017	0.0323	2	mg/L	<0.008	<0.008	0.0229	<0.008	0.0111	0.0235		
Zinc, total	3/19/2018	0.0323	2	mg/L	<0.008	<0.008	<0.008	<0.008	<0.008	0.0139		
Zinc, total	9/11/2018	0.0323	2	mg/L	<0.008	<0.008	0.0115	0.0095	0.0082	0.0217		
Zinc, total	3/26/2019	0.0323	2	mg/L	0.0328	0.0346	0.0346	0.0258	0.0626	0.0505		
Zinc, total	9/4/2019	0.0323	2	mg/L	<0.008	<0.008	<0.02	<0.02	<0.008	<0.02		
Zinc, total	3/26/2020	0.0323	2	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Zinc, total	9/15/2020	0.0323	2	mg/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Zinc, total	3/2/2021	0.0323	2	mg/L	<0.02	NT	<0.02	<0.02	<0.02	<0.02	<0.02	
Zinc, total	9/7/2021	0.0323	2	mg/L	<0.02	Dry	<0.02	<0.02	<0.02	<0.02	<0.02	
Zinc, total	3/24/2022	0.0323	2	mg/L	<0.02	Dry	<0.02	<0.02	<0.02	<0.02	<0.02	
Zinc, total	8/31/2022	0.0323	2	mg/L	<0.02	Dry	<0.02	<0.02	<0.02	<0.02	<0.02	
Zinc, total	3/2/2023	0.0323	2	mg/L	<0.02	Dry	<0.02	<0.02	<0.02	0.0257	<0.02	
Zinc, total	9/12/2023	0.0323	2	mg/L	<0.02	Dry	<0.02	<0.02	<0.02	<0.02	<0.02	
Zinc, total	3/4/2024	0.0323	2	mg/L	<0.02	Dry	<0.02	<0.02	0.0514	0.0215	<0.02	
Zinc, total	9/23/2024	0.0323	2	mg/L	<0.02	Dry	<0.02	<0.02	0.0215	0.0294	<0.02	

(yellow box) = value exceeds the GWPS (Statewide Standard for protected Groundwater or Site-Specific GWPS)

0.0010 = value exceeds the site prediction limit.

NT = Not Tested

*Site-Specific GWPS

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0401

Project Description

6002

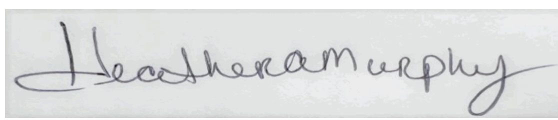
For:

Todd Whipple

HLW Engineering

PO Box 314

Story City, IA 50248



Heather Murphy

Customer Relationship Specialist

Thursday, March 14, 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

1HC0401

HLW Engineering

Todd Whipple
PO Box 314
Story City, IA 50248

Project Name: 6002

Project / PO Number: N/A
Received: 03/06/2024
Reported: 03/14/2024

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
MW-48 (B)	1HC0401-01	Water	GRAB		03/04/24 10:51	03/06/24 10:04
MW-39 (B)	1HC0401-02	Water	GRAB		03/04/24 11:55	03/06/24 10:04
MW-78 (B)	1HC0401-03	Water	GRAB		03/04/24 11:15	03/06/24 10:04
MW-62R	1HC0401-04	Water	GRAB		03/04/24 11:35	03/06/24 10:04
MW-79	1HC0401-05	Water	GRAB		03/04/24 13:18	03/06/24 10:04
MW-80	1HC0401-06	Water	GRAB		03/04/24 13:03	03/06/24 10:04
MW-36	1HC0401-07	Water	GRAB		03/04/24 12:14	03/06/24 10:04
MW-41	1HC0401-08	Water	GRAB		03/04/24 13:38	03/06/24 10:04
MW-42	1HC0401-09	Water	GRAB		03/04/24 13:52	03/06/24 10:04
MW-58	1HC0401-10	Water	GRAB		03/04/24 14:13	03/06/24 10:04
MW-44	1HC0401-11	Water	GRAB		03/04/24 08:30	03/06/24 10:04
MW-57	1HC0401-12	Water	GRAB		03/04/24 10:05	03/06/24 10:04
MW-56	1HC0401-13	Water	GRAB		03/04/24 09:09	03/06/24 10:04
MW-64	1HC0401-14	Water	GRAB		03/04/24 09:27	03/06/24 10:04
MW-65	1HC0401-15	Water	GRAB		03/04/24 08:45	03/06/24 10:04
SW-101R	1HC0401-16	Water	GRAB		03/04/24 10:45	03/06/24 10:04
PECS-1	1HC0401-17	Water	GRAB		03/04/24 10:25	03/06/24 10:04
SW-102	1HC0401-18	Water	GRAB		03/04/24 10:33	03/06/24 10:04
SW-103	1HC0401-19	Water	GRAB		03/04/24 09:00	03/06/24 10:04
MW-59	1HC0401-20	Water	GRAB		03/04/24 14:28	03/06/24 10:04
MW-60	1HC0401-21	Water	GRAB		03/04/24 12:29	03/06/24 10:04
MW-61	1HC0401-22	Water	GRAB		03/04/24 12:48	03/06/24 10:04
Duplicate	1HC0401-23	Water	GRAB		03/04/24 00:00	03/06/24 10:04

Analytical Testing Parameters

Client Sample ID:	MW-48 (B)		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-01	**Collection Date:**	03/04/2024 10:51

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		03/07/24 0000	03/07/24 1352	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Acetone	<10.0	10.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Chloroform	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Benzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Toluene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Tetrachloroethylene	**2.3**	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Styrene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0401

Client Sample ID:	MW-48 (B)			
Sample Matrix:	Water		**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-01		**Collection Date:**	03/04/2024 10:51

Determination of Volatile Organic Compounds	**Result**	**RL**	**Units**	**DF**	**Note**	**Prepared**	**Analyzed**	**Analyst**
Bromoform	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1352	CSM
Surrogate: Dibromofluoromethane	101	Limit: 80-126	% Rec	1		03/07/24 0000	03/07/24 1352	CSM
Surrogate: Dibromofluoromethane	101	Limit: 75-136	% Rec	1		03/07/24 0000	03/07/24 1352	CSM
Surrogate: 1,2-Dichloroethane-d4	95.6	Limit: 61-142	% Rec	1		03/07/24 0000	03/07/24 1352	CSM
Surrogate: 1,2-Dichloroethane-d4	95.6	Limit: 63-138	% Rec	1		03/07/24 0000	03/07/24 1352	CSM
Surrogate: Toluene-d8	95.7	Limit: 87-116	% Rec	1		03/07/24 0000	03/07/24 1352	CSM
Surrogate: Toluene-d8	95.7	Limit: 82-121	% Rec	1		03/07/24 0000	03/07/24 1352	CSM
Surrogate: 4-Bromofluorobenzene	92.3	Limit: 80-116	% Rec	1		03/07/24 0000	03/07/24 1352	CSM
Surrogate: 4-Bromofluorobenzene	92.3	Limit: 85-111	% Rec	1		03/07/24 0000	03/07/24 1352	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		03/07/24 1046	03/08/24 0158	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0158	RVV
Barium, total	**0.149**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0158	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0158	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 0158	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 0158	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		03/07/24 1046	03/08/24 0158	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0158	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0158	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0158	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0158	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0158	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 0158	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0158	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0158	RVV

Client Sample ID:	MW-39 (B)		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-02	**Collection Date:**	03/04/2024 11:55

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		03/07/24 0000	03/07/24 1415	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Acetone	<10.0	10.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Chloroform	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Benzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Toluene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Styrene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Bromoform	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM

Client Sample ID:	MW-39 (B)		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-02	**Collection Date:**	03/04/2024 11:55

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		03/07/24 0000	03/07/24 1415	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1415	CSM
Surrogate: Dibromofluoromethane	100	Limit: 80-126	% Rec	1		03/07/24 0000	03/07/24 1415	CSM
Surrogate: Dibromofluoromethane	100	Limit: 75-136	% Rec	1		03/07/24 0000	03/07/24 1415	CSM
Surrogate: 1,2-Dichloroethane-d4	95.4	Limit: 63-138	% Rec	1		03/07/24 0000	03/07/24 1415	CSM
Surrogate: 1,2-Dichloroethane-d4	95.4	Limit: 61-142	% Rec	1		03/07/24 0000	03/07/24 1415	CSM
Surrogate: Toluene-d8	96.6	Limit: 87-116	% Rec	1		03/07/24 0000	03/07/24 1415	CSM
Surrogate: Toluene-d8	96.6	Limit: 82-121	% Rec	1		03/07/24 0000	03/07/24 1415	CSM
Surrogate: 4-Bromofluorobenzene	91.7	Limit: 85-111	% Rec	1		03/07/24 0000	03/07/24 1415	CSM
Surrogate: 4-Bromofluorobenzene	91.7	Limit: 80-116	% Rec	1		03/07/24 0000	03/07/24 1415	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		03/07/24 1046	03/08/24 1137	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 1137	RVV
Barium, total	**0.128**	0.0040	mg/L	4		03/07/24 1046	03/08/24 1137	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 1137	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 1137	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 1137	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		03/07/24 1046	03/08/24 1137	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 1137	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 1137	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 1137	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 1137	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 1137	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 1137	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 1137	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 1137	RVV

Client Sample ID:	MW-78 (B)		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-03	**Collection Date:**	03/04/2024 11:15

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		03/07/24 0000	03/07/24 1438	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Acetone	<10.0	10.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Chloroform	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Benzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Toluene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Styrene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Bromoform	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0401

Client Sample ID:	MW-78 (B)		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-03	**Collection Date:**	03/04/2024 11:15

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		03/07/24 0000	03/07/24 1438	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1438	CSM
Surrogate: Dibromofluoromethane	100	Limit: 75-136	% Rec	1		03/07/24 0000	03/07/24 1438	CSM
Surrogate: Dibromofluoromethane	100	Limit: 80-126	% Rec	1		03/07/24 0000	03/07/24 1438	CSM
Surrogate: 1,2-Dichloroethane-d4	94.4	Limit: 61-142	% Rec	1		03/07/24 0000	03/07/24 1438	CSM
Surrogate: 1,2-Dichloroethane-d4	94.4	Limit: 63-138	% Rec	1		03/07/24 0000	03/07/24 1438	CSM
Surrogate: Toluene-d8	96.4	Limit: 87-116	% Rec	1		03/07/24 0000	03/07/24 1438	CSM
Surrogate: Toluene-d8	96.4	Limit: 82-121	% Rec	1		03/07/24 0000	03/07/24 1438	CSM
Surrogate: 4-Bromofluorobenzene	91.5	Limit: 80-116	% Rec	1		03/07/24 0000	03/07/24 1438	CSM
Surrogate: 4-Bromofluorobenzene	91.5	Limit: 85-111	% Rec	1		03/07/24 0000	03/07/24 1438	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		03/07/24 1046	03/08/24 0241	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0241	RVV
Barium, total	**0.341**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0241	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0241	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 0241	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 0241	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		03/07/24 1046	03/08/24 0241	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0241	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0241	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0241	RVV
Selenium, total	**0.0057**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0241	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0241	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 0241	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0241	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0241	RVV

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0401

Client Sample ID:	MW-62R		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-04	**Collection Date:**	03/04/2024 11:35

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		03/07/24 0000	03/07/24 1500	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Trichlorofluoromethane	**1.0**	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Acetone	<10.0	10.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Chloroform	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Benzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Toluene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Styrene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Bromoform	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM

Client Sample ID:	MW-62R		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-04	**Collection Date:**	03/04/2024 11:35

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		03/07/24 0000	03/07/24 1500	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1500	CSM
Surrogate: Dibromofluoromethane	100	Limit: 75-136	% Rec	1		03/07/24 0000	03/07/24 1500	CSM
Surrogate: Dibromofluoromethane	100	Limit: 80-126	% Rec	1		03/07/24 0000	03/07/24 1500	CSM
Surrogate: 1,2-Dichloroethane-d4	95.0	Limit: 63-138	% Rec	1		03/07/24 0000	03/07/24 1500	CSM
Surrogate: 1,2-Dichloroethane-d4	95.0	Limit: 61-142	% Rec	1		03/07/24 0000	03/07/24 1500	CSM
Surrogate: Toluene-d8	96.3	Limit: 82-121	% Rec	1		03/07/24 0000	03/07/24 1500	CSM
Surrogate: Toluene-d8	96.3	Limit: 87-116	% Rec	1		03/07/24 0000	03/07/24 1500	CSM
Surrogate: 4-Bromofluorobenzene	92.2	Limit: 85-111	% Rec	1		03/07/24 0000	03/07/24 1500	CSM
Surrogate: 4-Bromofluorobenzene	92.2	Limit: 80-116	% Rec	1		03/07/24 0000	03/07/24 1500	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		03/07/24 1046	03/08/24 0247	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0247	RVV
Barium, total	**1.01**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0247	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0247	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 0247	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 0247	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		03/07/24 1046	03/08/24 0247	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0247	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0247	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0247	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0247	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0247	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 0247	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0247	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0247	RVV

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0401

Client Sample ID:	MW-79		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-05	**Collection Date:**	03/04/2024 13:18

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		03/07/24 0000	03/07/24 1523	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Acetone	<10.0	10.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Chloroform	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Benzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Toluene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Styrene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Bromoform	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM

Client Sample ID:	MW-79		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-05	**Collection Date:**	03/04/2024 13:18

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		03/07/24 0000	03/07/24 1523	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1523	CSM
Surrogate: Dibromofluoromethane	99.8	Limit: 80-126	% Rec	1		03/07/24 0000	03/07/24 1523	CSM
Surrogate: Dibromofluoromethane	99.8	Limit: 75-136	% Rec	1		03/07/24 0000	03/07/24 1523	CSM
Surrogate: 1,2-Dichloroethane-d4	96.5	Limit: 63-138	% Rec	1		03/07/24 0000	03/07/24 1523	CSM
Surrogate: 1,2-Dichloroethane-d4	96.5	Limit: 61-142	% Rec	1		03/07/24 0000	03/07/24 1523	CSM
Surrogate: Toluene-d8	95.5	Limit: 87-116	% Rec	1		03/07/24 0000	03/07/24 1523	CSM
Surrogate: Toluene-d8	95.5	Limit: 82-121	% Rec	1		03/07/24 0000	03/07/24 1523	CSM
Surrogate: 4-Bromofluorobenzene	92.8	Limit: 85-111	% Rec	1		03/07/24 0000	03/07/24 1523	CSM
Surrogate: 4-Bromofluorobenzene	92.8	Limit: 80-116	% Rec	1		03/07/24 0000	03/07/24 1523	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		03/07/24 1046	03/08/24 0253	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0253	RVV
Barium, total	**0.0579**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0253	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0253	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 0253	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 0253	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		03/07/24 1046	03/08/24 0253	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0253	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0253	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0253	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0253	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0253	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 0253	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0253	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0253	RVV

Client Sample ID:	MW-80		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-06	**Collection Date:**	03/04/2024 13:03

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		03/07/24 0000	03/07/24 1546	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Acetone	<10.0	10.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Chloroform	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Benzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Toluene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Styrene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Bromoform	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM

Client Sample ID:	MW-80		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-06	**Collection Date:**	03/04/2024 13:03

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		03/07/24 0000	03/07/24 1546	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1546	CSM
Surrogate: Dibromofluoromethane	102	Limit: 75-136	% Rec	1		03/07/24 0000	03/07/24 1546	CSM
Surrogate: Dibromofluoromethane	102	Limit: 80-126	% Rec	1		03/07/24 0000	03/07/24 1546	CSM
Surrogate: 1,2-Dichloroethane-d4	96.2	Limit: 63-138	% Rec	1		03/07/24 0000	03/07/24 1546	CSM
Surrogate: 1,2-Dichloroethane-d4	96.2	Limit: 61-142	% Rec	1		03/07/24 0000	03/07/24 1546	CSM
Surrogate: Toluene-d8	96.7	Limit: 82-121	% Rec	1		03/07/24 0000	03/07/24 1546	CSM
Surrogate: Toluene-d8	96.7	Limit: 87-116	% Rec	1		03/07/24 0000	03/07/24 1546	CSM
Surrogate: 4-Bromofluorobenzene	92.6	Limit: 85-111	% Rec	1		03/07/24 0000	03/07/24 1546	CSM
Surrogate: 4-Bromofluorobenzene	92.6	Limit: 80-116	% Rec	1		03/07/24 0000	03/07/24 1546	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		03/07/24 1046	03/08/24 0300	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0300	RVV
Barium, total	**0.131**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0300	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0300	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 0300	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 0300	RVV
Cobalt, total	**0.0013**	0.0004	mg/L	4		03/07/24 1046	03/08/24 0300	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0300	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0300	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0300	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0300	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0300	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 0300	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0300	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0300	RVV

Client Sample ID:	MW-36		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-07	**Collection Date:**	03/04/2024 12:14

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		03/07/24 0000	03/07/24 1609	CSM
Vinyl Chloride	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Bromomethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Chloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Acetone	<10.0	10.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Methyl Iodide	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Carbon Disulfide	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Methylene Chloride	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Acrylonitrile	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Vinyl Acetate	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Bromochloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Chloroform	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Benzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Trichloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Dibromomethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Bromodichloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Toluene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Dibromochloromethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Chlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Ethylbenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Xylenes, total	<2.0	2.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Styrene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Bromoform	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM

Client Sample ID:	MW-36		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-07	**Collection Date:**	03/04/2024 12:14

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		03/07/24 0000	03/07/24 1609	CSM
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/07/24 0000	03/07/24 1609	CSM
Surrogate: Dibromofluoromethane	102	Limit: 75-136	% Rec	1		03/07/24 0000	03/07/24 1609	CSM
Surrogate: Dibromofluoromethane	102	Limit: 80-126	% Rec	1		03/07/24 0000	03/07/24 1609	CSM
Surrogate: 1,2-Dichloroethane-d4	99.3	Limit: 63-138	% Rec	1		03/07/24 0000	03/07/24 1609	CSM
Surrogate: 1,2-Dichloroethane-d4	99.3	Limit: 61-142	% Rec	1		03/07/24 0000	03/07/24 1609	CSM
Surrogate: Toluene-d8	96.6	Limit: 82-121	% Rec	1		03/07/24 0000	03/07/24 1609	CSM
Surrogate: Toluene-d8	96.6	Limit: 87-116	% Rec	1		03/07/24 0000	03/07/24 1609	CSM
Surrogate: 4-Bromofluorobenzene	121	Limit: 85-111	% Rec	1	**S-GC**	03/07/24 0000	03/07/24 1609	CSM
Surrogate: 4-Bromofluorobenzene	121	Limit: 80-116	% Rec	1	**S-GC**	03/07/24 0000	03/07/24 1609	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		03/07/24 1046	03/08/24 0306	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0306	RVV
Barium, total	**0.128**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0306	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0306	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 0306	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 0306	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		03/07/24 1046	03/08/24 0306	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0306	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0306	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0306	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0306	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0306	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 0306	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0306	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0306	RVV

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0401

Client Sample ID:	MW-41			
Sample Matrix:	Water		**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-08		**Collection Date:**	03/04/2024 13:38

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		03/08/24 0000	03/08/24 1651	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Bromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Chloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Acetone	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
1,1-Dichloroethane	**19.0**	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
cis-1,2-Dichloroethylene	**2.4**	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Chloroform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Benzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Dibromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Toluene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Xylenes, total	<2.0	2.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Styrene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Bromoform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS

Client Sample ID:	MW-41		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-08	**Collection Date:**	03/04/2024 13:38

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		03/08/24 0000	03/08/24 1651	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1651	LJS
Surrogate: Dibromofluoromethane	80.5	Limit: 75-136	% Rec	1		03/08/24 0000	03/08/24 1651	LJS
Surrogate: Dibromofluoromethane	80.5	Limit: 80-126	% Rec	1		03/08/24 0000	03/08/24 1651	LJS
Surrogate: 1,2-Dichloroethane-d4	71.4	Limit: 61-142	% Rec	1		03/08/24 0000	03/08/24 1651	LJS
Surrogate: 1,2-Dichloroethane-d4	71.4	Limit: 63-138	% Rec	1		03/08/24 0000	03/08/24 1651	LJS
Surrogate: Toluene-d8	103	Limit: 82-121	% Rec	1		03/08/24 0000	03/08/24 1651	LJS
Surrogate: Toluene-d8	103	Limit: 87-116	% Rec	1		03/08/24 0000	03/08/24 1651	LJS
Surrogate: 4-Bromofluorobenzene	95.3	Limit: 80-116	% Rec	1		03/08/24 0000	03/08/24 1651	LJS
Surrogate: 4-Bromofluorobenzene	95.3	Limit: 85-111	% Rec	1		03/08/24 0000	03/08/24 1651	LJS

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		03/07/24 1046	03/08/24 0312	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0312	RVV
Barium, total	**0.0712**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0312	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0312	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 0312	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 0312	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		03/07/24 1046	03/08/24 0312	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0312	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0312	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0312	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0312	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0312	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 0312	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0312	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0312	RVV

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0401

Client Sample ID:	MW-42		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-09	**Collection Date:**	03/04/2024 13:52

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		03/08/24 0000	03/08/24 1718	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Bromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Chloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Acetone	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Chloroform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Benzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Dibromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Toluene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Xylenes, total	<2.0	2.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Styrene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Bromoform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS

CERTIFICATE OF ANALYSIS

1HC0401

Client Sample ID:	MW-42		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-09	**Collection Date:**	03/04/2024 13:52

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		03/08/24 0000	03/08/24 1718	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1718	LJS
Surrogate: Dibromofluoromethane	81.4	Limit: 75-136	% Rec	1		03/08/24 0000	03/08/24 1718	LJS
Surrogate: Dibromofluoromethane	81.4	Limit: 80-126	% Rec	1		03/08/24 0000	03/08/24 1718	LJS
Surrogate: 1,2-Dichloroethane-d4	73.7	Limit: 63-138	% Rec	1		03/08/24 0000	03/08/24 1718	LJS
Surrogate: 1,2-Dichloroethane-d4	73.7	Limit: 61-142	% Rec	1		03/08/24 0000	03/08/24 1718	LJS
Surrogate: Toluene-d8	103	Limit: 82-121	% Rec	1		03/08/24 0000	03/08/24 1718	LJS
Surrogate: Toluene-d8	103	Limit: 87-116	% Rec	1		03/08/24 0000	03/08/24 1718	LJS
Surrogate: 4-Bromofluorobenzene	96.5	Limit: 85-111	% Rec	1		03/08/24 0000	03/08/24 1718	LJS
Surrogate: 4-Bromofluorobenzene	96.5	Limit: 80-116	% Rec	1		03/08/24 0000	03/08/24 1718	LJS

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		03/07/24 1046	03/08/24 0330	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0330	RVV
Barium, total	**0.0194**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0330	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0330	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 0330	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 0330	RVV
Cobalt, total	**0.0007**	0.0004	mg/L	4		03/07/24 1046	03/08/24 0330	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0330	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0330	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0330	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0330	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0330	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 0330	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0330	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0330	RVV

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0401

Client Sample ID:	MW-58		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-10	**Collection Date:**	03/04/2024 14:13

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		03/08/24 0000	03/08/24 1744	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Bromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Chloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Acetone	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
cis-1,2-Dichloroethylene	**1.0**	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Chloroform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Benzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Dibromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Toluene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Xylenes, total	<2.0	2.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Styrene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Bromoform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS

Client Sample ID:	MW-58		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-10	**Collection Date:**	03/04/2024 14:13

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		03/08/24 0000	03/08/24 1744	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1744	LJS
Surrogate: Dibromofluoromethane	81.2	Limit: 80-126	% Rec	1		03/08/24 0000	03/08/24 1744	LJS
Surrogate: Dibromofluoromethane	81.2	Limit: 75-136	% Rec	1		03/08/24 0000	03/08/24 1744	LJS
Surrogate: 1,2-Dichloroethane-d4	74.8	Limit: 61-142	% Rec	1		03/08/24 0000	03/08/24 1744	LJS
Surrogate: 1,2-Dichloroethane-d4	74.8	Limit: 63-138	% Rec	1		03/08/24 0000	03/08/24 1744	LJS
Surrogate: Toluene-d8	103	Limit: 87-116	% Rec	1		03/08/24 0000	03/08/24 1744	LJS
Surrogate: Toluene-d8	103	Limit: 82-121	% Rec	1		03/08/24 0000	03/08/24 1744	LJS
Surrogate: 4-Bromofluorobenzene	93.9	Limit: 80-116	% Rec	1		03/08/24 0000	03/08/24 1744	LJS
Surrogate: 4-Bromofluorobenzene	93.9	Limit: 85-111	% Rec	1		03/08/24 0000	03/08/24 1744	LJS

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		03/07/24 1046	03/08/24 0336	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0336	RVV
Barium, total	**0.0238**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0336	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0336	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 0336	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 0336	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		03/07/24 1046	03/08/24 0336	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0336	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0336	RVV
Nickel, total	**0.0167**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0336	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0336	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0336	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 0336	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0336	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0336	RVV

CERTIFICATE OF ANALYSIS

1HC0401

Client Sample ID:	MW-44		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-11	**Collection Date:**	03/04/2024 8:30

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		03/08/24 0000	03/08/24 1810	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Bromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Chloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Acetone	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Chloroform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Benzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Dibromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Toluene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Xylenes, total	<2.0	2.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Styrene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Bromoform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS

CERTIFICATE OF ANALYSIS

1HC0401

Client Sample ID:	MW-44		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-11	**Collection Date:**	03/04/2024 8:30

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		03/08/24 0000	03/08/24 1810	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1810	LJS
Surrogate: Dibromofluoromethane	80.5	Limit: 80-126	% Rec	1		03/08/24 0000	03/08/24 1810	LJS
Surrogate: Dibromofluoromethane	80.5	Limit: 75-136	% Rec	1		03/08/24 0000	03/08/24 1810	LJS
Surrogate: 1,2-Dichloroethane-d4	75.4	Limit: 63-138	% Rec	1		03/08/24 0000	03/08/24 1810	LJS
Surrogate: 1,2-Dichloroethane-d4	75.4	Limit: 61-142	% Rec	1		03/08/24 0000	03/08/24 1810	LJS
Surrogate: Toluene-d8	104	Limit: 87-116	% Rec	1		03/08/24 0000	03/08/24 1810	LJS
Surrogate: Toluene-d8	104	Limit: 82-121	% Rec	1		03/08/24 0000	03/08/24 1810	LJS
Surrogate: 4-Bromofluorobenzene	95.0	Limit: 85-111	% Rec	1		03/08/24 0000	03/08/24 1810	LJS
Surrogate: 4-Bromofluorobenzene	95.0	Limit: 80-116	% Rec	1		03/08/24 0000	03/08/24 1810	LJS

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		03/07/24 1046	03/08/24 0343	RVV
Arsenic, total	**0.0041**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0343	RVV
Barium, total	**0.126**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0343	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0343	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 0343	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 0343	RVV
Cobalt, total	**0.0097**	0.0004	mg/L	4		03/07/24 1046	03/08/24 0343	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0343	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0343	RVV
Nickel, total	**0.0100**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0343	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0343	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0343	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 0343	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0343	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0343	RVV

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0401

Client Sample ID:	MW-57		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-12	**Collection Date:**	03/04/2024 10:05

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		03/08/24 0000	03/08/24 1836	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Bromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Chloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Acetone	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Chloroform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Benzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Dibromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Toluene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Xylenes, total	<2.0	2.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Styrene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Bromoform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS

Client Sample ID:	MW-57		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-12	**Collection Date:**	03/04/2024 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		03/08/24 0000	03/08/24 1836	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1836	LJS
Surrogate: Dibromofluoromethane	78.1	Limit: 80-126	% Rec	1	**S-GC**	03/08/24 0000	03/08/24 1836	LJS
Surrogate: Dibromofluoromethane	78.1	Limit: 75-136	% Rec	1		03/08/24 0000	03/08/24 1836	LJS
Surrogate: 1,2-Dichloroethane-d4	71.3	Limit: 63-138	% Rec	1		03/08/24 0000	03/08/24 1836	LJS
Surrogate: 1,2-Dichloroethane-d4	71.3	Limit: 61-142	% Rec	1		03/08/24 0000	03/08/24 1836	LJS
Surrogate: Toluene-d8	104	Limit: 87-116	% Rec	1		03/08/24 0000	03/08/24 1836	LJS
Surrogate: Toluene-d8	104	Limit: 82-121	% Rec	1		03/08/24 0000	03/08/24 1836	LJS
Surrogate: 4-Bromofluorobenzene	94.8	Limit: 85-111	% Rec	1		03/08/24 0000	03/08/24 1836	LJS
Surrogate: 4-Bromofluorobenzene	94.8	Limit: 80-116	% Rec	1		03/08/24 0000	03/08/24 1836	LJS

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		03/07/24 1046	03/08/24 0349	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0349	RVV
Barium, total	**0.250**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0349	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0349	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 0349	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 0349	RVV
Cobalt, total	**0.0004**	0.0004	mg/L	4		03/07/24 1046	03/08/24 0349	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0349	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0349	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0349	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0349	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0349	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 0349	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0349	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0349	RVV

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0401

Client Sample ID:	MW-56		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-13	**Collection Date:**	03/04/2024 9:09

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		03/08/24 0000	03/08/24 1903	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Bromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Chloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Acetone	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
1,1-Dichloroethane	**1.7**	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Chloroform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Benzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Dibromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Toluene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Xylenes, total	<2.0	2.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Styrene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Bromoform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS

Client Sample ID:	MW-56			
Sample Matrix:	Water		**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-13		**Collection Date:**	03/04/2024 9:09

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		03/08/24 0000	03/08/24 1903	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1903	LJS
Surrogate: Dibromofluoromethane	81.5	Limit: 75-136	% Rec	1		03/08/24 0000	03/08/24 1903	LJS
Surrogate: Dibromofluoromethane	81.5	Limit: 80-126	% Rec	1		03/08/24 0000	03/08/24 1903	LJS
Surrogate: 1,2-Dichloroethane-d4	75.4	Limit: 61-142	% Rec	1		03/08/24 0000	03/08/24 1903	LJS
Surrogate: 1,2-Dichloroethane-d4	75.4	Limit: 63-138	% Rec	1		03/08/24 0000	03/08/24 1903	LJS
Surrogate: Toluene-d8	102	Limit: 82-121	% Rec	1		03/08/24 0000	03/08/24 1903	LJS
Surrogate: Toluene-d8	102	Limit: 87-116	% Rec	1		03/08/24 0000	03/08/24 1903	LJS
Surrogate: 4-Bromofluorobenzene	94.2	Limit: 80-116	% Rec	1		03/08/24 0000	03/08/24 1903	LJS
Surrogate: 4-Bromofluorobenzene	94.2	Limit: 85-111	% Rec	1		03/08/24 0000	03/08/24 1903	LJS

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		03/07/24 1046	03/08/24 0355	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0355	RVV
Barium, total	**0.0235**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0355	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0355	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 0355	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 0355	RVV
Cobalt, total	**0.0006**	0.0004	mg/L	4		03/07/24 1046	03/08/24 0355	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0355	RVV
Lead, total	**0.0146**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0355	RVV
Nickel, total	**0.0047**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0355	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0355	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0355	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 0355	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0355	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0355	RVV

Client Sample ID:	MW-64		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-14	**Collection Date:**	03/04/2024 9:27

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		03/08/24 0000	03/08/24 1929	LJS
Vinyl Chloride	**2.7**	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Bromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Chloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Acetone	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
1,1-Dichloroethane	**1.5**	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
cis-1,2-Dichloroethylene	**2.4**	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Chloroform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Benzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Dibromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Toluene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Xylenes, total	<2.0	2.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Styrene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Bromoform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS

Client Sample ID:	MW-64			
Sample Matrix:	Water		**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-14		**Collection Date:**	03/04/2024 9:27

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		03/08/24 0000	03/08/24 1929	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1929	LJS
Surrogate: Dibromofluoromethane	81.0	Limit: 80-126	% Rec	1		03/08/24 0000	03/08/24 1929	LJS
Surrogate: Dibromofluoromethane	81.0	Limit: 75-136	% Rec	1		03/08/24 0000	03/08/24 1929	LJS
Surrogate: 1,2-Dichloroethane-d4	75.3	Limit: 63-138	% Rec	1		03/08/24 0000	03/08/24 1929	LJS
Surrogate: 1,2-Dichloroethane-d4	75.3	Limit: 61-142	% Rec	1		03/08/24 0000	03/08/24 1929	LJS
Surrogate: Toluene-d8	104	Limit: 87-116	% Rec	1		03/08/24 0000	03/08/24 1929	LJS
Surrogate: Toluene-d8	104	Limit: 82-121	% Rec	1		03/08/24 0000	03/08/24 1929	LJS
Surrogate: 4-Bromofluorobenzene	93.6	Limit: 85-111	% Rec	1		03/08/24 0000	03/08/24 1929	LJS
Surrogate: 4-Bromofluorobenzene	93.6	Limit: 80-116	% Rec	1		03/08/24 0000	03/08/24 1929	LJS

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		03/07/24 1046	03/08/24 0401	RVV
Arsenic, total	**0.0296**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0401	RVV
Barium, total	**0.0685**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0401	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0401	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 0401	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 0401	RVV
Cobalt, total	**0.0120**	0.0004	mg/L	4		03/07/24 1046	03/08/24 0401	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0401	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0401	RVV
Nickel, total	**0.0320**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0401	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0401	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0401	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 0401	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0401	RVV
Zinc, total	**0.0514**	0.0200	mg/L	4		03/07/24 1046	03/08/24 0401	RVV

Client Sample ID:	MW-65		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-15	**Collection Date:**	03/04/2024 8:45

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		03/08/24 0000	03/08/24 1955	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Bromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Chloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Acetone	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Chloroform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Benzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Dibromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Toluene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Xylenes, total	<2.0	2.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Styrene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Bromoform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0401

Client Sample ID:	MW-65		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-15	**Collection Date:**	03/04/2024 8:45

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		03/08/24 0000	03/08/24 1955	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 1955	LJS
Surrogate: Dibromofluoromethane	77.7	Limit: 80-126	% Rec	1	**S-GC**	03/08/24 0000	03/08/24 1955	LJS
Surrogate: Dibromofluoromethane	77.7	Limit: 75-136	% Rec	1		03/08/24 0000	03/08/24 1955	LJS
Surrogate: 1,2-Dichloroethane-d4	72.6	Limit: 63-138	% Rec	1		03/08/24 0000	03/08/24 1955	LJS
Surrogate: 1,2-Dichloroethane-d4	72.6	Limit: 61-142	% Rec	1		03/08/24 0000	03/08/24 1955	LJS
Surrogate: Toluene-d8	102	Limit: 87-116	% Rec	1		03/08/24 0000	03/08/24 1955	LJS
Surrogate: Toluene-d8	102	Limit: 82-121	% Rec	1		03/08/24 0000	03/08/24 1955	LJS
Surrogate: 4-Bromofluorobenzene	93.0	Limit: 85-111	% Rec	1		03/08/24 0000	03/08/24 1955	LJS
Surrogate: 4-Bromofluorobenzene	93.0	Limit: 80-116	% Rec	1		03/08/24 0000	03/08/24 1955	LJS

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		03/07/24 1046	03/08/24 0407	RVV
Arsenic, total	**0.0067**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0407	RVV
Barium, total	**0.0300**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0407	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0407	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 0407	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 0407	RVV
Cobalt, total	**0.0092**	0.0004	mg/L	4		03/07/24 1046	03/08/24 0407	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0407	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0407	RVV
Nickel, total	**0.0149**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0407	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0407	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0407	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 0407	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0407	RVV
Zinc, total	**0.0215**	0.0200	mg/L	4		03/07/24 1046	03/08/24 0407	RVV

Client Sample ID:	SW-101R		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-16	**Collection Date:**	03/04/2024 10:45

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		03/08/24 0000	03/08/24 2022	LJS
Vinyl Chloride	**5.3**	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Bromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Chloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Acetone	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
cis-1,2-Dichloroethylene	**4.0**	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Chloroform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Benzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Dibromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Toluene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Xylenes, total	<2.0	2.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Styrene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Bromoform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS

Client Sample ID:	SW-101R			
Sample Matrix:	Water		**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-16		**Collection Date:**	03/04/2024 10:45

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		03/08/24 0000	03/08/24 2022	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2022	LJS
Surrogate: Dibromofluoromethane	79.3	Limit: 75-136	% Rec	1		03/08/24 0000	03/08/24 2022	LJS
Surrogate: Dibromofluoromethane	79.3	Limit: 80-126	% Rec	1	**S-GC**	03/08/24 0000	03/08/24 2022	LJS
Surrogate: 1,2-Dichloroethane-d4	73.3	Limit: 61-142	% Rec	1		03/08/24 0000	03/08/24 2022	LJS
Surrogate: 1,2-Dichloroethane-d4	73.3	Limit: 63-138	% Rec	1		03/08/24 0000	03/08/24 2022	LJS
Surrogate: Toluene-d8	103	Limit: 87-116	% Rec	1		03/08/24 0000	03/08/24 2022	LJS
Surrogate: Toluene-d8	103	Limit: 82-121	% Rec	1		03/08/24 0000	03/08/24 2022	LJS
Surrogate: 4-Bromofluorobenzene	93.5	Limit: 80-116	% Rec	1		03/08/24 0000	03/08/24 2022	LJS
Surrogate: 4-Bromofluorobenzene	93.5	Limit: 85-111	% Rec	1		03/08/24 0000	03/08/24 2022	LJS

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		03/07/24 1046	03/08/24 0413	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0413	RVV
Barium, total	**0.240**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0413	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0413	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 0413	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 0413	RVV
Cobalt, total	**0.0027**	0.0004	mg/L	4		03/07/24 1046	03/08/24 0413	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0413	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0413	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0413	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0413	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0413	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 0413	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0413	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0413	RVV

Client Sample ID:	PECS-1			
Sample Matrix:	Water		**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-17		**Collection Date:**	03/04/2024 10:25

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		03/08/24 0000	03/08/24 2048	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Bromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Chloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Acetone	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Chloroform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Benzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Dibromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Toluene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Xylenes, total	<2.0	2.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Styrene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Bromoform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS

Client Sample ID:	PECS-1		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-17	**Collection Date:**	03/04/2024 10:25

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		03/08/24 0000	03/08/24 2048	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2048	LJS
Surrogate: Dibromofluoromethane	78.5	Limit: 75-136	% Rec	1		03/08/24 0000	03/08/24 2048	LJS
Surrogate: Dibromofluoromethane	78.5	Limit: 80-126	% Rec	1	**S-GC**	03/08/24 0000	03/08/24 2048	LJS
Surrogate: 1,2-Dichloroethane-d4	73.4	Limit: 63-138	% Rec	1		03/08/24 0000	03/08/24 2048	LJS
Surrogate: 1,2-Dichloroethane-d4	73.4	Limit: 61-142	% Rec	1		03/08/24 0000	03/08/24 2048	LJS
Surrogate: Toluene-d8	102	Limit: 87-116	% Rec	1		03/08/24 0000	03/08/24 2048	LJS
Surrogate: Toluene-d8	102	Limit: 82-121	% Rec	1		03/08/24 0000	03/08/24 2048	LJS
Surrogate: 4-Bromofluorobenzene	92.7	Limit: 80-116	% Rec	1		03/08/24 0000	03/08/24 2048	LJS
Surrogate: 4-Bromofluorobenzene	92.7	Limit: 85-111	% Rec	1		03/08/24 0000	03/08/24 2048	LJS

Client Sample ID:	SW-102		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-18	**Collection Date:**	03/04/2024 10:33

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		03/08/24 0000	03/08/24 2114	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Bromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Chloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Acetone	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Chloroform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Benzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Dibromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Toluene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Xylenes, total	<2.0	2.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Styrene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Bromoform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS

Client Sample ID:	SW-102		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-18	**Collection Date:**	03/04/2024 10:33

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		03/08/24 0000	03/08/24 2114	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2114	LJS
Surrogate: Dibromofluoromethane	82.4	Limit: 75-136	% Rec	1		03/08/24 0000	03/08/24 2114	LJS
Surrogate: Dibromofluoromethane	82.4	Limit: 80-126	% Rec	1		03/08/24 0000	03/08/24 2114	LJS
Surrogate: 1,2-Dichloroethane-d4	77.0	Limit: 63-138	% Rec	1		03/08/24 0000	03/08/24 2114	LJS
Surrogate: 1,2-Dichloroethane-d4	77.0	Limit: 61-142	% Rec	1		03/08/24 0000	03/08/24 2114	LJS
Surrogate: Toluene-d8	103	Limit: 87-116	% Rec	1		03/08/24 0000	03/08/24 2114	LJS
Surrogate: Toluene-d8	103	Limit: 82-121	% Rec	1		03/08/24 0000	03/08/24 2114	LJS
Surrogate: 4-Bromofluorobenzene	91.7	Limit: 80-116	% Rec	1		03/08/24 0000	03/08/24 2114	LJS
Surrogate: 4-Bromofluorobenzene	91.7	Limit: 85-111	% Rec	1		03/08/24 0000	03/08/24 2114	LJS

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		03/07/24 1046	03/08/24 0420	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0420	RVV
Barium, total	**0.134**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0420	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0420	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 0420	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 0420	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		03/07/24 1046	03/08/24 0420	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0420	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0420	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0420	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0420	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0420	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 0420	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0420	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0420	RVV

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0401

Client Sample ID:	SW-103		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-19	**Collection Date:**	03/04/2024 9:00

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		03/08/24 0000	03/08/24 2140	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Bromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Chloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Acetone	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Chloroform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Benzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Dibromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Toluene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Xylenes, total	<2.0	2.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Styrene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Bromoform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS

Client Sample ID:	SW-103		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-19	**Collection Date:**	03/04/2024 9:00

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		03/08/24 0000	03/08/24 2140	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2140	LJS
Surrogate: Dibromofluoromethane	81.8	Limit: 75-136	% Rec	1		03/08/24 0000	03/08/24 2140	LJS
Surrogate: Dibromofluoromethane	81.8	Limit: 80-126	% Rec	1		03/08/24 0000	03/08/24 2140	LJS
Surrogate: 1,2-Dichloroethane-d4	75.2	Limit: 61-142	% Rec	1		03/08/24 0000	03/08/24 2140	LJS
Surrogate: 1,2-Dichloroethane-d4	75.2	Limit: 63-138	% Rec	1		03/08/24 0000	03/08/24 2140	LJS
Surrogate: Toluene-d8	102	Limit: 82-121	% Rec	1		03/08/24 0000	03/08/24 2140	LJS
Surrogate: Toluene-d8	102	Limit: 87-116	% Rec	1		03/08/24 0000	03/08/24 2140	LJS
Surrogate: 4-Bromofluorobenzene	92.5	Limit: 80-116	% Rec	1		03/08/24 0000	03/08/24 2140	LJS
Surrogate: 4-Bromofluorobenzene	92.5	Limit: 85-111	% Rec	1		03/08/24 0000	03/08/24 2140	LJS

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		03/07/24 1046	03/08/24 0426	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0426	RVV
Barium, total	**0.118**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0426	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0426	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 0426	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 0426	RVV
Cobalt, total	**0.0007**	0.0004	mg/L	4		03/07/24 1046	03/08/24 0426	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0426	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0426	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0426	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0426	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0426	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 0426	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0426	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0426	RVV

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0401

Client Sample ID:	MW-59			
Sample Matrix:	Water		**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-20		**Collection Date:**	03/04/2024 14:28

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		03/08/24 0000	03/08/24 2207	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Bromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Chloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Acetone	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Chloroform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Benzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Dibromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Toluene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Xylenes, total	<2.0	2.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Styrene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Bromoform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0401

Client Sample ID:	MW-59		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-20	**Collection Date:**	03/04/2024 14:28

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		03/08/24 0000	03/08/24 2207	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2207	LJS
Surrogate: Dibromofluoromethane	78.4	Limit: 75-136	% Rec	1		03/08/24 0000	03/08/24 2207	LJS
Surrogate: Dibromofluoromethane	78.4	Limit: 80-126	% Rec	1	**S-GC**	03/08/24 0000	03/08/24 2207	LJS
Surrogate: 1,2-Dichloroethane-d4	73.8	Limit: 61-142	% Rec	1		03/08/24 0000	03/08/24 2207	LJS
Surrogate: 1,2-Dichloroethane-d4	73.8	Limit: 63-138	% Rec	1		03/08/24 0000	03/08/24 2207	LJS
Surrogate: Toluene-d8	102	Limit: 87-116	% Rec	1		03/08/24 0000	03/08/24 2207	LJS
Surrogate: Toluene-d8	102	Limit: 82-121	% Rec	1		03/08/24 0000	03/08/24 2207	LJS
Surrogate: 4-Bromofluorobenzene	91.8	Limit: 80-116	% Rec	1		03/08/24 0000	03/08/24 2207	LJS
Surrogate: 4-Bromofluorobenzene	91.8	Limit: 85-111	% Rec	1		03/08/24 0000	03/08/24 2207	LJS

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		03/07/24 1046	03/08/24 0444	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0444	RVV
Barium, total	**0.0335**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0444	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0444	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 0444	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 0444	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		03/07/24 1046	03/08/24 0444	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0444	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0444	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0444	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0444	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0444	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 0444	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0444	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0444	RVV

Client Sample ID:	MW-60			
Sample Matrix:	Water		**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-21		**Collection Date:**	03/04/2024 12:29

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		03/08/24 0000	03/08/24 2233	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Bromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Chloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Acetone	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Chloroform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Benzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Dibromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Toluene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Xylenes, total	<2.0	2.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Styrene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Bromoform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS

Client Sample ID:	MW-60		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-21	**Collection Date:**	03/04/2024 12:29

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		03/08/24 0000	03/08/24 2233	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2233	LJS
Surrogate: Dibromofluoromethane	81.2	Limit: 75-136	% Rec	1		03/08/24 0000	03/08/24 2233	LJS
Surrogate: Dibromofluoromethane	81.2	Limit: 80-126	% Rec	1		03/08/24 0000	03/08/24 2233	LJS
Surrogate: 1,2-Dichloroethane-d4	76.7	Limit: 63-138	% Rec	1		03/08/24 0000	03/08/24 2233	LJS
Surrogate: 1,2-Dichloroethane-d4	76.7	Limit: 61-142	% Rec	1		03/08/24 0000	03/08/24 2233	LJS
Surrogate: Toluene-d8	103	Limit: 82-121	% Rec	1		03/08/24 0000	03/08/24 2233	LJS
Surrogate: Toluene-d8	103	Limit: 87-116	% Rec	1		03/08/24 0000	03/08/24 2233	LJS
Surrogate: 4-Bromofluorobenzene	92.7	Limit: 85-111	% Rec	1		03/08/24 0000	03/08/24 2233	LJS
Surrogate: 4-Bromofluorobenzene	92.7	Limit: 80-116	% Rec	1		03/08/24 0000	03/08/24 2233	LJS

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		03/07/24 1046	03/08/24 0450	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0450	RVV
Barium, total	**0.192**	0.0040	mg/L	4		03/07/24 1046	03/08/24 0450	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0450	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/07/24 1046	03/08/24 0450	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/07/24 1046	03/08/24 0450	RVV
Cobalt, total	**0.0005**	0.0004	mg/L	4		03/07/24 1046	03/08/24 0450	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0450	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0450	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0450	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0450	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/07/24 1046	03/08/24 0450	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/07/24 1046	03/08/24 0450	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0450	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/07/24 1046	03/08/24 0450	RVV

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0401

Client Sample ID:	MW-61		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-22	**Collection Date:**	03/04/2024 12:48

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		03/08/24 0000	03/08/24 2259	LJS
Vinyl Chloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Bromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Chloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Trichlorofluoromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Acetone	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Methyl Iodide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Carbon Disulfide	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Methylene Chloride	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Acrylonitrile	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
1,1-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Vinyl Acetate	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
2-Butanone (MEK)	<10.0	10.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Bromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Chloroform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Carbon Tetrachloride	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Benzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
1,2-Dichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Trichloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
1,2-Dichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Dibromomethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Bromodichloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Toluene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Tetrachloroethylene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Dibromochloromethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
1,2-Dibromoethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Chlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Ethylbenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Xylenes, total	<2.0	2.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Styrene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Bromoform	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0401

Client Sample ID:	MW-61		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-22	**Collection Date:**	03/04/2024 12:48

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		03/08/24 0000	03/08/24 2259	LJS
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		03/08/24 0000	03/08/24 2259	LJS
Surrogate: Dibromofluoromethane	79.8	Limit: 80-126	% Rec	1	**S-GC**	03/08/24 0000	03/08/24 2259	LJS
Surrogate: Dibromofluoromethane	79.8	Limit: 75-136	% Rec	1		03/08/24 0000	03/08/24 2259	LJS
Surrogate: 1,2-Dichloroethane-d4	75.1	Limit: 61-142	% Rec	1		03/08/24 0000	03/08/24 2259	LJS
Surrogate: 1,2-Dichloroethane-d4	75.1	Limit: 63-138	% Rec	1		03/08/24 0000	03/08/24 2259	LJS
Surrogate: Toluene-d8	102	Limit: 82-121	% Rec	1		03/08/24 0000	03/08/24 2259	LJS
Surrogate: Toluene-d8	102	Limit: 87-116	% Rec	1		03/08/24 0000	03/08/24 2259	LJS
Surrogate: 4-Bromofluorobenzene	90.9	Limit: 85-111	% Rec	1		03/08/24 0000	03/08/24 2259	LJS
Surrogate: 4-Bromofluorobenzene	90.9	Limit: 80-116	% Rec	1		03/08/24 0000	03/08/24 2259	LJS

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		03/11/24 0841	03/12/24 0233	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/11/24 0841	03/12/24 0233	RVV
Barium, total	**0.0485**	0.0040	mg/L	4		03/11/24 0841	03/12/24 0233	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/11/24 0841	03/12/24 0233	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/11/24 0841	03/12/24 0233	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/11/24 0841	03/12/24 0233	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		03/11/24 0841	03/12/24 0233	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/11/24 0841	03/12/24 0233	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/11/24 0841	03/12/24 0233	RVV
Nickel, total	**0.0048**	0.0040	mg/L	4		03/11/24 0841	03/12/24 0233	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		03/11/24 0841	03/12/24 0233	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/11/24 0841	03/12/24 0233	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/11/24 0841	03/12/24 0233	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/11/24 0841	03/12/24 0233	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/11/24 0841	03/12/24 0233	RVV

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0401

Client Sample ID:	Duplicate		
Sample Matrix:	Water	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HC0401-23	**Collection Date:**	03/04/2024

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		03/11/24 0841	03/12/24 0239	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		03/11/24 0841	03/12/24 0239	RVV
Barium, total	**0.340**	0.0040	mg/L	4		03/11/24 0841	03/12/24 0239	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		03/11/24 0841	03/12/24 0239	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		03/11/24 0841	03/12/24 0239	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		03/11/24 0841	03/12/24 0239	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		03/11/24 0841	03/12/24 0239	RVV
Copper, total	<0.0040	0.0040	mg/L	4		03/11/24 0841	03/12/24 0239	RVV
Lead, total	<0.0040	0.0040	mg/L	4		03/11/24 0841	03/12/24 0239	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		03/11/24 0841	03/12/24 0239	RVV
Selenium, total	**0.0061**	0.0040	mg/L	4		03/11/24 0841	03/12/24 0239	RVV
Silver, total	<0.0040	0.0040	mg/L	4		03/11/24 0841	03/12/24 0239	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		03/11/24 0841	03/12/24 0239	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		03/11/24 0841	03/12/24 0239	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		03/11/24 0841	03/12/24 0239	RVV

Batch Log Summary

Method	Batch	Laboratory ID	Client / Source ID
EPA 6020A	1HC0366	1HC0366-BLK1	
		1HC0366-BS1	
		1HC0401-01	MW-48 (B)
		1HC0366-MS1	1HC0401-01
		1HC0366-MSD1	1HC0401-01
		1HC0401-03	MW-78 (B)
		1HC0401-04	MW-62R
		1HC0401-05	MW-79
		1HC0401-06	MW-80
		1HC0401-07	MW-36
		1HC0401-08	MW-41
		1HC0401-09	MW-42
		1HC0401-10	MW-58
		1HC0401-11	MW-44
		1HC0401-12	MW-57
		1HC0401-13	MW-56
		1HC0401-14	MW-64
		1HC0401-15	MW-65
		1HC0401-16	SW-101R
		1HC0401-18	SW-102
		1HC0401-19	SW-103
		1HC0401-20	MW-59
		1HC0401-21	MW-60
		1HC0366-PS1	1HC0401-01
		1HC0401-02	MW-39 (B)

Method	Batch	Laboratory ID	Client / Source ID
EPA 8260B	1HC0445	1HC0445-BS1	
		1HC0445-BSD1	
		1HC0445-BLK1	
		1HC0401-01	MW-48 (B)
		1HC0401-02	MW-39 (B)
		1HC0401-03	MW-78 (B)
		1HC0401-04	MW-62R
		1HC0401-05	MW-79
		1HC0401-06	MW-80
		1HC0401-07	MW-36

Method	Batch	Laboratory ID	Client / Source ID
EPA 8260B	1HC0510	1HC0510-BS1	

Method	Batch	Laboratory ID	Client / Source ID
EPA 8260B	1HC0510	1HC0510-BSD1	
		1HC0510-BLK1	
		1HC0401-08	MW-41
		1HC0401-09	MW-42
		1HC0401-10	MW-58
		1HC0401-11	MW-44
		1HC0401-12	MW-57
		1HC0401-13	MW-56
		1HC0401-14	MW-64
		1HC0401-15	MW-65
		1HC0401-16	SW-101R
		1HC0401-17	PECS-1
		1HC0401-18	SW-102
		1HC0401-19	SW-103
		1HC0401-20	MW-59
		1HC0401-21	MW-60
		1HC0401-22	MW-61
		1HC0510-MS1	1HC0401-08
		1HC0510-MSD1	1HC0401-08
		1HC0510-BS2	
		1HC0510-BSD2	
		1HC0510-BLK2	
		1HC0510-MS2	1HC0401-09
		1HC0510-MSD2	1HC0401-09

Method	Batch	Laboratory ID	Client / Source ID
EPA 6020A	1HC0519	1HC0519-BLK1	
		1HC0519-BS1	
		1HC0401-22	MW-61
		1HC0401-23	Duplicate
		1HC0519-MS1	1HC0404-01
		1HC0519-MSD1	1HC0404-01
		1HC0519-PS1	1HC0404-01

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 1HC0445 - EPA 5030B - EPA 8260B										
Blank (1HC0445-BLK1)				Prepared: 03/07/24 00:00 Analyzed: 03/07/24 11:28						
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							

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0445 - EPA 5030B - EPA 8260B										
Blank (1HC0445-BLK1)				Prepared: 03/07/24 00:00 Analyzed: 03/07/24 11:28						
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							
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							

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0445 - EPA 5030B - EPA 8260B										
Blank (1HC0445-BLK1)			Prepared: 03/07/24 00:00 Analyzed: 03/07/24 11:28							
Surrogate: Dibromofluoromethane	*50.1*		ug/L	*50.2*		*99.8*	*75-136*			
Surrogate: Dibromofluoromethane	*50.1*		ug/L	*50.2*		*99.8*	*80-126*			
Surrogate: 1,2-Dichloroethane-d4	*47.9*		ug/L	*50.1*		*95.7*	*61-142*			
Surrogate: 1,2-Dichloroethane-d4	*47.9*		ug/L	*50.1*		*95.7*	*63-138*			
Surrogate: Toluene-d8	*48.3*		ug/L	*50.4*		*95.9*	*82-121*			
Surrogate: Toluene-d8	*48.3*		ug/L	*50.4*		*95.9*	*87-116*			
Surrogate: 4-Bromofluorobenzene	*46.5*		ug/L	*50.1*		*92.8*	*80-116*			
Surrogate: 4-Bromofluorobenzene	*46.5*		ug/L	*50.1*		*92.8*	*85-111*			
LCS (1HC0445-BS1)			Prepared: 03/07/24 00:00 Analyzed: 03/07/24 10:20							**QM-17**
Chloromethane	32.66	1.0	ug/L	30.6		107	63-155			
Vinyl Chloride	28.91	1.0	ug/L	30.2		95.6	70-154			
Bromomethane	33.00	1.0	ug/L	28.8		115	52-176			
Chloroethane	31.90	1.0	ug/L	31.6		101	72-148			
Trichlorofluoromethane	30.36	1.0	ug/L	32.6		93.1	70-152			
1,1-Dichloroethylene	49.00	1.0	ug/L	50.0		98.0	70-148			
Acetone	105.3	10.0	ug/L	102		103	43-172			
Methyl Iodide	98.13	1.0	ug/L	99.7		98.4	69-170			
Carbon Disulfide	89.49	1.0	ug/L	101		88.6	72-162			
Methylene Chloride	48.82	5.0	ug/L	50.0		97.6	68-142			
Acrylonitrile	91.15	5.0	ug/L	100		90.8	67-144			
trans-1,2-Dichloroethylene	46.30	1.0	ug/L	50.0		92.6	66-148			
1,1-Dichloroethane	45.66	1.0	ug/L	50.0		91.3	66-143			
Vinyl Acetate	104.2	5.0	ug/L	102		102	43-153			
cis-1,2-Dichloroethylene	64.50	1.0	ug/L	49.5		130	71-149			
2-Butanone (MEK)	112.8	10.0	ug/L	103		109	52-159			
Bromochloromethane	51.87	1.0	ug/L	50.0		104	69-143			
Chloroform	50.61	1.0	ug/L	50.0		101	69-144			
1,1,1-Trichloroethane	44.41	1.0	ug/L	50.0		88.9	62-129			
Carbon Tetrachloride	47.83	1.0	ug/L	50.0		95.7	63-141			
Benzene	46.25	1.0	ug/L	50.0		92.5	71-134			
1,2-Dichloroethane	46.23	1.0	ug/L	50.0		92.5	72-132			
Trichloroethylene	49.25	1.0	ug/L	50.0		98.5	71-135			
1,2-Dichloropropane	44.23	1.0	ug/L	50.0		88.5	69-136			
Dibromomethane	50.43	1.0	ug/L	50.0		101	73-147			
Bromodichloromethane	43.15	1.0	ug/L	50.0		86.3	68-129			
cis-1,3-Dichloropropene	46.90	1.0	ug/L	50.3		93.2	65-134			
4-Methyl-2-pentanone (MIBK)	110.0	5.0	ug/L	101		109	58-147			
Toluene	48.17	1.0	ug/L	50.0		96.3	72-133			
trans-1,3-Dichloropropene	49.51	1.0	ug/L	50.4		98.2	67-130			
1,1,2-Trichloroethane	48.30	1.0	ug/L	50.0		96.6	69-135			
Tetrachloroethylene	46.71	1.0	ug/L	50.0		93.4	69-130			
2-Hexanone (MBK)	95.43	5.0	ug/L	103		92.4	55-144			
Dibromochloromethane	46.55	1.0	ug/L	49.5		94.0	73-127			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0445 - EPA 5030B - EPA 8260B										
LCS (1HC0445-BS1)			Prepared: 03/07/24 00:00 Analyzed: 03/07/24 10:20							**QM-17**
1,2-Dibromoethane	45.77	1.0	ug/L	50.0		91.5	67-132			
Chlorobenzene	46.54	1.0	ug/L	50.0		93.1	72-123			
1,1,1,2-Tetrachloroethane	47.59	1.0	ug/L	50.0		95.2	73-127			
Ethylbenzene	43.70	1.0	ug/L	50.0		87.4	71-127			
Xylenes, total	135.3	2.0	ug/L	150		90.2	74-127			
Styrene	46.05	1.0	ug/L	50.0		92.1	66-126			
Bromoform	49.09	1.0	ug/L	50.0		98.2	68-130			
1,2,3-Trichloropropane	47.59	1.0	ug/L	50.0		95.2	63-136			
trans-1,4-Dichloro-2-butene	85.79	5.0	ug/L	104		82.6	54-134			
1,1,2,2-Tetrachloroethane	46.11	1.0	ug/L	49.8		92.5	61-131			
1,4-Dichlorobenzene	47.27	1.0	ug/L	50.0		94.5	70-129			
1,2-Dichlorobenzene	44.73	1.0	ug/L	50.0		89.5	69-126			
1,2-Dibromo-3-chloropropane	49.64	5.0	ug/L	50.0		99.3	50-143			
Surrogate: Dibromofluoromethane	*51.9*		ug/L	*50.2*		*103*	*75-136*			
Surrogate: Dibromofluoromethane	*51.9*		ug/L	*50.2*		*103*	*80-126*			
Surrogate: 1,2-Dichloroethane-d4	*45.9*		ug/L	*50.1*		*91.7*	*61-142*			
Surrogate: 1,2-Dichloroethane-d4	*45.9*		ug/L	*50.1*		*91.7*	*63-138*			
Surrogate: Toluene-d8	*50.8*		ug/L	*50.4*		*101*	*82-121*			
Surrogate: Toluene-d8	*50.8*		ug/L	*50.4*		*101*	*87-116*			
Surrogate: 4-Bromofluorobenzene	*48.4*		ug/L	*50.1*		*96.5*	*80-116*			
Surrogate: 4-Bromofluorobenzene	*48.4*		ug/L	*50.1*		*96.5*	*85-111*			
LCS Dup (1HC0445-BSD1)			Prepared: 03/07/24 00:00 Analyzed: 03/07/24 10:43							**QM-17**
Chloromethane	31.06	1.0	ug/L	30.6		101	63-155	5.02	24	
Vinyl Chloride	28.28	1.0	ug/L	30.2		93.6	70-154	2.20	25	
Bromomethane	34.79	1.0	ug/L	28.8		121	52-176	5.28	27	
Chloroethane	32.79	1.0	ug/L	31.6		104	72-148	2.75	25	
Trichlorofluoromethane	31.19	1.0	ug/L	32.6		95.6	70-152	2.70	26	
1,1-Dichloroethylene	49.42	1.0	ug/L	50.0		98.8	70-148	0.853	24	
Acetone	94.69	10.0	ug/L	102		92.8	43-172	10.6	30	
Methyl Iodide	104.2	1.0	ug/L	99.7		105	69-170	5.99	30	
Carbon Disulfide	91.09	1.0	ug/L	101		90.2	72-162	1.77	24	
Methylene Chloride	48.06	5.0	ug/L	50.0		96.1	68-142	1.57	21	
Acrylonitrile	91.78	5.0	ug/L	100		91.5	67-144	0.689	24	
trans-1,2-Dichloroethylene	48.78	1.0	ug/L	50.0		97.6	66-148	5.22	27	
1,1-Dichloroethane	47.47	1.0	ug/L	50.0		94.9	66-143	3.89	24	
Vinyl Acetate	104.4	5.0	ug/L	102		102	43-153	0.221	30	
cis-1,2-Dichloroethylene	61.67	1.0	ug/L	49.5		125	71-149	4.49	26	
2-Butanone (MEK)	103.6	10.0	ug/L	103		100	52-159	8.51	27	
Bromochloromethane	48.84	1.0	ug/L	50.0		97.7	69-143	6.02	23	
Chloroform	50.30	1.0	ug/L	50.0		101	69-144	0.614	23	
1,1,1-Trichloroethane	45.19	1.0	ug/L	50.0		90.4	62-129	1.74	24	
Carbon Tetrachloride	47.70	1.0	ug/L	50.0		95.4	63-141	0.272	25	
Benzene	48.85	1.0	ug/L	50.0		97.7	71-134	5.47	24	

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0445 - EPA 5030B - EPA 8260B										
LCS Dup (1HC0445-BSD1)			Prepared: 03/07/24 00:00 Analyzed: 03/07/24 10:43							**QM-17**
1,2-Dichloroethane	48.27	1.0	ug/L	50.0		96.5	72-132	4.32	24	
Trichloroethylene	49.57	1.0	ug/L	50.0		99.1	71-135	0.648	24	
1,2-Dichloropropane	47.15	1.0	ug/L	50.0		94.3	69-136	6.39	24	
Dibromomethane	52.62	1.0	ug/L	50.0		105	73-147	4.25	25	
Bromodichloromethane	45.43	1.0	ug/L	50.0		90.9	68-129	5.15	22	
cis-1,3-Dichloropropene	47.89	1.0	ug/L	50.3		95.2	65-134	2.09	23	
4-Methyl-2-pentanone (MIBK)	101.5	5.0	ug/L	101		100	58-147	8.05	27	
Toluene	49.99	1.0	ug/L	50.0		100	72-133	3.71	24	
trans-1,3-Dichloropropene	47.11	1.0	ug/L	50.4		93.4	67-130	4.97	24	
1,1,2-Trichloroethane	49.53	1.0	ug/L	50.0		99.1	69-135	2.51	23	
Tetrachloroethylene	52.03	1.0	ug/L	50.0		104	69-130	10.8	25	
2-Hexanone (MBK)	99.81	5.0	ug/L	103		96.6	55-144	4.49	25	
Dibromochloromethane	50.02	1.0	ug/L	49.5		101	73-127	7.19	22	
1,2-Dibromoethane	49.39	1.0	ug/L	50.0		98.8	67-132	7.61	24	
Chlorobenzene	48.55	1.0	ug/L	50.0		97.1	72-123	4.23	23	
1,1,1,2-Tetrachloroethane	50.69	1.0	ug/L	50.0		101	73-127	6.31	24	
Ethylbenzene	46.84	1.0	ug/L	50.0		93.7	71-127	6.94	26	
Xylenes, total	140.1	2.0	ug/L	150		93.4	74-127	3.46	25	
Styrene	47.42	1.0	ug/L	50.0		94.8	66-126	2.93	23	
Bromoform	52.85	1.0	ug/L	50.0		106	68-130	7.38	23	
1,2,3-Trichloropropane	50.81	1.0	ug/L	50.0		102	63-136	6.54	24	
trans-1,4-Dichloro-2-butene	89.77	5.0	ug/L	104		86.4	54-134	4.53	27	
1,1,2,2-Tetrachloroethane	47.31	1.0	ug/L	49.8		94.9	61-131	2.57	29	
1,4-Dichlorobenzene	51.07	1.0	ug/L	50.0		102	70-129	7.73	24	
1,2-Dichlorobenzene	48.57	1.0	ug/L	50.0		97.1	69-126	8.23	26	
1,2-Dibromo-3-chloropropane	54.23	5.0	ug/L	50.0		108	50-143	8.84	30	
Surrogate: Dibromofluoromethane	*50.1*		ug/L	*50.2*		*99.8*	*75-136*			
Surrogate: Dibromofluoromethane	*50.1*		ug/L	*50.2*		*99.8*	*80-126*			
Surrogate: 1,2-Dichloroethane-d4	*45.8*		ug/L	*50.1*		*91.5*	*61-142*			
Surrogate: 1,2-Dichloroethane-d4	*45.8*		ug/L	*50.1*		*91.5*	*63-138*			
Surrogate: Toluene-d8	*48.6*		ug/L	*50.4*		*96.5*	*82-121*			
Surrogate: Toluene-d8	*48.6*		ug/L	*50.4*		*96.5*	*87-116*			
Surrogate: 4-Bromofluorobenzene	*46.7*		ug/L	*50.1*		*93.2*	*80-116*			
Surrogate: 4-Bromofluorobenzene	*46.7*		ug/L	*50.1*		*93.2*	*85-111*			
Batch 1HC0510 - EPA 5030B - EPA 8260B										
Blank (1HC0510-BLK1)			Prepared: 03/08/24 00:00 Analyzed: 03/08/24 16:25							
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							

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0510 - EPA 5030B - EPA 8260B										
Blank (1HC0510-BLK1)			Prepared: 03/08/24 00:00 Analyzed: 03/08/24 16:25							
Acetone	81.24	10.0	ug/L							QB-02
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							
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	*37.2*		ug/L	*50.2*		*74.2*	*75-136*			*S-GC*

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0510 - EPA 5030B - EPA 8260B										
Blank (1HC0510-BLK1)			Prepared: 03/08/24 00:00 Analyzed: 03/08/24 16:25							
Surrogate: Dibromofluoromethane	*37.2*		ug/L	*50.2*		*74.2*	*80-126*			*S-GC*
Surrogate: 1,2-Dichloroethane-d4	*33.8*		ug/L	*50.1*		*67.5*	*61-142*			
Surrogate: 1,2-Dichloroethane-d4	*33.8*		ug/L	*50.1*		*67.5*	*63-138*			
Surrogate: Toluene-d8	*52.0*		ug/L	*50.4*		*103*	*82-121*			
Surrogate: Toluene-d8	*52.0*		ug/L	*50.4*		*103*	*87-116*			
Surrogate: 4-Bromofluorobenzene	*48.4*		ug/L	*50.1*		*96.6*	*80-116*			
Surrogate: 4-Bromofluorobenzene	*48.4*		ug/L	*50.1*		*96.6*	*85-111*			
Blank (1HC0510-BLK2)			Prepared: 03/08/24 00:00 Analyzed: 03/09/24 04:15							
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	81.15	10.0	ug/L							QB-02
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							
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							

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0510 - EPA 5030B - EPA 8260B										
Blank (1HC0510-BLK2)			Prepared: 03/08/24 00:00 Analyzed: 03/09/24 04:15							
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	*35.3*		ug/L	*50.2*		*70.4*	*75-136*			*S-GC*
Surrogate: Dibromofluoromethane	*35.3*		ug/L	*50.2*		*70.4*	*80-126*			*S-GC*
Surrogate: 1,2-Dichloroethane-d4	*33.5*		ug/L	*50.1*		*66.9*	*61-142*			
Surrogate: 1,2-Dichloroethane-d4	*33.5*		ug/L	*50.1*		*66.9*	*63-138*			
Surrogate: Toluene-d8	*51.5*		ug/L	*50.4*		*102*	*82-121*			
Surrogate: Toluene-d8	*51.5*		ug/L	*50.4*		*102*	*87-116*			
Surrogate: 4-Bromofluorobenzene	*46.0*		ug/L	*50.1*		*91.7*	*80-116*			
Surrogate: 4-Bromofluorobenzene	*46.0*		ug/L	*50.1*		*91.7*	*85-111*			
LCS (1HC0510-BS1)			Prepared: 03/08/24 00:00 Analyzed: 03/08/24 15:06							
Chloromethane	33.23	1.0	ug/L	30.6		108	63-155			
Vinyl Chloride	30.61	1.0	ug/L	30.2		101	70-154			
Bromomethane	30.17	1.0	ug/L	28.8		105	52-176			
Chloroethane	34.22	1.0	ug/L	31.6		108	72-148			
Trichlorofluoromethane	32.24	1.0	ug/L	32.6		98.9	70-152			
1,1-Dichloroethylene	55.05	1.0	ug/L	50.0		110	70-148			
Acetone	111.3	10.0	ug/L	102		109	43-172			
Methyl Iodide	111.6	1.0	ug/L	99.7		112	69-170			
Carbon Disulfide	99.86	1.0	ug/L	101		98.9	72-162			
Methylene Chloride	49.51	5.0	ug/L	50.0		99.0	68-142			
Acrylonitrile	82.61	5.0	ug/L	100		82.3	67-144			
trans-1,2-Dichloroethylene	51.83	1.0	ug/L	50.0		104	66-148			
1,1-Dichloroethane	50.53	1.0	ug/L	50.0		101	66-143			
Vinyl Acetate	114.5	5.0	ug/L	102		112	43-153			
cis-1,2-Dichloroethylene	51.62	1.0	ug/L	49.5		104	71-149			
2-Butanone (MEK)	103.9	10.0	ug/L	103		101	52-159			
Bromochloromethane	52.10	1.0	ug/L	50.0		104	69-143			
Chloroform	50.99	1.0	ug/L	50.0		102	69-144			
1,1,1-Trichloroethane	46.85	1.0	ug/L	50.0		93.7	62-129			
Carbon Tetrachloride	49.64	1.0	ug/L	50.0		99.3	63-141			
Benzene	50.69	1.0	ug/L	50.0		101	71-134			
1,2-Dichloroethane	49.04	1.0	ug/L	50.0		98.1	72-132			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0510 - EPA 5030B - EPA 8260B										
LCS (1HC0510-BS1)	Prepared: 03/08/24 00:00 Analyzed: 03/08/24 15:06									
Trichloroethylene	49.07	1.0	ug/L	50.0		98.1	71-135			
1,2-Dichloropropane	49.27	1.0	ug/L	50.0		98.5	69-136			
Dibromomethane	51.22	1.0	ug/L	50.0		102	73-147			
Bromodichloromethane	47.31	1.0	ug/L	50.0		94.6	68-129			
cis-1,3-Dichloropropene	48.59	1.0	ug/L	50.3		96.6	65-134			
4-Methyl-2-pentanone (MIBK)	97.75	5.0	ug/L	101		96.4	58-147			
Toluene	49.42	1.0	ug/L	50.0		98.8	72-133			
trans-1,3-Dichloropropene	47.44	1.0	ug/L	50.4		94.1	67-130			
1,1,2-Trichloroethane	48.55	1.0	ug/L	50.0		97.1	69-135			
Tetrachloroethylene	50.16	1.0	ug/L	50.0		100	69-130			
2-Hexanone (MBK)	100.4	5.0	ug/L	103		97.2	55-144			
Dibromochloromethane	49.30	1.0	ug/L	49.5		99.6	73-127			
1,2-Dibromoethane	49.08	1.0	ug/L	50.0		98.2	67-132			
Chlorobenzene	50.56	1.0	ug/L	50.0		101	72-123			
1,1,1,2-Tetrachloroethane	50.56	1.0	ug/L	50.0		101	73-127			
Ethylbenzene	48.11	1.0	ug/L	50.0		96.2	71-127			
Xylenes, total	144.9	2.0	ug/L	150		96.6	74-127			
Styrene	47.41	1.0	ug/L	50.0		94.8	66-126			
Bromoform	53.13	1.0	ug/L	50.0		106	68-130			
1,2,3-Trichloropropane	48.66	1.0	ug/L	50.0		97.3	63-136			
trans-1,4-Dichloro-2-butene	87.42	5.0	ug/L	104		84.1	54-134			
1,1,2,2-Tetrachloroethane	48.73	1.0	ug/L	49.8		97.8	61-131			
1,4-Dichlorobenzene	48.88	1.0	ug/L	50.0		97.8	70-129			
1,2-Dichlorobenzene	49.22	1.0	ug/L	50.0		98.4	69-126			
1,2-Dibromo-3-chloropropane	49.01	5.0	ug/L	50.0		98.0	50-143			
Surrogate: Dibromofluoromethane	*55.4*		ug/L	*50.2*		*110*	*80-126*			
Surrogate: Dibromofluoromethane	*55.4*		ug/L	*50.2*		*110*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*55.1*		ug/L	*50.1*		*110*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*55.1*		ug/L	*50.1*		*110*	*61-142*			
Surrogate: Toluene-d8	*50.0*		ug/L	*50.4*		*99.1*	*87-116*			
Surrogate: Toluene-d8	*50.0*		ug/L	*50.4*		*99.1*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*51.3*		ug/L	*50.1*		*102*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*51.3*		ug/L	*50.1*		*102*	*80-116*			
LCS (1HC0510-BS2)	Prepared: 03/08/24 00:00 Analyzed: 03/09/24 02:56									
Chloromethane	31.68	1.0	ug/L	30.6		103	63-155			
Vinyl Chloride	28.94	1.0	ug/L	30.2		95.7	70-154			
Bromomethane	28.73	1.0	ug/L	28.8		99.8	52-176			
Chloroethane	32.15	1.0	ug/L	31.6		102	72-148			
Trichlorofluoromethane	29.53	1.0	ug/L	32.6		90.6	70-152			
1,1-Dichloroethylene	51.12	1.0	ug/L	50.0		102	70-148			
Acetone	107.6	10.0	ug/L	102		105	43-172			
Methyl Iodide	105.6	1.0	ug/L	99.7		106	69-170			
Carbon Disulfide	93.31	1.0	ug/L	101		92.4	72-162			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0510 - EPA 5030B - EPA 8260B										
LCS (1HC0510-BS2)			Prepared: 03/08/24 00:00 Analyzed: 03/09/24 02:56							
Methylene Chloride	45.97	5.0	ug/L	50.0		91.9	68-142			
Acrylonitrile	79.34	5.0	ug/L	100		79.1	67-144			
trans-1,2-Dichloroethylene	49.12	1.0	ug/L	50.0		98.2	66-148			
1,1-Dichloroethane	47.89	1.0	ug/L	50.0		95.8	66-143			
Vinyl Acetate	111.8	5.0	ug/L	102		110	43-153			
cis-1,2-Dichloroethylene	47.27	1.0	ug/L	49.5		95.5	71-149			
2-Butanone (MEK)	82.89	10.0	ug/L	103		80.2	52-159			
Bromochloromethane	49.11	1.0	ug/L	50.0		98.2	69-143			
Chloroform	47.92	1.0	ug/L	50.0		95.8	69-144			
1,1,1-Trichloroethane	44.27	1.0	ug/L	50.0		88.6	62-129			
Carbon Tetrachloride	47.24	1.0	ug/L	50.0		94.5	63-141			
Benzene	51.05	1.0	ug/L	50.0		102	71-134			
1,2-Dichloroethane	48.20	1.0	ug/L	50.0		96.4	72-132			
Trichloroethylene	49.37	1.0	ug/L	50.0		98.7	71-135			
1,2-Dichloropropane	49.61	1.0	ug/L	50.0		99.2	69-136			
Dibromomethane	50.26	1.0	ug/L	50.0		101	73-147			
Bromodichloromethane	46.68	1.0	ug/L	50.0		93.4	68-129			
cis-1,3-Dichloropropene	45.22	1.0	ug/L	50.3		89.9	65-134			
4-Methyl-2-pentanone (MIBK)	96.66	5.0	ug/L	101		95.3	58-147			
Toluene	49.59	1.0	ug/L	50.0		99.2	72-133			
trans-1,3-Dichloropropene	43.99	1.0	ug/L	50.4		87.2	67-130			
1,1,2-Trichloroethane	47.06	1.0	ug/L	50.0		94.1	69-135			
Tetrachloroethylene	50.34	1.0	ug/L	50.0		101	69-130			
2-Hexanone (MBK)	101.9	5.0	ug/L	103		98.7	55-144			
Dibromochloromethane	49.23	1.0	ug/L	49.5		99.5	73-127			
1,2-Dibromoethane	48.73	1.0	ug/L	50.0		97.5	67-132			
Chlorobenzene	51.67	1.0	ug/L	50.0		103	72-123			
1,1,1,2-Tetrachloroethane	51.01	1.0	ug/L	50.0		102	73-127			
Ethylbenzene	49.30	1.0	ug/L	50.0		98.6	71-127			
Xylenes, total	148.7	2.0	ug/L	150		99.2	74-127			
Styrene	48.46	1.0	ug/L	50.0		96.9	66-126			
Bromoform	51.96	1.0	ug/L	50.0		104	68-130			
1,2,3-Trichloropropane	49.16	1.0	ug/L	50.0		98.3	63-136			
trans-1,4-Dichloro-2-butene	79.04	5.0	ug/L	104		76.1	54-134			
1,1,2,2-Tetrachloroethane	48.96	1.0	ug/L	49.8		98.2	61-131			
1,4-Dichlorobenzene	48.73	1.0	ug/L	50.0		97.5	70-129			
1,2-Dichlorobenzene	49.17	1.0	ug/L	50.0		98.3	69-126			
1,2-Dibromo-3-chloropropane	45.75	5.0	ug/L	50.0		91.5	50-143			
Surrogate: Dibromofluoromethane	*51.0*		ug/L	*50.2*		*102*	*80-126*			
Surrogate: Dibromofluoromethane	*51.0*		ug/L	*50.2*		*102*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*51.6*		ug/L	*50.1*		*103*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*51.6*		ug/L	*50.1*		*103*	*61-142*			
Surrogate: Toluene-d8	*49.9*		ug/L	*50.4*		*99.0*	*87-116*			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0510 - EPA 5030B - EPA 8260B										
LCS (1HC0510-BS2)			Prepared: 03/08/24 00:00 Analyzed: 03/09/24 02:56							
Surrogate: Toluene-d8	*49.9*		ug/L	*50.4*		*99.0*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*51.7*		ug/L	*50.1*		*103*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*51.7*		ug/L	*50.1*		*103*	*80-116*			
LCS Dup (1HC0510-BSD1)			Prepared: 03/08/24 00:00 Analyzed: 03/08/24 15:32							
Chloromethane	32.15	1.0	ug/L	30.6		105	63-155	3.30	24	
Vinyl Chloride	29.29	1.0	ug/L	30.2		96.9	70-154	4.41	25	
Bromomethane	30.26	1.0	ug/L	28.8		105	52-176	0.298	27	
Chloroethane	33.22	1.0	ug/L	31.6		105	72-148	2.97	25	
Trichlorofluoromethane	30.50	1.0	ug/L	32.6		93.5	70-152	5.55	26	
1,1-Dichloroethylene	51.55	1.0	ug/L	50.0		103	70-148	6.57	24	
Acetone	105.1	10.0	ug/L	102		103	43-172	5.76	30	
Methyl Iodide	108.2	1.0	ug/L	99.7		109	69-170	3.10	30	
Carbon Disulfide	95.46	1.0	ug/L	101		94.5	72-162	4.51	24	
Methylene Chloride	47.91	5.0	ug/L	50.0		95.8	68-142	3.28	21	
Acrylonitrile	79.03	5.0	ug/L	100		78.8	67-144	4.43	24	
trans-1,2-Dichloroethylene	48.52	1.0	ug/L	50.0		97.0	66-148	6.60	27	
1,1-Dichloroethane	47.17	1.0	ug/L	50.0		94.3	66-143	6.88	24	
Vinyl Acetate	113.8	5.0	ug/L	102		112	43-153	0.605	30	
cis-1,2-Dichloroethylene	48.47	1.0	ug/L	49.5		98.0	71-149	6.29	26	
2-Butanone (MEK)	93.68	10.0	ug/L	103		90.7	52-159	10.4	27	
Bromochloromethane	49.63	1.0	ug/L	50.0		99.3	69-143	4.86	23	
Chloroform	47.72	1.0	ug/L	50.0		95.4	69-144	6.63	23	
1,1,1-Trichloroethane	43.89	1.0	ug/L	50.0		87.8	62-129	6.52	24	
Carbon Tetrachloride	46.84	1.0	ug/L	50.0		93.7	63-141	5.80	25	
Benzene	48.94	1.0	ug/L	50.0		97.9	71-134	3.51	24	
1,2-Dichloroethane	46.66	1.0	ug/L	50.0		93.3	72-132	4.97	24	
Trichloroethylene	47.35	1.0	ug/L	50.0		94.7	71-135	3.57	24	
1,2-Dichloropropane	47.68	1.0	ug/L	50.0		95.4	69-136	3.28	24	
Dibromomethane	49.21	1.0	ug/L	50.0		98.4	73-147	4.00	25	
Bromodichloromethane	44.79	1.0	ug/L	50.0		89.6	68-129	5.47	22	
cis-1,3-Dichloropropene	46.85	1.0	ug/L	50.3		93.1	65-134	3.65	23	
4-Methyl-2-pentanone (MIBK)	99.48	5.0	ug/L	101		98.1	58-147	1.75	27	
Toluene	48.69	1.0	ug/L	50.0		97.4	72-133	1.49	24	
trans-1,3-Dichloropropene	46.14	1.0	ug/L	50.4		91.5	67-130	2.78	24	
1,1,2-Trichloroethane	46.79	1.0	ug/L	50.0		93.6	69-135	3.69	23	
Tetrachloroethylene	47.97	1.0	ug/L	50.0		95.9	69-130	4.46	25	
2-Hexanone (MBK)	100.6	5.0	ug/L	103		97.4	55-144	0.189	25	
Dibromochloromethane	47.18	1.0	ug/L	49.5		95.3	73-127	4.39	22	
1,2-Dibromoethane	47.55	1.0	ug/L	50.0		95.1	67-132	3.17	24	
Chlorobenzene	49.41	1.0	ug/L	50.0		98.8	72-123	2.30	23	
1,1,1,2-Tetrachloroethane	48.29	1.0	ug/L	50.0		96.6	73-127	4.59	24	
Ethylbenzene	46.79	1.0	ug/L	50.0		93.6	71-127	2.78	26	

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0510 - EPA 5030B - EPA 8260B										
LCS Dup (1HC0510-BSD1)				Prepared: 03/08/24 00:00 Analyzed: 03/08/24 15:32						
Xylenes, total	141.9	2.0	ug/L	150		94.6	74-127	2.14	25	
Styrene	46.68	1.0	ug/L	50.0		93.4	66-126	1.55	23	
Bromoform	52.18	1.0	ug/L	50.0		104	68-130	1.80	23	
1,2,3-Trichloropropane	47.31	1.0	ug/L	50.0		94.6	63-136	2.81	24	
trans-1,4-Dichloro-2-butene	88.11	5.0	ug/L	104		84.8	54-134	0.786	27	
1,1,2,2-Tetrachloroethane	48.59	1.0	ug/L	49.8		97.5	61-131	0.288	29	
1,4-Dichlorobenzene	48.25	1.0	ug/L	50.0		96.5	70-129	1.30	24	
1,2-Dichlorobenzene	48.83	1.0	ug/L	50.0		97.7	69-126	0.796	26	
1,2-Dibromo-3-chloropropane	49.42	5.0	ug/L	50.0		98.8	50-143	0.833	30	
Surrogate: Dibromofluoromethane	*52.6*		ug/L	*50.2*		*105*	*80-126*			
Surrogate: Dibromofluoromethane	*52.6*		ug/L	*50.2*		*105*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*52.2*		ug/L	*50.1*		*104*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*52.2*		ug/L	*50.1*		*104*	*61-142*			
Surrogate: Toluene-d8	*50.8*		ug/L	*50.4*		*101*	*87-116*			
Surrogate: Toluene-d8	*50.8*		ug/L	*50.4*		*101*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*51.2*		ug/L	*50.1*		*102*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*51.2*		ug/L	*50.1*		*102*	*80-116*			
LCS Dup (1HC0510-BSD2)				Prepared: 03/08/24 00:00 Analyzed: 03/09/24 03:22						
Chloromethane	29.79	1.0	ug/L	30.6		97.2	63-155	6.15	24	
Vinyl Chloride	27.13	1.0	ug/L	30.2		89.8	70-154	6.46	25	
Bromomethane	27.51	1.0	ug/L	28.8		95.5	52-176	4.34	27	
Chloroethane	30.52	1.0	ug/L	31.6		96.5	72-148	5.20	25	
Trichlorofluoromethane	27.62	1.0	ug/L	32.6		84.7	70-152	6.68	26	
1,1-Dichloroethylene	48.48	1.0	ug/L	50.0		97.0	70-148	5.30	24	
Acetone	106.5	10.0	ug/L	102		104	43-172	1.02	30	
Methyl Iodide	100.7	1.0	ug/L	99.7		101	69-170	4.75	30	
Carbon Disulfide	87.36	1.0	ug/L	101		86.5	72-162	6.59	24	
Methylene Chloride	44.88	5.0	ug/L	50.0		89.8	68-142	2.40	21	
Acrylonitrile	78.48	5.0	ug/L	100		78.2	67-144	1.09	24	
trans-1,2-Dichloroethylene	46.66	1.0	ug/L	50.0		93.3	66-148	5.14	27	
1,1-Dichloroethane	45.47	1.0	ug/L	50.0		90.9	66-143	5.18	24	
Vinyl Acetate	108.6	5.0	ug/L	102		107	43-153	2.83	30	
cis-1,2-Dichloroethylene	45.44	1.0	ug/L	49.5		91.8	71-149	3.95	26	
2-Butanone (MEK)	89.39	10.0	ug/L	103		86.5	52-159	7.55	27	
Bromochloromethane	48.32	1.0	ug/L	50.0		96.6	69-143	1.62	23	
Chloroform	46.24	1.0	ug/L	50.0		92.5	69-144	3.57	23	
1,1,1-Trichloroethane	41.91	1.0	ug/L	50.0		83.9	62-129	5.48	24	
Carbon Tetrachloride	44.39	1.0	ug/L	50.0		88.8	63-141	6.22	25	
Benzene	48.24	1.0	ug/L	50.0		96.5	71-134	5.66	24	
1,2-Dichloroethane	46.86	1.0	ug/L	50.0		93.7	72-132	2.82	24	
Trichloroethylene	46.22	1.0	ug/L	50.0		92.4	71-135	6.59	24	
1,2-Dichloropropane	47.42	1.0	ug/L	50.0		94.8	69-136	4.51	24	
Dibromomethane	49.17	1.0	ug/L	50.0		98.3	73-147	2.19	25	

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0510 - EPA 5030B - EPA 8260B										
LCS Dup (1HC0510-BSD2)				Prepared: 03/08/24 00:00 Analyzed: 03/09/24 03:22						
Bromodichloromethane	44.83	1.0	ug/L	50.0		89.7	68-129	4.04	22	
cis-1,3-Dichloropropene	44.26	1.0	ug/L	50.3		87.9	65-134	2.15	23	
4-Methyl-2-pentanone (MIBK)	96.05	5.0	ug/L	101		94.7	58-147	0.633	27	
Toluene	46.92	1.0	ug/L	50.0		93.8	72-133	5.53	24	
trans-1,3-Dichloropropene	43.10	1.0	ug/L	50.4		85.5	67-130	2.04	24	
1,1,2-Trichloroethane	46.23	1.0	ug/L	50.0		92.5	69-135	1.78	23	
Tetrachloroethylene	46.82	1.0	ug/L	50.0		93.6	69-130	7.25	25	
2-Hexanone (MBK)	100.8	5.0	ug/L	103		97.5	55-144	1.16	25	
Dibromochloromethane	47.34	1.0	ug/L	49.5		95.6	73-127	3.91	22	
1,2-Dibromoethane	48.09	1.0	ug/L	50.0		96.2	67-132	1.32	24	
Chlorobenzene	48.82	1.0	ug/L	50.0		97.6	72-123	5.67	23	
1,1,1,2-Tetrachloroethane	48.78	1.0	ug/L	50.0		97.6	73-127	4.47	24	
Ethylbenzene	46.26	1.0	ug/L	50.0		92.5	71-127	6.36	26	
Xylenes, total	140.1	2.0	ug/L	150		93.4	74-127	5.98	25	
Styrene	46.52	1.0	ug/L	50.0		93.0	66-126	4.09	23	
Bromoform	50.90	1.0	ug/L	50.0		102	68-130	2.06	23	
1,2,3-Trichloropropane	48.17	1.0	ug/L	50.0		96.3	63-136	2.03	24	
trans-1,4-Dichloro-2-butene	79.37	5.0	ug/L	104		76.4	54-134	0.417	27	
1,1,2,2-Tetrachloroethane	48.47	1.0	ug/L	49.8		97.2	61-131	1.01	29	
1,4-Dichlorobenzene	46.94	1.0	ug/L	50.0		93.9	70-129	3.74	24	
1,2-Dichlorobenzene	47.39	1.0	ug/L	50.0		94.8	69-126	3.69	26	
1,2-Dibromo-3-chloropropane	45.50	5.0	ug/L	50.0		91.0	50-143	0.548	30	
Surrogate: Dibromofluoromethane	*50.5*		ug/L	*50.2*		*101*	*80-126*			
Surrogate: Dibromofluoromethane	*50.5*		ug/L	*50.2*		*101*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*52.4*		ug/L	*50.1*		*105*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*52.4*		ug/L	*50.1*		*105*	*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	*51.5*		ug/L	*50.1*		*103*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*51.5*		ug/L	*50.1*		*103*	*80-116*			
Matrix Spike (1HC0510-MS1)	**Source: 1HC0401-08**			Prepared: 03/08/24 00:00 Analyzed: 03/09/24 02:04						
Chloromethane	316.8	10.0	ug/L	306	ND	103	61-152			
Vinyl Chloride	295.5	10.0	ug/L	302	ND	97.8	66-149			
Bromomethane	281.8	10.0	ug/L	288	ND	97.8	43-171			
Chloroethane	326.0	10.0	ug/L	316	ND	103	69-148			
Trichlorofluoromethane	304.3	10.0	ug/L	326	ND	93.3	62-163			
1,1-Dichloroethylene	522.9	10.0	ug/L	500	ND	105	70-148			
Acetone	1050	100	ug/L	1020	ND	103	45-173			
Methyl Iodide	1065	10.0	ug/L	997	ND	107	62-167			
Carbon Disulfide	963.1	10.0	ug/L	1010	ND	95.4	71-163			
Methylene Chloride	461.6	50.0	ug/L	500	ND	92.3	69-140			
Acrylonitrile	773.0	50.0	ug/L	1000	ND	77.0	58-151			
trans-1,2-Dichloroethylene	499.2	10.0	ug/L	500	ND	99.8	69-144			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0510 - EPA 5030B - EPA 8260B										
Matrix Spike (1HC0510-MS1)	**Source: 1HC0401-08**	Prepared: 03/08/24 00:00 Analyzed: 03/09/24 02:04								
1,1-Dichloroethane	495.2	10.0	ug/L	500	18.96	95.2	70-138			
Vinyl Acetate	1152	50.0	ug/L	1020	ND	113	58-142			
cis-1,2-Dichloroethylene	477.4	10.0	ug/L	495	ND	96.5	68-151			
2-Butanone (MEK)	922.0	100	ug/L	1030	ND	89.3	50-160			
Bromochloromethane	486.5	10.0	ug/L	500	ND	97.3	65-143			
Chloroform	484.6	10.0	ug/L	500	ND	96.9	71-143			
1,1,1-Trichloroethane	455.0	10.0	ug/L	500	ND	91.0	63-133			
Carbon Tetrachloride	483.5	10.0	ug/L	500	ND	96.7	63-142			
Benzene	513.7	10.0	ug/L	500	ND	103	69-133			
1,2-Dichloroethane	480.9	10.0	ug/L	500	ND	96.2	63-138			
Trichloroethylene	497.9	10.0	ug/L	500	ND	99.6	71-133			
1,2-Dichloropropane	490.5	10.0	ug/L	500	ND	98.1	69-132			
Dibromomethane	504.2	10.0	ug/L	500	ND	101	70-147			
Bromodichloromethane	466.5	10.0	ug/L	500	ND	93.3	67-130			
cis-1,3-Dichloropropene	449.2	10.0	ug/L	503	ND	89.3	61-126			
4-Methyl-2-pentanone (MIBK)	936.3	50.0	ug/L	1010	ND	92.3	55-147			
Toluene	498.6	10.0	ug/L	500	ND	99.7	71-133			
trans-1,3-Dichloropropene	432.7	10.0	ug/L	504	ND	85.8	63-124			
1,1,2-Trichloroethane	471.8	10.0	ug/L	500	ND	94.4	69-133			
Tetrachloroethylene	510.9	10.0	ug/L	500	ND	102	70-124			
2-Hexanone (MBK)	976.2	50.0	ug/L	1030	ND	94.5	53-141			
Dibromochloromethane	487.3	10.0	ug/L	495	ND	98.4	74-122			
1,2-Dibromoethane	473.9	10.0	ug/L	500	ND	94.8	66-127			
Chlorobenzene	508.6	10.0	ug/L	500	ND	102	76-116			
1,1,1,2-Tetrachloroethane	508.3	10.0	ug/L	500	ND	102	77-121			
Ethylbenzene	490.5	10.0	ug/L	500	ND	98.1	73-124			
Xylenes, total	1473	20.0	ug/L	1500	ND	98.2	75-123			
Styrene	479.1	10.0	ug/L	500	ND	95.8	70-120			
Bromoform	512.7	10.0	ug/L	500	ND	103	70-124			
1,2,3-Trichloropropane	484.4	10.0	ug/L	500	ND	96.9	62-135			
trans-1,4-Dichloro-2-butene	795.4	50.0	ug/L	1040	ND	76.6	50-120			
1,1,2,2-Tetrachloroethane	479.9	10.0	ug/L	498	ND	96.3	63-126			
1,4-Dichlorobenzene	480.5	10.0	ug/L	500	ND	96.1	72-119			
1,2-Dichlorobenzene	485.4	10.0	ug/L	500	ND	97.1	71-117			
1,2-Dibromo-3-chloropropane	452.6	50.0	ug/L	500	ND	90.5	49-134			
Surrogate: Dibromofluoromethane	*524*		ug/L	*502*		*104*	*80-126*			
Surrogate: Dibromofluoromethane	*524*		ug/L	*502*		*104*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*525*		ug/L	*501*		*105*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*525*		ug/L	*501*		*105*	*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	*510*		ug/L	*501*		*102*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*510*		ug/L	*501*		*102*	*80-116*			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Batch 1HC0510 - EPA 5030B - EPA 8260B

Matrix Spike (1HC0510-MS2) **Source: 1HC0401-09** Prepared: 03/08/24 00:00 Analyzed: 03/09/24 07:46

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Chloromethane	276.6	10.0	ug/L	306	ND	90.3	61-152			
Vinyl Chloride	277.3	10.0	ug/L	302	ND	91.7	66-149			
Bromomethane	257.7	10.0	ug/L	288	ND	89.5	43-171			
Chloroethane	274.1	10.0	ug/L	316	ND	86.6	69-148			
Trichlorofluoromethane	262.5	10.0	ug/L	326	ND	80.5	62-163			
1,1-Dichloroethylene	452.7	10.0	ug/L	500	ND	90.5	70-148			
Acetone	984.1	100	ug/L	1020	ND	96.5	45-173			
Methyl Iodide	926.1	10.0	ug/L	997	ND	92.9	62-167			
Carbon Disulfide	927.5	10.0	ug/L	1010	ND	91.8	71-163			
Methylene Chloride	435.1	50.0	ug/L	500	ND	87.0	69-140			
Acrylonitrile	433.7	50.0	ug/L	1000	ND	43.2	58-151			QM-05
trans-1,2-Dichloroethylene	459.6	10.0	ug/L	500	ND	91.9	69-144			
1,1-Dichloroethane	457.3	10.0	ug/L	500	ND	91.5	70-138			
Vinyl Acetate	1241	50.0	ug/L	1020	ND	122	58-142			
cis-1,2-Dichloroethylene	424.2	10.0	ug/L	495	ND	85.7	68-151			
2-Butanone (MEK)	855.1	100	ug/L	1030	ND	82.8	50-160			
Bromochloromethane	434.6	10.0	ug/L	500	ND	86.9	65-143			
Chloroform	451.4	10.0	ug/L	500	ND	90.3	71-143			
1,1,1-Trichloroethane	464.1	10.0	ug/L	500	ND	92.9	63-133			
Carbon Tetrachloride	461.9	10.0	ug/L	500	ND	92.4	63-142			
Benzene	505.4	10.0	ug/L	500	ND	101	69-133			
1,2-Dichloroethane	469.7	10.0	ug/L	500	ND	93.9	63-138			
Trichloroethylene	494.1	10.0	ug/L	500	ND	98.8	71-133			
1,2-Dichloropropane	481.2	10.0	ug/L	500	ND	96.2	69-132			
Dibromomethane	459.3	10.0	ug/L	500	ND	91.9	70-147			
Bromodichloromethane	474.5	10.0	ug/L	500	ND	94.9	67-130			
cis-1,3-Dichloropropene	434.2	10.0	ug/L	503	ND	86.3	61-126			
4-Methyl-2-pentanone (MIBK)	877.4	50.0	ug/L	1010	ND	86.5	55-147			
Toluene	498.7	10.0	ug/L	500	ND	99.7	71-133			
trans-1,3-Dichloropropene	419.5	10.0	ug/L	504	ND	83.2	63-124			
1,1,2-Trichloroethane	466.5	10.0	ug/L	500	ND	93.3	69-133			
Tetrachloroethylene	513.8	10.0	ug/L	500	ND	103	70-124			
2-Hexanone (MBK)	901.4	50.0	ug/L	1030	ND	87.3	53-141			
Dibromochloromethane	473.7	10.0	ug/L	495	ND	95.7	74-122			
1,2-Dibromoethane	464.9	10.0	ug/L	500	ND	93.0	66-127			
Chlorobenzene	521.3	10.0	ug/L	500	ND	104	76-116			
1,1,1,2-Tetrachloroethane	495.7	10.0	ug/L	500	ND	99.1	77-121			
Ethylbenzene	505.0	10.0	ug/L	500	ND	101	73-124			
Xylenes, total	1510	20.0	ug/L	1500	ND	101	75-123			
Styrene	496.4	10.0	ug/L	500	ND	99.3	70-120			
Bromoform	490.0	10.0	ug/L	500	ND	98.0	70-124			
1,2,3-Trichloropropane	471.0	10.0	ug/L	500	ND	94.2	62-135			
trans-1,4-Dichloro-2-butene	787.7	50.0	ug/L	1040	ND	75.8	50-120			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0510 - EPA 5030B - EPA 8260B										
Matrix Spike (1HC0510-MS2)	**Source: 1HC0401-09**	Prepared: 03/08/24 00:00 Analyzed: 03/09/24 07:46								
1,1,2,2-Tetrachloroethane	479.1	10.0	ug/L	498	ND	96.1	63-126			
1,4-Dichlorobenzene	473.4	10.0	ug/L	500	ND	94.7	72-119			
1,2-Dichlorobenzene	487.7	10.0	ug/L	500	ND	97.5	71-117			
1,2-Dibromo-3-chloropropane	439.4	50.0	ug/L	500	ND	87.9	49-134			
Surrogate: Dibromofluoromethane	*484*		ug/L	*502*		*96.5*	*75-136*			
Surrogate: Dibromofluoromethane	*484*		ug/L	*502*		*96.5*	*80-126*			
Surrogate: 1,2-Dichloroethane-d4	*499*		ug/L	*501*		*99.7*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*499*		ug/L	*501*		*99.7*	*61-142*			
Surrogate: Toluene-d8	*497*		ug/L	*504*		*98.6*	*87-116*			
Surrogate: Toluene-d8	*497*		ug/L	*504*		*98.6*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*508*		ug/L	*501*		*101*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*508*		ug/L	*501*		*101*	*80-116*			
Matrix Spike Dup (1HC0510-MSD1)	**Source: 1HC0401-08**	Prepared: 03/08/24 00:00 Analyzed: 03/09/24 02:30								
Chloromethane	304.3	10.0	ug/L	306	ND	99.3	61-152	4.03	26	
Vinyl Chloride	284.1	10.0	ug/L	302	ND	94.0	66-149	3.93	23	
Bromomethane	277.7	10.0	ug/L	288	ND	96.4	43-171	1.47	29	
Chloroethane	313.9	10.0	ug/L	316	ND	99.2	69-148	3.78	25	
Trichlorofluoromethane	297.6	10.0	ug/L	326	ND	91.3	62-163	2.23	25	
1,1-Dichloroethylene	515.3	10.0	ug/L	500	ND	103	70-148	1.46	22	
Acetone	1096	100	ug/L	1020	ND	107	45-173	4.28	30	
Methyl Iodide	1029	10.0	ug/L	997	ND	103	62-167	3.47	24	
Carbon Disulfide	930.3	10.0	ug/L	1010	ND	92.1	71-163	3.46	22	
Methylene Chloride	456.8	50.0	ug/L	500	ND	91.4	69-140	1.05	19	
Acrylonitrile	812.2	50.0	ug/L	1000	ND	80.9	58-151	4.95	15	
trans-1,2-Dichloroethylene	495.7	10.0	ug/L	500	ND	99.1	69-144	0.704	22	
1,1-Dichloroethane	494.8	10.0	ug/L	500	18.96	95.2	70-138	0.0808	20	
Vinyl Acetate	1124	50.0	ug/L	1020	ND	110	58-142	2.49	24	
cis-1,2-Dichloroethylene	479.7	10.0	ug/L	495	ND	97.0	68-151	0.481	22	
2-Butanone (MEK)	987.4	100	ug/L	1030	ND	95.6	50-160	6.85	23	
Bromochloromethane	496.2	10.0	ug/L	500	ND	99.2	65-143	1.97	22	
Chloroform	486.8	10.0	ug/L	500	ND	97.4	71-143	0.453	21	
1,1,1-Trichloroethane	447.7	10.0	ug/L	500	ND	89.6	63-133	1.62	23	
Carbon Tetrachloride	477.0	10.0	ug/L	500	ND	95.4	63-142	1.35	22	
Benzene	499.8	10.0	ug/L	500	ND	100	69-133	2.74	18	
1,2-Dichloroethane	487.5	10.0	ug/L	500	ND	97.5	63-138	1.36	20	
Trichloroethylene	482.8	10.0	ug/L	500	ND	96.6	71-133	3.08	23	
1,2-Dichloropropane	487.4	10.0	ug/L	500	ND	97.5	69-132	0.634	20	
Dibromomethane	508.0	10.0	ug/L	500	ND	102	70-147	0.751	22	
Bromodichloromethane	467.6	10.0	ug/L	500	ND	93.5	67-130	0.236	21	
cis-1,3-Dichloropropene	452.5	10.0	ug/L	503	ND	89.9	61-126	0.732	21	
4-Methyl-2-pentanone (MIBK)	972.7	50.0	ug/L	1010	ND	95.9	55-147	3.81	23	
Toluene	483.7	10.0	ug/L	500	ND	96.7	71-133	3.03	19	
trans-1,3-Dichloropropene	440.7	10.0	ug/L	504	ND	87.4	63-124	1.83	21	

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0510 - EPA 5030B - EPA 8260B										
Matrix Spike Dup (1HC0510-MSD1)	**Source: 1HC0401-08**	Prepared: 03/08/24 00:00 Analyzed: 03/09/24 02:30								
1,1,2-Trichloroethane	479.4	10.0	ug/L	500	ND	95.9	69-133	1.60	19	
Tetrachloroethylene	498.0	10.0	ug/L	500	ND	99.6	70-124	2.56	24	
2-Hexanone (MBK)	1022	50.0	ug/L	1030	ND	98.9	53-141	4.57	24	
Dibromochloromethane	494.4	10.0	ug/L	495	ND	99.9	74-122	1.45	21	
1,2-Dibromoethane	487.4	10.0	ug/L	500	ND	97.5	66-127	2.81	23	
Chlorobenzene	501.5	10.0	ug/L	500	ND	100	76-116	1.41	21	
1,1,1,2-Tetrachloroethane	505.5	10.0	ug/L	500	ND	101	77-121	0.552	25	
Ethylbenzene	479.3	10.0	ug/L	500	ND	95.9	73-124	2.31	20	
Xylenes, total	1440	20.0	ug/L	1500	ND	96.0	75-123	2.27	20	
Styrene	472.1	10.0	ug/L	500	ND	94.4	70-120	1.47	23	
Bromoform	522.6	10.0	ug/L	500	ND	105	70-124	1.91	22	
1,2,3-Trichloropropane	491.3	10.0	ug/L	500	ND	98.3	62-135	1.41	28	
trans-1,4-Dichloro-2-butene	815.5	50.0	ug/L	1040	ND	78.5	50-120	2.50	26	
1,1,2,2-Tetrachloroethane	487.6	10.0	ug/L	498	ND	97.8	63-126	1.59	24	
1,4-Dichlorobenzene	477.4	10.0	ug/L	500	ND	95.5	72-119	0.647	24	
1,2-Dichlorobenzene	480.9	10.0	ug/L	500	ND	96.2	71-117	0.931	24	
1,2-Dibromo-3-chloropropane	463.5	50.0	ug/L	500	ND	92.7	49-134	2.38	28	
Surrogate: Dibromofluoromethane	*529*		ug/L	*502*		*105*	*80-126*			
Surrogate: Dibromofluoromethane	*529*		ug/L	*502*		*105*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*544*		ug/L	*501*		*109*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*544*		ug/L	*501*		*109*	*61-142*			
Surrogate: Toluene-d8	*495*		ug/L	*504*		*98.2*	*87-116*			
Surrogate: Toluene-d8	*495*		ug/L	*504*		*98.2*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*512*		ug/L	*501*		*102*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*512*		ug/L	*501*		*102*	*80-116*			
Matrix Spike Dup (1HC0510-MSD2)	**Source: 1HC0401-09**	Prepared: 03/08/24 00:00 Analyzed: 03/09/24 08:12								
Chloromethane	264.5	10.0	ug/L	306	ND	86.3	61-152	4.47	26	
Vinyl Chloride	263.5	10.0	ug/L	302	ND	87.2	66-149	5.10	23	
Bromomethane	255.6	10.0	ug/L	288	ND	88.8	43-171	0.818	29	
Chloroethane	263.2	10.0	ug/L	316	ND	83.2	69-148	4.06	25	
Trichlorofluoromethane	251.4	10.0	ug/L	326	ND	77.1	62-163	4.32	25	
1,1-Dichloroethylene	435.9	10.0	ug/L	500	ND	87.2	70-148	3.78	22	
Acetone	988.7	100	ug/L	1020	ND	96.9	45-173	0.466	30	
Methyl Iodide	884.2	10.0	ug/L	997	ND	88.7	62-167	4.63	24	
Carbon Disulfide	886.5	10.0	ug/L	1010	ND	87.8	71-163	4.52	22	
Methylene Chloride	423.6	50.0	ug/L	500	ND	84.7	69-140	2.68	19	
Acrylonitrile	432.0	50.0	ug/L	1000	ND	43.0	58-151	0.393	15	QM-05
trans-1,2-Dichloroethylene	450.5	10.0	ug/L	500	ND	90.1	69-144	2.00	22	
1,1-Dichloroethane	444.2	10.0	ug/L	500	ND	88.8	70-138	2.91	20	
Vinyl Acetate	1301	50.0	ug/L	1020	ND	128	58-142	4.73	24	
cis-1,2-Dichloroethylene	417.5	10.0	ug/L	495	ND	84.4	68-151	1.59	22	
2-Butanone (MEK)	796.8	100	ug/L	1030	ND	77.1	50-160	7.06	23	
Bromochloromethane	433.1	10.0	ug/L	500	ND	86.6	65-143	0.346	22	

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0510 - EPA 5030B - EPA 8260B										
Matrix Spike Dup (1HC0510-MSD2)	**Source: 1HC0401-09**	Prepared: 03/08/24 00:00 Analyzed: 03/09/24 08:12								
Chloroform	440.9	10.0	ug/L	500	ND	88.2	71-143	2.35	21	
1,1,1-Trichloroethane	450.1	10.0	ug/L	500	ND	90.1	63-133	3.06	23	
Carbon Tetrachloride	445.5	10.0	ug/L	500	ND	89.1	63-142	3.61	22	
Benzene	492.4	10.0	ug/L	500	ND	98.5	69-133	2.61	18	
1,2-Dichloroethane	462.6	10.0	ug/L	500	ND	92.5	63-138	1.52	20	
Trichloroethylene	484.1	10.0	ug/L	500	ND	96.8	71-133	2.04	23	
1,2-Dichloropropane	476.2	10.0	ug/L	500	ND	95.2	69-132	1.04	20	
Dibromomethane	460.9	10.0	ug/L	500	ND	92.2	70-147	0.348	22	
Bromodichloromethane	467.0	10.0	ug/L	500	ND	93.4	67-130	1.59	21	
cis-1,3-Dichloropropene	435.1	10.0	ug/L	503	ND	86.5	61-126	0.207	21	
4-Methyl-2-pentanone (MIBK)	893.8	50.0	ug/L	1010	ND	88.1	55-147	1.85	23	
Toluene	486.2	10.0	ug/L	500	ND	97.2	71-133	2.54	19	
trans-1,3-Dichloropropene	423.2	10.0	ug/L	504	ND	83.9	63-124	0.878	21	
1,1,2-Trichloroethane	462.6	10.0	ug/L	500	ND	92.5	69-133	0.840	19	
Tetrachloroethylene	500.5	10.0	ug/L	500	ND	100	70-124	2.62	24	
2-Hexanone (MBK)	921.3	50.0	ug/L	1030	ND	89.2	53-141	2.18	24	
Dibromochloromethane	470.7	10.0	ug/L	495	ND	95.1	74-122	0.635	21	
1,2-Dibromoethane	467.5	10.0	ug/L	500	ND	93.5	66-127	0.558	23	
Chlorobenzene	513.8	10.0	ug/L	500	ND	103	76-116	1.45	21	
1,1,1,2-Tetrachloroethane	489.4	10.0	ug/L	500	ND	97.9	77-121	1.28	25	
Ethylbenzene	496.4	10.0	ug/L	500	ND	99.3	73-124	1.72	20	
Xylenes, total	1491	20.0	ug/L	1500	ND	99.4	75-123	1.29	20	
Styrene	489.9	10.0	ug/L	500	ND	98.0	70-120	1.32	23	
Bromoform	494.5	10.0	ug/L	500	ND	98.9	70-124	0.914	22	
1,2,3-Trichloropropane	479.7	10.0	ug/L	500	ND	95.9	62-135	1.83	28	
trans-1,4-Dichloro-2-butene	787.9	50.0	ug/L	1040	ND	75.8	50-120	0.0254	26	
1,1,2,2-Tetrachloroethane	489.9	10.0	ug/L	498	ND	98.3	63-126	2.23	24	
1,4-Dichlorobenzene	475.6	10.0	ug/L	500	ND	95.1	72-119	0.464	24	
1,2-Dichlorobenzene	485.8	10.0	ug/L	500	ND	97.2	71-117	0.390	24	
1,2-Dibromo-3-chloropropane	437.6	50.0	ug/L	500	ND	87.5	49-134	0.410	28	
Surrogate: Dibromofluoromethane	*476*		ug/L	*502*		*94.8*	*80-126*			
Surrogate: Dibromofluoromethane	*476*		ug/L	*502*		*94.8*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*496*		ug/L	*501*		*99.0*	*63-138*			
Surrogate: 1,2-Dichloroethane-d4	*496*		ug/L	*501*		*99.0*	*61-142*			
Surrogate: Toluene-d8	*496*		ug/L	*504*		*98.5*	*87-116*			
Surrogate: Toluene-d8	*496*		ug/L	*504*		*98.5*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*512*		ug/L	*501*		*102*	*85-111*			
Surrogate: 4-Bromofluorobenzene	*512*		ug/L	*501*		*102*	*80-116*			

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0366 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Blank (1HC0366-BLK1)		Prepared: 03/07/24 10:46 Analyzed: 03/08/24 01:46								

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0366 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Blank (1HC0366-BLK1)			Prepared: 03/07/24 10:46 Analyzed: 03/08/24 01:46							
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 (1HC0366-BS1)			Prepared: 03/07/24 10:46 Analyzed: 03/08/24 01:52							
Antimony, total	0.0932	0.0020	mg/L	0.100		93.2	80-120			
Arsenic, total	0.0925	0.0040	mg/L	0.100		92.5	80-120			
Barium, total	0.103	0.0040	mg/L	0.100		103	80-120			
Beryllium, total	0.0824	0.0040	mg/L	0.100		82.4	80-120			
Cadmium, total	0.0947	0.0008	mg/L	0.100		94.7	80-120			
Chromium, total	0.0909	0.0080	mg/L	0.100		90.9	80-120			
Cobalt, total	0.0966	0.0004	mg/L	0.100		96.6	80-120			
Copper, total	0.0951	0.0040	mg/L	0.100		95.1	80-120			
Lead, total	0.0965	0.0040	mg/L	0.100		96.5	80-120			
Nickel, total	0.0941	0.0040	mg/L	0.100		94.1	80-120			
Selenium, total	0.0983	0.0040	mg/L	0.100		98.3	80-120			
Silver, total	0.0987	0.0040	mg/L	0.100		98.7	80-120			
Thallium, total	0.0946	0.0020	mg/L	0.100		94.6	80-120			
Vanadium, total	0.0942	0.0200	mg/L	0.100		94.2	80-120			
Zinc, total	0.100	0.0200	mg/L	0.100		100	80-120			
Matrix Spike (1HC0366-MS1)	**Source: 1HC0401-01**		Prepared: 03/07/24 10:46 Analyzed: 03/08/24 02:17							
Antimony, total	0.0927	0.0020	mg/L	0.100	ND	92.7	75-125			
Arsenic, total	0.0944	0.0040	mg/L	0.100	0.0012	93.2	75-125			
Barium, total	0.258	0.0040	mg/L	0.100	0.149	109	75-125			
Beryllium, total	0.0800	0.0040	mg/L	0.100	ND	80.0	75-125			
Cadmium, total	0.0930	0.0008	mg/L	0.100	ND	93.0	75-125			
Chromium, total	0.0905	0.0080	mg/L	0.100	0.0009	89.6	75-125			
Cobalt, total	0.0977	0.0004	mg/L	0.100	ND	97.7	75-125			
Copper, total	0.0911	0.0040	mg/L	0.100	ND	91.1	75-125			
Lead, total	0.0933	0.0040	mg/L	0.100	ND	93.3	75-125			
Nickel, total	0.0945	0.0040	mg/L	0.100	ND	94.5	75-125			
Selenium, total	0.0954	0.0040	mg/L	0.100	ND	95.4	75-125			

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0366 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Matrix Spike (1HC0366-MS1)	**Source: 1HC0401-01**		Prepared: 03/07/24 10:46 Analyzed: 03/08/24 02:17							
Silver, total	0.0979	0.0040	mg/L	0.100	ND	97.9	75-125			
Thallium, total	0.0917	0.0020	mg/L	0.100	0.0007	91.0	75-125			
Vanadium, total	0.0957	0.0200	mg/L	0.100	ND	95.7	75-125			
Zinc, total	0.0978	0.0200	mg/L	0.100	ND	97.8	75-125			
Matrix Spike Dup (1HC0366-MSD1)	**Source: 1HC0401-01**		Prepared: 03/07/24 10:46 Analyzed: 03/08/24 02:23							
Antimony, total	0.0946	0.0020	mg/L	0.100	ND	94.6	75-125	1.97	20	
Arsenic, total	0.0955	0.0040	mg/L	0.100	0.0012	94.4	75-125	1.21	20	
Barium, total	0.263	0.0040	mg/L	0.100	0.149	114	75-125	1.95	20	
Beryllium, total	0.0813	0.0040	mg/L	0.100	ND	81.3	75-125	1.59	20	
Cadmium, total	0.0940	0.0008	mg/L	0.100	ND	94.0	75-125	1.07	20	
Chromium, total	0.0919	0.0080	mg/L	0.100	0.0009	91.1	75-125	1.61	20	
Cobalt, total	0.0985	0.0004	mg/L	0.100	ND	98.5	75-125	0.822	20	
Copper, total	0.0929	0.0040	mg/L	0.100	ND	92.9	75-125	1.91	20	
Lead, total	0.0946	0.0040	mg/L	0.100	ND	94.6	75-125	1.45	20	
Nickel, total	0.0953	0.0040	mg/L	0.100	ND	95.3	75-125	0.779	20	
Selenium, total	0.0999	0.0040	mg/L	0.100	ND	99.9	75-125	4.68	20	
Silver, total	0.0989	0.0040	mg/L	0.100	ND	98.9	75-125	1.06	20	
Thallium, total	0.0942	0.0020	mg/L	0.100	0.0007	93.5	75-125	2.65	20	
Vanadium, total	0.0969	0.0200	mg/L	0.100	ND	96.9	75-125	1.23	20	
Zinc, total	0.0984	0.0200	mg/L	0.100	ND	98.4	75-125	0.645	20	
Post Spike (1HC0366-PS1)	**Source: 1HC0401-01**		Prepared: 03/07/24 10:46 Analyzed: 03/08/24 11:31							
Antimony, total	0.0780		mg/L	0.0800	0.00008	97.3	80-120			
Arsenic, total	0.0778		mg/L	0.0800	0.0011	95.8	80-120			
Barium, total	0.236		mg/L	0.0800	0.146	113	80-120			
Beryllium, total	0.0760		mg/L	0.0800	0.00001	95.0	80-120			
Cadmium, total	0.0769		mg/L	0.0800	0.00004	96.0	80-120			
Chromium, total	0.0775		mg/L	0.0800	0.0008	95.8	80-120			
Cobalt, total	0.0787		mg/L	0.0800	0.00002	98.3	80-120			
Copper, total	0.0746		mg/L	0.0800	0.0009	92.1	80-120			
Lead, total	0.0762		mg/L	0.0800	0.0001	95.2	80-120			
Nickel, total	0.0775		mg/L	0.0800	0.0006	96.1	80-120			
Selenium, total	0.0758		mg/L	0.0800	0.0005	94.1	80-120			
Silver, total	0.0803		mg/L	0.0800	0.0002	100	80-120			
Thallium, total	0.0749		mg/L	0.0800	0.0007	92.8	80-120			
Vanadium, total	0.0813		mg/L	0.0800	0.0047	95.6	80-120			
Zinc, total	0.0764		mg/L	0.0800	0.0036	91.1	80-120			
Batch 1HC0519 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Blank (1HC0519-BLK1)			Prepared: 03/11/24 08:41 Analyzed: 03/12/24 02:20							
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							

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0519 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Blank (1HC0519-BLK1)			Prepared: 03/11/24 08:41 Analyzed: 03/12/24 02:20							
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 (1HC0519-BS1)			Prepared: 03/11/24 08:41 Analyzed: 03/12/24 02:27							
Antimony, total	0.0944	0.0020	mg/L	0.100		94.4	80-120			
Arsenic, total	0.0932	0.0040	mg/L	0.100		93.2	80-120			
Barium, total	0.102	0.0040	mg/L	0.100		102	80-120			
Beryllium, total	0.0950	0.0040	mg/L	0.100		95.0	80-120			
Cadmium, total	0.0962	0.0008	mg/L	0.100		96.2	80-120			
Chromium, total	0.0937	0.0080	mg/L	0.100		93.7	80-120			
Cobalt, total	0.0930	0.0004	mg/L	0.100		93.0	80-120			
Copper, total	0.0939	0.0040	mg/L	0.100		93.9	80-120			
Lead, total	0.0942	0.0040	mg/L	0.100		94.2	80-120			
Nickel, total	0.0932	0.0040	mg/L	0.100		93.2	80-120			
Selenium, total	0.0956	0.0040	mg/L	0.100		95.6	80-120			
Silver, total	0.100	0.0040	mg/L	0.100		100	80-120			
Thallium, total	0.0952	0.0020	mg/L	0.100		95.2	80-120			
Vanadium, total	0.0966	0.0200	mg/L	0.100		96.6	80-120			
Zinc, total	0.0966	0.0200	mg/L	0.100		96.6	80-120			
Matrix Spike (1HC0519-MS1)		**Source: 1HC0404-01**	Prepared: 03/11/24 08:41 Analyzed: 03/12/24 02:51							
Antimony, total	0.0958	0.0020	mg/L	0.100	ND	95.8	75-125			
Arsenic, total	0.0976	0.0040	mg/L	0.100	0.0022	95.4	75-125			
Barium, total	0.302	0.0040	mg/L	0.100	0.201	101	75-125			
Beryllium, total	0.0944	0.0040	mg/L	0.100	ND	94.4	75-125			
Cadmium, total	0.0941	0.0008	mg/L	0.100	ND	94.1	75-125			
Chromium, total	0.0967	0.0080	mg/L	0.100	0.0039	92.7	75-125			
Cobalt, total	0.0955	0.0004	mg/L	0.100	0.0004	95.1	75-125			
Copper, total	0.0967	0.0040	mg/L	0.100	0.0014	95.3	75-125			
Lead, total	0.0938	0.0040	mg/L	0.100	ND	93.8	75-125			
Nickel, total	0.0954	0.0040	mg/L	0.100	0.0014	94.0	75-125			
Selenium, total	0.1012	0.0040	mg/L	0.100	ND	101	75-125			
Silver, total	0.101	0.0040	mg/L	0.100	ND	101	75-125			
Thallium, total	0.0950	0.0020	mg/L	0.100	ND	95.0	75-125			
Vanadium, total	0.102	0.0200	mg/L	0.100	ND	102	75-125			
Zinc, total	0.0977	0.0200	mg/L	0.100	ND	97.7	75-125			

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0519 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Matrix Spike Dup (1HC0519-MSD1)	**Source: 1HC0404-01**	Prepared: 03/11/24 08:41 Analyzed: 03/12/24 03:10								
Antimony, total	0.0933	0.0020	mg/L	0.100	ND	93.3	75-125	2.66	20	
Arsenic, total	0.0961	0.0040	mg/L	0.100	0.0022	93.9	75-125	1.53	20	
Barium, total	0.298	0.0040	mg/L	0.100	0.201	97.0	75-125	1.39	20	
Beryllium, total	0.0935	0.0040	mg/L	0.100	ND	93.5	75-125	0.966	20	
Cadmium, total	0.0934	0.0008	mg/L	0.100	ND	93.4	75-125	0.662	20	
Chromium, total	0.0950	0.0080	mg/L	0.100	0.0039	91.1	75-125	1.72	20	
Cobalt, total	0.0942	0.0004	mg/L	0.100	0.0004	93.8	75-125	1.37	20	
Copper, total	0.0914	0.0040	mg/L	0.100	0.0014	90.0	75-125	5.63	20	
Lead, total	0.0922	0.0040	mg/L	0.100	ND	92.2	75-125	1.72	20	
Nickel, total	0.0944	0.0040	mg/L	0.100	0.0014	93.0	75-125	1.02	20	
Selenium, total	0.0970	0.0040	mg/L	0.100	ND	97.0	75-125	4.18	20	
Silver, total	0.0989	0.0040	mg/L	0.100	ND	98.9	75-125	1.65	20	
Thallium, total	0.0936	0.0020	mg/L	0.100	ND	93.6	75-125	1.45	20	
Vanadium, total	0.0999	0.0200	mg/L	0.100	ND	99.9	75-125	1.86	20	
Zinc, total	0.0976	0.0200	mg/L	0.100	ND	97.6	75-125	0.136	20	
Post Spike (1HC0519-PS1)	**Source: 1HC0404-01**	Prepared: 03/11/24 08:41 Analyzed: 03/12/24 03:16								
Antimony, total	0.0773		mg/L	0.0800	0.0001	96.6	80-120			
Arsenic, total	0.0795		mg/L	0.0800	0.0022	96.6	80-120			
Barium, total	0.281		mg/L	0.0800	0.197	105	80-120			
Beryllium, total	0.0761		mg/L	0.0800	-0.00004	95.2	80-120			
Cadmium, total	0.0762		mg/L	0.0800	0.00006	95.2	80-120			
Chromium, total	0.0778		mg/L	0.0800	0.0039	92.4	80-120			
Cobalt, total	0.0781		mg/L	0.0800	0.0004	97.2	80-120			
Copper, total	0.0756		mg/L	0.0800	0.0013	92.8	80-120			
Lead, total	0.0762		mg/L	0.0800	0.0004	94.8	80-120			
Nickel, total	0.0787		mg/L	0.0800	0.0014	96.6	80-120			
Selenium, total	0.0763		mg/L	0.0800	0.0011	94.0	80-120			
Silver, total	0.0804		mg/L	0.0800	-0.0003	101	80-120			
Thallium, total	0.0793		mg/L	0.0800	0.00001	99.1	80-120			
Vanadium, total	0.0840		mg/L	0.0800	0.0080	95.0	80-120			
Zinc, total	0.0796		mg/L	0.0800	0.0038	94.7	80-120			

Definitions

QB-02: The method blank contains analyte at a concentration above the MRL; however, sample concentration was less than the MRL or less than the applicable action level.

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.

QM-17: The MS/MSD recovery for this sample is not available due to instrument malfunction. 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

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:	4.2ºC

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
03/14/24 17:02

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.

☐ 600 E. 17th St. S. Newton, IA 50208 Phone: 641-792-8451 Fax: 641-792-7989

☐ 3012 Ansborough Ave. Waterloo, IA 50701 Phone: 319-235-4440 Fax: 319-235-2480

☐ 835 S St Paul Kansas City, KS 66105 Phone: 913-321-7856 Fax: 913-831-6778

☐ 205 E VanBuren St Centerville, IA 52544 Phone: 641-437-7023 Fax: 641-437-7040

PAGE 1 OF 3

PRINT OR TYPE INFORMATION BELOW	REPORT TO:	BILL TO:
SAMPLER: TODD WHIPPLE	NAME: TODD WHIPPLE	NAME: Joe Grife, PWD
SITE NAME: NEWTON Landfill	COMPANY NAME: HLW Group LLC	COMPANY NAME: City of Newton
ADDRESS:	ADDRESS: P.O. Box 314	ADDRESS: 403 W 4th ST N, Suite 501
CITY/ST/ZIP: Newton IA	CITY/ST/ZIP: Story City, IA 50208	CITY/ST/ZIP: Newton, IA 50208
PHONE:	PHONE: 515 733 4144	PHONE:
	FAX: 4146	Keystone Quote No: (If Applicable)

LAB USE ONLY

LABORATORY WORK ORDER NO.: 1HC0401

SAMPLE TEMPERATURE UPON RECEIPT: ~~1.0~~ ~~ICE~~ ICE 4.2C

CLIENT SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	NO. OF CONTAINERS	MATRIX	GRAB/COMPOSITE	Landfill Appendix I		Landfill App I Voc		Landfill App I metals				SAMPLE CONDITION/COMMENTS	LABORATORY SAMPLE NUMBER
MW 48	3/4/24	10:51	MW 48	7	W	G	X									01
MW 39	3/4/24	11:55	MW 39	7	W	G	X									02
MW 78	3/4/24	11:15	MW 78	7	W	G	X									03
MW 62R	3/4/24	11:35	MW 62R	7	W	G	X									04
MW 79	3/4/24	13:18	MW 79	7	W	G	X									05
MW 80	3/4/24	13:03	MW 80	7	W	G	X									06
MW 36	3/4/24	12:14	MW 36	7	W	G	X									07
MW 41	3/4/24	13:38	MW 41	7	W	G	X									08
MW 42	3/4/24	13:52	MW 42	7	W	G	X									09
MW 58	3/4/24	14:13	MW 58	7	W	G	X									10

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Turn-Around:
Todd Whipple	Date 3/6/24 Time		Date Time	☐ Standard
Relinquished by: (Signature)	Date Time	Received for Lab by: (Signature) Maker	Date 3/6/24 Time 10:04	Remarks:

1 H C 0 4 0 1

HLW Engineering

PM: Heather Murphy

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.

☐ 600 E. 17th St. S. Newton, IA 50208 Phone: 641-792-8451 Fax: 641-792-7989

☐ 3012 Ansborough Ave. Waterloo, IA 50701 Phone: 319-235-4440 Fax: 319-235-2480

☐ 835 S St Paul Kansas City, KS 66105 Phone: 913-321-7856 Fax: 913-831-6778

☐ 205 E VanBuren St Centerville, IA 52544 Phone: 641-437-7023 Fax: 641-437-7040

PRINT OR TYPE INFORMATION BELOW

SAMPLER: TODD WHIPPLE
SITE NAME: Newton Landfill
ADDRESS:
CITY/ST/ZIP: Newton, IA
PHONE:

REPORT TO:
NAME: TODD WHIPPLE
COMPANY NAME: HLW Group LLC
ADDRESS: P.O Box 314
CITY/ST/ZIP: Story City IA 50248
PHONE: 515 733 4144
FAX: 4146

BILL TO:
NAME: Joe Grife, PWD
COMPANY NAME: City of Newton
ADDRESS: 403 W 4th ST N, Suite 501
CITY/ST/ZIP: Newton, IA 50208
PHONE:
Keystone Quote No: (If Applicable)

LAB USE ONLY
LABORATORY WORK ORDER NO. 1HC0401
SAMPLE TEMPERATURE UPON RECEIPT: ~~FE~~ ice ✓ 4.2C
SAMPLE CONDITION/COMMENTS

CLIENT SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	NO. OF CONTAINERS	MATRIX	GRAB/COMPOSITE	Landfill Appendix I		Landfill App I. Voc		Landfill App Metals			SAMPLE CONDITION/COMMENTS	LABORATORY SAMPLE NUMBER
MW 45R	3/4/24	—	MW45R DRY												
MW 44	3/4/24	8:30	MW 44	7	W	G	X								11
MW 57	3/4/24	10:05	MW57	7	W	G	X								12
MW 56	3/4/24	9:09	MW56	7	W	G	X								13
MW 64	3/4/24	9:27	MW 64	7	W	G	X								14
MW 65	3/4/24	8:45	MW65	7	W	G	X								15
SW 101R	3/4/24	10:45	SW-101R	7	W	G	X								16
PECS-1	3/4/24	10:25	PECS-1	6	W	G			X						17
SW-102	3/4/24	10:33	SW-102	7	W	G	X								18
SW-103	3/4/24	9:00	SW-103	7	W	G	X								19

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Turn-Around
[signature]	Date 3/6/24 Time		Date Time	☐
Relinquished by: (Signature)	Date Time	Received for Lab by: (Signature) Mahn	Date 3/6/24 Time 10:04	Remarks

1HC0401
HLW Engineering
PM: Heather Murphy

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.

☐ 600 E. 17th St. S. Newton, IA 50208 Phone: 641-792-8451 Fax: 641-792-7989

☐ 3012 Ansborough Ave. Waterloo, IA 50701 Phone: 319-235-4440 Fax: 319-235-2480

☐ 835 S St Paul Kansas City, KS 66105 Phone: 913-321-7856 Fax: 913-831-6778

☐ 205 E VanBuren St Centerville, IA 52544 Phone: 641-437-7023 Fax: 641-437-7040

PAGE 3 OF 3

PRINT OR TYPE INFORMATION BELOW

SAMPLER: TODD WHIPPLE
SITE NAME: NEWTON LANDFILL
ADDRESS:
CITY/ST/ZIP: NEWTON, IA
PHONE:

REPORT TO:
NAME: TODD WHIPPLE
COMPANY NAME: HLW Group LLC
ADDRESS: P.O. Box 314
CITY/ST/ZIP: STORY CITY, IA 50248
PHONE: 515 733 4144
FAX: 4146

BILL TO:
NAME: Joe Grife, PWD
COMPANY NAME: NEWTON
ADDRESS: 403 W 4th ST. N, Suite 501
CITY/ST/ZIP: NEWTON IOWA 50208
PHONE:
Keystone Quote No: (If Applicable)

CLIENT SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	NO. OF CONTAINERS	MATRIX	GRAB/COMPOSITE	Appendix I (Landfill)		App I VOC		App I metals			SAMPLE CONDITION/COMMENTS	LABORATORY SAMPLE NUMBER
MW 59	3/4/24	14:28	MW 59	7	W	G	X								20
MW 60	3/4/24	12:29	MW 60	7	W	G	X								21
MW 61	3/4/24	12:48	MW 61	7	W	G	X								22
DUPLICATE	3/4/24	✓	DUPLICATE	1	W	G					X				23

ANALYSES REQUIRED

LAB USE ONLY
LABORATORY WORK ORDER NO. 1HC0401
SAMPLE TEMPERATURE UPON RECEIPT: ~~EC~~ ice 4.2

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Turn-Around
Todd Whipple	Date 3/6/24 Time		Date Time	☐ Standard
Relinquished by: (Signature)	Date Time	Received for Lab by: (Signature) Mahr	Date 3/6/24 Time 10:04	Remarks:

1 H C 0 4 0 1
HLW Engineering
PM: Heather Murphy

Original - Lab Copy • Yellow - Sampler Copy

-97

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Project Description

6002

For:

Todd Whipple

HLW Engineering

204 West Broad St

Story City, IA 50248

Heather Murphy

Heather Murphy

Customer Relationship Specialist

Monday, October 7, 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

1HI1560

HLW Engineering

Todd Whipple
204 West Broad St
Story City, IA 50248

Project Name: 6002

Project / PO Number: City of Newton SLF-New Regs-C
Received: 09/23/2024
Reported: 10/07/2024

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
MW-44	1HI1560-01	Aqueous	GRAB		09/23/24 10:23	09/23/24 16:05
MW-57	1HI1560-02	Aqueous	GRAB		09/23/24 11:20	09/23/24 16:05
MW-56	1HI1560-03	Aqueous	GRAB		09/23/24 10:55	09/23/24 16:05
MW-64	1HI1560-04	Aqueous	GRAB		09/23/24 11:07	09/23/24 16:05
MW-65	1HI1560-05	Aqueous	GRAB		09/23/24 10:37	09/23/24 16:05
SW-101R	1HI1560-06	Aqueous	GRAB		09/23/24 11:54	09/23/24 16:05
PECS-1	1HI1560-07	Aqueous	GRAB		09/23/24 12:05	09/23/24 16:05
SW-102	1HI1560-08	Aqueous	GRAB		09/23/24 12:11	09/23/24 16:05
SW-103	1HI1560-09	Aqueous	GRAB		09/23/24 10:47	09/23/24 16:05
MW-48 (B)	1HI1560-10	Aqueous	GRAB		09/23/24 11:36	09/23/24 16:05
MW-39 (B)	1HI1560-11	Aqueous	GRAB		09/23/24 13:42	09/23/24 16:05
MW-78 (B)	1HI1560-12	Aqueous	GRAB		09/23/24 14:07	09/23/24 16:05
MW-62R	1HI1560-13	Aqueous	GRAB		09/23/24 13:56	09/23/24 16:05
MW-79	1HI1560-14	Aqueous	GRAB		09/23/24 14:19	09/23/24 16:05
MW-80	1HI1560-15	Aqueous	GRAB		09/23/24 14:32	09/23/24 16:05
MW-36	1HI1560-16	Aqueous	GRAB		09/23/24 13:27	09/23/24 16:05
MW-41	1HI1560-17	Aqueous	GRAB		09/23/24 13:03	09/23/24 16:05
MW-42	1HI1560-18	Aqueous	GRAB		09/23/24 12:49	09/23/24 16:05
MW-58	1HI1560-19	Aqueous	GRAB		09/23/24 12:34	09/23/24 16:05
MW-59	1HI1560-20	Aqueous	GRAB		09/23/24 12:22	09/23/24 16:05
MW-60	1HI1560-21	Aqueous	GRAB		09/23/24 13:16	09/23/24 16:05
MW-61	1HI1560-22	Aqueous	GRAB		09/23/24 14:44	09/23/24 16:05
Duplicate	1HI1560-23	Aqueous	GRAB		09/23/24 00:00	09/23/24 16:05

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Analytical Testing Parameters

Client Sample ID:	MW-44		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-01	**Collection Date:**	09/23/2024 10:23

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		09/30/24 0000	09/30/24 2347	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Bromomethane	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Chloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Acetone	<10.0	10.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Methyl Iodide	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Methylene Chloride	<5.0	5.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Acrylonitrile	<5.0	5.0	ug/L	1	**Q8**	09/28/24 0000	09/28/24 1900	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Bromochloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Chloroform	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Benzene	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Trichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Dibromomethane	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Toluene	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Chlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Ethylbenzene	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Xylenes, total	<2.0	2.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Styrene	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	MW-44		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-01	**Collection Date:**	09/23/2024 10:23

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
Bromoform	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
trans-1,4-Dichloro-2-butene	<5.0	5.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		09/30/24 0000	09/30/24 2347	BDF
Surrogate: Dibromofluoromethane	59.6	Limit: 57-134	% Rec	1		09/28/24 0000	09/28/24 1900	BDF
Surrogate: Dibromofluoromethane	104	Limit: 75-136	% Rec	1		09/30/24 0000	09/30/24 2347	BDF
Surrogate: 1,2-Dichloroethane-d4	59.2	Limit: 53-140	% Rec	1		09/28/24 0000	09/28/24 1900	BDF
Surrogate: 1,2-Dichloroethane-d4	107	Limit: 61-142	% Rec	1		09/30/24 0000	09/30/24 2347	BDF
Surrogate: Toluene-d8	102	Limit: 82-121	% Rec	1		09/30/24 0000	09/30/24 2347	BDF
Surrogate: Toluene-d8	106	Limit: 86-114	% Rec	1		09/28/24 0000	09/28/24 1900	BDF
Surrogate: 4-Bromofluorobenzene	104	Limit: 80-116	% Rec	1		09/30/24 0000	09/30/24 2347	BDF
Surrogate: 4-Bromofluorobenzene	83.1	Limit: 78-121	% Rec	1		09/28/24 0000	09/28/24 1900	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		09/25/24 1604	09/26/24 1947	RVV
Arsenic, total	**0.0119**	0.0040	mg/L	4		09/25/24 1604	09/26/24 1947	RVV
Barium, total	**0.142**	0.0040	mg/L	4		09/25/24 1604	09/26/24 1947	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 1947	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1604	09/26/24 1947	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1604	09/26/24 1947	RVV
Cobalt, total	**0.0103**	0.0004	mg/L	4		09/25/24 1604	09/26/24 1947	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 1947	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 1947	RVV
Nickel, total	**0.0109**	0.0040	mg/L	4		09/25/24 1604	09/26/24 1947	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 1947	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 1947	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1604	09/26/24 1947	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 1947	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 1947	RVV

Client Sample ID:	MW-57		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-02	**Collection Date:**	09/23/2024 11:20

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		09/30/24 0000	10/01/24 0009	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Bromomethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Chloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Acetone	<10.0	10.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Methyl Iodide	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Methylene Chloride	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Acrylonitrile	<5.0	5.0	ug/L	1		09/24/24 0000	09/24/24 1841	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Bromochloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Chloroform	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Benzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Trichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Dibromomethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Toluene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Chlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Ethylbenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Xylenes, total	<2.0	2.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Styrene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Bromoform	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	MW-57		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-02	**Collection Date:**	09/23/2024 11:20

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		09/30/24 0000	10/01/24 0009	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0009	BDF
Surrogate: Dibromofluoromethane	80.3	Limit: 57-134	% Rec	1		09/24/24 0000	09/24/24 1841	BDF
Surrogate: Dibromofluoromethane	106	Limit: 75-136	% Rec	1		09/30/24 0000	10/01/24 0009	BDF
Surrogate: 1,2-Dichloroethane-d4	87.5	Limit: 53-140	% Rec	1		09/24/24 0000	09/24/24 1841	BDF
Surrogate: 1,2-Dichloroethane-d4	111	Limit: 61-142	% Rec	1		09/30/24 0000	10/01/24 0009	BDF
Surrogate: Toluene-d8	89.4	Limit: 86-114	% Rec	1		09/24/24 0000	09/24/24 1841	BDF
Surrogate: Toluene-d8	99.4	Limit: 82-121	% Rec	1		09/30/24 0000	10/01/24 0009	BDF
Surrogate: 4-Bromofluorobenzene	98.2	Limit: 78-121	% Rec	1		09/24/24 0000	09/24/24 1841	BDF
Surrogate: 4-Bromofluorobenzene	103	Limit: 80-116	% Rec	1		09/30/24 0000	10/01/24 0009	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		09/25/24 1604	09/26/24 2024	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2024	RVV
Barium, total	**0.302**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2024	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2024	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1604	09/26/24 2024	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1604	09/26/24 2024	RVV
Cobalt, total	**0.0010**	0.0004	mg/L	4		09/25/24 1604	09/26/24 2024	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2024	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2024	RVV
Nickel, total	**0.0046**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2024	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2024	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2024	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1604	09/26/24 2024	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2024	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2024	RVV

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	MW-56		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-03	**Collection Date:**	09/23/2024 10:55

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		09/30/24 0000	10/01/24 0032	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Bromomethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Chloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Acetone	<10.0	10.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Methyl Iodide	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Methylene Chloride	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Acrylonitrile	<5.0	5.0	ug/L	1		09/24/24 0000	09/24/24 1903	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
1,1-Dichloroethane	**2.6**	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Bromochloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Chloroform	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Benzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Trichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Dibromomethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Toluene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Chlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Ethylbenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Xylenes, total	<2.0	2.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Styrene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Bromoform	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF

Client Sample ID:	MW-56		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-03	**Collection Date:**	09/23/2024 10:55

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		09/30/24 0000	10/01/24 0032	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0032	BDF
Surrogate: Dibromofluoromethane	106	Limit: 75-136	% Rec	1		09/30/24 0000	10/01/24 0032	BDF
Surrogate: Dibromofluoromethane	80.5	Limit: 57-134	% Rec	1		09/24/24 0000	09/24/24 1903	BDF
Surrogate: 1,2-Dichloroethane-d4	87.5	Limit: 53-140	% Rec	1		09/24/24 0000	09/24/24 1903	BDF
Surrogate: 1,2-Dichloroethane-d4	110	Limit: 61-142	% Rec	1		09/30/24 0000	10/01/24 0032	BDF
Surrogate: Toluene-d8	100	Limit: 82-121	% Rec	1		09/30/24 0000	10/01/24 0032	BDF
Surrogate: Toluene-d8	89.5	Limit: 86-114	% Rec	1		09/24/24 0000	09/24/24 1903	BDF
Surrogate: 4-Bromofluorobenzene	98.9	Limit: 78-121	% Rec	1		09/24/24 0000	09/24/24 1903	BDF
Surrogate: 4-Bromofluorobenzene	102	Limit: 80-116	% Rec	1		09/30/24 0000	10/01/24 0032	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		09/25/24 1604	09/26/24 2030	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2030	RVV
Barium, total	**0.0392**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2030	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2030	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1604	09/26/24 2030	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1604	09/26/24 2030	RVV
Cobalt, total	**0.0025**	0.0004	mg/L	4		09/25/24 1604	09/26/24 2030	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2030	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2030	RVV
Nickel, total	**0.0073**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2030	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2030	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2030	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1604	09/26/24 2030	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2030	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2030	RVV

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	MW-64			
Sample Matrix:	Aqueous		**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-04		**Collection Date:**	09/23/2024 11:07

Determination of Volatile Organic Compounds	**Result**	**RL**	**Units**	**DF**	**Note**	**Prepared**	**Analyzed**	**Analyst**
EPA 5030B/EPA 8260B			**Method Notes:** A15					
Chloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Vinyl Chloride	**1.7**	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Bromomethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Chloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Acetone	<10.0	10.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Methyl Iodide	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Methylene Chloride	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Acrylonitrile	<5.0	5.0	ug/L	1		09/24/24 0000	09/24/24 1926	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
1,1-Dichloroethane	**1.7**	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
cis-1,2-Dichloroethylene	**4.1**	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Bromochloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Chloroform	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Benzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Trichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Dibromomethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Toluene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Chlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Ethylbenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Xylenes, total	<2.0	2.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Styrene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Bromoform	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF

Client Sample ID:	MW-64		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-04	**Collection Date:**	09/23/2024 11:07

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		09/30/24 0000	10/01/24 0054	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0054	BDF
Surrogate: Dibromofluoromethane	80.4	Limit: 57-134	% Rec	1		09/24/24 0000	09/24/24 1926	BDF
Surrogate: Dibromofluoromethane	107	Limit: 75-136	% Rec	1		09/30/24 0000	10/01/24 0054	BDF
Surrogate: 1,2-Dichloroethane-d4	88.0	Limit: 53-140	% Rec	1		09/24/24 0000	09/24/24 1926	BDF
Surrogate: 1,2-Dichloroethane-d4	110	Limit: 61-142	% Rec	1		09/30/24 0000	10/01/24 0054	BDF
Surrogate: Toluene-d8	88.6	Limit: 86-114	% Rec	1		09/24/24 0000	09/24/24 1926	BDF
Surrogate: Toluene-d8	115	Limit: 82-121	% Rec	1		09/30/24 0000	10/01/24 0054	BDF
Surrogate: 4-Bromofluorobenzene	98.3	Limit: 78-121	% Rec	1		09/24/24 0000	09/24/24 1926	BDF
Surrogate: 4-Bromofluorobenzene	103	Limit: 80-116	% Rec	1		09/30/24 0000	10/01/24 0054	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		09/25/24 1604	09/26/24 2036	RVV
Arsenic, total	**0.0306**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2036	RVV
Barium, total	**0.0528**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2036	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2036	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1604	09/26/24 2036	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1604	09/26/24 2036	RVV
Cobalt, total	**0.0179**	0.0004	mg/L	4		09/25/24 1604	09/26/24 2036	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2036	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2036	RVV
Nickel, total	**0.0426**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2036	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2036	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2036	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1604	09/26/24 2036	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2036	RVV
Zinc, total	**0.0215**	0.0200	mg/L	4		09/25/24 1604	09/26/24 2036	RVV

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	MW-65			
Sample Matrix:	Aqueous		**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-05		**Collection Date:**	09/23/2024 10:37

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		09/30/24 0000	10/01/24 0116	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Bromomethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Chloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Acetone	<10.0	10.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Methyl Iodide	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Methylene Chloride	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Acrylonitrile	<5.0	5.0	ug/L	1		09/24/24 0000	09/24/24 1948	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Bromochloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Chloroform	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Benzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Trichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Dibromomethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Toluene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Chlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Ethylbenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Xylenes, total	<2.0	2.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Styrene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Bromoform	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF

Client Sample ID:	MW-65		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-05	**Collection Date:**	09/23/2024 10:37

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		09/30/24 0000	10/01/24 0116	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0116	BDF
Surrogate: Dibromofluoromethane	80.3	Limit: 57-134	% Rec	1		09/24/24 0000	09/24/24 1948	BDF
Surrogate: Dibromofluoromethane	107	Limit: 75-136	% Rec	1		09/30/24 0000	10/01/24 0116	BDF
Surrogate: 1,2-Dichloroethane-d4	86.8	Limit: 53-140	% Rec	1		09/24/24 0000	09/24/24 1948	BDF
Surrogate: 1,2-Dichloroethane-d4	110	Limit: 61-142	% Rec	1		09/30/24 0000	10/01/24 0116	BDF
Surrogate: Toluene-d8	89.7	Limit: 86-114	% Rec	1		09/24/24 0000	09/24/24 1948	BDF
Surrogate: Toluene-d8	90.0	Limit: 82-121	% Rec	1		09/30/24 0000	10/01/24 0116	BDF
Surrogate: 4-Bromofluorobenzene	99.8	Limit: 78-121	% Rec	1		09/24/24 0000	09/24/24 1948	BDF
Surrogate: 4-Bromofluorobenzene	101	Limit: 80-116	% Rec	1		09/30/24 0000	10/01/24 0116	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		09/25/24 1604	09/26/24 2043	RVV
Arsenic, total	**0.0079**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2043	RVV
Barium, total	**0.0354**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2043	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2043	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1604	09/26/24 2043	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1604	09/26/24 2043	RVV
Cobalt, total	**0.0034**	0.0004	mg/L	4		09/25/24 1604	09/26/24 2043	RVV
Copper, total	**0.0087**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2043	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2043	RVV
Nickel, total	**0.0135**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2043	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2043	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2043	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1604	09/26/24 2043	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2043	RVV
Zinc, total	**0.0294**	0.0200	mg/L	4		09/25/24 1604	09/26/24 2043	RVV

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	SW-101R		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-06	**Collection Date:**	09/23/2024 11:54

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		09/30/24 0000	10/01/24 0139	BDF
Vinyl Chloride	**3.1**	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Bromomethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Chloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Acetone	<10.0	10.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Methyl Iodide	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Methylene Chloride	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Acrylonitrile	<5.0	5.0	ug/L	1		09/24/24 0000	09/24/24 2011	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
cis-1,2-Dichloroethylene	**3.4**	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Bromochloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Chloroform	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Benzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Trichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Dibromomethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Toluene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Chlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Ethylbenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Xylenes, total	<2.0	2.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Styrene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Bromoform	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF

Client Sample ID:	SW-101R		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-06	**Collection Date:**	09/23/2024 11:54

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		09/30/24 0000	10/01/24 0139	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0139	BDF
Surrogate: Dibromofluoromethane	80.9	Limit: 57-134	% Rec	1		09/24/24 0000	09/24/24 2011	BDF
Surrogate: Dibromofluoromethane	106	Limit: 75-136	% Rec	1		09/30/24 0000	10/01/24 0139	BDF
Surrogate: 1,2-Dichloroethane-d4	111	Limit: 61-142	% Rec	1		09/30/24 0000	10/01/24 0139	BDF
Surrogate: 1,2-Dichloroethane-d4	88.8	Limit: 53-140	% Rec	1		09/24/24 0000	09/24/24 2011	BDF
Surrogate: Toluene-d8	89.0	Limit: 86-114	% Rec	1		09/24/24 0000	09/24/24 2011	BDF
Surrogate: Toluene-d8	100	Limit: 82-121	% Rec	1		09/30/24 0000	10/01/24 0139	BDF
Surrogate: 4-Bromofluorobenzene	105	Limit: 80-116	% Rec	1		09/30/24 0000	10/01/24 0139	BDF
Surrogate: 4-Bromofluorobenzene	98.6	Limit: 78-121	% Rec	1		09/24/24 0000	09/24/24 2011	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		09/25/24 1604	09/26/24 2049	RVV
Arsenic, total	**0.0047**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2049	RVV
Barium, total	**0.236**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2049	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2049	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1604	09/26/24 2049	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1604	09/26/24 2049	RVV
Cobalt, total	**0.0039**	0.0004	mg/L	4		09/25/24 1604	09/26/24 2049	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2049	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2049	RVV
Nickel, total	**0.0047**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2049	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2049	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2049	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1604	09/26/24 2049	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2049	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2049	RVV

Client Sample ID:	PECS-1		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-07	**Collection Date:**	09/23/2024 12:05

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		09/30/24 0000	10/01/24 0201	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Bromomethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Chloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Acetone	<10.0	10.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Methyl Iodide	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Methylene Chloride	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Acrylonitrile	<5.0	5.0	ug/L	1	**Q8**	09/28/24 0000	09/28/24 1922	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Bromochloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Chloroform	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Benzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Trichloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Dibromomethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Toluene	**1.8**	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Chlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Ethylbenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Xylenes, total	<2.0	2.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Styrene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Bromoform	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	PECS-1		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-07	**Collection Date:**	09/23/2024 12:05

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		09/30/24 0000	10/01/24 0201	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1		09/30/24 0000	10/01/24 0201	BDF
Surrogate: Dibromofluoromethane	106	Limit: 75-136	% Rec	1		09/30/24 0000	10/01/24 0201	BDF
Surrogate: Dibromofluoromethane	64.7	Limit: 57-134	% Rec	1		09/28/24 0000	09/28/24 1922	BDF
Surrogate: 1,2-Dichloroethane-d4	111	Limit: 61-142	% Rec	1		09/30/24 0000	10/01/24 0201	BDF
Surrogate: 1,2-Dichloroethane-d4	66.6	Limit: 53-140	% Rec	1		09/28/24 0000	09/28/24 1922	BDF
Surrogate: Toluene-d8	100	Limit: 82-121	% Rec	1		09/30/24 0000	10/01/24 0201	BDF
Surrogate: Toluene-d8	104	Limit: 86-114	% Rec	1		09/28/24 0000	09/28/24 1922	BDF
Surrogate: 4-Bromofluorobenzene	115	Limit: 80-116	% Rec	1		09/30/24 0000	10/01/24 0201	BDF
Surrogate: 4-Bromofluorobenzene	85.5	Limit: 78-121	% Rec	1		09/28/24 0000	09/28/24 1922	BDF

Client Sample ID:	SW-102			
Sample Matrix:	Aqueous		**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-08		**Collection Date:**	09/23/2024 12:11

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 1116	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1116	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1116	BDF
Acrylonitrile	<5.0	5.0	ug/L	1		09/24/24 0000	09/24/24 2033	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1116	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1116	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1116	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1116	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1116	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1116	BDF

Client Sample ID:	SW-102		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-08	**Collection Date:**	09/23/2024 12:11

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 1116	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1116	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1116	BDF
Surrogate: Dibromofluoromethane	81.0	Limit: 57-134	% Rec	1		09/24/24 0000	09/24/24 2033	BDF
Surrogate: Dibromofluoromethane	101	Limit: 75-136	% Rec	1			10/01/24 1116	BDF
Surrogate: 1,2-Dichloroethane-d4	89.1	Limit: 53-140	% Rec	1		09/24/24 0000	09/24/24 2033	BDF
Surrogate: 1,2-Dichloroethane-d4	102	Limit: 61-142	% Rec	1			10/01/24 1116	BDF
Surrogate: Toluene-d8	89.6	Limit: 86-114	% Rec	1		09/24/24 0000	09/24/24 2033	BDF
Surrogate: Toluene-d8	97.4	Limit: 82-121	% Rec	1			10/01/24 1116	BDF
Surrogate: 4-Bromofluorobenzene	98.1	Limit: 78-121	% Rec	1		09/24/24 0000	09/24/24 2033	BDF
Surrogate: 4-Bromofluorobenzene	95.5	Limit: 80-116	% Rec	1			10/01/24 1116	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		09/25/24 1604	09/26/24 2055	RVV
Arsenic, total	**0.0043**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2055	RVV
Barium, total	**0.190**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2055	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2055	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1604	09/26/24 2055	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1604	09/26/24 2055	RVV
Cobalt, total	**0.0011**	0.0004	mg/L	4		09/25/24 1604	09/26/24 2055	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2055	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2055	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2055	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2055	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2055	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1604	09/26/24 2055	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2055	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2055	RVV

Client Sample ID:	SW-103			
Sample Matrix:	Aqueous		**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-09		**Collection Date:**	09/23/2024 10:47

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 1138	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1138	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1138	BDF
Acrylonitrile	<5.0	5.0	ug/L	1		09/24/24 0000	09/24/24 2056	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1138	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1138	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1138	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1138	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1138	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1138	BDF

Client Sample ID:	SW-103		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-09	**Collection Date:**	09/23/2024 10:47

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 1138	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1138	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1138	BDF
Surrogate: Dibromofluoromethane	100	Limit: 75-136	% Rec	1			10/01/24 1138	BDF
Surrogate: Dibromofluoromethane	79.9	Limit: 57-134	% Rec	1		09/24/24 0000	09/24/24 2056	BDF
Surrogate: 1,2-Dichloroethane-d4	103	Limit: 61-142	% Rec	1			10/01/24 1138	BDF
Surrogate: 1,2-Dichloroethane-d4	89.3	Limit: 53-140	% Rec	1		09/24/24 0000	09/24/24 2056	BDF
Surrogate: Toluene-d8	89.2	Limit: 86-114	% Rec	1		09/24/24 0000	09/24/24 2056	BDF
Surrogate: Toluene-d8	98.9	Limit: 82-121	% Rec	1			10/01/24 1138	BDF
Surrogate: 4-Bromofluorobenzene	97.0	Limit: 78-121	% Rec	1		09/24/24 0000	09/24/24 2056	BDF
Surrogate: 4-Bromofluorobenzene	95.5	Limit: 80-116	% Rec	1			10/01/24 1138	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		09/25/24 1604	09/26/24 2101	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2101	RVV
Barium, total	**0.141**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2101	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2101	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1604	09/26/24 2101	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1604	09/26/24 2101	RVV
Cobalt, total	**0.0006**	0.0004	mg/L	4		09/25/24 1604	09/26/24 2101	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2101	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2101	RVV
Nickel, total	**0.0045**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2101	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2101	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2101	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1604	09/26/24 2101	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2101	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2101	RVV

Client Sample ID:	MW-48 (B)		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-10	**Collection Date:**	09/23/2024 11:36

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 1201	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1201	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1201	BDF
Acrylonitrile	<5.0	5.0	ug/L	1		09/24/24 0000	09/24/24 2118	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1201	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1201	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1201	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1201	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1201	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1201	BDF

Client Sample ID:	MW-48 (B)		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-10	**Collection Date:**	09/23/2024 11:36

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 1201	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1201	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1201	BDF
Surrogate: Dibromofluoromethane	83.8	Limit: 57-134	% Rec	1		09/24/24 0000	09/24/24 2118	BDF
Surrogate: Dibromofluoromethane	100	Limit: 75-136	% Rec	1			10/01/24 1201	BDF
Surrogate: 1,2-Dichloroethane-d4	88.7	Limit: 53-140	% Rec	1		09/24/24 0000	09/24/24 2118	BDF
Surrogate: 1,2-Dichloroethane-d4	103	Limit: 61-142	% Rec	1			10/01/24 1201	BDF
Surrogate: Toluene-d8	75.8	Limit: 86-114	% Rec	1	**S2**	09/24/24 0000	09/24/24 2118	BDF
Surrogate: Toluene-d8	98.6	Limit: 82-121	% Rec	1			10/01/24 1201	BDF
Surrogate: 4-Bromofluorobenzene	110	Limit: 78-121	% Rec	1		09/24/24 0000	09/24/24 2118	BDF
Surrogate: 4-Bromofluorobenzene	95.7	Limit: 80-116	% Rec	1			10/01/24 1201	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		09/25/24 1604	09/26/24 2119	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2119	RVV
Barium, total	**0.148**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2119	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2119	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1604	09/26/24 2119	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1604	09/26/24 2119	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		09/25/24 1604	09/26/24 2119	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2119	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2119	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2119	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2119	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2119	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1604	09/26/24 2119	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2119	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2119	RVV

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	MW-39 (B)		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-11	**Collection Date:**	09/23/2024 13:42

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 1224	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1224	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1224	BDF
Acrylonitrile	<5.0	5.0	ug/L	1	**Q8**	09/28/24 0000	09/28/24 1945	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1224	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1224	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1224	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1224	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1224	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1224	BDF

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	MW-39 (B)		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-11	**Collection Date:**	09/23/2024 13:42

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 1224	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1224	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1224	BDF
Surrogate: Dibromofluoromethane	68.8	Limit: 57-134	% Rec	1		09/28/24 0000	09/28/24 1945	BDF
Surrogate: Dibromofluoromethane	101	Limit: 75-136	% Rec	1			10/01/24 1224	BDF
Surrogate: 1,2-Dichloroethane-d4	68.3	Limit: 53-140	% Rec	1		09/28/24 0000	09/28/24 1945	BDF
Surrogate: 1,2-Dichloroethane-d4	102	Limit: 61-142	% Rec	1			10/01/24 1224	BDF
Surrogate: Toluene-d8	104	Limit: 86-114	% Rec	1		09/28/24 0000	09/28/24 1945	BDF
Surrogate: Toluene-d8	97.9	Limit: 82-121	% Rec	1			10/01/24 1224	BDF
Surrogate: 4-Bromofluorobenzene	84.3	Limit: 78-121	% Rec	1		09/28/24 0000	09/28/24 1945	BDF
Surrogate: 4-Bromofluorobenzene	96.2	Limit: 80-116	% Rec	1			10/01/24 1224	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		09/25/24 1604	09/26/24 2125	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2125	RVV
Barium, total	**0.119**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2125	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2125	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1604	09/26/24 2125	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1604	09/26/24 2125	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		09/25/24 1604	09/26/24 2125	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2125	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2125	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2125	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2125	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2125	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1604	09/26/24 2125	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2125	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2125	RVV

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	MW-78 (B)		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-12	**Collection Date:**	09/23/2024 14:07

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 1246	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1246	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1246	BDF
Acrylonitrile	<5.0	5.0	ug/L	1	**Q8**	09/28/24 0000	09/28/24 2007	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1246	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1246	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1246	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1246	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1246	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1246	BDF

Client Sample ID:	MW-78 (B)		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-12	**Collection Date:**	09/23/2024 14:07

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 1246	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1246	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1246	BDF
Surrogate: Dibromofluoromethane	66.0	Limit: 57-134	% Rec	1		09/28/24 0000	09/28/24 2007	BDF
Surrogate: Dibromofluoromethane	99.1	Limit: 75-136	% Rec	1			10/01/24 1246	BDF
Surrogate: 1,2-Dichloroethane-d4	69.2	Limit: 53-140	% Rec	1		09/28/24 0000	09/28/24 2007	BDF
Surrogate: 1,2-Dichloroethane-d4	102	Limit: 61-142	% Rec	1			10/01/24 1246	BDF
Surrogate: Toluene-d8	113	Limit: 86-114	% Rec	1		09/28/24 0000	09/28/24 2007	BDF
Surrogate: Toluene-d8	97.8	Limit: 82-121	% Rec	1			10/01/24 1246	BDF
Surrogate: 4-Bromofluorobenzene	83.3	Limit: 78-121	% Rec	1		09/28/24 0000	09/28/24 2007	BDF
Surrogate: 4-Bromofluorobenzene	96.5	Limit: 80-116	% Rec	1			10/01/24 1246	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		09/25/24 1604	09/26/24 2132	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2132	RVV
Barium, total	**0.284**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2132	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2132	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1604	09/26/24 2132	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1604	09/26/24 2132	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		09/25/24 1604	09/26/24 2132	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2132	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2132	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2132	RVV
Selenium, total	**0.0041**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2132	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2132	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1604	09/26/24 2132	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2132	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2132	RVV

Client Sample ID:	MW-62R			
Sample Matrix:	Aqueous		**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-13		**Collection Date:**	09/23/2024 13:56

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 1309	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1309	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1309	BDF
Acrylonitrile	<5.0	5.0	ug/L	1	**Q8**	09/28/24 0000	09/28/24 2029	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1309	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1309	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1309	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1309	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1309	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1309	BDF

Client Sample ID:	MW-62R		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-13	**Collection Date:**	09/23/2024 13:56

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 1309	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1309	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1309	BDF
Surrogate: Dibromofluoromethane	98.6	Limit: 75-136	% Rec	1			10/01/24 1309	BDF
Surrogate: Dibromofluoromethane	63.7	Limit: 57-134	% Rec	1		09/28/24 0000	09/28/24 2029	BDF
Surrogate: 1,2-Dichloroethane-d4	103	Limit: 61-142	% Rec	1			10/01/24 1309	BDF
Surrogate: 1,2-Dichloroethane-d4	58.3	Limit: 53-140	% Rec	1		09/28/24 0000	09/28/24 2029	BDF
Surrogate: Toluene-d8	97.6	Limit: 82-121	% Rec	1			10/01/24 1309	BDF
Surrogate: Toluene-d8	112	Limit: 86-114	% Rec	1		09/28/24 0000	09/28/24 2029	BDF
Surrogate: 4-Bromofluorobenzene	94.7	Limit: 80-116	% Rec	1			10/01/24 1309	BDF
Surrogate: 4-Bromofluorobenzene	82.1	Limit: 78-121	% Rec	1		09/28/24 0000	09/28/24 2029	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		09/25/24 1604	09/26/24 2138	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2138	RVV
Barium, total	**0.945**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2138	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2138	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1604	09/26/24 2138	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1604	09/26/24 2138	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		09/25/24 1604	09/26/24 2138	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2138	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2138	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2138	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2138	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2138	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1604	09/26/24 2138	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2138	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2138	RVV

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	MW-79		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-14	**Collection Date:**	09/23/2024 14:19

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 1332	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1332	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1332	BDF
Acrylonitrile	<5.0	5.0	ug/L	1	**Q8**	09/28/24 0000	09/28/24 2052	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1332	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1332	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1332	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1332	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1332	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1332	BDF

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	MW-79		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-14	**Collection Date:**	09/23/2024 14:19

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 1332	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1332	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1332	BDF
Surrogate: Dibromofluoromethane	98.4	Limit: 75-136	% Rec	1			10/01/24 1332	BDF
Surrogate: Dibromofluoromethane	68.3	Limit: 57-134	% Rec	1		09/28/24 0000	09/28/24 2052	BDF
Surrogate: 1,2-Dichloroethane-d4	101	Limit: 61-142	% Rec	1			10/01/24 1332	BDF
Surrogate: 1,2-Dichloroethane-d4	65.7	Limit: 53-140	% Rec	1		09/28/24 0000	09/28/24 2052	BDF
Surrogate: Toluene-d8	97.7	Limit: 82-121	% Rec	1			10/01/24 1332	BDF
Surrogate: Toluene-d8	104	Limit: 86-114	% Rec	1		09/28/24 0000	09/28/24 2052	BDF
Surrogate: 4-Bromofluorobenzene	84.8	Limit: 78-121	% Rec	1		09/28/24 0000	09/28/24 2052	BDF
Surrogate: 4-Bromofluorobenzene	96.1	Limit: 80-116	% Rec	1			10/01/24 1332	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		09/25/24 1604	09/26/24 2144	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2144	RVV
Barium, total	**0.0647**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2144	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2144	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1604	09/26/24 2144	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1604	09/26/24 2144	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		09/25/24 1604	09/26/24 2144	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2144	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2144	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2144	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2144	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2144	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1604	09/26/24 2144	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2144	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2144	RVV

Client Sample ID:	MW-80		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-15	**Collection Date:**	09/23/2024 14:32

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 1354	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1354	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1354	BDF
Acrylonitrile	<5.0	5.0	ug/L	1	**Q8**	09/28/24 0000	09/28/24 2114	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1354	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1354	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1354	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1354	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1354	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1354	BDF

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	MW-80		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-15	**Collection Date:**	09/23/2024 14:32

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 1354	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1354	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1354	BDF
Surrogate: Dibromofluoromethane	68.9	Limit: 57-134	% Rec	1		09/28/24 0000	09/28/24 2114	BDF
Surrogate: Dibromofluoromethane	98.8	Limit: 75-136	% Rec	1			10/01/24 1354	BDF
Surrogate: 1,2-Dichloroethane-d4	67.0	Limit: 53-140	% Rec	1		09/28/24 0000	09/28/24 2114	BDF
Surrogate: 1,2-Dichloroethane-d4	102	Limit: 61-142	% Rec	1			10/01/24 1354	BDF
Surrogate: Toluene-d8	98.0	Limit: 82-121	% Rec	1			10/01/24 1354	BDF
Surrogate: Toluene-d8	102	Limit: 86-114	% Rec	1		09/28/24 0000	09/28/24 2114	BDF
Surrogate: 4-Bromofluorobenzene	84.9	Limit: 78-121	% Rec	1		09/28/24 0000	09/28/24 2114	BDF
Surrogate: 4-Bromofluorobenzene	96.4	Limit: 80-116	% Rec	1			10/01/24 1354	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		09/25/24 1604	09/26/24 2150	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2150	RVV
Barium, total	**0.135**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2150	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2150	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1604	09/26/24 2150	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1604	09/26/24 2150	RVV
Cobalt, total	**0.0008**	0.0004	mg/L	4		09/25/24 1604	09/26/24 2150	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2150	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2150	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2150	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2150	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2150	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1604	09/26/24 2150	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2150	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2150	RVV

Client Sample ID:	MW-36		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-16	**Collection Date:**	09/23/2024 13:27

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			10/01/24 1417	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1417	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1417	BDF
Acrylonitrile	<5.0	5.0	ug/L	1	**Q8**	09/28/24 0000	09/28/24 2136	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1417	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1417	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1417	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1417	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1417	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1417	BDF

Client Sample ID:	MW-36		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-16	**Collection Date:**	09/23/2024 13:27

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			10/01/24 1417	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1417	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1417	BDF
Surrogate: Dibromofluoromethane	98.6	Limit: 75-136	% Rec	1			10/01/24 1417	BDF
Surrogate: Dibromofluoromethane	66.9	Limit: 57-134	% Rec	1		09/28/24 0000	09/28/24 2136	BDF
Surrogate: 1,2-Dichloroethane-d4	101	Limit: 61-142	% Rec	1			10/01/24 1417	BDF
Surrogate: 1,2-Dichloroethane-d4	65.4	Limit: 53-140	% Rec	1		09/28/24 0000	09/28/24 2136	BDF
Surrogate: Toluene-d8	97.5	Limit: 82-121	% Rec	1			10/01/24 1417	BDF
Surrogate: Toluene-d8	109	Limit: 86-114	% Rec	1		09/28/24 0000	09/28/24 2136	BDF
Surrogate: 4-Bromofluorobenzene	95.9	Limit: 80-116	% Rec	1			10/01/24 1417	BDF
Surrogate: 4-Bromofluorobenzene	82.1	Limit: 78-121	% Rec	1		09/28/24 0000	09/28/24 2136	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		09/25/24 1604	09/26/24 2156	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2156	RVV
Barium, total	**0.125**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2156	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2156	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1604	09/26/24 2156	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1604	09/26/24 2156	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		09/25/24 1604	09/26/24 2156	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2156	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2156	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2156	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2156	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2156	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1604	09/26/24 2156	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2156	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2156	RVV

Client Sample ID:	MW-41				
Sample Matrix:	Aqueous		**Collected By:**	Whipple, Todd	
Lab Sample ID:	1HI1560-17		**Collection Date:**	09/23/2024 13:03	

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 1440	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1440	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1440	BDF
Acrylonitrile	<5.0	5.0	ug/L	1	**Q8**	09/28/24 0000	09/28/24 2159	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
1,1-Dichloroethane	**22.0**	1.0	ug/L	1			10/01/24 1440	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1440	BDF
cis-1,2-Dichloroethylene	**3.1**	1.0	ug/L	1			10/01/24 1440	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1440	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
1,2-Dichloropropane	**1.0**	1.0	ug/L	1			10/01/24 1440	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1440	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1440	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1440	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1440	BDF

Client Sample ID:	MW-41		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-17	**Collection Date:**	09/23/2024 13:03

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 1440	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1440	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1440	BDF
Surrogate: Dibromofluoromethane	76.3	Limit: 57-134	% Rec	1		09/28/24 0000	09/28/24 2159	BDF
Surrogate: Dibromofluoromethane	99.6	Limit: 75-136	% Rec	1			10/01/24 1440	BDF
Surrogate: 1,2-Dichloroethane-d4	102	Limit: 61-142	% Rec	1			10/01/24 1440	BDF
Surrogate: 1,2-Dichloroethane-d4	75.4	Limit: 53-140	% Rec	1		09/28/24 0000	09/28/24 2159	BDF
Surrogate: Toluene-d8	105	Limit: 86-114	% Rec	1		09/28/24 0000	09/28/24 2159	BDF
Surrogate: Toluene-d8	97.1	Limit: 82-121	% Rec	1			10/01/24 1440	BDF
Surrogate: 4-Bromofluorobenzene	95.4	Limit: 80-116	% Rec	1			10/01/24 1440	BDF
Surrogate: 4-Bromofluorobenzene	84.1	Limit: 78-121	% Rec	1		09/28/24 0000	09/28/24 2159	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		09/25/24 1604	09/26/24 2202	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2202	RVV
Barium, total	**0.0694**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2202	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2202	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1604	09/26/24 2202	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1604	09/26/24 2202	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		09/25/24 1604	09/26/24 2202	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2202	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2202	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2202	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2202	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2202	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1604	09/26/24 2202	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2202	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2202	RVV

Client Sample ID:	MW-42		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-18	**Collection Date:**	09/23/2024 12:49

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 1502	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1502	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1502	BDF
Acrylonitrile	<5.0	5.0	ug/L	1	**Q8**	09/28/24 0000	09/28/24 2221	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1502	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1502	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1502	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1502	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1502	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1502	BDF

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	MW-42		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-18	**Collection Date:**	09/23/2024 12:49

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 1502	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1502	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1502	BDF
Surrogate: Dibromofluoromethane	91.7	Limit: 57-134	% Rec	1		09/28/24 0000	09/28/24 2221	BDF
Surrogate: Dibromofluoromethane	98.0	Limit: 75-136	% Rec	1			10/01/24 1502	BDF
Surrogate: 1,2-Dichloroethane-d4	89.8	Limit: 53-140	% Rec	1		09/28/24 0000	09/28/24 2221	BDF
Surrogate: 1,2-Dichloroethane-d4	100	Limit: 61-142	% Rec	1			10/01/24 1502	BDF
Surrogate: Toluene-d8	103	Limit: 86-114	% Rec	1		09/28/24 0000	09/28/24 2221	BDF
Surrogate: Toluene-d8	97.4	Limit: 82-121	% Rec	1			10/01/24 1502	BDF
Surrogate: 4-Bromofluorobenzene	78.5	Limit: 78-121	% Rec	1		09/28/24 0000	09/28/24 2221	BDF
Surrogate: 4-Bromofluorobenzene	95.7	Limit: 80-116	% Rec	1			10/01/24 1502	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		09/25/24 1604	09/26/24 2208	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2208	RVV
Barium, total	**0.0193**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2208	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2208	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1604	09/26/24 2208	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1604	09/26/24 2208	RVV
Cobalt, total	**0.0016**	0.0004	mg/L	4		09/25/24 1604	09/26/24 2208	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2208	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2208	RVV
Nickel, total	**0.0048**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2208	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2208	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2208	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1604	09/26/24 2208	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2208	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2208	RVV

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	MW-58		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-19	**Collection Date:**	09/23/2024 12:34

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 1525	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1525	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1525	BDF
Acrylonitrile	<5.0	5.0	ug/L	1	**Q8**	09/28/24 0000	09/28/24 2244	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1525	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1525	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1525	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1525	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1525	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1525	BDF

Client Sample ID:	MW-58		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-19	**Collection Date:**	09/23/2024 12:34

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 1525	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1525	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1525	BDF
Surrogate: Dibromofluoromethane	66.7	Limit: 57-134	% Rec	1		09/28/24 0000	09/28/24 2244	BDF
Surrogate: Dibromofluoromethane	98.5	Limit: 75-136	% Rec	1			10/01/24 1525	BDF
Surrogate: 1,2-Dichloroethane-d4	102	Limit: 61-142	% Rec	1			10/01/24 1525	BDF
Surrogate: 1,2-Dichloroethane-d4	67.8	Limit: 53-140	% Rec	1		09/28/24 0000	09/28/24 2244	BDF
Surrogate: Toluene-d8	109	Limit: 86-114	% Rec	1		09/28/24 0000	09/28/24 2244	BDF
Surrogate: Toluene-d8	97.7	Limit: 82-121	% Rec	1			10/01/24 1525	BDF
Surrogate: 4-Bromofluorobenzene	82.7	Limit: 78-121	% Rec	1		09/28/24 0000	09/28/24 2244	BDF
Surrogate: 4-Bromofluorobenzene	95.8	Limit: 80-116	% Rec	1			10/01/24 1525	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		09/25/24 1604	09/27/24 0945	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/27/24 0945	RVV
Barium, total	**0.0209**	0.0040	mg/L	4		09/25/24 1604	09/27/24 0945	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/27/24 0945	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1604	09/27/24 0945	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1604	09/27/24 0945	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		09/25/24 1604	09/27/24 0945	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/27/24 0945	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/27/24 0945	RVV
Nickel, total	**0.0126**	0.0040	mg/L	4		09/25/24 1604	09/27/24 0945	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/27/24 0945	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/27/24 0945	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1604	09/27/24 0945	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/27/24 0945	RVV
Zinc, total	**0.0210**	0.0200	mg/L	4		09/25/24 1604	09/27/24 0945	RVV

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	MW-59		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-20	**Collection Date:**	09/23/2024 12:22

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			10/01/24 1548	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1548	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1548	BDF
Acrylonitrile	<5.0	5.0	ug/L	1	**Q8**	09/28/24 0000	09/28/24 2306	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1548	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1548	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1548	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1548	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1548	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1548	BDF

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	MW-59		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-20	**Collection Date:**	09/23/2024 12:22

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			10/01/24 1548	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1548	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1548	BDF
Surrogate: Dibromofluoromethane	69.1	Limit: 57-134	% Rec	1		09/28/24 0000	09/28/24 2306	BDF
Surrogate: Dibromofluoromethane	99.0	Limit: 75-136	% Rec	1			10/01/24 1548	BDF
Surrogate: 1,2-Dichloroethane-d4	70.7	Limit: 53-140	% Rec	1		09/28/24 0000	09/28/24 2306	BDF
Surrogate: 1,2-Dichloroethane-d4	102	Limit: 61-142	% Rec	1			10/01/24 1548	BDF
Surrogate: Toluene-d8	106	Limit: 86-114	% Rec	1		09/28/24 0000	09/28/24 2306	BDF
Surrogate: Toluene-d8	97.8	Limit: 82-121	% Rec	1			10/01/24 1548	BDF
Surrogate: 4-Bromofluorobenzene	82.5	Limit: 78-121	% Rec	1		09/28/24 0000	09/28/24 2306	BDF
Surrogate: 4-Bromofluorobenzene	95.7	Limit: 80-116	% Rec	1			10/01/24 1548	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		09/25/24 1604	09/26/24 2233	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2233	RVV
Barium, total	**0.0252**	0.0040	mg/L	4		09/25/24 1604	09/26/24 2233	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2233	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1604	09/26/24 2233	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1604	09/26/24 2233	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		09/25/24 1604	09/26/24 2233	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2233	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2233	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2233	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2233	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1604	09/26/24 2233	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1604	09/26/24 2233	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2233	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		09/25/24 1604	09/26/24 2233	RVV

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	MW-60		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-21	**Collection Date:**	09/23/2024 13:16

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 1610	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1610	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1610	BDF
Acrylonitrile	<5.0	5.0	ug/L	1	**Q8**	09/28/24 0000	09/28/24 2329	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1610	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1610	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1610	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1610	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1610	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1610	BDF

Client Sample ID:	MW-60		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-21	**Collection Date:**	09/23/2024 13:16

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 1610	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1610	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1610	BDF
Surrogate: Dibromofluoromethane	73.0	Limit: 57-134	% Rec	1		09/28/24 0000	09/28/24 2329	BDF
Surrogate: Dibromofluoromethane	98.2	Limit: 75-136	% Rec	1			10/01/24 1610	BDF
Surrogate: 1,2-Dichloroethane-d4	73.8	Limit: 53-140	% Rec	1		09/28/24 0000	09/28/24 2329	BDF
Surrogate: 1,2-Dichloroethane-d4	101	Limit: 61-142	% Rec	1			10/01/24 1610	BDF
Surrogate: Toluene-d8	111	Limit: 86-114	% Rec	1		09/28/24 0000	09/28/24 2329	BDF
Surrogate: Toluene-d8	97.3	Limit: 82-121	% Rec	1			10/01/24 1610	BDF
Surrogate: 4-Bromofluorobenzene	84.1	Limit: 78-121	% Rec	1		09/28/24 0000	09/28/24 2329	BDF
Surrogate: 4-Bromofluorobenzene	95.5	Limit: 80-116	% Rec	1			10/01/24 1610	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		09/25/24 1607	09/26/24 2251	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		09/25/24 1607	09/26/24 2251	RVV
Barium, total	**0.238**	0.0040	mg/L	4		09/25/24 1607	09/26/24 2251	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1607	09/26/24 2251	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1607	09/26/24 2251	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1607	09/26/24 2251	RVV
Cobalt, total	**0.0013**	0.0004	mg/L	4		09/25/24 1607	09/26/24 2251	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1607	09/26/24 2251	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1607	09/26/24 2251	RVV
Nickel, total	**0.0292**	0.0040	mg/L	4		09/25/24 1607	09/26/24 2251	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1607	09/26/24 2251	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1607	09/26/24 2251	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1607	09/26/24 2251	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1607	09/26/24 2251	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		09/25/24 1607	09/26/24 2251	RVV

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	MW-61		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-22	**Collection Date:**	09/23/2024 14:44

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			10/01/24 1633	BDF
Vinyl Chloride	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
Bromomethane	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
Chloroethane	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
Trichlorofluoromethane	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
1,1-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
Acetone	<10.0	10.0	ug/L	1			10/01/24 1633	BDF
Methyl Iodide	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
Carbon Disulfide	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
Methylene Chloride	<5.0	5.0	ug/L	1			10/01/24 1633	BDF
Acrylonitrile	<5.0	5.0	ug/L	1	**Q8**	09/28/24 0000	09/28/24 2351	BDF
trans-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
1,1-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
Vinyl Acetate	<5.0	5.0	ug/L	1			10/01/24 1633	BDF
cis-1,2-Dichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
2-Butanone (MEK)	<10.0	10.0	ug/L	1			10/01/24 1633	BDF
Bromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
Chloroform	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
1,1,1-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
Carbon Tetrachloride	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
Benzene	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
1,2-Dichloroethane	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
Trichloroethylene	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
1,2-Dichloropropane	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
Dibromomethane	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
Bromodichloromethane	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
cis-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
4-Methyl-2-pentanone (MIBK)	<5.0	5.0	ug/L	1			10/01/24 1633	BDF
Toluene	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
trans-1,3-Dichloropropene	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
1,1,2-Trichloroethane	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
Tetrachloroethylene	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
2-Hexanone (MBK)	<5.0	5.0	ug/L	1			10/01/24 1633	BDF
Dibromochloromethane	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
1,2-Dibromoethane	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
Chlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
1,1,1,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
Ethylbenzene	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
Xylenes, total	<2.0	2.0	ug/L	1			10/01/24 1633	BDF
Styrene	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
Bromoform	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
1,2,3-Trichloropropane	<1.0	1.0	ug/L	1			10/01/24 1633	BDF

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	MW-61		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-22	**Collection Date:**	09/23/2024 14:44

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 1633	BDF
1,1,2,2-Tetrachloroethane	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
1,4-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
1,2-Dichlorobenzene	<1.0	1.0	ug/L	1			10/01/24 1633	BDF
1,2-Dibromo-3-chloropropane	<5.0	5.0	ug/L	1			10/01/24 1633	BDF
Surrogate: Dibromofluoromethane	79.8	Limit: 57-134	% Rec	1		09/28/24 0000	09/28/24 2351	BDF
Surrogate: Dibromofluoromethane	97.6	Limit: 75-136	% Rec	1			10/01/24 1633	BDF
Surrogate: 1,2-Dichloroethane-d4	101	Limit: 61-142	% Rec	1			10/01/24 1633	BDF
Surrogate: 1,2-Dichloroethane-d4	80.0	Limit: 53-140	% Rec	1		09/28/24 0000	09/28/24 2351	BDF
Surrogate: Toluene-d8	97.6	Limit: 82-121	% Rec	1			10/01/24 1633	BDF
Surrogate: Toluene-d8	97.6	Limit: 86-114	% Rec	1		09/28/24 0000	09/28/24 2351	BDF
Surrogate: 4-Bromofluorobenzene	86.2	Limit: 78-121	% Rec	1		09/28/24 0000	09/28/24 2351	BDF
Surrogate: 4-Bromofluorobenzene	95.6	Limit: 80-116	% Rec	1			10/01/24 1633	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		09/25/24 1607	09/26/24 2316	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		09/25/24 1607	09/26/24 2316	RVV
Barium, total	**0.0517**	0.0040	mg/L	4		09/25/24 1607	09/26/24 2316	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1607	09/26/24 2316	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1607	09/26/24 2316	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1607	09/26/24 2316	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		09/25/24 1607	09/26/24 2316	RVV
Copper, total	**0.0050**	0.0040	mg/L	4		09/25/24 1607	09/26/24 2316	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1607	09/26/24 2316	RVV
Nickel, total	**0.0056**	0.0040	mg/L	4		09/25/24 1607	09/26/24 2316	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1607	09/26/24 2316	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1607	09/26/24 2316	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1607	09/26/24 2316	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1607	09/26/24 2316	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		09/25/24 1607	09/26/24 2316	RVV

CERTIFICATE OF ANALYSIS

1HI1560

Client Sample ID:	Duplicate		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI1560-23	**Collection Date:**	09/23/2024

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		09/25/24 1607	09/26/24 2322	RVV
Arsenic, total	<0.0040	0.0040	mg/L	4		09/25/24 1607	09/26/24 2322	RVV
Barium, total	**0.0251**	0.0040	mg/L	4		09/25/24 1607	09/26/24 2322	RVV
Beryllium, total	<0.0040	0.0040	mg/L	4		09/25/24 1607	09/26/24 2322	RVV
Cadmium, total	<0.0008	0.0008	mg/L	4		09/25/24 1607	09/26/24 2322	RVV
Chromium, total	<0.0080	0.0080	mg/L	4		09/25/24 1607	09/26/24 2322	RVV
Cobalt, total	<0.0004	0.0004	mg/L	4		09/25/24 1607	09/26/24 2322	RVV
Copper, total	<0.0040	0.0040	mg/L	4		09/25/24 1607	09/26/24 2322	RVV
Lead, total	<0.0040	0.0040	mg/L	4		09/25/24 1607	09/26/24 2322	RVV
Nickel, total	<0.0040	0.0040	mg/L	4		09/25/24 1607	09/26/24 2322	RVV
Selenium, total	<0.0040	0.0040	mg/L	4		09/25/24 1607	09/26/24 2322	RVV
Silver, total	<0.0040	0.0040	mg/L	4		09/25/24 1607	09/26/24 2322	RVV
Thallium, total	<0.0020	0.0020	mg/L	4		09/25/24 1607	09/26/24 2322	RVV
Vanadium, total	<0.0200	0.0200	mg/L	4		09/25/24 1607	09/26/24 2322	RVV
Zinc, total	<0.0200	0.0200	mg/L	4		09/25/24 1607	09/26/24 2322	RVV

Batch Log Summary

Method	Batch	Laboratory ID	Client / Source ID
EPA 8260B	1HI1321	1HI1321-BS1	
		1HI1321-MS1	1HI1410-02
		1HI1321-MSD1	1HI1410-02
		1HI1321-BLK1	
		1HI1560-02	MW-57
		1HI1560-03	MW-56
		1HI1560-04	MW-64
		1HI1560-05	MW-65
		1HI1560-06	SW-101R
		1HI1560-08	SW-102
		1HI1560-09	SW-103
		1HI1560-10	MW-48 (B)

Method	Batch	Laboratory ID	Client / Source ID
EPA 6020A	1HI1400	1HI1400-BLK1	
		1HI1400-BS1	
		1HI1560-01	MW-44
		1HI1400-MS1	1HI1560-01
		1HI1400-MSD1	1HI1560-01
		1HI1400-PS1	1HI1560-01
		1HI1560-02	MW-57
		1HI1560-03	MW-56
		1HI1560-04	MW-64
		1HI1560-05	MW-65
		1HI1560-06	SW-101R
		1HI1560-08	SW-102
		1HI1560-09	SW-103
		1HI1560-10	MW-48 (B)
		1HI1560-11	MW-39 (B)
		1HI1560-12	MW-78 (B)
		1HI1560-13	MW-62R
		1HI1560-14	MW-79
		1HI1560-15	MW-80
		1HI1560-16	MW-36
		1HI1560-17	MW-41
		1HI1560-18	MW-42
		1HI1560-20	MW-59
		1HI1560-19	MW-58

Method	Batch	Laboratory ID	Client / Source ID

Method	Batch	Laboratory ID	Client / Source ID
EPA 6020A	1HI1402	1HI1402-BLK1	
		1HI1402-BS1	
		1HI1560-21	MW-60
		1HI1402-MS1	1HI1560-21
		1HI1402-MSD1	1HI1560-21
		1HI1402-PS1	1HI1560-21
		1HI1560-22	MW-61
		1HI1560-23	Duplicate

Method	Batch	Laboratory ID	Client / Source ID
EPA 8260B	1HI1578	1HI1578-BS1	
		1HI1578-BSD1	
		1HI1578-MS1	1HI1863-03
		1HI1578-MSD1	1HI1863-03
		1HI1578-BLK1	
		1HI1560-01	MW-44
		1HI1560-07	PECS-1
		1HI1560-11	MW-39 (B)
		1HI1560-12	MW-78 (B)
		1HI1560-13	MW-62R
		1HI1560-14	MW-79
		1HI1560-15	MW-80
		1HI1560-16	MW-36
		1HI1560-17	MW-41
		1HI1560-18	MW-42
		1HI1560-19	MW-58
		1HI1560-20	MW-59
		1HI1560-21	MW-60
		1HI1560-22	MW-61

Method	Batch	Laboratory ID	Client / Source ID
EPA 8260B	1HJ0018	1HJ0018-BS1	
		1HJ0018-BSD1	
		1HJ0018-BLK1	
		1HI1560-01	MW-44
		1HI1560-02	MW-57
		1HI1560-03	MW-56
		1HI1560-04	MW-64
		1HI1560-05	MW-65
		1HI1560-06	SW-101R
		1HI1560-07	PECS-1
		1HJ0018-MS1	1HI1410-21
		1HJ0018-MSD1	1HI1410-21

Method	Batch	Laboratory ID	Client / Source ID
EPA 8260B	1HJ0102	1HJ0102-BS1	
		1HJ0102-BLK1	
		1HI1560-08	SW-102
		1HI1560-09	SW-103
		1HI1560-10	MW-48 (B)
		1HI1560-11	MW-39 (B)
		1HI1560-12	MW-78 (B)
		1HI1560-13	MW-62R
		1HI1560-14	MW-79
		1HI1560-15	MW-80
		1HI1560-16	MW-36
		1HI1560-17	MW-41
		1HI1560-18	MW-42
		1HI1560-19	MW-58
		1HI1560-20	MW-59
		1HI1560-21	MW-60
		1HI1560-22	MW-61
		1HJ0102-MS1	1HI1560-20
		1HJ0102-MSD1	1HI1560-20

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 1HI1321 - EPA 5030B - EPA 8260B										
Blank (1HI1321-BLK1)			Prepared: 09/24/24 00:00 Analyzed: 09/24/24 16:25							
Acrylonitrile	<5.0	5.0	ug/L							
Surrogate: Dibromofluoromethane	*40.0*		ug/L	*50.2*		*79.6*	*57-134*			
Surrogate: 1,2-Dichloroethane-d4	*43.3*		ug/L	*50.4*		*86.0*	*53-140*			
Surrogate: Toluene-d8	*45.1*		ug/L	*50.5*		*89.3*	*86-114*			
Surrogate: 4-Bromofluorobenzene	*49.4*		ug/L	*50.2*		*98.6*	*78-121*			
LCS (1HI1321-BS1)			Prepared: 09/24/24 00:00 Analyzed: 09/24/24 10:02							
Acrylonitrile	56.79	5.0	ug/L	50.2		113	56-135			
Surrogate: Dibromofluoromethane	*35.2*		ug/L	*50.2*		*70.1*	*57-134*			
Surrogate: 1,2-Dichloroethane-d4	*39.8*		ug/L	*50.4*		*79.0*	*53-140*			
Surrogate: Toluene-d8	*46.4*		ug/L	*50.5*		*92.0*	*86-114*			
Surrogate: 4-Bromofluorobenzene	*47.2*		ug/L	*50.2*		*94.1*	*78-121*			
Matrix Spike (1HI1321-MS1)	**Source: 1HI1410-02**		Prepared: 09/24/24 00:00 Analyzed: 09/24/24 15:18							
Acrylonitrile	155.3	20.0	ug/L	201	ND	77.3	38-147			
Surrogate: Dibromofluoromethane	*162*		ug/L	*201*		*80.7*	*57-134*			
Surrogate: 1,2-Dichloroethane-d4	*181*		ug/L	*201*		*90.0*	*53-140*			
Surrogate: Toluene-d8	*187*		ug/L	*202*		*92.4*	*86-114*			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HI1321 - EPA 5030B - EPA 8260B										
Matrix Spike (1HI1321-MS1)	**Source: 1HI1410-02**	Prepared: 09/24/24 00:00 Analyzed: 09/24/24 15:18								
Surrogate: 4-Bromofluorobenzene	*193*		ug/L	*201*		*96.1*	*78-121*			
Matrix Spike Dup (1HI1321-MSD1)	**Source: 1HI1410-02**	Prepared: 09/24/24 00:00 Analyzed: 09/24/24 15:40								
Acrylonitrile	156.4	20.0	ug/L	201	ND	77.9	38-147	0.693	30	
Surrogate: Dibromofluoromethane	*163*		ug/L	*201*		*81.4*	*57-134*			
Surrogate: 1,2-Dichloroethane-d4	*183*		ug/L	*201*		*91.0*	*53-140*			
Surrogate: Toluene-d8	*215*		ug/L	*202*		*107*	*86-114*			
Surrogate: 4-Bromofluorobenzene	*191*		ug/L	*201*		*95.0*	*78-121*			
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*			
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*			

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 Dup (1HI1578-MSD1)	**Source: 1HI1863-03**	Prepared: 09/28/24 00:00 Analyzed: 09/28/24 17:53								
Surrogate: 4-Bromofluorobenzene	*197*		ug/L	*201*		*98.4*	*78-121*			
Batch 1HJ0018 - EPA 5030B - EPA 8260B										
Blank (1HJ0018-BLK1)		Prepared: 09/30/24 00:00 Analyzed: 09/30/24 17:45								
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							
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							

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0018 - EPA 5030B - EPA 8260B										
Blank (1HJ0018-BLK1)			Prepared: 09/30/24 00:00 Analyzed: 09/30/24 17:45							
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	*51.6*		ug/L	*50.2*		*103*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*54.0*		ug/L	*50.4*		*107*	*61-142*			
Surrogate: Toluene-d8	*50.8*		ug/L	*50.5*		*101*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*52.4*		ug/L	*50.2*		*104*	*80-116*			
LCS (1HJ0018-BS1)			Prepared: 09/30/24 00:00 Analyzed: 09/30/24 16:38							
Chloromethane	31.14	1.0	ug/L	30.0		104	63-155			
Vinyl Chloride	30.30	1.0	ug/L	30.0		101	70-154			
Bromomethane	29.07	1.0	ug/L	30.0		96.9	52-176			
Chloroethane	32.68	1.0	ug/L	30.0		109	72-148			
Trichlorofluoromethane	33.34	1.0	ug/L	30.0		111	70-152			
1,1-Dichloroethylene	100.7	1.0	ug/L	100		101	70-148			
Acetone	104.8	10.0	ug/L	101		104	43-172			
Methyl Iodide	104.7	1.0	ug/L	102		103	69-170			
Carbon Disulfide	99.47	1.0	ug/L	103		96.9	72-162			
Methylene Chloride	95.82	5.0	ug/L	100		95.8	68-142			
trans-1,2-Dichloroethylene	97.33	1.0	ug/L	100		97.3	66-148			
1,1-Dichloroethane	97.00	1.0	ug/L	100		97.0	66-143			
Vinyl Acetate	93.11	5.0	ug/L	100		93.1	43-153			
cis-1,2-Dichloroethylene	88.97	1.0	ug/L	100		89.0	71-149			
2-Butanone (MEK)	87.82	10.0	ug/L	102		86.3	52-159			
Bromochloromethane	94.56	1.0	ug/L	100		94.6	69-143			
Chloroform	98.08	1.0	ug/L	100		98.1	69-144			
1,1,1-Trichloroethane	94.56	1.0	ug/L	100		94.6	62-129			
Carbon Tetrachloride	97.05	1.0	ug/L	100		97.0	63-141			
Benzene	120.8	1.0	ug/L	100		121	71-134			
1,2-Dichloroethane	113.4	1.0	ug/L	100		113	72-132			
Trichloroethylene	98.86	1.0	ug/L	100		98.9	71-135			
1,2-Dichloropropane	92.86	1.0	ug/L	100		92.9	69-136			
Dibromomethane	97.00	1.0	ug/L	100		97.0	73-147			
Bromodichloromethane	97.17	1.0	ug/L	100		97.2	68-129			
cis-1,3-Dichloropropene	97.76	1.0	ug/L	100		97.8	65-134			
4-Methyl-2-pentanone (MIBK)	99.12	5.0	ug/L	100		99.0	58-147			
Toluene	98.44	1.0	ug/L	100		98.4	72-133			
trans-1,3-Dichloropropene	98.15	1.0	ug/L	100		98.2	67-130			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0018 - EPA 5030B - EPA 8260B										
LCS (1HJ0018-BS1)				Prepared: 09/30/24 00:00 Analyzed: 09/30/24 16:38						
1,1,2-Trichloroethane	95.28	1.0	ug/L	100		95.3	69-135			
Tetrachloroethylene	97.22	1.0	ug/L	100		97.2	69-130			
2-Hexanone (MBK)	87.46	5.0	ug/L	99.3		88.1	55-144			
Dibromochloromethane	88.09	1.0	ug/L	100		88.1	73-127			
1,2-Dibromoethane	84.48	1.0	ug/L	100		84.5	67-132			
Chlorobenzene	97.88	1.0	ug/L	100		97.9	72-123			
1,1,1,2-Tetrachloroethane	93.32	1.0	ug/L	100		93.3	73-127			
Ethylbenzene	94.83	1.0	ug/L	100		94.8	71-127			
Xylenes, total	270.3	2.0	ug/L	300		90.1	74-127			
Styrene	89.04	1.0	ug/L	100		89.0	66-126			
Bromoform	82.68	1.0	ug/L	100		82.7	68-130			
1,2,3-Trichloropropane	84.95	1.0	ug/L	100		85.0	63-136			
trans-1,4-Dichloro-2-butene	78.91	5.0	ug/L	103		76.8	54-134			
1,1,2,2-Tetrachloroethane	97.46	1.0	ug/L	100		97.5	61-131			
1,4-Dichlorobenzene	98.22	1.0	ug/L	100		98.2	70-129			
1,2-Dichlorobenzene	95.87	1.0	ug/L	100		95.9	69-126			
1,2-Dibromo-3-chloropropane	84.51	5.0	ug/L	100		84.5	50-143			
Surrogate: Dibromofluoromethane	*51.5*		ug/L	*50.2*		*103*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*50.1*		ug/L	*50.4*		*99.5*	*61-142*			
Surrogate: Toluene-d8	*52.2*		ug/L	*50.5*		*103*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*44.8*		ug/L	*50.2*		*89.3*	*80-116*			
LCS Dup (1HJ0018-BSD1)				Prepared: 09/30/24 00:00 Analyzed: 09/30/24 17:00						
Chloromethane	31.31	1.0	ug/L	30.0		104	63-155	0.544	24	
Vinyl Chloride	31.10	1.0	ug/L	30.0		104	70-154	2.61	25	
Bromomethane	30.40	1.0	ug/L	30.0		101	52-176	4.47	27	
Chloroethane	40.15	1.0	ug/L	30.0		134	72-148	20.5	25	
Trichlorofluoromethane	37.15	1.0	ug/L	30.0		124	70-152	10.8	26	
1,1-Dichloroethylene	120.2	1.0	ug/L	100		120	70-148	17.7	24	
Acetone	128.6	10.0	ug/L	101		127	43-172	20.3	30	
Methyl Iodide	112.8	1.0	ug/L	102		111	69-170	7.41	30	
Carbon Disulfide	103.8	1.0	ug/L	103		101	72-162	4.28	24	
Methylene Chloride	103.5	5.0	ug/L	100		103	68-142	7.70	21	
trans-1,2-Dichloroethylene	105.0	1.0	ug/L	100		105	66-148	7.58	27	
1,1-Dichloroethane	105.0	1.0	ug/L	100		105	66-143	7.92	24	
Vinyl Acetate	109.3	5.0	ug/L	100		109	43-153	16.0	30	
cis-1,2-Dichloroethylene	99.91	1.0	ug/L	100		99.9	71-149	11.6	26	
2-Butanone (MEK)	113.5	10.0	ug/L	102		112	52-159	25.5	27	
Bromochloromethane	104.8	1.0	ug/L	100		105	69-143	10.3	23	
Chloroform	101.3	1.0	ug/L	100		101	69-144	3.21	23	
1,1,1-Trichloroethane	96.43	1.0	ug/L	100		96.4	62-129	1.96	24	
Carbon Tetrachloride	102.6	1.0	ug/L	100		103	63-141	5.57	25	
Benzene	104.4	1.0	ug/L	100		104	71-134	14.5	24	

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0018 - EPA 5030B - EPA 8260B										
LCS Dup (1HJ0018-BSD1)				Prepared: 09/30/24 00:00 Analyzed: 09/30/24 17:00						
1,2-Dichloroethane	108.5	1.0	ug/L	100		108	72-132	4.41	24	
Trichloroethylene	100.6	1.0	ug/L	100		101	71-135	1.73	24	
1,2-Dichloropropane	96.26	1.0	ug/L	100		96.3	69-136	3.60	24	
Dibromomethane	103.2	1.0	ug/L	100		103	73-147	6.23	25	
Bromodichloromethane	99.84	1.0	ug/L	100		99.8	68-129	2.71	22	
cis-1,3-Dichloropropene	100.5	1.0	ug/L	100		100	65-134	2.74	23	
4-Methyl-2-pentanone (MIBK)	130.8	5.0	ug/L	100		131	58-147	27.5	27	R1
Toluene	110.9	1.0	ug/L	100		111	72-133	11.9	24	
trans-1,3-Dichloropropene	103.2	1.0	ug/L	100		103	67-130	5.05	24	
1,1,2-Trichloroethane	101.6	1.0	ug/L	100		102	69-135	6.41	23	
Tetrachloroethylene	104.3	1.0	ug/L	100		104	69-130	7.03	25	
2-Hexanone (MBK)	116.6	5.0	ug/L	99.3		117	55-144	28.5	25	R1
Dibromochloromethane	101.6	1.0	ug/L	100		102	73-127	14.2	22	
1,2-Dibromoethane	99.26	1.0	ug/L	100		99.3	67-132	16.1	24	
Chlorobenzene	100.4	1.0	ug/L	100		100	72-123	2.53	23	
1,1,1,2-Tetrachloroethane	99.92	1.0	ug/L	100		99.9	73-127	6.83	24	
Ethylbenzene	98.36	1.0	ug/L	100		98.4	71-127	3.65	26	
Xylenes, total	306.3	2.0	ug/L	300		102	74-127	12.5	25	
Styrene	100.8	1.0	ug/L	100		101	66-126	12.4	23	
Bromoform	100.6	1.0	ug/L	100		101	68-130	19.6	23	
1,2,3-Trichloropropane	115.0	1.0	ug/L	100		115	63-136	30.0	24	R1
trans-1,4-Dichloro-2-butene	107.0	5.0	ug/L	103		104	54-134	30.2	27	R1
1,1,2,2-Tetrachloroethane	131.2	1.0	ug/L	100		131	61-131	29.5	29	R1
1,4-Dichlorobenzene	100.3	1.0	ug/L	100		100	70-129	2.14	24	
1,2-Dichlorobenzene	100.2	1.0	ug/L	100		100	69-126	4.46	26	
1,2-Dibromo-3-chloropropane	101.2	5.0	ug/L	100		101	50-143	18.0	30	
Surrogate: Dibromofluoromethane	*51.2*		ug/L	*50.2*		*102*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*52.6*		ug/L	*50.4*		*104*	*61-142*			
Surrogate: Toluene-d8	*58.3*		ug/L	*50.5*		*116*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*49.5*		ug/L	*50.2*		*98.7*	*80-116*			
Matrix Spike (1HJ0018-MS1)	**Source: 1HI1410-21**			Prepared: 09/30/24 00:00 Analyzed: 10/01/24 02:24						
Chloromethane	318.8	10.0	ug/L	300	ND	106	61-152			
Vinyl Chloride	313.8	10.0	ug/L	300	ND	105	66-149			
Bromomethane	198.7	10.0	ug/L	300	ND	66.2	43-171			
Chloroethane	331.9	10.0	ug/L	300	ND	111	69-148			
Trichlorofluoromethane	326.2	10.0	ug/L	300	ND	109	62-163			
1,1-Dichloroethylene	1029	10.0	ug/L	1000	ND	103	70-148			
Acetone	1163	100	ug/L	1010	ND	115	45-173			
Methyl Iodide	851.3	10.0	ug/L	1020	ND	83.6	62-167			
Carbon Disulfide	1019	10.0	ug/L	1030	ND	99.2	71-163			
Methylene Chloride	986.3	50.0	ug/L	1000	ND	98.6	69-140			
trans-1,2-Dichloroethylene	1015	10.0	ug/L	1000	ND	101	69-144			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0018 - EPA 5030B - EPA 8260B										
Matrix Spike (1HJ0018-MS1)	**Source: 1HI1410-21**	Prepared: 09/30/24 00:00 Analyzed: 10/01/24 02:24								
1,1-Dichloroethane	1010	10.0	ug/L	1000	ND	101	70-138			
Vinyl Acetate	1010	50.0	ug/L	1000	ND	101	58-142			
cis-1,2-Dichloroethylene	915.9	10.0	ug/L	1000	ND	91.6	68-151			
2-Butanone (MEK)	1056	100	ug/L	1020	ND	104	50-160			
Bromochloromethane	1126	10.0	ug/L	1000	ND	113	65-143			
Chloroform	1041	10.0	ug/L	1000	ND	104	71-143			
1,1,1-Trichloroethane	977.6	10.0	ug/L	1000	ND	97.8	63-133			
Carbon Tetrachloride	1022	10.0	ug/L	1000	ND	102	63-142			
Benzene	1221	10.0	ug/L	1000	ND	122	69-133			
1,2-Dichloroethane	1191	10.0	ug/L	1000	ND	119	63-138			
Trichloroethylene	1024	10.0	ug/L	1000	ND	102	71-133			
1,2-Dichloropropane	982.3	10.0	ug/L	1000	ND	98.2	69-132			
Dibromomethane	1044	10.0	ug/L	1000	ND	104	70-147			
Bromodichloromethane	1007	10.0	ug/L	1000	ND	101	67-130			
cis-1,3-Dichloropropene	990.2	10.0	ug/L	1000	ND	99.0	61-126			
4-Methyl-2-pentanone (MIBK)	1185	50.0	ug/L	1000	ND	118	55-147			
Toluene	1041	10.0	ug/L	1000	ND	104	71-133			
trans-1,3-Dichloropropene	1008	10.0	ug/L	1000	ND	101	63-124			
1,1,2-Trichloroethane	1158	10.0	ug/L	1000	ND	116	69-133			
Tetrachloroethylene	1139	10.0	ug/L	1000	ND	114	70-124			
2-Hexanone (MBK)	1259	50.0	ug/L	993	ND	127	53-141			
Dibromochloromethane	1094	10.0	ug/L	1000	ND	109	74-122			
1,2-Dibromoethane	1088	10.0	ug/L	1000	ND	109	66-127			
Chlorobenzene	1006	10.0	ug/L	1000	ND	101	76-116			
1,1,1,2-Tetrachloroethane	984.3	10.0	ug/L	1000	ND	98.4	77-121			
Ethylbenzene	995.7	10.0	ug/L	1000	ND	99.6	73-124			
Xylenes, total	3082	20.0	ug/L	3000	ND	103	75-123			
Styrene	1007	10.0	ug/L	1000	ND	101	70-120			
Bromoform	971.3	10.0	ug/L	1000	ND	97.1	70-124			
1,2,3-Trichloropropane	1078	10.0	ug/L	1000	ND	108	62-135			
trans-1,4-Dichloro-2-butene	921.3	50.0	ug/L	1030	ND	89.6	50-120			
1,1,2,2-Tetrachloroethane	1269	10.0	ug/L	1000	ND	127	63-126			M1
1,4-Dichlorobenzene	987.9	10.0	ug/L	1000	ND	98.8	72-119			
1,2-Dichlorobenzene	992.1	10.0	ug/L	1000	ND	99.2	71-117			
1,2-Dibromo-3-chloropropane	1009	50.0	ug/L	1000	ND	101	49-134			
Surrogate: Dibromofluoromethane	*519*		ug/L	*502*		*103*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*520*		ug/L	*504*		*103*	*61-142*			
Surrogate: Toluene-d8	*534*		ug/L	*505*		*106*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*500*		ug/L	*502*		*99.7*	*80-116*			
Matrix Spike Dup (1HJ0018-MSD1)	**Source: 1HI1410-21**	Prepared: 09/30/24 00:00 Analyzed: 10/01/24 02:46								
Chloromethane	309.0	10.0	ug/L	300	ND	103	61-152	3.12	26	
Vinyl Chloride	301.7	10.0	ug/L	300	ND	101	66-149	3.93	23	

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0018 - EPA 5030B - EPA 8260B										
Matrix Spike Dup (1HJ0018-MSD1)	**Source: 1HI1410-21**	Prepared: 09/30/24 00:00 Analyzed: 10/01/24 02:46								
Bromomethane	223.3	10.0	ug/L	300	ND	74.4	43-171	11.7	29	
Chloroethane	336.2	10.0	ug/L	300	ND	112	69-148	1.29	25	
Trichlorofluoromethane	325.8	10.0	ug/L	300	ND	109	62-163	0.123	25	
1,1-Dichloroethylene	1040	10.0	ug/L	1000	ND	104	70-148	1.10	22	
Acetone	1199	100	ug/L	1010	ND	118	45-173	3.07	30	
Methyl Iodide	1014	10.0	ug/L	1020	ND	99.5	62-167	17.4	24	
Carbon Disulfide	1025	10.0	ug/L	1030	ND	99.8	71-163	0.626	22	
Methylene Chloride	1014	50.0	ug/L	1000	ND	101	69-140	2.80	19	
trans-1,2-Dichloroethylene	1043	10.0	ug/L	1000	ND	104	69-144	2.72	22	
1,1-Dichloroethane	1046	10.0	ug/L	1000	ND	105	70-138	3.43	20	
Vinyl Acetate	1066	50.0	ug/L	1000	ND	107	58-142	5.34	24	
cis-1,2-Dichloroethylene	942.6	10.0	ug/L	1000	ND	94.3	68-151	2.87	22	
2-Butanone (MEK)	1087	100	ug/L	1020	ND	107	50-160	2.86	23	
Bromochloromethane	1056	10.0	ug/L	1000	ND	106	65-143	6.34	22	
Chloroform	981.8	10.0	ug/L	1000	ND	98.2	71-143	5.89	21	
1,1,1-Trichloroethane	940.0	10.0	ug/L	1000	ND	94.0	63-133	3.92	23	
Carbon Tetrachloride	993.9	10.0	ug/L	1000	ND	99.4	63-142	2.81	22	
Benzene	949.0	10.0	ug/L	1000	ND	94.9	69-133	25.1	18	R1
1,2-Dichloroethane	961.1	10.0	ug/L	1000	ND	96.1	63-138	21.4	20	R1
Trichloroethylene	987.5	10.0	ug/L	1000	ND	98.8	71-133	3.58	23	
1,2-Dichloropropane	974.7	10.0	ug/L	1000	ND	97.5	69-132	0.777	20	
Dibromomethane	990.5	10.0	ug/L	1000	ND	99.0	70-147	5.22	22	
Bromodichloromethane	972.9	10.0	ug/L	1000	ND	97.3	67-130	3.41	21	
cis-1,3-Dichloropropene	966.8	10.0	ug/L	1000	ND	96.7	61-126	2.39	21	
4-Methyl-2-pentanone (MIBK)	1052	50.0	ug/L	1000	ND	105	55-147	11.9	23	
Toluene	901.9	10.0	ug/L	1000	ND	90.2	71-133	14.3	19	
trans-1,3-Dichloropropene	883.7	10.0	ug/L	1000	ND	88.4	63-124	13.1	21	
1,1,2-Trichloroethane	906.7	10.0	ug/L	1000	ND	90.7	69-133	24.3	19	R1
Tetrachloroethylene	993.6	10.0	ug/L	1000	ND	99.4	70-124	13.6	24	
2-Hexanone (MBK)	1101	50.0	ug/L	993	ND	111	53-141	13.4	24	
Dibromochloromethane	984.9	10.0	ug/L	1000	ND	98.5	74-122	10.5	21	
1,2-Dibromoethane	970.3	10.0	ug/L	1000	ND	97.0	66-127	11.4	23	
Chlorobenzene	976.6	10.0	ug/L	1000	ND	97.7	76-116	3.01	21	
1,1,1,2-Tetrachloroethane	965.4	10.0	ug/L	1000	ND	96.5	77-121	1.94	25	
Ethylbenzene	966.7	10.0	ug/L	1000	ND	96.7	73-124	2.96	20	
Xylenes, total	3000	20.0	ug/L	3000	ND	100	75-123	2.69	20	
Styrene	989.1	10.0	ug/L	1000	ND	98.9	70-120	1.81	23	
Bromoform	953.8	10.0	ug/L	1000	ND	95.4	70-124	1.82	22	
1,2,3-Trichloropropane	1134	10.0	ug/L	1000	ND	113	62-135	5.09	28	
trans-1,4-Dichloro-2-butene	967.5	50.0	ug/L	1030	ND	94.1	50-120	4.89	26	
1,1,2,2-Tetrachloroethane	1276	10.0	ug/L	1000	ND	128	63-126	0.558	24	M1
1,4-Dichlorobenzene	954.1	10.0	ug/L	1000	ND	95.4	72-119	3.48	24	
1,2-Dichlorobenzene	949.6	10.0	ug/L	1000	ND	95.0	71-117	4.38	24	

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0018 - EPA 5030B - EPA 8260B										
Matrix Spike Dup (1HJ0018-MSD1)	**Source: 1HI1410-21**		Prepared: 09/30/24 00:00 Analyzed: 10/01/24 02:46							
1,2-Dibromo-3-chloropropane	960.2	50.0	ug/L	1000	ND	96.0	49-134	5.00	28	
Surrogate: Dibromofluoromethane	*512*		ug/L	*502*		*102*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*530*		ug/L	*504*		*105*	*61-142*			
Surrogate: Toluene-d8	*482*		ug/L	*505*		*95.5*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*544*		ug/L	*502*		*109*	*80-116*			
Batch 1HJ0102 - EPA 5030B - EPA 8260B										
Blank (1HJ0102-BLK1)			Prepared & Analyzed: 10/01/24 09:41							
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							
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							

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0102 - EPA 5030B - EPA 8260B										
Blank (1HJ0102-BLK1)			Prepared & Analyzed: 10/01/24 09:41							
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	*50.9*		ug/L	*50.2*		*101*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*51.9*		ug/L	*50.4*		*103*	*61-142*			
Surrogate: Toluene-d8	*49.6*		ug/L	*50.5*		*98.3*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*48.5*		ug/L	*50.2*		*96.7*	*80-116*			
LCS (1HJ0102-BS1)			Prepared & Analyzed: 10/01/24 08:33							
Chloromethane	33.99	1.0	ug/L	30.0		113	63-155			
Vinyl Chloride	30.90	1.0	ug/L	30.0		103	70-154			
Bromomethane	32.78	1.0	ug/L	30.0		109	52-176			
Chloroethane	33.10	1.0	ug/L	30.0		110	72-148			
Trichlorofluoromethane	33.49	1.0	ug/L	30.0		112	70-152			
1,1-Dichloroethylene	97.35	1.0	ug/L	100		97.4	70-148			
Acetone	114.0	10.0	ug/L	101		113	43-172			
Methyl Iodide	106.2	1.0	ug/L	102		104	69-170			
Carbon Disulfide	100.6	1.0	ug/L	103		98.0	72-162			
Methylene Chloride	97.96	5.0	ug/L	100		98.0	68-142			
trans-1,2-Dichloroethylene	96.98	1.0	ug/L	100		97.0	66-148			
1,1-Dichloroethane	94.79	1.0	ug/L	100		94.8	66-143			
Vinyl Acetate	98.53	5.0	ug/L	100		98.5	43-153			
cis-1,2-Dichloroethylene	87.27	1.0	ug/L	100		87.3	71-149			
2-Butanone (MEK)	100.6	10.0	ug/L	102		98.8	52-159			
Bromochloromethane	101.9	1.0	ug/L	100		102	69-143			
Chloroform	98.92	1.0	ug/L	100		98.9	69-144			
1,1,1-Trichloroethane	93.49	1.0	ug/L	100		93.5	62-129			
Carbon Tetrachloride	110.9	1.0	ug/L	100		111	63-141			
Benzene	100.2	1.0	ug/L	100		100	71-134			
1,2-Dichloroethane	100.8	1.0	ug/L	100		101	72-132			
Trichloroethylene	93.41	1.0	ug/L	100		93.4	71-135			
1,2-Dichloropropane	93.65	1.0	ug/L	100		93.6	69-136			
Dibromomethane	93.63	1.0	ug/L	100		93.6	73-147			
Bromodichloromethane	92.85	1.0	ug/L	100		92.8	68-129			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0102 - EPA 5030B - EPA 8260B										
LCS (1HJ0102-BS1)			Prepared & Analyzed: 10/01/24 08:33							
cis-1,3-Dichloropropene	93.91	1.0	ug/L	100		93.9	65-134			
4-Methyl-2-pentanone (MIBK)	92.85	5.0	ug/L	100		92.8	58-147			
Toluene	99.04	1.0	ug/L	100		99.0	72-133			
trans-1,3-Dichloropropene	97.30	1.0	ug/L	100		97.3	67-130			
1,1,2-Trichloroethane	97.85	1.0	ug/L	100		97.8	69-135			
Tetrachloroethylene	93.00	1.0	ug/L	100		93.0	69-130			
2-Hexanone (MBK)	93.06	5.0	ug/L	99.3		93.7	55-144			
Dibromochloromethane	96.90	1.0	ug/L	100		96.9	73-127			
1,2-Dibromoethane	92.03	1.0	ug/L	100		92.0	67-132			
Chlorobenzene	97.20	1.0	ug/L	100		97.2	72-123			
1,1,1,2-Tetrachloroethane	95.66	1.0	ug/L	100		95.7	73-127			
Ethylbenzene	93.58	1.0	ug/L	100		93.6	71-127			
Xylenes, total	281.7	2.0	ug/L	300		93.9	74-127			
Styrene	96.36	1.0	ug/L	100		96.4	66-126			
Bromoform	92.77	1.0	ug/L	100		92.8	68-130			
1,2,3-Trichloropropane	90.51	1.0	ug/L	100		90.5	63-136			
trans-1,4-Dichloro-2-butene	83.35	5.0	ug/L	103		81.1	54-134			
1,1,2,2-Tetrachloroethane	90.34	1.0	ug/L	100		90.3	61-131			
1,4-Dichlorobenzene	96.35	1.0	ug/L	100		96.4	70-129			
1,2-Dichlorobenzene	99.15	1.0	ug/L	100		99.2	69-126			
1,2-Dibromo-3-chloropropane	95.13	5.0	ug/L	100		95.1	50-143			
Surrogate: Dibromofluoromethane	*50.9*		ug/L	*50.2*		*101*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*51.3*		ug/L	*50.4*		*102*	*61-142*			
Surrogate: Toluene-d8	*50.5*		ug/L	*50.5*		*100*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*50.5*		ug/L	*50.2*		*101*	*80-116*			
Matrix Spike (1HJ0102-MS1)	**Source: 1HI1560-20**		Prepared & Analyzed: 10/01/24 18:49							
Chloromethane	317.6	10.0	ug/L	300	ND	106	61-152			
Vinyl Chloride	286.7	10.0	ug/L	300	ND	95.6	66-149			
Bromomethane	299.7	10.0	ug/L	300	ND	99.9	43-171			
Chloroethane	307.4	10.0	ug/L	300	ND	102	69-148			
Trichlorofluoromethane	309.3	10.0	ug/L	300	ND	103	62-163			
1,1-Dichloroethylene	908.1	10.0	ug/L	1000	ND	90.8	70-148			
Acetone	966.5	100	ug/L	1010	ND	95.5	45-173			
Methyl Iodide	918.0	10.0	ug/L	1020	ND	90.1	62-167			
Carbon Disulfide	915.7	10.0	ug/L	1030	ND	89.2	71-163			
Methylene Chloride	905.6	50.0	ug/L	1000	ND	90.6	69-140			
trans-1,2-Dichloroethylene	895.3	10.0	ug/L	1000	ND	89.5	69-144			
1,1-Dichloroethane	875.6	10.0	ug/L	1000	ND	87.6	70-138			
Vinyl Acetate	898.2	50.0	ug/L	1000	ND	89.8	58-142			
cis-1,2-Dichloroethylene	801.9	10.0	ug/L	1000	ND	80.2	68-151			
2-Butanone (MEK)	923.1	100	ug/L	1020	ND	90.7	50-160			
Bromochloromethane	956.3	10.0	ug/L	1000	ND	95.6	65-143			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0102 - EPA 5030B - EPA 8260B										
Matrix Spike (1HJ0102-MS1)	**Source: 1HI1560-20**	Prepared & Analyzed: 10/01/24 18:49								
Chloroform	912.7	10.0	ug/L	1000	ND	91.3	71-143			
1,1,1-Trichloroethane	865.5	10.0	ug/L	1000	ND	86.6	63-133			
Carbon Tetrachloride	1016	10.0	ug/L	1000	ND	102	63-142			
Benzene	960.4	10.0	ug/L	1000	ND	96.0	69-133			
1,2-Dichloroethane	976.5	10.0	ug/L	1000	ND	97.6	63-138			
Trichloroethylene	890.0	10.0	ug/L	1000	ND	89.0	71-133			
1,2-Dichloropropane	891.9	10.0	ug/L	1000	ND	89.2	69-132			
Dibromomethane	915.9	10.0	ug/L	1000	ND	91.6	70-147			
Bromodichloromethane	887.0	10.0	ug/L	1000	ND	88.7	67-130			
cis-1,3-Dichloropropene	885.0	10.0	ug/L	1000	ND	88.5	61-126			
4-Methyl-2-pentanone (MIBK)	905.3	50.0	ug/L	1000	ND	90.4	55-147			
Toluene	953.5	10.0	ug/L	1000	ND	95.4	71-133			
trans-1,3-Dichloropropene	930.5	10.0	ug/L	1000	ND	93.0	63-124			
1,1,2-Trichloroethane	945.1	10.0	ug/L	1000	ND	94.5	69-133			
Tetrachloroethylene	923.3	10.0	ug/L	1000	ND	92.3	70-124			
2-Hexanone (MBK)	915.3	50.0	ug/L	993	ND	92.2	53-141			
Dibromochloromethane	949.9	10.0	ug/L	1000	ND	95.0	74-122			
1,2-Dibromoethane	910.3	10.0	ug/L	1000	ND	91.0	66-127			
Chlorobenzene	961.7	10.0	ug/L	1000	ND	96.2	76-116			
1,1,1,2-Tetrachloroethane	937.7	10.0	ug/L	1000	ND	93.8	77-121			
Ethylbenzene	927.7	10.0	ug/L	1000	ND	92.8	73-124			
Xylenes, total	2792	20.0	ug/L	3000	ND	93.1	75-123			
Styrene	954.1	10.0	ug/L	1000	ND	95.4	70-120			
Bromoform	916.9	10.0	ug/L	1000	ND	91.7	70-124			
1,2,3-Trichloropropane	913.2	10.0	ug/L	1000	ND	91.3	62-135			
trans-1,4-Dichloro-2-butene	838.0	50.0	ug/L	1030	ND	81.5	50-120			
1,1,2,2-Tetrachloroethane	904.0	10.0	ug/L	1000	ND	90.4	63-126			
1,4-Dichlorobenzene	954.5	10.0	ug/L	1000	ND	95.4	72-119			
1,2-Dichlorobenzene	985.2	10.0	ug/L	1000	ND	98.5	71-117			
1,2-Dibromo-3-chloropropane	960.8	50.0	ug/L	1000	ND	96.1	49-134			
Surrogate: Dibromofluoromethane	*484*		ug/L	*502*		*96.5*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*498*		ug/L	*504*		*98.8*	*61-142*			
Surrogate: Toluene-d8	*500*		ug/L	*505*		*99.2*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*503*		ug/L	*502*		*100*	*80-116*			
Matrix Spike Dup (1HJ0102-MSD1)	**Source: 1HI1560-20**	Prepared & Analyzed: 10/01/24 19:11								
Chloromethane	311.7	10.0	ug/L	300	ND	104	61-152	1.88	26	
Vinyl Chloride	274.2	10.0	ug/L	300	ND	91.4	66-149	4.46	23	
Bromomethane	288.5	10.0	ug/L	300	ND	96.2	43-171	3.81	29	
Chloroethane	297.0	10.0	ug/L	300	ND	99.0	69-148	3.44	25	
Trichlorofluoromethane	299.9	10.0	ug/L	300	ND	100	62-163	3.09	25	
1,1-Dichloroethylene	868.9	10.0	ug/L	1000	ND	86.9	70-148	4.41	22	
Acetone	923.0	100	ug/L	1010	ND	91.2	45-173	4.60	30	

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HJ0102 - EPA 5030B - EPA 8260B										
Matrix Spike Dup (1HJ0102-MSD1)	**Source: 1HI1560-20**	Prepared & Analyzed: 10/01/24 19:11								
Methyl Iodide	921.4	10.0	ug/L	1020	ND	90.4	62-167	0.370	24	
Carbon Disulfide	882.0	10.0	ug/L	1030	ND	85.9	71-163	3.75	22	
Methylene Chloride	882.1	50.0	ug/L	1000	ND	88.2	69-140	2.63	19	
trans-1,2-Dichloroethylene	858.2	10.0	ug/L	1000	ND	85.8	69-144	4.23	22	
1,1-Dichloroethane	846.0	10.0	ug/L	1000	ND	84.6	70-138	3.44	20	
Vinyl Acetate	902.3	50.0	ug/L	1000	ND	90.2	58-142	0.455	24	
cis-1,2-Dichloroethylene	775.2	10.0	ug/L	1000	ND	77.5	68-151	3.39	22	
2-Butanone (MEK)	874.0	100	ug/L	1020	ND	85.9	50-160	5.46	23	
Bromochloromethane	926.6	10.0	ug/L	1000	ND	92.7	65-143	3.15	22	
Chloroform	884.4	10.0	ug/L	1000	ND	88.4	71-143	3.15	21	
1,1,1-Trichloroethane	837.4	10.0	ug/L	1000	ND	83.7	63-133	3.30	23	
Carbon Tetrachloride	1008	10.0	ug/L	1000	ND	101	63-142	0.830	22	
Benzene	937.5	10.0	ug/L	1000	ND	93.8	69-133	2.41	18	
1,2-Dichloroethane	957.3	10.0	ug/L	1000	ND	95.7	63-138	1.99	20	
Trichloroethylene	868.7	10.0	ug/L	1000	ND	86.9	71-133	2.42	23	
1,2-Dichloropropane	880.3	10.0	ug/L	1000	ND	88.0	69-132	1.31	20	
Dibromomethane	902.8	10.0	ug/L	1000	ND	90.3	70-147	1.44	22	
Bromodichloromethane	878.4	10.0	ug/L	1000	ND	87.8	67-130	0.974	21	
cis-1,3-Dichloropropene	881.9	10.0	ug/L	1000	ND	88.2	61-126	0.351	21	
4-Methyl-2-pentanone (MIBK)	901.6	50.0	ug/L	1000	ND	90.1	55-147	0.410	23	
Toluene	926.7	10.0	ug/L	1000	ND	92.7	71-133	2.85	19	
trans-1,3-Dichloropropene	919.7	10.0	ug/L	1000	ND	92.0	63-124	1.17	21	
1,1,2-Trichloroethane	928.7	10.0	ug/L	1000	ND	92.9	69-133	1.75	19	
Tetrachloroethylene	890.7	10.0	ug/L	1000	ND	89.1	70-124	3.59	24	
2-Hexanone (MBK)	921.3	50.0	ug/L	993	ND	92.8	53-141	0.653	24	
Dibromochloromethane	945.6	10.0	ug/L	1000	ND	94.6	74-122	0.454	21	
1,2-Dibromoethane	901.2	10.0	ug/L	1000	ND	90.1	66-127	1.00	23	
Chlorobenzene	940.4	10.0	ug/L	1000	ND	94.0	76-116	2.24	21	
1,1,1,2-Tetrachloroethane	937.0	10.0	ug/L	1000	ND	93.7	77-121	0.0747	25	
Ethylbenzene	908.0	10.0	ug/L	1000	ND	90.8	73-124	2.15	20	
Xylenes, total	2722	20.0	ug/L	3000	ND	90.7	75-123	2.54	20	
Styrene	934.6	10.0	ug/L	1000	ND	93.5	70-120	2.06	23	
Bromoform	930.9	10.0	ug/L	1000	ND	93.1	70-124	1.52	22	
1,2,3-Trichloropropane	904.1	10.0	ug/L	1000	ND	90.4	62-135	1.00	28	
trans-1,4-Dichloro-2-butene	835.1	50.0	ug/L	1030	ND	81.2	50-120	0.347	26	
1,1,2,2-Tetrachloroethane	899.6	10.0	ug/L	1000	ND	90.0	63-126	0.488	24	
1,4-Dichlorobenzene	941.2	10.0	ug/L	1000	ND	94.1	72-119	1.40	24	
1,2-Dichlorobenzene	974.5	10.0	ug/L	1000	ND	97.4	71-117	1.09	24	
1,2-Dibromo-3-chloropropane	966.5	50.0	ug/L	1000	ND	96.6	49-134	0.592	28	
Surrogate: Dibromofluoromethane	*484*		ug/L	*502*		*96.5*	*75-136*			
Surrogate: 1,2-Dichloroethane-d4	*490*		ug/L	*504*		*97.3*	*61-142*			
Surrogate: Toluene-d8	*502*		ug/L	*505*		*99.4*	*82-121*			
Surrogate: 4-Bromofluorobenzene	*506*		ug/L	*502*		*101*	*80-116*			

Determination of Volatile Organic Compounds	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HI1400 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Blank (1HI1400-BLK1)			Prepared: 09/25/24 16:04 Analyzed: 09/26/24 19:29							
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							B1
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 (1HI1400-BS1)			Prepared: 09/25/24 16:04 Analyzed: 09/26/24 19:35							
Antimony, total	0.0962	0.0020	mg/L	0.100		96.2	80-120			
Arsenic, total	0.0961	0.0040	mg/L	0.100		96.1	80-120			
Barium, total	0.103	0.0040	mg/L	0.100		103	80-120			
Beryllium, total	0.101	0.0040	mg/L	0.100		101	80-120			
Cadmium, total	0.0987	0.0008	mg/L	0.100		98.7	80-120			
Chromium, total	0.102	0.0080	mg/L	0.100		102	80-120			
Cobalt, total	0.104	0.0004	mg/L	0.100		104	80-120			
Copper, total	0.104	0.0040	mg/L	0.100		104	80-120			
Lead, total	0.101	0.0040	mg/L	0.100		101	80-120			
Nickel, total	0.107	0.0040	mg/L	0.100		107	80-120			
Selenium, total	0.0902	0.0040	mg/L	0.100		90.2	80-120			
Silver, total	0.101	0.0040	mg/L	0.100		101	80-120			
Thallium, total	0.103	0.0020	mg/L	0.100		103	80-120			
Vanadium, total	0.103	0.0200	mg/L	0.100		103	80-120			
Zinc, total	0.0972	0.0200	mg/L	0.100		97.2	80-120			
Matrix Spike (1HI1400-MS1)	**Source: 1HI1560-01**		Prepared: 09/25/24 16:04 Analyzed: 09/26/24 20:06							
Antimony, total	0.0910	0.0020	mg/L	0.100	ND	91.0	75-125			
Arsenic, total	0.103	0.0040	mg/L	0.100	0.0119	91.0	75-125			
Barium, total	0.228	0.0040	mg/L	0.100	0.142	85.5	75-125			
Beryllium, total	0.0857	0.0040	mg/L	0.100	ND	85.7	75-125			
Cadmium, total	0.0918	0.0008	mg/L	0.100	ND	91.8	75-125			
Chromium, total	0.0933	0.0080	mg/L	0.100	0.0007	92.6	75-125			
Cobalt, total	0.104	0.0004	mg/L	0.100	0.0103	93.3	75-125			
Copper, total	0.0899	0.0040	mg/L	0.100	ND	89.9	75-125			

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HI1400 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Matrix Spike (1HI1400-MS1)	**Source: 1HI1560-01**	Prepared: 09/25/24 16:04 Analyzed: 09/26/24 20:06								
Lead, total	0.0901	0.0040	mg/L	0.100	ND	90.1	75-125			
Nickel, total	0.103	0.0040	mg/L	0.100	0.0109	91.8	75-125			
Selenium, total	0.0867	0.0040	mg/L	0.100	ND	86.7	75-125			
Silver, total	0.0921	0.0040	mg/L	0.100	ND	92.1	75-125			
Thallium, total	0.0919	0.0020	mg/L	0.100	0.0007	91.1	75-125			
Vanadium, total	0.0978	0.0200	mg/L	0.100	ND	97.8	75-125			
Zinc, total	0.0956	0.0200	mg/L	0.100	ND	95.6	75-125			
Matrix Spike Dup (1HI1400-MSD1)	**Source: 1HI1560-01**	Prepared: 09/25/24 16:04 Analyzed: 09/26/24 20:12								
Antimony, total	0.0972	0.0020	mg/L	0.100	ND	97.2	75-125	6.60	20	
Arsenic, total	0.111	0.0040	mg/L	0.100	0.0119	98.7	75-125	7.22	20	
Barium, total	0.243	0.0040	mg/L	0.100	0.142	101	75-125	6.65	20	
Beryllium, total	0.0919	0.0040	mg/L	0.100	ND	91.9	75-125	6.95	20	
Cadmium, total	0.0985	0.0008	mg/L	0.100	ND	98.5	75-125	7.05	20	
Chromium, total	0.0996	0.0080	mg/L	0.100	0.0007	98.9	75-125	6.53	20	
Cobalt, total	0.112	0.0004	mg/L	0.100	0.0103	102	75-125	7.63	20	
Copper, total	0.0960	0.0040	mg/L	0.100	ND	96.0	75-125	6.54	20	
Lead, total	0.0945	0.0040	mg/L	0.100	ND	94.5	75-125	4.80	20	
Nickel, total	0.110	0.0040	mg/L	0.100	0.0109	98.7	75-125	6.47	20	
Selenium, total	0.0922	0.0040	mg/L	0.100	ND	92.2	75-125	6.19	20	
Silver, total	0.0965	0.0040	mg/L	0.100	ND	96.5	75-125	4.63	20	
Thallium, total	0.0961	0.0020	mg/L	0.100	0.0007	95.3	75-125	4.46	20	
Vanadium, total	0.102	0.0200	mg/L	0.100	ND	102	75-125	4.56	20	
Zinc, total	0.0970	0.0200	mg/L	0.100	ND	97.0	75-125	1.40	20	
Post Spike (1HI1400-PS1)	**Source: 1HI1560-01**	Prepared: 09/25/24 16:04 Analyzed: 09/26/24 20:18								
Antimony, total	0.0774		mg/L	0.0800	0.0001	96.6	80-120			
Arsenic, total	0.0883		mg/L	0.0800	0.0116	95.9	80-120			
Barium, total	0.214		mg/L	0.0800	0.139	93.2	80-120			
Beryllium, total	0.0707		mg/L	0.0800	0.00005	88.3	80-120			
Cadmium, total	0.0762		mg/L	0.0800	0.00003	95.2	80-120			
Chromium, total	0.0761		mg/L	0.0800	0.0007	94.2	80-120			
Cobalt, total	0.0896		mg/L	0.0800	0.0100	99.4	80-120			
Copper, total	0.0751		mg/L	0.0800	0.0004	93.4	80-120			
Lead, total	0.0762		mg/L	0.0800	0.00007	95.2	80-120			
Nickel, total	0.0879		mg/L	0.0800	0.0107	96.5	80-120			
Selenium, total	0.0706		mg/L	0.0800	0.0003	87.8	80-120			
Silver, total	0.0775		mg/L	0.0800	0.0002	96.6	80-120			
Thallium, total	0.0769		mg/L	0.0800	0.0007	95.2	80-120			
Vanadium, total	0.0803		mg/L	0.0800	0.0018	98.1	80-120			
Zinc, total	0.0769		mg/L	0.0800	0.0078	86.4	80-120			
Batch 1HI1402 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Blank (1HI1402-BLK1)		Prepared: 09/25/24 16:07 Analyzed: 09/26/24 22:39								
Antimony, 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 1HI1402 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Blank (1HI1402-BLK1)			Prepared: 09/25/24 16:07 Analyzed: 09/26/24 22:39							
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 (1HI1402-BS1)			Prepared: 09/25/24 16:07 Analyzed: 09/26/24 22:45							
Antimony, total	0.0940	0.0020	mg/L	0.100		94.0	80-120			
Arsenic, total	0.0962	0.0040	mg/L	0.100		96.2	80-120			
Barium, total	0.101	0.0040	mg/L	0.100		101	80-120			
Beryllium, total	0.0980	0.0040	mg/L	0.100		98.0	80-120			
Cadmium, total	0.0968	0.0008	mg/L	0.100		96.8	80-120			
Chromium, total	0.0990	0.0080	mg/L	0.100		99.0	80-120			
Cobalt, total	0.104	0.0004	mg/L	0.100		104	80-120			
Copper, total	0.102	0.0040	mg/L	0.100		102	80-120			
Lead, total	0.101	0.0040	mg/L	0.100		101	80-120			
Nickel, total	0.102	0.0040	mg/L	0.100		102	80-120			
Selenium, total	0.0889	0.0040	mg/L	0.100		88.9	80-120			
Silver, total	0.100	0.0040	mg/L	0.100		100	80-120			
Thallium, total	0.102	0.0020	mg/L	0.100		102	80-120			
Vanadium, total	0.100	0.0200	mg/L	0.100		100	80-120			
Zinc, total	0.0976	0.0200	mg/L	0.100		97.6	80-120			
Matrix Spike (1HI1402-MS1)	**Source: 1HI1560-21**		Prepared: 09/25/24 16:07 Analyzed: 09/26/24 22:57							
Antimony, total	0.0966	0.0020	mg/L	0.100	ND	96.6	75-125			
Arsenic, total	0.0993	0.0040	mg/L	0.100	0.0010	98.3	75-125			
Barium, total	0.345	0.0040	mg/L	0.100	0.238	106	75-125			
Beryllium, total	0.0958	0.0040	mg/L	0.100	ND	95.8	75-125			
Cadmium, total	0.0969	0.0008	mg/L	0.100	0.0004	96.5	75-125			
Chromium, total	0.0977	0.0080	mg/L	0.100	ND	97.7	75-125			
Cobalt, total	0.104	0.0004	mg/L	0.100	0.0013	103	75-125			
Copper, total	0.0950	0.0040	mg/L	0.100	0.0012	93.8	75-125			
Lead, total	0.0973	0.0040	mg/L	0.100	ND	97.3	75-125			
Nickel, total	0.128	0.0040	mg/L	0.100	0.0292	98.8	75-125			
Selenium, total	0.0924	0.0040	mg/L	0.100	ND	92.4	75-125			
Silver, total	0.0978	0.0040	mg/L	0.100	ND	97.8	75-125			

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HI1402 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Matrix Spike (1HI1402-MS1)	**Source: 1HI1560-21**	Prepared: 09/25/24 16:07 Analyzed: 09/26/24 22:57								
Thallium, total	0.100	0.0020	mg/L	0.100	0.0002	100	75-125			
Vanadium, total	0.102	0.0200	mg/L	0.100	ND	102	75-125			
Zinc, total	0.102	0.0200	mg/L	0.100	ND	102	75-125			
Matrix Spike Dup (1HI1402-MSD1)	**Source: 1HI1560-21**	Prepared: 09/25/24 16:07 Analyzed: 09/26/24 23:03								
Antimony, total	0.0956	0.0020	mg/L	0.100	ND	95.6	75-125	1.10	20	
Arsenic, total	0.0971	0.0040	mg/L	0.100	0.0010	96.1	75-125	2.19	20	
Barium, total	0.340	0.0040	mg/L	0.100	0.238	102	75-125	1.38	20	
Beryllium, total	0.0957	0.0040	mg/L	0.100	ND	95.7	75-125	0.0514	20	
Cadmium, total	0.0969	0.0008	mg/L	0.100	0.0004	96.5	75-125	0.0421	20	
Chromium, total	0.0971	0.0080	mg/L	0.100	ND	97.1	75-125	0.650	20	
Cobalt, total	0.106	0.0004	mg/L	0.100	0.0013	104	75-125	1.45	20	
Copper, total	0.0960	0.0040	mg/L	0.100	0.0012	94.8	75-125	1.12	20	
Lead, total	0.0975	0.0040	mg/L	0.100	ND	97.5	75-125	0.267	20	
Nickel, total	0.130	0.0040	mg/L	0.100	0.0292	101	75-125	1.68	20	
Selenium, total	0.0902	0.0040	mg/L	0.100	ND	90.2	75-125	2.41	20	
Silver, total	0.0978	0.0040	mg/L	0.100	ND	97.8	75-125	0.00245	20	
Thallium, total	0.0998	0.0020	mg/L	0.100	0.0002	99.6	75-125	0.610	20	
Vanadium, total	0.101	0.0200	mg/L	0.100	ND	101	75-125	1.29	20	
Zinc, total	0.103	0.0200	mg/L	0.100	ND	103	75-125	0.680	20	
Post Spike (1HI1402-PS1)	**Source: 1HI1560-21**	Prepared: 09/25/24 16:07 Analyzed: 09/26/24 23:10								
Antimony, total	0.0735		mg/L	0.0800	0.00006	91.7	80-120			
Arsenic, total	0.0759		mg/L	0.0800	0.0010	93.6	80-120			
Barium, total	0.310		mg/L	0.0800	0.234	95.1	80-120			
Beryllium, total	0.0721		mg/L	0.0800	0.000002	90.1	80-120			
Cadmium, total	0.0728		mg/L	0.0800	0.0004	90.5	80-120			
Chromium, total	0.0733		mg/L	0.0800	0.0005	91.0	80-120			
Cobalt, total	0.0823		mg/L	0.0800	0.0012	101	80-120			
Copper, total	0.0766		mg/L	0.0800	0.0012	94.2	80-120			
Lead, total	0.0734		mg/L	0.0800	0.00002	91.7	80-120			
Nickel, total	0.107		mg/L	0.0800	0.0287	98.0	80-120			
Selenium, total	0.0688		mg/L	0.0800	0.0002	85.7	80-120			
Silver, total	0.0752		mg/L	0.0800	0.0001	93.8	80-120			
Thallium, total	0.0754		mg/L	0.0800	0.0002	94.0	80-120			
Vanadium, total	0.0778		mg/L	0.0800	0.0031	93.4	80-120			
Zinc, total	0.0814		mg/L	0.0800	0.0138	84.5	80-120			

Definitions

A15:	Proper preservation cannot be achieved due to the sample matrix.
B1:	The target analyte was detected in the method blank at or above the method acceptance criteria. The sample concentration is below the method acceptance criteria.
M1:	Matrix spike recovery is above acceptance limits.
Q3:	LCS recovery is below acceptance limits. The reported value is estimated.
Q8:	CCV recovery is below acceptance limits. The reported value is estimated.
R1:	Duplicate RPD is outside acceptance criteria.
RL:	Reporting Limit
RPD:	Relative Percent Difference
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
10/07/24 11:13

CHAIN OF CUS

MICROBAC®

600 East 17th Street South
Newton, IA 50208
641-792-8451

1 H I 1 5 6 0
HLW Engineering
PM: Heather Murphy

...ed: 7/31/2024 12:15:31P

www.keystonelabs.com

SITE INFORMATION

Sampler: TODD WHIPPLE

Project: City of Newton SLF New Regs-COC1 6002

REPORT TO

Todd Whipple
HLW Engineering
PO Box 314
Story City, IA 50248

INVOICE TO

Joe Grife
City of Newton
403 W 4th St N Ste 501
Newton, IA 50208

SPECIAL INSTRUCTIONS

None

Turn Around Time

☐ Standard ☐ RUSH, need by __/__/__

LAB USE ONLY

Work Order 1HI1560

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-45R DRY	Aqueous	GRAB	9/23/24	DRY	—	lndfill-app1-voc-group	lndfl-app1-metals-6020	—
-001	MW-44	Aqueous	GRAB	9/23/24	10:23	7	lndfill-app1-voc-group	lndfl-app1-metals-6020	01
-001	MW-57	Aqueous	GRAB	9/23/24	11:20	7	lndfill-app1-voc-group	lndfl-app1-metals-6020	02
-001	MW-56	Aqueous	GRAB	9/23/24	10:55	7	lndfill-app1-voc-group	lndfl-app1-metals-6020	03
-001	MW-64	Aqueous	GRAB	9/23/24	11:07	7	lndfill-app1-voc-group	lndfl-app1-metals-6020	04
-001	MW-65	Aqueous	GRAB	9/23/24	10:37	7	lndfill-app1-voc-group	lndfl-app1-metals-6020	05
-001	SW-101R	Aqueous	GRAB	9/23/24	11:54	7	lndfill-app1-voc-group	lndfl-app1-metals-6020	06

Relinquished By: Todd Whipple Date/Time: 9/23/24 16:05

Relinquished By Date/Time

Received By Date/Time

Received for Lab By: Mya Martin Date/Time: 9/23/24 16:05

Remarks:

Original - Lab Copy Yellow - Sampler Copy

CHAIN OF CUSTODY

1 H I 1 5 6 0
HLW Engineering
PM: Heather Murphy

MICROBAC®
600 East 17th Street S
Newton, IA 50208
641-792-8451

Printed: 7/31/2024 12:15:31P
www.keystonelabs.cor

SITE INFORMATION

Sampler: Todd Whipple

Project: City of Newton SLF New Regs-COC1
6002

REPORT TO

Todd Whipple
HLW Engineering
PO Box 314
Story City, IA 50248

INVOICE TO

Joe Grife
City of Newton
403 W 4th St N Ste 501
Newton, IA 50208

SPECIAL INSTRUCTIONS

None

Turn Around Time
☐ Standard ☐ RUSH, need by __/__/__

LAB USE ONLY

Work Order: 1HI1560
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	PECS-1	Aqueous	GRAB	9/23/24	12:05	6	lndfill-app1-voc-group		07
-001	SW-102	Aqueous	GRAB	9/23/24	12:11	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	08
-001	SW-103	Aqueous	GRAB	9/23/24	10:47	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	09
-001	MW-48 (B)	Aqueous	GRAB	9/23/24	11:36	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	10
-001	MW-39 (B)	Aqueous	GRAB	9/23/24	13:42	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	11
-001	MW-78 (B)	Aqueous	GRAB	9/23/24	14:07	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	12
-001	MW-62R	Aqueous	GRAB	9/23/24	13:56	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	13

Relinquished By: [signature] Date/Time: 9/23/24 16:05
Relinquished By: Date/Time:
Received By: Date/Time:
Received for Lab By: Mya Martin Date/Time: 9/23/24 16:05

Remarks:

Original - Lab Copy Yellow - Sampler Copy

CHAIN OF CU

MICROBAC®

600 East 17th Street So
Newton, IA 50208
641-792-8451

1HI1560
HLW Engineering
PM: Heather Murphy

rinted: 7/31/2024 12:15:31P
www.keystonelabs.com

SITE INFORMATION

Sampler: Todd Whipple

Project: City of Newton SLF New Regs-COC1 6002

REPORT TO

Todd Whipple
HLW Engineering
PO Box 314
Story City, IA 50248

INVOICE TO

Joe Grife
City of Newton
403 W 4th St N Ste 501
Newton, IA 50208

SPECIAL INSTRUCTIONS

None

Turn Around Time
☐ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY

Work Order: 1HI1560
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-60	Aqueous	GRAB	9/23/24	13:16	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	21
-001	MW-61	Aqueous	GRAB	9/23/24	14:44	7	lndfill-app1-voc-group	lndfill-app1-metals-6020	22
-001	Duplicate	Aqueous	GRAB	9/23/24	✓	1	~~lndfill-app1-voc-group~~	lndfill-app1-metals-6020	23

Relinquished By: Todd Whipple Date/Time: 9/23/24 16:05
Relinquished By: Date/Time:

Received By: Date/Time:
Received for Lab By: Mya Martin Date/Time: 9/23/24 16:05

Remarks:

Original - Lab Copy Yellow - Sampler Copy

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HK0997

Project Description

6002

For:

Todd Whipple

HLW Engineering

204 West Broad St

Story City, IA 50248

Tiffannie Clymer

Tiffannie Clymer

Customer Relationship Specialist

Friday, November 22, 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

1HK0997

HLW Engineering

Todd Whipple
204 West Broad St
Story City, IA 50248

Project Name: 6002

Project / PO Number: N/A
Received: 11/14/2024
Reported: 11/22/2024

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
PECS-1	1HK0997-01	Aqueous	GRAB		11/14/24 09:28	11/14/24 10:20

Analytical Testing Parameters

Client Sample ID:	PECS-1		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HK0997-01	**Collection Date:**	11/14/2024 9:28

Determination of Volatile Organic Compounds	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 5030B/EPA 624.1								
Toluene	<1.0	1.0	ug/L	1		11/15/24 0000	11/15/24 1439	CSM

Batch Log Summary

Method	Batch	Laboratory ID	Client / Source ID
EPA 624.1	1HK0928	1HK0928-BS1	
		1HK0928-BSD1	
		1HK0928-BLK1	
		1HK0997-01	PECS-1
		1HK0928-MS1	1HK0997-01
		1HK0928-MSD1	1HK0997-01

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 1HK0928 - EPA 5030B - EPA 624.1										
Blank (1HK0928-BLK1)			Prepared: 11/15/24 00:00 Analyzed: 11/15/24 11:41							
Toluene	<1.0	1.0	ug/L							
LCS (1HK0928-BS1)			Prepared: 11/15/24 00:00 Analyzed: 11/15/24 10:33							
Toluene	44.92	1.0	ug/L	50.5		89.0	70-130			
LCS Dup (1HK0928-BSD1)			Prepared: 11/15/24 00:00 Analyzed: 11/15/24 10:55							
Toluene	44.13	1.0	ug/L	50.5		87.4	70-130	1.77	17	
Matrix Spike (1HK0928-MS1)		**Source: 1HK0997-01**	Prepared: 11/15/24 00:00 Analyzed: 11/15/24 16:20							
Toluene	439.8	10.0	ug/L	505	ND	87.1	47-150			
Matrix Spike Dup (1HK0928-MSD1)		**Source: 1HK0997-01**	Prepared: 11/15/24 00:00 Analyzed: 11/15/24 16:43							
Toluene	426.8	10.0	ug/L	505	ND	84.6	47-150	3.00	41	

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:

Tiffannie Clymer

Tiffannie Clymer
Customer Relationship Specialist
11/22/24 16:33

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.

❑ 600 E. 17th St. S.
Newton, IA 50208
Phone: 641-792-8451
Fax: 641-792-7989

1HK0997
HLW Engineering
PM: Heather Murphy

66105
Phone: -7856
Fax: -6778

❑ 205 E VanBuren St
Centerville, IA 52544
Phone: 641-437-7023
Fax: 641-437-7040

PAGE 1 OF 1

PRINT OR TYPE INFORMATION BELOW	REPORT TO:	BILL TO:
SAMPLER: TODD WHIPPLE	NAME: TODD WHIPPLE	NAME: Joe Grife, PWD
SITE NAME: NEWTON SLF	COMPANY NAME: HLW Group	COMPANY NAME: City of Newton
ADDRESS:	ADDRESS: P.O. Box 314	ADDRESS: 303 West 4th St N, Suite 501
CITY/ST/ZIP: Newton, IA 50208	CITY/ST/ZIP: Story City, IA 50248	CITY/ST/ZIP: Newton, IA 50208
PHONE:	PHONE: 515 733 4144	PHONE:
	FAX: 4146	Keystone Quote No: (If Applicable)

LAB USE ONLY

LABORATORY WORK ORDER NO. 1HK0997

SAMPLE TEMPERATURE UPON RECEIPT: 0.0 ice °C

CLIENT SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	NO. OF CONTAINERS	MATRIX	GRAB/COMPOSITE	ANALYSES REQUIRED: Toluene								SAMPLE CONDITION/COMMENTS	LABORATORY SAMPLE NUMBER
PECS-1	11/14/24	9:28	PECS-1	3	W	G	X									01

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Turn-Around: ❑ Standard ❑ Rush ____ Contact Lab Prior to Submission
Relinquished by: (Signature)	Date / Time	Received for Lab by: (Signature) [signature]	Date 11/14/24 Time 10:20	Remarks:

Original - Lab Copy • Yellow - Sampler Copy

FORM: CCR 7-97

ATTACHMENT B

Field Sampling Forms

NEWTON SANITARY LANDFILL
PERMIT # 50-SDP-1-75P

CLOSED 1945 LANDFILL

3/4/2024 Sampled by: T. Whipple Weather conditions: Overcast, windy, 41-48 degrees

IDNR Form 542-1322

Monitoring Well: MW-44 (dg)

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

GENERAL INFORMATION

TOC	834.55
Well Depth	20.87
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	834.55
Well Depth	20.50
Top Screen	823.68
Bottom Screen	813.68
Bottom Well	813.68
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	15.00
Top sample	819.55
Bottom sample	815.55
Turbidity(NTU)	13.50

Date	Time	Water Level	Water Elevation	Notes
3/4/2024	8:30	5.95	828.6	

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		13.50
Appendix I	Metals	150	150		13.50
Appendix I	VOC	240	240		13.50
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Old Landfill	Paragraph "E"	750			
Supplemental					
Total			400	0	

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

TOC	834.55	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	20.87	Before purging	3/4/2024	8:30	5.95	828.60	4	1.6	
		After purging				834.55			
		Top of Screen 5/2/1990				823.68			
						10.87	feet above (+) or below (-) top screen		
		Bottom of Well 5/2/1990				813.68			
		Bottom of Well	3/4/2024		20.50	814.05			
						0.37	feet sedimentation		
		Before Sampling		8:37	11.10	823.45			
		Recovery		14:54	5.94	828.61			
		Recovery				834.55			
		Recovery				834.55	pH	Cond.	Temp
		Recovery				834.55			

IDNR Form 542-1322

Monitoring Well: MW-45R (dg)

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

GENERAL INFORMATION

TOC	875.51
Well Depth	26.90
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	875.51
Well Depth	26.90
Top Screen	858.61
Bottom Screen	848.61
Bottom Well	848.61
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	
Top sample	875.51
Bottom sample	871.51
Turbidity(NTU)	

Date	Time	Water Level	Water Elevation	Notes
3/4/2024		27.00	848.51	DRY

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			0.00	Dry
Appendix I	Metals	250			0.00	
Appendix I	VOC	120			0.00	
Full Appendix II	10 more containers	5620				
TSS	TSS	1000				
Old Landfill	Paragraph "E"	750				
Supplemental						
Total			0	0		

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

		2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
TOC	875.51								
Well Depth	26.90	Before purging	3/4/2024		27.00	848.51		0.0	yes
		After purging				875.51			
		Top of Screen 5/24/2021				858.61			
						16.90	feet above (+) or below (-) top screen		
		Bottom of Well 5/24/2021				848.61			
		Bottom of Well	3/4/2024		27.00	848.51			
						-0.10	feet sedimentation		
		Before Sampling				875.51			
		Before Sampling				875.51			
		Recovery				875.51			
		Recovery				875.51	pH	Cond.	Temp
		Recovery				875.51			

IDNR Form 542-1322

Monitoring Well: MW-56 (dg)

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

GENERAL INFORMATION

TOC	839.21
Well Depth	19.61
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	839.21
Well Depth	19.20
Top Screen	829.60
Bottom Screen	819.60
Bottom Well	819.60
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	14.00
Top sample	825.21
Bottom sample	821.21
Turbidity(NTU)	24.57

Date	Time	Water Level	Water Elevation	Notes
3/4/2024	9:09	9.82	829.39	

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		24.57
Appendix I	Metals	150	150		24.57
Appendix I	VOC	240	240		24.57
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Old Landfill	Paragraph "E"	750			
Supplemental					
Total			400	0	

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

TOC	839.21	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	19.61	Before purging	3/4/2024	9:09	9.82	829.39	3	1.9	no
		After purging				839.21			
		Top of Screen 2/11/1992				829.60			
						9.61	feet above (+) or below (-) top screen		
		Bottom of Well 2/11/1992				819.60			
		Bottom of Well	3/4/2024		19.25	819.96			
						0.36	feet sedimentation		
		Before Sampling		9:21	15.50	823.71			
		Recovery		14:50	10.05	829.16			
		Recovery				839.21			
		Recovery				839.21	pH	Cond.	Temp
		Recovery				839.21			

IDNR Form 542-1322

Monitoring Well: MW-57 (dg)

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

GENERAL INFORMATION

TOC	844.1
Well Depth	17.70
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	844.1
Well Depth	17.50
Top Screen	836.40
Bottom Screen	826.40
Bottom Well	826.40
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	12.00
Top sample	832.10
Bottom sample	828.10
Turbidity(NTU)	2.74

Date	Time	Water Level	Water Elevation	Notes
3/4/2024	10:05	6.48	837.62	

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		2.74
Appendix I	Metals	150	150		2.74
Appendix I	VOC	240	240		2.74
Full Appendix II	10 more containers	5620		0	
TSS	TSS	1000			
Old Landfill	Paragraph "E"	750			
Supplemental					
Total			400	0	

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

TOC	844.1
Well Depth	17.70
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst
Equipment	Disposable Bailer

2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Before purging	3/4/2024	10:05	6.48	837.62	4	2.2	
After purging				844.10			
Top of Screen 2/11/1992				836.40			
				7.70	feet above (+) or below (-) top screen		
Bottom of Well 2/11/1992				826.40			
Bottom of Well	3/4/2024		17.50	826.60			
				0.20	feet sedimentation		
Before Sampling		10:13	10.60	833.50			
Recovery		14:46	6.52	837.58			
Recovery				844.10			
Recovery				844.10	pH	Cond.	Temp
Recovery				844.10			

IDNR Form 542-1322

Monitoring Well: MW-64 (dg)

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

GENERAL INFORMATION

TOC	839.6
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	839.6
Well Depth	27.00
Top Screen	826.90
Bottom Screen	811.90
Bottom Well	811.90
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	22.00
Top sample	817.60
Bottom sample	813.60
Turbidity(NTU)	39.53

Date	Time	Water Level	Water Elevation	Notes
3/4/2024	9:27	8.55	831.05	

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		39.53
Appendix I	Metals	150	150		39.53
Appendix I	VOC	240	240		39.53
Full Appendix II	10 more containers	5620		0	
TSS	TSS	1000		0	
Old Landfill	Paragraph "E"	750		0	
Supplemental					
Total			400	0	

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

		2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
TOC	839.6								
Well Depth	27.70	Before purging	3/4/2024	9:27	8.55	831.05	3	1.0	
		After purging				839.60			
		Top of Screen 1/12/1998				826.90			
						12.70	feet above (+) or below (-) top screen		
		Bottom of Well 1/12/1998				811.90			
		Bottom of Well	3/4/2024		27.00	812.60			
						0.70	feet sedimentation		
		Before Sampling				839.60			
		Recovery		9:38	13.40	826.20			
		Recovery		14:48	8.59	831.01			
		Recovery				839.60	pH	Cond.	Temp
		Recovery				839.60			

IDNR Form 542-1322

Monitoring Well: MW-65 (dg)

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

GENERAL INFORMATION

TOC	833.26
Well Depth	27.33
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	833.26
Well Depth	26.90
Top Screen	816.18
Bottom Screen	806.18
Bottom Well	805.93
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	21.00
Top sample	812.26
Bottom sample	808.26
Turbidity(NTU)	2.99

Date	Time	Water Level	Water Elevation	Notes
3/4/2024	8:45	9.27	823.99	

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		2.99
Appendix I	Metals	150	150		2.99
Appendix I	VOC	240	240		2.99
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Old Landfill	Paragraph "E"	750			
Supplemental					
Total			400	0	

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

TOC	833.26	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	27.33	Before purging	3/4/2024	8:45	9.27	823.99	4	1.4	
		After purging				833.26			
		Top of Screen 1/12/1998				816.18			
						17.08	feet above (+) or below (-) top screen		
		Bottom of Well 1/12/1998				805.93			
		Bottom of Well	3/4/2024		26.60	806.66			
						0.73	feet sedimentation		
		Before Sampling		8:54	19.40	813.86			
		Recovery		14:52	9.35	823.91			
		Recovery				833.26			
		Recovery				833.26	pH	Cond.	Temp
		Recovery				833.26			

NEWTON SANITARY LANDFILL
PERMIT # 50-SDP-1-75P

3/4/2024 Sampled by: T. Whipple Weather conditions: Overcast, windy, 41-48 degrees

IDNR Form 542-1324

	Date	Time	Type	Flowing	Quantity		Discolored	Odor	Litter
SW-101R	3/4/2024	10:45	tile outlet	yes	250 ml per 60 seconds		No	No	No
									Turbidity (NTU)
									3.13

	Date	Time	Type	Flowing	Quantity		Discolored	Odor	Litter
SW-102 (up)	3/4/2024	10:33	stream	yes	2'x3"x0.5 ft/sec		No	No	No
						pH	Cond.	Temp	Turbidity (NTU)
									2.01

	Date	Time	Type	Flowing	Quantity		Discolored	Odor	Litter
SW-103 (down)	3/4/2024	9:00	stream	yes	6"x1"x2 ft/sec		No	No	No
						pH	Cond.	Temp	Turbidity (NTU)
									5.33

	Date	Time	Type	Flowing	Quantity		Discolored	Odor	Litter
PECS-1	3/4/2024	10:25	stream	yes	250 ml/min		No	No	No
						pH	Cond.	Temp	Turbidity (NTU)
									6.27

NEWTON SANITARY LANDFILL
PERMIT # 50-SDP-1-75P

CLOSED 1945 LANDFILL

9/23/2024 Sampled by: T. Whipple Weather conditions: Overcast, calm, 65 degrees

IDNR Form 542-1322

Monitoring Well: MW-44 (dg)

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

GENERAL INFORMATION

TOC	834.55
Well Depth	20.87
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	834.55
Well Depth	20.50
Top Screen	823.68
Bottom Screen	813.68
Bottom Well	813.68
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	15.00
Top sample	819.55
Bottom sample	815.55
Turbidity(NTU)	16.18

Date	Time	Water Level	Water Elevation	Notes
9/23/2024	10:23	6.11	828.44	

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		16.18
Appendix I	Metals	150	150		16.18
Appendix I	VOC	240	240		16.18
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Old Landfill	Paragraph "E"	750			
Supplemental					
Total			400	0	

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

TOC	834.55
Well Depth	20.87

2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Before purging	9/23/2024	10:23	6.11	828.44		0.0	
After purging				834.55			
Top of Screen 5/2/1990				823.68			
				10.87	feet above (+) or below (-) top screen		
Bottom of Well 5/2/1990				813.68			
Bottom of Well	9/23/2024		20.50	814.05			
				0.37	feet sedimentation		
Before Sampling				834.55			
Recovery				834.55			
Recovery				834.55			
Recovery				834.55	pH	Cond.	Temp
Recovery				834.55			

IDNR Form 542-1322

Monitoring Well: MW-45R (dg)

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

GENERAL INFORMATION

TOC	875.51
Well Depth	26.90
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	875.51
Well Depth	26.90
Top Screen	858.61
Bottom Screen	848.61
Bottom Well	848.61
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	
Top sample	875.51
Bottom sample	871.51
Turbidity(NTU)	

Date	Time	Water Level	Water Elevation	Notes
9/23/2024		27.00	848.51	DRY

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			0.00	Dry
Appendix I	Metals	250			0.00	
Appendix I	VOC	120			0.00	
Full Appendix II	10 more containers	5620				
TSS	TSS	1000				
Old Landfill	Paragraph "E"	750				
Supplemental						
Total			0	0		

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

TOC	875.51	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	26.90	Before purging	9/23/2024		27.00	848.51		0.0	yes
		After purging				875.51			
		Top of Screen 5/24/2021				858.61			
						16.90	feet above (+) or below (-) top screen		
		Bottom of Well 5/24/2021				848.61			
		Bottom of Well	9/23/2024		27.00	848.51			
						-0.10	feet sedimentation		
		Before Sampling				875.51			
		Before Sampling				875.51			
		Recovery				875.51			
		Recovery				875.51	pH	Cond.	Temp
		Recovery				875.51			

IDNR Form 542-1322

Monitoring Well: MW-56 (dg)

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

GENERAL INFORMATION

TOC	839.21
Well Depth	19.61
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	839.21
Well Depth	19.20
Top Screen	829.60
Bottom Screen	819.60
Bottom Well	819.60
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	14.00
Top sample	825.21
Bottom sample	821.21
Turbidity(NTU)	2.31

Date	Time	Water Level	Water Elevation	Notes
9/23/2024	10:55	10.35	828.86	

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		2.31
Appendix I	Metals	150	150		2.31
Appendix I	VOC	240	240		2.31
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Old Landfill	Paragraph "E"	750			
Supplemental					
Total			400	0	

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

TOC	839.21	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	19.61	Before purging	9/23/2024	10:55	10.35	828.86		0.0	no
		After purging				839.21			
		Top of Screen 2/11/1992				829.60			
						9.61	feet above (+) or below (-) top screen		
		Bottom of Well 2/11/1992				819.60			
		Bottom of Well	9/23/2024		19.25	819.96			
						0.36	feet sedimentation		
		Before Sampling				839.21			
		Recovery				839.21			
		Recovery				839.21			
		Recovery				839.21	pH	Cond.	Temp
		Recovery				839.21			

IDNR Form 542-1322

Monitoring Well: MW-57 (dg)

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

GENERAL INFORMATION

TOC	844.1
Well Depth	17.70
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	844.1
Well Depth	17.50
Top Screen	836.40
Bottom Screen	826.40
Bottom Well	826.40
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	12.00
Top sample	832.10
Bottom sample	828.10
Turbidity(NTU)	3.86

Date	Time	Water Level	Water Elevation	Notes
9/23/2024	11:20	6.59	837.51	

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		3.86
Appendix I	Metals	150	150		3.86
Appendix I	VOC	240	240		3.86
Full Appendix II	10 more containers	5620		0	
TSS	TSS	1000			
Old Landfill	Paragraph "E"	750			
Supplemental					
Total			400	0	

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

TOC	844.1
Well Depth	17.70
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst
Equipment	Disposable Bailer

2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Before purging	9/23/2024	11:20	6.59	837.51		0.0	
After purging				844.10			
Top of Screen 2/11/1992				836.40			
				7.70	feet above (+) or below (-) top screen		
Bottom of Well 2/11/1992				826.40			
Bottom of Well	9/23/2024		17.50	826.60			
				0.20	feet sedimentation		
Before Sampling				844.10			
Recovery				844.10			
Recovery				844.10			
Recovery				844.10	pH	Cond.	Temp
Recovery				844.10			

IDNR Form 542-1322

Monitoring Well: MW-64 (dg)

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

GENERAL INFORMATION

TOC	839.6
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	839.6
Well Depth	27.00
Top Screen	826.90
Bottom Screen	811.90
Bottom Well	811.90
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	21.00
Top sample	818.60
Bottom sample	814.60
Turbidity(NTU)	31.93

Date	Time	Water Level	Water Elevation	Notes
9/23/2024	11:07	8.88	830.72	

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		31.93
Appendix I	Metals	150	150		31.93
Appendix I	VOC	240	240		31.93
Full Appendix II	10 more containers	5620		0	
TSS	TSS	1000		0	
Old Landfill	Paragraph "E"	750		0	
Supplemental					
Total			400	0	

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

TOC	839.6	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	27.70	Before purging	9/23/2024	11:07	8.88	830.72		0.0	
		After purging				839.60			
		Top of Screen 1/12/1998				826.90			
						12.70	feet above (+) or below (-) top screen		
		Bottom of Well 1/12/1998				811.90			
		Bottom of Well	9/23/2024		27.00	812.60			
						0.70	feet sedimentation		
		Before Sampling				839.60			
		Recovery				839.60			
		Recovery				839.60			
		Recovery				839.60	pH	Cond.	Temp
		Recovery				839.60			

IDNR Form 542-1322

Monitoring Well: MW-65 (dg)

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

GENERAL INFORMATION

TOC	833.26
Well Depth	27.33
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	833.26
Well Depth	26.90
Top Screen	816.18
Bottom Screen	806.18
Bottom Well	805.93
Sampler Length (ft)	4.00
Sampler Volume (mL)	440.00
Feet cordage	21.00
Top sample	812.26
Bottom sample	808.26
Turbidity(NTU)	42.20

Date	Time	Water Level	Water Elevation	Notes
9/23/2024	10:37	9.71	823.55	

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		42.20
Appendix I	Metals	150	150		42.20
Appendix I	VOC	240	240		42.20
Full Appendix II	10 more containers	5620			
TSS	TSS	1000			
Old Landfill	Paragraph "E"	750			
Supplemental					
Total			400	0	

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

TOC	833.26
Well Depth	27.33

2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Before purging	9/23/2024	10:37	9.71	823.55		0.0	
After purging				833.26			
Top of Screen 1/12/1998				816.18			
				17.08	feet above (+) or below (-) top screen		
Bottom of Well 1/12/1998				805.93			
Bottom of Well	9/23/2024		26.60	806.66			
				0.73	feet sedimentation		
Before Sampling				833.26			
Recovery				833.26			
Recovery				833.26			
Recovery				833.26	pH	Cond.	Temp
Recovery				833.26			

NEWTON SANITARY LANDFILL
PERMIT # 50-SDP-1-75P

9/23/2024 Sampled by: T. Whipple Weather conditions: Overcast, calm, 65 degrees

IDNR Form 542-1324

	Date	Time	Type	Flowing	Quantity		Discolored	Odor	Litter
SW-101R	9/23/2024	11:54	tile outlet	yes	250 ml per 20 seconds		No	No	No
									Turbidity (NTU)
									2.61

	Date	Time	Type	Flowing	Quantity		Discolored	Odor	Litter
SW-102 (up)	9/23/2024	12:11	stream	yes	0.5"x24"x1 ft/sec		No	No	No
						pH	Cond.	Temp	Turbidity (NTU)
									5.04

	Date	Time	Type	Flowing	Quantity		Discolored	Odor	Litter
SW-103 (down)	9/23/2024	10:47	stream	yes	12"x3"x1 ft/sec		No	No	No
						pH	Cond.	Temp	Turbidity (NTU)
									4.4

	Date	Time	Type	Flowing	Quantity		Discolored	Odor	Litter
PECS-1	9/23/2024	12:05	stream	yes	4"x1"x0.5 ft/sec		No	No	No
						pH	Cond.	Temp	Turbidity (NTU)

ATTACHMENT C

April, 2023 and September, 2023 Statistical Reports

GROUND WATER STATISTICS

FOR THE

NEWTON SANITARY LANDFILL

First Semi-Annual Monitoring Event in 2024

Prepared for:
City of Newton Sanitary Landfill
3202 Ia-14
Newton, Jasper County, IA

Prepared by:
Jeffrey A. Holmgren
Otter Creek Environmental Services, LLC
40W565 Foxwick Court
Elgin, IL 60124
(847) 464-1355

March 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 event in 2024 at the Newton Sanitary Landfill in Newton, Jasper 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 method is described and applied to the Newton Landfill data. The statistical plan conforms with IAC 567, Chapter 113.10, USEPA guidance document ("*Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Unified Guidance"*, March 2009), and the American Society for Testing and Materials (ASTM) standard D6312-98, *Developing Appropriate Statistical Approaches for Ground-Water Detection Monitoring Programs*.

Ground Water Monitoring Program

The groundwater monitoring network for Newton Sanitary Landfill includes GWD-1, MW-36, MW-39, MW-41, MW-42, MW-48, MW-58, MW-59, MW-60, MW-61, MW-62R, MW-78, MW-79, and MW-80. 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 event 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 interwell method was applied to the Newton 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 thirteen samples have been collected, the practical quantitation limit (PQL) becomes the nonparametric prediction limit.

Results of the Interwell Statistics

The prior background data used in the statistical analysis included the ground water data collected from ground water wells MW-62R and MW-78. Since there were verified detections of trichlorofluoromethane at MW-62R, it was recommended that MW-62R not be used as a background well. In its' place, MW-48 and MW-39 were added as background points. Additionally, SW-101 was approved as a background point. The background data used in this statistical analysis includes the ground water data collected from ground water wells MW-39, MW-48, MW-78, and SW-101 during the period from September 2014 through the current data. A summary of the background data from monitoring wells MW-39, MW-48, MW-78, and SW-101 used to determine the site prediction limits are 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 MW-36, MW-41, MW-42, MW-58, MW-59, MW-60, MW-61, MW-62R, MW-79, MW-80, and SW-101R compared to the site prediction limits. Prediction limit exceedances are flagged with asterisks. For the most current data, the current site prediction limit exceedances 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	Ground Water Standard, μg/L
MW-58	Nickel	16.7	8.7000	Nonparametric	Verified	100[a]
MW-62R	Barium	1010	357.0000	Nonparametric	Verified	2000[a]

a – USEPA MCL
b – Iowa Statewide Standard

The detection frequencies of the parameters in the up and down gradient monitoring wells are summarized in Table 3. With the exception of barium, these constituents are rarely detected in the upgradient wells. With the detection frequencies being less than 50% for all but barium, nonparametric site prediction limits are used for those trace metals.

Table 4 summarizes the results of the Shapiro-Wilk test. The background barium data are normally distributed so barium uses a normal site prediction limit. 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.

The past and present verified trace metal 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. 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% LCLs calculated for the metals which exceeded site prediction limits are below the respective GWPS (Attachment C).

Results of the Interwell Statistics – Old Landfill

The current ground water data from monitoring wells MW-44, MW-56, MW-57, MW-64, and MW-65 was compared to site prediction limits established from monitoring wells MW-39, MW-48, MW-78, and SW-101. A summary of the background data from monitoring wells MW-39, MW-48, MW-78, and SW-101 used to determine the site prediction limits are 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 MW-44, MW-56, MW-57, MW-64, and MW-65 compared to the site prediction limits. Prediction limit exceedances are flagged with asterisks. For the most current data, the current site prediction limit exceedances 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	Ground Water Standard, µg/L
MW-44	Cobalt	9.7	6.9000	Nonparametric	Verified	2.1[b]
	Nickel	10.0	8.7000	Nonparametric	Verified	100[a]
MW-56	Lead	14.6	4.0000	Nonparametric	Awaiting verification	100[a]
MW-64	Arsenic	29.6	7.3000	Nonparametric	Verified	10[a]
	Cobalt	12.0	6.9000	Nonparametric	Verified	2.1[b]
	Nickel	32.0	8.7000	Nonparametric	Verified	100[a]
	Zinc	51.4	32.3000	Nonparametric	Awaiting verification	2000[b]
MW-65	Cobalt	9.2	6.9000	Nonparametric	Awaiting verification	2.1[b]
	Nickel	14.9	8.7000	Nonparametric	Awaiting verification	100[a]

a – USEPA MCL
b – Iowa Statewide Standard

The detection frequencies of the parameters in the up and down gradient monitoring wells are summarized in Table 3. With the exception of barium, these constituents are rarely detected in the upgradient wells. With the detection frequencies being less than 50% for all but barium, nonparametric site prediction limits are used for those trace metals.

Table 4 summarizes the results of the Shapiro-Wilk test. The background barium data are normally distributed so barium uses a normal site prediction limit. 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.

The past and present verified trace metal exceedances were evaluated against the ground water protection standards (GWPS) using confidence limits.

The 95% LCL for cobalt at MW-44 (8.772 μg/L) exceeds the GWPS of 2.1 μg/L.
The 95% LCL for arsenic at MW-64 (23.445 μg/L) exceeds the GWPS of 10 μg/L.
The 95% LCL for cobalt at MW-64 (9.769 μg/L) exceeds the GWPS of 2.1 μg/L.
The 95% LCL for cobalt at MW-65 (4.647 μg/L) exceeds the GWPS of 2.1 μg/L.

The 95% LCLs calculated for the remainder of the metals which exceeded site prediction limits are below the respective GWPS.

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. VOCs detected in the ground water at Newton Landfill during the first semi-annual monitoring event in 2024 are summarized below. Historical VOC detections are summarized in Attachment E.

VOCs detected during the First Semi-Annual Monitoring Event in 2024

Well	VOC Detected	Result, μg/L	Reporting Limit, μg/L	Verified/ Awaiting Verification	Ground Water Standard
MW-41	1,1-Dichloroethane	19.0	1	Verified	140[b]
	cis-1,2-Dichloroethene	2.4	1	Verified	70[a]
MW-48	Tetrachloroethene	2.3	1	Awaiting Verification	5[a]
MW-58	*cis*-1,2-Dichloroethene	1.0	1	Verified	70[a]
MW-62R	Trichlorofluoromethane	1.0	1	Verified	2000[b]
SW-101R	*cis*-1,2-Dichloroethene	4.0	1	Verified	70[a]
	Vinyl chloride	5.3	1	Verified	2[a]

a - USEPA MCL, b – Iowa Statewide Standard

VOCs detected during the First Semi-Annual Monitoring Event in 2024 – Old Landfill

Well	VOC Detected	Result, μg/L	Reporting Limit, μg/L	Verified/ Awaiting Verification	Ground Water Standard
MW-56	1,1-Dichloroethane	1.7	1	Verified	140[b]
MW-64	1,1-Dichloroethane	1.5	1	Verified	140[b]
	cis-1,2-Dichloroethene	2.4	1	Verified	70[a]
	Vinyl chloride	2.7	1	Verified	2[a]

a - USEPA MCL, b – Iowa Statewide Standard

The verified VOC detections 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. 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 vinyl chloride at SW-101R (3.821 μg/L) exceeds the GWPS of 2 μg/L. The 95% LCLs calculated for the remainder of verified VOCs are below the respective GWPS

CONCLUSIONS

This report summarizes the statistical analyses used to evaluate the ground water data obtained during the first semi-annual monitoring event in 2024 at Newton Sanitary Landfill. The ground water data was compared to background using prediction limits. There are verified site prediction limit exceedances for nickel at MW-58, barium at MW-62R, cobalt and nickel at MW-44, and arsenic, cobalt, and nickel at MW-64.

The VOC data obtained during the first semi-annual monitoring event in 2024 were compared to MCLs or PQLs. There were verified detections of 1,1-dichloroethane and *cis*-1,2-dichloroethene at MW-41; *cis*-1,2-dichloroethene at MW-58; trichlorofluoromethane at MW-62R; *cis*-1,2-dichloroethene and vinyl chloride at SW-101R; 1,1-dichloroethane at MW-56; and 1,1-dichloroethane, *cis*-1,2-dichloroethene, and vinyl chloride at MW-64.

Attachment A

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

Table 1

Analytical Data Summary for 3/4/2024

Constituents	Units	MW-36	MW-39	MW-41	MW-42	MW-44	MW-48	MW-56	MW-57	MW-58	MW-59	MW-60
1,1,1,2-tetrachloroethane	ug/L	<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
1,1,2,2-tetrachloroethane	ug/L	<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-dichloroethane	ug/L	<1.0	<1.0	19.0	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	<1.0	<1.0
1,1-dichloroethylene	ug/L	<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
1,2-dibromo-3-chloropropane	ug/L	<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
1,2-dichlorobenzene	ug/L	<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
1,2-dichloropropane	ug/L	<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
2-butanone (mek)	ug/L	<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
4-methyl-2-pentanone (mibk)	ug/L	<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
Acrylonitrile	ug/L	<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
Arsenic, total	ug/L	<4.0	<4.0	<4.0	<4.0	4.1	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Barium, total	ug/L	128.0	128.0	71.2	19.4	126.0	149.0	23.5	250.0	23.8	33.5	192.0
Benzene	ug/L	<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
Bromochloromethane	ug/L	<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
Bromoform	ug/L	<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
Cadmium, total	ug/L	<.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
Carbon tetrachloride	ug/L	<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
Chloroethane	ug/L	<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
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, total	ug/L	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8
Cis-1,2-dichloroethylene	ug/L	<1.0	<1.0	2.4	<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	<1	<1
Cobalt, total	ug/L	<.4	<.4	<.4	.7	9.7	<.4	.6	.4	<.4	<.4	.5
Copper, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Dibromochloromethane	ug/L	<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
Ethylbenzene	ug/L	<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	<4.0	14.6	<4.0	<4.0	<4.0	<4.0
Methyl iodide	ug/L	<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
Nickel, total	ug/L	<4.0	<4.0	<4.0	<4.0	10.0	<4.0	4.7	<4.0	16.7	<4.0	<4.0
Selenium, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Silver, total	ug/L	<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
Tetrachloroethylene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	2.3	<1.0	<1.0	<1.0	<1.0	<1.0
Thallium, total	ug/L	<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
Trans-1,2-dichloroethylene	ug/L	<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
Trans-1,4-dichloro-2-butene	ug/L	<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
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	<20.0	<20.0	<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.

Table 1

Analytical Data Summary for 3/4/2024

Constituents	MW-61	MW-62R	MW-64	MW-65	MW-78	MW-79	MW-80	PECS-1	SW-101R	SW-102	SW-103
1,1,1,2-tetrachloroethane	<1	<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
1,1,2,2-tetrachloroethane	<1	<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
1,1-dichloroethane	<1.0	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-dichloroethylene	<1	<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
1,2-dibromo-3-chloropropane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-dibromoethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2-hexanone (mbk)	<5	<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	<5
Acetone	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acrylonitrile	<5	<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	29.6	6.7	<4.0	<4.0	<4.0		<4.0	<4.0	<4.0
Barium, total	48.5	1010.0	68.5	30.0	341.0	57.9	131.0		240.0	134.0	118.0
Benzene	<1	<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	<1
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	<1	<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	<1
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	<1	<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	<1.0	<1.0	2.4	<1.0	<1.0	<1.0	<1.0	<1.0	4.0	<1.0	<1.0
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	<.4	<.4	12.0	9.2	<.4	<.4	1.3		2.7	<.4	.7
Copper, total	<4	<4	<4	<4	<4	<4	<4		<4	<4	<4
Dibromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Lead, total	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0		<4.0	<4.0	<4.0
Methyl iodide	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	4.8	<4.0	32.0	14.9	<4.0	<4.0	<4.0		<4.0	<4.0	<4.0
Selenium, total	<4.0	<4.0	<4.0	<4.0	5.7	<4.0	<4.0		<4.0	<4.0	<4.0
Silver, total	<4	<4	<4	<4	<4	<4	<4		<4	<4	<4
Styrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Thallium, total	<2	<2	<2	<2	<2	<2	<2		<2	<2	<2
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<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	<5
Trichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	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	<5
Vinyl chloride	<1.0	<1.0	2.7	<1.0	<1.0	<1.0	<1.0	<1.0	5.3	<1.0	<1.0
Xylenes, total	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	<20.0	<20.0	51.4	21.5	<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

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony, total	ug/L	MW-39	09/24/2014	ND	2.0000		
Antimony, total	ug/L	MW-39	12/05/2014	ND	2.0000		
Antimony, total	ug/L	MW-39	03/11/2015	ND	2.0000		
Antimony, total	ug/L	MW-39	06/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-39	09/17/2015	ND	2.0000		
Antimony, total	ug/L	MW-39	03/22/2016	ND	2.0000		
Antimony, total	ug/L	MW-39	09/15/2016	ND	2.0000		
Antimony, total	ug/L	MW-39	03/23/2017	ND	2.0000		
Antimony, total	ug/L	MW-39	09/08/2017	ND	2.0000		
Antimony, total	ug/L	MW-39	03/19/2018	ND	2.0000		
Antimony, total	ug/L	MW-39	09/11/2018	ND	2.0000		
Antimony, total	ug/L	MW-39	03/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-39	09/04/2019	ND	2.0000		
Antimony, total	ug/L	MW-39	03/26/2020	ND	2.0000		
Antimony, total	ug/L	MW-39	09/15/2020	ND	2.0000		
Antimony, total	ug/L	MW-39	03/02/2021	ND	2.0000		
Antimony, total	ug/L	MW-39	09/07/2021	ND	2.0000		
Antimony, total	ug/L	MW-39	03/24/2022	ND	2.0000		
Antimony, total	ug/L	MW-39	08/31/2022	ND	2.0000		
Antimony, total	ug/L	MW-39	03/02/2023	ND	2.0000		
Antimony, total	ug/L	MW-39	09/12/2023	ND	2.0000		
Antimony, total	ug/L	MW-39	03/04/2024	ND	2.0000		
Arsenic, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Arsenic, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Arsenic, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Arsenic, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Barium, total	ug/L	MW-39	09/24/2014		60.6000		
Barium, total	ug/L	MW-39	12/05/2014		139.0000		
Barium, total	ug/L	MW-39	03/11/2015		136.0000		
Barium, total	ug/L	MW-39	06/16/2015		148.0000		
Barium, total	ug/L	MW-39	09/17/2015		128.0000		
Barium, total	ug/L	MW-39	03/22/2016		123.0000		
Barium, total	ug/L	MW-39	09/15/2016		103.0000		
Barium, total	ug/L	MW-39	03/23/2017		129.0000		
Barium, total	ug/L	MW-39	09/08/2017		117.0000		
Barium, total	ug/L	MW-39	03/19/2018		131.0000		
Barium, total	ug/L	MW-39	09/11/2018		114.0000		
Barium, total	ug/L	MW-39	03/26/2019		121.0000		
Barium, total	ug/L	MW-39	09/04/2019		138.0000		
Barium, total	ug/L	MW-39	03/26/2020		150.0000		
Barium, total	ug/L	MW-39	09/15/2020		136.0000		
Barium, total	ug/L	MW-39	03/02/2021		125.0000		
Barium, total	ug/L	MW-39	09/07/2021		141.0000		
Barium, total	ug/L	MW-39	03/24/2022		137.0000		
Barium, total	ug/L	MW-39	08/31/2022		132.0000		
Barium, total	ug/L	MW-39	03/02/2023		134.0000		
Barium, total	ug/L	MW-39	09/12/2023		133.0000		
Barium, total	ug/L	MW-39	03/04/2024		128.0000		
Beryllium, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Beryllium, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Beryllium, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/23/2017	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	
Beryllium, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Beryllium, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Cadmium, total	ug/L	MW-39	09/24/2014	ND	0.8000		
Cadmium, total	ug/L	MW-39	12/05/2014	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/11/2015	ND	0.8000		
Cadmium, total	ug/L	MW-39	06/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/17/2015	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/22/2016	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/15/2016	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/23/2017	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/08/2017	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/19/2018	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/11/2018	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/26/2019	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/04/2019	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/26/2020	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/15/2020	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/02/2021	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/07/2021	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/24/2022	ND	0.8000		
Cadmium, total	ug/L	MW-39	08/31/2022	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/02/2023	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/12/2023	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/04/2024	ND	0.8000		
Chromium, total	ug/L	MW-39	09/24/2014	ND	8.0000		
Chromium, total	ug/L	MW-39	12/05/2014	ND	8.0000		
Chromium, total	ug/L	MW-39	03/11/2015	ND	8.0000		
Chromium, total	ug/L	MW-39	06/16/2015	ND	8.0000		
Chromium, total	ug/L	MW-39	09/17/2015	ND	8.0000		
Chromium, total	ug/L	MW-39	03/22/2016	ND	8.0000		
Chromium, total	ug/L	MW-39	09/15/2016	ND	8.0000		
Chromium, total	ug/L	MW-39	03/23/2017	ND	8.0000		
Chromium, total	ug/L	MW-39	09/08/2017	ND	8.0000		
Chromium, total	ug/L	MW-39	03/19/2018	ND	8.0000		
Chromium, total	ug/L	MW-39	09/11/2018	ND	8.0000		
Chromium, total	ug/L	MW-39	03/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-39	09/04/2019	ND	8.0000		
Chromium, total	ug/L	MW-39	03/26/2020	ND	8.0000		
Chromium, total	ug/L	MW-39	09/15/2020	ND	8.0000		
Chromium, total	ug/L	MW-39	03/02/2021	ND	8.0000		
Chromium, total	ug/L	MW-39	09/07/2021	ND	8.0000		
Chromium, total	ug/L	MW-39	03/24/2022	ND	8.0000		
Chromium, total	ug/L	MW-39	08/31/2022	ND	8.0000		
Chromium, total	ug/L	MW-39	03/02/2023	ND	8.0000		
Chromium, total	ug/L	MW-39	09/12/2023	ND	8.0000		
Chromium, total	ug/L	MW-39	03/04/2024	ND	8.0000		
Cobalt, total	ug/L	MW-39	09/24/2014	ND	0.8000		
Cobalt, total	ug/L	MW-39	12/05/2014	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/11/2015	ND	0.8000		
Cobalt, total	ug/L	MW-39	06/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/17/2015	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/22/2016	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/15/2016	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/23/2017	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/08/2017	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/19/2018	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/11/2018	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/26/2019	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/04/2019	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/26/2020	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/15/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	03/02/2021		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	
Cobalt, total	ug/L	MW-39	09/07/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	03/24/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	08/31/2022		0.8000		
Cobalt, total	ug/L	MW-39	03/02/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	09/12/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	03/04/2024	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Copper, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Copper, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Copper, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Copper, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Copper, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Copper, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Copper, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Copper, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Copper, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Copper, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Copper, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Copper, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Copper, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Copper, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Copper, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Copper, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Copper, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Copper, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Copper, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Copper, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Copper, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Lead, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Lead, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Lead, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Lead, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Lead, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Lead, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Lead, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Lead, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Lead, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Lead, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Lead, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Lead, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Lead, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Lead, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Lead, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Lead, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Lead, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Lead, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Lead, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Lead, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Lead, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Lead, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Nickel, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Nickel, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Nickel, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Nickel, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Nickel, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Nickel, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Nickel, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Nickel, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Nickel, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Nickel, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Nickel, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Nickel, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Nickel, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Nickel, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Nickel, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Nickel, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Nickel, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Nickel, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Nickel, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Nickel, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Nickel, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Selenium, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Selenium, total	ug/L	MW-39	12/05/2014	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-39	03/11/2015	ND	4.0000		
Selenium, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Selenium, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Selenium, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Selenium, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Selenium, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Selenium, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Selenium, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Selenium, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Selenium, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Selenium, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Selenium, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Selenium, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Selenium, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Selenium, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Selenium, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Selenium, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Selenium, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Selenium, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Selenium, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Silver, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Silver, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Silver, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Silver, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Silver, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Silver, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Silver, total	ug/L	MW-39	09/15/2016		6.4000		
Silver, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Silver, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Silver, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Silver, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Silver, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Silver, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Silver, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Silver, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Silver, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Silver, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Silver, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Silver, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Silver, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Silver, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Silver, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Thallium, total	ug/L	MW-39	09/24/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	12/05/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	03/11/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	06/16/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	09/17/2015		2.4000		
Thallium, total	ug/L	MW-39	03/22/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	09/15/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	03/23/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	09/08/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	03/19/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	09/11/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	03/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-39	09/04/2019	ND	2.0000		
Thallium, total	ug/L	MW-39	03/26/2020	ND	2.0000		
Thallium, total	ug/L	MW-39	09/15/2020	ND	2.0000		
Thallium, total	ug/L	MW-39	03/02/2021	ND	2.0000		
Thallium, total	ug/L	MW-39	09/07/2021	ND	2.0000		
Thallium, total	ug/L	MW-39	03/24/2022	ND	2.0000		
Thallium, total	ug/L	MW-39	08/31/2022	ND	2.0000		
Thallium, total	ug/L	MW-39	03/02/2023	ND	2.0000		
Thallium, total	ug/L	MW-39	09/12/2023	ND	2.0000		
Thallium, total	ug/L	MW-39	03/04/2024	ND	2.0000		
Vanadium, total	ug/L	MW-39	09/24/2014	ND	20.0000		
Vanadium, total	ug/L	MW-39	12/05/2014	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/11/2015	ND	20.0000		
Vanadium, total	ug/L	MW-39	06/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/17/2015	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/22/2016	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/15/2016	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/23/2017	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/08/2017	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/19/2018	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-39	09/11/2018	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/04/2019	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/26/2020	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/15/2020	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/02/2021	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/07/2021	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/24/2022	ND	20.0000		
Vanadium, total	ug/L	MW-39	08/31/2022	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/02/2023	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/12/2023	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/04/2024	ND	20.0000		
Zinc, total	ug/L	MW-39	09/24/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	12/05/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	03/11/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	06/16/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	09/17/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	03/22/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	09/15/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	03/23/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	09/08/2017	ND	20.0000		
Zinc, total	ug/L	MW-39	03/19/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	09/11/2018	ND	20.0000		
Zinc, total	ug/L	MW-39	03/26/2019		24.6000		
Zinc, total	ug/L	MW-39	09/04/2019	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	03/26/2020	ND	20.0000		
Zinc, total	ug/L	MW-39	09/15/2020	ND	20.0000		
Zinc, total	ug/L	MW-39	03/02/2021	ND	20.0000		
Zinc, total	ug/L	MW-39	09/07/2021	ND	20.0000		
Zinc, total	ug/L	MW-39	03/24/2022	ND	20.0000		
Zinc, total	ug/L	MW-39	08/31/2022	ND	20.0000		
Zinc, total	ug/L	MW-39	03/02/2023	ND	20.0000		
Zinc, total	ug/L	MW-39	09/12/2023	ND	20.0000		
Zinc, total	ug/L	MW-39	03/04/2024	ND	20.0000		
Antimony, total	ug/L	MW-48	09/24/2014	ND	2.0000		
Antimony, total	ug/L	MW-48	12/05/2014	ND	2.0000		
Antimony, total	ug/L	MW-48	03/11/2015	ND	2.0000		
Antimony, total	ug/L	MW-48	06/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-48	09/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-48	03/22/2016	ND	2.0000		
Antimony, total	ug/L	MW-48	09/14/2016	ND	2.0000		
Antimony, total	ug/L	MW-48	03/23/2017	ND	2.0000		
Antimony, total	ug/L	MW-48	09/08/2017	ND	2.0000		
Antimony, total	ug/L	MW-48	03/19/2018	ND	2.0000		
Antimony, total	ug/L	MW-48	09/11/2018	ND	2.0000		
Antimony, total	ug/L	MW-48	03/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-48	09/04/2019	ND	2.0000		
Antimony, total	ug/L	MW-48	03/26/2020	ND	2.0000		
Antimony, total	ug/L	MW-48	09/15/2020	ND	2.0000		
Antimony, total	ug/L	MW-48	03/02/2021	ND	2.0000		
Antimony, total	ug/L	MW-48	09/07/2021	ND	2.0000		
Antimony, total	ug/L	MW-48	03/24/2022	ND	2.0000		
Antimony, total	ug/L	MW-48	08/31/2022	ND	2.0000		
Antimony, total	ug/L	MW-48	03/02/2023	ND	2.0000		
Antimony, total	ug/L	MW-48	09/12/2023	ND	2.0000		
Antimony, total	ug/L	MW-48	03/04/2024	ND	2.0000		
Arsenic, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Arsenic, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Arsenic, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/24/2022	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	
Arsenic, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Barium, total	ug/L	MW-48	09/24/2014		181.0000		
Barium, total	ug/L	MW-48	12/05/2014		168.0000		
Barium, total	ug/L	MW-48	03/11/2015		143.0000		
Barium, total	ug/L	MW-48	06/16/2015		161.0000		
Barium, total	ug/L	MW-48	09/16/2015		150.0000		
Barium, total	ug/L	MW-48	03/22/2016		153.0000		
Barium, total	ug/L	MW-48	09/14/2016		140.0000		
Barium, total	ug/L	MW-48	03/23/2017		146.0000		
Barium, total	ug/L	MW-48	09/08/2017		171.0000		
Barium, total	ug/L	MW-48	03/19/2018		145.0000		
Barium, total	ug/L	MW-48	09/11/2018		151.0000		
Barium, total	ug/L	MW-48	03/26/2019		153.0000		
Barium, total	ug/L	MW-48	09/04/2019		160.0000		
Barium, total	ug/L	MW-48	03/26/2020		156.0000		
Barium, total	ug/L	MW-48	09/15/2020		152.0000		
Barium, total	ug/L	MW-48	03/02/2021		159.0000		
Barium, total	ug/L	MW-48	09/07/2021		149.0000		
Barium, total	ug/L	MW-48	03/24/2022		143.0000		
Barium, total	ug/L	MW-48	08/31/2022		157.0000		
Barium, total	ug/L	MW-48	03/02/2023		149.0000		
Barium, total	ug/L	MW-48	09/12/2023		168.0000		
Barium, total	ug/L	MW-48	03/04/2024		149.0000		
Beryllium, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Beryllium, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Beryllium, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Beryllium, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Cadmium, total	ug/L	MW-48	09/24/2014	ND	0.8000		
Cadmium, total	ug/L	MW-48	12/05/2014	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/11/2015	ND	0.8000		
Cadmium, total	ug/L	MW-48	06/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/22/2016	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/14/2016	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/23/2017	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/08/2017	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/19/2018	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/11/2018	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/26/2019	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/04/2019	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/26/2020	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/15/2020	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/02/2021	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/07/2021	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/24/2022	ND	0.8000		
Cadmium, total	ug/L	MW-48	08/31/2022	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/02/2023	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/12/2023	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/04/2024	ND	0.8000		
Chromium, total	ug/L	MW-48	09/24/2014	ND	8.0000		
Chromium, total	ug/L	MW-48	12/05/2014	ND	8.0000		
Chromium, total	ug/L	MW-48	03/11/2015	ND	8.0000		
Chromium, total	ug/L	MW-48	06/16/2015	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-48	09/16/2015	ND	8.0000		
Chromium, total	ug/L	MW-48	03/22/2016	ND	8.0000		
Chromium, total	ug/L	MW-48	09/14/2016	ND	8.0000		
Chromium, total	ug/L	MW-48	03/23/2017	ND	8.0000		
Chromium, total	ug/L	MW-48	09/08/2017	ND	8.0000		
Chromium, total	ug/L	MW-48	03/19/2018	ND	8.0000		
Chromium, total	ug/L	MW-48	09/11/2018	ND	8.0000		
Chromium, total	ug/L	MW-48	03/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-48	09/04/2019	ND	8.0000		
Chromium, total	ug/L	MW-48	03/26/2020	ND	8.0000		
Chromium, total	ug/L	MW-48	09/15/2020	ND	8.0000		
Chromium, total	ug/L	MW-48	03/02/2021	ND	8.0000		
Chromium, total	ug/L	MW-48	09/07/2021	ND	8.0000		
Chromium, total	ug/L	MW-48	03/24/2022	ND	8.0000		
Chromium, total	ug/L	MW-48	08/31/2022	ND	8.0000		
Chromium, total	ug/L	MW-48	03/02/2023	ND	8.0000		
Chromium, total	ug/L	MW-48	09/12/2023	ND	8.0000		
Chromium, total	ug/L	MW-48	03/04/2024	ND	8.0000		
Cobalt, total	ug/L	MW-48	09/24/2014	ND	0.8000		
Cobalt, total	ug/L	MW-48	12/05/2014	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/11/2015	ND	0.8000		
Cobalt, total	ug/L	MW-48	06/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/22/2016	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/14/2016	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/23/2017	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/08/2017	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/19/2018	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/11/2018	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/26/2019	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/04/2019	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/26/2020	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/15/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	03/02/2021		0.9000		
Cobalt, total	ug/L	MW-48	09/07/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	03/24/2022		0.4000		
Cobalt, total	ug/L	MW-48	08/31/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	03/02/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	09/12/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	03/04/2024	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Copper, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Copper, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Copper, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Copper, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Copper, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Copper, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Copper, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Copper, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Copper, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Copper, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Copper, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Copper, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Copper, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Copper, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Copper, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Copper, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Copper, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Copper, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Copper, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Copper, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Copper, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Lead, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Lead, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Lead, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Lead, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Lead, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Lead, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Lead, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Lead, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Lead, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Lead, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Lead, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Lead, total	ug/L	MW-48	03/26/2019	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	
Lead, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Lead, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Lead, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Lead, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Lead, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Lead, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Lead, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Lead, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Lead, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Lead, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Nickel, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Nickel, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Nickel, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Nickel, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Nickel, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Nickel, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Nickel, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Nickel, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Nickel, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Nickel, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Nickel, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Nickel, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Nickel, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Nickel, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Nickel, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Nickel, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Nickel, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Nickel, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Nickel, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Nickel, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Selenium, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Selenium, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Selenium, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Selenium, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Selenium, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Selenium, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Selenium, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Selenium, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Selenium, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Selenium, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Selenium, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Selenium, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Selenium, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Selenium, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Selenium, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Selenium, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Selenium, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Selenium, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Selenium, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Selenium, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Selenium, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Selenium, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Silver, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Silver, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Silver, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Silver, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Silver, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Silver, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Silver, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Silver, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Silver, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Silver, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Silver, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Silver, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Silver, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Silver, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Silver, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Silver, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Silver, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Silver, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Silver, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Silver, total	ug/L	MW-48	03/02/2023	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-48	09/12/2023	ND	4.0000		
Silver, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Thallium, total	ug/L	MW-48	09/24/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	12/05/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/11/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	06/16/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	09/16/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/22/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	09/14/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/23/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	09/08/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/19/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	09/11/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-48	09/04/2019	ND	2.0000		
Thallium, total	ug/L	MW-48	03/26/2020	ND	2.0000		
Thallium, total	ug/L	MW-48	09/15/2020	ND	2.0000		
Thallium, total	ug/L	MW-48	03/02/2021	ND	2.0000		
Thallium, total	ug/L	MW-48	09/07/2021	ND	2.0000		
Thallium, total	ug/L	MW-48	03/24/2022	ND	2.0000		
Thallium, total	ug/L	MW-48	08/31/2022	ND	2.0000		
Thallium, total	ug/L	MW-48	03/02/2023	ND	2.0000		
Thallium, total	ug/L	MW-48	09/12/2023	ND	2.0000		
Thallium, total	ug/L	MW-48	03/04/2024	ND	2.0000		
Vanadium, total	ug/L	MW-48	09/24/2014	ND	20.0000		
Vanadium, total	ug/L	MW-48	12/05/2014	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/11/2015	ND	20.0000		
Vanadium, total	ug/L	MW-48	06/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/22/2016	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/14/2016	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/23/2017	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/08/2017	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/19/2018	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/11/2018	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/04/2019	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/26/2020	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/15/2020	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/02/2021	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/07/2021	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/24/2022	ND	20.0000		
Vanadium, total	ug/L	MW-48	08/31/2022	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/02/2023	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/12/2023	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/04/2024	ND	20.0000		
Zinc, total	ug/L	MW-48	09/24/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	12/05/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	03/11/2015		32.3000		
Zinc, total	ug/L	MW-48	06/16/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	09/16/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	03/22/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	09/14/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	03/23/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	09/08/2017	ND	20.0000		
Zinc, total	ug/L	MW-48	03/19/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	09/11/2018	ND	20.0000		
Zinc, total	ug/L	MW-48	03/26/2019	ND	20.0000		
Zinc, total	ug/L	MW-48	09/04/2019	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	03/26/2020	ND	20.0000		
Zinc, total	ug/L	MW-48	09/15/2020	ND	20.0000		
Zinc, total	ug/L	MW-48	03/02/2021	ND	20.0000		
Zinc, total	ug/L	MW-48	09/07/2021	ND	20.0000		
Zinc, total	ug/L	MW-48	03/24/2022	ND	20.0000		
Zinc, total	ug/L	MW-48	08/31/2022	ND	20.0000		
Zinc, total	ug/L	MW-48	03/02/2023	ND	20.0000		
Zinc, total	ug/L	MW-48	09/12/2023	ND	20.0000		
Zinc, total	ug/L	MW-48	03/04/2024	ND	20.0000		
Antimony, total	ug/L	MW-78	09/24/2014	ND	2.0000		
Antimony, total	ug/L	MW-78	12/05/2014	ND	2.0000		
Antimony, total	ug/L	MW-78	03/11/2015	ND	2.0000		
Antimony, total	ug/L	MW-78	06/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-78	09/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-78	03/22/2016	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-78	09/15/2016	ND	2.0000		
Antimony, total	ug/L	MW-78	03/23/2017	ND	2.0000		
Antimony, total	ug/L	MW-78	09/08/2017	ND	2.0000		
Antimony, total	ug/L	MW-78	03/19/2018	ND	2.0000		
Antimony, total	ug/L	MW-78	09/11/2018	ND	2.0000		
Antimony, total	ug/L	MW-78	03/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-78	09/04/2019	ND	2.0000		
Antimony, total	ug/L	MW-78	03/26/2020	ND	2.0000		
Antimony, total	ug/L	MW-78	09/15/2020	ND	2.0000		
Antimony, total	ug/L	MW-78	03/02/2021	ND	2.0000		
Antimony, total	ug/L	MW-78	09/07/2021	ND	2.0000		
Antimony, total	ug/L	MW-78	03/24/2022	ND	2.0000		
Antimony, total	ug/L	MW-78	08/31/2022	ND	2.0000		
Antimony, total	ug/L	MW-78	03/02/2023	ND	2.0000		
Antimony, total	ug/L	MW-78	09/12/2023	ND	2.0000		
Antimony, total	ug/L	MW-78	03/04/2024	ND	2.0000		
Arsenic, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Arsenic, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Arsenic, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Arsenic, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Barium, total	ug/L	MW-78	09/24/2014		304.0000		
Barium, total	ug/L	MW-78	12/05/2014		291.0000		
Barium, total	ug/L	MW-78	03/11/2015		304.0000		
Barium, total	ug/L	MW-78	06/16/2015		329.0000		
Barium, total	ug/L	MW-78	09/16/2015		298.0000		
Barium, total	ug/L	MW-78	03/22/2016		309.0000		
Barium, total	ug/L	MW-78	09/15/2016		311.0000		
Barium, total	ug/L	MW-78	03/23/2017		307.0000		
Barium, total	ug/L	MW-78	09/08/2017		357.0000		
Barium, total	ug/L	MW-78	03/19/2018		320.0000		
Barium, total	ug/L	MW-78	09/11/2018		295.0000		
Barium, total	ug/L	MW-78	03/26/2019		285.0000		
Barium, total	ug/L	MW-78	09/04/2019		332.0000		
Barium, total	ug/L	MW-78	03/26/2020		304.0000		
Barium, total	ug/L	MW-78	09/15/2020		319.0000		
Barium, total	ug/L	MW-78	03/02/2021		304.0000		
Barium, total	ug/L	MW-78	09/07/2021		332.0000		
Barium, total	ug/L	MW-78	03/24/2022		291.0000		
Barium, total	ug/L	MW-78	08/31/2022		340.0000		
Barium, total	ug/L	MW-78	03/02/2023		345.0000		
Barium, total	ug/L	MW-78	09/12/2023		309.0000		
Barium, total	ug/L	MW-78	03/04/2024		341.0000		
Beryllium, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Beryllium, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Beryllium, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/26/2020	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-78	09/15/2020	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Beryllium, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Cadmium, total	ug/L	MW-78	09/24/2014	ND	0.8000		
Cadmium, total	ug/L	MW-78	12/05/2014	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/11/2015	ND	0.8000		
Cadmium, total	ug/L	MW-78	06/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/22/2016	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/15/2016	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/23/2017	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/08/2017	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/19/2018	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/11/2018	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/26/2019	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/04/2019	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/26/2020	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/15/2020	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/02/2021	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/07/2021	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/24/2022	ND	0.8000		
Cadmium, total	ug/L	MW-78	08/31/2022	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/02/2023	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/12/2023	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/04/2024	ND	0.8000		
Chromium, total	ug/L	MW-78	09/24/2014	ND	8.0000		
Chromium, total	ug/L	MW-78	12/05/2014	ND	8.0000		
Chromium, total	ug/L	MW-78	03/11/2015	ND	8.0000		
Chromium, total	ug/L	MW-78	06/16/2015	ND	8.0000		
Chromium, total	ug/L	MW-78	09/16/2015	ND	8.0000		
Chromium, total	ug/L	MW-78	03/22/2016	ND	8.0000		
Chromium, total	ug/L	MW-78	09/15/2016	ND	8.0000		
Chromium, total	ug/L	MW-78	03/23/2017	ND	8.0000		
Chromium, total	ug/L	MW-78	09/08/2017	ND	8.0000		
Chromium, total	ug/L	MW-78	03/19/2018	ND	8.0000		
Chromium, total	ug/L	MW-78	09/11/2018	ND	8.0000		
Chromium, total	ug/L	MW-78	03/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-78	09/04/2019	ND	8.0000		
Chromium, total	ug/L	MW-78	03/26/2020	ND	8.0000		
Chromium, total	ug/L	MW-78	09/15/2020	ND	8.0000		
Chromium, total	ug/L	MW-78	03/02/2021	ND	8.0000		
Chromium, total	ug/L	MW-78	09/07/2021	ND	8.0000		
Chromium, total	ug/L	MW-78	03/24/2022	ND	8.0000		
Chromium, total	ug/L	MW-78	08/31/2022	ND	8.0000		
Chromium, total	ug/L	MW-78	03/02/2023	ND	8.0000		
Chromium, total	ug/L	MW-78	09/12/2023	ND	8.0000		
Chromium, total	ug/L	MW-78	03/04/2024	ND	8.0000		
Cobalt, total	ug/L	MW-78	09/24/2014	ND	0.8000		
Cobalt, total	ug/L	MW-78	12/05/2014	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/11/2015	ND	0.8000		
Cobalt, total	ug/L	MW-78	06/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/22/2016	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/15/2016	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/23/2017	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/08/2017	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/19/2018	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/11/2018	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/26/2019	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/04/2019	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/26/2020	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/15/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	03/02/2021		1.0000		
Cobalt, total	ug/L	MW-78	09/07/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	03/24/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	08/31/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	03/02/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	09/12/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	03/04/2024	ND	0.4000	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	
Copper, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Copper, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Copper, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Copper, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Copper, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Copper, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Copper, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Copper, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Copper, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Copper, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Copper, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Copper, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Copper, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Copper, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Copper, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Copper, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Copper, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Copper, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Copper, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Copper, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Copper, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Copper, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Lead, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Lead, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Lead, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Lead, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Lead, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Lead, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Lead, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Lead, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Lead, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Lead, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Lead, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Lead, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Lead, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Lead, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Lead, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Lead, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Lead, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Lead, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Lead, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Lead, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Lead, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Lead, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Nickel, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Nickel, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Nickel, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Nickel, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Nickel, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Nickel, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Nickel, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Nickel, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Nickel, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Nickel, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Nickel, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Nickel, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Nickel, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Nickel, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Nickel, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Nickel, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Nickel, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Nickel, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Nickel, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Nickel, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Selenium, total	ug/L	MW-78	09/24/2014		5.4000		
Selenium, total	ug/L	MW-78	12/05/2014		5.6000		
Selenium, total	ug/L	MW-78	03/11/2015		6.5000		
Selenium, total	ug/L	MW-78	06/16/2015		8.6000		
Selenium, total	ug/L	MW-78	09/16/2015		8.1000		
Selenium, total	ug/L	MW-78	03/22/2016		8.9000		
Selenium, total	ug/L	MW-78	09/15/2016		9.4000		
Selenium, total	ug/L	MW-78	03/23/2017		10.6000		

*   - 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	
Selenium, total	ug/L	MW-78	09/08/2017		6.9000		
Selenium, total	ug/L	MW-78	03/19/2018		8.3000		
Selenium, total	ug/L	MW-78	09/11/2018		5.6000		
Selenium, total	ug/L	MW-78	03/26/2019		9.5000		
Selenium, total	ug/L	MW-78	09/04/2019		6.8000		
Selenium, total	ug/L	MW-78	03/26/2020		5.4000		
Selenium, total	ug/L	MW-78	09/15/2020		8.5000		
Selenium, total	ug/L	MW-78	03/02/2021		9.4000		
Selenium, total	ug/L	MW-78	09/07/2021		4.9000		
Selenium, total	ug/L	MW-78	03/24/2022		6.3000		
Selenium, total	ug/L	MW-78	08/31/2022		6.2000		
Selenium, total	ug/L	MW-78	03/02/2023		7.9000		
Selenium, total	ug/L	MW-78	09/12/2023		5.8000		
Selenium, total	ug/L	MW-78	03/04/2024		5.7000		
Silver, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Silver, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Silver, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Silver, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Silver, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Silver, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Silver, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Silver, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Silver, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Silver, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Silver, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Silver, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Silver, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Silver, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Silver, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Silver, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Silver, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Silver, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Silver, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Silver, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Silver, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Silver, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Thallium, total	ug/L	MW-78	09/24/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	12/05/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/11/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	06/16/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	09/16/2015	ND	1.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/22/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	09/15/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/23/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	09/08/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/19/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	09/11/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-78	09/04/2019	ND	2.0000		
Thallium, total	ug/L	MW-78	03/26/2020	ND	2.0000		
Thallium, total	ug/L	MW-78	09/15/2020	ND	2.0000		
Thallium, total	ug/L	MW-78	03/02/2021	ND	2.0000		
Thallium, total	ug/L	MW-78	09/07/2021	ND	2.0000		
Thallium, total	ug/L	MW-78	03/24/2022	ND	2.0000		
Thallium, total	ug/L	MW-78	08/31/2022	ND	2.0000		
Thallium, total	ug/L	MW-78	03/02/2023	ND	2.0000		
Thallium, total	ug/L	MW-78	09/12/2023	ND	2.0000		
Thallium, total	ug/L	MW-78	03/04/2024	ND	2.0000		
Vanadium, total	ug/L	MW-78	09/24/2014	ND	20.0000		
Vanadium, total	ug/L	MW-78	12/05/2014	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/11/2015	ND	20.0000		
Vanadium, total	ug/L	MW-78	06/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/22/2016	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/15/2016	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/23/2017	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/08/2017	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/19/2018	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/11/2018	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/04/2019	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/26/2020	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/15/2020	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/02/2021	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	
Vanadium, total	ug/L	MW-78	09/07/2021	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/24/2022	ND	20.0000		
Vanadium, total	ug/L	MW-78	08/31/2022	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/02/2023	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/12/2023	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/04/2024	ND	20.0000		
Zinc, total	ug/L	MW-78	09/24/2014		10.7000		
Zinc, total	ug/L	MW-78	12/05/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	03/11/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	06/16/2015		8.4000		
Zinc, total	ug/L	MW-78	09/16/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	03/22/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	09/15/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	03/23/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	09/08/2017	ND	20.0000		
Zinc, total	ug/L	MW-78	03/19/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	09/11/2018	ND	20.0000		
Zinc, total	ug/L	MW-78	03/26/2019	ND	20.0000		
Zinc, total	ug/L	MW-78	09/04/2019		17.6000		
Zinc, total	ug/L	MW-78	03/26/2020	ND	20.0000		
Zinc, total	ug/L	MW-78	09/15/2020	ND	20.0000		
Zinc, total	ug/L	MW-78	03/02/2021	ND	20.0000		
Zinc, total	ug/L	MW-78	09/07/2021	ND	20.0000		
Zinc, total	ug/L	MW-78	03/24/2022	ND	20.0000		
Zinc, total	ug/L	MW-78	08/31/2022	ND	20.0000		
Zinc, total	ug/L	MW-78	03/02/2023	ND	20.0000		
Zinc, total	ug/L	MW-78	09/12/2023	ND	20.0000		
Zinc, total	ug/L	MW-78	03/04/2024	ND	20.0000		
Antimony, total	ug/L	SW-101	09/14/2016	ND	2.0000		
Antimony, total	ug/L	SW-101	03/23/2017	ND	2.0000		
Antimony, total	ug/L	SW-101	09/08/2017	ND	2.0000		
Antimony, total	ug/L	SW-101	03/19/2018	ND	2.0000		
Antimony, total	ug/L	SW-101	09/11/2018	ND	2.0000		
Antimony, total	ug/L	SW-101	03/26/2019	ND	2.0000		
Antimony, total	ug/L	SW-101	09/04/2019	ND	2.0000		
Arsenic, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Arsenic, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Arsenic, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Arsenic, total	ug/L	SW-101	03/19/2018		4.4000		
Arsenic, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Arsenic, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Arsenic, total	ug/L	SW-101	09/04/2019		7.3000		
Barium, total	ug/L	SW-101	09/14/2016		188.0000		
Barium, total	ug/L	SW-101	03/23/2017		233.0000		
Barium, total	ug/L	SW-101	09/08/2017		272.0000		
Barium, total	ug/L	SW-101	03/19/2018		162.0000		
Barium, total	ug/L	SW-101	09/11/2018		127.0000		
Barium, total	ug/L	SW-101	03/26/2019		160.0000		
Barium, total	ug/L	SW-101	09/04/2019		256.0000		
Beryllium, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Beryllium, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Beryllium, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Beryllium, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Beryllium, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Beryllium, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Beryllium, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Cadmium, total	ug/L	SW-101	09/14/2016	ND	0.8000		
Cadmium, total	ug/L	SW-101	03/23/2017	ND	0.8000		
Cadmium, total	ug/L	SW-101	09/08/2017	ND	0.8000		
Cadmium, total	ug/L	SW-101	03/19/2018	ND	0.8000		
Cadmium, total	ug/L	SW-101	09/11/2018	ND	0.8000		
Cadmium, total	ug/L	SW-101	03/26/2019	ND	0.8000		
Cadmium, total	ug/L	SW-101	09/04/2019	ND	0.8000		
Chromium, total	ug/L	SW-101	09/14/2016	ND	8.0000		
Chromium, total	ug/L	SW-101	03/23/2017	ND	8.0000		
Chromium, total	ug/L	SW-101	09/08/2017	ND	8.0000		
Chromium, total	ug/L	SW-101	03/19/2018	ND	8.0000		
Chromium, total	ug/L	SW-101	09/11/2018	ND	8.0000		
Chromium, total	ug/L	SW-101	03/26/2019	ND	8.0000		
Chromium, total	ug/L	SW-101	09/04/2019	ND	8.0000		
Cobalt, total	ug/L	SW-101	09/14/2016		4.5000		
Cobalt, total	ug/L	SW-101	03/23/2017		4.2000		
Cobalt, total	ug/L	SW-101	09/08/2017		6.9000		
Cobalt, total	ug/L	SW-101	03/19/2018		2.3000		

* - 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	
Cobalt, total	ug/L	SW-101	09/11/2018		1.9000		
Cobalt, total	ug/L	SW-101	03/26/2019		1.8000		
Cobalt, total	ug/L	SW-101	09/04/2019		5.9000		
Copper, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Copper, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Copper, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Copper, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Copper, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Copper, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Copper, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Lead, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Lead, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Lead, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Lead, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Lead, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Lead, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Lead, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Nickel, total	ug/L	SW-101	09/14/2016		8.7000		
Nickel, total	ug/L	SW-101	03/23/2017		5.4000		
Nickel, total	ug/L	SW-101	09/08/2017		8.6000		
Nickel, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Nickel, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Nickel, total	ug/L	SW-101	03/26/2019		4.2000		
Nickel, total	ug/L	SW-101	09/04/2019		7.5000		
Selenium, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Selenium, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Selenium, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Selenium, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Selenium, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Selenium, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Selenium, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Silver, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Silver, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Silver, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Silver, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Silver, total	ug/L	SW-101	09/11/2018	ND	8.0000	4.0000	**
Silver, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Silver, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Thallium, total	ug/L	SW-101	09/14/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	03/23/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	09/08/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	03/19/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	09/11/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	03/26/2019	ND	2.0000		
Thallium, total	ug/L	SW-101	09/04/2019	ND	2.0000		
Vanadium, total	ug/L	SW-101	09/14/2016	ND	20.0000		
Vanadium, total	ug/L	SW-101	03/23/2017	ND	20.0000		
Vanadium, total	ug/L	SW-101	09/08/2017	ND	20.0000		
Vanadium, total	ug/L	SW-101	03/19/2018	ND	20.0000		
Vanadium, total	ug/L	SW-101	09/11/2018	ND	20.0000		
Vanadium, total	ug/L	SW-101	03/26/2019	ND	20.0000		
Vanadium, total	ug/L	SW-101	09/04/2019	ND	20.0000		
Zinc, total	ug/L	SW-101	09/14/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	SW-101	03/23/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	SW-101	09/08/2017	ND	20.0000		
Zinc, total	ug/L	SW-101	03/19/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	SW-101	09/11/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	SW-101	03/26/2019	ND	20.0000		
Zinc, total	ug/L	SW-101	09/04/2019	ND	8.0000	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	MW-36	03/04/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-36	03/04/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-36	03/04/2024		128.0000		357.0000
Beryllium, total	ug/L	MW-36	03/04/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-36	03/04/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-36	03/04/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-36	03/04/2024	ND	0.4000		6.9000
Copper, total	ug/L	MW-36	03/04/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-36	03/04/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-36	03/04/2024	ND	4.0000		8.7000
Selenium, total	ug/L	MW-36	03/04/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-36	03/04/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-36	03/04/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-36	03/04/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-36	03/04/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-41	03/04/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-41	03/04/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-41	03/04/2024		71.2000		357.0000
Beryllium, total	ug/L	MW-41	03/04/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-41	03/04/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-41	03/04/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-41	03/04/2024	ND	0.4000		6.9000
Copper, total	ug/L	MW-41	03/04/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-41	03/04/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-41	03/04/2024	ND	4.0000		8.7000
Selenium, total	ug/L	MW-41	03/04/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-41	03/04/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-41	03/04/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-41	03/04/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-41	03/04/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-42	03/04/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-42	03/04/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-42	03/04/2024		19.4000		357.0000
Beryllium, total	ug/L	MW-42	03/04/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-42	03/04/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-42	03/04/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-42	03/04/2024		0.7000		6.9000
Copper, total	ug/L	MW-42	03/04/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-42	03/04/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-42	03/04/2024	ND	4.0000		8.7000
Selenium, total	ug/L	MW-42	03/04/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-42	03/04/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-42	03/04/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-42	03/04/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-42	03/04/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-58	03/04/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-58	03/04/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-58	03/04/2024		23.8000		357.0000
Beryllium, total	ug/L	MW-58	03/04/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-58	03/04/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-58	03/04/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-58	03/04/2024	ND	0.4000		6.9000
Copper, total	ug/L	MW-58	03/04/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-58	03/04/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-58	03/04/2024		16.7000	***	8.7000
Selenium, total	ug/L	MW-58	03/04/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-58	03/04/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-58	03/04/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-58	03/04/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-58	03/04/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-59	03/04/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-59	03/04/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-59	03/04/2024		33.5000		357.0000
Beryllium, total	ug/L	MW-59	03/04/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-59	03/04/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-59	03/04/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-59	03/04/2024	ND	0.4000		6.9000
Copper, total	ug/L	MW-59	03/04/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-59	03/04/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-59	03/04/2024	ND	4.0000		8.7000
Selenium, total	ug/L	MW-59	03/04/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-59	03/04/2024	ND	4.0000		6.4000

* - 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-59	03/04/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-59	03/04/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-59	03/04/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-60	03/04/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-60	03/04/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-60	03/04/2024		192.0000		357.0000
Beryllium, total	ug/L	MW-60	03/04/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-60	03/04/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-60	03/04/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-60	03/04/2024		0.5000		6.9000
Copper, total	ug/L	MW-60	03/04/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-60	03/04/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-60	03/04/2024	ND	4.0000	**	8.7000
Selenium, total	ug/L	MW-60	03/04/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-60	03/04/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-60	03/04/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-60	03/04/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-60	03/04/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-61	03/04/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-61	03/04/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-61	03/04/2024		48.5000		357.0000
Beryllium, total	ug/L	MW-61	03/04/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-61	03/04/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-61	03/04/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-61	03/04/2024	ND	0.4000		6.9000
Copper, total	ug/L	MW-61	03/04/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-61	03/04/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-61	03/04/2024		4.8000		8.7000
Selenium, total	ug/L	MW-61	03/04/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-61	03/04/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-61	03/04/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-61	03/04/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-61	03/04/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-62R	03/04/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-62R	03/04/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-62R	03/04/2024		1010.0000	***	357.0000
Beryllium, total	ug/L	MW-62R	03/04/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-62R	03/04/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-62R	03/04/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-62R	03/04/2024	ND	0.4000		6.9000
Copper, total	ug/L	MW-62R	03/04/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-62R	03/04/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-62R	03/04/2024	ND	4.0000		8.7000
Selenium, total	ug/L	MW-62R	03/04/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-62R	03/04/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-62R	03/04/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-62R	03/04/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-62R	03/04/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-79	03/04/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-79	03/04/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-79	03/04/2024		57.9000		357.0000
Beryllium, total	ug/L	MW-79	03/04/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-79	03/04/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-79	03/04/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-79	03/04/2024	ND	0.4000		6.9000
Copper, total	ug/L	MW-79	03/04/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-79	03/04/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-79	03/04/2024	ND	4.0000		8.7000
Selenium, total	ug/L	MW-79	03/04/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-79	03/04/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-79	03/04/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-79	03/04/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-79	03/04/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-80	03/04/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-80	03/04/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-80	03/04/2024		131.0000		357.0000
Beryllium, total	ug/L	MW-80	03/04/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-80	03/04/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-80	03/04/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-80	03/04/2024		1.3000		6.9000
Copper, total	ug/L	MW-80	03/04/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-80	03/04/2024	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
Nickel, total	ug/L	MW-80	03/04/2024	ND	4.0000		8.7000
Selenium, total	ug/L	MW-80	03/04/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-80	03/04/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-80	03/04/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-80	03/04/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-80	03/04/2024	ND	20.0000		32.3000
Antimony, total	ug/L	SW-101R	03/04/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	SW-101R	03/04/2024	ND	4.0000		7.3000
Barium, total	ug/L	SW-101R	03/04/2024		240.0000		357.0000
Beryllium, total	ug/L	SW-101R	03/04/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	SW-101R	03/04/2024	ND	0.8000		0.8000
Chromium, total	ug/L	SW-101R	03/04/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	SW-101R	03/04/2024		2.7000		6.9000
Copper, total	ug/L	SW-101R	03/04/2024	ND	4.0000		4.0000
Lead, total	ug/L	SW-101R	03/04/2024	ND	4.0000		4.0000
Nickel, total	ug/L	SW-101R	03/04/2024	ND	4.0000		8.7000
Selenium, total	ug/L	SW-101R	03/04/2024	ND	4.0000		10.6000
Silver, total	ug/L	SW-101R	03/04/2024	ND	4.0000		6.4000
Thallium, total	ug/L	SW-101R	03/04/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	SW-101R	03/04/2024	ND	20.0000		20.0000
Zinc, total	ug/L	SW-101R	03/04/2024	ND	20.0000		32.3000

* - 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	73	0.000	2	294	0.007
Arsenic, total	2	73	0.027	29	294	0.099
Barium, total	73	73	1.000	293	293	1.000
Beryllium, total	0	73	0.000	3	293	0.010
Cadmium, total	0	73	0.000	13	293	0.044
Chromium, total	0	73	0.000	13	294	0.044
Cobalt, total	12	73	0.164	94	298	0.315
Copper, total	0	73	0.000	56	297	0.189
Lead, total	0	73	0.000	20	293	0.068
Nickel, total	5	73	0.068	167	298	0.560
Selenium, total	22	73	0.301	23	293	0.078
Silver, total	1	73	0.014	1	293	0.003
Thallium, total	1	73	0.014	0	293	0.000
Vanadium, total	0	73	0.000	11	294	0.037
Zinc, total	5	73	0.068	76	295	0.258

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	73	0.000									nonpar
Arsenic, total	2	73	0.027									nonpar
Barium, total	73	73	1.000	2.565	2.759					2.326	non-norm	nonpar
Beryllium, total	0	73	0.000									nonpar
Cadmium, total	0	73	0.000									nonpar
Chromium, total	0	73	0.000									nonpar
Cobalt, total	12	73	0.164	0.421	0.600					2.326	normal	nonpar
Copper, total	0	73	0.000									nonpar
Lead, total	0	73	0.000									nonpar
Nickel, total	5	73	0.068	0.460	0.593					2.326	normal	nonpar
Selenium, total	22	73	0.301	1.190	0.968					2.326	normal	nonpar
Silver, total	1	73	0.014									nonpar
Thallium, total	1	73	0.014									nonpar
Vanadium, total	0	73	0.000									nonpar
Zinc, total	5	73	0.068	0.090	0.311					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	73					2.0000	nonpar	***	0.99
Arsenic, total	ug/L	2	73					7.3000	nonpar		0.99
Barium, total	ug/L	73	73					357.0000	nonpar		0.99
Beryllium, total	ug/L	0	73					4.0000	nonpar	***	0.99
Cadmium, total	ug/L	0	73					0.8000	nonpar	***	0.99
Chromium, total	ug/L	0	73					8.0000	nonpar	***	0.99
Cobalt, total	ug/L	12	73					6.9000	nonpar		0.99
Copper, total	ug/L	0	73					4.0000	nonpar	***	0.99
Lead, total	ug/L	0	73					4.0000	nonpar	***	0.99
Nickel, total	ug/L	5	73					8.7000	nonpar		0.99
Selenium, total	ug/L	22	73					10.6000	nonpar		0.99
Silver, total	ug/L	1	73					6.4000	nonpar		0.99
Thallium, total	ug/L	1	73					2.4000	nonpar		0.99
Vanadium, total	ug/L	0	73					20.0000	nonpar	***	0.99
Zinc, total	ug/L	5	73					32.3000	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
1% 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
Nickel, total	ug/L	MW-58	09/27/2010		13.2000	*	8.7000
Nickel, total	ug/L	MW-58	03/23/2011		67.5000	*	8.7000
Nickel, total	ug/L	MW-58	09/08/2011		17.6000	*	8.7000
Nickel, total	ug/L	MW-58	03/09/2012		31.4000	*	8.7000
Nickel, total	ug/L	MW-58	09/25/2012		24.1000	*	8.7000
Nickel, total	ug/L	MW-58	03/15/2013		12.4000	*	8.7000
Nickel, total	ug/L	MW-58	09/25/2013		17.2000	*	8.7000
Nickel, total	ug/L	MW-58	03/25/2014		12.8000	*	8.7000
Nickel, total	ug/L	MW-58	09/24/2014		6.5000		8.7000
Nickel, total	ug/L	MW-58	03/11/2015		8.7000		8.7000
Nickel, total	ug/L	MW-58	09/17/2015		12.8000	*	8.7000
Nickel, total	ug/L	MW-58	03/22/2016		21.2000	*	8.7000
Nickel, total	ug/L	MW-58	09/15/2016		13.3000	*	8.7000
Nickel, total	ug/L	MW-58	03/23/2017		23.8000	*	8.7000
Nickel, total	ug/L	MW-58	09/08/2017		21.1000	*	8.7000
Nickel, total	ug/L	MW-58	03/19/2018		25.5000	*	8.7000
Nickel, total	ug/L	MW-58	09/11/2018		18.4000	*	8.7000
Nickel, total	ug/L	MW-58	12/05/2018		18.4000	*	8.7000
Nickel, total	ug/L	MW-58	03/26/2019		22.9000	*	8.7000
Nickel, total	ug/L	MW-58	09/04/2019		4.3000		8.7000
Nickel, total	ug/L	MW-58	03/26/2020		19.9000	*	8.7000
Nickel, total	ug/L	MW-58	09/15/2020		17.7000	*	8.7000
Nickel, total	ug/L	MW-58	03/02/2021		14.7000	*	8.7000
Nickel, total	ug/L	MW-58	09/07/2021		16.3000	*	8.7000
Nickel, total	ug/L	MW-58	03/24/2022		18.3000	*	8.7000
Nickel, total	ug/L	MW-58	08/31/2022		14.7000	*	8.7000
Nickel, total	ug/L	MW-58	03/02/2023		15.5000	*	8.7000
Nickel, total	ug/L	MW-58	09/12/2023		13.9000	*	8.7000
Nickel, total	ug/L	MW-58	03/04/2024		16.7000	*	8.7000
Nickel, total	ug/L	MW-60	09/28/2010		16.9000	*	8.7000
Nickel, total	ug/L	MW-60	03/23/2011		19.7000	*	8.7000
Nickel, total	ug/L	MW-60	09/08/2011		21.4000	*	8.7000
Nickel, total	ug/L	MW-60	03/09/2012		24.4000	*	8.7000
Nickel, total	ug/L	MW-60	09/25/2012		18.0000	*	8.7000
Nickel, total	ug/L	MW-60	03/15/2013		6.8000		8.7000
Nickel, total	ug/L	MW-60	09/24/2013		26.6000	*	8.7000
Nickel, total	ug/L	MW-60	03/25/2014		14.6000	*	8.7000
Nickel, total	ug/L	MW-60	09/24/2014		7.0000		8.7000
Nickel, total	ug/L	MW-60	03/11/2015	ND	4.0000		8.7000
Nickel, total	ug/L	MW-60	09/17/2015		13.6000	*	8.7000
Nickel, total	ug/L	MW-60	12/17/2015	ND	4.0000		8.7000
Nickel, total	ug/L	MW-60	03/22/2016		7.9000		8.7000
Nickel, total	ug/L	MW-60	09/15/2016		17.3000	*	8.7000
Nickel, total	ug/L	MW-60	03/23/2017	ND	4.0000		8.7000
Nickel, total	ug/L	MW-60	09/08/2017		7.5000		8.7000
Nickel, total	ug/L	MW-60	03/19/2018	ND	4.0000		8.7000
Nickel, total	ug/L	MW-60	09/11/2018	ND	4.0000		8.7000
Nickel, total	ug/L	MW-60	03/26/2019		15.2000	*	8.7000
Nickel, total	ug/L	MW-60	09/04/2019		24.8000	*	8.7000
Nickel, total	ug/L	MW-60	03/26/2020		19.4000	*	8.7000
Nickel, total	ug/L	MW-60	09/15/2020		34.4000	*	8.7000
Nickel, total	ug/L	MW-60	03/02/2021		22.0000	*	8.7000
Nickel, total	ug/L	MW-60	09/07/2021		30.1000	*	8.7000
Nickel, total	ug/L	MW-60	03/24/2022		18.2000	*	8.7000
Nickel, total	ug/L	MW-60	08/31/2022		45.7000	*	8.7000
Nickel, total	ug/L	MW-60	03/02/2023		11.5000	*	8.7000
Nickel, total	ug/L	MW-60	09/12/2023		26.4000	*	8.7000
Nickel, total	ug/L	MW-60	03/04/2024	ND	4.0000		8.7000
Barium, total	ug/L	MW-62R	09/28/2010		775.0000	*	357.0000
Barium, total	ug/L	MW-62R	12/22/2010		805.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/23/2011		688.0000	*	357.0000
Barium, total	ug/L	MW-62R	05/17/2011		716.0000	*	357.0000
Barium, total	ug/L	MW-62R	07/14/2011		615.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/08/2011		706.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/09/2012		651.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/25/2012		612.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/15/2013		685.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/24/2013		925.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/25/2014		706.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/24/2014		833.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/11/2015		773.0000	*	357.0000

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

Table 8

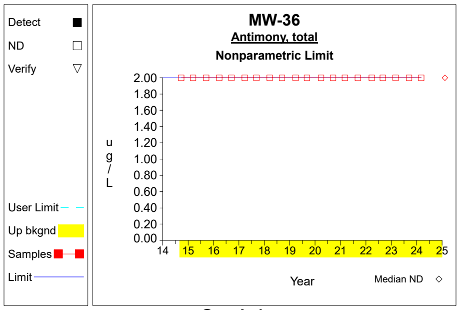
Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Barium, total	ug/L	MW-62R	09/16/2015		802.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/22/2016		817.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/15/2016		784.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/23/2017		831.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/08/2017		864.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/19/2018		858.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/11/2018		816.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/26/2019		891.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/04/2019		917.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/26/2020		1060.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/15/2020		1070.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/02/2021		1010.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/07/2021		1060.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/24/2022		1020.0000	*	357.0000
Barium, total	ug/L	MW-62R	08/31/2022		1060.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/02/2023		1170.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/12/2023		1050.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/04/2024		1010.0000	*	357.0000

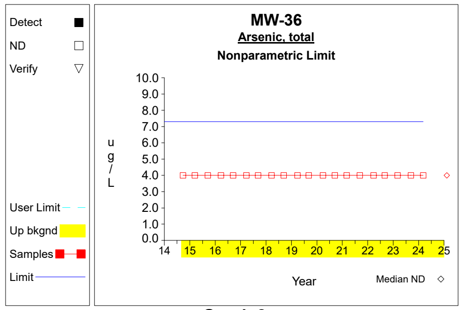
* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Newton [GW] March 2024

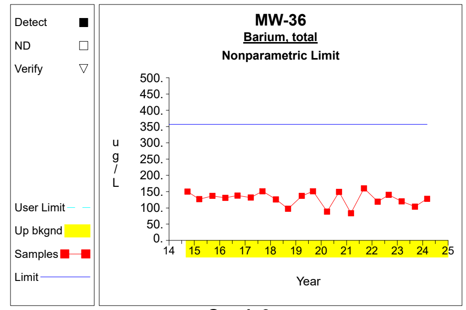
Up vs. Down Prediction Limits



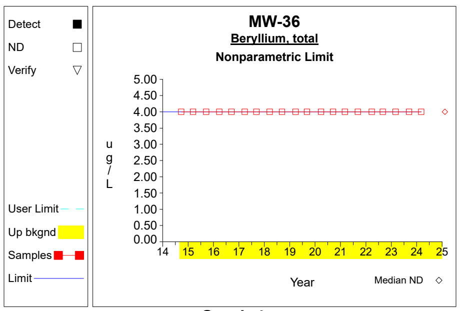
Graph 1



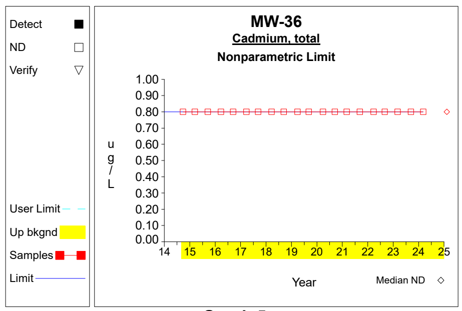
Graph 2



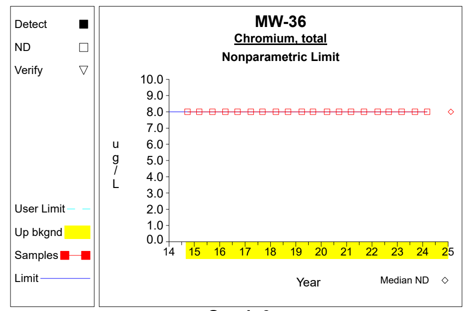
Graph 3



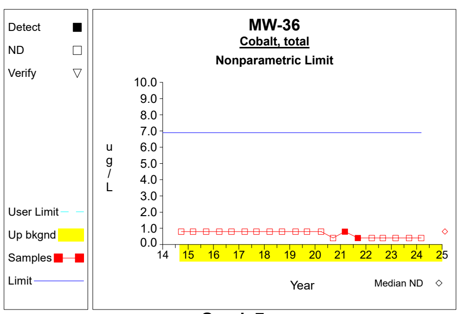
Graph 4



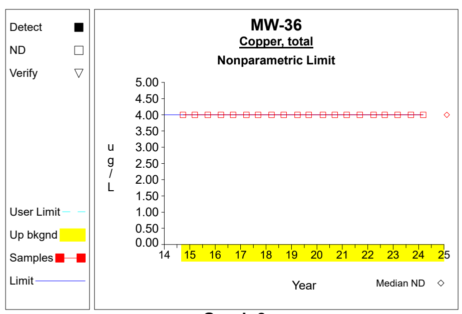
Graph 5



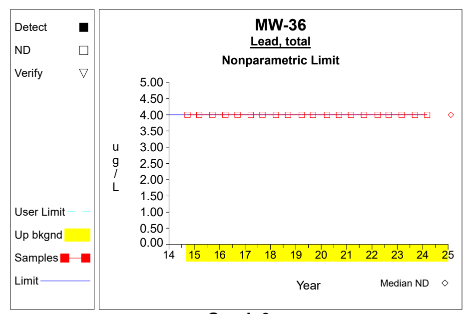
Graph 6



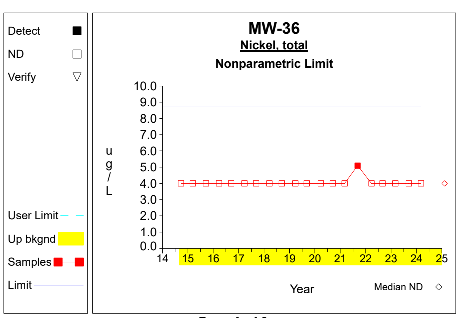
Graph 7



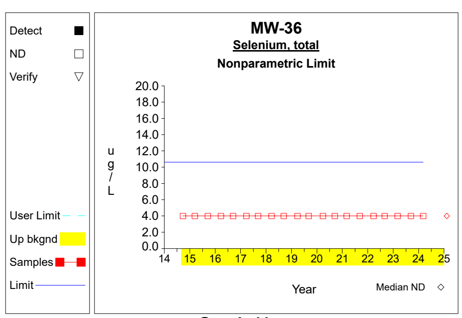
Graph 8



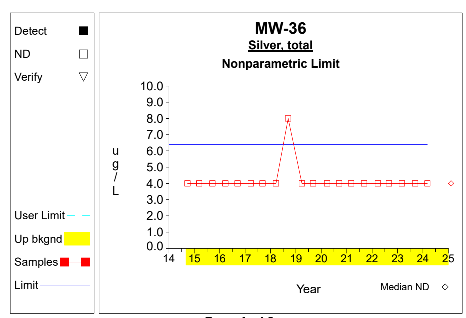
Graph 9



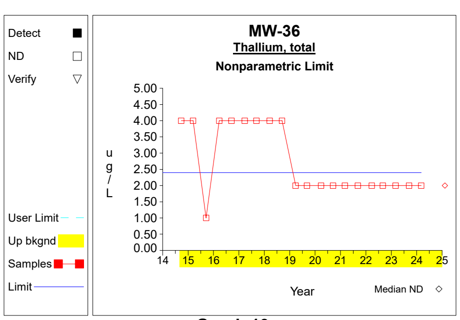
Graph 10



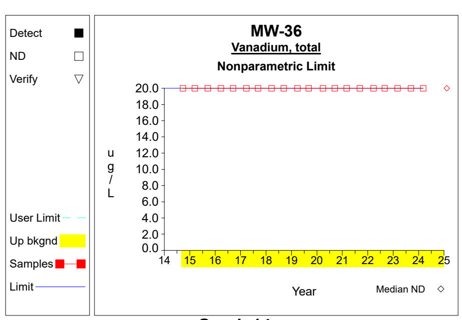
Graph 11



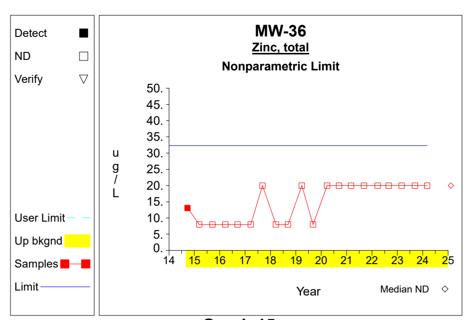
Graph 12



Graph 13



Graph 14

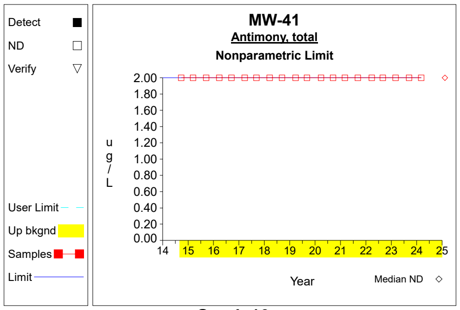


Graph 15

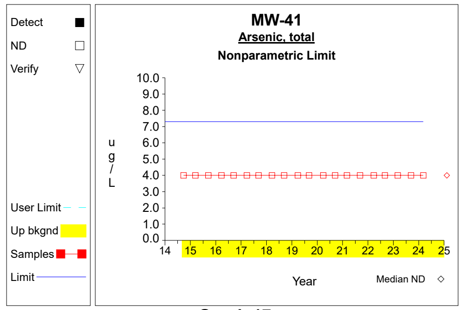
Prepared by: Otter Creek Environmental

Newton [GW] March 2024

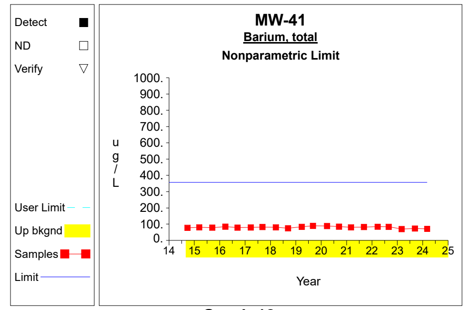
Up vs. Down Prediction Limits



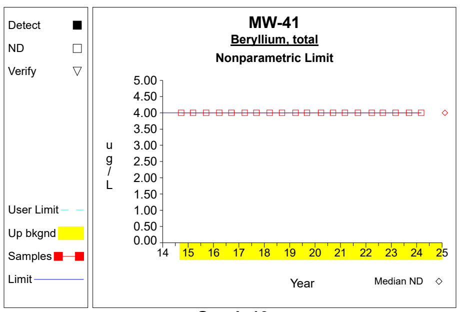
Graph 16



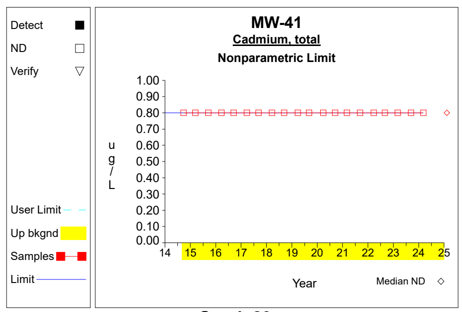
Graph 17



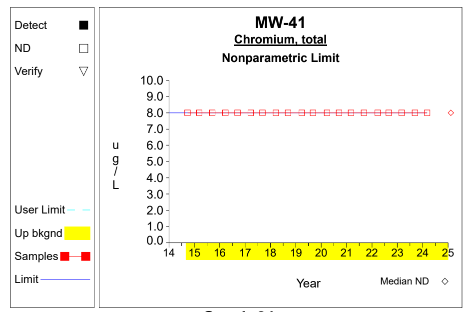
Graph 18



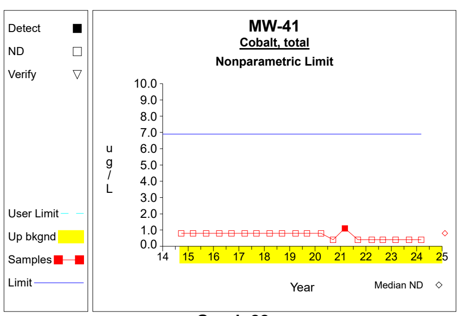
Graph 19



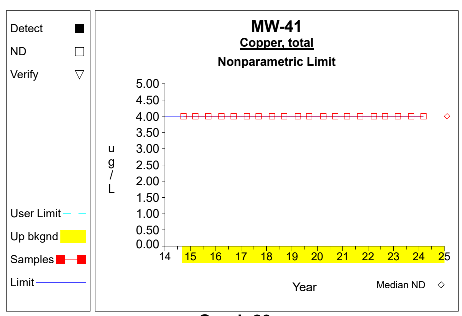
Graph 20



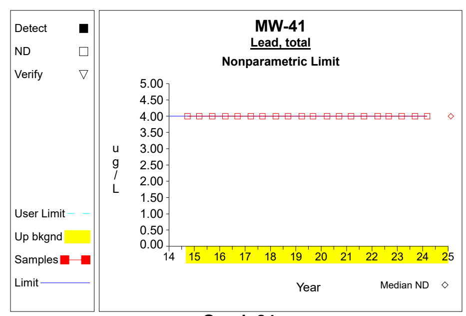
Graph 21



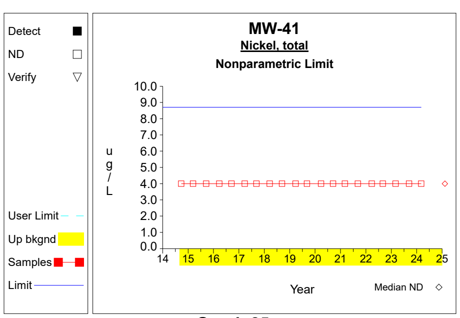
Graph 22



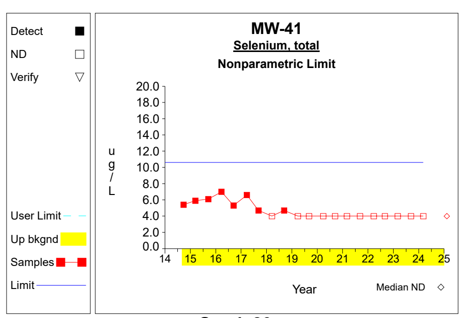
Graph 23



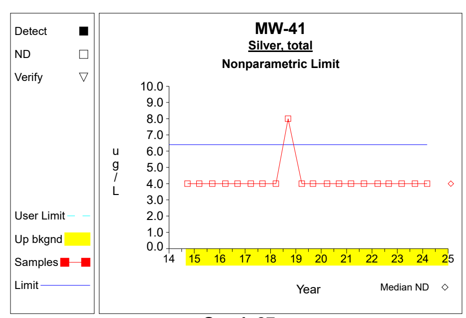
Graph 24



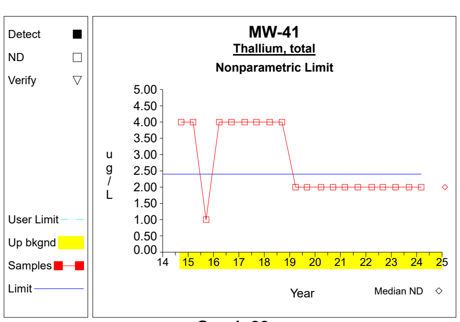
Graph 25



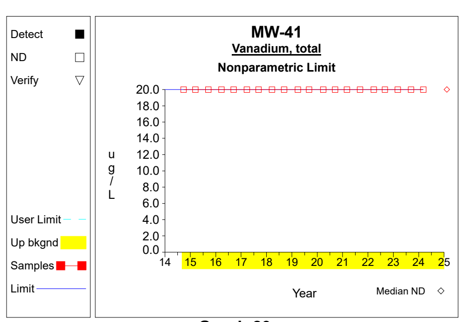
Graph 26



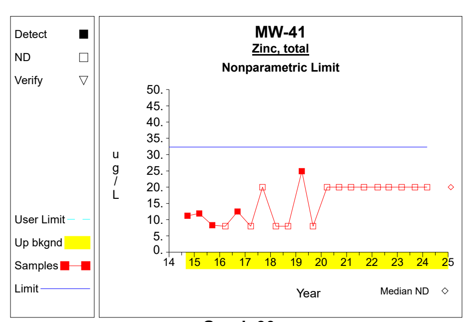
Graph 27



Graph 28



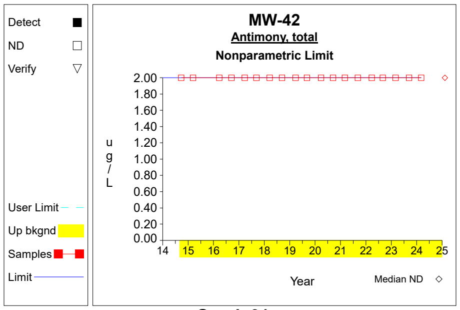
Graph 29



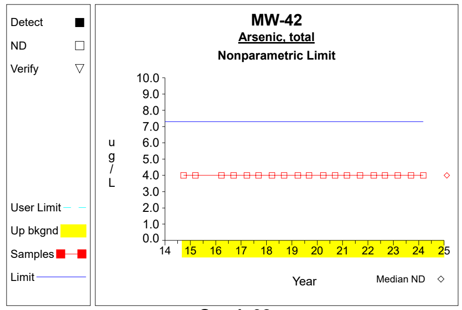
Graph 30

Prepared by: Otter Creek Environmental

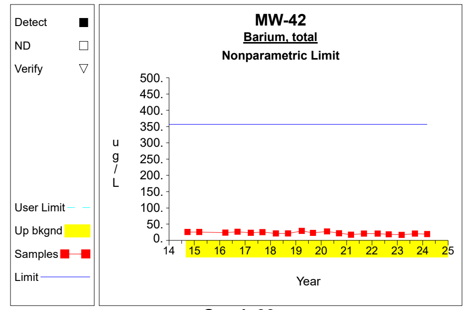
Up vs. Down Prediction Limits



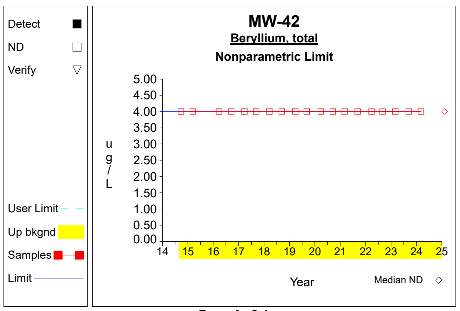
Graph 31



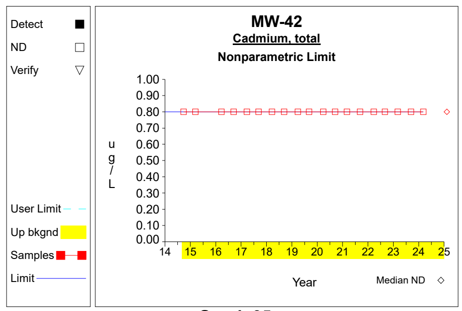
Graph 32



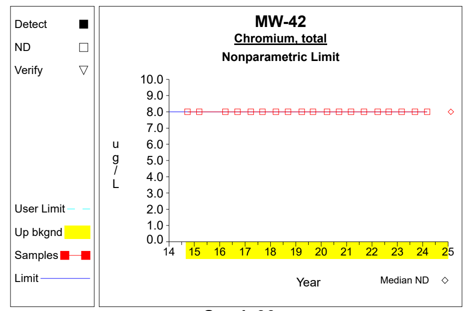
Graph 33



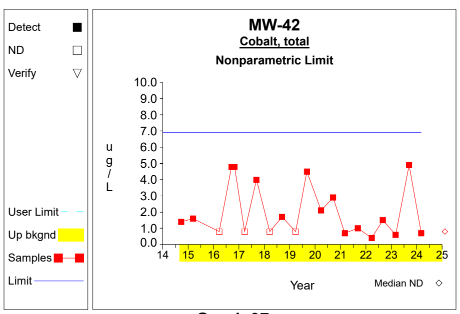
Graph 34



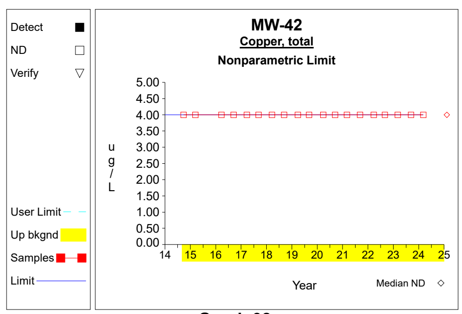
Graph 35



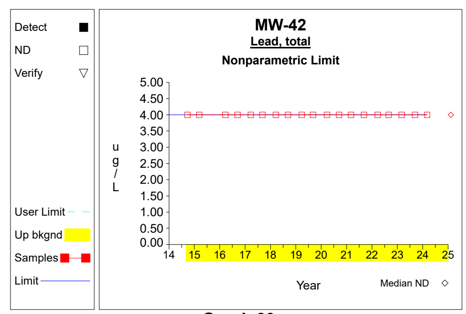
Graph 36



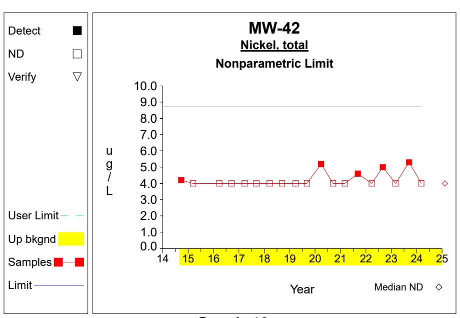
Graph 37



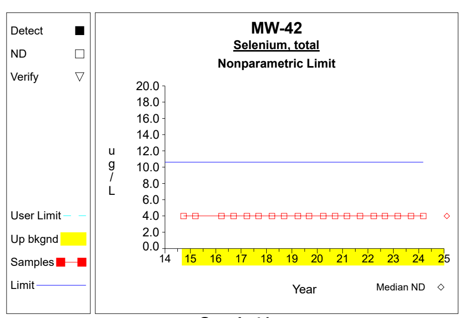
Graph 38



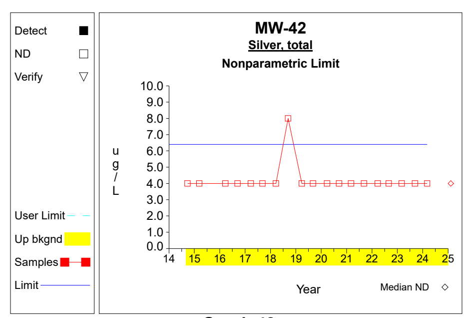
Graph 39



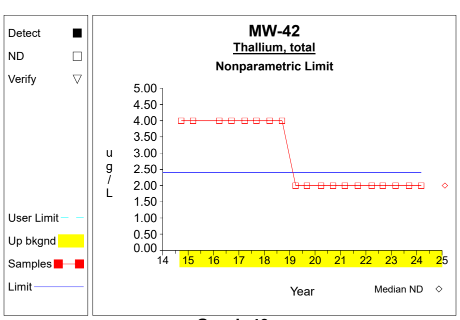
Graph 40



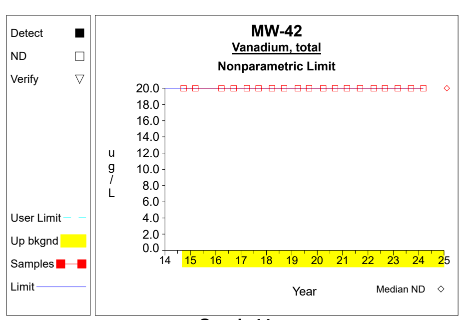
Graph 41



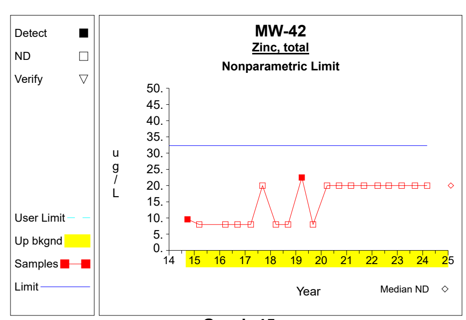
Graph 42



Graph 43

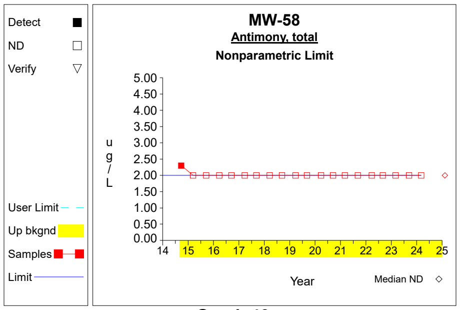


Graph 44

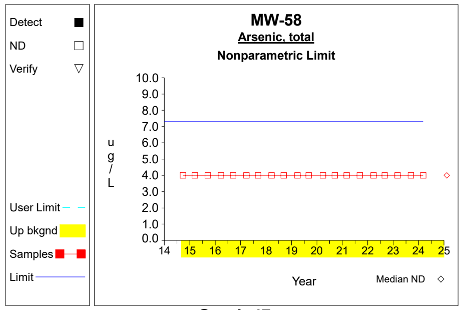


Graph 45

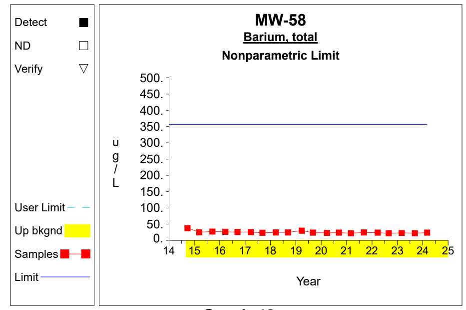
Up vs. Down Prediction Limits



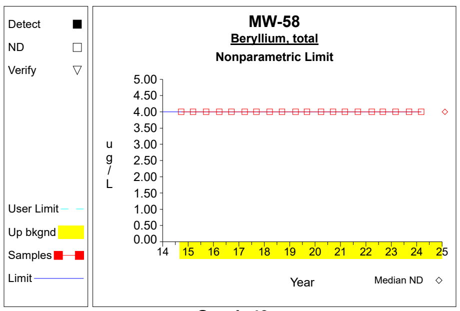
Graph 46



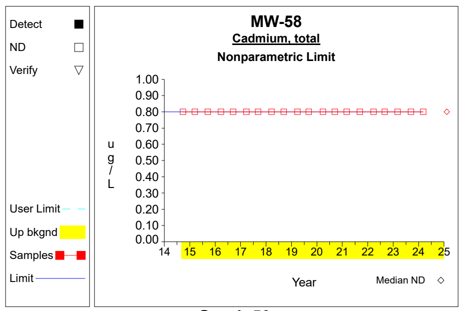
Graph 47



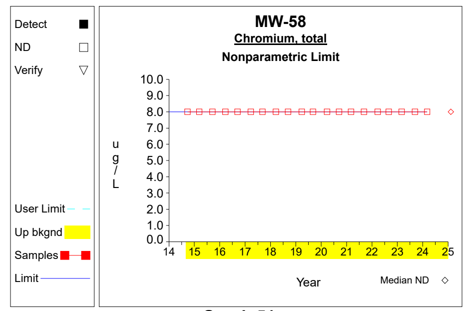
Graph 48



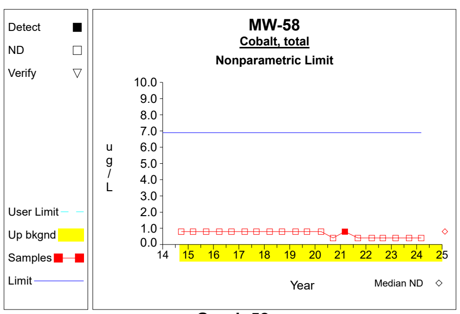
Graph 49



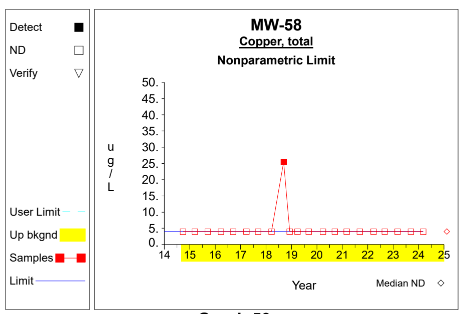
Graph 50



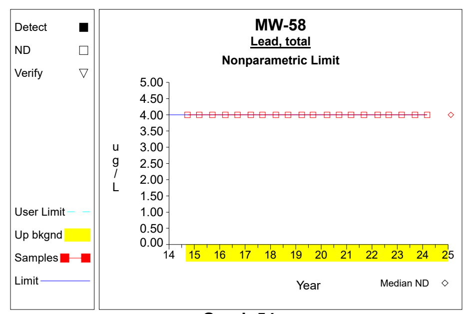
Graph 51



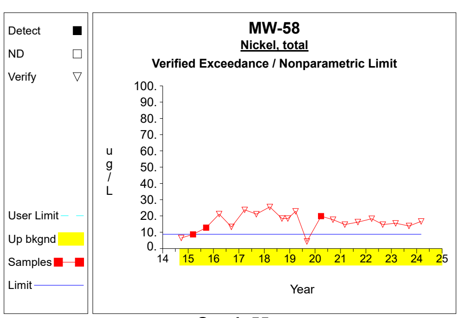
Graph 52



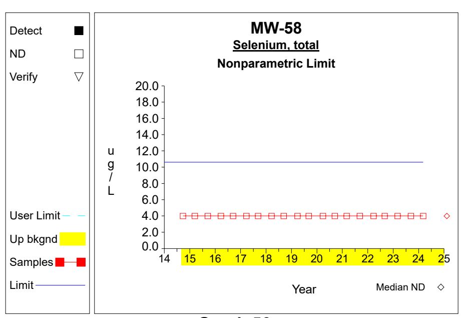
Graph 53



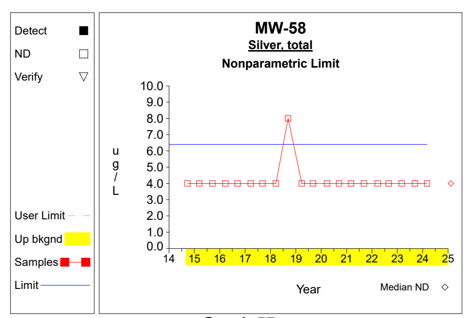
Graph 54



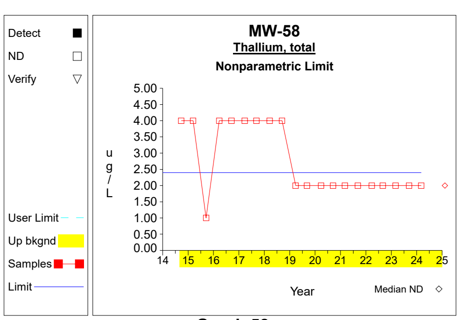
Graph 55



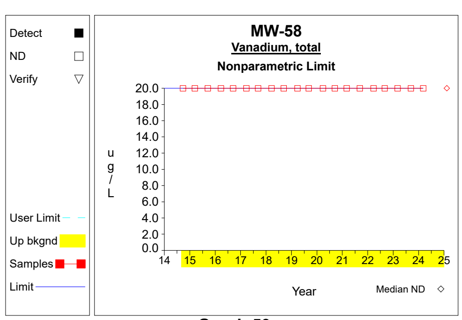
Graph 56



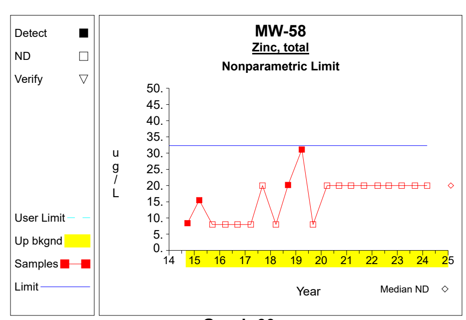
Graph 57



Graph 58

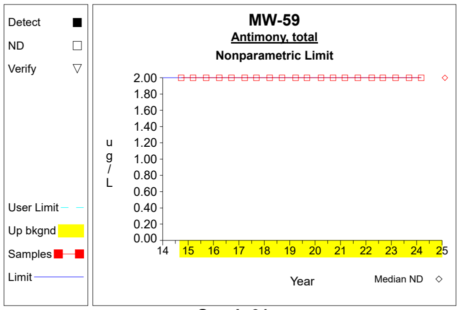


Graph 59

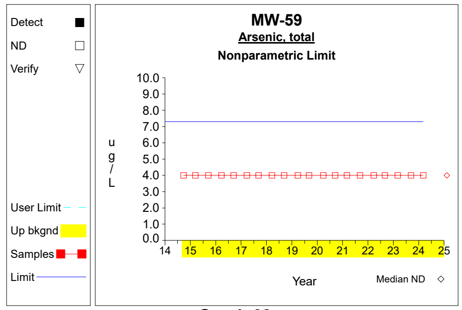


Graph 60

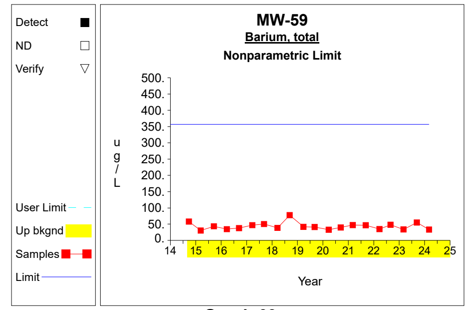
Up vs. Down Prediction Limits



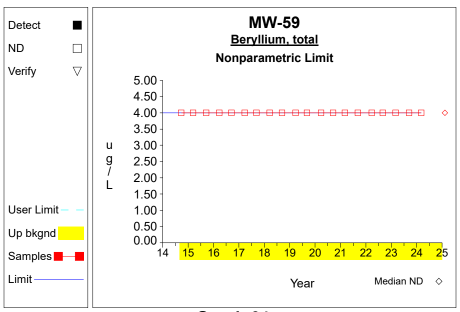
Graph 61



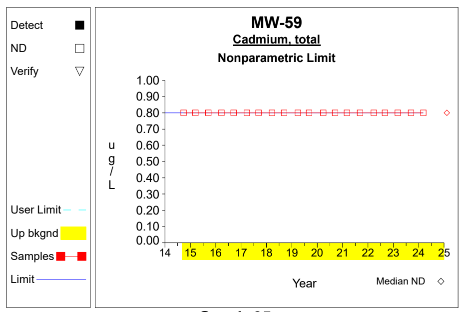
Graph 62



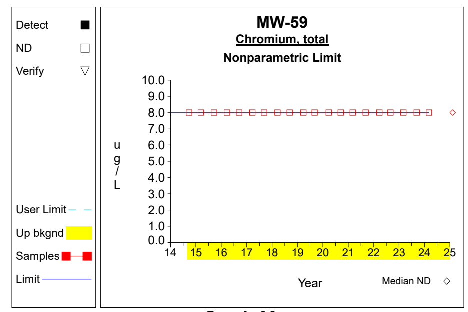
Graph 63



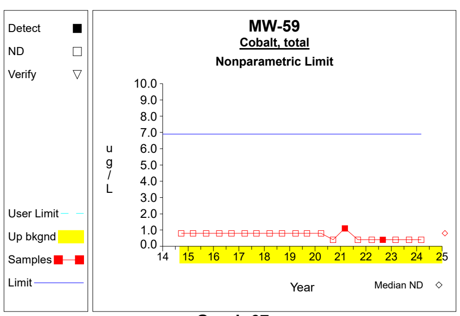
Graph 64



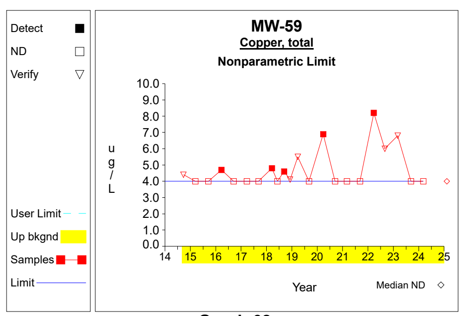
Graph 65



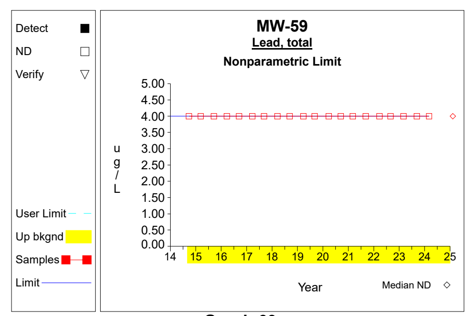
Graph 66



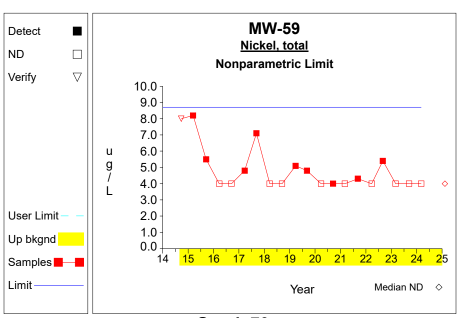
Graph 67



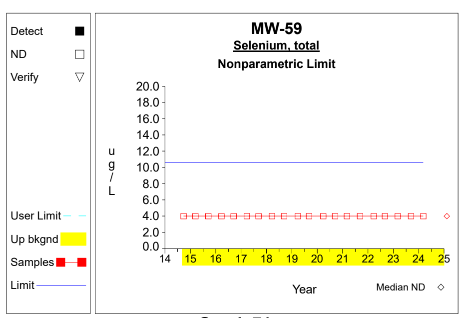
Graph 68



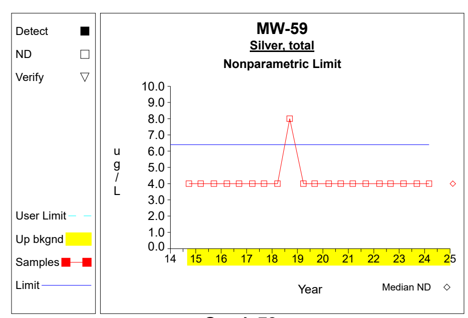
Graph 69



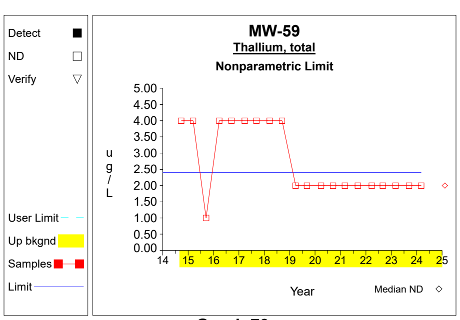
Graph 70



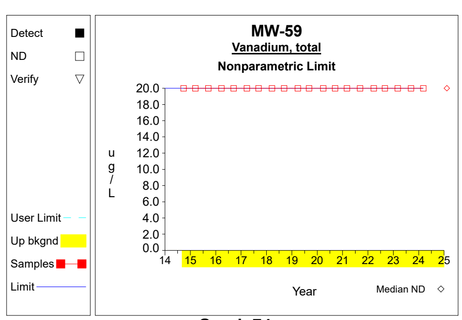
Graph 71



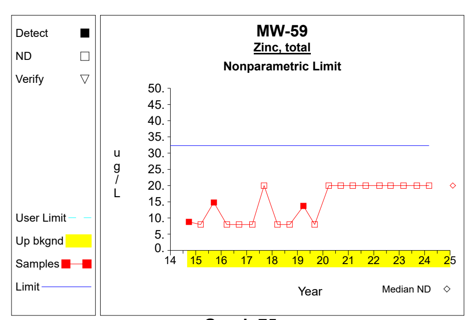
Graph 72



Graph 73

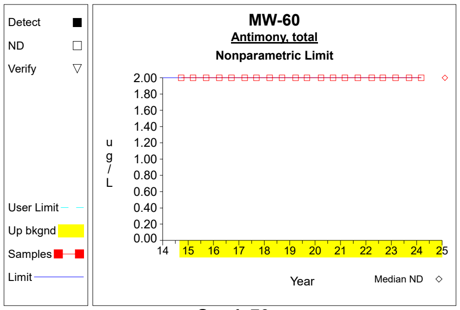


Graph 74

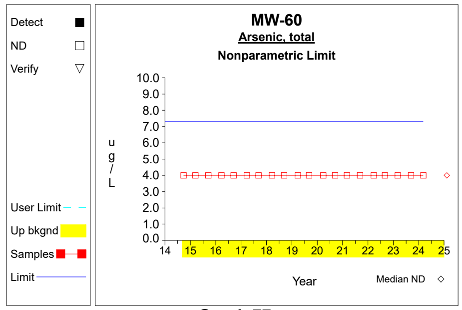


Graph 75

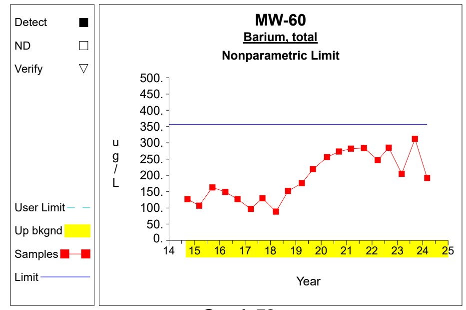
Up vs. Down Prediction Limits



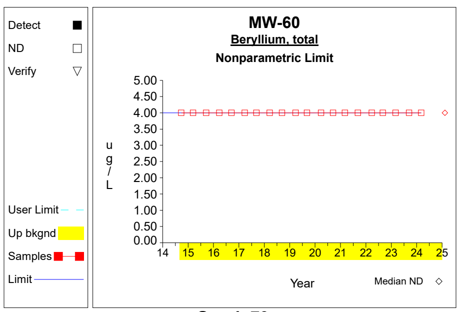
Graph 76



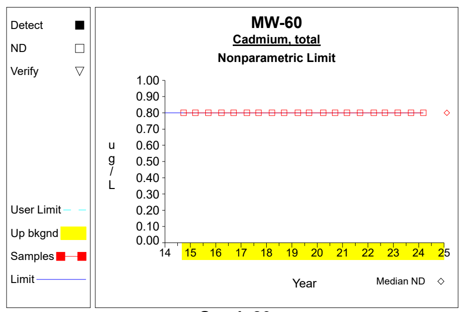
Graph 77



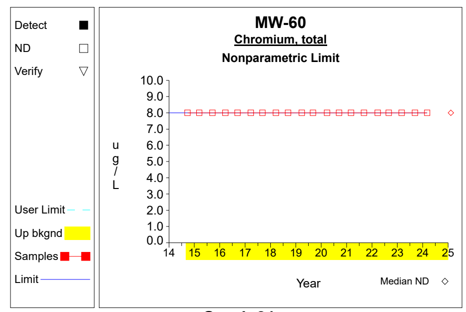
Graph 78



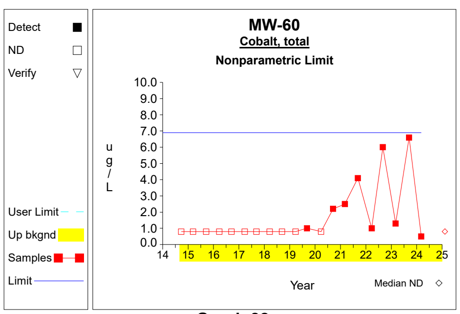
Graph 79



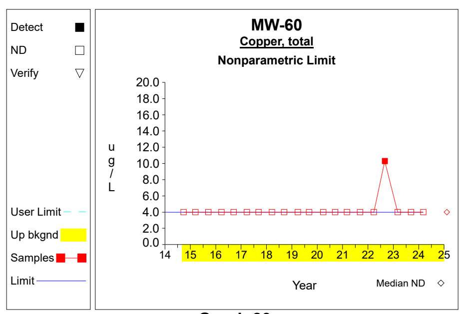
Graph 80



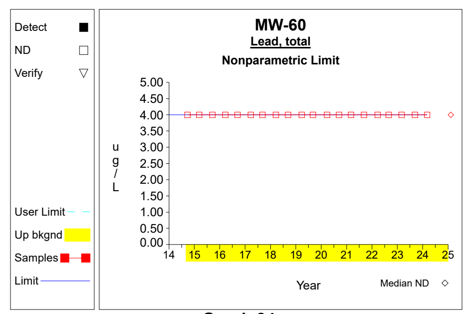
Graph 81



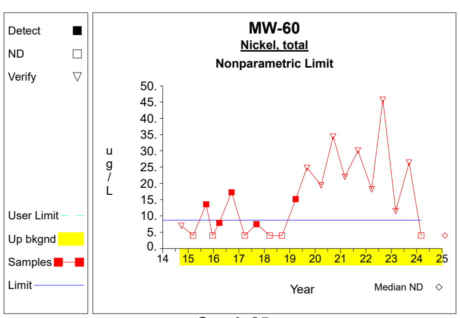
Graph 82



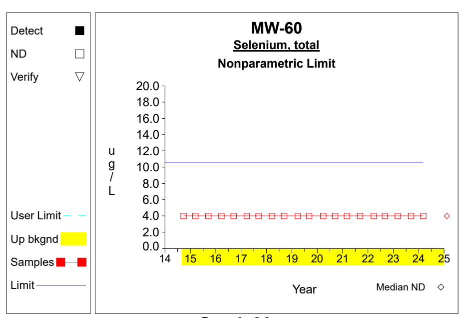
Graph 83



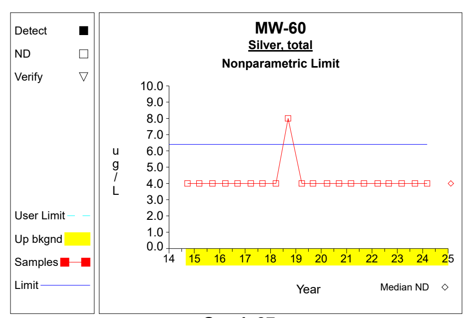
Graph 84



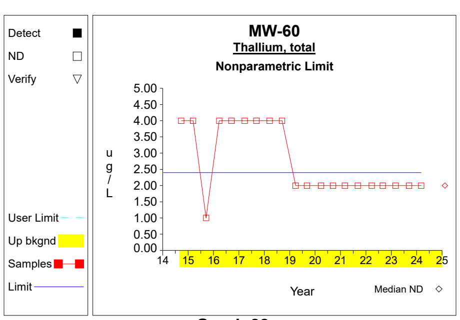
Graph 85



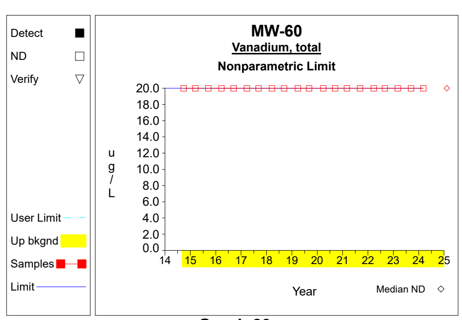
Graph 86



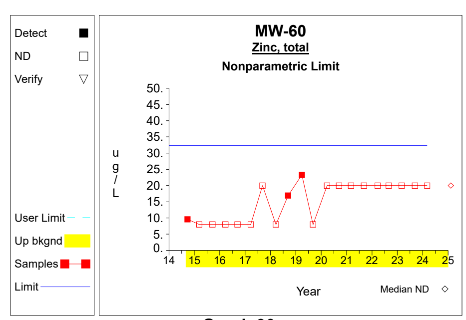
Graph 87



Graph 88



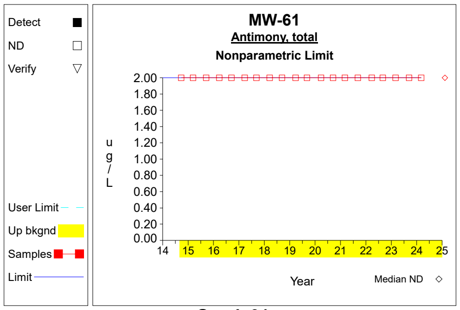
Graph 89



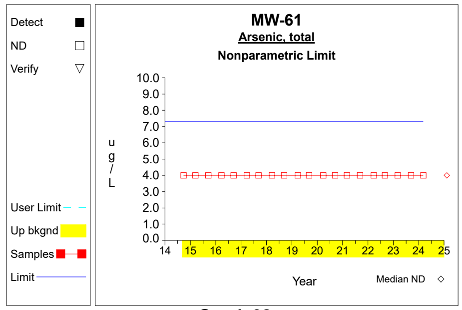
Graph 90

Prepared by: Otter Creek Environmental

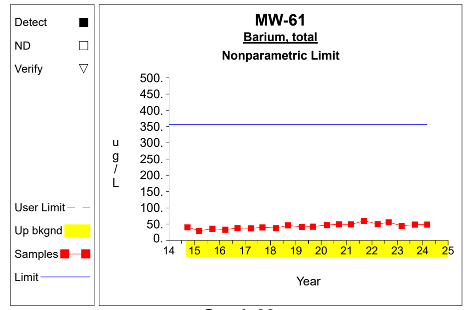
Up vs. Down Prediction Limits



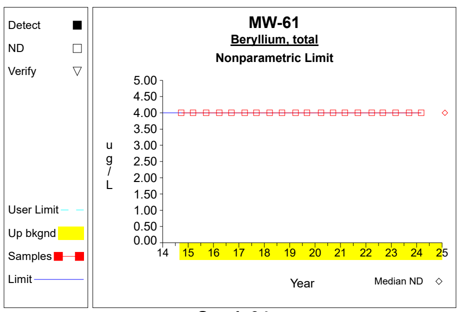
Graph 91



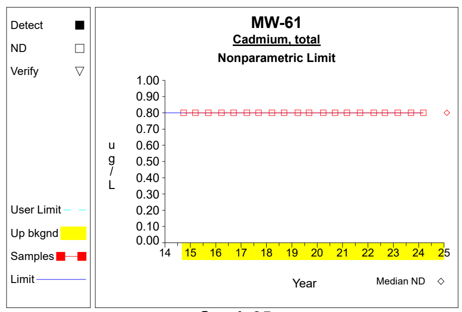
Graph 92



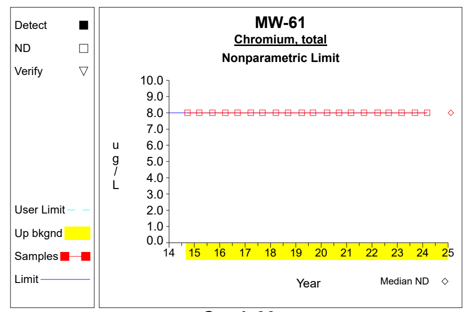
Graph 93



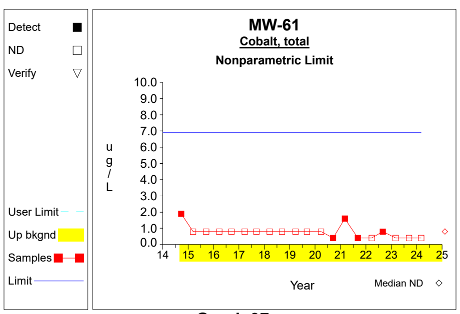
Graph 94



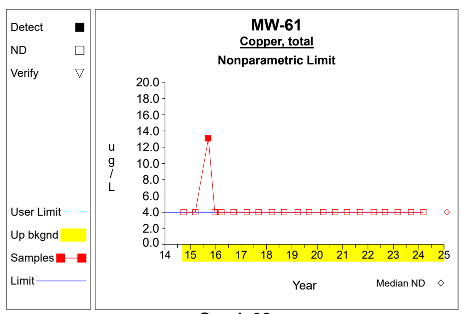
Graph 95



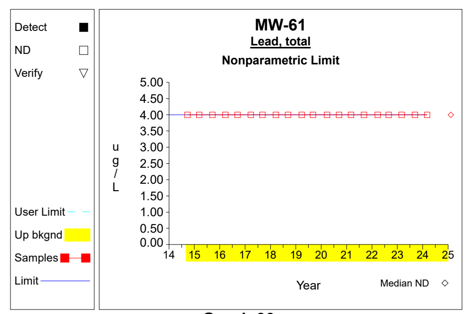
Graph 96



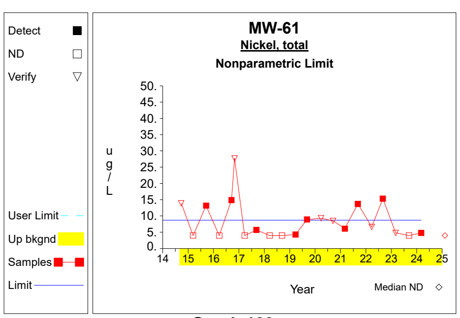
Graph 97



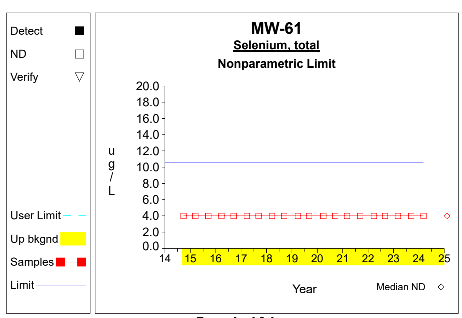
Graph 98



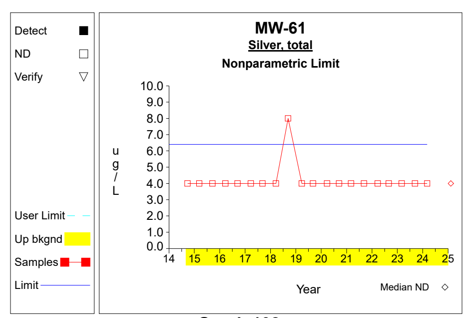
Graph 99



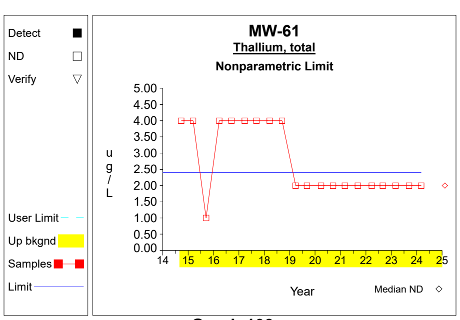
Graph 100



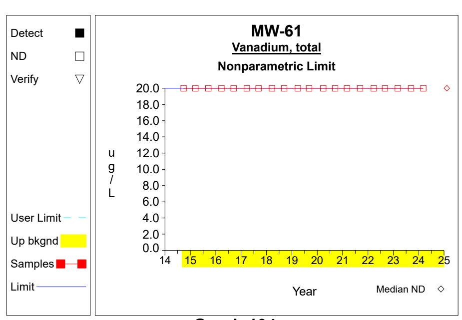
Graph 101



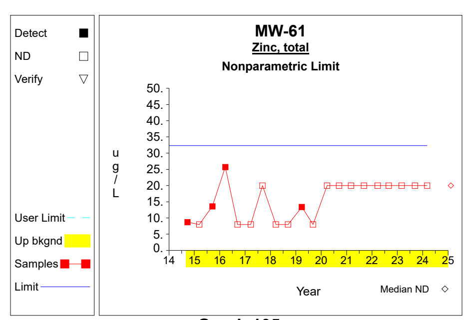
Graph 102



Graph 103

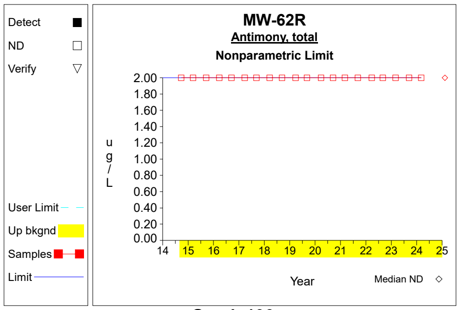


Graph 104

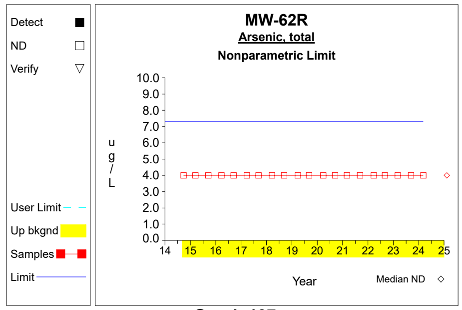


Graph 105

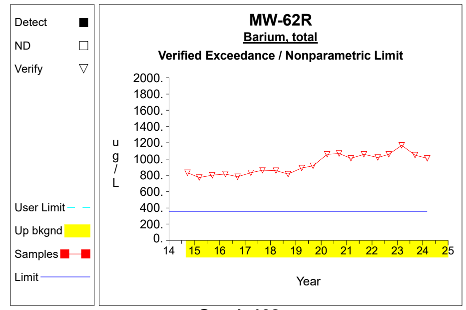
Up vs. Down Prediction Limits



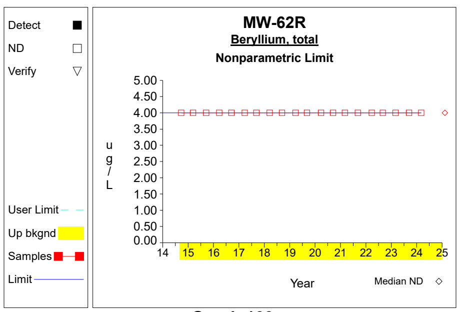
Graph 106



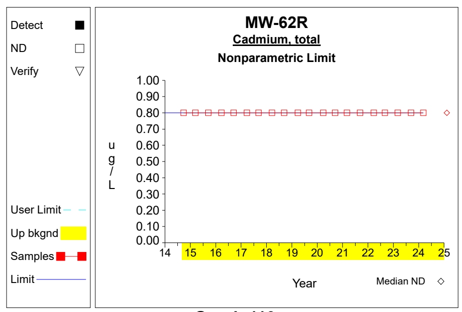
Graph 107



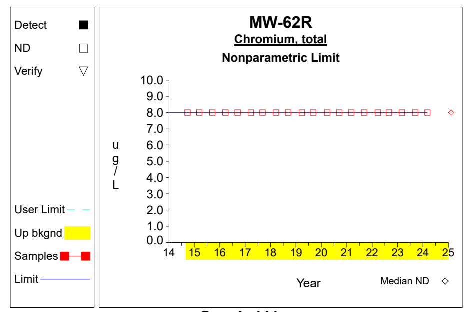
Graph 108



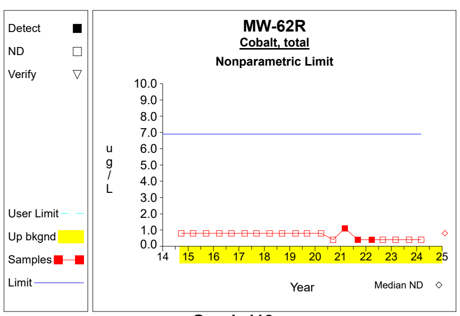
Graph 109



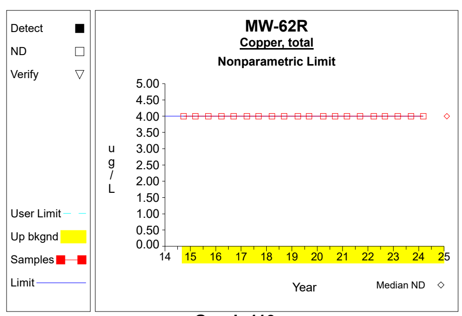
Graph 110



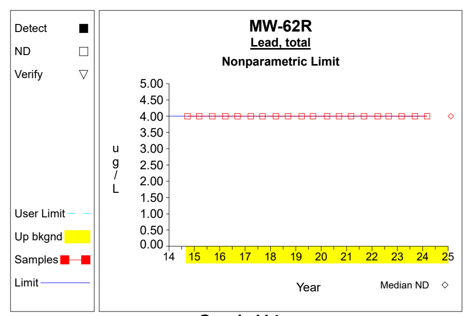
Graph 111



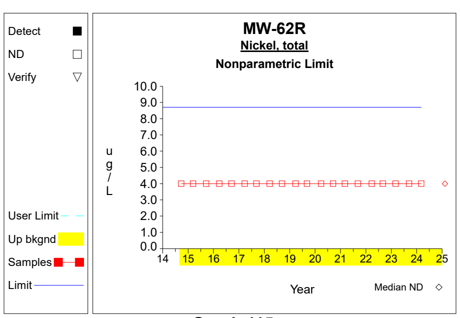
Graph 112



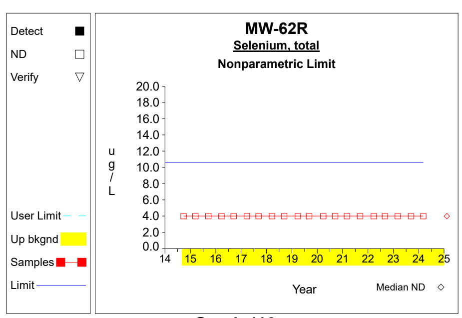
Graph 113



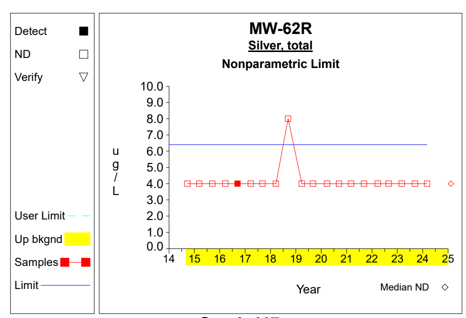
Graph 114



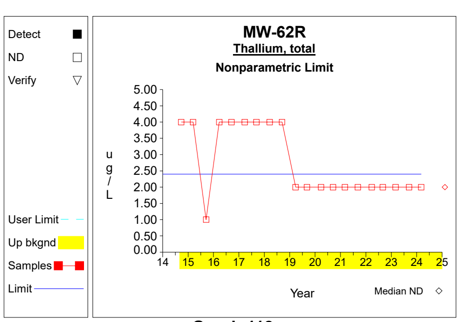
Graph 115



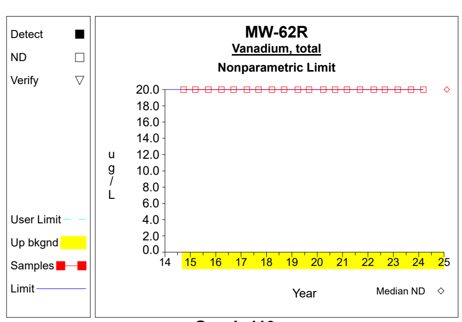
Graph 116



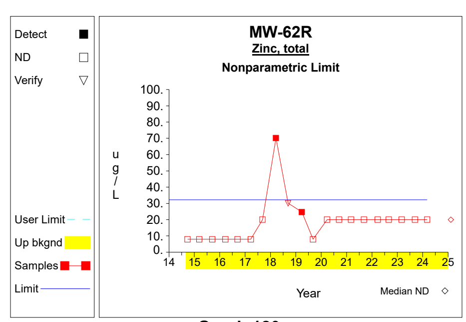
Graph 117



Graph 118

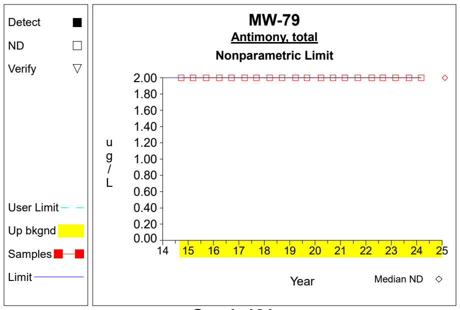


Graph 119

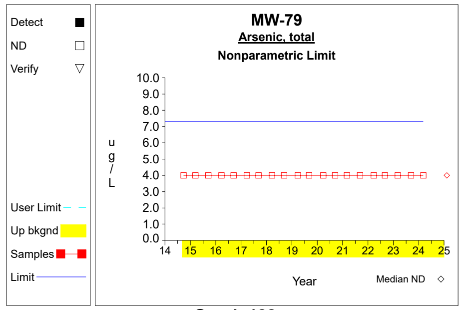


Graph 120

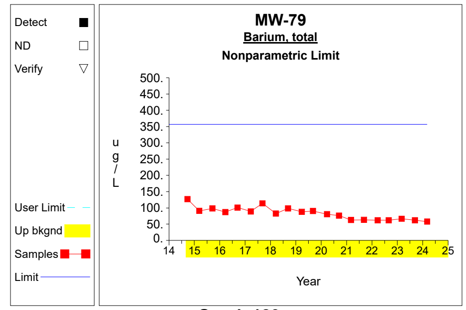
Up vs. Down Prediction Limits



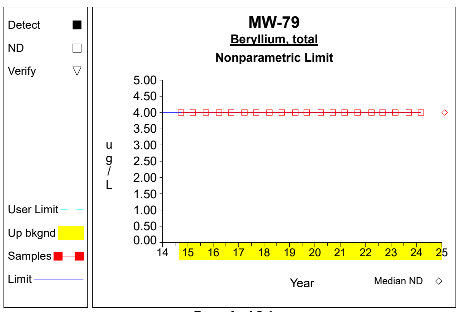
Graph 121



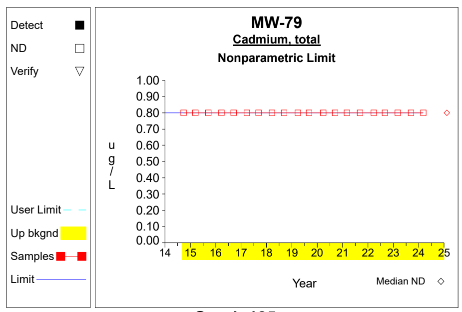
Graph 122



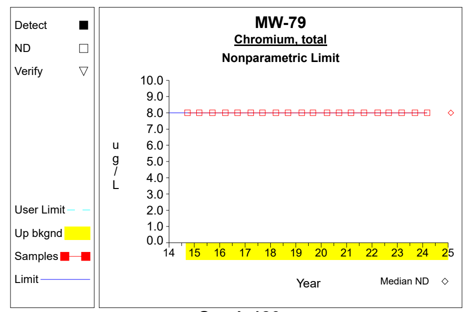
Graph 123



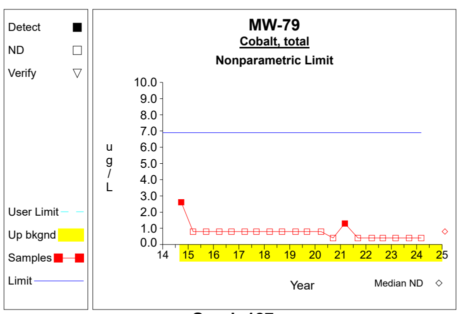
Graph 124



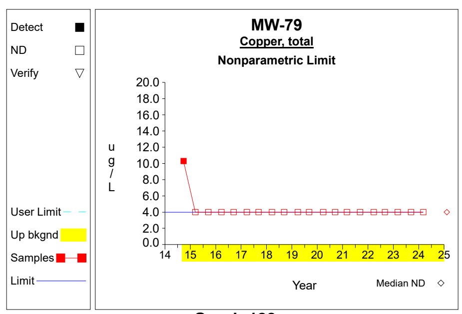
Graph 125



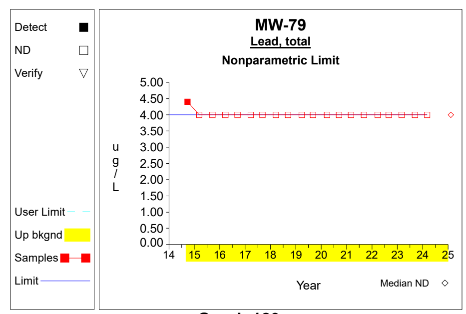
Graph 126



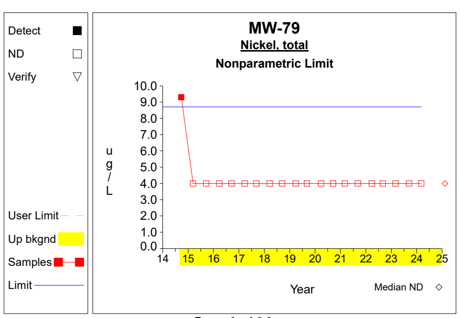
Graph 127



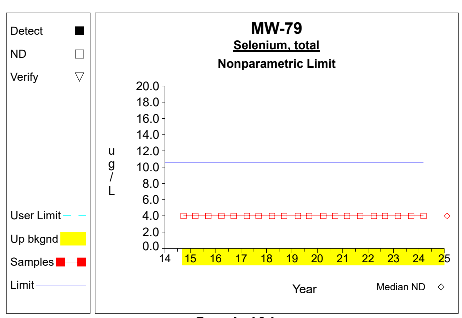
Graph 128



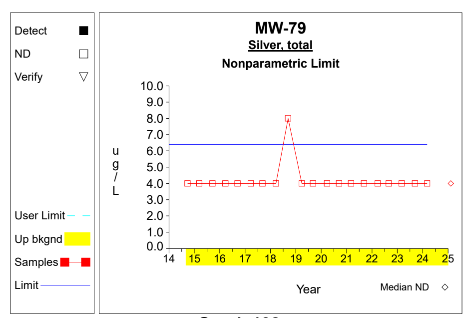
Graph 129



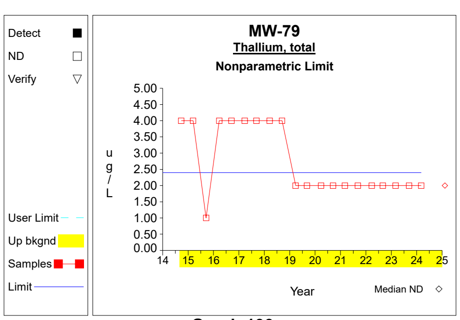
Graph 130



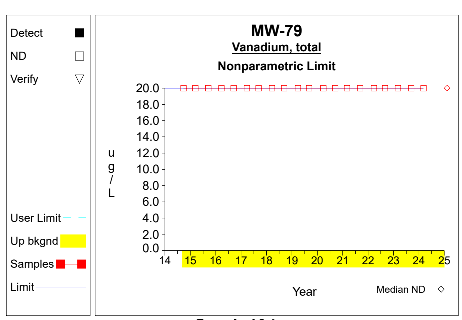
Graph 131



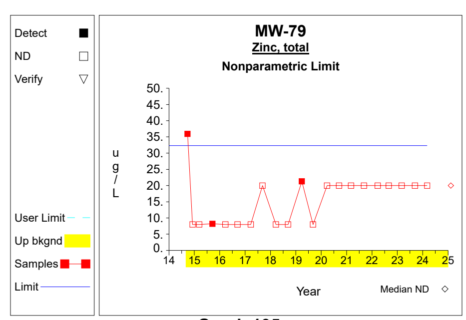
Graph 132



Graph 133

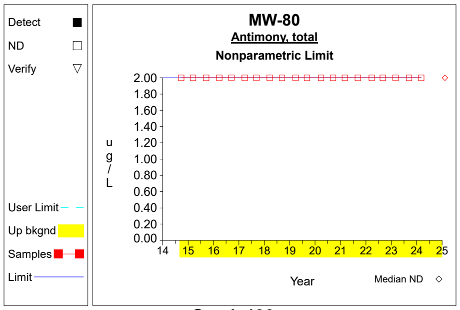


Graph 134

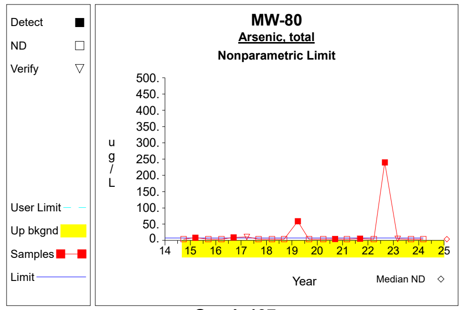


Graph 135

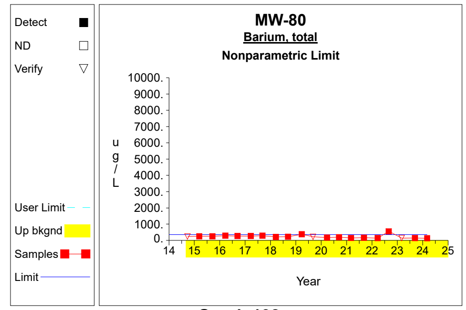
Up vs. Down Prediction Limits



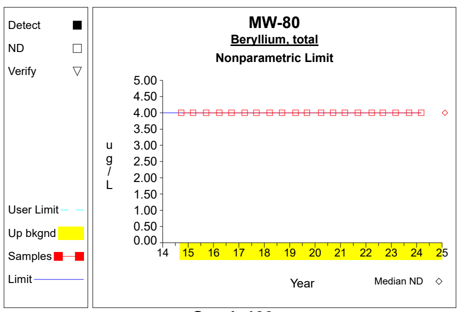
Graph 136



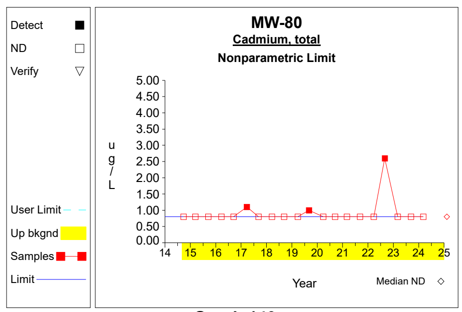
Graph 137



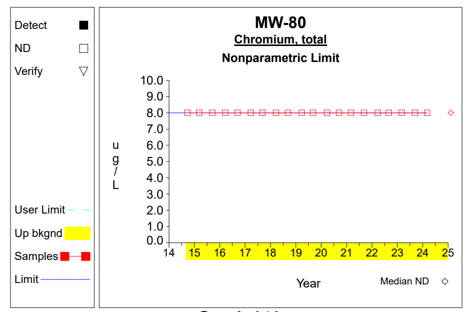
Graph 138



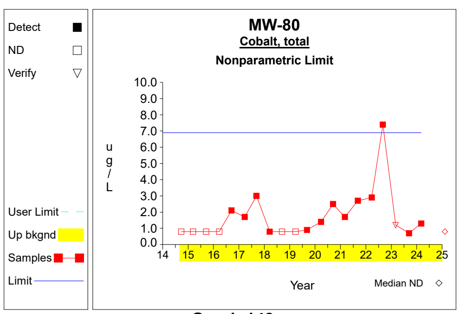
Graph 139



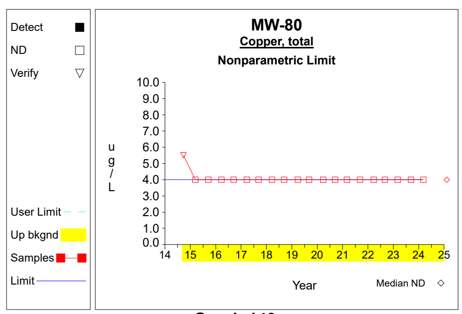
Graph 140



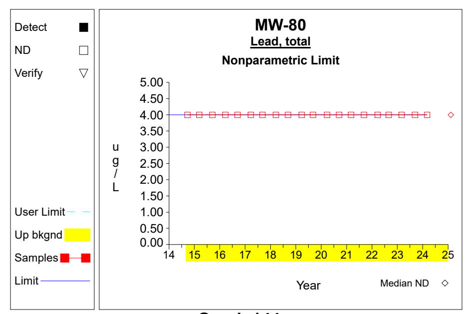
Graph 141



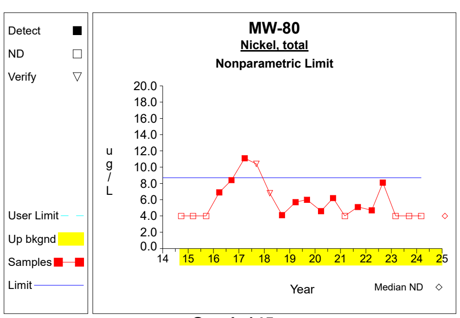
Graph 142



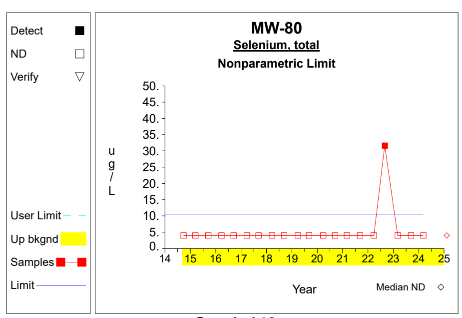
Graph 143



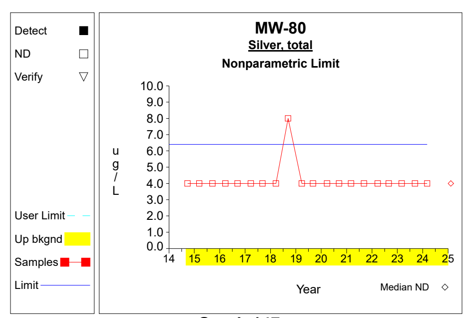
Graph 144



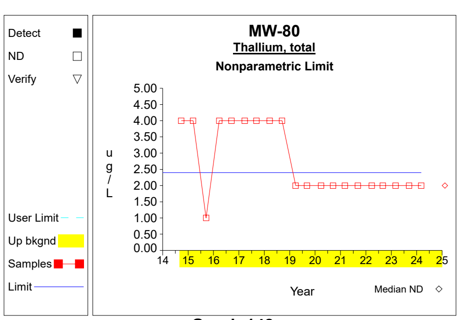
Graph 145



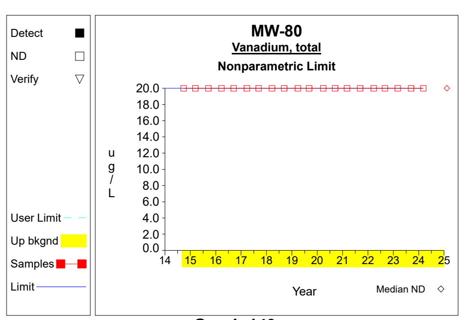
Graph 146



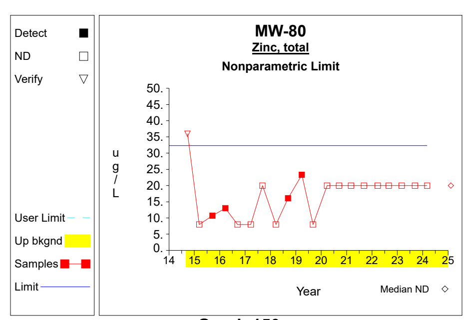
Graph 147



Graph 148

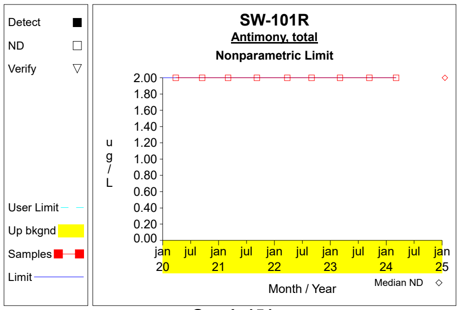


Graph 149

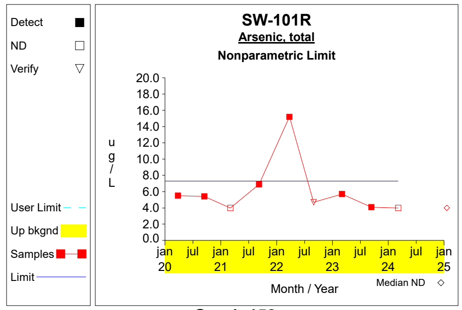


Graph 150

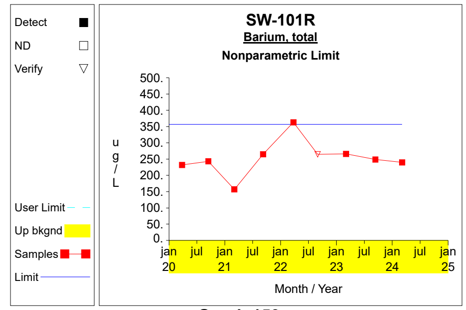
Up vs. Down Prediction Limits



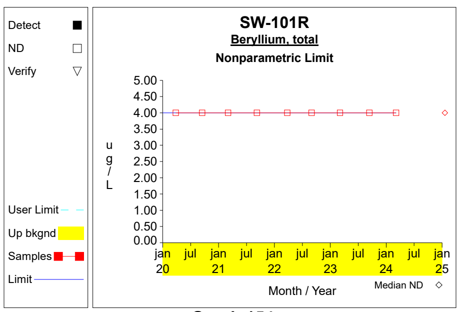
Graph 151



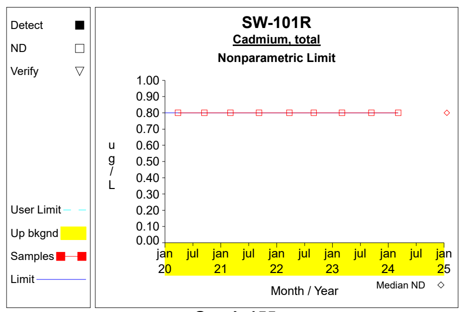
Graph 152



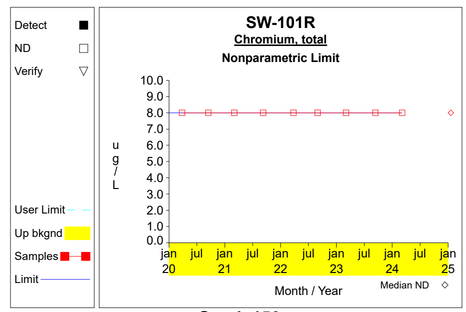
Graph 153



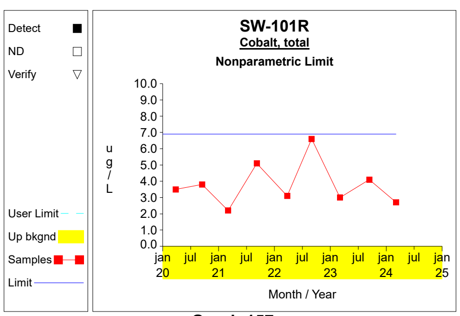
Graph 154



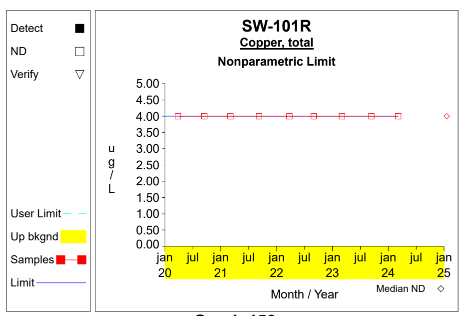
Graph 155



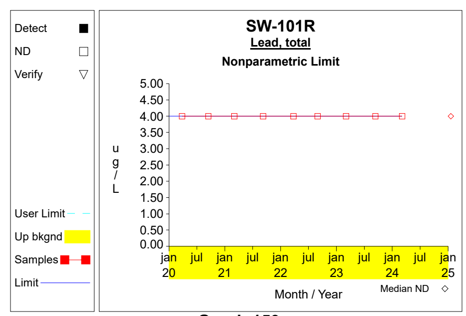
Graph 156



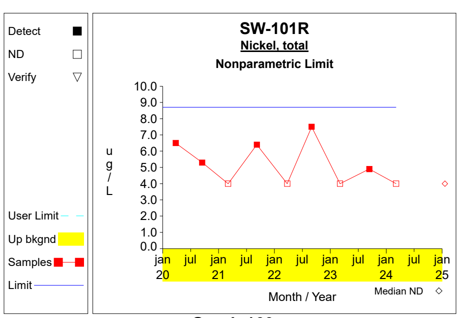
Graph 157



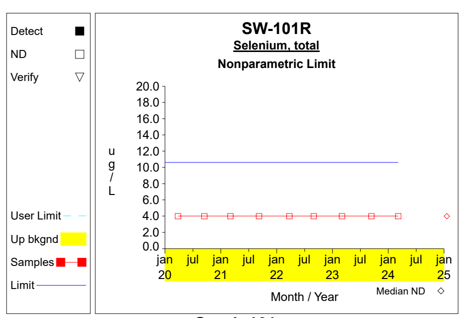
Graph 158



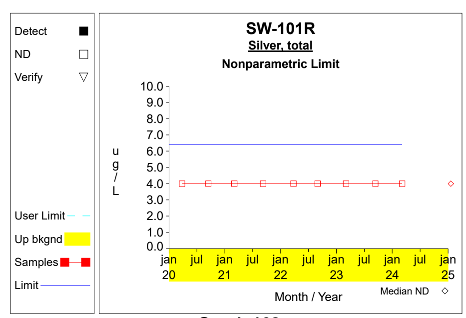
Graph 159



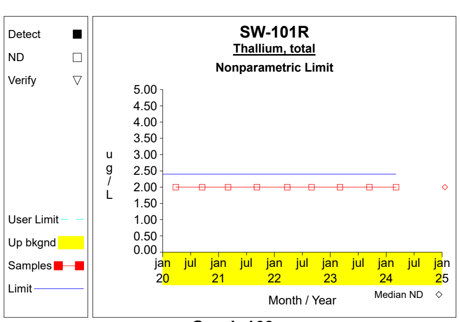
Graph 160



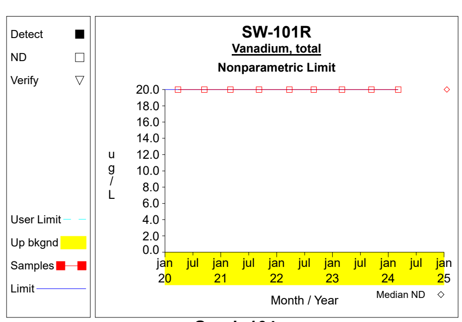
Graph 161



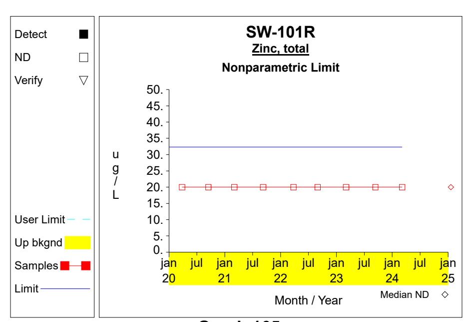
Graph 162



Graph 163

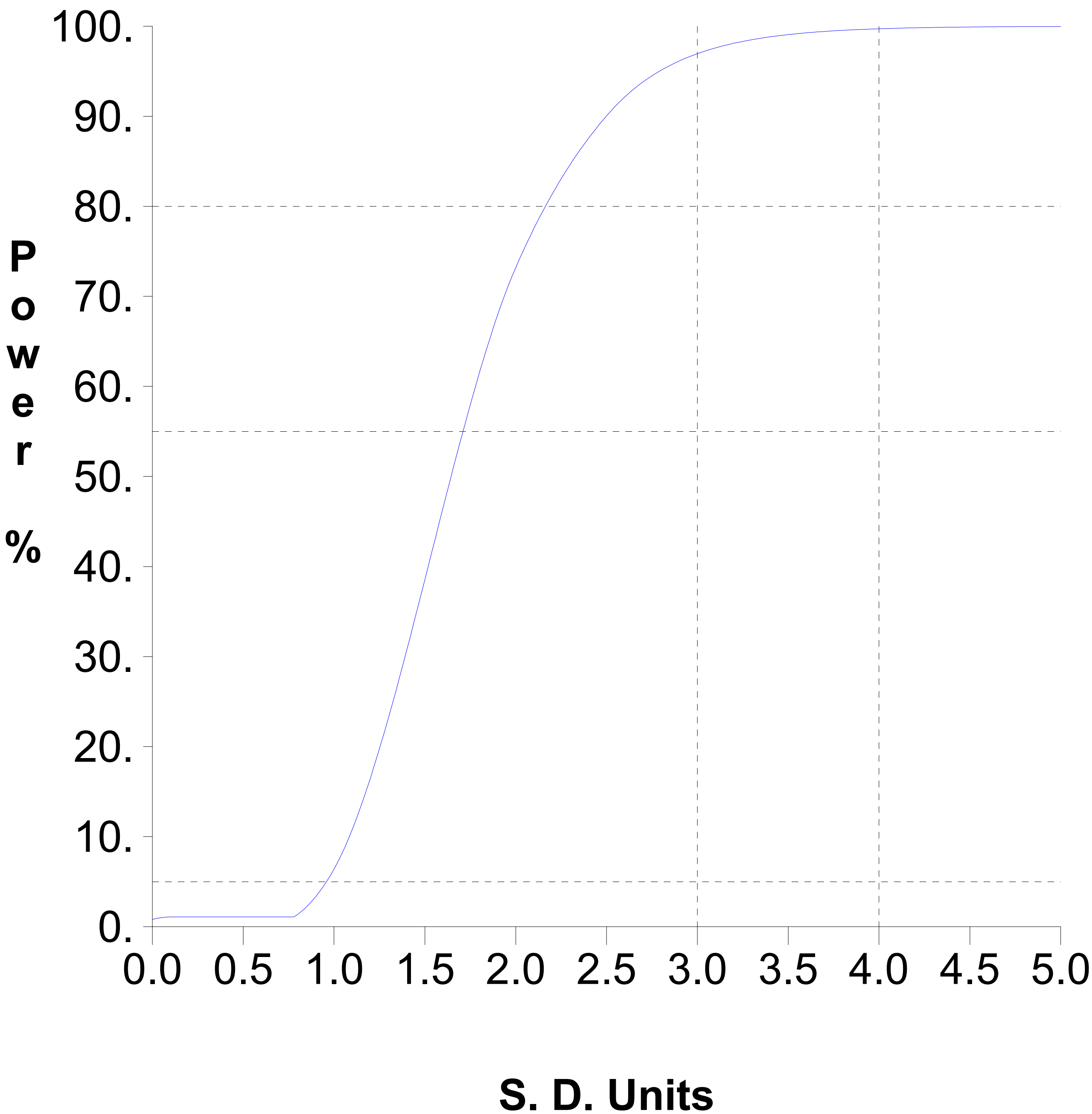


Graph 164



Graph 165

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



Attachment C

95% LCLs for Trace Metal Exceedances

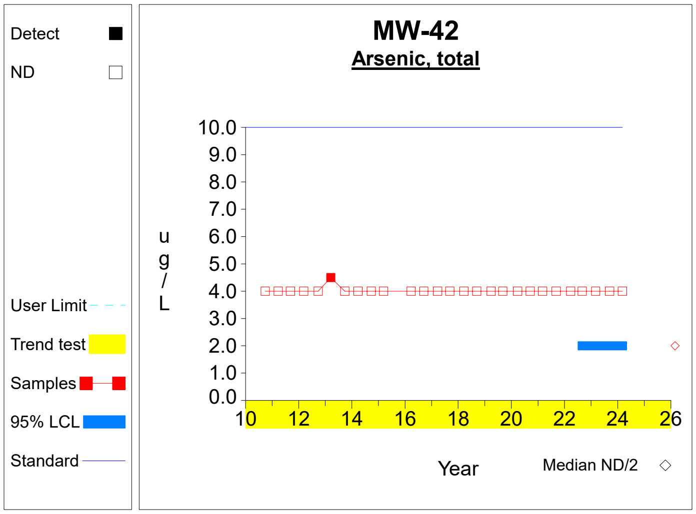
Table 1

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

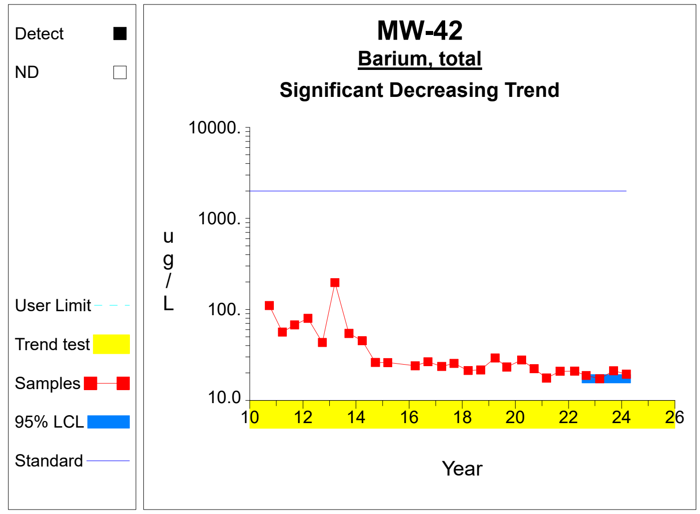
Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend
Arsenic, total	ug/L	MW-42	4	2.000	0.000	1.176	2.000	2.000	10.000	
Barium, total	ug/L	MW-42	4	19.175	1.613	1.176	17.277	21.073	2000.000	dec
Cobalt, total	ug/L	MW-42	4	1.925	2.024	1.176	0.000	4.306	2.100	
Nickel, total	ug/L	MW-42	4	3.575	1.823	1.176	1.431	5.719	100.000	
Arsenic, total	ug/L	MW-58	4	2.000	0.000	1.176	2.000	2.000	10.000	
Barium, total	ug/L	MW-58	4	22.625	0.929	1.176	21.533	23.717	2000.000	dec
Cobalt, total	ug/L	MW-58	4	0.400	0.000	1.176	0.400	0.400	2.100	
Nickel, total	ug/L	MW-58	4	15.200	1.194	1.176	13.795	16.605	100.000	
Arsenic, total	ug/L	MW-60	4	2.000	0.000	1.176	2.000	2.000	10.000	
Barium, total	ug/L	MW-60	4	248.500	59.017	1.176	179.079	317.921	2000.000	
Cobalt, total	ug/L	MW-60	4	3.600	3.144	1.176	0.000	7.299	2.100	
Nickel, total	ug/L	MW-60	4	21.400	19.060	1.176	0.000	43.820	100.000	
Arsenic, total	ug/L	MW-61	4	2.000	0.000	1.176	2.000	2.000	10.000	
Barium, total	ug/L	MW-61	4	49.375	4.484	1.176	44.101	54.649	2000.000	
Cobalt, total	ug/L	MW-61	4	0.500	0.200	1.176	0.265	0.735	2.100	
Nickel, total	ug/L	MW-61	4	6.725	5.867	1.176	0.000	13.626	100.000	
Arsenic, total	ug/L	MW-62R	4	2.000	0.000	1.176	2.000	2.000	10.000	
Barium, total	ug/L	MW-62R	4	1072.500	68.496	1.176	991.929	1153.071	2000.000	inc
Cobalt, total	ug/L	MW-62R	4	0.400	0.000	1.176	0.400	0.400	2.100	
Nickel, total	ug/L	MW-62R	4	2.000	0.000	1.176	2.000	2.000	100.000	
Arsenic, total	ug/L	MW-80	4	62.150	118.573	1.176	0.000	201.626	10.000	
Barium, total	ug/L	MW-80	4	246.000	210.778	1.176	0.000	493.936	2000.000	dec
Cobalt, total	ug/L	MW-80	4	2.650	3.178	1.176	0.000	6.388	2.100	
Nickel, total	ug/L	MW-80	4	3.525	3.050	1.176	0.000	7.113	100.000	dec
Arsenic, total	ug/L	SW-101R	4	4.125	1.563	1.176	2.287	5.963	10.000	
Barium, total	ug/L	SW-101R	4	255.000	12.675	1.176	240.090	269.910	2000.000	
Cobalt, total	ug/L	SW-101R	4	4.100	1.772	1.176	2.016	6.184	2.100	
Nickel, total	ug/L	SW-101R	4	4.100	2.647	1.176	0.986	7.214	100.000	

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

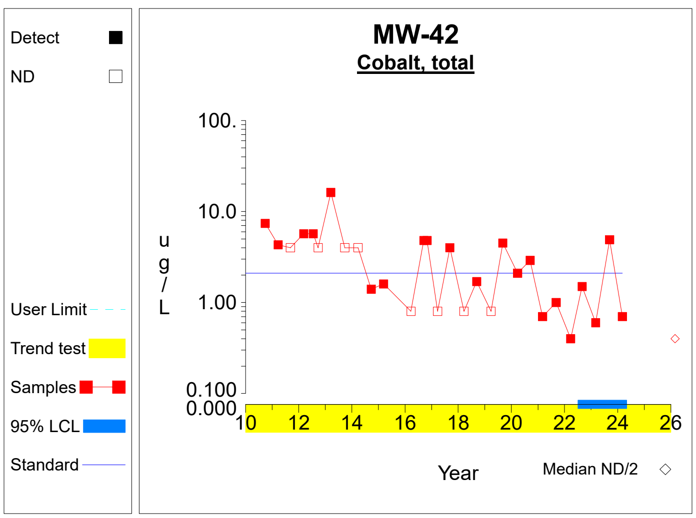
Confidence Limits (Assessment)



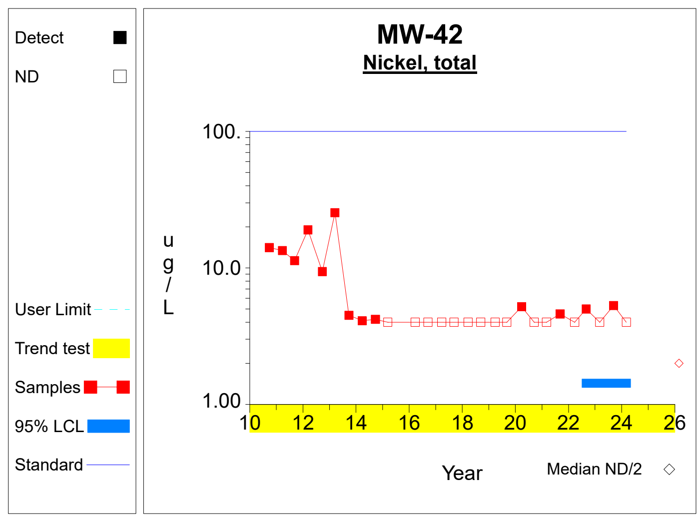
Graph 1



Graph 2

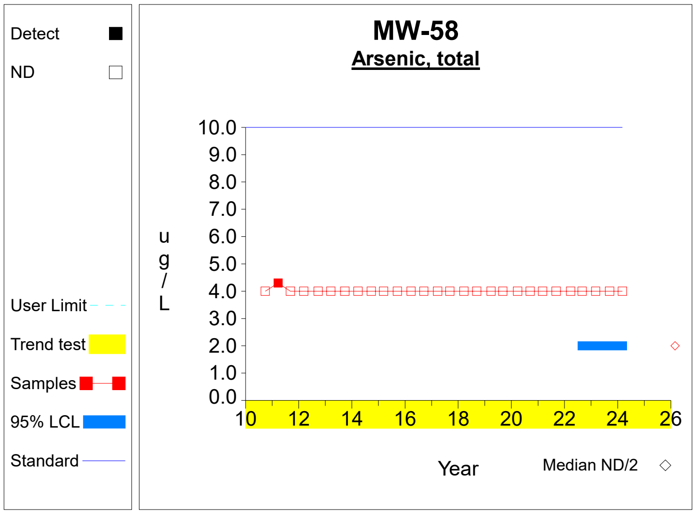


Graph 3

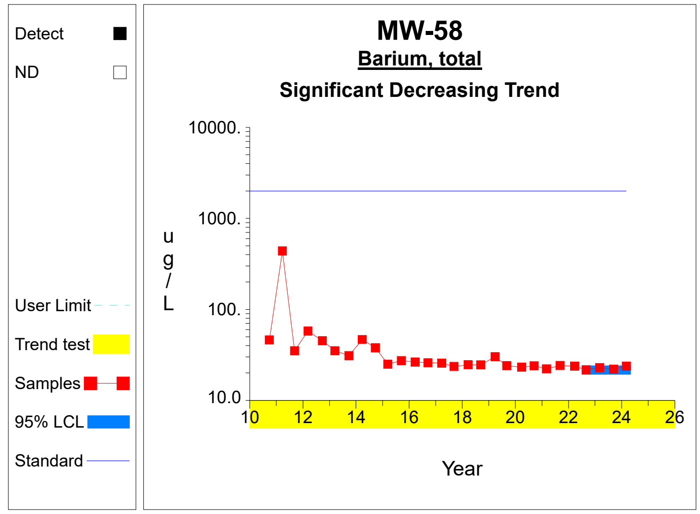


Graph 4

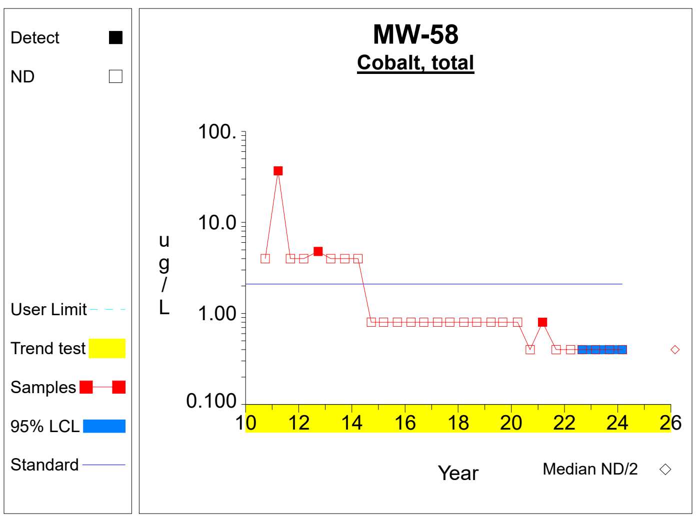
Confidence Limits (Assessment)



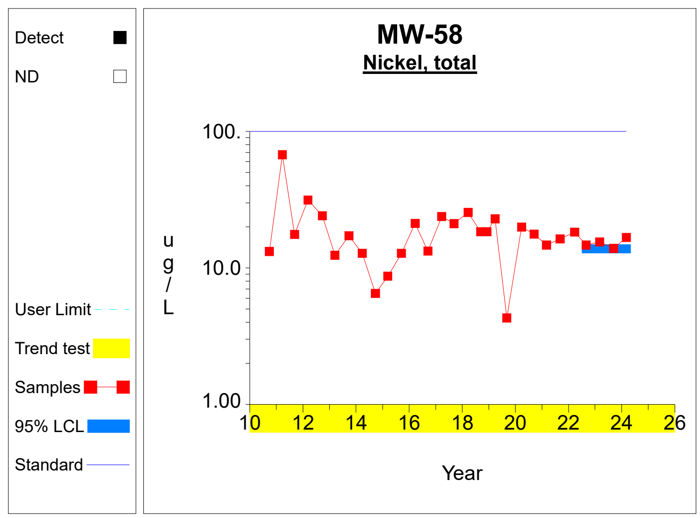
Graph 5



Graph 6

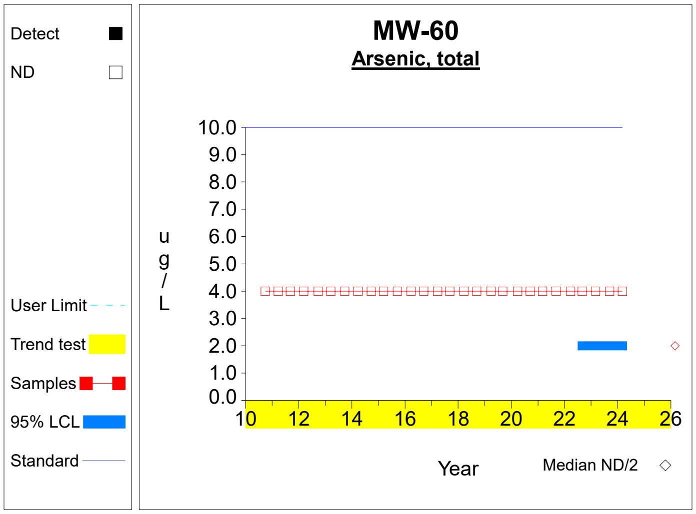


Graph 7

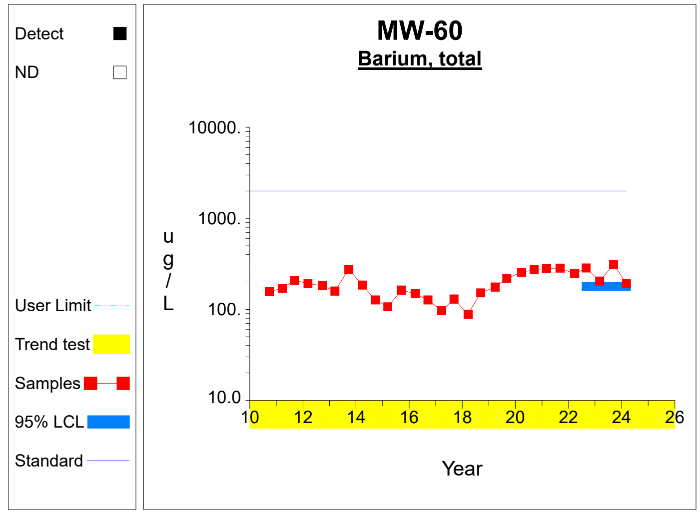


Graph 8

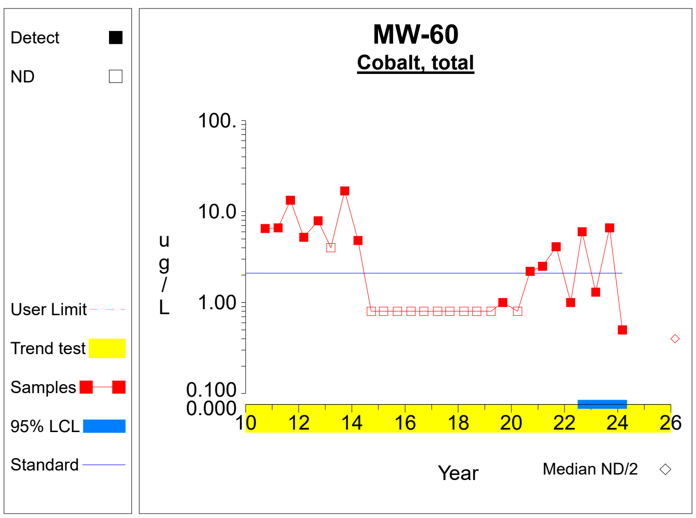
Confidence Limits (Assessment)



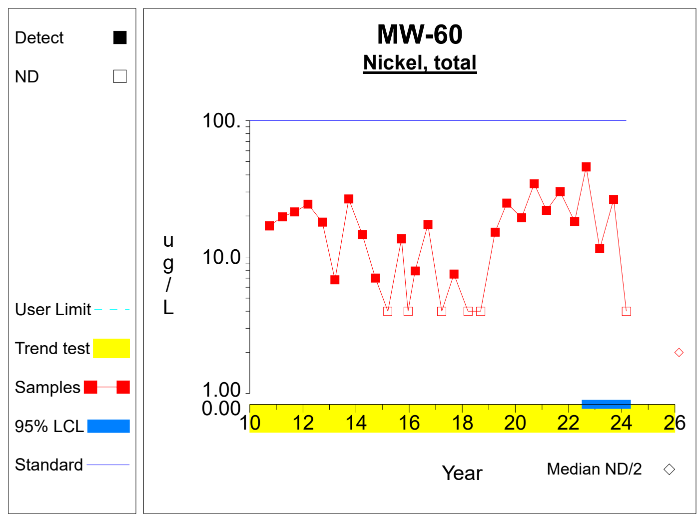
Graph 9



Graph 10

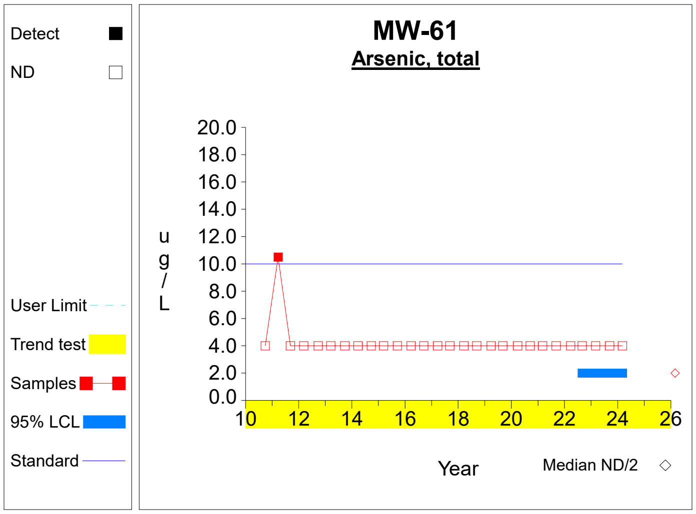


Graph 11

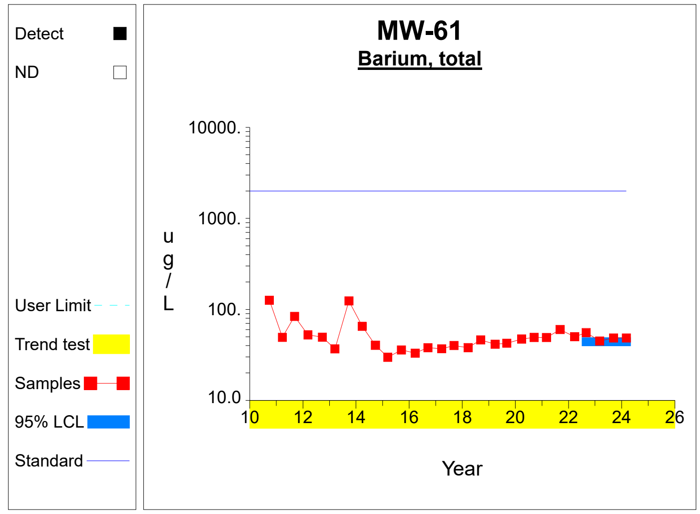


Graph 12

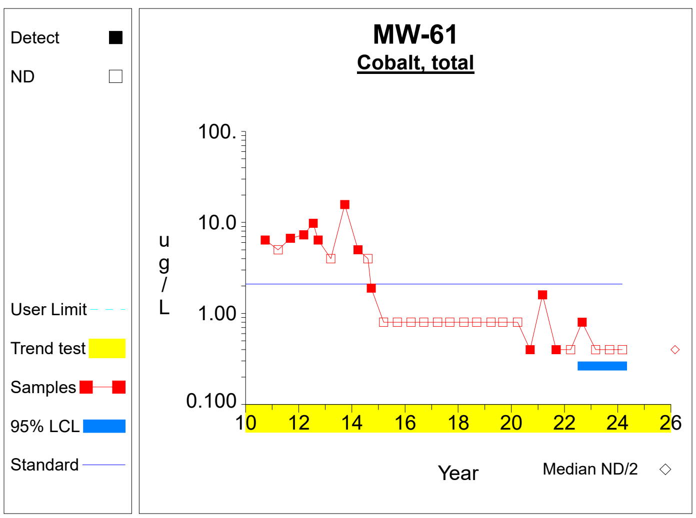
Confidence Limits (Assessment)



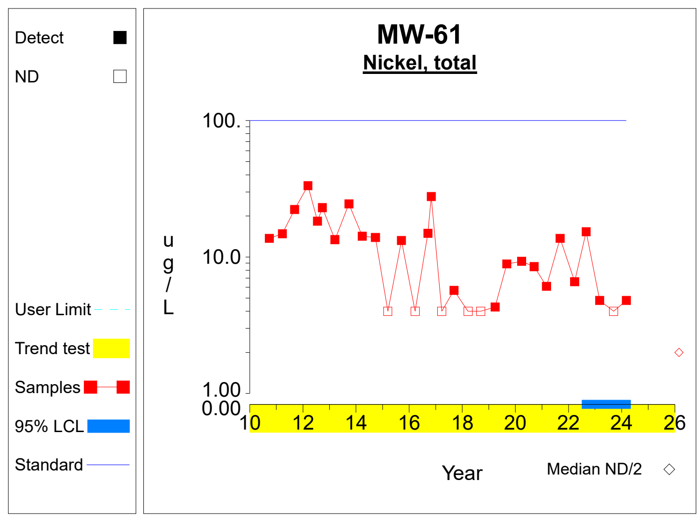
Graph 13



Graph 14

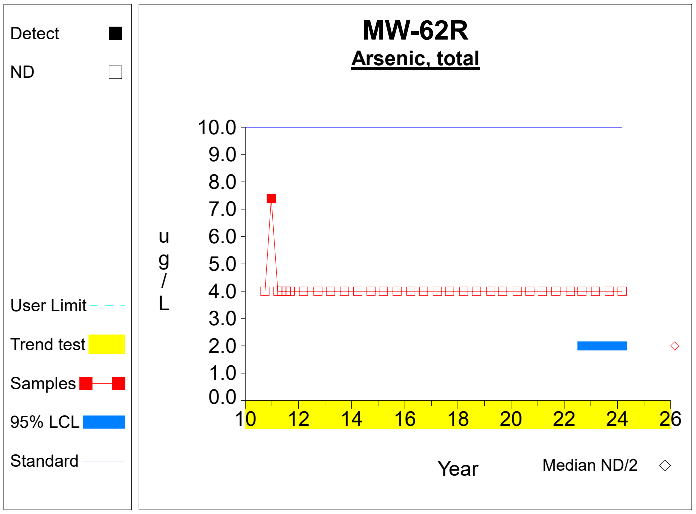


Graph 15

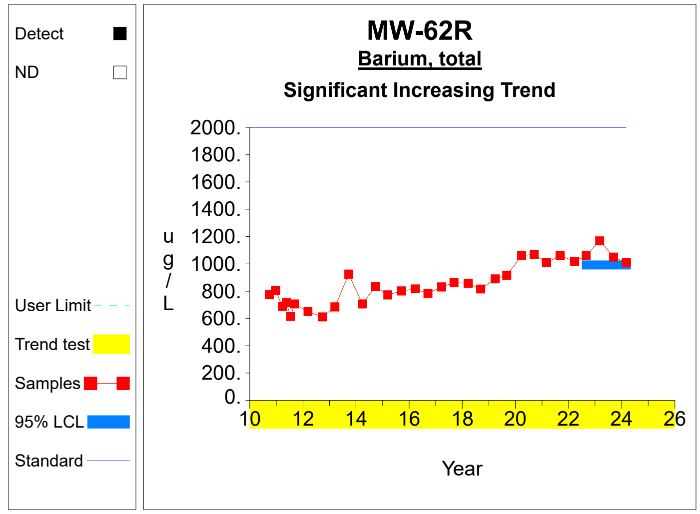


Graph 16

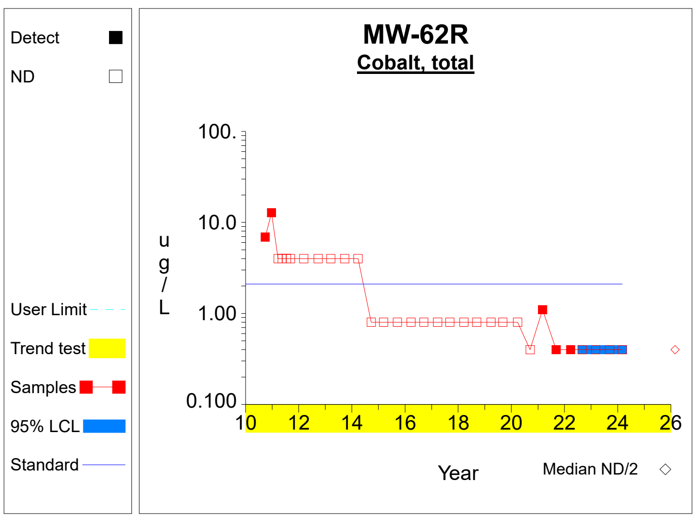
Confidence Limits (Assessment)



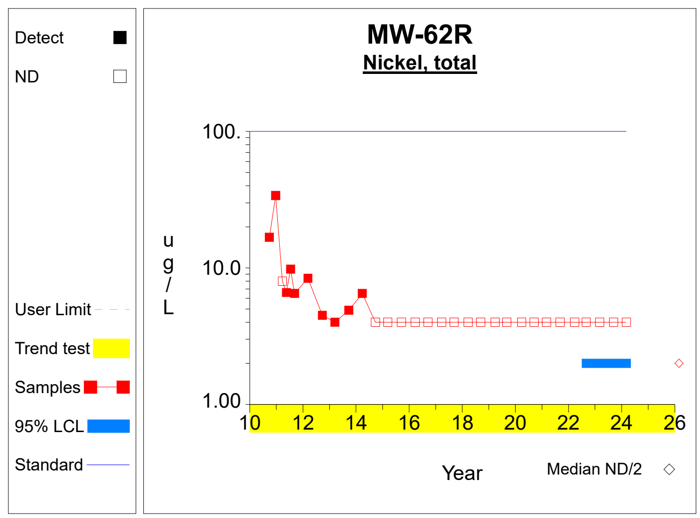
Graph 17



Graph 18



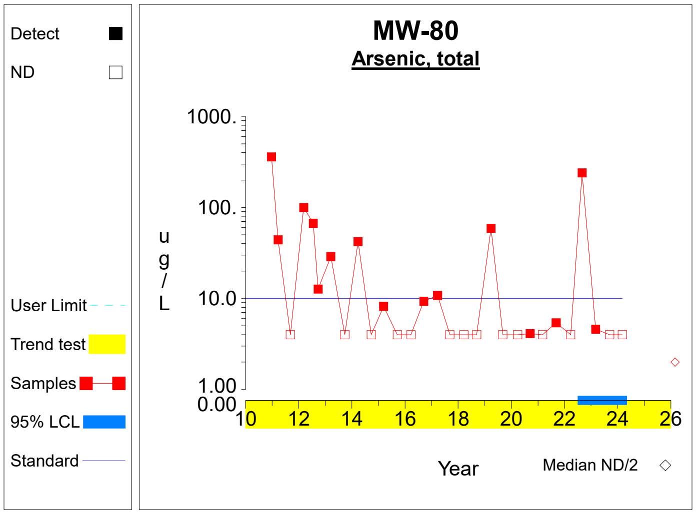
Graph 19



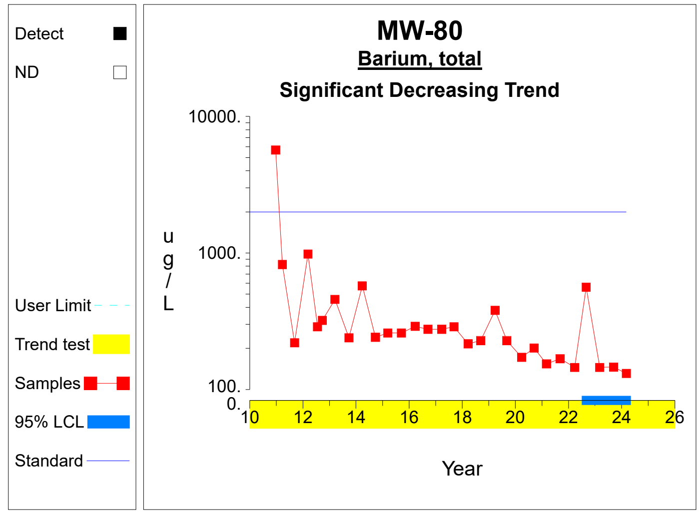
Graph 20

Prepared by: Otter Creek Environmental

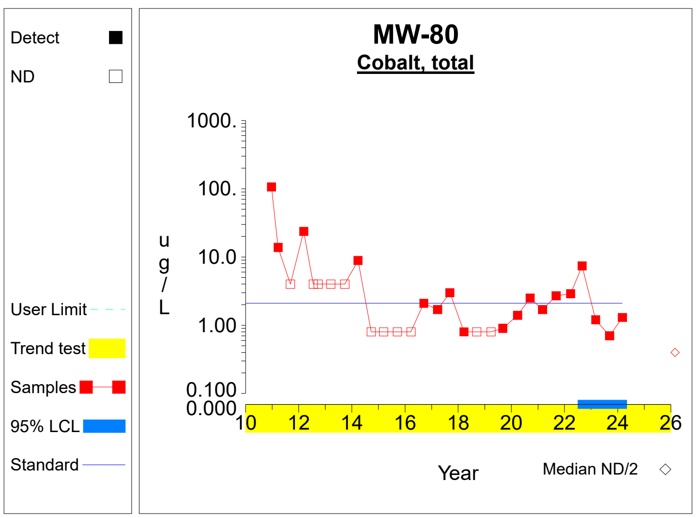
Confidence Limits (Assessment)



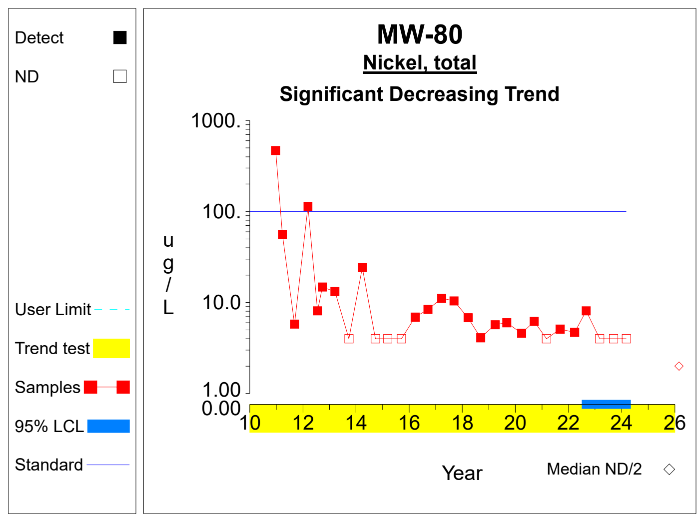
Graph 21



Graph 22

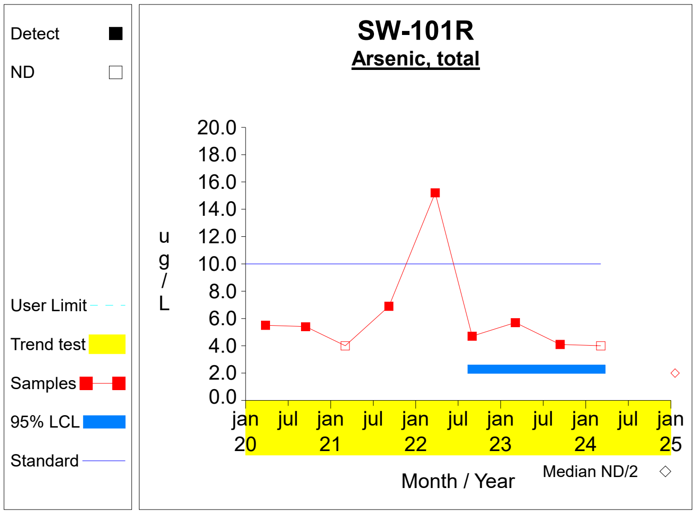


Graph 23

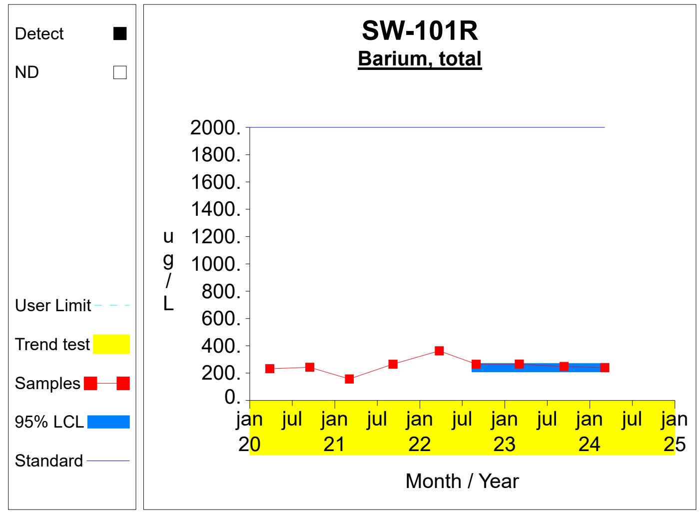


Graph 24

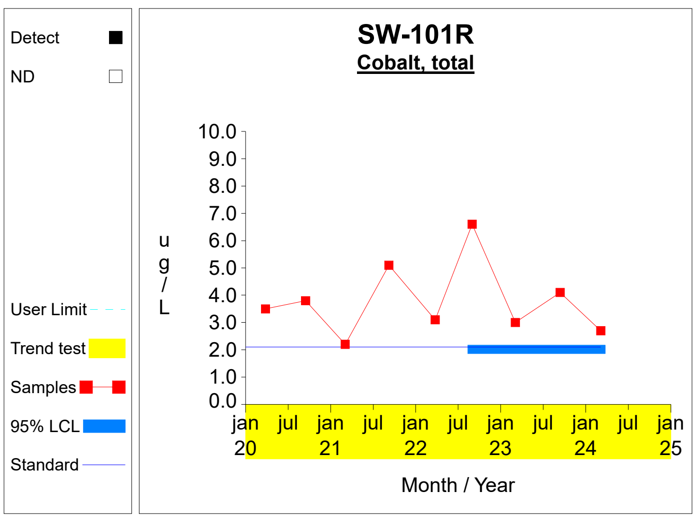
Confidence Limits (Assessment)



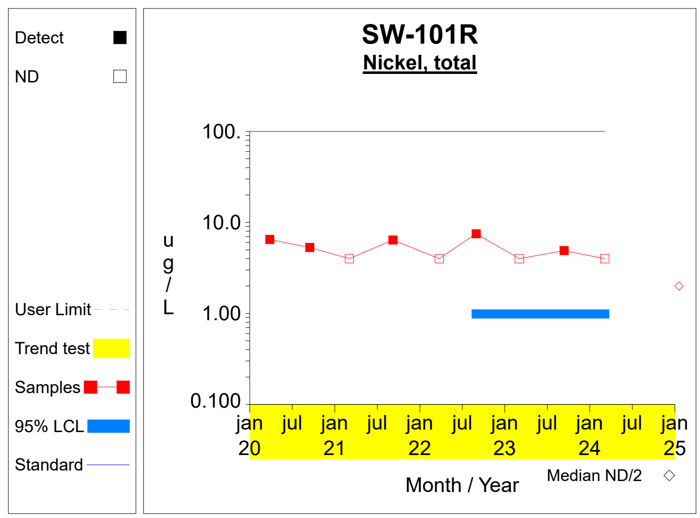
Graph 25



Graph 26



Graph 27



Graph 28

Attachment D

Summary Tables and Graphs for the Interwell Comparisons – Old Landfill

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony, total	ug/L	MW-39	09/24/2014	ND	2.0000		
Antimony, total	ug/L	MW-39	12/05/2014	ND	2.0000		
Antimony, total	ug/L	MW-39	03/11/2015	ND	2.0000		
Antimony, total	ug/L	MW-39	06/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-39	09/17/2015	ND	2.0000		
Antimony, total	ug/L	MW-39	03/22/2016	ND	2.0000		
Antimony, total	ug/L	MW-39	09/15/2016	ND	2.0000		
Antimony, total	ug/L	MW-39	03/23/2017	ND	2.0000		
Antimony, total	ug/L	MW-39	09/08/2017	ND	2.0000		
Antimony, total	ug/L	MW-39	03/19/2018	ND	2.0000		
Antimony, total	ug/L	MW-39	09/11/2018	ND	2.0000		
Antimony, total	ug/L	MW-39	03/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-39	09/04/2019	ND	2.0000		
Antimony, total	ug/L	MW-39	03/26/2020	ND	2.0000		
Antimony, total	ug/L	MW-39	09/15/2020	ND	2.0000		
Antimony, total	ug/L	MW-39	03/02/2021	ND	2.0000		
Antimony, total	ug/L	MW-39	09/07/2021	ND	2.0000		
Antimony, total	ug/L	MW-39	03/24/2022	ND	2.0000		
Antimony, total	ug/L	MW-39	08/31/2022	ND	2.0000		
Antimony, total	ug/L	MW-39	03/02/2023	ND	2.0000		
Antimony, total	ug/L	MW-39	09/12/2023	ND	2.0000		
Antimony, total	ug/L	MW-39	03/04/2024	ND	2.0000		
Arsenic, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Arsenic, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Arsenic, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Arsenic, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Barium, total	ug/L	MW-39	09/24/2014		60.6000		
Barium, total	ug/L	MW-39	12/05/2014		139.0000		
Barium, total	ug/L	MW-39	03/11/2015		136.0000		
Barium, total	ug/L	MW-39	06/16/2015		148.0000		
Barium, total	ug/L	MW-39	09/17/2015		128.0000		
Barium, total	ug/L	MW-39	03/22/2016		123.0000		
Barium, total	ug/L	MW-39	09/15/2016		103.0000		
Barium, total	ug/L	MW-39	03/23/2017		129.0000		
Barium, total	ug/L	MW-39	09/08/2017		117.0000		
Barium, total	ug/L	MW-39	03/19/2018		131.0000		
Barium, total	ug/L	MW-39	09/11/2018		114.0000		
Barium, total	ug/L	MW-39	03/26/2019		121.0000		
Barium, total	ug/L	MW-39	09/04/2019		138.0000		
Barium, total	ug/L	MW-39	03/26/2020		150.0000		
Barium, total	ug/L	MW-39	09/15/2020		136.0000		
Barium, total	ug/L	MW-39	03/02/2021		125.0000		
Barium, total	ug/L	MW-39	09/07/2021		141.0000		
Barium, total	ug/L	MW-39	03/24/2022		137.0000		
Barium, total	ug/L	MW-39	08/31/2022		132.0000		
Barium, total	ug/L	MW-39	03/02/2023		134.0000		
Barium, total	ug/L	MW-39	09/12/2023		133.0000		
Barium, total	ug/L	MW-39	03/04/2024		128.0000		
Beryllium, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Beryllium, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Beryllium, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/23/2017	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	
Beryllium, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Beryllium, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Cadmium, total	ug/L	MW-39	09/24/2014	ND	0.8000		
Cadmium, total	ug/L	MW-39	12/05/2014	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/11/2015	ND	0.8000		
Cadmium, total	ug/L	MW-39	06/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/17/2015	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/22/2016	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/15/2016	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/23/2017	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/08/2017	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/19/2018	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/11/2018	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/26/2019	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/04/2019	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/26/2020	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/15/2020	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/02/2021	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/07/2021	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/24/2022	ND	0.8000		
Cadmium, total	ug/L	MW-39	08/31/2022	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/02/2023	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/12/2023	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/04/2024	ND	0.8000		
Chromium, total	ug/L	MW-39	09/24/2014	ND	8.0000		
Chromium, total	ug/L	MW-39	12/05/2014	ND	8.0000		
Chromium, total	ug/L	MW-39	03/11/2015	ND	8.0000		
Chromium, total	ug/L	MW-39	06/16/2015	ND	8.0000		
Chromium, total	ug/L	MW-39	09/17/2015	ND	8.0000		
Chromium, total	ug/L	MW-39	03/22/2016	ND	8.0000		
Chromium, total	ug/L	MW-39	09/15/2016	ND	8.0000		
Chromium, total	ug/L	MW-39	03/23/2017	ND	8.0000		
Chromium, total	ug/L	MW-39	09/08/2017	ND	8.0000		
Chromium, total	ug/L	MW-39	03/19/2018	ND	8.0000		
Chromium, total	ug/L	MW-39	09/11/2018	ND	8.0000		
Chromium, total	ug/L	MW-39	03/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-39	09/04/2019	ND	8.0000		
Chromium, total	ug/L	MW-39	03/26/2020	ND	8.0000		
Chromium, total	ug/L	MW-39	09/15/2020	ND	8.0000		
Chromium, total	ug/L	MW-39	03/02/2021	ND	8.0000		
Chromium, total	ug/L	MW-39	09/07/2021	ND	8.0000		
Chromium, total	ug/L	MW-39	03/24/2022	ND	8.0000		
Chromium, total	ug/L	MW-39	08/31/2022	ND	8.0000		
Chromium, total	ug/L	MW-39	03/02/2023	ND	8.0000		
Chromium, total	ug/L	MW-39	09/12/2023	ND	8.0000		
Chromium, total	ug/L	MW-39	03/04/2024	ND	8.0000		
Cobalt, total	ug/L	MW-39	09/24/2014	ND	0.8000		
Cobalt, total	ug/L	MW-39	12/05/2014	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/11/2015	ND	0.8000		
Cobalt, total	ug/L	MW-39	06/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/17/2015	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/22/2016	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/15/2016	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/23/2017	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/08/2017	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/19/2018	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/11/2018	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/26/2019	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/04/2019	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/26/2020	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/15/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	03/02/2021		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	
Cobalt, total	ug/L	MW-39	09/07/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	03/24/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	08/31/2022		0.8000		
Cobalt, total	ug/L	MW-39	03/02/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	09/12/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	03/04/2024	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Copper, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Copper, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Copper, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Copper, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Copper, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Copper, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Copper, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Copper, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Copper, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Copper, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Copper, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Copper, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Copper, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Copper, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Copper, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Copper, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Copper, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Copper, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Copper, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Copper, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Copper, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Lead, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Lead, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Lead, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Lead, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Lead, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Lead, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Lead, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Lead, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Lead, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Lead, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Lead, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Lead, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Lead, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Lead, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Lead, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Lead, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Lead, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Lead, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Lead, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Lead, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Lead, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Lead, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Nickel, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Nickel, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Nickel, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Nickel, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Nickel, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Nickel, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Nickel, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Nickel, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Nickel, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Nickel, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Nickel, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Nickel, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Nickel, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Nickel, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Nickel, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Nickel, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Nickel, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Nickel, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Nickel, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Nickel, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Nickel, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Selenium, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Selenium, total	ug/L	MW-39	12/05/2014	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-39	03/11/2015	ND	4.0000		
Selenium, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Selenium, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Selenium, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Selenium, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Selenium, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Selenium, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Selenium, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Selenium, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Selenium, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Selenium, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Selenium, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Selenium, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Selenium, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Selenium, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Selenium, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Selenium, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Selenium, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Selenium, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Selenium, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Silver, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Silver, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Silver, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Silver, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Silver, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Silver, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Silver, total	ug/L	MW-39	09/15/2016		6.4000		
Silver, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Silver, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Silver, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Silver, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Silver, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Silver, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Silver, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Silver, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Silver, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Silver, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Silver, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Silver, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Silver, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Silver, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Silver, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Thallium, total	ug/L	MW-39	09/24/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	12/05/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	03/11/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	06/16/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	09/17/2015		2.4000		
Thallium, total	ug/L	MW-39	03/22/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	09/15/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	03/23/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	09/08/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	03/19/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	09/11/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	03/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-39	09/04/2019	ND	2.0000		
Thallium, total	ug/L	MW-39	03/26/2020	ND	2.0000		
Thallium, total	ug/L	MW-39	09/15/2020	ND	2.0000		
Thallium, total	ug/L	MW-39	03/02/2021	ND	2.0000		
Thallium, total	ug/L	MW-39	09/07/2021	ND	2.0000		
Thallium, total	ug/L	MW-39	03/24/2022	ND	2.0000		
Thallium, total	ug/L	MW-39	08/31/2022	ND	2.0000		
Thallium, total	ug/L	MW-39	03/02/2023	ND	2.0000		
Thallium, total	ug/L	MW-39	09/12/2023	ND	2.0000		
Thallium, total	ug/L	MW-39	03/04/2024	ND	2.0000		
Vanadium, total	ug/L	MW-39	09/24/2014	ND	20.0000		
Vanadium, total	ug/L	MW-39	12/05/2014	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/11/2015	ND	20.0000		
Vanadium, total	ug/L	MW-39	06/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/17/2015	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/22/2016	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/15/2016	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/23/2017	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/08/2017	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/19/2018	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-39	09/11/2018	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/04/2019	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/26/2020	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/15/2020	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/02/2021	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/07/2021	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/24/2022	ND	20.0000		
Vanadium, total	ug/L	MW-39	08/31/2022	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/02/2023	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/12/2023	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/04/2024	ND	20.0000		
Zinc, total	ug/L	MW-39	09/24/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	12/05/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	03/11/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	06/16/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	09/17/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	03/22/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	09/15/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	03/23/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	09/08/2017	ND	20.0000		
Zinc, total	ug/L	MW-39	03/19/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	09/11/2018	ND	20.0000		
Zinc, total	ug/L	MW-39	03/26/2019		24.6000		
Zinc, total	ug/L	MW-39	09/04/2019	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	03/26/2020	ND	20.0000		
Zinc, total	ug/L	MW-39	09/15/2020	ND	20.0000		
Zinc, total	ug/L	MW-39	03/02/2021	ND	20.0000		
Zinc, total	ug/L	MW-39	09/07/2021	ND	20.0000		
Zinc, total	ug/L	MW-39	03/24/2022	ND	20.0000		
Zinc, total	ug/L	MW-39	08/31/2022	ND	20.0000		
Zinc, total	ug/L	MW-39	03/02/2023	ND	20.0000		
Zinc, total	ug/L	MW-39	09/12/2023	ND	20.0000		
Zinc, total	ug/L	MW-39	03/04/2024	ND	20.0000		
Antimony, total	ug/L	MW-48	09/24/2014	ND	2.0000		
Antimony, total	ug/L	MW-48	12/05/2014	ND	2.0000		
Antimony, total	ug/L	MW-48	03/11/2015	ND	2.0000		
Antimony, total	ug/L	MW-48	06/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-48	09/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-48	03/22/2016	ND	2.0000		
Antimony, total	ug/L	MW-48	09/14/2016	ND	2.0000		
Antimony, total	ug/L	MW-48	03/23/2017	ND	2.0000		
Antimony, total	ug/L	MW-48	09/08/2017	ND	2.0000		
Antimony, total	ug/L	MW-48	03/19/2018	ND	2.0000		
Antimony, total	ug/L	MW-48	09/11/2018	ND	2.0000		
Antimony, total	ug/L	MW-48	03/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-48	09/04/2019	ND	2.0000		
Antimony, total	ug/L	MW-48	03/26/2020	ND	2.0000		
Antimony, total	ug/L	MW-48	09/15/2020	ND	2.0000		
Antimony, total	ug/L	MW-48	03/02/2021	ND	2.0000		
Antimony, total	ug/L	MW-48	09/07/2021	ND	2.0000		
Antimony, total	ug/L	MW-48	03/24/2022	ND	2.0000		
Antimony, total	ug/L	MW-48	08/31/2022	ND	2.0000		
Antimony, total	ug/L	MW-48	03/02/2023	ND	2.0000		
Antimony, total	ug/L	MW-48	09/12/2023	ND	2.0000		
Antimony, total	ug/L	MW-48	03/04/2024	ND	2.0000		
Arsenic, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Arsenic, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Arsenic, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/24/2022	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	
Arsenic, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Barium, total	ug/L	MW-48	09/24/2014		181.0000		
Barium, total	ug/L	MW-48	12/05/2014		168.0000		
Barium, total	ug/L	MW-48	03/11/2015		143.0000		
Barium, total	ug/L	MW-48	06/16/2015		161.0000		
Barium, total	ug/L	MW-48	09/16/2015		150.0000		
Barium, total	ug/L	MW-48	03/22/2016		153.0000		
Barium, total	ug/L	MW-48	09/14/2016		140.0000		
Barium, total	ug/L	MW-48	03/23/2017		146.0000		
Barium, total	ug/L	MW-48	09/08/2017		171.0000		
Barium, total	ug/L	MW-48	03/19/2018		145.0000		
Barium, total	ug/L	MW-48	09/11/2018		151.0000		
Barium, total	ug/L	MW-48	03/26/2019		153.0000		
Barium, total	ug/L	MW-48	09/04/2019		160.0000		
Barium, total	ug/L	MW-48	03/26/2020		156.0000		
Barium, total	ug/L	MW-48	09/15/2020		152.0000		
Barium, total	ug/L	MW-48	03/02/2021		159.0000		
Barium, total	ug/L	MW-48	09/07/2021		149.0000		
Barium, total	ug/L	MW-48	03/24/2022		143.0000		
Barium, total	ug/L	MW-48	08/31/2022		157.0000		
Barium, total	ug/L	MW-48	03/02/2023		149.0000		
Barium, total	ug/L	MW-48	09/12/2023		168.0000		
Barium, total	ug/L	MW-48	03/04/2024		149.0000		
Beryllium, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Beryllium, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Beryllium, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Beryllium, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Cadmium, total	ug/L	MW-48	09/24/2014	ND	0.8000		
Cadmium, total	ug/L	MW-48	12/05/2014	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/11/2015	ND	0.8000		
Cadmium, total	ug/L	MW-48	06/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/22/2016	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/14/2016	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/23/2017	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/08/2017	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/19/2018	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/11/2018	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/26/2019	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/04/2019	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/26/2020	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/15/2020	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/02/2021	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/07/2021	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/24/2022	ND	0.8000		
Cadmium, total	ug/L	MW-48	08/31/2022	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/02/2023	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/12/2023	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/04/2024	ND	0.8000		
Chromium, total	ug/L	MW-48	09/24/2014	ND	8.0000		
Chromium, total	ug/L	MW-48	12/05/2014	ND	8.0000		
Chromium, total	ug/L	MW-48	03/11/2015	ND	8.0000		
Chromium, total	ug/L	MW-48	06/16/2015	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-48	09/16/2015	ND	8.0000		
Chromium, total	ug/L	MW-48	03/22/2016	ND	8.0000		
Chromium, total	ug/L	MW-48	09/14/2016	ND	8.0000		
Chromium, total	ug/L	MW-48	03/23/2017	ND	8.0000		
Chromium, total	ug/L	MW-48	09/08/2017	ND	8.0000		
Chromium, total	ug/L	MW-48	03/19/2018	ND	8.0000		
Chromium, total	ug/L	MW-48	09/11/2018	ND	8.0000		
Chromium, total	ug/L	MW-48	03/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-48	09/04/2019	ND	8.0000		
Chromium, total	ug/L	MW-48	03/26/2020	ND	8.0000		
Chromium, total	ug/L	MW-48	09/15/2020	ND	8.0000		
Chromium, total	ug/L	MW-48	03/02/2021	ND	8.0000		
Chromium, total	ug/L	MW-48	09/07/2021	ND	8.0000		
Chromium, total	ug/L	MW-48	03/24/2022	ND	8.0000		
Chromium, total	ug/L	MW-48	08/31/2022	ND	8.0000		
Chromium, total	ug/L	MW-48	03/02/2023	ND	8.0000		
Chromium, total	ug/L	MW-48	09/12/2023	ND	8.0000		
Chromium, total	ug/L	MW-48	03/04/2024	ND	8.0000		
Cobalt, total	ug/L	MW-48	09/24/2014	ND	0.8000		
Cobalt, total	ug/L	MW-48	12/05/2014	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/11/2015	ND	0.8000		
Cobalt, total	ug/L	MW-48	06/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/22/2016	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/14/2016	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/23/2017	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/08/2017	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/19/2018	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/11/2018	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/26/2019	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/04/2019	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/26/2020	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/15/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	03/02/2021		0.9000		
Cobalt, total	ug/L	MW-48	09/07/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	03/24/2022		0.4000		
Cobalt, total	ug/L	MW-48	08/31/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	03/02/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	09/12/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	03/04/2024	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Copper, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Copper, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Copper, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Copper, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Copper, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Copper, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Copper, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Copper, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Copper, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Copper, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Copper, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Copper, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Copper, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Copper, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Copper, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Copper, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Copper, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Copper, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Copper, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Copper, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Copper, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Lead, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Lead, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Lead, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Lead, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Lead, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Lead, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Lead, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Lead, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Lead, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Lead, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Lead, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Lead, total	ug/L	MW-48	03/26/2019	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	
Lead, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Lead, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Lead, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Lead, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Lead, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Lead, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Lead, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Lead, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Lead, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Lead, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Nickel, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Nickel, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Nickel, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Nickel, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Nickel, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Nickel, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Nickel, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Nickel, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Nickel, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Nickel, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Nickel, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Nickel, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Nickel, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Nickel, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Nickel, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Nickel, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Nickel, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Nickel, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Nickel, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Nickel, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Selenium, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Selenium, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Selenium, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Selenium, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Selenium, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Selenium, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Selenium, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Selenium, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Selenium, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Selenium, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Selenium, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Selenium, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Selenium, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Selenium, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Selenium, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Selenium, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Selenium, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Selenium, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Selenium, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Selenium, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Selenium, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Selenium, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Silver, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Silver, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Silver, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Silver, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Silver, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Silver, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Silver, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Silver, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Silver, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Silver, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Silver, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Silver, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Silver, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Silver, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Silver, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Silver, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Silver, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Silver, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Silver, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Silver, total	ug/L	MW-48	03/02/2023	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-48	09/12/2023	ND	4.0000		
Silver, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Thallium, total	ug/L	MW-48	09/24/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	12/05/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/11/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	06/16/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	09/16/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/22/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	09/14/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/23/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	09/08/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/19/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	09/11/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-48	09/04/2019	ND	2.0000		
Thallium, total	ug/L	MW-48	03/26/2020	ND	2.0000		
Thallium, total	ug/L	MW-48	09/15/2020	ND	2.0000		
Thallium, total	ug/L	MW-48	03/02/2021	ND	2.0000		
Thallium, total	ug/L	MW-48	09/07/2021	ND	2.0000		
Thallium, total	ug/L	MW-48	03/24/2022	ND	2.0000		
Thallium, total	ug/L	MW-48	08/31/2022	ND	2.0000		
Thallium, total	ug/L	MW-48	03/02/2023	ND	2.0000		
Thallium, total	ug/L	MW-48	09/12/2023	ND	2.0000		
Thallium, total	ug/L	MW-48	03/04/2024	ND	2.0000		
Vanadium, total	ug/L	MW-48	09/24/2014	ND	20.0000		
Vanadium, total	ug/L	MW-48	12/05/2014	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/11/2015	ND	20.0000		
Vanadium, total	ug/L	MW-48	06/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/22/2016	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/14/2016	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/23/2017	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/08/2017	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/19/2018	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/11/2018	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/04/2019	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/26/2020	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/15/2020	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/02/2021	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/07/2021	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/24/2022	ND	20.0000		
Vanadium, total	ug/L	MW-48	08/31/2022	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/02/2023	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/12/2023	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/04/2024	ND	20.0000		
Zinc, total	ug/L	MW-48	09/24/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	12/05/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	03/11/2015		32.3000		
Zinc, total	ug/L	MW-48	06/16/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	09/16/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	03/22/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	09/14/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	03/23/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	09/08/2017	ND	20.0000		
Zinc, total	ug/L	MW-48	03/19/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	09/11/2018	ND	20.0000		
Zinc, total	ug/L	MW-48	03/26/2019	ND	20.0000		
Zinc, total	ug/L	MW-48	09/04/2019	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	03/26/2020	ND	20.0000		
Zinc, total	ug/L	MW-48	09/15/2020	ND	20.0000		
Zinc, total	ug/L	MW-48	03/02/2021	ND	20.0000		
Zinc, total	ug/L	MW-48	09/07/2021	ND	20.0000		
Zinc, total	ug/L	MW-48	03/24/2022	ND	20.0000		
Zinc, total	ug/L	MW-48	08/31/2022	ND	20.0000		
Zinc, total	ug/L	MW-48	03/02/2023	ND	20.0000		
Zinc, total	ug/L	MW-48	09/12/2023	ND	20.0000		
Zinc, total	ug/L	MW-48	03/04/2024	ND	20.0000		
Antimony, total	ug/L	MW-78	09/24/2014	ND	2.0000		
Antimony, total	ug/L	MW-78	12/05/2014	ND	2.0000		
Antimony, total	ug/L	MW-78	03/11/2015	ND	2.0000		
Antimony, total	ug/L	MW-78	06/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-78	09/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-78	03/22/2016	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-78	09/15/2016	ND	2.0000		
Antimony, total	ug/L	MW-78	03/23/2017	ND	2.0000		
Antimony, total	ug/L	MW-78	09/08/2017	ND	2.0000		
Antimony, total	ug/L	MW-78	03/19/2018	ND	2.0000		
Antimony, total	ug/L	MW-78	09/11/2018	ND	2.0000		
Antimony, total	ug/L	MW-78	03/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-78	09/04/2019	ND	2.0000		
Antimony, total	ug/L	MW-78	03/26/2020	ND	2.0000		
Antimony, total	ug/L	MW-78	09/15/2020	ND	2.0000		
Antimony, total	ug/L	MW-78	03/02/2021	ND	2.0000		
Antimony, total	ug/L	MW-78	09/07/2021	ND	2.0000		
Antimony, total	ug/L	MW-78	03/24/2022	ND	2.0000		
Antimony, total	ug/L	MW-78	08/31/2022	ND	2.0000		
Antimony, total	ug/L	MW-78	03/02/2023	ND	2.0000		
Antimony, total	ug/L	MW-78	09/12/2023	ND	2.0000		
Antimony, total	ug/L	MW-78	03/04/2024	ND	2.0000		
Arsenic, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Arsenic, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Arsenic, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Arsenic, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Barium, total	ug/L	MW-78	09/24/2014		304.0000		
Barium, total	ug/L	MW-78	12/05/2014		291.0000		
Barium, total	ug/L	MW-78	03/11/2015		304.0000		
Barium, total	ug/L	MW-78	06/16/2015		329.0000		
Barium, total	ug/L	MW-78	09/16/2015		298.0000		
Barium, total	ug/L	MW-78	03/22/2016		309.0000		
Barium, total	ug/L	MW-78	09/15/2016		311.0000		
Barium, total	ug/L	MW-78	03/23/2017		307.0000		
Barium, total	ug/L	MW-78	09/08/2017		357.0000		
Barium, total	ug/L	MW-78	03/19/2018		320.0000		
Barium, total	ug/L	MW-78	09/11/2018		295.0000		
Barium, total	ug/L	MW-78	03/26/2019		285.0000		
Barium, total	ug/L	MW-78	09/04/2019		332.0000		
Barium, total	ug/L	MW-78	03/26/2020		304.0000		
Barium, total	ug/L	MW-78	09/15/2020		319.0000		
Barium, total	ug/L	MW-78	03/02/2021		304.0000		
Barium, total	ug/L	MW-78	09/07/2021		332.0000		
Barium, total	ug/L	MW-78	03/24/2022		291.0000		
Barium, total	ug/L	MW-78	08/31/2022		340.0000		
Barium, total	ug/L	MW-78	03/02/2023		345.0000		
Barium, total	ug/L	MW-78	09/12/2023		309.0000		
Barium, total	ug/L	MW-78	03/04/2024		341.0000		
Beryllium, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Beryllium, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Beryllium, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/26/2020	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-78	09/15/2020	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Beryllium, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Cadmium, total	ug/L	MW-78	09/24/2014	ND	0.8000		
Cadmium, total	ug/L	MW-78	12/05/2014	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/11/2015	ND	0.8000		
Cadmium, total	ug/L	MW-78	06/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/22/2016	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/15/2016	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/23/2017	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/08/2017	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/19/2018	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/11/2018	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/26/2019	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/04/2019	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/26/2020	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/15/2020	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/02/2021	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/07/2021	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/24/2022	ND	0.8000		
Cadmium, total	ug/L	MW-78	08/31/2022	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/02/2023	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/12/2023	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/04/2024	ND	0.8000		
Chromium, total	ug/L	MW-78	09/24/2014	ND	8.0000		
Chromium, total	ug/L	MW-78	12/05/2014	ND	8.0000		
Chromium, total	ug/L	MW-78	03/11/2015	ND	8.0000		
Chromium, total	ug/L	MW-78	06/16/2015	ND	8.0000		
Chromium, total	ug/L	MW-78	09/16/2015	ND	8.0000		
Chromium, total	ug/L	MW-78	03/22/2016	ND	8.0000		
Chromium, total	ug/L	MW-78	09/15/2016	ND	8.0000		
Chromium, total	ug/L	MW-78	03/23/2017	ND	8.0000		
Chromium, total	ug/L	MW-78	09/08/2017	ND	8.0000		
Chromium, total	ug/L	MW-78	03/19/2018	ND	8.0000		
Chromium, total	ug/L	MW-78	09/11/2018	ND	8.0000		
Chromium, total	ug/L	MW-78	03/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-78	09/04/2019	ND	8.0000		
Chromium, total	ug/L	MW-78	03/26/2020	ND	8.0000		
Chromium, total	ug/L	MW-78	09/15/2020	ND	8.0000		
Chromium, total	ug/L	MW-78	03/02/2021	ND	8.0000		
Chromium, total	ug/L	MW-78	09/07/2021	ND	8.0000		
Chromium, total	ug/L	MW-78	03/24/2022	ND	8.0000		
Chromium, total	ug/L	MW-78	08/31/2022	ND	8.0000		
Chromium, total	ug/L	MW-78	03/02/2023	ND	8.0000		
Chromium, total	ug/L	MW-78	09/12/2023	ND	8.0000		
Chromium, total	ug/L	MW-78	03/04/2024	ND	8.0000		
Cobalt, total	ug/L	MW-78	09/24/2014	ND	0.8000		
Cobalt, total	ug/L	MW-78	12/05/2014	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/11/2015	ND	0.8000		
Cobalt, total	ug/L	MW-78	06/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/22/2016	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/15/2016	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/23/2017	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/08/2017	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/19/2018	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/11/2018	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/26/2019	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/04/2019	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/26/2020	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/15/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	03/02/2021		1.0000		
Cobalt, total	ug/L	MW-78	09/07/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	03/24/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	08/31/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	03/02/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	09/12/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	03/04/2024	ND	0.4000	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	
Copper, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Copper, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Copper, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Copper, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Copper, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Copper, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Copper, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Copper, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Copper, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Copper, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Copper, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Copper, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Copper, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Copper, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Copper, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Copper, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Copper, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Copper, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Copper, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Copper, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Copper, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Copper, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Lead, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Lead, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Lead, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Lead, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Lead, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Lead, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Lead, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Lead, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Lead, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Lead, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Lead, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Lead, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Lead, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Lead, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Lead, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Lead, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Lead, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Lead, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Lead, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Lead, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Lead, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Lead, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Nickel, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Nickel, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Nickel, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Nickel, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Nickel, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Nickel, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Nickel, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Nickel, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Nickel, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Nickel, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Nickel, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Nickel, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Nickel, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Nickel, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Nickel, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Nickel, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Nickel, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Nickel, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Nickel, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Nickel, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Selenium, total	ug/L	MW-78	09/24/2014		5.4000		
Selenium, total	ug/L	MW-78	12/05/2014		5.6000		
Selenium, total	ug/L	MW-78	03/11/2015		6.5000		
Selenium, total	ug/L	MW-78	06/16/2015		8.6000		
Selenium, total	ug/L	MW-78	09/16/2015		8.1000		
Selenium, total	ug/L	MW-78	03/22/2016		8.9000		
Selenium, total	ug/L	MW-78	09/15/2016		9.4000		
Selenium, total	ug/L	MW-78	03/23/2017		10.6000		

* - 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	
Selenium, total	ug/L	MW-78	09/08/2017		6.9000		
Selenium, total	ug/L	MW-78	03/19/2018		8.3000		
Selenium, total	ug/L	MW-78	09/11/2018		5.6000		
Selenium, total	ug/L	MW-78	03/26/2019		9.5000		
Selenium, total	ug/L	MW-78	09/04/2019		6.8000		
Selenium, total	ug/L	MW-78	03/26/2020		5.4000		
Selenium, total	ug/L	MW-78	09/15/2020		8.5000		
Selenium, total	ug/L	MW-78	03/02/2021		9.4000		
Selenium, total	ug/L	MW-78	09/07/2021		4.9000		
Selenium, total	ug/L	MW-78	03/24/2022		6.3000		
Selenium, total	ug/L	MW-78	08/31/2022		6.2000		
Selenium, total	ug/L	MW-78	03/02/2023		7.9000		
Selenium, total	ug/L	MW-78	09/12/2023		5.8000		
Selenium, total	ug/L	MW-78	03/04/2024		5.7000		
Silver, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Silver, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Silver, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Silver, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Silver, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Silver, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Silver, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Silver, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Silver, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Silver, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Silver, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Silver, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Silver, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Silver, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Silver, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Silver, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Silver, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Silver, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Silver, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Silver, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Silver, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Silver, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Thallium, total	ug/L	MW-78	09/24/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	12/05/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/11/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	06/16/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	09/16/2015	ND	1.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/22/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	09/15/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/23/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	09/08/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/19/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	09/11/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-78	09/04/2019	ND	2.0000		
Thallium, total	ug/L	MW-78	03/26/2020	ND	2.0000		
Thallium, total	ug/L	MW-78	09/15/2020	ND	2.0000		
Thallium, total	ug/L	MW-78	03/02/2021	ND	2.0000		
Thallium, total	ug/L	MW-78	09/07/2021	ND	2.0000		
Thallium, total	ug/L	MW-78	03/24/2022	ND	2.0000		
Thallium, total	ug/L	MW-78	08/31/2022	ND	2.0000		
Thallium, total	ug/L	MW-78	03/02/2023	ND	2.0000		
Thallium, total	ug/L	MW-78	09/12/2023	ND	2.0000		
Thallium, total	ug/L	MW-78	03/04/2024	ND	2.0000		
Vanadium, total	ug/L	MW-78	09/24/2014	ND	20.0000		
Vanadium, total	ug/L	MW-78	12/05/2014	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/11/2015	ND	20.0000		
Vanadium, total	ug/L	MW-78	06/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/22/2016	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/15/2016	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/23/2017	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/08/2017	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/19/2018	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/11/2018	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/04/2019	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/26/2020	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/15/2020	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/02/2021	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	
Vanadium, total	ug/L	MW-78	09/07/2021	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/24/2022	ND	20.0000		
Vanadium, total	ug/L	MW-78	08/31/2022	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/02/2023	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/12/2023	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/04/2024	ND	20.0000		
Zinc, total	ug/L	MW-78	09/24/2014		10.7000		
Zinc, total	ug/L	MW-78	12/05/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	03/11/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	06/16/2015		8.4000		
Zinc, total	ug/L	MW-78	09/16/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	03/22/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	09/15/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	03/23/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	09/08/2017	ND	20.0000		
Zinc, total	ug/L	MW-78	03/19/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	09/11/2018	ND	20.0000		
Zinc, total	ug/L	MW-78	03/26/2019	ND	20.0000		
Zinc, total	ug/L	MW-78	09/04/2019		17.6000		
Zinc, total	ug/L	MW-78	03/26/2020	ND	20.0000		
Zinc, total	ug/L	MW-78	09/15/2020	ND	20.0000		
Zinc, total	ug/L	MW-78	03/02/2021	ND	20.0000		
Zinc, total	ug/L	MW-78	09/07/2021	ND	20.0000		
Zinc, total	ug/L	MW-78	03/24/2022	ND	20.0000		
Zinc, total	ug/L	MW-78	08/31/2022	ND	20.0000		
Zinc, total	ug/L	MW-78	03/02/2023	ND	20.0000		
Zinc, total	ug/L	MW-78	09/12/2023	ND	20.0000		
Zinc, total	ug/L	MW-78	03/04/2024	ND	20.0000		
Antimony, total	ug/L	SW-101	09/14/2016	ND	2.0000		
Antimony, total	ug/L	SW-101	03/23/2017	ND	2.0000		
Antimony, total	ug/L	SW-101	09/08/2017	ND	2.0000		
Antimony, total	ug/L	SW-101	03/19/2018	ND	2.0000		
Antimony, total	ug/L	SW-101	09/11/2018	ND	2.0000		
Antimony, total	ug/L	SW-101	03/26/2019	ND	2.0000		
Antimony, total	ug/L	SW-101	09/04/2019	ND	2.0000		
Arsenic, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Arsenic, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Arsenic, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Arsenic, total	ug/L	SW-101	03/19/2018		4.4000		
Arsenic, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Arsenic, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Arsenic, total	ug/L	SW-101	09/04/2019		7.3000		
Barium, total	ug/L	SW-101	09/14/2016		188.0000		
Barium, total	ug/L	SW-101	03/23/2017		233.0000		
Barium, total	ug/L	SW-101	09/08/2017		272.0000		
Barium, total	ug/L	SW-101	03/19/2018		162.0000		
Barium, total	ug/L	SW-101	09/11/2018		127.0000		
Barium, total	ug/L	SW-101	03/26/2019		160.0000		
Barium, total	ug/L	SW-101	09/04/2019		256.0000		
Beryllium, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Beryllium, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Beryllium, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Beryllium, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Beryllium, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Beryllium, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Beryllium, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Cadmium, total	ug/L	SW-101	09/14/2016	ND	0.8000		
Cadmium, total	ug/L	SW-101	03/23/2017	ND	0.8000		
Cadmium, total	ug/L	SW-101	09/08/2017	ND	0.8000		
Cadmium, total	ug/L	SW-101	03/19/2018	ND	0.8000		
Cadmium, total	ug/L	SW-101	09/11/2018	ND	0.8000		
Cadmium, total	ug/L	SW-101	03/26/2019	ND	0.8000		
Cadmium, total	ug/L	SW-101	09/04/2019	ND	0.8000		
Chromium, total	ug/L	SW-101	09/14/2016	ND	8.0000		
Chromium, total	ug/L	SW-101	03/23/2017	ND	8.0000		
Chromium, total	ug/L	SW-101	09/08/2017	ND	8.0000		
Chromium, total	ug/L	SW-101	03/19/2018	ND	8.0000		
Chromium, total	ug/L	SW-101	09/11/2018	ND	8.0000		
Chromium, total	ug/L	SW-101	03/26/2019	ND	8.0000		
Chromium, total	ug/L	SW-101	09/04/2019	ND	8.0000		
Cobalt, total	ug/L	SW-101	09/14/2016		4.5000		
Cobalt, total	ug/L	SW-101	03/23/2017		4.2000		
Cobalt, total	ug/L	SW-101	09/08/2017		6.9000		
Cobalt, total	ug/L	SW-101	03/19/2018		2.3000		

*   - 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	
Cobalt, total	ug/L	SW-101	09/11/2018		1.9000		
Cobalt, total	ug/L	SW-101	03/26/2019		1.8000		
Cobalt, total	ug/L	SW-101	09/04/2019		5.9000		
Copper, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Copper, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Copper, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Copper, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Copper, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Copper, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Copper, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Lead, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Lead, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Lead, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Lead, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Lead, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Lead, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Lead, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Nickel, total	ug/L	SW-101	09/14/2016		8.7000		
Nickel, total	ug/L	SW-101	03/23/2017		5.4000		
Nickel, total	ug/L	SW-101	09/08/2017		8.6000		
Nickel, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Nickel, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Nickel, total	ug/L	SW-101	03/26/2019		4.2000		
Nickel, total	ug/L	SW-101	09/04/2019		7.5000		
Selenium, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Selenium, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Selenium, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Selenium, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Selenium, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Selenium, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Selenium, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Silver, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Silver, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Silver, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Silver, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Silver, total	ug/L	SW-101	09/11/2018	ND	8.0000	4.0000	**
Silver, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Silver, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Thallium, total	ug/L	SW-101	09/14/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	03/23/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	09/08/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	03/19/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	09/11/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	03/26/2019	ND	2.0000		
Thallium, total	ug/L	SW-101	09/04/2019	ND	2.0000		
Vanadium, total	ug/L	SW-101	09/14/2016	ND	20.0000		
Vanadium, total	ug/L	SW-101	03/23/2017	ND	20.0000		
Vanadium, total	ug/L	SW-101	09/08/2017	ND	20.0000		
Vanadium, total	ug/L	SW-101	03/19/2018	ND	20.0000		
Vanadium, total	ug/L	SW-101	09/11/2018	ND	20.0000		
Vanadium, total	ug/L	SW-101	03/26/2019	ND	20.0000		
Vanadium, total	ug/L	SW-101	09/04/2019	ND	20.0000		
Zinc, total	ug/L	SW-101	09/14/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	SW-101	03/23/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	SW-101	09/08/2017	ND	20.0000		
Zinc, total	ug/L	SW-101	03/19/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	SW-101	09/11/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	SW-101	03/26/2019	ND	20.0000		
Zinc, total	ug/L	SW-101	09/04/2019	ND	8.0000	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	MW-44	03/04/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-44	03/04/2024		4.1000	**	7.3000
Barium, total	ug/L	MW-44	03/04/2024		126.0000		357.0000
Beryllium, total	ug/L	MW-44	03/04/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-44	03/04/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-44	03/04/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-44	03/04/2024		9.7000	***	6.9000
Copper, total	ug/L	MW-44	03/04/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-44	03/04/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-44	03/04/2024		10.0000	***	8.7000
Selenium, total	ug/L	MW-44	03/04/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-44	03/04/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-44	03/04/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-44	03/04/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-44	03/04/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-56	03/04/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-56	03/04/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-56	03/04/2024		23.5000		357.0000
Beryllium, total	ug/L	MW-56	03/04/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-56	03/04/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-56	03/04/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-56	03/04/2024		0.6000		6.9000
Copper, total	ug/L	MW-56	03/04/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	03/04/2024		14.6000	*	4.0000
Nickel, total	ug/L	MW-56	03/04/2024		4.7000	**	8.7000
Selenium, total	ug/L	MW-56	03/04/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-56	03/04/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-56	03/04/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-56	03/04/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-56	03/04/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-57	03/04/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-57	03/04/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-57	03/04/2024		250.0000	**	357.0000
Beryllium, total	ug/L	MW-57	03/04/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-57	03/04/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-57	03/04/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-57	03/04/2024		0.4000		6.9000
Copper, total	ug/L	MW-57	03/04/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-57	03/04/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-57	03/04/2024	ND	4.0000		8.7000
Selenium, total	ug/L	MW-57	03/04/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-57	03/04/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-57	03/04/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-57	03/04/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-57	03/04/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-64	03/04/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-64	03/04/2024		29.6000	***	7.3000
Barium, total	ug/L	MW-64	03/04/2024		68.5000		357.0000
Beryllium, total	ug/L	MW-64	03/04/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-64	03/04/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-64	03/04/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-64	03/04/2024		12.0000	***	6.9000
Copper, total	ug/L	MW-64	03/04/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-64	03/04/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-64	03/04/2024		32.0000	***	8.7000
Selenium, total	ug/L	MW-64	03/04/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-64	03/04/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-64	03/04/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-64	03/04/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-64	03/04/2024		51.4000	*	32.3000
Antimony, total	ug/L	MW-65	03/04/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-65	03/04/2024		6.7000		7.3000
Barium, total	ug/L	MW-65	03/04/2024		30.0000		357.0000
Beryllium, total	ug/L	MW-65	03/04/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-65	03/04/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-65	03/04/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-65	03/04/2024		9.2000	*	6.9000
Copper, total	ug/L	MW-65	03/04/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-65	03/04/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-65	03/04/2024		14.9000	*	8.7000
Selenium, total	ug/L	MW-65	03/04/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-65	03/04/2024	ND	4.0000		6.4000

* - 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-65	03/04/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-65	03/04/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-65	03/04/2024		21.5000		32.3000

* - 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	73	0.000	0	75	0.000
Arsenic, total	2	73	0.027	36	76	0.474
Barium, total	73	73	1.000	79	79	1.000
Beryllium, total	0	73	0.000	0	75	0.000
Cadmium, total	0	73	0.000	0	75	0.000
Chromium, total	0	73	0.000	0	75	0.000
Cobalt, total	12	73	0.164	65	76	0.855
Copper, total	0	73	0.000	9	76	0.118
Lead, total	0	73	0.000	1	75	0.013
Nickel, total	5	73	0.068	59	76	0.776
Selenium, total	22	73	0.301	1	75	0.013
Silver, total	1	73	0.014	0	75	0.000
Thallium, total	1	73	0.014	0	75	0.000
Vanadium, total	0	73	0.000	0	75	0.000
Zinc, total	5	73	0.068	18	75	0.240

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	73	0.000									nonpar
Arsenic, total	2	73	0.027									nonpar
Barium, total	73	73	1.000	2.565	2.759					2.326	non-norm	nonpar
Beryllium, total	0	73	0.000									nonpar
Cadmium, total	0	73	0.000									nonpar
Chromium, total	0	73	0.000									nonpar
Cobalt, total	12	73	0.164	0.421	0.600					2.326	normal	nonpar
Copper, total	0	73	0.000									nonpar
Lead, total	0	73	0.000									nonpar
Nickel, total	5	73	0.068	0.460	0.593					2.326	normal	nonpar
Selenium, total	22	73	0.301	1.190	0.968					2.326	normal	nonpar
Silver, total	1	73	0.014									nonpar
Thallium, total	1	73	0.014									nonpar
Vanadium, total	0	73	0.000									nonpar
Zinc, total	5	73	0.068	0.090	0.311					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	73					2.0000	nonpar	***	0.99
Arsenic, total	ug/L	2	73					7.3000	nonpar		0.99
Barium, total	ug/L	73	73					357.0000	nonpar		0.99
Beryllium, total	ug/L	0	73					4.0000	nonpar	***	0.99
Cadmium, total	ug/L	0	73					0.8000	nonpar	***	0.99
Chromium, total	ug/L	0	73					8.0000	nonpar	***	0.99
Cobalt, total	ug/L	12	73					6.9000	nonpar		0.99
Copper, total	ug/L	0	73					4.0000	nonpar	***	0.99
Lead, total	ug/L	0	73					4.0000	nonpar	***	0.99
Nickel, total	ug/L	5	73					8.7000	nonpar		0.99
Selenium, total	ug/L	22	73					10.6000	nonpar		0.99
Silver, total	ug/L	1	73					6.4000	nonpar		0.99
Thallium, total	ug/L	1	73					2.4000	nonpar		0.99
Vanadium, total	ug/L	0	73					20.0000	nonpar	***	0.99
Zinc, total	ug/L	5	73					32.3000	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
1% 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	MW-44	09/14/2016	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-44	09/08/2017		5.6000		7.3000
Arsenic, total	ug/L	MW-44	12/05/2017	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-44	03/19/2018	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-44	09/11/2018	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-44	03/26/2019		6.6000		7.3000
Arsenic, total	ug/L	MW-44	09/04/2019		7.9000	*	7.3000
Arsenic, total	ug/L	MW-44	03/26/2020	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-44	09/15/2020		13.1000	*	7.3000
Arsenic, total	ug/L	MW-44	03/02/2021	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-44	09/07/2021		9.4000	*	7.3000
Arsenic, total	ug/L	MW-44	03/24/2022		7.6000	*	7.3000
Arsenic, total	ug/L	MW-44	08/31/2022		10.0000	*	7.3000
Arsenic, total	ug/L	MW-44	03/02/2023	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-44	09/12/2023		10.8000	*	7.3000
Arsenic, total	ug/L	MW-44	03/04/2024		4.1000		7.3000
Cobalt, total	ug/L	MW-44	09/14/2016		6.3000		6.9000
Cobalt, total	ug/L	MW-44	09/08/2017		7.3000	*	6.9000
Cobalt, total	ug/L	MW-44	12/05/2017		8.7000	*	6.9000
Cobalt, total	ug/L	MW-44	03/19/2018		8.9000	*	6.9000
Cobalt, total	ug/L	MW-44	09/11/2018		8.4000	*	6.9000
Cobalt, total	ug/L	MW-44	03/26/2019		10.2000	*	6.9000
Cobalt, total	ug/L	MW-44	09/04/2019		8.7000	*	6.9000
Cobalt, total	ug/L	MW-44	03/26/2020		9.2000	*	6.9000
Cobalt, total	ug/L	MW-44	09/15/2020		14.5000	*	6.9000
Cobalt, total	ug/L	MW-44	03/02/2021		8.8000	*	6.9000
Cobalt, total	ug/L	MW-44	09/07/2021		8.1000	*	6.9000
Cobalt, total	ug/L	MW-44	03/24/2022		11.0000	*	6.9000
Cobalt, total	ug/L	MW-44	08/31/2022		11.6000	*	6.9000
Cobalt, total	ug/L	MW-44	03/02/2023		8.8000	*	6.9000
Cobalt, total	ug/L	MW-44	09/12/2023		10.7000	*	6.9000
Cobalt, total	ug/L	MW-44	03/04/2024		9.7000	*	6.9000
Nickel, total	ug/L	MW-44	09/14/2016		17.3000	*	8.7000
Nickel, total	ug/L	MW-44	09/08/2017		16.0000	*	8.7000
Nickel, total	ug/L	MW-44	03/19/2018		12.7000	*	8.7000
Nickel, total	ug/L	MW-44	09/11/2018		12.8000	*	8.7000
Nickel, total	ug/L	MW-44	03/26/2019		11.9000	*	8.7000
Nickel, total	ug/L	MW-44	09/04/2019		11.7000	*	8.7000
Nickel, total	ug/L	MW-44	03/26/2020		13.2000	*	8.7000
Nickel, total	ug/L	MW-44	09/15/2020		26.2000	*	8.7000
Nickel, total	ug/L	MW-44	03/02/2021		9.7000	*	8.7000
Nickel, total	ug/L	MW-44	09/07/2021		13.2000	*	8.7000
Nickel, total	ug/L	MW-44	03/24/2022		12.2000	*	8.7000
Nickel, total	ug/L	MW-44	08/31/2022		13.5000	*	8.7000
Nickel, total	ug/L	MW-44	03/02/2023		10.0000	*	8.7000
Nickel, total	ug/L	MW-44	09/12/2023		13.2000	*	8.7000
Nickel, total	ug/L	MW-44	03/04/2024		10.0000	*	8.7000
Lead, total	ug/L	MW-56	09/14/2016	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	09/08/2017	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	03/19/2018	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	09/11/2018	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	03/26/2019	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	09/04/2019	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	03/26/2020	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	09/15/2020	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	03/02/2021	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	09/07/2021	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	03/24/2022	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	08/31/2022	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	03/02/2023	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	09/12/2023	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	03/04/2024		14.6000	*	4.0000
Nickel, total	ug/L	MW-56	09/14/2016		12.2000	*	8.7000
Nickel, total	ug/L	MW-56	09/08/2017		13.8000	*	8.7000
Nickel, total	ug/L	MW-56	12/05/2017		14.0000	*	8.7000
Nickel, total	ug/L	MW-56	03/19/2018	ND	4.0000		8.7000
Nickel, total	ug/L	MW-56	09/11/2018	ND	4.0000		8.7000
Nickel, total	ug/L	MW-56	03/26/2019	ND	4.0000		8.7000
Nickel, total	ug/L	MW-56	09/04/2019		7.0000		8.7000
Nickel, total	ug/L	MW-56	03/26/2020	ND	4.0000		8.7000
Nickel, total	ug/L	MW-56	09/15/2020		10.9000	*	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
Nickel, total	ug/L	MW-56	03/02/2021	ND	4.0000		8.7000
Nickel, total	ug/L	MW-56	09/07/2021		13.1000	*	8.7000
Nickel, total	ug/L	MW-56	03/24/2022	ND	4.0000		8.7000
Nickel, total	ug/L	MW-56	08/31/2022		10.1000	*	8.7000
Nickel, total	ug/L	MW-56	03/02/2023	ND	4.0000		8.7000
Nickel, total	ug/L	MW-56	09/12/2023		9.6000	*	8.7000
Nickel, total	ug/L	MW-56	03/04/2024		4.7000		8.7000
Barium, total	ug/L	MW-57	09/14/2016		301.0000		357.0000
Barium, total	ug/L	MW-57	09/08/2017		563.0000	*	357.0000
Barium, total	ug/L	MW-57	12/05/2017		398.0000	*	357.0000
Barium, total	ug/L	MW-57	03/19/2018		279.0000		357.0000
Barium, total	ug/L	MW-57	09/11/2018		189.0000		357.0000
Barium, total	ug/L	MW-57	03/26/2019		287.0000		357.0000
Barium, total	ug/L	MW-57	09/04/2019		344.0000		357.0000
Barium, total	ug/L	MW-57	03/26/2020		513.0000	*	357.0000
Barium, total	ug/L	MW-57	06/18/2020		301.0000		357.0000
Barium, total	ug/L	MW-57	09/15/2020		517.0000	*	357.0000
Barium, total	ug/L	MW-57	12/03/2020		388.0000	*	357.0000
Barium, total	ug/L	MW-57	03/02/2021		112.0000		357.0000
Barium, total	ug/L	MW-57	09/07/2021		507.0000	*	357.0000
Barium, total	ug/L	MW-57	12/03/2021		362.0000	*	357.0000
Barium, total	ug/L	MW-57	03/24/2022		317.0000		357.0000
Barium, total	ug/L	MW-57	08/31/2022		509.0000	*	357.0000
Barium, total	ug/L	MW-57	03/02/2023		254.0000		357.0000
Barium, total	ug/L	MW-57	09/12/2023		445.0000	*	357.0000
Barium, total	ug/L	MW-57	03/04/2024		250.0000		357.0000
Arsenic, total	ug/L	MW-64	09/14/2016		21.6000	*	7.3000
Arsenic, total	ug/L	MW-64	09/08/2017		7.9000	*	7.3000
Arsenic, total	ug/L	MW-64	03/19/2018		19.3000	*	7.3000
Arsenic, total	ug/L	MW-64	09/11/2018		24.2000	*	7.3000
Arsenic, total	ug/L	MW-64	03/26/2019		40.2000	*	7.3000
Arsenic, total	ug/L	MW-64	09/04/2019		22.2000	*	7.3000
Arsenic, total	ug/L	MW-64	03/26/2020		40.3000	*	7.3000
Arsenic, total	ug/L	MW-64	09/15/2020		21.1000	*	7.3000
Arsenic, total	ug/L	MW-64	03/02/2021		20.2000	*	7.3000
Arsenic, total	ug/L	MW-64	09/07/2021		25.2000	*	7.3000
Arsenic, total	ug/L	MW-64	03/24/2022		19.2000	*	7.3000
Arsenic, total	ug/L	MW-64	08/31/2022		27.4000	*	7.3000
Arsenic, total	ug/L	MW-64	03/02/2023		26.4000	*	7.3000
Arsenic, total	ug/L	MW-64	09/12/2023		23.1000	*	7.3000
Arsenic, total	ug/L	MW-64	03/04/2024		29.6000	*	7.3000
Cobalt, total	ug/L	MW-64	09/14/2016		27.0000	*	6.9000
Cobalt, total	ug/L	MW-64	09/08/2017		34.4000	*	6.9000
Cobalt, total	ug/L	MW-64	03/19/2018		19.1000	*	6.9000
Cobalt, total	ug/L	MW-64	09/11/2018		25.1000	*	6.9000
Cobalt, total	ug/L	MW-64	03/26/2019		16.1000	*	6.9000
Cobalt, total	ug/L	MW-64	09/04/2019		23.0000	*	6.9000
Cobalt, total	ug/L	MW-64	03/26/2020		14.7000	*	6.9000
Cobalt, total	ug/L	MW-64	09/15/2020		20.8000	*	6.9000
Cobalt, total	ug/L	MW-64	03/02/2021		14.6000	*	6.9000
Cobalt, total	ug/L	MW-64	09/07/2021		21.0000	*	6.9000
Cobalt, total	ug/L	MW-64	03/24/2022		11.8000	*	6.9000
Cobalt, total	ug/L	MW-64	08/31/2022		21.6000	*	6.9000
Cobalt, total	ug/L	MW-64	03/02/2023		11.0000	*	6.9000
Cobalt, total	ug/L	MW-64	09/12/2023		18.7000	*	6.9000
Cobalt, total	ug/L	MW-64	03/04/2024		12.0000	*	6.9000
Nickel, total	ug/L	MW-64	09/14/2016		56.3000	*	8.7000
Nickel, total	ug/L	MW-64	09/08/2017		73.1000	*	8.7000
Nickel, total	ug/L	MW-64	03/19/2018		46.2000	*	8.7000
Nickel, total	ug/L	MW-64	09/11/2018		55.4000	*	8.7000
Nickel, total	ug/L	MW-64	03/26/2019		41.6000	*	8.7000
Nickel, total	ug/L	MW-64	09/04/2019		45.9000	*	8.7000
Nickel, total	ug/L	MW-64	03/26/2020		39.4000	*	8.7000
Nickel, total	ug/L	MW-64	09/15/2020		46.6000	*	8.7000
Nickel, total	ug/L	MW-64	03/02/2021		35.4000	*	8.7000
Nickel, total	ug/L	MW-64	09/07/2021		49.9000	*	8.7000
Nickel, total	ug/L	MW-64	03/24/2022		33.0000	*	8.7000
Nickel, total	ug/L	MW-64	08/31/2022		49.9000	*	8.7000
Nickel, total	ug/L	MW-64	03/02/2023		30.6000	*	8.7000
Nickel, total	ug/L	MW-64	09/12/2023		43.1000	*	8.7000
Nickel, total	ug/L	MW-64	03/04/2024		32.0000	*	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

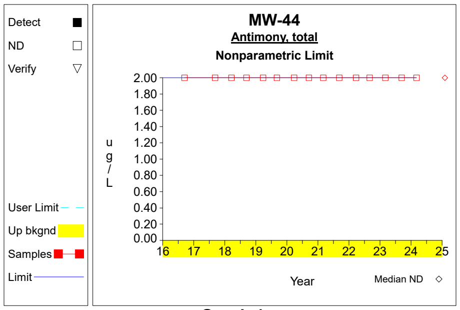
Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Zinc, total	ug/L	MW-64	09/14/2016		11.1000		32.3000
Zinc, total	ug/L	MW-64	09/08/2017	ND	20.0000		32.3000
Zinc, total	ug/L	MW-64	03/19/2018	ND	8.0000		32.3000
Zinc, total	ug/L	MW-64	09/11/2018		8.2000		32.3000
Zinc, total	ug/L	MW-64	03/26/2019		62.6000	*	32.3000
Zinc, total	ug/L	MW-64	09/04/2019	ND	8.0000		32.3000
Zinc, total	ug/L	MW-64	03/26/2020	ND	20.0000		32.3000
Zinc, total	ug/L	MW-64	09/15/2020	ND	20.0000		32.3000
Zinc, total	ug/L	MW-64	03/02/2021	ND	20.0000		32.3000
Zinc, total	ug/L	MW-64	09/07/2021	ND	20.0000		32.3000
Zinc, total	ug/L	MW-64	03/24/2022	ND	20.0000		32.3000
Zinc, total	ug/L	MW-64	08/31/2022	ND	20.0000		32.3000
Zinc, total	ug/L	MW-64	03/02/2023	ND	20.0000		32.3000
Zinc, total	ug/L	MW-64	09/12/2023	ND	20.0000		32.3000
Zinc, total	ug/L	MW-64	03/04/2024		51.4000	*	32.3000
Cobalt, total	ug/L	MW-65	09/14/2016		10.7000	*	6.9000
Cobalt, total	ug/L	MW-65	09/08/2017		3.1000		6.9000
Cobalt, total	ug/L	MW-65	03/19/2018		8.8000	*	6.9000
Cobalt, total	ug/L	MW-65	09/11/2018		11.3000	*	6.9000
Cobalt, total	ug/L	MW-65	03/26/2019		10.0000	*	6.9000
Cobalt, total	ug/L	MW-65	09/04/2019		3.7000		6.9000
Cobalt, total	ug/L	MW-65	03/26/2020		1.6000		6.9000
Cobalt, total	ug/L	MW-65	09/15/2020		2.7000		6.9000
Cobalt, total	ug/L	MW-65	03/02/2021		3.2000		6.9000
Cobalt, total	ug/L	MW-65	09/07/2021		2.1000		6.9000
Cobalt, total	ug/L	MW-65	03/24/2022		0.7000		6.9000
Cobalt, total	ug/L	MW-65	08/31/2022		5.5000		6.9000
Cobalt, total	ug/L	MW-65	03/02/2023		9.3000	*	6.9000
Cobalt, total	ug/L	MW-65	09/12/2023		5.2000		6.9000
Cobalt, total	ug/L	MW-65	03/04/2024		9.2000	*	6.9000
Nickel, total	ug/L	MW-65	09/14/2016		28.2000	*	8.7000
Nickel, total	ug/L	MW-65	09/08/2017		10.9000	*	8.7000
Nickel, total	ug/L	MW-65	03/19/2018		15.3000	*	8.7000
Nickel, total	ug/L	MW-65	09/11/2018		24.8000	*	8.7000
Nickel, total	ug/L	MW-65	03/26/2019		12.3000	*	8.7000
Nickel, total	ug/L	MW-65	09/04/2019		9.2000	*	8.7000
Nickel, total	ug/L	MW-65	03/26/2020		7.6000		8.7000
Nickel, total	ug/L	MW-65	09/15/2020		5.8000		8.7000
Nickel, total	ug/L	MW-65	03/02/2021		7.4000		8.7000
Nickel, total	ug/L	MW-65	09/07/2021		4.5000		8.7000
Nickel, total	ug/L	MW-65	03/24/2022	ND	4.0000		8.7000
Nickel, total	ug/L	MW-65	08/31/2022		13.0000	*	8.7000
Nickel, total	ug/L	MW-65	03/02/2023		20.7000	*	8.7000
Nickel, total	ug/L	MW-65	09/12/2023		7.3000		8.7000
Nickel, total	ug/L	MW-65	03/04/2024		14.9000	*	8.7000

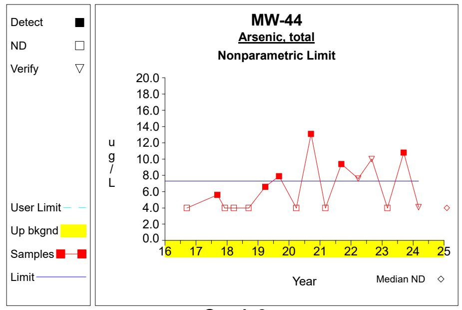
* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Newton [OLDLF] March 2024

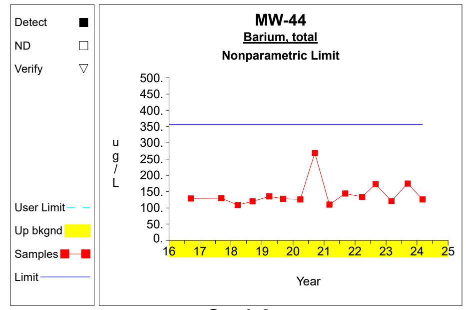
Up vs. Down Prediction Limits



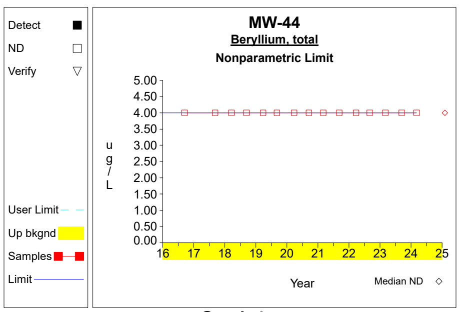
Graph 1



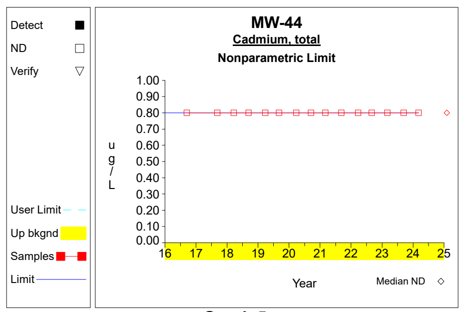
Graph 2



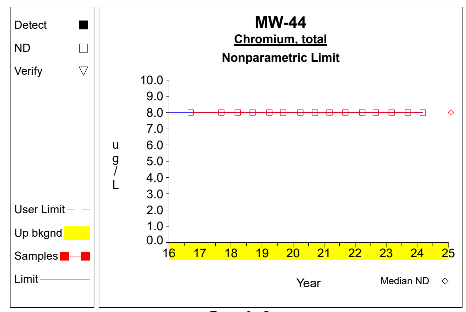
Graph 3



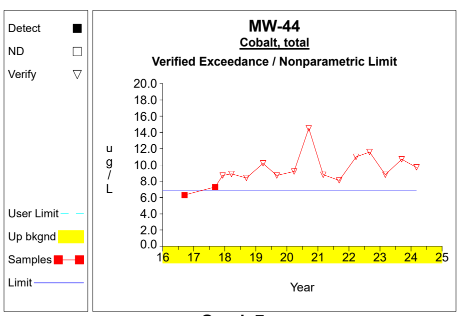
Graph 4



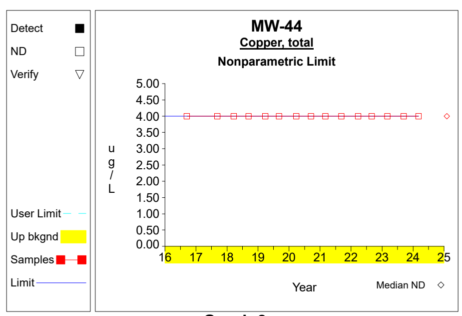
Graph 5



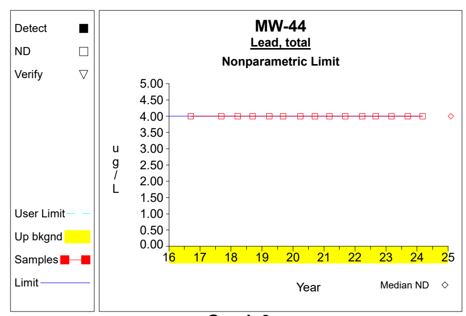
Graph 6



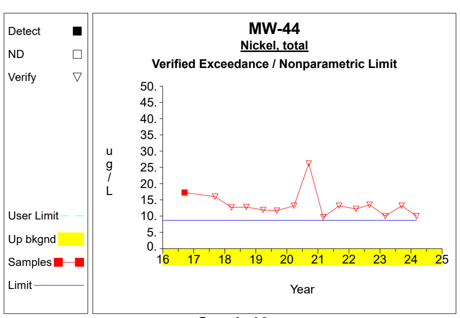
Graph 7



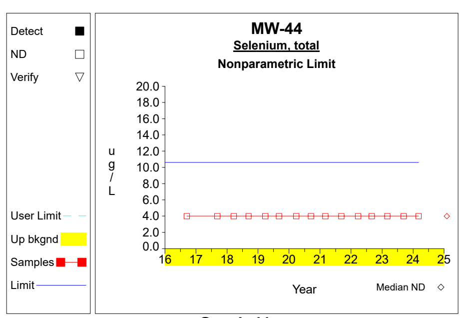
Graph 8



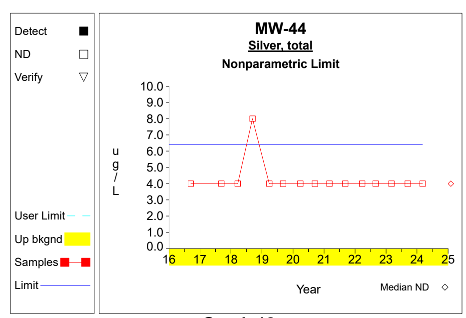
Graph 9



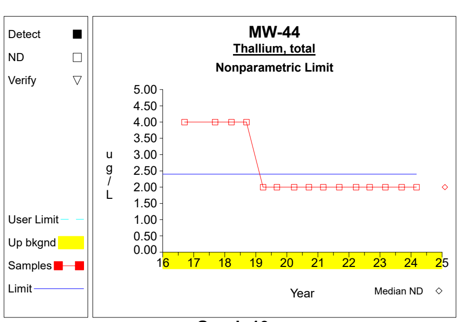
Graph 10



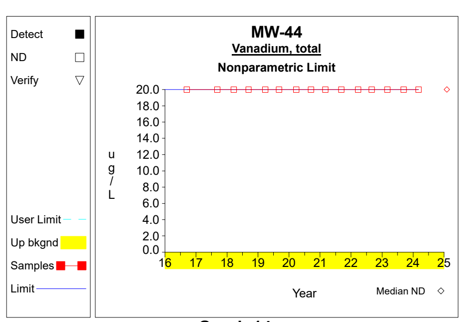
Graph 11



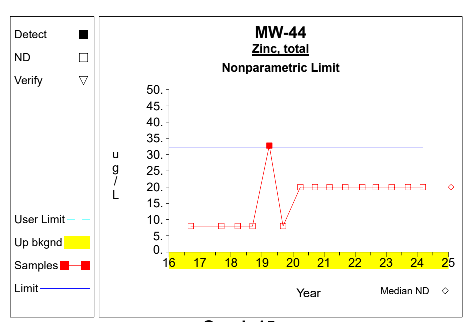
Graph 12



Graph 13



Graph 14

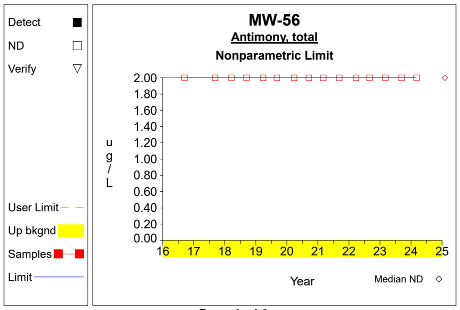


Graph 15

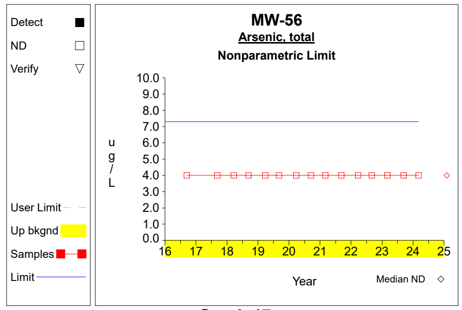
Prepared by: Otter Creek Environmental

Newton [OLDLF] March 2024

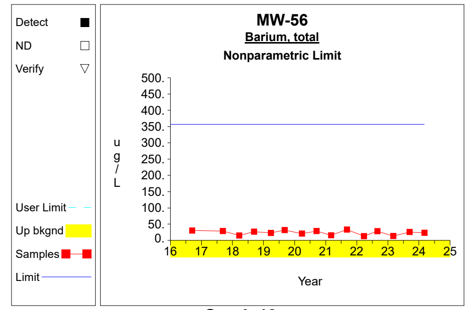
Up vs. Down Prediction Limits



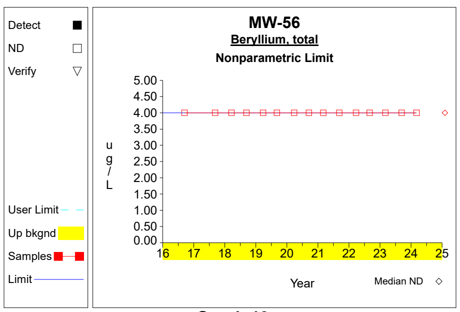
Graph 16



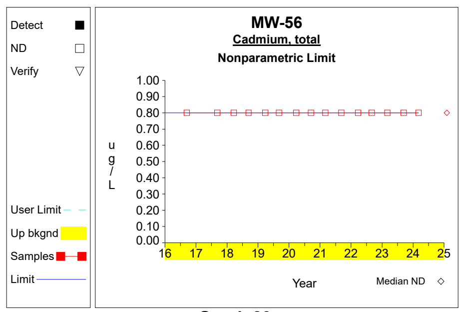
Graph 17



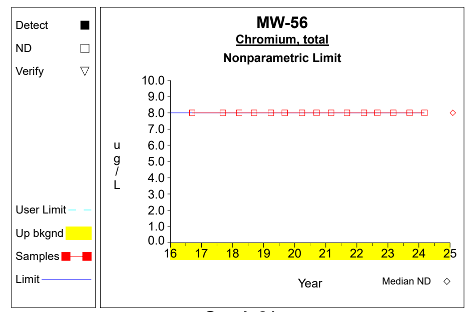
Graph 18



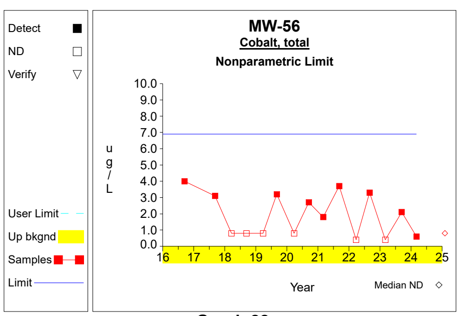
Graph 19



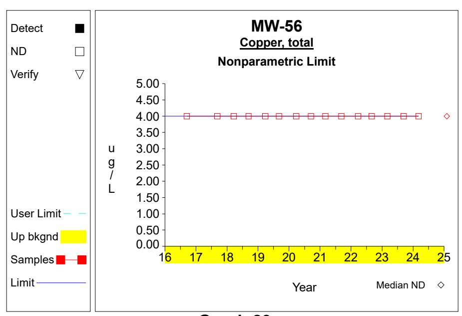
Graph 20



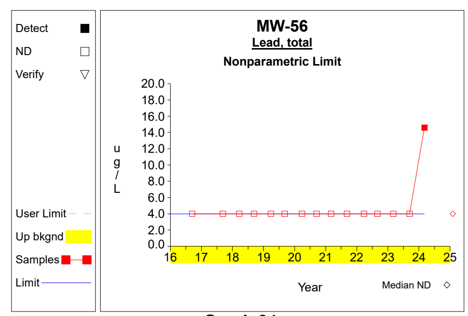
Graph 21



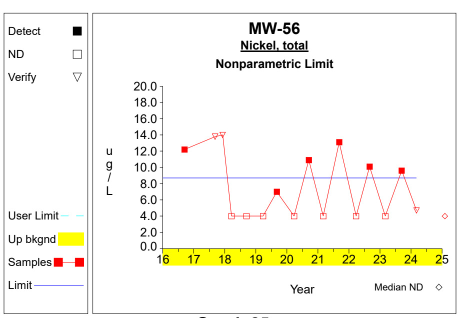
Graph 22



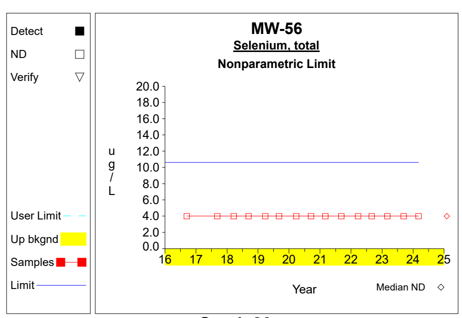
Graph 23



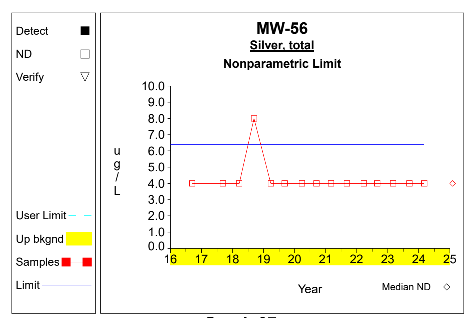
Graph 24



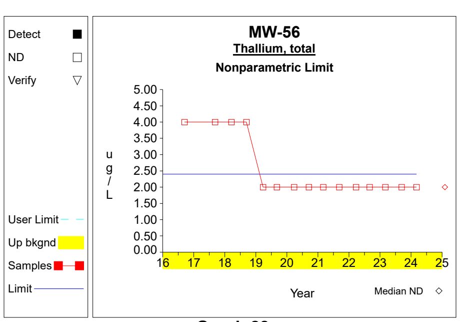
Graph 25



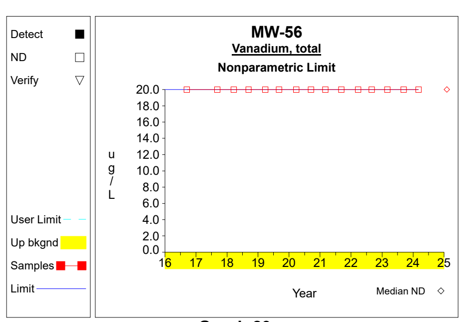
Graph 26



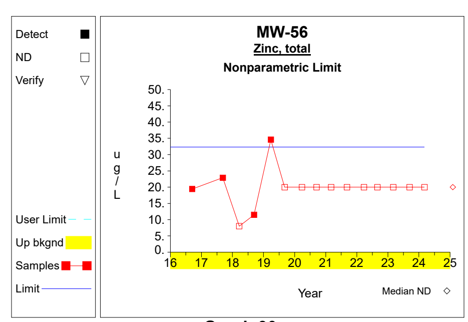
Graph 27



Graph 28



Graph 29

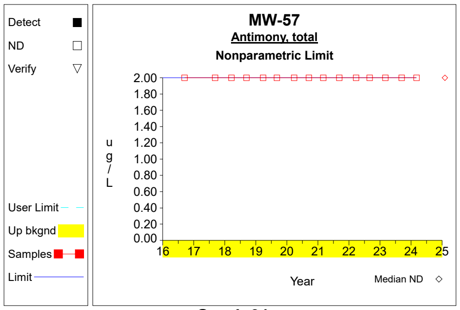


Graph 30

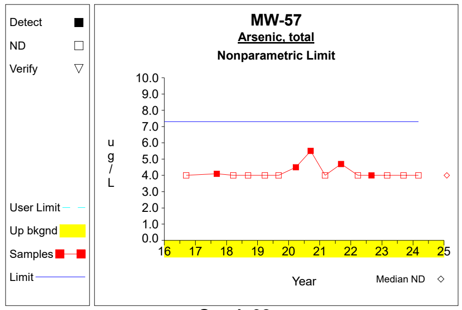
Prepared by: Otter Creek Environmental

Newton [OLDLF] March 2024

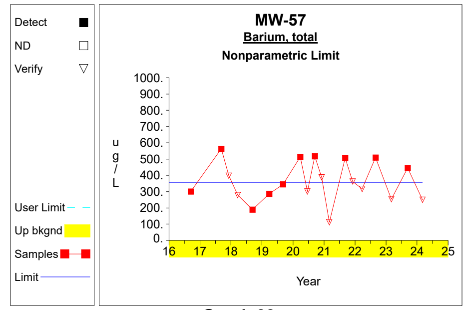
Up vs. Down Prediction Limits



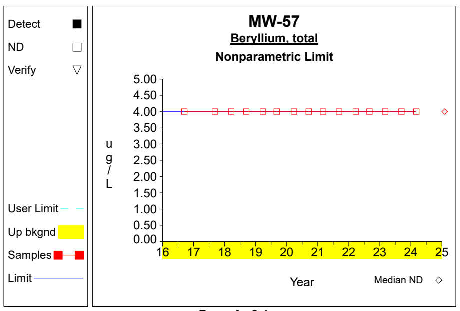
Graph 31



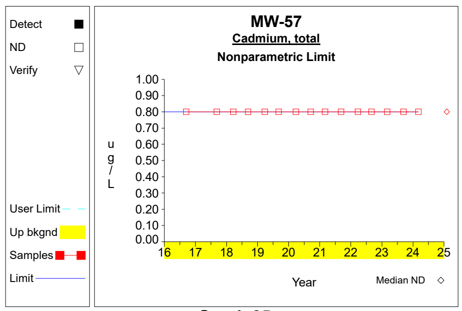
Graph 32



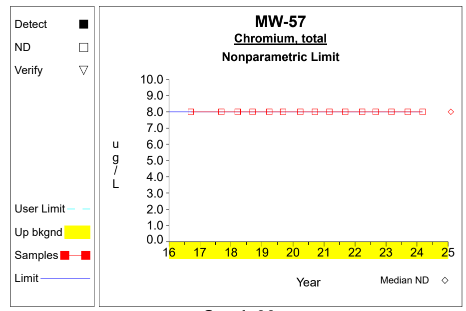
Graph 33



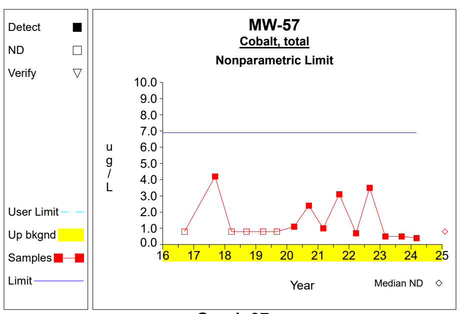
Graph 34



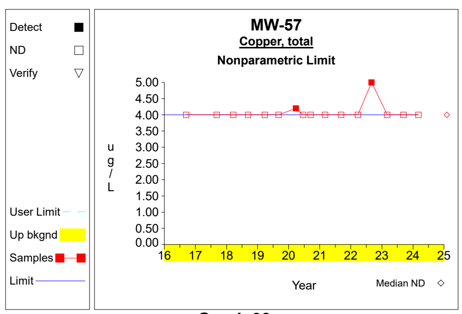
Graph 35



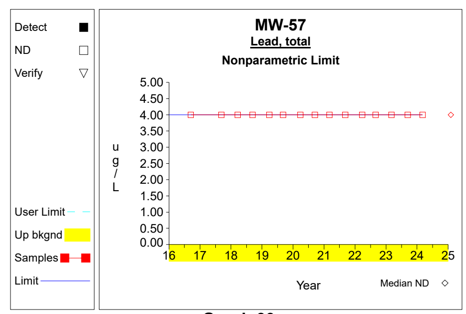
Graph 36



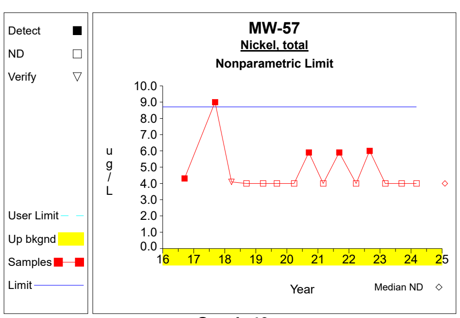
Graph 37



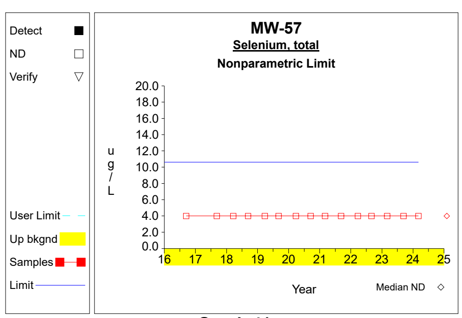
Graph 38



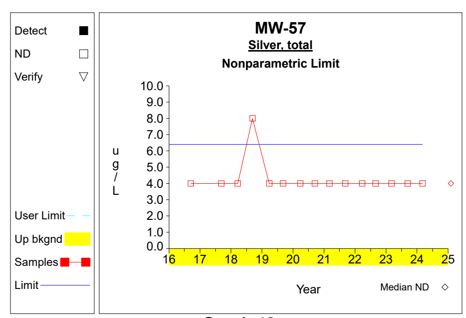
Graph 39



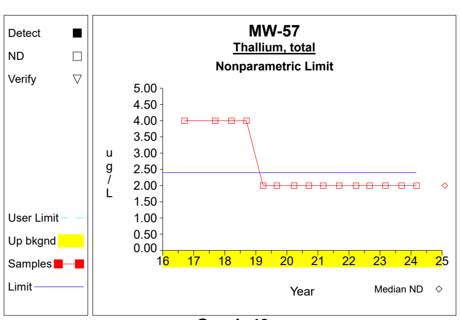
Graph 40



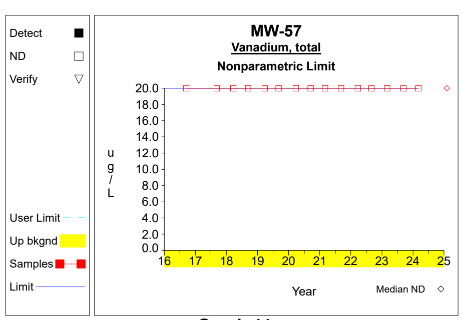
Graph 41



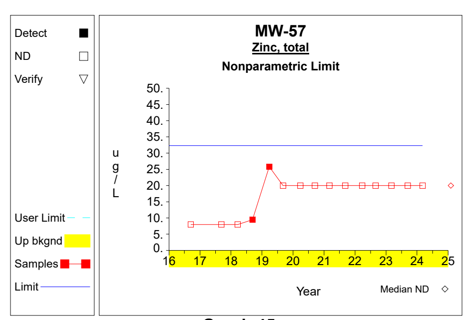
Graph 42



Graph 43



Graph 44

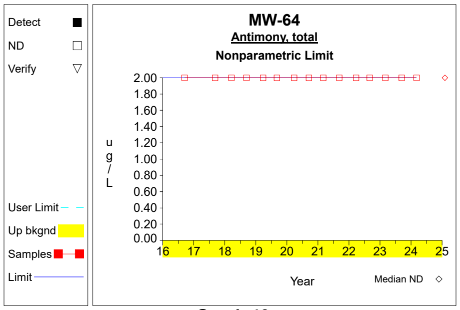


Graph 45

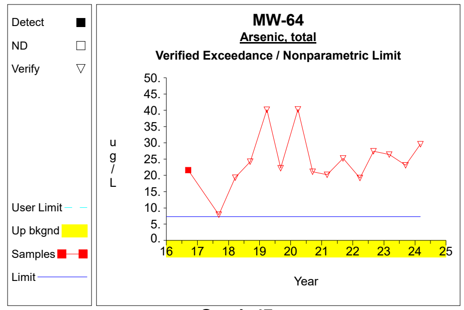
Prepared by: Otter Creek Environmental

Newton [OLDLF] March 2024

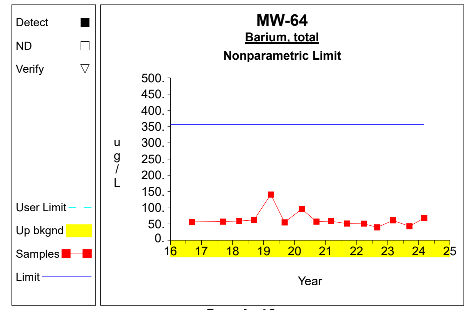
Up vs. Down Prediction Limits



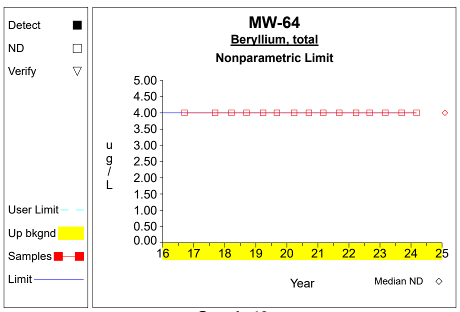
Graph 46



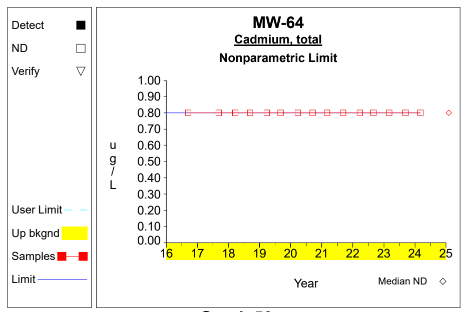
Graph 47



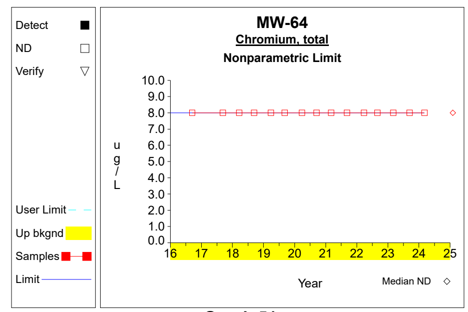
Graph 48



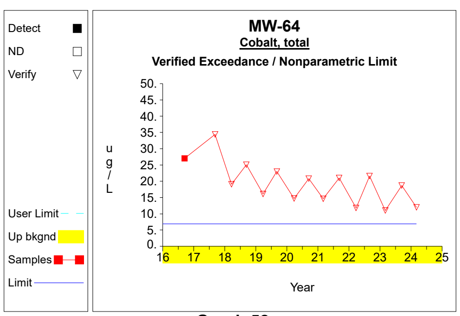
Graph 49



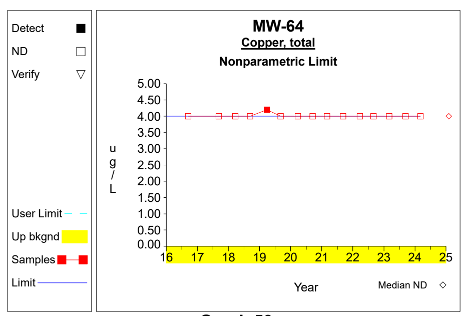
Graph 50



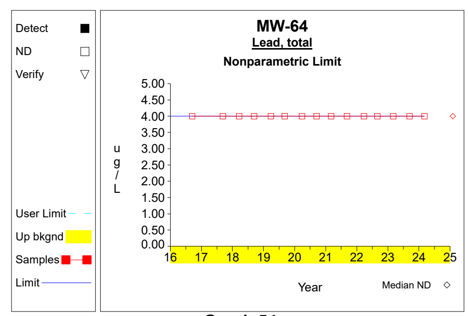
Graph 51



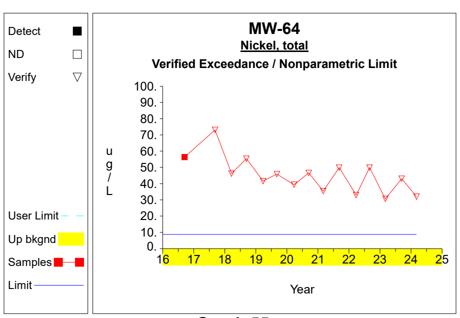
Graph 52



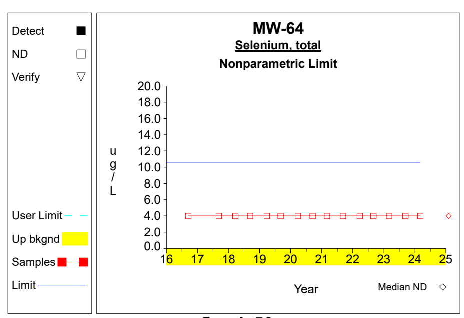
Graph 53



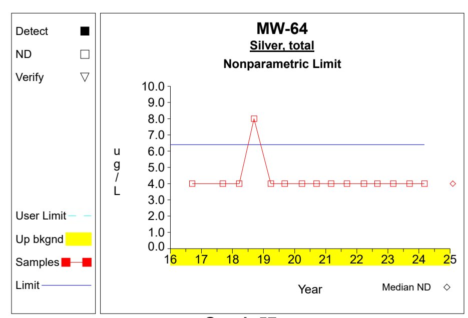
Graph 54



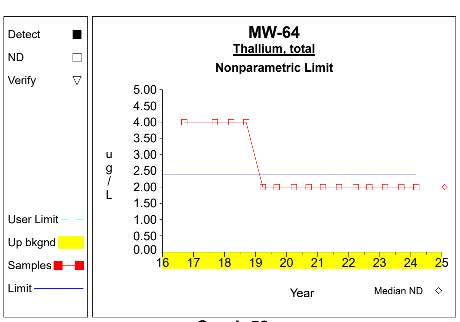
Graph 55



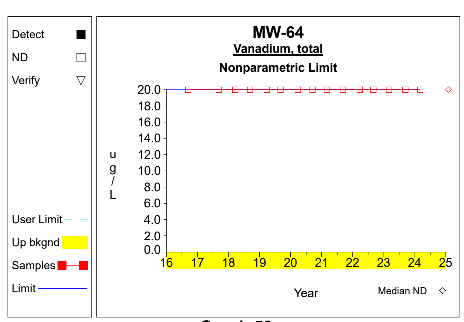
Graph 56



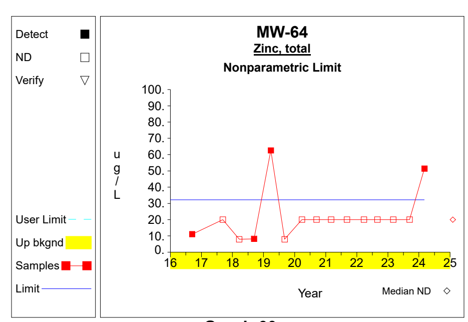
Graph 57



Graph 58



Graph 59

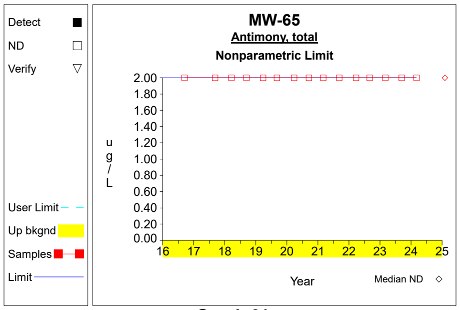


Graph 60

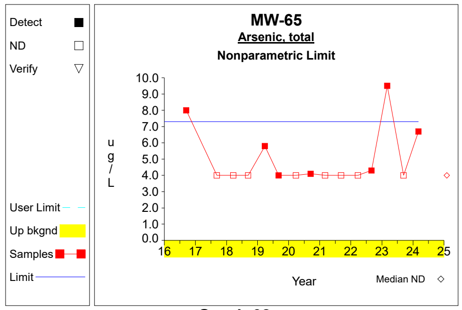
Prepared by: Otter Creek Environmental

Newton [OLDLF] March 2024

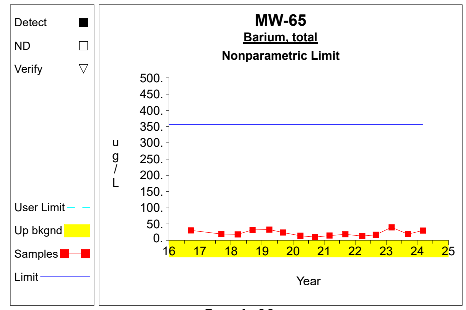
Up vs. Down Prediction Limits



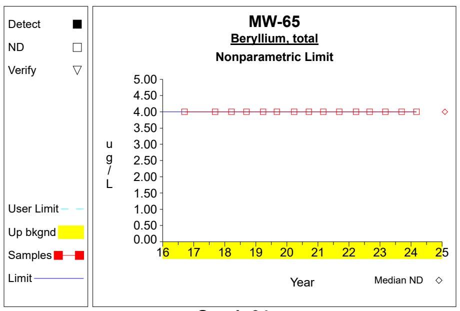
Graph 61



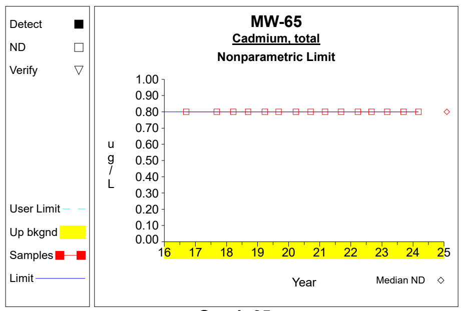
Graph 62



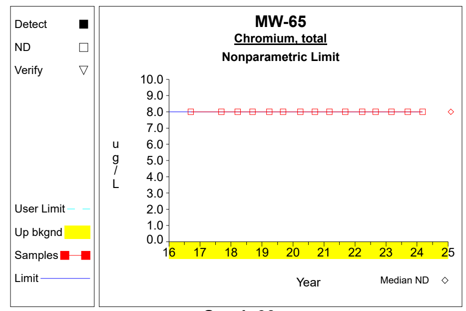
Graph 63



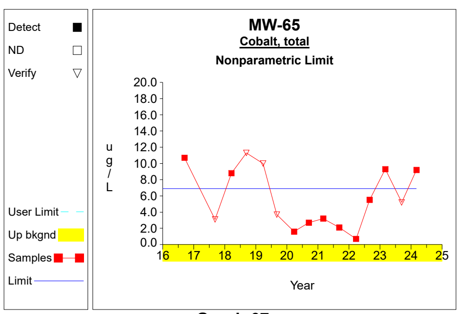
Graph 64



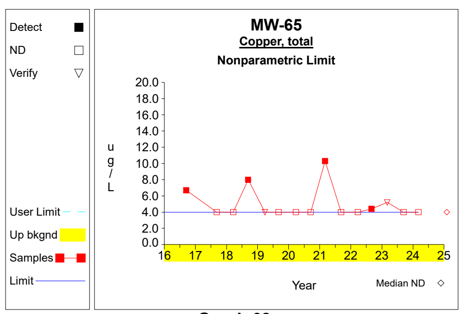
Graph 65



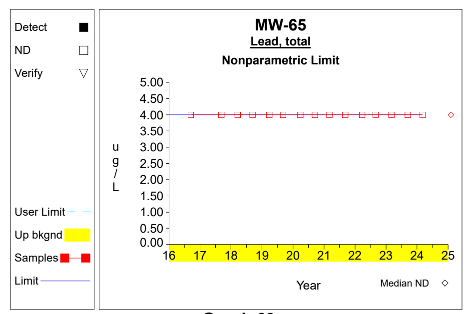
Graph 66



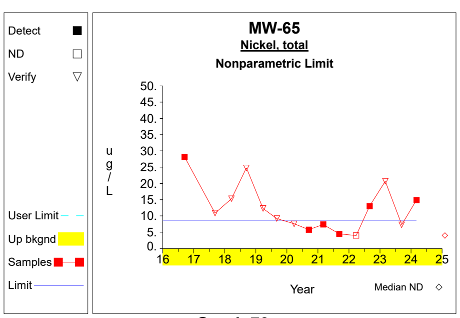
Graph 67



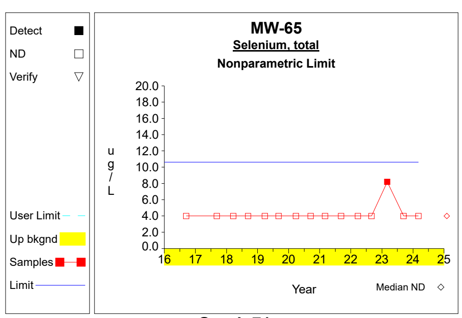
Graph 68



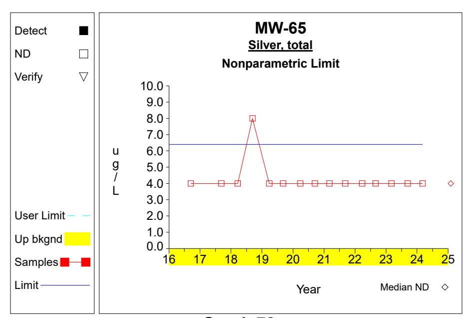
Graph 69



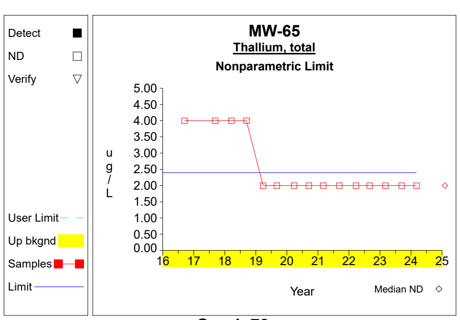
Graph 70



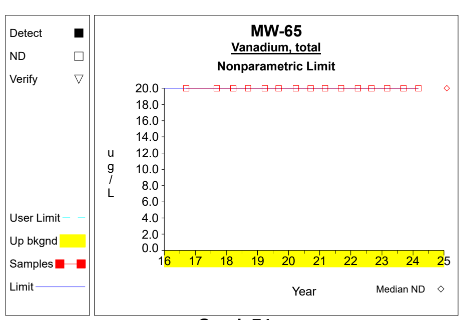
Graph 71



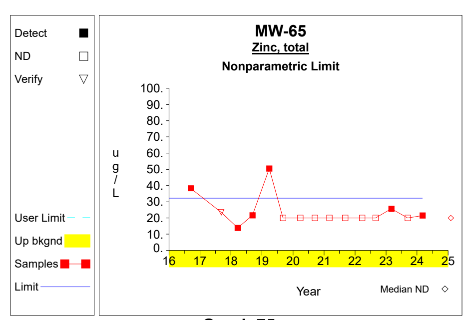
Graph 72



Graph 73



Graph 74



Graph 75

Prepared by: Otter Creek Environmental

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

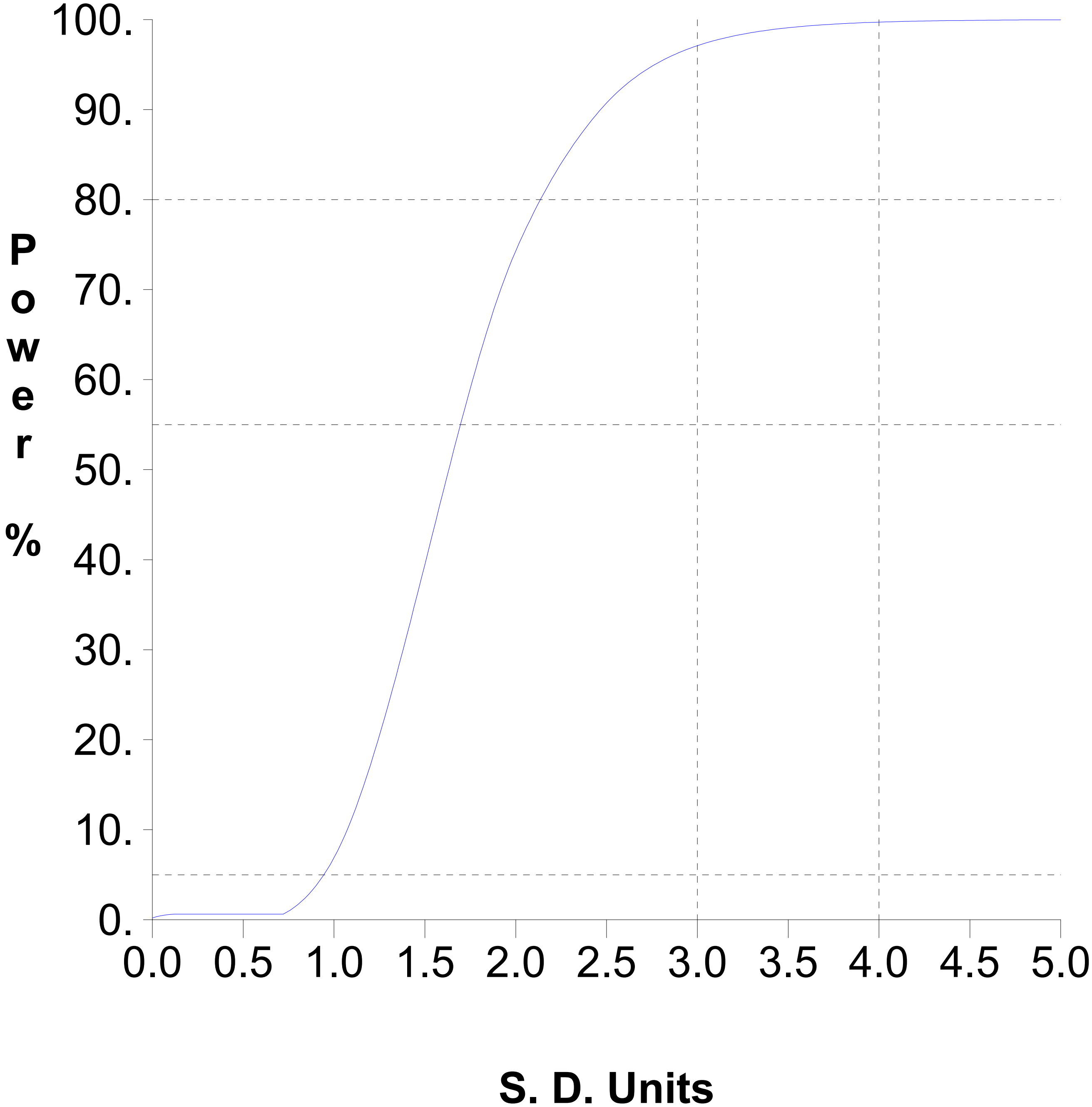


Table 1

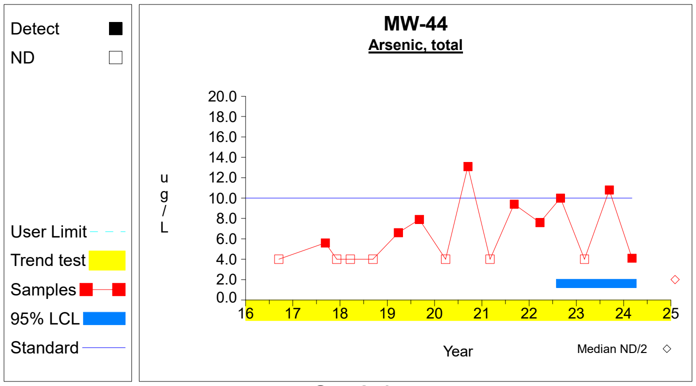
Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
Arsenic, total	ug/L	MW-44	4	6.725	4.342	1.176	1.618	11.832	10.000		
Barium, total	ug/L	MW-44	4	148.750	29.239	1.176	114.357	183.143	2000.000		
Cobalt, total	ug/L	MW-44	4	10.200	1.214	1.176	8.772	11.628	2.100		**
Copper, total	ug/L	MW-44	4	2.000	0.000	1.176	2.000	2.000	1300.000		
Lead, total	ug/L	MW-44	4	2.000	0.000	1.176	2.000	2.000	15.000		
Nickel, total	ug/L	MW-44	4	11.675	1.938	1.176	9.395	13.955	100.000		
Zinc, total	ug/L	MW-44	4	10.000	0.000	1.176	10.000	10.000	2000.000		
Arsenic, total	ug/L	MW-56	4	2.000	0.000	1.176	2.000	2.000	10.000		
Barium, total	ug/L	MW-56	4	22.925	6.431	1.176	15.360	30.490	2000.000		
Cobalt, total	ug/L	MW-56	4	1.600	1.364	1.176	0.000	3.204	2.100		
Copper, total	ug/L	MW-56	4	2.000	0.000	1.176	2.000	2.000	1300.000		
Lead, total	ug/L	MW-56	4	5.150	6.300	1.176	0.000	12.561	15.000		
Nickel, total	ug/L	MW-56	4	6.600	3.917	1.176	1.993	11.207	100.000		
Zinc, total	ug/L	MW-56	4	10.000	0.000	1.176	10.000	10.000	2000.000		
Arsenic, total	ug/L	MW-57	4	2.500	1.000	1.176	1.324	3.676	10.000		
Barium, total	ug/L	MW-57	4	364.500	132.515	1.176	208.624	520.376	2000.000		
Cobalt, total	ug/L	MW-57	4	1.225	1.517	1.176	0.000	3.010	2.100		
Copper, total	ug/L	MW-57	4	2.750	1.500	1.176	0.986	4.514	1300.000		
Lead, total	ug/L	MW-57	4	2.000	0.000	1.176	2.000	2.000	15.000		
Nickel, total	ug/L	MW-57	4	3.000	2.000	1.176	0.647	5.353	100.000		
Zinc, total	ug/L	MW-57	4	10.000	0.000	1.176	10.000	10.000	2000.000		
Arsenic, total	ug/L	MW-64	4	26.625	2.704	1.176	23.445	29.805	10.000		**
Barium, total	ug/L	MW-64	4	53.250	13.788	1.176	37.031	69.469	2000.000		
Cobalt, total	ug/L	MW-64	4	15.825	5.149	1.176	9.769	21.881	2.100	dec	**
Copper, total	ug/L	MW-64	4	2.000	0.000	1.176	2.000	2.000	1300.000		
Lead, total	ug/L	MW-64	4	2.000	0.000	1.176	2.000	2.000	15.000		
Nickel, total	ug/L	MW-64	4	38.900	9.222	1.176	28.052	49.748	100.000	dec	
Zinc, total	ug/L	MW-64	4	20.350	20.700	1.176	0.000	44.699	2000.000		
Arsenic, total	ug/L	MW-65	4	5.625	3.218	1.176	1.840	9.410	10.000		
Barium, total	ug/L	MW-65	4	26.475	10.626	1.176	13.976	38.974	2000.000		
Cobalt, total	ug/L	MW-65	4	7.300	2.255	1.176	4.647	9.953	2.100		**
Copper, total	ug/L	MW-65	4	3.400	1.649	1.176	1.460	5.340	1300.000		
Lead, total	ug/L	MW-65	4	2.000	0.000	1.176	2.000	2.000	15.000		
Nickel, total	ug/L	MW-65	4	13.975	5.525	1.176	7.476	20.474	100.000		
Zinc, total	ug/L	MW-65	4	16.800	8.037	1.176	7.346	26.254	2000.000		

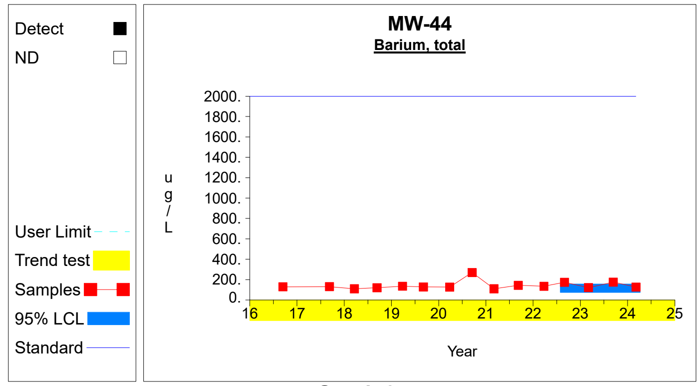
* - Insufficient Data
** - Significant Exceedance
LCL = Lower Confidence Limit
UCL = Upper Confidence Limit

Newton [OLDLF] March 2024

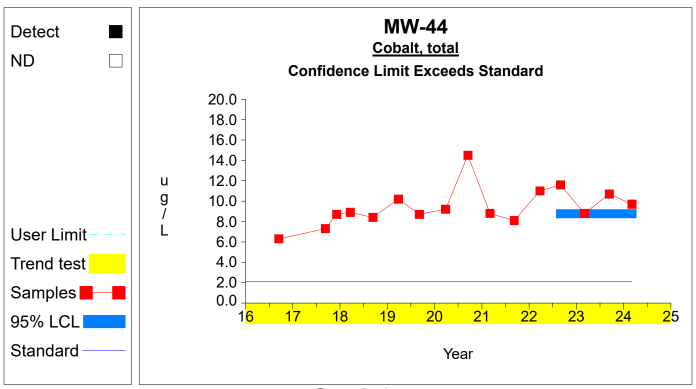
Confidence Limits (Assessment)



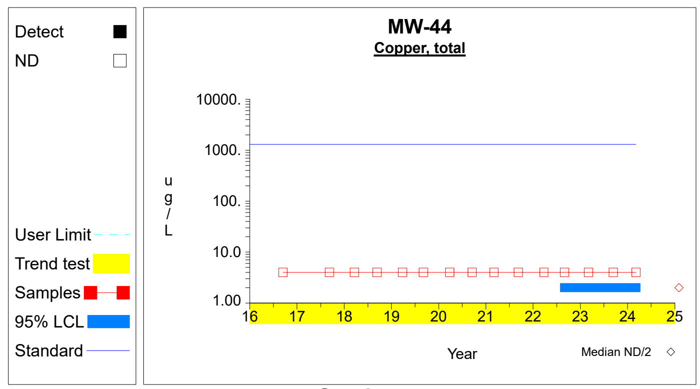
Graph 1



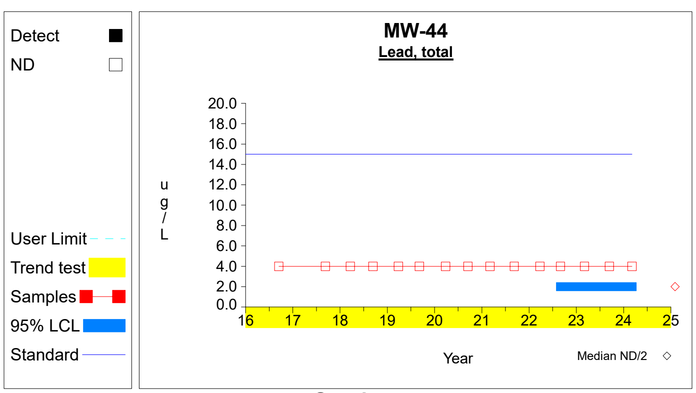
Graph 2



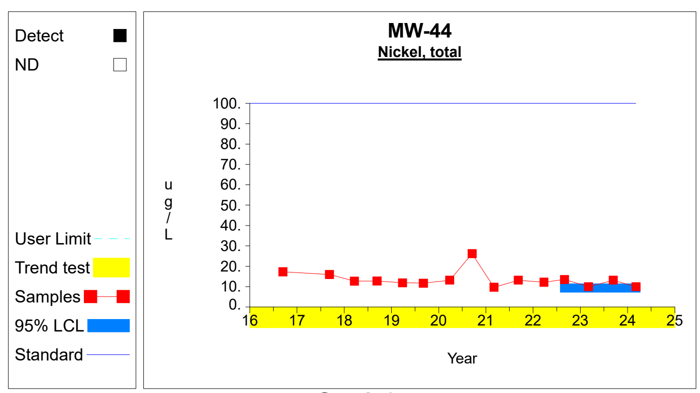
Graph 3



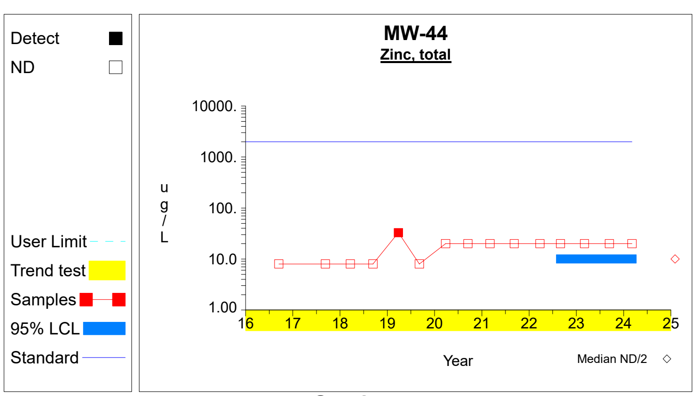
Graph 4



Graph 5



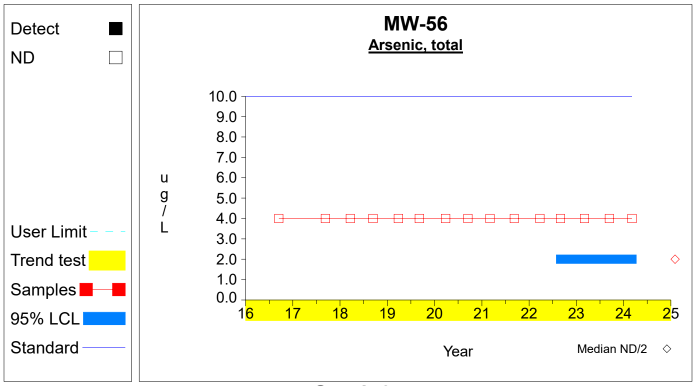
Graph 6



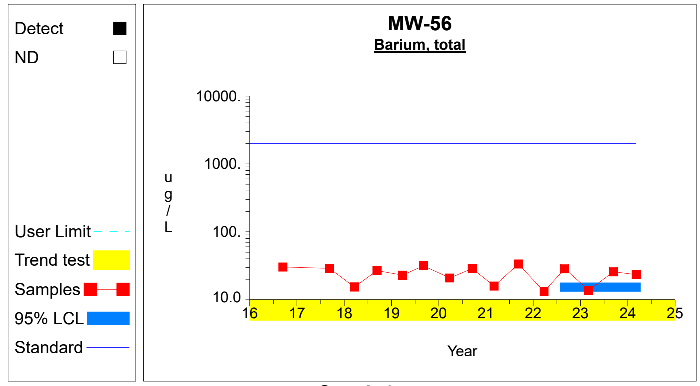
Graph 7

Prepared by: Otter Creek Environmental

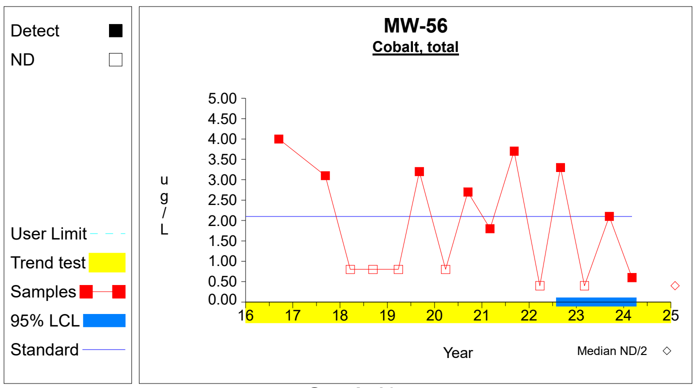
Confidence Limits (Assessment)



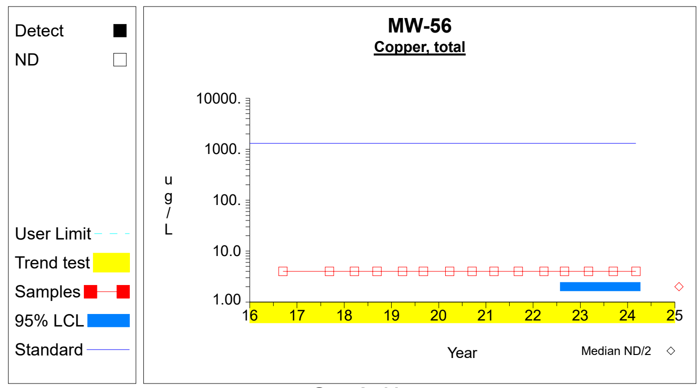
Graph 8



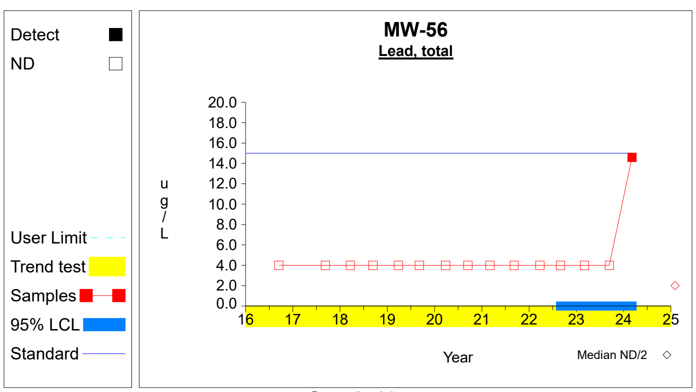
Graph 9



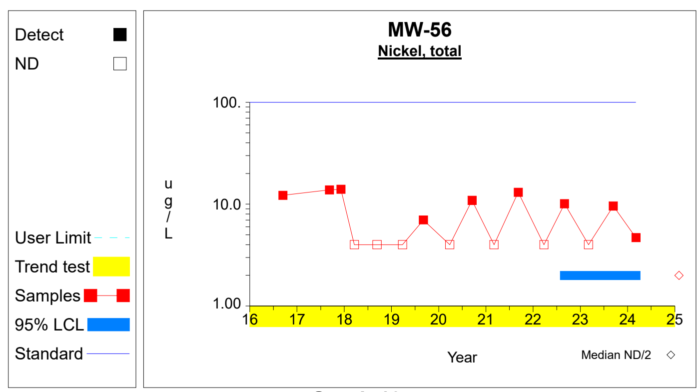
Graph 10



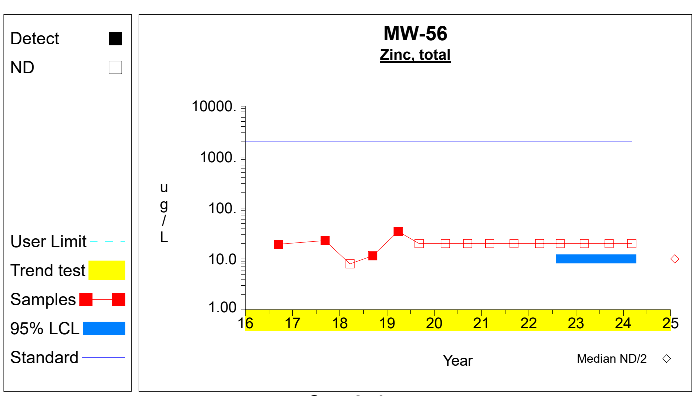
Graph 11



Graph 12

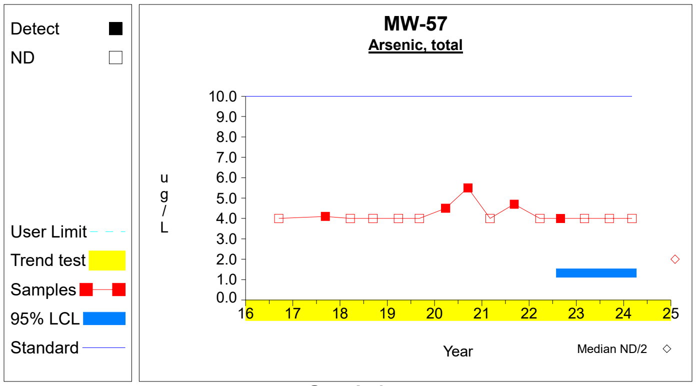


Graph 13

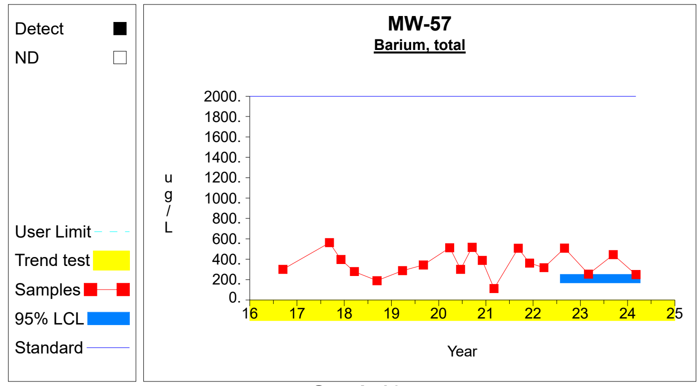


Graph 14

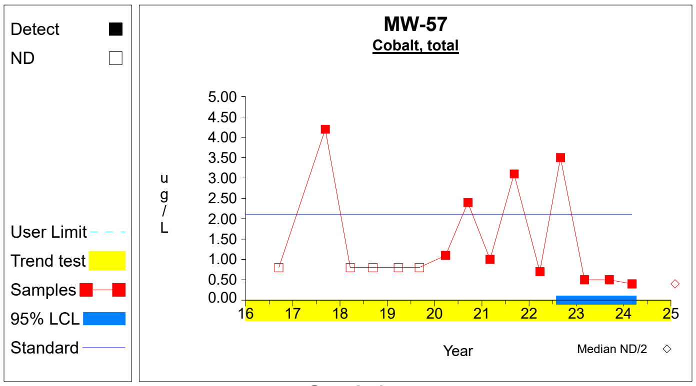
Confidence Limits (Assessment)



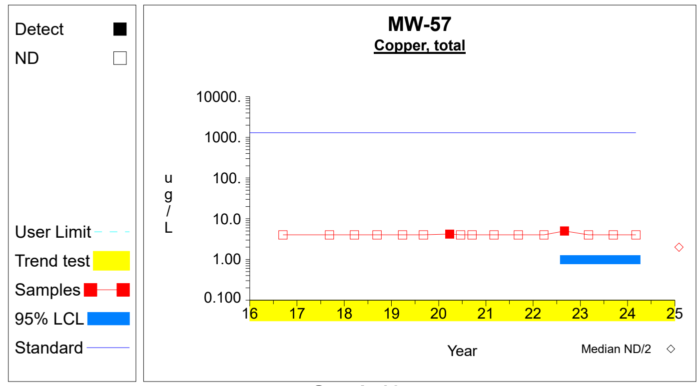
Graph 15



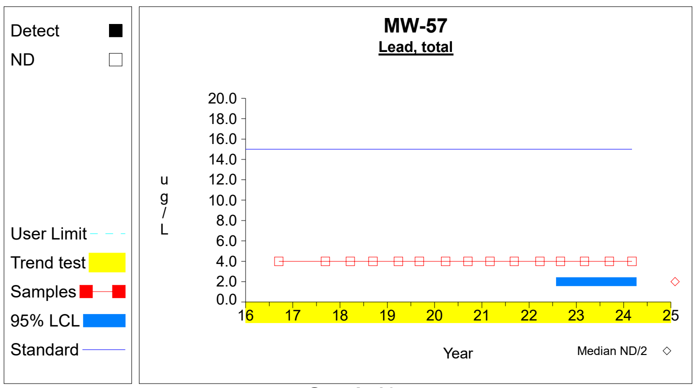
Graph 16



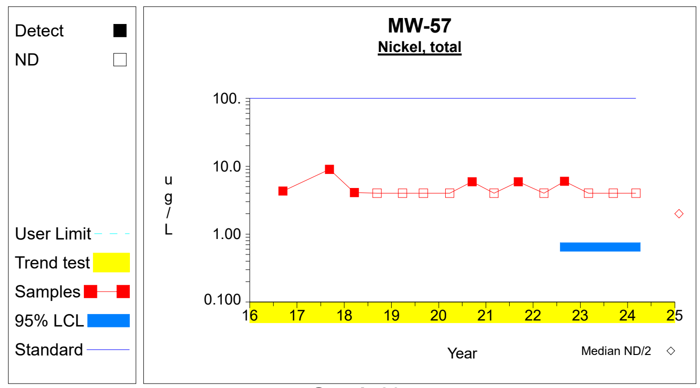
Graph 17



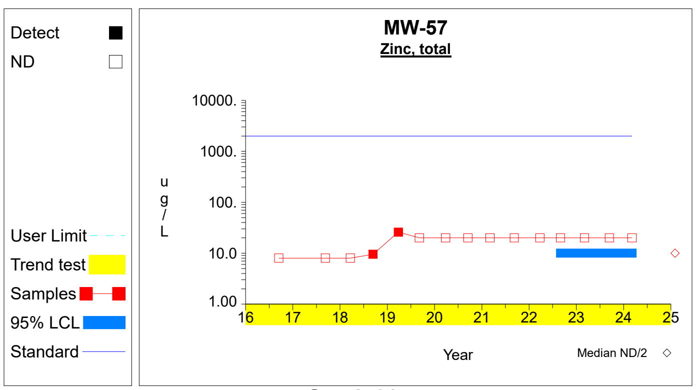
Graph 18



Graph 19

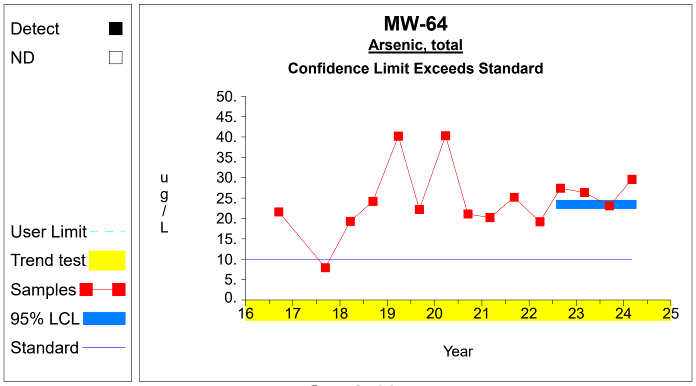


Graph 20

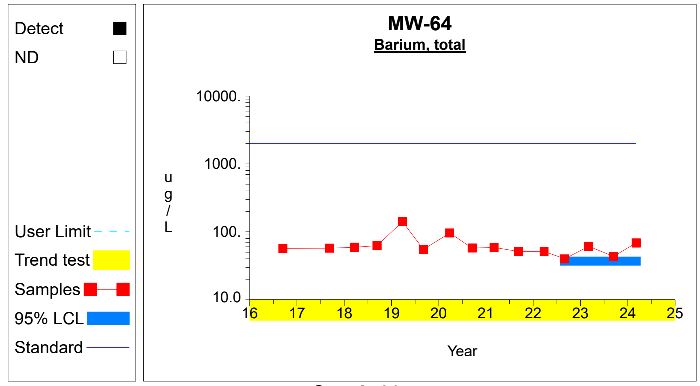


Graph 21

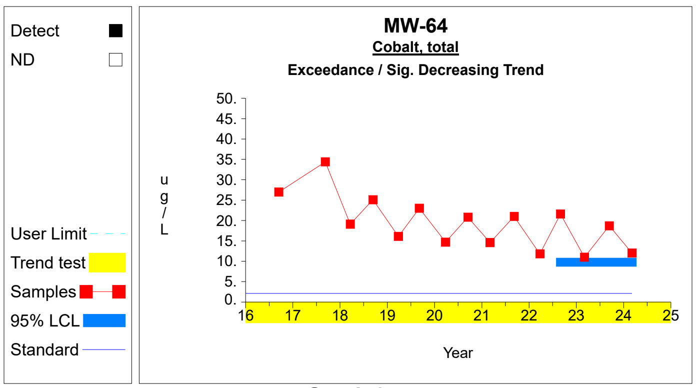
Confidence Limits (Assessment)



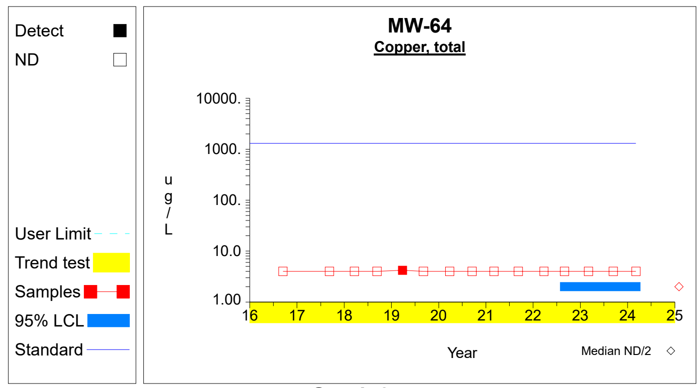
Graph 22



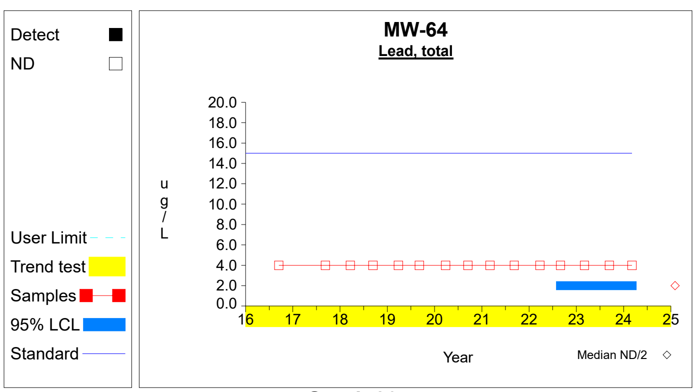
Graph 23



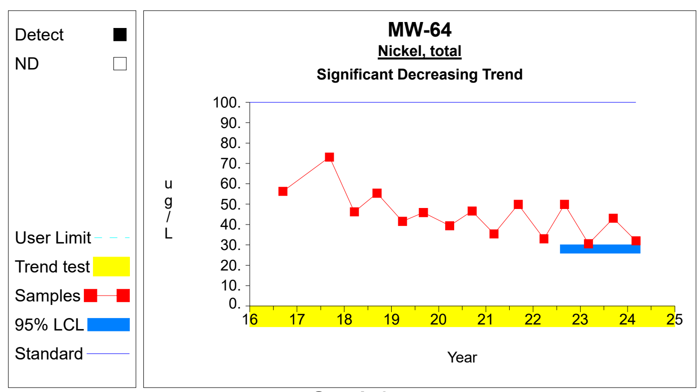
Graph 24



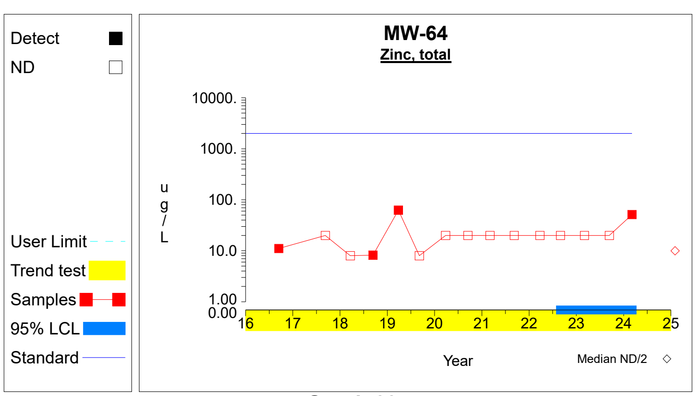
Graph 25



Graph 26



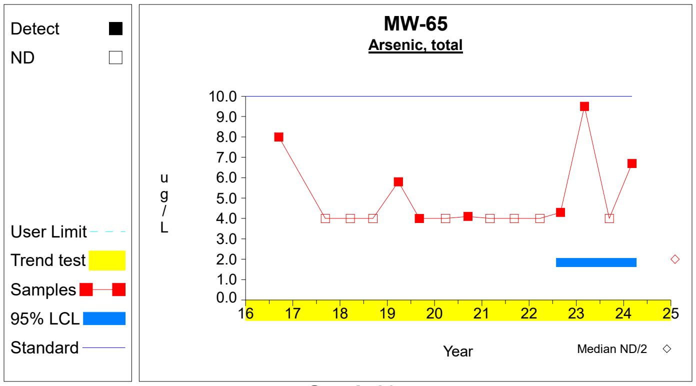
Graph 27



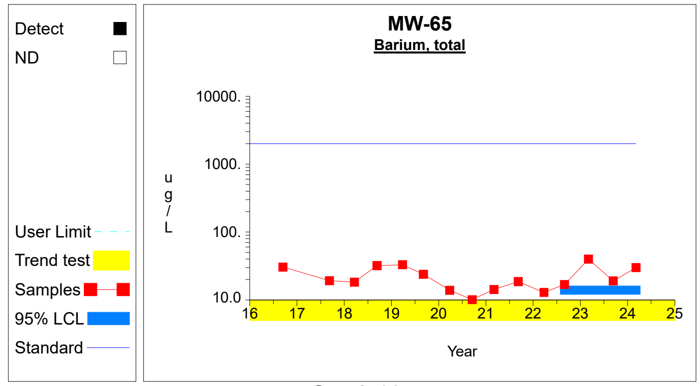
Graph 28

Newton [OLDLF] March 2024

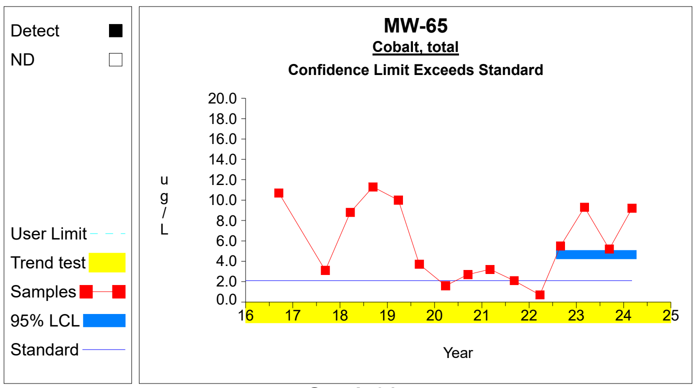
Confidence Limits (Assessment)



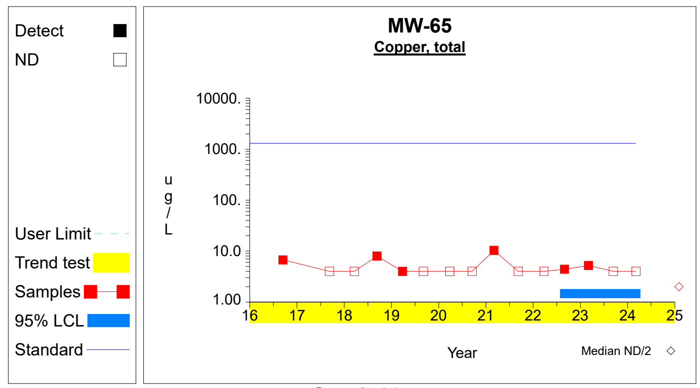
Graph 29



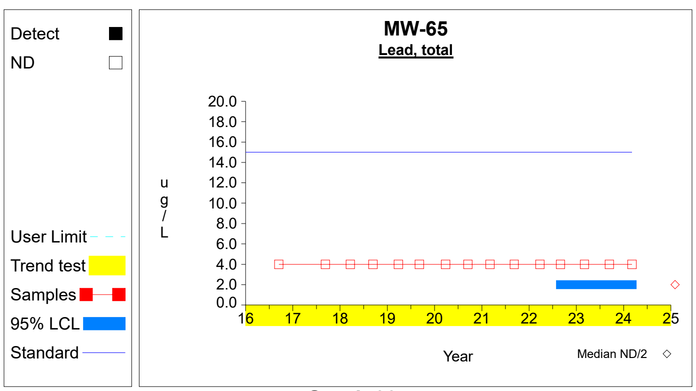
Graph 30



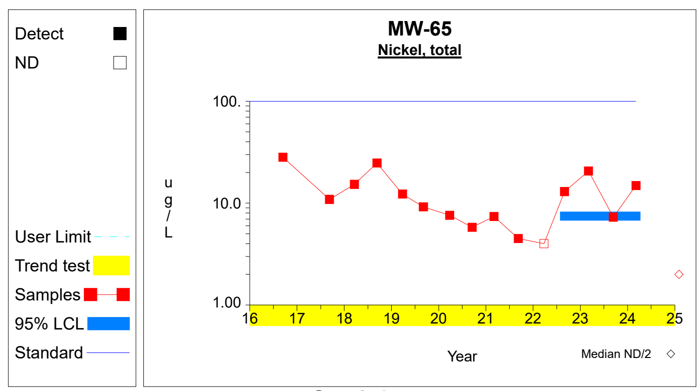
Graph 31



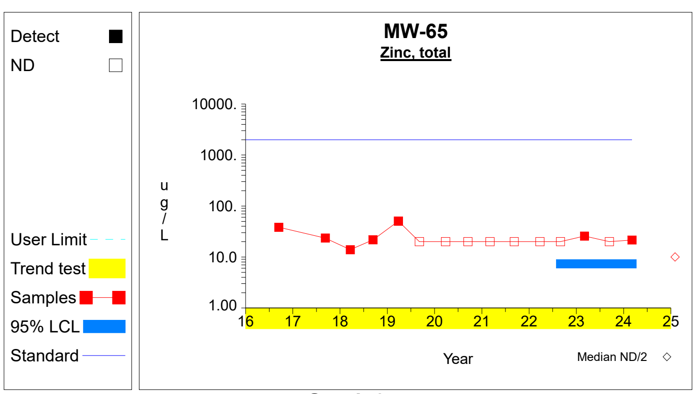
Graph 32



Graph 33



Graph 34



Graph 35

Prepared by: Otter Creek Environmental

Attachment E

Historical Summary of the VOCs Detected

Table 1

Historical Volatile Organic Compound Detections

Constituent	Well	Date	Identifier	Result	Limit	Units
1,1-dichloroethane	GWD-1	9/08/2011		1	1	ug/L
Acetone	GWD-1	9/16/2008		66.7	20.0	ug/L
Chloroethane	GWD-1	3/06/2009		1.0	1.0	ug/L
Chloroethane	GWD-1	3/29/2010		1.4	1.0	ug/L
Chloroethane	GWD-1	9/08/2011		1.6	1.0	ug/L
Chloroethane	GWD-1	9/25/2012		1.0	1.0	ug/L
Cis-1,2-dichloroethylene	GWD-1	3/29/2010		1.4	1.0	ug/L
Cis-1,2-dichloroethylene	GWD-1	9/28/2010		1.4	1.0	ug/L
Cis-1,2-dichloroethylene	GWD-1	3/22/2011		1.2	1.0	ug/L
Cis-1,2-dichloroethylene	GWD-1	9/08/2011		1.7	1.0	ug/L
Cis-1,2-dichloroethylene	GWD-1	9/25/2012		1.1	1.0	ug/L
Vinyl chloride	GWD-1	3/29/2010		1.4	1.0	ug/L
Vinyl chloride	GWD-1	9/28/2010		1.0	1.0	ug/L
Vinyl chloride	GWD-1	3/22/2011		1.1	1.0	ug/L
Vinyl chloride	GWD-1	9/08/2011		1.2	1.0	ug/L
Trichlorofluoromethane	MW-39	9/25/2013		9	1	ug/L
1,1-dichloroethane	MW-41	9/27/2010		18.6	1.0	ug/L
1,1-dichloroethane	MW-41	3/23/2011		16.0	1.0	ug/L
1,1-dichloroethane	MW-41	9/08/2011		22.5	1.0	ug/L
1,1-dichloroethane	MW-41	3/09/2012		14.7	1.0	ug/L
1,1-dichloroethane	MW-41	9/25/2012		16.4	1.0	ug/L
1,1-dichloroethane	MW-41	3/15/2013		16.0	1.0	ug/L
1,1-dichloroethane	MW-41	9/25/2013		16.8	1.0	ug/L
1,1-dichloroethane	MW-41	3/25/2014		16.0	1.0	ug/L
1,1-dichloroethane	MW-41	9/24/2014		19.3	1.0	ug/L
1,1-dichloroethane	MW-41	3/11/2015		23.1	1.0	ug/L
1,1-dichloroethane	MW-41	9/16/2015		24.9	1.0	ug/L
1,1-dichloroethane	MW-41	3/22/2016		24.1	1.0	ug/L
1,1-dichloroethane	MW-41	9/15/2016		26.2	1.0	ug/L
1,1-dichloroethane	MW-41	3/23/2017		24.4	1.0	ug/L
1,1-dichloroethane	MW-41	9/08/2017		23.4	1.0	ug/L
1,1-dichloroethane	MW-41	3/19/2018		26.7	1.0	ug/L
1,1-dichloroethane	MW-41	9/11/2018		24.6	1.0	ug/L
1,1-dichloroethane	MW-41	3/26/2019		24.6	1.0	ug/L
1,1-dichloroethane	MW-41	9/04/2019		26.3	1.0	ug/L
1,1-dichloroethane	MW-41	3/26/2020		30.8	1.0	ug/L
1,1-dichloroethane	MW-41	9/15/2020		25.8	1.0	ug/L
1,1-dichloroethane	MW-41	3/02/2021		24.5	1.0	ug/L
1,1-dichloroethane	MW-41	9/07/2021		24.4	1.0	ug/L
1,1-dichloroethane	MW-41	3/24/2022		25.1	1.0	ug/L
1,1-dichloroethane	MW-41	8/31/2022		22.0	1.0	ug/L
1,1-dichloroethane	MW-41	3/02/2023		23.9	1.0	ug/L
1,1-dichloroethane	MW-41	9/12/2023		23.0	1.0	ug/L
1,1-dichloroethane	MW-41	3/04/2024		19.0	1.0	ug/L
1,2-dichloropropane	MW-41	3/26/2020		1.2	1.0	ug/L
1,2-dichloropropane	MW-41	3/02/2023		1.0	1.0	ug/L
Bis(2-ethylhexyl) phthalate	MW-41	3/09/2012		22	8	ug/L
Bis(2-ethylhexyl) phthalate	MW-41	3/25/2014		83	10	ug/L
Bis(2-ethylhexyl) phthalate	MW-41	9/16/2015		10	10	ug/L
Bis(2-ethylhexyl) phthalate	MW-41	3/26/2020		8	6	ug/L
Chloroethane	MW-41	3/26/2019		1.1	1.0	ug/L
Chloroethane	MW-41	3/26/2020		1.0	1.0	ug/L
Chloroethane	MW-41	9/07/2021		1.0	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/08/2011		1.1	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/24/2014		1.4	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/11/2015		2.0	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/16/2015		2.3	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/22/2016		2.5	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/15/2016		2.7	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/23/2017		2.7	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/08/2017		2.2	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/19/2018		2.2	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/11/2018		2.6	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/26/2019		3.9	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/04/2019		3.9	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/26/2020		5.3	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/15/2020		5.0	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/02/2021		4.6	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/07/2021		4.9	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/24/2022		4.9	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	8/31/2022		4.0	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/02/2023		4.1	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/12/2023		3.6	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/04/2024		2.4	1.0	ug/L
Tetrachloroethylene	MW-41	9/11/2018		1	1	ug/L
Trichloroethylene	MW-41	9/11/2018		1.1	1.0	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

Historical Volatile Organic Compound Detections

Constituent	Well	Date	Identifier	Result	Limit	Units
2,4,5-t	MW-42	3/19/2018		5.0	.5	ug/L
Bis(2-ethylhexyl) phthalate	MW-42	3/02/2023		6	6	ug/L
Acetone	MW-44	9/08/2017		20	10	ug/L
Acetone	MW-45	3/02/2021		21.1	10.0	ug/L
Tetrachloroethylene	MW-48	3/04/2024		2.3	1.0	ug/L
1,1-dichloroethane	MW-56	9/14/2016		5.0	1.0	ug/L
1,1-dichloroethane	MW-56	9/08/2017		10.4	1.0	ug/L
1,1-dichloroethane	MW-56	9/04/2019		4.7	1.0	ug/L
1,1-dichloroethane	MW-56	9/15/2020		6.9	1.0	ug/L
1,1-dichloroethane	MW-56	9/07/2021		8.4	1.0	ug/L
1,1-dichloroethane	MW-56	8/31/2022		7.4	1.0	ug/L
1,1-dichloroethane	MW-56	9/12/2023		4.0	1.0	ug/L
1,1-dichloroethane	MW-56	3/04/2024		1.7	1.0	ug/L
Benzene	MW-56	3/11/1992		7.8	5.0	ug/L
Benzene	MW-56	6/30/1992		1.4	1.0	ug/L
Benzene	MW-56	9/24/1992		9.7	5.0	ug/L
Benzene	MW-56	12/29/1992		8.3	5.0	ug/L
Benzene	MW-56	9/26/1995		10.0	5.0	ug/L
Benzene	MW-56	12/13/1995		11.3	5.0	ug/L
Benzene	MW-56	3/20/1996		11.1	5.0	ug/L
Benzene	MW-56	6/19/1996		11.7	5.0	ug/L
Benzene	MW-56	9/06/1996		9.6	5.0	ug/L
Benzene	MW-56	3/27/1997		10.4	5.0	ug/L
Benzene	MW-56	9/10/1997		11.3	5.0	ug/L
Benzene	MW-56	1/20/1998		9.6	5.0	ug/L
Benzene	MW-56	3/23/1998		5.9	5.0	ug/L
Benzene	MW-56	9/08/1998		9.1	5.0	ug/L
Benzene	MW-56	3/19/1999		7.4	5.0	ug/L
Benzene	MW-56	9/03/1999		7.6	5.0	ug/L
Benzene	MW-56	3/24/2000		9.5	5.0	ug/L
Benzene	MW-56	9/15/2000		7.1	5.0	ug/L
Benzene	MW-56	9/04/2001		6.4	5.0	ug/L
Benzene	MW-56	9/12/2002		7.1	5.0	ug/L
Benzene	MW-56	3/21/2003		5.8	5.0	ug/L
Benzene	MW-56	9/20/2003		5.9	5.0	ug/L
Benzene	MW-56	3/24/2004		.4	.3	ug/L
Benzene	MW-56	9/13/2005		5.8	5.0	ug/L
Benzene	MW-56	9/01/2006		5.3	5.0	ug/L
Benzene	MW-56	9/25/2007		2.3	1.0	ug/L
Benzene	MW-56	9/08/2017		1.4	1.0	ug/L
Benzene	MW-56	9/07/2021		1.0	1.0	ug/L
Chlorobenzene	MW-56	12/13/1995		5.6	5.0	ug/L
Chlorobenzene	MW-56	3/20/1996		4.7	1.0	ug/L
Chlorobenzene	MW-56	6/19/1996		4.7	1.0	ug/L
Chlorobenzene	MW-56	9/06/1996		4.4	1.0	ug/L
Chlorobenzene	MW-56	3/27/1997		5.0	1.0	ug/L
Chlorobenzene	MW-56	1/20/1998		4.8	1.0	ug/L
Chlorobenzene	MW-56	9/08/1998		5.1	5.0	ug/L
Chlorobenzene	MW-56	3/19/1999		4.6	1.0	ug/L
Chlorobenzene	MW-56	9/03/1999		5.1	5.0	ug/L
Chlorobenzene	MW-56	3/24/2000		7.0	5.0	ug/L
Chlorobenzene	MW-56	9/15/2000		5.2	5.0	ug/L
Chlorobenzene	MW-56	9/04/2001		5.4	5.0	ug/L
Chlorobenzene	MW-56	9/12/2002		4.8	1.0	ug/L
Chlorobenzene	MW-56	3/21/2003		5.3	5.0	ug/L
Chlorobenzene	MW-56	9/20/2003		4.5	1.0	ug/L
Chlorobenzene	MW-56	3/24/2004		.5	.3	ug/L
Chlorobenzene	MW-56	9/11/2004		4.1	1.0	ug/L
Chlorobenzene	MW-56	9/13/2005		4.3	1.0	ug/L
Chlorobenzene	MW-56	9/01/2006		3.7	1.0	ug/L
Chlorobenzene	MW-56	9/25/2007		1.3	1.0	ug/L
Cis-1,2-dichloroethylene	MW-56	12/13/1995		113.0	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	3/20/1996		118.0	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	6/19/1996		101.0	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	9/06/1996		86.5	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	3/27/1997		71.4	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	9/10/1997		61.3	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	1/20/1998		42.7	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	3/23/1998		27.0	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	9/08/1998		26.6	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	3/19/1999		18.6	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	9/03/1999		13.1	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	3/24/2000		8.6	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	9/15/2000		6.2	5.0	ug/L
Trans-1,2-dichloroethylene	MW-56	12/13/1995		3.7	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	3/20/1996		4.4	1.0	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

Historical Volatile Organic Compound Detections

Constituent	Well	Date	Identifier	Result	Limit	Units
Trans-1,2-dichloroethylene	MW-56	9/06/1996		3.2	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	3/27/1997		3.2	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	9/10/1997		3.0	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	1/20/1998		2.6	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	9/08/1998		2.0	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	3/19/1999		1.1	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	9/03/1999		1.8	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	3/24/2000		1.8	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	9/15/2000		1.3	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	9/12/2002		1.1	1.0	ug/L
Vinyl chloride	MW-56	12/13/1995		299.0	2.0	ug/L
Vinyl chloride	MW-56	3/20/1996		286.0	2.0	ug/L
Vinyl chloride	MW-56	6/19/1996		287.0	2.0	ug/L
Vinyl chloride	MW-56	9/06/1996		255.0	2.0	ug/L
Vinyl chloride	MW-56	3/27/1997		200.4	2.0	ug/L
Vinyl chloride	MW-56	9/10/1997		195.0	2.0	ug/L
Vinyl chloride	MW-56	1/20/1998		174.0	2.0	ug/L
Vinyl chloride	MW-56	3/23/1998		99.8	2.0	ug/L
Vinyl chloride	MW-56	9/08/1998		126.0	2.0	ug/L
Vinyl chloride	MW-56	3/19/1999		63.8	2.0	ug/L
Vinyl chloride	MW-56	9/03/1999		43.0	2.0	ug/L
Vinyl chloride	MW-56	3/24/2000		47.9	2.0	ug/L
Vinyl chloride	MW-56	9/15/2000		25.8	2.0	ug/L
Vinyl chloride	MW-56	9/04/2001		9.4	2.0	ug/L
Vinyl chloride	MW-56	9/12/2002		4.5	2.0	ug/L
Vinyl chloride	MW-56	9/20/2003		4.5	2.0	ug/L
Vinyl chloride	MW-56	3/24/2004		.4	.2	ug/L
Vinyl chloride	MW-56	9/11/2004		3.2	2.0	ug/L
Vinyl chloride	MW-56	9/13/2005		2.7	2.0	ug/L
Vinyl chloride	MW-56	9/01/2006		10.2	2.0	ug/L
Vinyl chloride	MW-56	9/25/2007		2.1	2.0	ug/L
Vinyl chloride	MW-56	9/24/2013		3.3	1.0	ug/L
Vinyl chloride	MW-56	9/14/2016		2.8	1.0	ug/L
Vinyl chloride	MW-56	9/08/2017		4.2	1.0	ug/L
Vinyl chloride	MW-56	9/15/2020		1.9	1.0	ug/L
Vinyl chloride	MW-56	9/07/2021		2.2	1.0	ug/L
Acetone	MW-57	9/08/2017		18.2	10.0	ug/L
Bis(2-ethylhexyl) phthalate	MW-57	3/02/2023		7	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-58	3/26/2020		6	6	ug/L
Cis-1,2-dichloroethylene	MW-58	9/27/2010		14.3	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/23/2011		16.2	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/08/2011		16.2	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/09/2012		12.0	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/25/2012		14.5	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/15/2013		10.2	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/25/2013		7.9	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/25/2014		8.9	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/24/2014		3.8	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/11/2015		5.8	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/17/2015		5.3	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/22/2016		4.1	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/15/2016		5.8	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/23/2017		4.8	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/08/2017		5.2	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/19/2018		4.0	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/11/2018		3.9	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/26/2019		2.7	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/04/2019		3.6	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/26/2020		2.8	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/15/2020		2.9	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/02/2021		1.7	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/07/2021		2.1	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/24/2022		1.7	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	8/31/2022		1.7	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/02/2023		1.8	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/12/2023		1.7	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/04/2024		1.0	1.0	ug/L
Bis(2-ethylhexyl) phthalate	MW-59	3/26/2019		15	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-59	12/04/2019		6	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-62R	9/25/2012		18	8	ug/L
Bis(2-ethylhexyl) phthalate	MW-62R	9/24/2013		19	10	ug/L
Trichlorofluoromethane	MW-62R	9/28/2010		5.3	1.0	ug/L
Trichlorofluoromethane	MW-62R	12/22/2010		3.1	1.0	ug/L
Trichlorofluoromethane	MW-62R	5/17/2011		3.2	1.0	ug/L
Trichlorofluoromethane	MW-62R	7/14/2011		2.1	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/08/2011		6.1	1.0	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

Historical Volatile Organic Compound Detections

Constituent	Well	Date	Identifier	Result	Limit	Units
Trichlorofluoromethane	MW-62R	3/09/2012		4.2	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/25/2012		4.7	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/15/2013		5.1	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/25/2014		7.1	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/24/2014		8.6	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/11/2015		8.8	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/16/2015		6.3	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/22/2016		5.5	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/15/2016		6.5	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/23/2017		6.0	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/08/2017		5.1	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/19/2018		4.8	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/11/2018		5.1	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/26/2019		3.4	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/04/2019		3.4	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/26/2020		2.2	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/15/2020		1.7	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/02/2021		2.0	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/07/2021		1.3	1.0	ug/L
Trichlorofluoromethane	MW-62R	8/31/2022		1.6	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/02/2023		1.9	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/12/2023		1.4	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/04/2024		1.0	1.0	ug/L
1,1-dichloroethane	MW-64	9/14/2016		1.9	1.0	ug/L
1,1-dichloroethane	MW-64	9/08/2017		2.0	1.0	ug/L
1,1-dichloroethane	MW-64	3/19/2018		2.6	1.0	ug/L
1,1-dichloroethane	MW-64	9/11/2018		1.2	1.0	ug/L
1,1-dichloroethane	MW-64	3/26/2019		2.4	1.0	ug/L
1,1-dichloroethane	MW-64	9/04/2019		2.3	1.0	ug/L
1,1-dichloroethane	MW-64	3/26/2020		2.4	1.0	ug/L
1,1-dichloroethane	MW-64	9/15/2020		1.8	1.0	ug/L
1,1-dichloroethane	MW-64	3/02/2021		2.7	1.0	ug/L
1,1-dichloroethane	MW-64	9/07/2021		1.6	1.0	ug/L
1,1-dichloroethane	MW-64	3/24/2022		2.1	1.0	ug/L
1,1-dichloroethane	MW-64	8/31/2022		1.6	1.0	ug/L
1,1-dichloroethane	MW-64	3/02/2023		2.3	1.0	ug/L
1,1-dichloroethane	MW-64	9/12/2023		1.8	1.0	ug/L
1,1-dichloroethane	MW-64	3/04/2024		1.5	1.0	ug/L
Benzene	MW-64	9/03/1999		1.4	1.0	ug/L
Benzene	MW-64	3/24/2000		2.1	1.0	ug/L
Benzene	MW-64	9/15/2000		1.1	1.0	ug/L
Benzene	MW-64	3/20/2001		1.4	1.0	ug/L
Benzene	MW-64	3/20/2002		1.8	1.0	ug/L
Benzene	MW-64	9/12/2002		2.1	1.0	ug/L
Benzene	MW-64	3/21/2003		1.9	1.0	ug/L
Benzene	MW-64	9/20/2003		1.8	1.0	ug/L
Benzene	MW-64	3/24/2004		1.8	1.0	ug/L
Benzene	MW-64	3/03/2005		1.6	1.0	ug/L
Benzene	MW-64	9/13/2005		1.5	1.0	ug/L
Benzene	MW-64	3/16/2006		1.4	1.0	ug/L
Benzene	MW-64	9/01/2006		1.5	1.0	ug/L
Benzene	MW-64	3/27/2007		1.1	1.0	ug/L
Benzene	MW-64	9/25/2007		1.0	.3	ug/L
Benzene	MW-64	3/20/2008		1.0	.3	ug/L
Benzene	MW-64	3/20/2008		1.0	1.0	ug/L
Benzene	MW-64	9/16/2008		1.0	1.0	ug/L
Chlorobenzene	MW-64	9/03/1999		1.1	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/23/1998		19.8	5.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/08/1998		28.2	5.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/19/1999		46.5	5.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/03/1999		34.2	5.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/24/2000		82.1	5.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/15/2000		43.8	5.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/20/2001		56.4	5.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/04/2001		67.0	5.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/20/2002		82.1	5.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/14/2016		36.4	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/08/2017		23.7	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/19/2018		17.2	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/11/2018		15.1	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/26/2019		9.7	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/04/2019		8.3	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/26/2020		4.6	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/15/2020		6.4	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/02/2021		7.4	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/07/2021		7.4	1.0	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

Historical Volatile Organic Compound Detections

Constituent	Well	Date	Identifier	Result	Limit	Units
Cis-1,2-dichloroethylene	MW-64	3/24/2022		3.9	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	8/31/2022		5.4	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/02/2023		3.3	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/12/2023		4.5	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/04/2024		2.4	1.0	ug/L
Trans-1,2-dichloroethylene	MW-64	9/15/2000		1.1	1.0	ug/L
Trans-1,2-dichloroethylene	MW-64	3/20/2001		1.4	1.0	ug/L
Trans-1,2-dichloroethylene	MW-64	3/20/2002		2.0	1.0	ug/L
Trans-1,2-dichloroethylene	MW-64	9/12/2002		2.4	1.0	ug/L
Vinyl chloride	MW-64	1/20/1998		7.4	2.0	ug/L
Vinyl chloride	MW-64	3/23/1998		8.0	2.0	ug/L
Vinyl chloride	MW-64	9/08/1998		12.0	2.0	ug/L
Vinyl chloride	MW-64	3/19/1999		17.8	2.0	ug/L
Vinyl chloride	MW-64	9/03/1999		12.1	2.0	ug/L
Vinyl chloride	MW-64	3/24/2000		59.8	2.0	ug/L
Vinyl chloride	MW-64	9/15/2000		19.7	2.0	ug/L
Vinyl chloride	MW-64	3/20/2001		35.4	2.0	ug/L
Vinyl chloride	MW-64	9/04/2001		35.6	2.0	ug/L
Vinyl chloride	MW-64	3/20/2002		44.3	2.0	ug/L
Vinyl chloride	MW-64	9/12/2002		51.8	2.0	ug/L
Vinyl chloride	MW-64	3/21/2003		56.1	2.0	ug/L
Vinyl chloride	MW-64	9/20/2003		57.0	2.0	ug/L
Vinyl chloride	MW-64	3/24/2004		65.8	2.0	ug/L
Vinyl chloride	MW-64	9/11/2004		65.8	2.0	ug/L
Vinyl chloride	MW-64	3/03/2005		81.3	2.0	ug/L
Vinyl chloride	MW-64	9/13/2005		85.2	2.0	ug/L
Vinyl chloride	MW-64	3/16/2006		103.0	2.0	ug/L
Vinyl chloride	MW-64	9/01/2006		122.0	2.0	ug/L
Vinyl chloride	MW-64	3/27/2007		87.5	2.0	ug/L
Vinyl chloride	MW-64	9/25/2007		74.4	2.0	ug/L
Vinyl chloride	MW-64	3/20/2008		61.9	1.0	ug/L
Vinyl chloride	MW-64	3/20/2008		61.9	2.0	ug/L
Vinyl chloride	MW-64	9/16/2008		77.9	1.0	ug/L
Vinyl chloride	MW-64	9/16/2008		77.9	2.0	ug/L
Vinyl chloride	MW-64	3/06/2009		45.9	1.0	ug/L
Vinyl chloride	MW-64	9/13/2009		42.5	1.0	ug/L
Vinyl chloride	MW-64	9/24/2013		70.6	1.0	ug/L
Vinyl chloride	MW-64	9/25/2014		38.9	1.0	ug/L
Vinyl chloride	MW-64	3/25/2015		20.0	1.0	ug/L
Vinyl chloride	MW-64	9/16/2015		20.1	1.0	ug/L
Vinyl chloride	MW-64	9/14/2016		23.7	1.0	ug/L
Vinyl chloride	MW-64	3/23/2017		14.3	1.0	ug/L
Vinyl chloride	MW-64	9/08/2017		17.4	1.0	ug/L
Vinyl chloride	MW-64	3/19/2018		14.4	1.0	ug/L
Vinyl chloride	MW-64	9/11/2018		7.9	1.0	ug/L
Vinyl chloride	MW-64	3/26/2019		7.0	1.0	ug/L
Vinyl chloride	MW-64	9/04/2019		5.6	1.0	ug/L
Vinyl chloride	MW-64	3/26/2020		3.7	1.0	ug/L
Vinyl chloride	MW-64	9/15/2020		5.6	1.0	ug/L
Vinyl chloride	MW-64	3/02/2021		3.4	1.0	ug/L
Vinyl chloride	MW-64	9/07/2021		2.6	1.0	ug/L
Vinyl chloride	MW-64	3/24/2022		1.6	1.0	ug/L
Vinyl chloride	MW-64	8/31/2022		1.7	1.0	ug/L
Vinyl chloride	MW-64	3/02/2023		1.9	1.0	ug/L
Vinyl chloride	MW-64	9/12/2023		1.8	1.0	ug/L
Vinyl chloride	MW-64	3/04/2024		2.7	1.0	ug/L
Vinyl chloride	MW-65	9/16/2008		1.2	1.0	ug/L
Vinyl chloride	MW-65	9/16/2008		1.2	1.0	ug/L
Vinyl chloride	MW-65	9/24/2013		3.1	1.0	ug/L
Carbon disulfide	MW-79	12/22/2010		1	1	ug/L
Trichlorofluoromethane	MW-79	3/24/2022		1.6	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101	3/23/2017		1.4	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101	3/26/2019		2.8	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101	9/04/2019		2.9	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101	12/04/2019		3.6	1.0	ug/L
Vinyl chloride	SW-101	9/04/2019		1.6	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101R	3/26/2020		2.6	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101R	9/15/2020		1.8	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101R	3/02/2021		2.1	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101R	9/07/2021		5.9	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101R	3/24/2022		5.5	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101R	8/31/2022		6.1	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101R	3/02/2023		5.9	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101R	9/12/2023		6.0	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101R	3/04/2024		4.0	1.0	ug/L
Vinyl chloride	SW-101R	9/15/2020		1.8	1.0	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

Historical Volatile Organic Compound Detections

Constituent	Well	Date	Identifier	Result	Limit	Units
Vinyl chloride	SW-101R	3/02/2021		1.8	1.0	ug/L
Vinyl chloride	SW-101R	9/07/2021		4.6	1.0	ug/L
Vinyl chloride	SW-101R	3/24/2022		6.5	1.0	ug/L
Vinyl chloride	SW-101R	8/31/2022		3.9	1.0	ug/L
Vinyl chloride	SW-101R	3/02/2023		5.9	1.0	ug/L
Vinyl chloride	SW-101R	9/12/2023		4.4	1.0	ug/L
Vinyl chloride	SW-101R	3/04/2024		5.3	1.0	ug/L
Cis-1,2-dichloroethylene	SW-103	12/13/1995		5.3	5.0	ug/L
Cis-1,2-dichloroethylene	SW-103	3/20/1996		1.1	1.0	ug/L
Cis-1,2-dichloroethylene	SW-103	3/27/1997		1.1	1.0	ug/L
Cis-1,2-dichloroethylene	SW-103	3/20/2002		1.4	1.0	ug/L
Vinyl chloride	SW-103	12/13/1995		6.2	2.0	ug/L

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

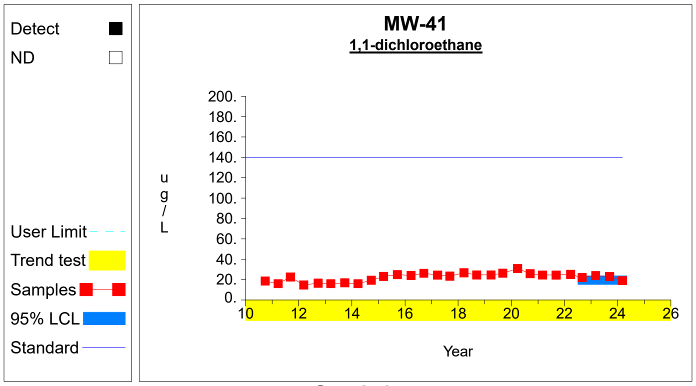
Table 1

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

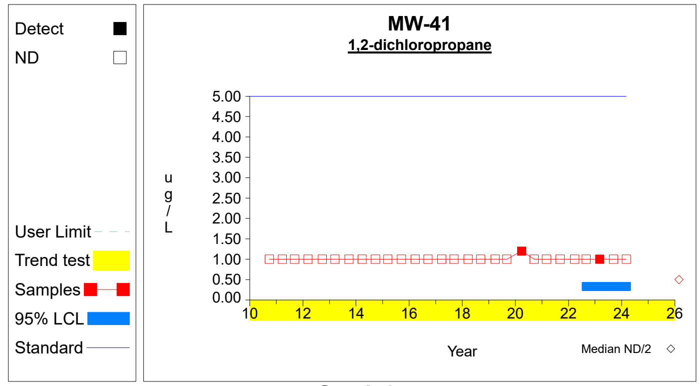
Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
1,1-dichloroethane	ug/L	MW-41	4	21.975	2.130	1.176	19.470	24.480	140.000		
1,2-dichloropropane	ug/L	MW-41	4	0.625	0.250	1.176	0.331	0.919	5.000		
Bis(2-ethylhexyl) phthalate	ug/L	MW-41	4	5.750	1.500	1.176	3.986	7.514	6.000		
Cis-1,2-dichloroethylene	ug/L	MW-41	4	3.525	0.780	1.176	2.607	4.443	70.000	inc	
Tetrachloroethylene	ug/L	MW-41	4	0.500	0.000	1.176	0.500	0.500	5.000		
Trichlorofluoromethane	ug/L	MW-41	4	0.500	0.000	1.176	0.500	0.500	2000.000		
Vinyl chloride	ug/L	MW-41	4	0.500	0.000	1.176	0.500	0.500	2.000		
1,1-dichloroethane	ug/L	MW-42	4	0.500	0.000	1.176	0.500	0.500	140.000		
1,2-dichloropropane	ug/L	MW-42	4	0.500	0.000	1.176	0.500	0.500	5.000		
Bis(2-ethylhexyl) phthalate	ug/L	MW-42	3								*
Cis-1,2-dichloroethylene	ug/L	MW-42	4	0.500	0.000	1.176	0.500	0.500	70.000		
Tetrachloroethylene	ug/L	MW-42	4	0.500	0.000	1.176	0.500	0.500	5.000		
Trichlorofluoromethane	ug/L	MW-42	4	0.500	0.000	1.176	0.500	0.500	2000.000		
Vinyl chloride	ug/L	MW-42	4	0.500	0.000	1.176	0.500	0.500	2.000		
1,1-dichloroethane	ug/L	MW-48	4	0.500	0.000	1.176	0.500	0.500	140.000		
1,2-dichloropropane	ug/L	MW-48	4	0.500	0.000	1.176	0.500	0.500	5.000		
Bis(2-ethylhexyl) phthalate	ug/L	MW-48	0								*
Cis-1,2-dichloroethylene	ug/L	MW-48	4	0.500	0.000	1.176	0.500	0.500	70.000		
Tetrachloroethylene	ug/L	MW-48	4	0.950	0.900	1.176	0.000	2.009	5.000		
Trichlorofluoromethane	ug/L	MW-48	4	0.500	0.000	1.176	0.500	0.500	2000.000		
Vinyl chloride	ug/L	MW-48	4	0.500	0.000	1.176	0.500	0.500	2.000		
1,1-dichloroethane	ug/L	MW-56	4	3.400	3.036	1.176	0.000	6.972	140.000		
1,2-dichloropropane	ug/L	MW-56	4	0.500	0.000	1.176	0.500	0.500	5.000		
Bis(2-ethylhexyl) phthalate	ug/L	MW-56	2								*
Cis-1,2-dichloroethylene	ug/L	MW-56	4	0.500	0.000	1.176	0.500	0.500	70.000		
Tetrachloroethylene	ug/L	MW-56	4	0.500	0.000	1.176	0.500	0.500	5.000		
Trichlorofluoromethane	ug/L	MW-56	4	0.500	0.000	1.176	0.500	0.500	2000.000		
Vinyl chloride	ug/L	MW-56	4	0.500	0.000	1.176	0.500	0.500	2.000		
1,1-dichloroethane	ug/L	MW-58	4	0.500	0.000	1.176	0.500	0.500	140.000		
1,2-dichloropropane	ug/L	MW-58	4	0.500	0.000	1.176	0.500	0.500	5.000		
Bis(2-ethylhexyl) phthalate	ug/L	MW-58	4	4.500	1.000	1.176	3.324	5.676	6.000		
Cis-1,2-dichloroethylene	ug/L	MW-58	4	1.550	0.370	1.176	1.115	1.985	70.000	dec	
Tetrachloroethylene	ug/L	MW-58	4	0.500	0.000	1.176	0.500	0.500	5.000		
Trichlorofluoromethane	ug/L	MW-58	4	0.500	0.000	1.176	0.500	0.500	2000.000		
Vinyl chloride	ug/L	MW-58	4	0.500	0.000	1.176	0.500	0.500	2.000		
1,1-dichloroethane	ug/L	MW-62R	4	0.500	0.000	1.176	0.500	0.500	140.000		
1,2-dichloropropane	ug/L	MW-62R	4	0.500	0.000	1.176	0.500	0.500	5.000		
Bis(2-ethylhexyl) phthalate	ug/L	MW-62R	4	5.000	0.000	1.176	5.000	5.000	6.000		
Cis-1,2-dichloroethylene	ug/L	MW-62R	4	0.500	0.000	1.176	0.500	0.500	70.000		
Tetrachloroethylene	ug/L	MW-62R	4	0.500	0.000	1.176	0.500	0.500	5.000		
Trichlorofluoromethane	ug/L	MW-62R	4	1.475	0.377	1.176	1.031	1.919	2000.000		
Vinyl chloride	ug/L	MW-62R	4	0.500	0.000	1.176	0.500	0.500	2.000		
1,1-dichloroethane	ug/L	MW-64	4	1.800	0.356	1.176	1.381	2.219	140.000		
1,2-dichloropropane	ug/L	MW-64	4	0.500	0.000	1.176	0.500	0.500	5.000		
Bis(2-ethylhexyl) phthalate	ug/L	MW-64	2								*
Cis-1,2-dichloroethylene	ug/L	MW-64	4	3.900	1.319	1.176	2.348	5.452	70.000	dec	
Tetrachloroethylene	ug/L	MW-64	4	0.500	0.000	1.176	0.500	0.500	5.000		
Trichlorofluoromethane	ug/L	MW-64	4	0.500	0.000	1.176	0.500	0.500	2000.000		
Vinyl chloride	ug/L	MW-64	4	2.025	0.457	1.176	1.487	2.563	2.000	dec	
1,1-dichloroethane	ug/L	SW-101R	4	0.500	0.000	1.176	0.500	0.500	140.000		
1,2-dichloropropane	ug/L	SW-101R	4	0.500	0.000	1.176	0.500	0.500	5.000		
Bis(2-ethylhexyl) phthalate	ug/L	SW-101R	2								*
Cis-1,2-dichloroethylene	ug/L	SW-101R	4	5.500	1.003	1.176	4.320	6.680	70.000		
Tetrachloroethylene	ug/L	SW-101R	4	0.500	0.000	1.176	0.500	0.500	5.000		
Trichlorofluoromethane	ug/L	SW-101R	4	0.500	0.000	1.176	0.500	0.500	2000.000		
Vinyl chloride	ug/L	SW-101R	4	4.875	0.896	1.176	3.821	5.929	2.000		**

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

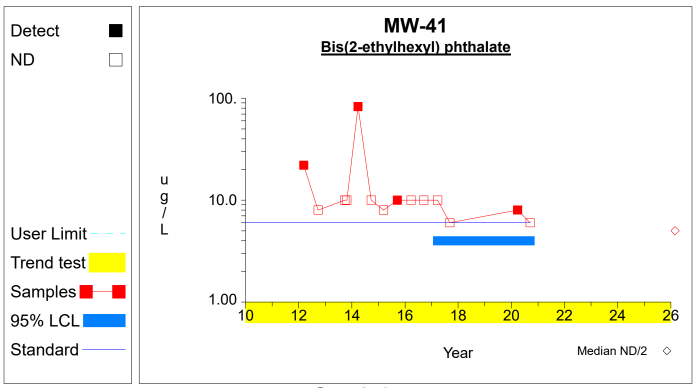
Confidence Limits (Assessment)



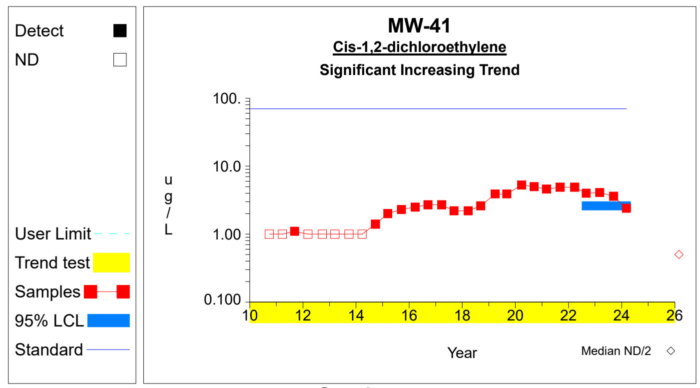
Graph 1



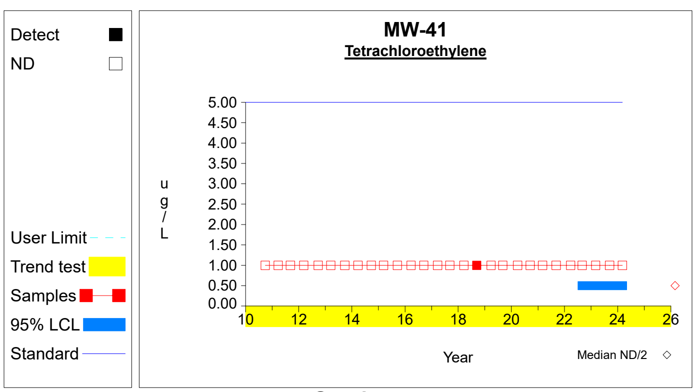
Graph 2



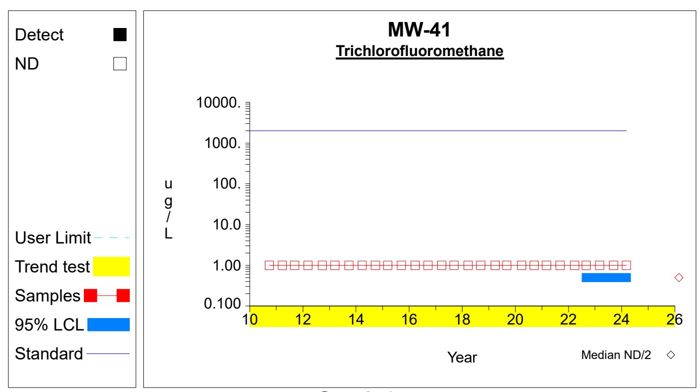
Graph 3



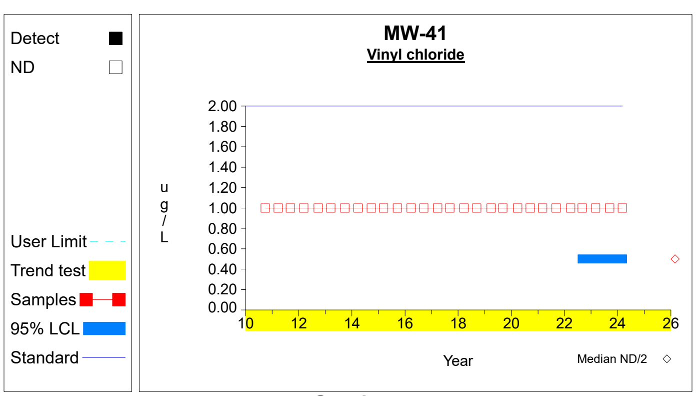
Graph 4



Graph 5



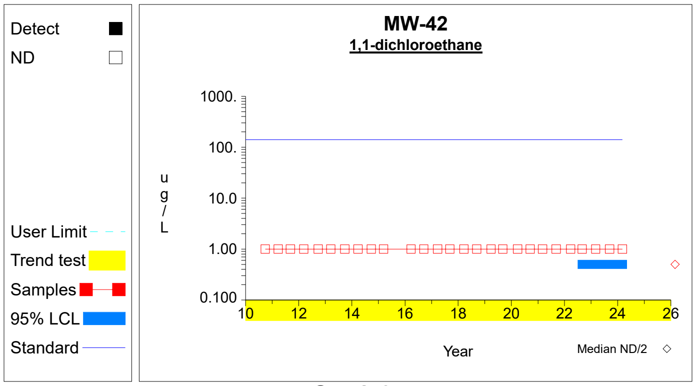
Graph 6



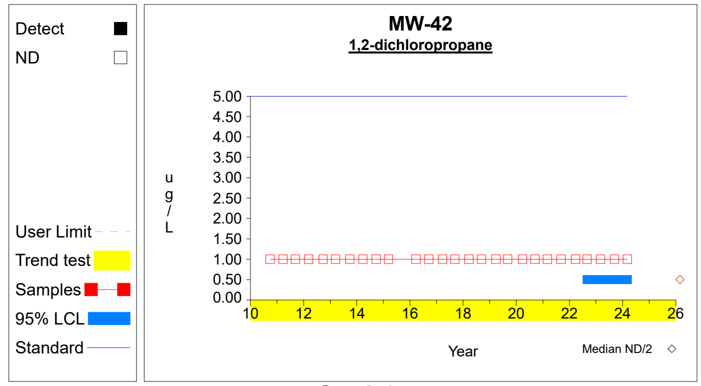
Graph 7

Prepared by: Otter Creek Environmental

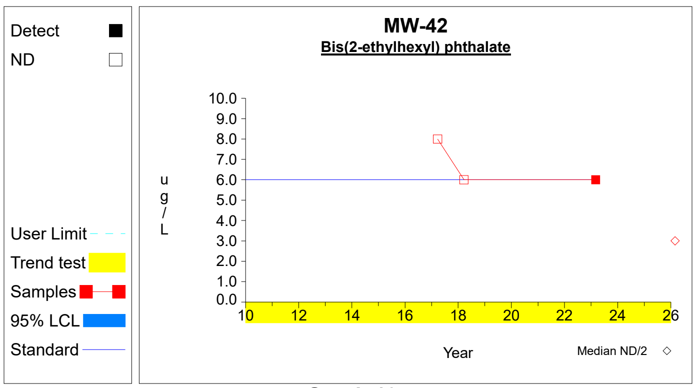
Confidence Limits (Assessment)



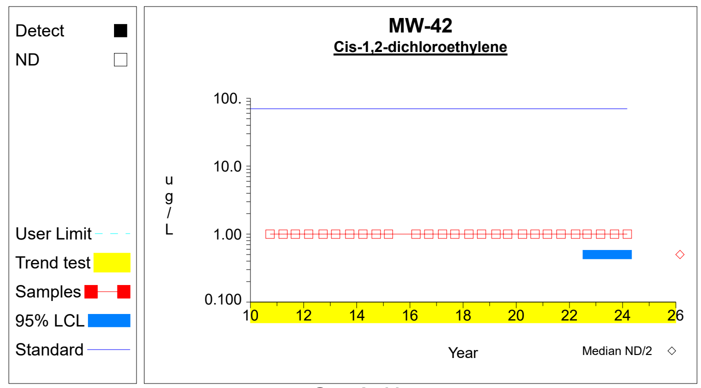
Graph 8



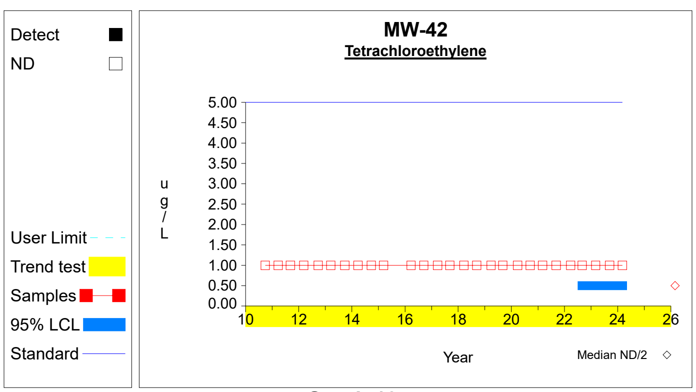
Graph 9



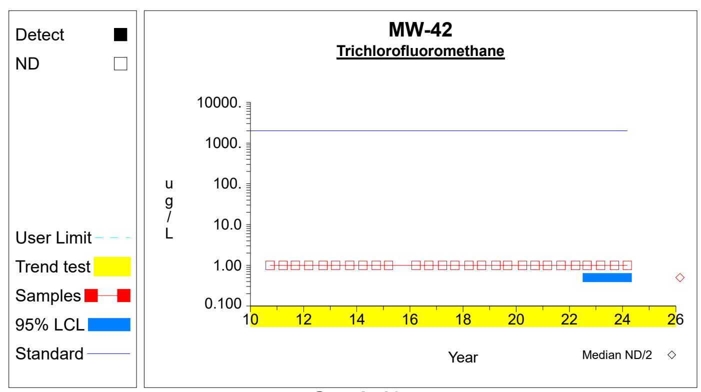
Graph 10



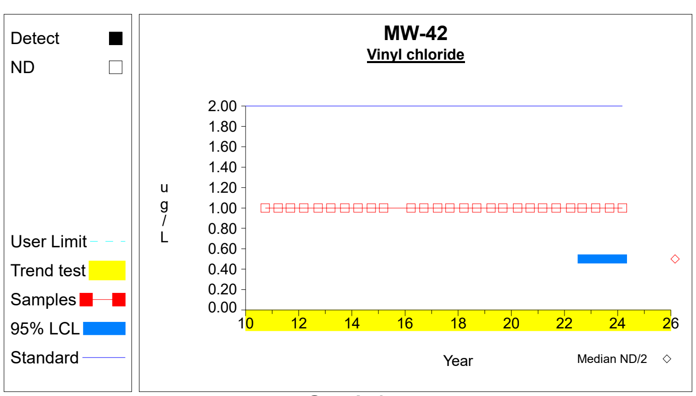
Graph 11



Graph 12

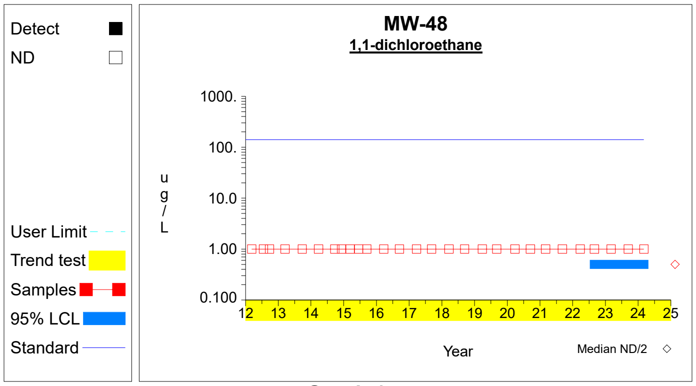


Graph 13

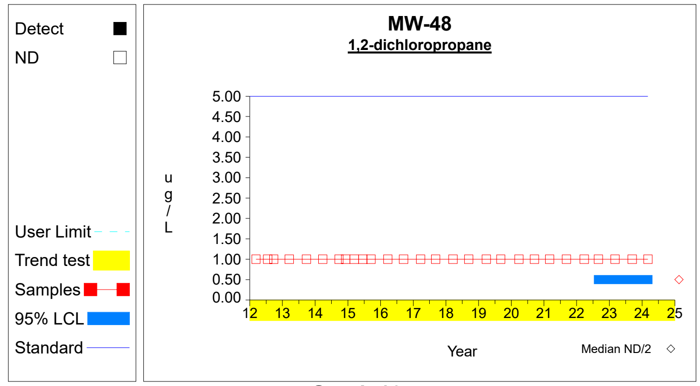


Graph 14

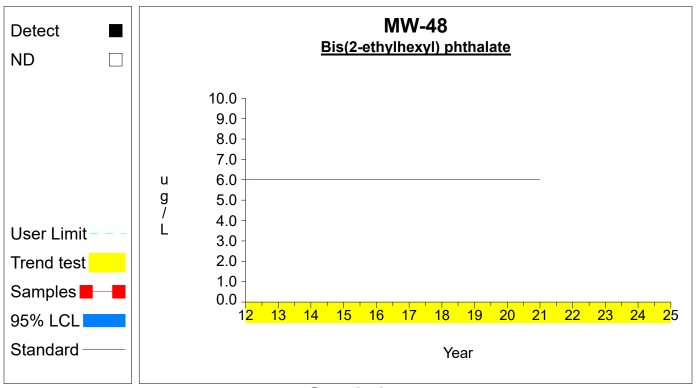
Confidence Limits (Assessment)



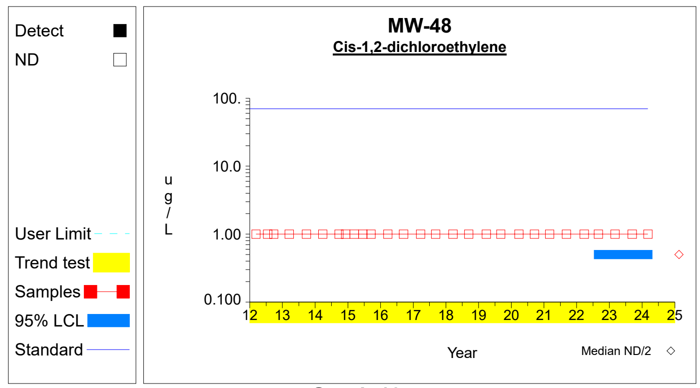
Graph 15



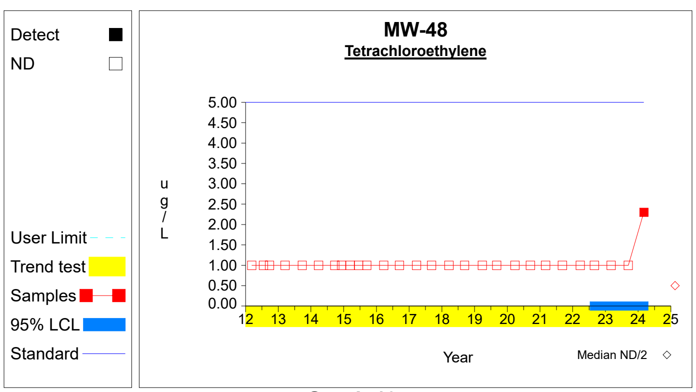
Graph 16



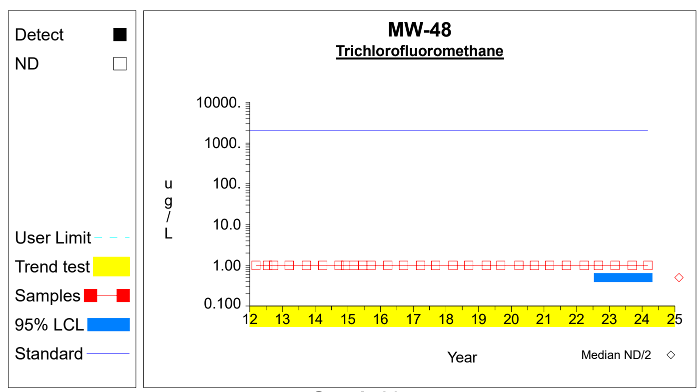
Graph 17



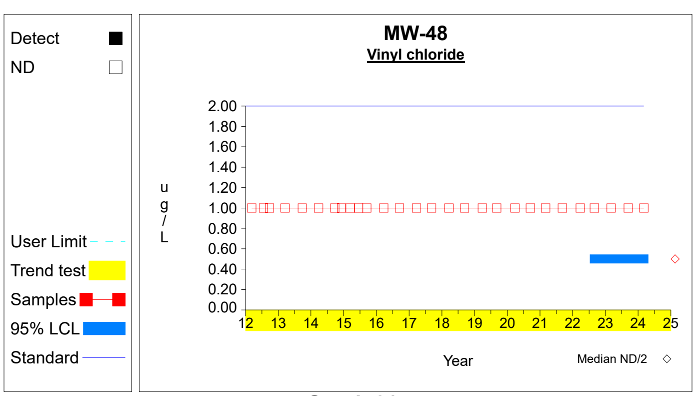
Graph 18



Graph 19

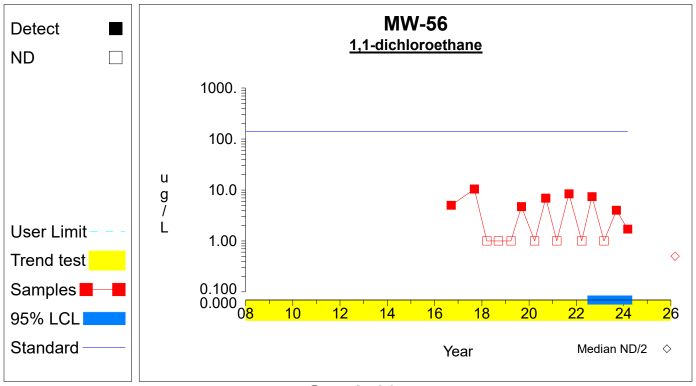


Graph 20

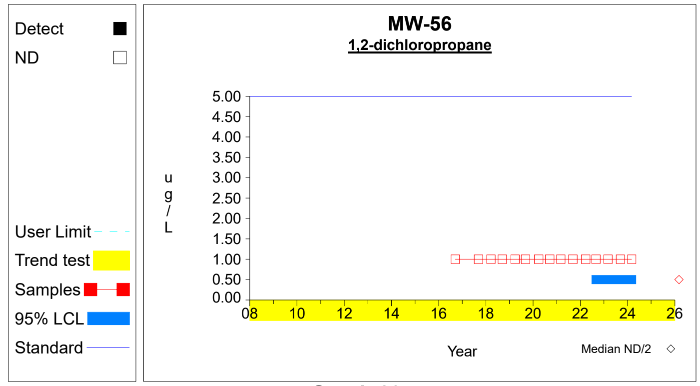


Graph 21

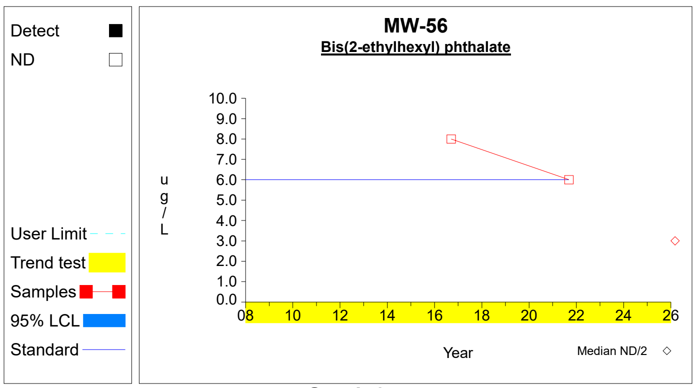
Confidence Limits (Assessment)



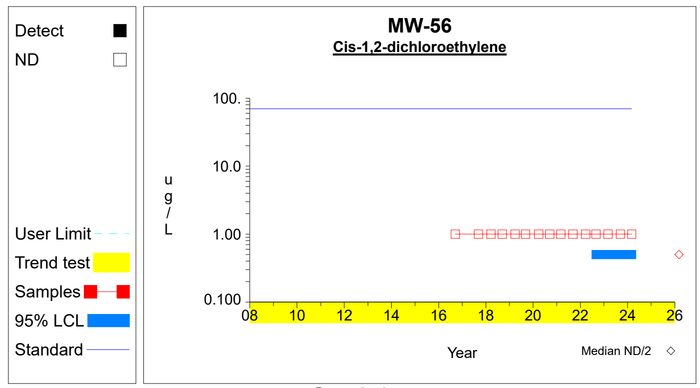
Graph 22



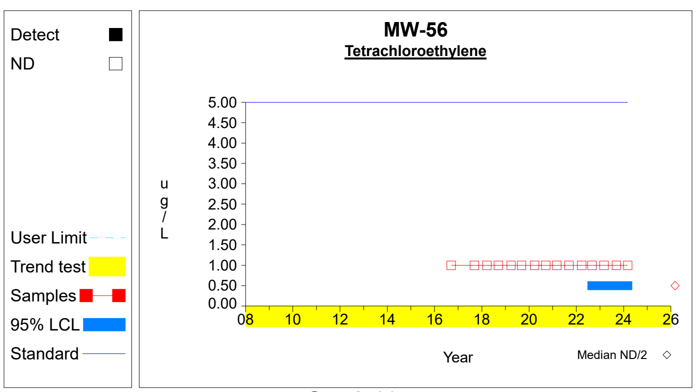
Graph 23



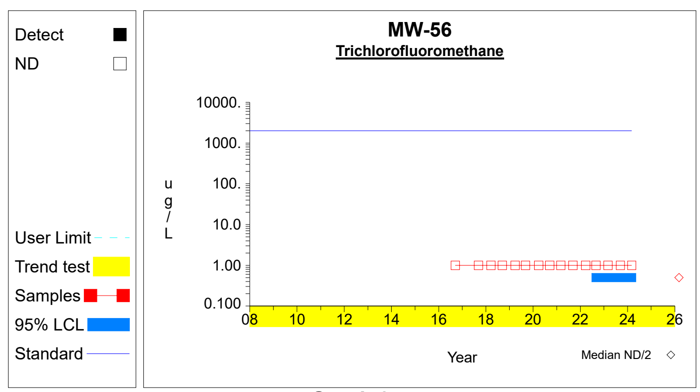
Graph 24



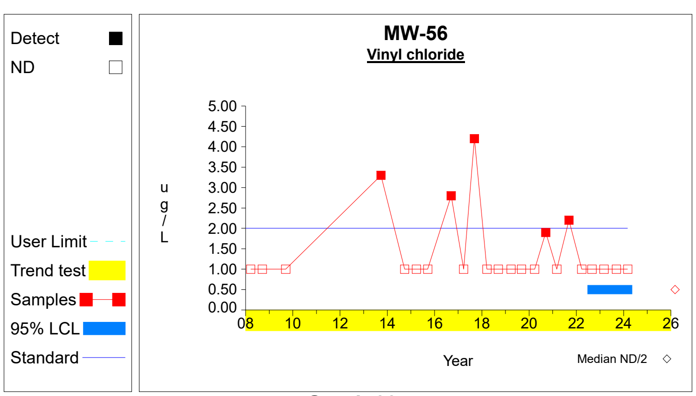
Graph 25



Graph 26

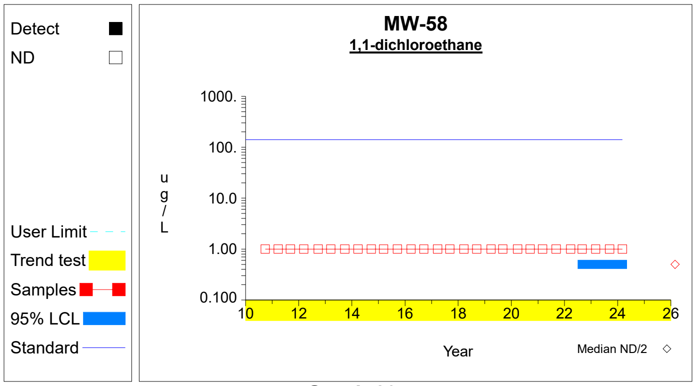


Graph 27

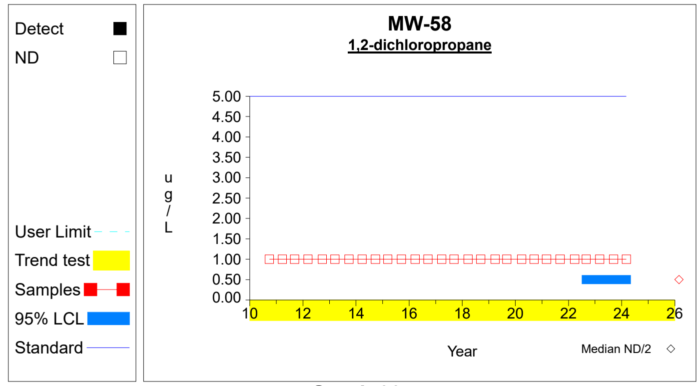


Graph 28

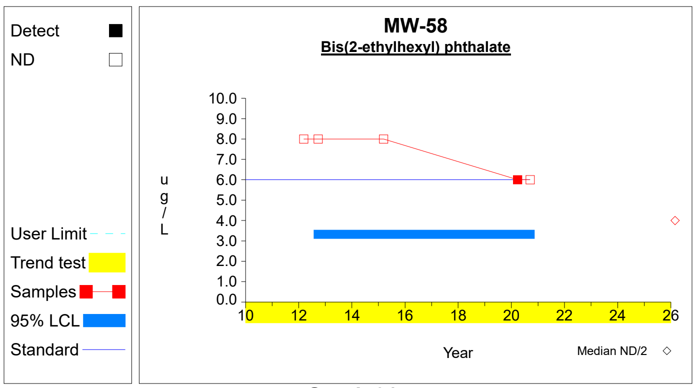
Confidence Limits (Assessment)



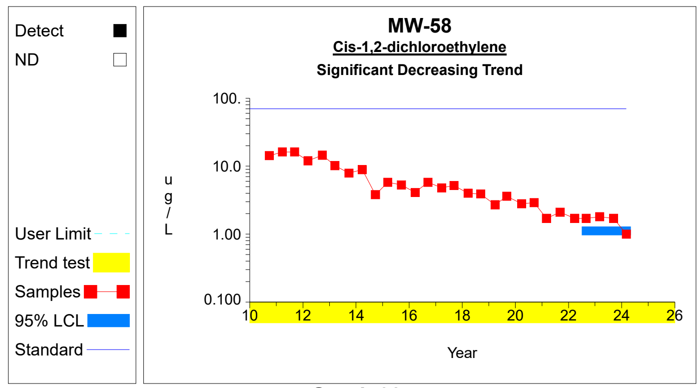
Graph 29



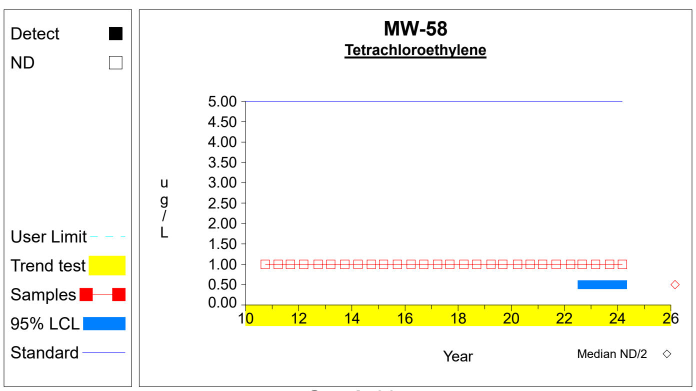
Graph 30



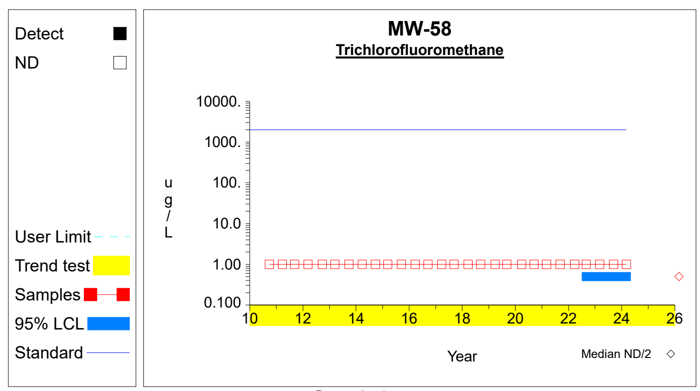
Graph 31



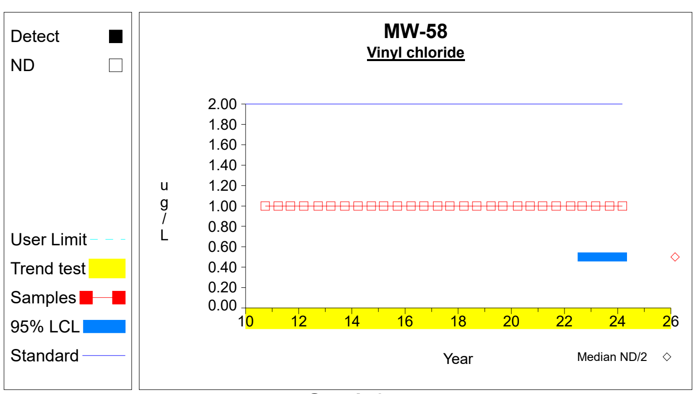
Graph 32



Graph 33

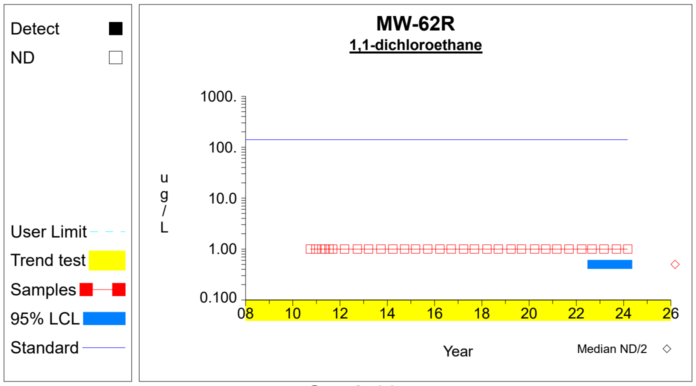


Graph 34

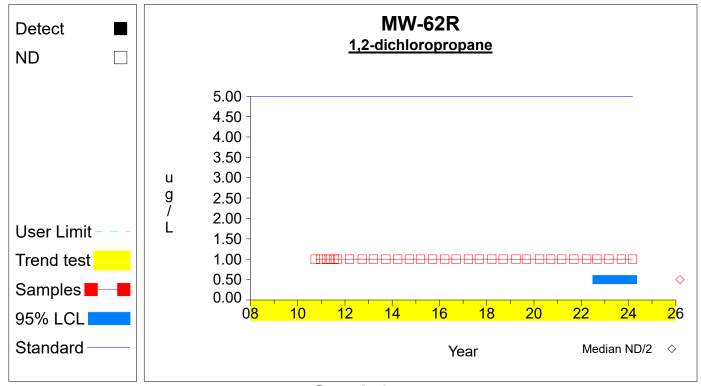


Graph 35

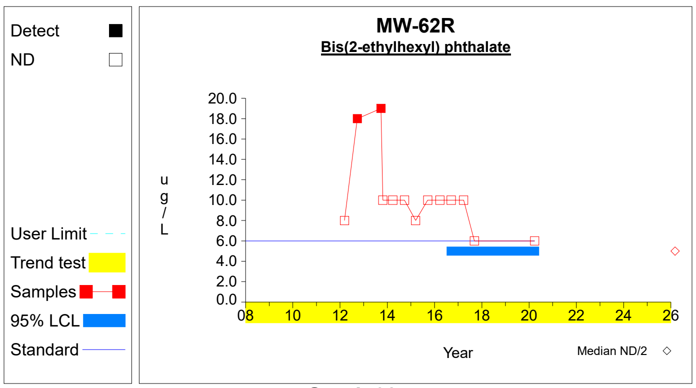
Confidence Limits (Assessment)



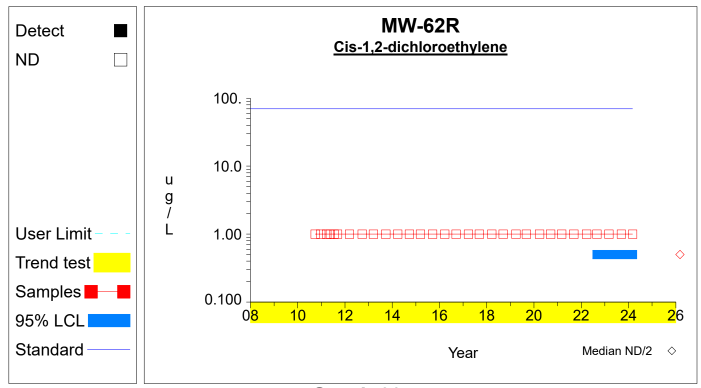
Graph 36



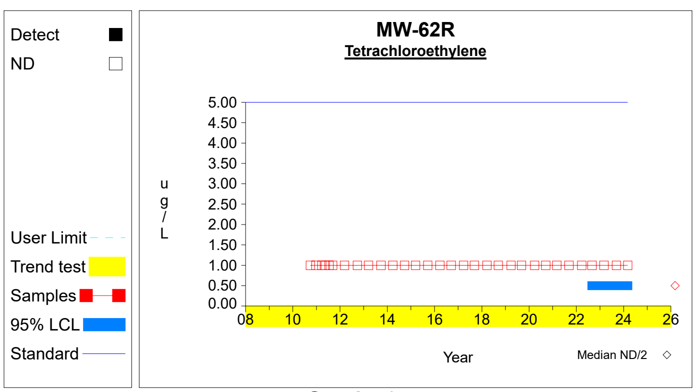
Graph 37



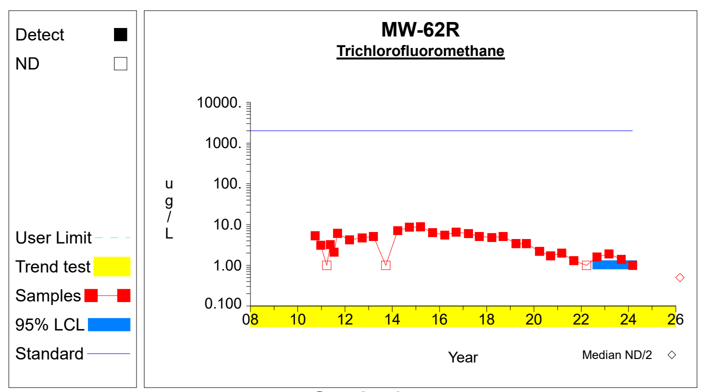
Graph 38



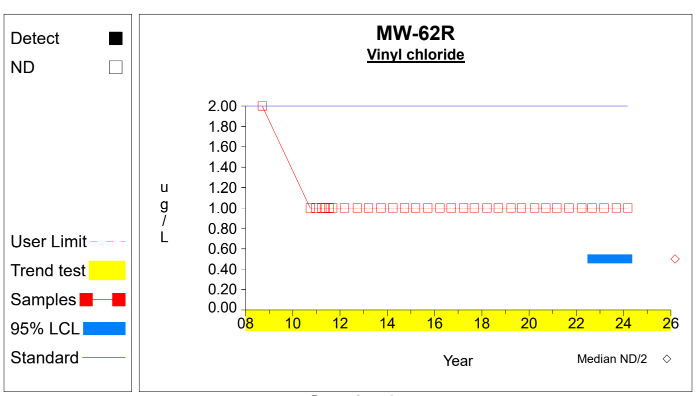
Graph 39



Graph 40

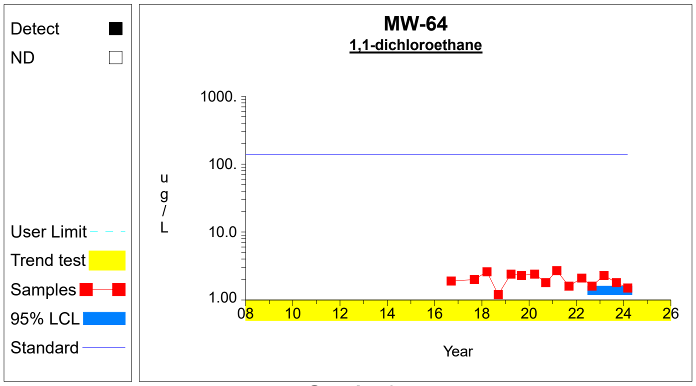


Graph 41

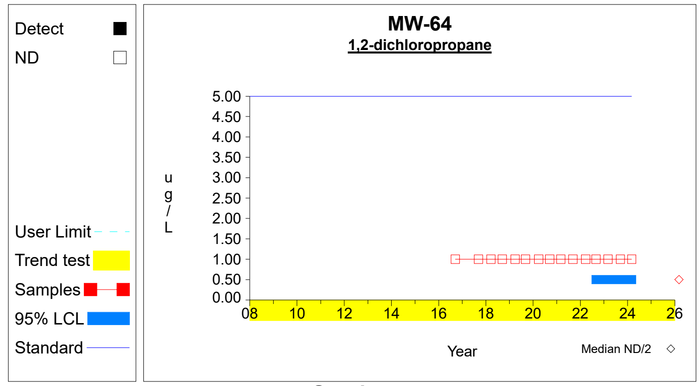


Graph 42

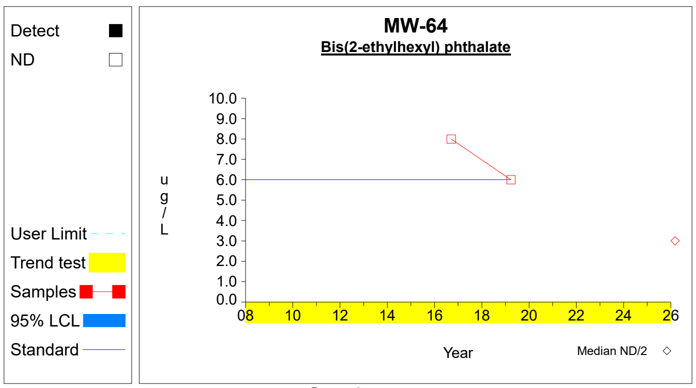
Confidence Limits (Assessment)



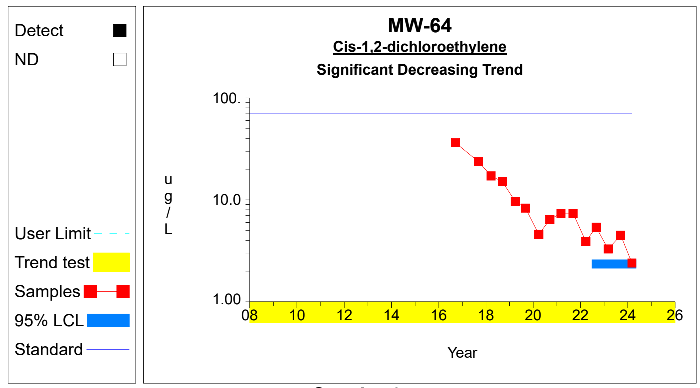
Graph 43



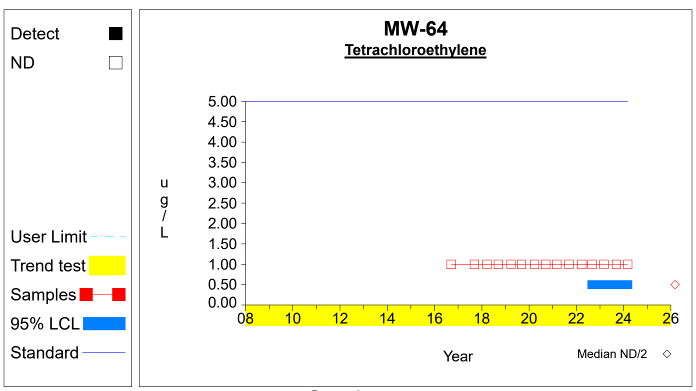
Graph 44



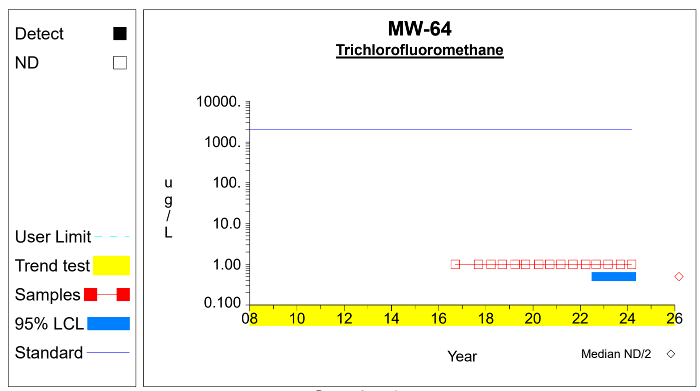
Graph 45



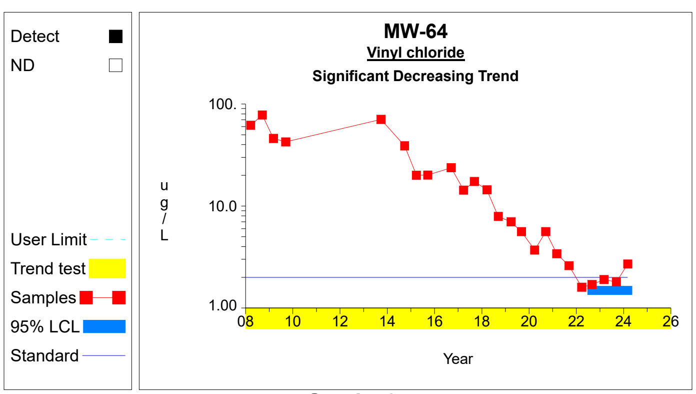
Graph 46



Graph 47

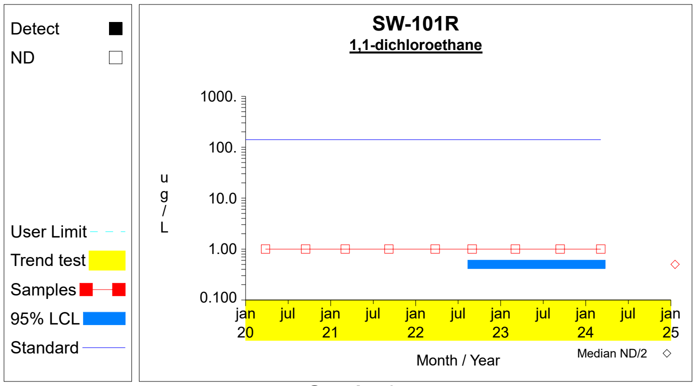


Graph 48

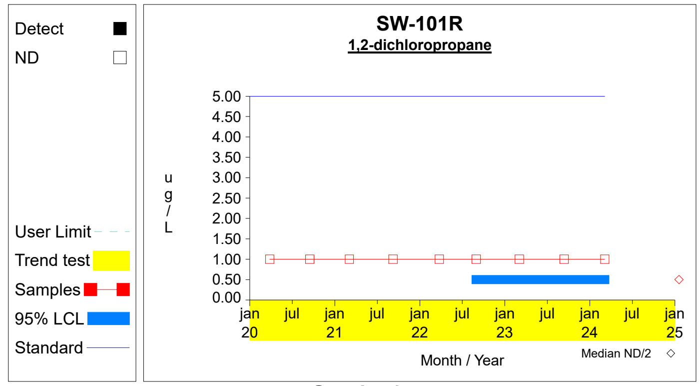


Graph 49

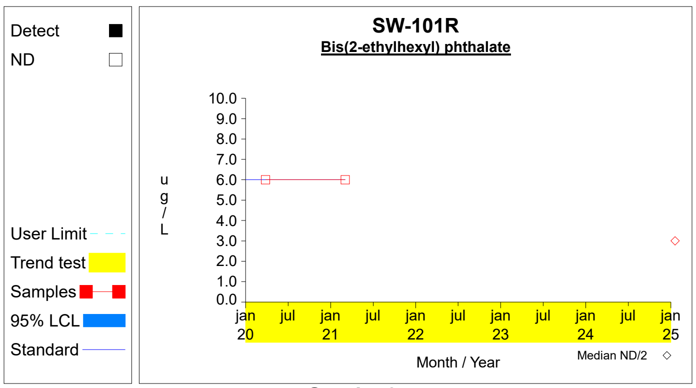
Confidence Limits (Assessment)



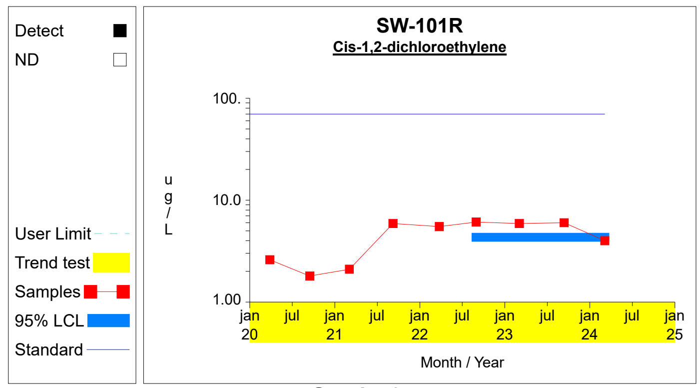
Graph 50



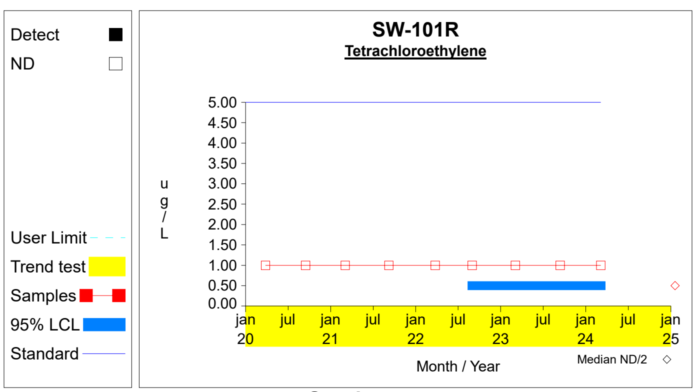
Graph 51



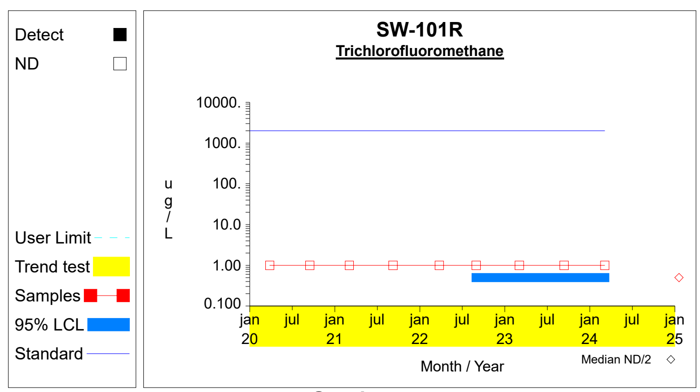
Graph 52



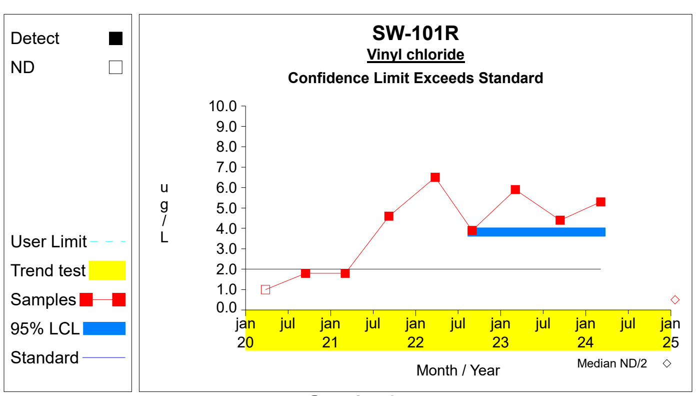
Graph 53



Graph 54



Graph 55



Graph 56

Prepared by: Otter Creek Environmental

GROUND WATER STATISTICS

FOR THE

NEWTON SANITARY LANDFILL

Second Semi-Annual Monitoring Event in 2024

Prepared for:
City of Newton Sanitary Landfill
3202 Ia-14
Newton, Jasper County, IA

Prepared by:
Jeffrey A. Holmgren
Otter Creek Environmental Services, LLC
40W565 Foxwick Court
Elgin, IL 60124
(847) 464-1355

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 event in 2024 at the Newton Sanitary Landfill in Newton, Jasper 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 method is described and applied to the Newton Landfill data. The statistical plan conforms with IAC 567, Chapter 113.10, USEPA guidance document ("*Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Unified Guidance*", March 2009), and the American Society for Testing and Materials (ASTM) standard D6312-98, *Developing Appropriate Statistical Approaches for Ground-Water Detection Monitoring Programs*.

Ground Water Monitoring Program

The groundwater monitoring network for Newton Sanitary Landfill includes GWD-1, MW-36, MW-39, MW-41, MW-42, MW-48, MW-58, MW-59, MW-60, MW-61, MW-62R, MW-78, MW-79, and MW-80. 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 event 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 interwell method was applied to the Newton 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 thirteen samples have been collected, the practical quantitation limit (PQL) becomes the nonparametric prediction limit.

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

The prior background data used in the statistical analysis included the ground water data collected from ground water wells MW-62R and MW-78. Since there were verified detections of trichlorofluoromethane at MW-62R, it was recommended that MW-62R not be used as a background well. In its' place, MW-48 and MW-39 were added as background points. Additionally, SW-101 was approved as a background point. The background data used in this statistical analysis includes the ground water data collected from ground water wells MW-39, MW-48, MW-78, and SW-101 during the period from September 2014 through the current data. A summary of the background data from monitoring wells MW-39, MW-48, MW-78, and SW-101 used to determine the site prediction limits are 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 MW-36, MW-41, MW-42, MW-58, MW-59, MW-60, MW-61, MW-62R, MW-79, MW-80, and SW-101R compared to the site prediction limits. Prediction limit exceedances are flagged with asterisks. For the most current data, the current site prediction limit exceedances 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	Ground Water Standard, µg/L
MW-58	Nickel	12.6	8.7000	Nonparametric	Verified	100[a]
MW-60	Nickel	29.2	8.7000	Nonparametric	Awaiting verification	100[a]
MW-61	Copper	5.0	4.0000	Nonparametric	Awaiting verification	1300[b]
MW-62R	Barium	945	357.0000	Nonparametric	Verified	2000[a]

a – USEPA MCL
b – Iowa Statewide Standard

The detection frequencies of the parameters in the up and down gradient monitoring wells are summarized in Table 3. With the exception of barium, these constituents are rarely detected in the upgradient wells. With the detection frequencies being less than 50% for all but barium, nonparametric site prediction limits are used for those trace metals.

Table 4 summarizes the results of the Shapiro-Wilk test. The background barium data are normally distributed so barium uses a normal site prediction limit. 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.

The past and present verified trace metal 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. 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 SW-101R (2.625 µg/L) exceeds the GWPS of 2.1 µg/L. The 95% LCLs calculated for the remainder of the metals which exceeded site prediction limits are below the respective GWPS (Attachment C).

Results of the Interwell Statistics – Old Landfill

The current ground water data from monitoring wells MW-44, MW-56, MW-57, MW-64, and MW-65 was compared to site prediction limits established from monitoring wells MW-39, MW-48, MW-78, and SW-

101. A summary of the background data from monitoring wells MW-39, MW-48, MW-78, and SW-101 used to determine the site prediction limits are 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 MW-44, MW-56, MW-57, MW-64, and MW-65 compared to the site prediction limits. Prediction limit exceedances are flagged with asterisks. For the most current data, the current site prediction limit exceedances 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	Ground Water Standard, µg/L
MW-44	Arsenic	11.9	7.3000	Nonparametric	Awaiting verification	10[a]
	Cobalt	10.3	6.9000	Nonparametric	Verified	2.1[b]
	Nickel	10.9	8.7000	Nonparametric	Verified	100[a]
MW-64	Arsenic	30.6	7.3000	Nonparametric	Verified	10[a]
	Cobalt	17.9	6.9000	Nonparametric	Verified	2.1[b]
	Nickel	42.6	8.7000	Nonparametric	Verified	100[a]
MW-65	Arsenic	7.9	7.3000	Nonparametric	Awaiting verification	10[a]
	Copper	8.7	4.0000	Nonparametric	Awaiting verification	1300[b]
	Nickel	13.5	8.7000	Nonparametric	Verified	100[a]

a – USEPA MCL
b – Iowa Statewide Standard

The detection frequencies of the parameters in the up and down gradient monitoring wells are summarized in Table 3. With the exception of barium, these constituents are rarely detected in the upgradient wells. With the detection frequencies being less than 50% for all but barium, nonparametric site prediction limits are used for those trace metals.

Table 4 summarizes the results of the Shapiro-Wilk test. The background barium data are normally distributed so barium uses a normal site prediction limit. 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.

The past and present verified trace metal exceedances were evaluated against the ground water protection standards (GWPS) using confidence limits.

The 95% LCL for cobalt at MW-44 (8.903 µg/L) exceeds the GWPS of 2.1 µg/L.
The 95% LCL for arsenic at MW-64 (23.432 µg/L) exceeds the GWPS of 10 µg/L.
The 95% LCL for cobalt at MW-64 (10.241 µg/L) exceeds the GWPS of 2.1 µg/L.
The 95% LCL for cobalt at MW-65 (3.304 µg/L) exceeds the GWPS of 2.1 µg/L.

The 95% LCLs calculated for the remainder of the metals which exceeded site prediction limits are below the respective GWPS.

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. VOCs detected in the ground water at Newton Landfill during the second semi-annual monitoring event in 2024 are summarized below. Historical VOC detections are summarized in Attachment E.

VOCs detected during the Second Semi-Annual Monitoring Event in 2024

Well	VOC Detected	Result, µg/L	Reporting Limit, µg/L	Verified/ Awaiting Verification	Ground Water Standard
MW-41	1,1-Dichloroethane	22.0	1	Verified	140[b]
	1,2-Dichloropropane	1.0	1	Awaiting Verification	5[a]
	cis-1,2-Dichloroethene	3.1	1	Verified	70[a]
PECS-1	Toluene	1.8	1	Awaiting Verification	1000[a]
SW-101R	*cis*-1,2-Dichloroethene	3.4	1	Verified	70[a]
	Vinyl chloride	3.1	1	Verified	2[a]

a - USEPA MCL, b – Iowa Statewide Standard

VOCs detected during the Second Semi-Annual Monitoring Event in 2024 – Old Landfill

Well	VOC Detected	Result, µg/L	Reporting Limit, µg/L	Verified/ Awaiting Verification	Ground Water Standard
MW-56	1,1-Dichloroethane	2.6	1	Verified	140[b]
MW-64	1,1-Dichloroethane	1.7	1	Verified	140[b]
	cis-1,2-Dichloroethene	4.1	1	Verified	70[a]
	Vinyl chloride	1.7	1	Verified	2[a]

a - USEPA MCL, b – Iowa Statewide Standard

The verified VOC detections 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. 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 vinyl chloride at SW-101R (3.243 μg/L) exceeds the GWPS of 2 μg/L. The 95% LCLs calculated for the remainder of verified VOCs are below the respective GWPS

CONCLUSIONS

This report summarizes the statistical analyses used to evaluate the ground water data obtained during the second semi-annual monitoring event in 2024 at Newton Sanitary Landfill. The ground water data was compared to background using prediction limits. There are verified site prediction limit exceedances for nickel at MW-58, barium at MW-62R, cobalt and nickel at MW-44, arsenic, cobalt, and nickel at MW-64, and nickel at MW-65.

The VOC data obtained during the second semi-annual monitoring event in 2024 were compared to MCLs or PQLs. There were verified detections of 1,1-dichloroethane and *cis*-1,2-dichloroethene at MW-41; *cis*-1,2-dichloroethene and vinyl chloride at SW-101R; 1,1-dichloroethane at MW-56; and 1,1-dichloroethane, *cis*-1,2-dichloroethene, and vinyl chloride at MW-64.

Attachment A

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

Table 1

Analytical Data Summary for 9/23/2024

Constituents	Units	MW-36	MW-39	MW-41	MW-42	MW-44	MW-48	MW-56	MW-57	MW-58	MW-59	MW-60
1,1,1,2-tetrachloroethane	ug/L	<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
1,1,2,2-tetrachloroethane	ug/L	<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-dichloroethane	ug/L	<1.0	<1.0	22.0	<1.0	<1.0	<1.0	2.6	<1.0	<1.0	<1.0	<1.0
1,1-dichloroethylene	ug/L	<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
1,2-dibromo-3-chloropropane	ug/L	<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
1,2-dichlorobenzene	ug/L	<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
1,2-dichloropropane	ug/L	<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
2-butanone (mek)	ug/L	<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
4-methyl-2-pentanone (mibk)	ug/L	<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
Acrylonitrile	ug/L	<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
Arsenic, total	ug/L	<4.0	<4.0	<4.0	<4.0	11.9	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Barium, total	ug/L	125.0	119.0	69.4	19.3	142.0	148.0	39.2	302.0	20.9	25.2	238.0
Benzene	ug/L	<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
Bromochloromethane	ug/L	<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
Bromoform	ug/L	<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
Cadmium, total	ug/L	<.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
Carbon tetrachloride	ug/L	<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
Chloroethane	ug/L	<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
Chloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium, total	ug/L	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8
Cis-1,2-dichloroethylene	ug/L	<1.0	<1.0	3.1	<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	<1	<1
Cobalt, total	ug/L	<.4	<.4	<.4	1.6	10.3	<.4	2.5	1.0	<.4	<.4	1.3
Copper, total	ug/L	<4.0	<4.0	<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	<1	<1
Dibromomethane	ug/L	<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
Lead, total	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Methyl iodide	ug/L	<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
Nickel, total	ug/L	<4.0	<4.0	<4.0	4.8	10.9	<4.0	7.3	4.6	12.6	<4.0	29.2
Selenium, total	ug/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Silver, total	ug/L	<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
Tetrachloroethylene	ug/L	<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
Toluene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trans-1,2-dichloroethylene	ug/L	<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
Trans-1,4-dichloro-2-butene	ug/L	<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
Trichlorofluoromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vanadium, total	ug/L	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Vinyl acetate	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl chloride	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes, total	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	ug/L	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0	21.0	<20.0	<20.0

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

Table 1

Analytical Data Summary for 9/23/2024

Constituents	MW-61	MW-62R	MW-64	MW-65	MW-78	MW-79	MW-80	PECS-1	SW-101R	SW-102	SW-103
1,1,1,2-tetrachloroethane	<1	<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
1,1,2,2-tetrachloroethane	<1	<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
1,1-dichloroethane	<1.0	<1.0	1.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-dichloroethylene	<1	<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
1,2-dibromo-3-chloropropane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-dibromoethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-butanone (mek)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2-hexanone (mbk)	<5	<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	<5
Acetone	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acrylonitrile	<5	<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	30.6	7.9	<4.0	<4.0	<4.0		4.7	4.3	<4.0
Barium, total	51.7	945.0	52.8	35.4	284.0	64.7	135.0		236.0	190.0	141.0
Benzene	<1	<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	<1
Bromodichloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	<1	<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	<1
Carbon tetrachloride	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	<1	<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	<1.0	<1.0	4.1	<1.0	<1.0	<1.0	<1.0	<1.0	3.4	<1.0	<1.0
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt, total	<.4	<.4	17.9	3.4	<.4	<.4	.8		3.9	1.1	.6
Copper, total	5.0	<4.0	<4.0	8.7	<4.0	<4.0	<4.0		<4.0	<4.0	<4.0
Dibromochloromethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<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	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Nickel, total	5.6	<4.0	42.6	13.5	<4.0	<4.0	<4.0		4.7	<4.0	4.5
Selenium, total	<4.0	<4.0	<4.0	<4.0	4.1	<4.0	<4.0		<4.0	<4.0	<4.0
Silver, total	<4	<4	<4	<4	<4	<4	<4		<4	<4	<4
Styrene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium, total	<2	<2	<2	<2	<2	<2	<2		<2	<2	<2
Toluene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	<1.0	<1.0	<1.0
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	<1	<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	<5
Trichloroethylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1	<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	<5
Vinyl chloride	<1.0	<1.0	1.7	<1.0	<1.0	<1.0	<1.0	<1.0	3.1	<1.0	<1.0
Xylenes, total	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Zinc, total	<20.0	<20.0	21.5	29.4	<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

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony, total	ug/L	MW-39	09/24/2014	ND	2.0000		
Antimony, total	ug/L	MW-39	12/05/2014	ND	2.0000		
Antimony, total	ug/L	MW-39	03/11/2015	ND	2.0000		
Antimony, total	ug/L	MW-39	06/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-39	09/17/2015	ND	2.0000		
Antimony, total	ug/L	MW-39	03/22/2016	ND	2.0000		
Antimony, total	ug/L	MW-39	09/15/2016	ND	2.0000		
Antimony, total	ug/L	MW-39	03/23/2017	ND	2.0000		
Antimony, total	ug/L	MW-39	09/08/2017	ND	2.0000		
Antimony, total	ug/L	MW-39	03/19/2018	ND	2.0000		
Antimony, total	ug/L	MW-39	09/11/2018	ND	2.0000		
Antimony, total	ug/L	MW-39	03/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-39	09/04/2019	ND	2.0000		
Antimony, total	ug/L	MW-39	03/26/2020	ND	2.0000		
Antimony, total	ug/L	MW-39	09/15/2020	ND	2.0000		
Antimony, total	ug/L	MW-39	03/02/2021	ND	2.0000		
Antimony, total	ug/L	MW-39	09/07/2021	ND	2.0000		
Antimony, total	ug/L	MW-39	03/24/2022	ND	2.0000		
Antimony, total	ug/L	MW-39	08/31/2022	ND	2.0000		
Antimony, total	ug/L	MW-39	03/02/2023	ND	2.0000		
Antimony, total	ug/L	MW-39	09/12/2023	ND	2.0000		
Antimony, total	ug/L	MW-39	03/04/2024	ND	2.0000		
Antimony, total	ug/L	MW-39	09/23/2024	ND	2.0000		
Arsenic, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Arsenic, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Arsenic, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Arsenic, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/23/2024	ND	4.0000		
Barium, total	ug/L	MW-39	09/24/2014		60.6000		
Barium, total	ug/L	MW-39	12/05/2014		139.0000		
Barium, total	ug/L	MW-39	03/11/2015		136.0000		
Barium, total	ug/L	MW-39	06/16/2015		148.0000		
Barium, total	ug/L	MW-39	09/17/2015		128.0000		
Barium, total	ug/L	MW-39	03/22/2016		123.0000		
Barium, total	ug/L	MW-39	09/15/2016		103.0000		
Barium, total	ug/L	MW-39	03/23/2017		129.0000		
Barium, total	ug/L	MW-39	09/08/2017		117.0000		
Barium, total	ug/L	MW-39	03/19/2018		131.0000		
Barium, total	ug/L	MW-39	09/11/2018		114.0000		
Barium, total	ug/L	MW-39	03/26/2019		121.0000		
Barium, total	ug/L	MW-39	09/04/2019		138.0000		
Barium, total	ug/L	MW-39	03/26/2020		150.0000		
Barium, total	ug/L	MW-39	09/15/2020		136.0000		
Barium, total	ug/L	MW-39	03/02/2021		125.0000		
Barium, total	ug/L	MW-39	09/07/2021		141.0000		
Barium, total	ug/L	MW-39	03/24/2022		137.0000		
Barium, total	ug/L	MW-39	08/31/2022		132.0000		
Barium, total	ug/L	MW-39	03/02/2023		134.0000		
Barium, total	ug/L	MW-39	09/12/2023		133.0000		
Barium, total	ug/L	MW-39	03/04/2024		128.0000		
Barium, total	ug/L	MW-39	09/23/2024		119.0000		
Beryllium, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Beryllium, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Beryllium, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/17/2015	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-39	03/22/2016	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Beryllium, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/23/2024	ND	4.0000		
Cadmium, total	ug/L	MW-39	09/24/2014	ND	0.8000		
Cadmium, total	ug/L	MW-39	12/05/2014	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/11/2015	ND	0.8000		
Cadmium, total	ug/L	MW-39	06/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/17/2015	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/22/2016	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/15/2016	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/23/2017	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/08/2017	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/19/2018	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/11/2018	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/26/2019	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/04/2019	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/26/2020	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/15/2020	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/02/2021	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/07/2021	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/24/2022	ND	0.8000		
Cadmium, total	ug/L	MW-39	08/31/2022	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/02/2023	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/12/2023	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/04/2024	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/23/2024	ND	0.8000		
Chromium, total	ug/L	MW-39	09/24/2014	ND	8.0000		
Chromium, total	ug/L	MW-39	12/05/2014	ND	8.0000		
Chromium, total	ug/L	MW-39	03/11/2015	ND	8.0000		
Chromium, total	ug/L	MW-39	06/16/2015	ND	8.0000		
Chromium, total	ug/L	MW-39	09/17/2015	ND	8.0000		
Chromium, total	ug/L	MW-39	03/22/2016	ND	8.0000		
Chromium, total	ug/L	MW-39	09/15/2016	ND	8.0000		
Chromium, total	ug/L	MW-39	03/23/2017	ND	8.0000		
Chromium, total	ug/L	MW-39	09/08/2017	ND	8.0000		
Chromium, total	ug/L	MW-39	03/19/2018	ND	8.0000		
Chromium, total	ug/L	MW-39	09/11/2018	ND	8.0000		
Chromium, total	ug/L	MW-39	03/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-39	09/04/2019	ND	8.0000		
Chromium, total	ug/L	MW-39	03/26/2020	ND	8.0000		
Chromium, total	ug/L	MW-39	09/15/2020	ND	8.0000		
Chromium, total	ug/L	MW-39	03/02/2021	ND	8.0000		
Chromium, total	ug/L	MW-39	09/07/2021	ND	8.0000		
Chromium, total	ug/L	MW-39	03/24/2022	ND	8.0000		
Chromium, total	ug/L	MW-39	08/31/2022	ND	8.0000		
Chromium, total	ug/L	MW-39	03/02/2023	ND	8.0000		
Chromium, total	ug/L	MW-39	09/12/2023	ND	8.0000		
Chromium, total	ug/L	MW-39	03/04/2024	ND	8.0000		
Chromium, total	ug/L	MW-39	09/23/2024	ND	8.0000		
Cobalt, total	ug/L	MW-39	09/24/2014	ND	0.8000		
Cobalt, total	ug/L	MW-39	12/05/2014	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/11/2015	ND	0.8000		
Cobalt, total	ug/L	MW-39	06/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/17/2015	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/22/2016	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/15/2016	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/23/2017	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/08/2017	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/19/2018	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	
Cobalt, total	ug/L	MW-39	09/11/2018	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/26/2019	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/04/2019	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/26/2020	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/15/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	03/02/2021		0.8000		
Cobalt, total	ug/L	MW-39	09/07/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	03/24/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	08/31/2022		0.8000		
Cobalt, total	ug/L	MW-39	03/02/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	09/12/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	03/04/2024	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	09/23/2024	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Copper, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Copper, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Copper, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Copper, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Copper, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Copper, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Copper, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Copper, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Copper, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Copper, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Copper, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Copper, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Copper, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Copper, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Copper, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Copper, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Copper, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Copper, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Copper, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Copper, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Copper, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Copper, total	ug/L	MW-39	09/23/2024	ND	4.0000		
Lead, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Lead, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Lead, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Lead, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Lead, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Lead, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Lead, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Lead, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Lead, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Lead, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Lead, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Lead, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Lead, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Lead, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Lead, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Lead, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Lead, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Lead, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Lead, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Lead, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Lead, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Lead, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Lead, total	ug/L	MW-39	09/23/2024	ND	4.0000		
Nickel, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Nickel, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Nickel, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Nickel, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Nickel, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Nickel, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Nickel, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Nickel, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Nickel, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Nickel, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Nickel, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Nickel, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Nickel, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Nickel, total	ug/L	MW-39	09/15/2020	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	
Nickel, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Nickel, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Nickel, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Nickel, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Nickel, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Nickel, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Nickel, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Nickel, total	ug/L	MW-39	09/23/2024	ND	4.0000		
Selenium, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Selenium, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Selenium, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Selenium, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Selenium, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Selenium, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Selenium, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Selenium, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Selenium, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Selenium, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Selenium, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Selenium, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Selenium, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Selenium, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Selenium, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Selenium, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Selenium, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Selenium, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Selenium, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Selenium, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Selenium, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Selenium, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Selenium, total	ug/L	MW-39	09/23/2024	ND	4.0000		
Silver, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Silver, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Silver, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Silver, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Silver, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Silver, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Silver, total	ug/L	MW-39	09/15/2016		6.4000		
Silver, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Silver, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Silver, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Silver, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Silver, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Silver, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Silver, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Silver, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Silver, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Silver, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Silver, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Silver, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Silver, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Silver, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Silver, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Silver, total	ug/L	MW-39	09/23/2024	ND	4.0000		
Thallium, total	ug/L	MW-39	09/24/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	12/05/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	03/11/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	06/16/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	09/17/2015		2.4000		
Thallium, total	ug/L	MW-39	03/22/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	09/15/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	03/23/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	09/08/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	03/19/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	09/11/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	03/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-39	09/04/2019	ND	2.0000		
Thallium, total	ug/L	MW-39	03/26/2020	ND	2.0000		
Thallium, total	ug/L	MW-39	09/15/2020	ND	2.0000		
Thallium, total	ug/L	MW-39	03/02/2021	ND	2.0000		
Thallium, total	ug/L	MW-39	09/07/2021	ND	2.0000		
Thallium, total	ug/L	MW-39	03/24/2022	ND	2.0000		
Thallium, total	ug/L	MW-39	08/31/2022	ND	2.0000		
Thallium, total	ug/L	MW-39	03/02/2023	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-39	09/12/2023	ND	2.0000		
Thallium, total	ug/L	MW-39	03/04/2024	ND	2.0000		
Thallium, total	ug/L	MW-39	09/23/2024	ND	2.0000		
Vanadium, total	ug/L	MW-39	09/24/2014	ND	20.0000		
Vanadium, total	ug/L	MW-39	12/05/2014	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/11/2015	ND	20.0000		
Vanadium, total	ug/L	MW-39	06/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/17/2015	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/22/2016	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/15/2016	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/23/2017	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/08/2017	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/19/2018	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/11/2018	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/04/2019	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/26/2020	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/15/2020	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/02/2021	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/07/2021	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/24/2022	ND	20.0000		
Vanadium, total	ug/L	MW-39	08/31/2022	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/02/2023	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/12/2023	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/04/2024	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/23/2024	ND	20.0000		
Zinc, total	ug/L	MW-39	09/24/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	12/05/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	03/11/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	06/16/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	09/17/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	03/22/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	09/15/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	03/23/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	09/08/2017	ND	20.0000		
Zinc, total	ug/L	MW-39	03/19/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	09/11/2018	ND	20.0000		
Zinc, total	ug/L	MW-39	03/26/2019		24.6000		
Zinc, total	ug/L	MW-39	09/04/2019	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	03/26/2020	ND	20.0000		
Zinc, total	ug/L	MW-39	09/15/2020	ND	20.0000		
Zinc, total	ug/L	MW-39	03/02/2021	ND	20.0000		
Zinc, total	ug/L	MW-39	09/07/2021	ND	20.0000		
Zinc, total	ug/L	MW-39	03/24/2022	ND	20.0000		
Zinc, total	ug/L	MW-39	08/31/2022	ND	20.0000		
Zinc, total	ug/L	MW-39	03/02/2023	ND	20.0000		
Zinc, total	ug/L	MW-39	09/12/2023	ND	20.0000		
Zinc, total	ug/L	MW-39	03/04/2024	ND	20.0000		
Zinc, total	ug/L	MW-39	09/23/2024	ND	20.0000		
Antimony, total	ug/L	MW-48	09/24/2014	ND	2.0000		
Antimony, total	ug/L	MW-48	12/05/2014	ND	2.0000		
Antimony, total	ug/L	MW-48	03/11/2015	ND	2.0000		
Antimony, total	ug/L	MW-48	06/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-48	09/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-48	03/22/2016	ND	2.0000		
Antimony, total	ug/L	MW-48	09/14/2016	ND	2.0000		
Antimony, total	ug/L	MW-48	03/23/2017	ND	2.0000		
Antimony, total	ug/L	MW-48	09/08/2017	ND	2.0000		
Antimony, total	ug/L	MW-48	03/19/2018	ND	2.0000		
Antimony, total	ug/L	MW-48	09/11/2018	ND	2.0000		
Antimony, total	ug/L	MW-48	03/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-48	09/04/2019	ND	2.0000		
Antimony, total	ug/L	MW-48	03/26/2020	ND	2.0000		
Antimony, total	ug/L	MW-48	09/15/2020	ND	2.0000		
Antimony, total	ug/L	MW-48	03/02/2021	ND	2.0000		
Antimony, total	ug/L	MW-48	09/07/2021	ND	2.0000		
Antimony, total	ug/L	MW-48	03/24/2022	ND	2.0000		
Antimony, total	ug/L	MW-48	08/31/2022	ND	2.0000		
Antimony, total	ug/L	MW-48	03/02/2023	ND	2.0000		
Antimony, total	ug/L	MW-48	09/12/2023	ND	2.0000		
Antimony, total	ug/L	MW-48	03/04/2024	ND	2.0000		
Antimony, total	ug/L	MW-48	09/23/2024	ND	2.0000		
Arsenic, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Arsenic, total	ug/L	MW-48	12/05/2014	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	
Arsenic, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Arsenic, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Arsenic, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/23/2024	ND	4.0000		
Barium, total	ug/L	MW-48	09/24/2014		181.0000		
Barium, total	ug/L	MW-48	12/05/2014		168.0000		
Barium, total	ug/L	MW-48	03/11/2015		143.0000		
Barium, total	ug/L	MW-48	06/16/2015		161.0000		
Barium, total	ug/L	MW-48	09/16/2015		150.0000		
Barium, total	ug/L	MW-48	03/22/2016		153.0000		
Barium, total	ug/L	MW-48	09/14/2016		140.0000		
Barium, total	ug/L	MW-48	03/23/2017		146.0000		
Barium, total	ug/L	MW-48	09/08/2017		171.0000		
Barium, total	ug/L	MW-48	03/19/2018		145.0000		
Barium, total	ug/L	MW-48	09/11/2018		151.0000		
Barium, total	ug/L	MW-48	03/26/2019		153.0000		
Barium, total	ug/L	MW-48	09/04/2019		160.0000		
Barium, total	ug/L	MW-48	03/26/2020		156.0000		
Barium, total	ug/L	MW-48	09/15/2020		152.0000		
Barium, total	ug/L	MW-48	03/02/2021		159.0000		
Barium, total	ug/L	MW-48	09/07/2021		149.0000		
Barium, total	ug/L	MW-48	03/24/2022		143.0000		
Barium, total	ug/L	MW-48	08/31/2022		157.0000		
Barium, total	ug/L	MW-48	03/02/2023		149.0000		
Barium, total	ug/L	MW-48	09/12/2023		168.0000		
Barium, total	ug/L	MW-48	03/04/2024		149.0000		
Barium, total	ug/L	MW-48	09/23/2024		148.0000		
Beryllium, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Beryllium, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Beryllium, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Beryllium, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/23/2024	ND	4.0000		
Cadmium, total	ug/L	MW-48	09/24/2014	ND	0.8000		
Cadmium, total	ug/L	MW-48	12/05/2014	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/11/2015	ND	0.8000		
Cadmium, total	ug/L	MW-48	06/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/22/2016	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/14/2016	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-48	03/23/2017	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/08/2017	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/19/2018	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/11/2018	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/26/2019	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/04/2019	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/26/2020	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/15/2020	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/02/2021	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/07/2021	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/24/2022	ND	0.8000		
Cadmium, total	ug/L	MW-48	08/31/2022	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/02/2023	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/12/2023	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/04/2024	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/23/2024	ND	0.8000		
Chromium, total	ug/L	MW-48	09/24/2014	ND	8.0000		
Chromium, total	ug/L	MW-48	12/05/2014	ND	8.0000		
Chromium, total	ug/L	MW-48	03/11/2015	ND	8.0000		
Chromium, total	ug/L	MW-48	06/16/2015	ND	8.0000		
Chromium, total	ug/L	MW-48	09/16/2015	ND	8.0000		
Chromium, total	ug/L	MW-48	03/22/2016	ND	8.0000		
Chromium, total	ug/L	MW-48	09/14/2016	ND	8.0000		
Chromium, total	ug/L	MW-48	03/23/2017	ND	8.0000		
Chromium, total	ug/L	MW-48	09/08/2017	ND	8.0000		
Chromium, total	ug/L	MW-48	03/19/2018	ND	8.0000		
Chromium, total	ug/L	MW-48	09/11/2018	ND	8.0000		
Chromium, total	ug/L	MW-48	03/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-48	09/04/2019	ND	8.0000		
Chromium, total	ug/L	MW-48	03/26/2020	ND	8.0000		
Chromium, total	ug/L	MW-48	09/15/2020	ND	8.0000		
Chromium, total	ug/L	MW-48	03/02/2021	ND	8.0000		
Chromium, total	ug/L	MW-48	09/07/2021	ND	8.0000		
Chromium, total	ug/L	MW-48	03/24/2022	ND	8.0000		
Chromium, total	ug/L	MW-48	08/31/2022	ND	8.0000		
Chromium, total	ug/L	MW-48	03/02/2023	ND	8.0000		
Chromium, total	ug/L	MW-48	09/12/2023	ND	8.0000		
Chromium, total	ug/L	MW-48	03/04/2024	ND	8.0000		
Chromium, total	ug/L	MW-48	09/23/2024	ND	8.0000		
Cobalt, total	ug/L	MW-48	09/24/2014	ND	0.8000		
Cobalt, total	ug/L	MW-48	12/05/2014	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/11/2015	ND	0.8000		
Cobalt, total	ug/L	MW-48	06/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/22/2016	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/14/2016	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/23/2017	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/08/2017	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/19/2018	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/11/2018	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/26/2019	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/04/2019	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/26/2020	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/15/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	03/02/2021		0.9000		
Cobalt, total	ug/L	MW-48	09/07/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	03/24/2022		0.4000		
Cobalt, total	ug/L	MW-48	08/31/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	03/02/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	09/12/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	03/04/2024	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	09/23/2024	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Copper, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Copper, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Copper, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Copper, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Copper, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Copper, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Copper, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Copper, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Copper, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Copper, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Copper, total	ug/L	MW-48	03/26/2019	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	
Copper, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Copper, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Copper, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Copper, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Copper, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Copper, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Copper, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Copper, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Copper, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Copper, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Copper, total	ug/L	MW-48	09/23/2024	ND	4.0000		
Lead, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Lead, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Lead, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Lead, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Lead, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Lead, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Lead, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Lead, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Lead, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Lead, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Lead, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Lead, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Lead, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Lead, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Lead, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Lead, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Lead, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Lead, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Lead, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Lead, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Lead, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Lead, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Lead, total	ug/L	MW-48	09/23/2024	ND	4.0000		
Nickel, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Nickel, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Nickel, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Nickel, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Nickel, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Nickel, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Nickel, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Nickel, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Nickel, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Nickel, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Nickel, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Nickel, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Nickel, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Nickel, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Nickel, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Nickel, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Nickel, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Nickel, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Nickel, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Nickel, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Nickel, total	ug/L	MW-48	09/23/2024	ND	4.0000		
Selenium, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Selenium, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Selenium, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Selenium, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Selenium, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Selenium, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Selenium, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Selenium, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Selenium, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Selenium, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Selenium, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Selenium, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Selenium, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Selenium, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Selenium, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Selenium, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Selenium, total	ug/L	MW-48	09/07/2021	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-48	03/24/2022	ND	4.0000		
Selenium, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Selenium, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Selenium, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Selenium, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Selenium, total	ug/L	MW-48	09/23/2024	ND	4.0000		
Silver, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Silver, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Silver, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Silver, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Silver, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Silver, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Silver, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Silver, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Silver, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Silver, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Silver, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Silver, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Silver, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Silver, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Silver, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Silver, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Silver, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Silver, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Silver, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Silver, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Silver, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Silver, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Silver, total	ug/L	MW-48	09/23/2024	ND	4.0000		
Thallium, total	ug/L	MW-48	09/24/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	12/05/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/11/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	06/16/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	09/16/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/22/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	09/14/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/23/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	09/08/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/19/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	09/11/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-48	09/04/2019	ND	2.0000		
Thallium, total	ug/L	MW-48	03/26/2020	ND	2.0000		
Thallium, total	ug/L	MW-48	09/15/2020	ND	2.0000		
Thallium, total	ug/L	MW-48	03/02/2021	ND	2.0000		
Thallium, total	ug/L	MW-48	09/07/2021	ND	2.0000		
Thallium, total	ug/L	MW-48	03/24/2022	ND	2.0000		
Thallium, total	ug/L	MW-48	08/31/2022	ND	2.0000		
Thallium, total	ug/L	MW-48	03/02/2023	ND	2.0000		
Thallium, total	ug/L	MW-48	09/12/2023	ND	2.0000		
Thallium, total	ug/L	MW-48	03/04/2024	ND	2.0000		
Thallium, total	ug/L	MW-48	09/23/2024	ND	2.0000		
Vanadium, total	ug/L	MW-48	09/24/2014	ND	20.0000		
Vanadium, total	ug/L	MW-48	12/05/2014	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/11/2015	ND	20.0000		
Vanadium, total	ug/L	MW-48	06/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/22/2016	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/14/2016	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/23/2017	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/08/2017	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/19/2018	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/11/2018	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/04/2019	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/26/2020	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/15/2020	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/02/2021	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/07/2021	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/24/2022	ND	20.0000		
Vanadium, total	ug/L	MW-48	08/31/2022	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/02/2023	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/12/2023	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/04/2024	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	
Vanadium, total	ug/L	MW-48	09/23/2024	ND	20.0000		
Zinc, total	ug/L	MW-48	09/24/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	12/05/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	03/11/2015		32.3000		
Zinc, total	ug/L	MW-48	06/16/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	09/16/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	03/22/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	09/14/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	03/23/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	09/08/2017	ND	20.0000		
Zinc, total	ug/L	MW-48	03/19/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	09/11/2018	ND	20.0000		
Zinc, total	ug/L	MW-48	03/26/2019	ND	20.0000		
Zinc, total	ug/L	MW-48	09/04/2019	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	03/26/2020	ND	20.0000		
Zinc, total	ug/L	MW-48	09/15/2020	ND	20.0000		
Zinc, total	ug/L	MW-48	03/02/2021	ND	20.0000		
Zinc, total	ug/L	MW-48	09/07/2021	ND	20.0000		
Zinc, total	ug/L	MW-48	03/24/2022	ND	20.0000		
Zinc, total	ug/L	MW-48	08/31/2022	ND	20.0000		
Zinc, total	ug/L	MW-48	03/02/2023	ND	20.0000		
Zinc, total	ug/L	MW-48	09/12/2023	ND	20.0000		
Zinc, total	ug/L	MW-48	03/04/2024	ND	20.0000		
Zinc, total	ug/L	MW-48	09/23/2024	ND	20.0000		
Antimony, total	ug/L	MW-78	09/24/2014	ND	2.0000		
Antimony, total	ug/L	MW-78	12/05/2014	ND	2.0000		
Antimony, total	ug/L	MW-78	03/11/2015	ND	2.0000		
Antimony, total	ug/L	MW-78	06/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-78	09/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-78	03/22/2016	ND	2.0000		
Antimony, total	ug/L	MW-78	09/15/2016	ND	2.0000		
Antimony, total	ug/L	MW-78	03/23/2017	ND	2.0000		
Antimony, total	ug/L	MW-78	09/08/2017	ND	2.0000		
Antimony, total	ug/L	MW-78	03/19/2018	ND	2.0000		
Antimony, total	ug/L	MW-78	09/11/2018	ND	2.0000		
Antimony, total	ug/L	MW-78	03/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-78	09/04/2019	ND	2.0000		
Antimony, total	ug/L	MW-78	03/26/2020	ND	2.0000		
Antimony, total	ug/L	MW-78	09/15/2020	ND	2.0000		
Antimony, total	ug/L	MW-78	03/02/2021	ND	2.0000		
Antimony, total	ug/L	MW-78	09/07/2021	ND	2.0000		
Antimony, total	ug/L	MW-78	03/24/2022	ND	2.0000		
Antimony, total	ug/L	MW-78	08/31/2022	ND	2.0000		
Antimony, total	ug/L	MW-78	03/02/2023	ND	2.0000		
Antimony, total	ug/L	MW-78	09/12/2023	ND	2.0000		
Antimony, total	ug/L	MW-78	03/04/2024	ND	2.0000		
Antimony, total	ug/L	MW-78	09/23/2024	ND	2.0000		
Arsenic, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Arsenic, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Arsenic, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Arsenic, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/23/2024	ND	4.0000		
Barium, total	ug/L	MW-78	09/24/2014		304.0000		
Barium, total	ug/L	MW-78	12/05/2014		291.0000		
Barium, total	ug/L	MW-78	03/11/2015		304.0000		
Barium, total	ug/L	MW-78	06/16/2015		329.0000		

* - 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-78	09/16/2015		298.0000		
Barium, total	ug/L	MW-78	03/22/2016		309.0000		
Barium, total	ug/L	MW-78	09/15/2016		311.0000		
Barium, total	ug/L	MW-78	03/23/2017		307.0000		
Barium, total	ug/L	MW-78	09/08/2017		357.0000		
Barium, total	ug/L	MW-78	03/19/2018		320.0000		
Barium, total	ug/L	MW-78	09/11/2018		295.0000		
Barium, total	ug/L	MW-78	03/26/2019		285.0000		
Barium, total	ug/L	MW-78	09/04/2019		332.0000		
Barium, total	ug/L	MW-78	03/26/2020		304.0000		
Barium, total	ug/L	MW-78	09/15/2020		319.0000		
Barium, total	ug/L	MW-78	03/02/2021		304.0000		
Barium, total	ug/L	MW-78	09/07/2021		332.0000		
Barium, total	ug/L	MW-78	03/24/2022		291.0000		
Barium, total	ug/L	MW-78	08/31/2022		340.0000		
Barium, total	ug/L	MW-78	03/02/2023		345.0000		
Barium, total	ug/L	MW-78	09/12/2023		309.0000		
Barium, total	ug/L	MW-78	03/04/2024		341.0000		
Barium, total	ug/L	MW-78	09/23/2024		284.0000		
Beryllium, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Beryllium, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Beryllium, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Beryllium, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/23/2024	ND	4.0000		
Cadmium, total	ug/L	MW-78	09/24/2014	ND	0.8000		
Cadmium, total	ug/L	MW-78	12/05/2014	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/11/2015	ND	0.8000		
Cadmium, total	ug/L	MW-78	06/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/22/2016	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/15/2016	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/23/2017	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/08/2017	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/19/2018	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/11/2018	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/26/2019	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/04/2019	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/26/2020	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/15/2020	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/02/2021	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/07/2021	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/24/2022	ND	0.8000		
Cadmium, total	ug/L	MW-78	08/31/2022	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/02/2023	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/12/2023	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/04/2024	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/23/2024	ND	0.8000		
Chromium, total	ug/L	MW-78	09/24/2014	ND	8.0000		
Chromium, total	ug/L	MW-78	12/05/2014	ND	8.0000		
Chromium, total	ug/L	MW-78	03/11/2015	ND	8.0000		
Chromium, total	ug/L	MW-78	06/16/2015	ND	8.0000		
Chromium, total	ug/L	MW-78	09/16/2015	ND	8.0000		
Chromium, total	ug/L	MW-78	03/22/2016	ND	8.0000		
Chromium, total	ug/L	MW-78	09/15/2016	ND	8.0000		
Chromium, total	ug/L	MW-78	03/23/2017	ND	8.0000		
Chromium, total	ug/L	MW-78	09/08/2017	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-78	03/19/2018	ND	8.0000		
Chromium, total	ug/L	MW-78	09/11/2018	ND	8.0000		
Chromium, total	ug/L	MW-78	03/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-78	09/04/2019	ND	8.0000		
Chromium, total	ug/L	MW-78	03/26/2020	ND	8.0000		
Chromium, total	ug/L	MW-78	09/15/2020	ND	8.0000		
Chromium, total	ug/L	MW-78	03/02/2021	ND	8.0000		
Chromium, total	ug/L	MW-78	09/07/2021	ND	8.0000		
Chromium, total	ug/L	MW-78	03/24/2022	ND	8.0000		
Chromium, total	ug/L	MW-78	08/31/2022	ND	8.0000		
Chromium, total	ug/L	MW-78	03/02/2023	ND	8.0000		
Chromium, total	ug/L	MW-78	09/12/2023	ND	8.0000		
Chromium, total	ug/L	MW-78	03/04/2024	ND	8.0000		
Chromium, total	ug/L	MW-78	09/23/2024	ND	8.0000		
Cobalt, total	ug/L	MW-78	09/24/2014	ND	0.8000		
Cobalt, total	ug/L	MW-78	12/05/2014	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/11/2015	ND	0.8000		
Cobalt, total	ug/L	MW-78	06/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/22/2016	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/15/2016	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/23/2017	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/08/2017	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/19/2018	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/11/2018	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/26/2019	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/04/2019	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/26/2020	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/15/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	03/02/2021		1.0000		
Cobalt, total	ug/L	MW-78	09/07/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	03/24/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	08/31/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	03/02/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	09/12/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	03/04/2024	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	09/23/2024	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Copper, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Copper, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Copper, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Copper, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Copper, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Copper, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Copper, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Copper, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Copper, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Copper, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Copper, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Copper, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Copper, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Copper, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Copper, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Copper, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Copper, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Copper, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Copper, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Copper, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Copper, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Copper, total	ug/L	MW-78	09/23/2024	ND	4.0000		
Lead, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Lead, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Lead, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Lead, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Lead, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Lead, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Lead, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Lead, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Lead, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Lead, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Lead, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Lead, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Lead, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Lead, total	ug/L	MW-78	03/26/2020	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-78	09/15/2020	ND	4.0000		
Lead, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Lead, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Lead, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Lead, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Lead, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Lead, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Lead, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Lead, total	ug/L	MW-78	09/23/2024	ND	4.0000		
Nickel, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Nickel, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Nickel, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Nickel, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Nickel, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Nickel, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Nickel, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Nickel, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Nickel, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Nickel, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Nickel, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Nickel, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Nickel, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Nickel, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Nickel, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Nickel, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Nickel, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Nickel, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Nickel, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Nickel, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Nickel, total	ug/L	MW-78	09/23/2024	ND	4.0000		
Selenium, total	ug/L	MW-78	09/24/2014		5.4000		
Selenium, total	ug/L	MW-78	12/05/2014		5.6000		
Selenium, total	ug/L	MW-78	03/11/2015		6.5000		
Selenium, total	ug/L	MW-78	06/16/2015		8.6000		
Selenium, total	ug/L	MW-78	09/16/2015		8.1000		
Selenium, total	ug/L	MW-78	03/22/2016		8.9000		
Selenium, total	ug/L	MW-78	09/15/2016		9.4000		
Selenium, total	ug/L	MW-78	03/23/2017		10.6000		
Selenium, total	ug/L	MW-78	09/08/2017		6.9000		
Selenium, total	ug/L	MW-78	03/19/2018		8.3000		
Selenium, total	ug/L	MW-78	09/11/2018		5.6000		
Selenium, total	ug/L	MW-78	03/26/2019		9.5000		
Selenium, total	ug/L	MW-78	09/04/2019		6.8000		
Selenium, total	ug/L	MW-78	03/26/2020		5.4000		
Selenium, total	ug/L	MW-78	09/15/2020		8.5000		
Selenium, total	ug/L	MW-78	03/02/2021		9.4000		
Selenium, total	ug/L	MW-78	09/07/2021		4.9000		
Selenium, total	ug/L	MW-78	03/24/2022		6.3000		
Selenium, total	ug/L	MW-78	08/31/2022		6.2000		
Selenium, total	ug/L	MW-78	03/02/2023		7.9000		
Selenium, total	ug/L	MW-78	09/12/2023		5.8000		
Selenium, total	ug/L	MW-78	03/04/2024		5.7000		
Selenium, total	ug/L	MW-78	09/23/2024		4.1000		
Silver, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Silver, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Silver, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Silver, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Silver, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Silver, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Silver, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Silver, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Silver, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Silver, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Silver, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Silver, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Silver, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Silver, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Silver, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Silver, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Silver, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Silver, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Silver, total	ug/L	MW-78	08/31/2022	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-78	03/02/2023	ND	4.0000		
Silver, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Silver, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Silver, total	ug/L	MW-78	09/23/2024	ND	4.0000		
Thallium, total	ug/L	MW-78	09/24/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	12/05/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/11/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	06/16/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	09/16/2015	ND	1.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/22/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	09/15/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/23/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	09/08/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/19/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	09/11/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-78	09/04/2019	ND	2.0000		
Thallium, total	ug/L	MW-78	03/26/2020	ND	2.0000		
Thallium, total	ug/L	MW-78	09/15/2020	ND	2.0000		
Thallium, total	ug/L	MW-78	03/02/2021	ND	2.0000		
Thallium, total	ug/L	MW-78	09/07/2021	ND	2.0000		
Thallium, total	ug/L	MW-78	03/24/2022	ND	2.0000		
Thallium, total	ug/L	MW-78	08/31/2022	ND	2.0000		
Thallium, total	ug/L	MW-78	03/02/2023	ND	2.0000		
Thallium, total	ug/L	MW-78	09/12/2023	ND	2.0000		
Thallium, total	ug/L	MW-78	03/04/2024	ND	2.0000		
Thallium, total	ug/L	MW-78	09/23/2024	ND	2.0000		
Vanadium, total	ug/L	MW-78	09/24/2014	ND	20.0000		
Vanadium, total	ug/L	MW-78	12/05/2014	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/11/2015	ND	20.0000		
Vanadium, total	ug/L	MW-78	06/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/22/2016	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/15/2016	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/23/2017	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/08/2017	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/19/2018	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/11/2018	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/04/2019	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/26/2020	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/15/2020	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/02/2021	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/07/2021	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/24/2022	ND	20.0000		
Vanadium, total	ug/L	MW-78	08/31/2022	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/02/2023	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/12/2023	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/04/2024	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/23/2024	ND	20.0000		
Zinc, total	ug/L	MW-78	09/24/2014		10.7000		
Zinc, total	ug/L	MW-78	12/05/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	03/11/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	06/16/2015		8.4000		
Zinc, total	ug/L	MW-78	09/16/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	03/22/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	09/15/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	03/23/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	09/08/2017	ND	20.0000		
Zinc, total	ug/L	MW-78	03/19/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	09/11/2018	ND	20.0000		
Zinc, total	ug/L	MW-78	03/26/2019	ND	20.0000		
Zinc, total	ug/L	MW-78	09/04/2019		17.6000		
Zinc, total	ug/L	MW-78	03/26/2020	ND	20.0000		
Zinc, total	ug/L	MW-78	09/15/2020	ND	20.0000		
Zinc, total	ug/L	MW-78	03/02/2021	ND	20.0000		
Zinc, total	ug/L	MW-78	09/07/2021	ND	20.0000		
Zinc, total	ug/L	MW-78	03/24/2022	ND	20.0000		
Zinc, total	ug/L	MW-78	08/31/2022	ND	20.0000		
Zinc, total	ug/L	MW-78	03/02/2023	ND	20.0000		
Zinc, total	ug/L	MW-78	09/12/2023	ND	20.0000		
Zinc, total	ug/L	MW-78	03/04/2024	ND	20.0000		
Zinc, total	ug/L	MW-78	09/23/2024	ND	20.0000		
Antimony, total	ug/L	SW-101	09/14/2016	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	SW-101	03/23/2017	ND	2.0000		
Antimony, total	ug/L	SW-101	09/08/2017	ND	2.0000		
Antimony, total	ug/L	SW-101	03/19/2018	ND	2.0000		
Antimony, total	ug/L	SW-101	09/11/2018	ND	2.0000		
Antimony, total	ug/L	SW-101	03/26/2019	ND	2.0000		
Antimony, total	ug/L	SW-101	09/04/2019	ND	2.0000		
Arsenic, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Arsenic, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Arsenic, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Arsenic, total	ug/L	SW-101	03/19/2018		4.4000		
Arsenic, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Arsenic, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Arsenic, total	ug/L	SW-101	09/04/2019		7.3000		
Barium, total	ug/L	SW-101	09/14/2016		188.0000		
Barium, total	ug/L	SW-101	03/23/2017		233.0000		
Barium, total	ug/L	SW-101	09/08/2017		272.0000		
Barium, total	ug/L	SW-101	03/19/2018		162.0000		
Barium, total	ug/L	SW-101	09/11/2018		127.0000		
Barium, total	ug/L	SW-101	03/26/2019		160.0000		
Barium, total	ug/L	SW-101	09/04/2019		256.0000		
Beryllium, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Beryllium, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Beryllium, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Beryllium, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Beryllium, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Beryllium, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Beryllium, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Cadmium, total	ug/L	SW-101	09/14/2016	ND	0.8000		
Cadmium, total	ug/L	SW-101	03/23/2017	ND	0.8000		
Cadmium, total	ug/L	SW-101	09/08/2017	ND	0.8000		
Cadmium, total	ug/L	SW-101	03/19/2018	ND	0.8000		
Cadmium, total	ug/L	SW-101	09/11/2018	ND	0.8000		
Cadmium, total	ug/L	SW-101	03/26/2019	ND	0.8000		
Cadmium, total	ug/L	SW-101	09/04/2019	ND	0.8000		
Chromium, total	ug/L	SW-101	09/14/2016	ND	8.0000		
Chromium, total	ug/L	SW-101	03/23/2017	ND	8.0000		
Chromium, total	ug/L	SW-101	09/08/2017	ND	8.0000		
Chromium, total	ug/L	SW-101	03/19/2018	ND	8.0000		
Chromium, total	ug/L	SW-101	09/11/2018	ND	8.0000		
Chromium, total	ug/L	SW-101	03/26/2019	ND	8.0000		
Chromium, total	ug/L	SW-101	09/04/2019	ND	8.0000		
Cobalt, total	ug/L	SW-101	09/14/2016		4.5000		
Cobalt, total	ug/L	SW-101	03/23/2017		4.2000		
Cobalt, total	ug/L	SW-101	09/08/2017		6.9000		
Cobalt, total	ug/L	SW-101	03/19/2018		2.3000		
Cobalt, total	ug/L	SW-101	09/11/2018		1.9000		
Cobalt, total	ug/L	SW-101	03/26/2019		1.8000		
Cobalt, total	ug/L	SW-101	09/04/2019		5.9000		
Copper, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Copper, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Copper, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Copper, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Copper, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Copper, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Copper, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Lead, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Lead, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Lead, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Lead, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Lead, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Lead, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Lead, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Nickel, total	ug/L	SW-101	09/14/2016		8.7000		
Nickel, total	ug/L	SW-101	03/23/2017		5.4000		
Nickel, total	ug/L	SW-101	09/08/2017		8.6000		
Nickel, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Nickel, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Nickel, total	ug/L	SW-101	03/26/2019		4.2000		
Nickel, total	ug/L	SW-101	09/04/2019		7.5000		
Selenium, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Selenium, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Selenium, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Selenium, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Selenium, total	ug/L	SW-101	09/11/2018	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	
Selenium, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Selenium, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Silver, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Silver, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Silver, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Silver, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Silver, total	ug/L	SW-101	09/11/2018	ND	8.0000	4.0000	**
Silver, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Silver, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Thallium, total	ug/L	SW-101	09/14/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	03/23/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	09/08/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	03/19/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	09/11/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	03/26/2019	ND	2.0000		
Thallium, total	ug/L	SW-101	09/04/2019	ND	2.0000		
Vanadium, total	ug/L	SW-101	09/14/2016	ND	20.0000		
Vanadium, total	ug/L	SW-101	03/23/2017	ND	20.0000		
Vanadium, total	ug/L	SW-101	09/08/2017	ND	20.0000		
Vanadium, total	ug/L	SW-101	03/19/2018	ND	20.0000		
Vanadium, total	ug/L	SW-101	09/11/2018	ND	20.0000		
Vanadium, total	ug/L	SW-101	03/26/2019	ND	20.0000		
Vanadium, total	ug/L	SW-101	09/04/2019	ND	20.0000		
Zinc, total	ug/L	SW-101	09/14/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	SW-101	03/23/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	SW-101	09/08/2017	ND	20.0000		
Zinc, total	ug/L	SW-101	03/19/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	SW-101	09/11/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	SW-101	03/26/2019	ND	20.0000		
Zinc, total	ug/L	SW-101	09/04/2019	ND	8.0000	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	MW-36	09/23/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-36	09/23/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-36	09/23/2024		125.0000		357.0000
Beryllium, total	ug/L	MW-36	09/23/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-36	09/23/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-36	09/23/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-36	09/23/2024	ND	0.4000		6.9000
Copper, total	ug/L	MW-36	09/23/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-36	09/23/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-36	09/23/2024	ND	4.0000		8.7000
Selenium, total	ug/L	MW-36	09/23/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-36	09/23/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-36	09/23/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-36	09/23/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-36	09/23/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-41	09/23/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-41	09/23/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-41	09/23/2024		69.4000		357.0000
Beryllium, total	ug/L	MW-41	09/23/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-41	09/23/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-41	09/23/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-41	09/23/2024	ND	0.4000		6.9000
Copper, total	ug/L	MW-41	09/23/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-41	09/23/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-41	09/23/2024	ND	4.0000		8.7000
Selenium, total	ug/L	MW-41	09/23/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-41	09/23/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-41	09/23/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-41	09/23/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-41	09/23/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-42	09/23/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-42	09/23/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-42	09/23/2024		19.3000		357.0000
Beryllium, total	ug/L	MW-42	09/23/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-42	09/23/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-42	09/23/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-42	09/23/2024		1.6000		6.9000
Copper, total	ug/L	MW-42	09/23/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-42	09/23/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-42	09/23/2024		4.8000		8.7000
Selenium, total	ug/L	MW-42	09/23/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-42	09/23/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-42	09/23/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-42	09/23/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-42	09/23/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-58	09/23/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-58	09/23/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-58	09/23/2024		20.9000		357.0000
Beryllium, total	ug/L	MW-58	09/23/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-58	09/23/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-58	09/23/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-58	09/23/2024	ND	0.4000		6.9000
Copper, total	ug/L	MW-58	09/23/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-58	09/23/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-58	09/23/2024		12.6000	***	8.7000
Selenium, total	ug/L	MW-58	09/23/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-58	09/23/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-58	09/23/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-58	09/23/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-58	09/23/2024		21.0000		32.3000
Antimony, total	ug/L	MW-59	09/23/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-59	09/23/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-59	09/23/2024		25.2000		357.0000
Beryllium, total	ug/L	MW-59	09/23/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-59	09/23/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-59	09/23/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-59	09/23/2024	ND	0.4000		6.9000
Copper, total	ug/L	MW-59	09/23/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-59	09/23/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-59	09/23/2024	ND	4.0000		8.7000
Selenium, total	ug/L	MW-59	09/23/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-59	09/23/2024	ND	4.0000		6.4000

* - 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-59	09/23/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-59	09/23/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-59	09/23/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-60	09/23/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-60	09/23/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-60	09/23/2024		238.0000		357.0000
Beryllium, total	ug/L	MW-60	09/23/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-60	09/23/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-60	09/23/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-60	09/23/2024		1.3000		6.9000
Copper, total	ug/L	MW-60	09/23/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-60	09/23/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-60	09/23/2024		29.2000	*	8.7000
Selenium, total	ug/L	MW-60	09/23/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-60	09/23/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-60	09/23/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-60	09/23/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-60	09/23/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-61	09/23/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-61	09/23/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-61	09/23/2024		51.7000		357.0000
Beryllium, total	ug/L	MW-61	09/23/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-61	09/23/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-61	09/23/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-61	09/23/2024	ND	0.4000		6.9000
Copper, total	ug/L	MW-61	09/23/2024		5.0000	*	4.0000
Lead, total	ug/L	MW-61	09/23/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-61	09/23/2024		5.6000		8.7000
Selenium, total	ug/L	MW-61	09/23/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-61	09/23/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-61	09/23/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-61	09/23/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-61	09/23/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-62R	09/23/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-62R	09/23/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-62R	09/23/2024		945.0000	***	357.0000
Beryllium, total	ug/L	MW-62R	09/23/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-62R	09/23/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-62R	09/23/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-62R	09/23/2024	ND	0.4000		6.9000
Copper, total	ug/L	MW-62R	09/23/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-62R	09/23/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-62R	09/23/2024	ND	4.0000		8.7000
Selenium, total	ug/L	MW-62R	09/23/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-62R	09/23/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-62R	09/23/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-62R	09/23/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-62R	09/23/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-79	09/23/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-79	09/23/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-79	09/23/2024		64.7000		357.0000
Beryllium, total	ug/L	MW-79	09/23/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-79	09/23/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-79	09/23/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-79	09/23/2024	ND	0.4000		6.9000
Copper, total	ug/L	MW-79	09/23/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-79	09/23/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-79	09/23/2024	ND	4.0000		8.7000
Selenium, total	ug/L	MW-79	09/23/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-79	09/23/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-79	09/23/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-79	09/23/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-79	09/23/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-80	09/23/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-80	09/23/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-80	09/23/2024		135.0000		357.0000
Beryllium, total	ug/L	MW-80	09/23/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-80	09/23/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-80	09/23/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-80	09/23/2024		0.8000		6.9000
Copper, total	ug/L	MW-80	09/23/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-80	09/23/2024	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
Nickel, total	ug/L	MW-80	09/23/2024	ND	4.0000		8.7000
Selenium, total	ug/L	MW-80	09/23/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-80	09/23/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-80	09/23/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-80	09/23/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-80	09/23/2024	ND	20.0000		32.3000
Antimony, total	ug/L	SW-101R	09/23/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	SW-101R	09/23/2024		4.7000		7.3000
Barium, total	ug/L	SW-101R	09/23/2024		236.0000		357.0000
Beryllium, total	ug/L	SW-101R	09/23/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	SW-101R	09/23/2024	ND	0.8000		0.8000
Chromium, total	ug/L	SW-101R	09/23/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	SW-101R	09/23/2024		3.9000		6.9000
Copper, total	ug/L	SW-101R	09/23/2024	ND	4.0000		4.0000
Lead, total	ug/L	SW-101R	09/23/2024	ND	4.0000		4.0000
Nickel, total	ug/L	SW-101R	09/23/2024		4.7000		8.7000
Selenium, total	ug/L	SW-101R	09/23/2024	ND	4.0000		10.6000
Silver, total	ug/L	SW-101R	09/23/2024	ND	4.0000		6.4000
Thallium, total	ug/L	SW-101R	09/23/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	SW-101R	09/23/2024	ND	20.0000		20.0000
Zinc, total	ug/L	SW-101R	09/23/2024	ND	20.0000		32.3000

* - 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	76	0.000	2	305	0.007
Arsenic, total	2	76	0.026	30	305	0.098
Barium, total	76	76	1.000	304	304	1.000
Beryllium, total	0	76	0.000	3	304	0.010
Cadmium, total	0	76	0.000	13	304	0.043
Chromium, total	0	76	0.000	13	305	0.043
Cobalt, total	12	76	0.158	98	309	0.317
Copper, total	0	76	0.000	57	308	0.185
Lead, total	0	76	0.000	20	304	0.066
Nickel, total	5	76	0.066	172	309	0.557
Selenium, total	23	76	0.303	23	304	0.076
Silver, total	1	76	0.013	1	304	0.003
Thallium, total	1	76	0.013	0	304	0.000
Vanadium, total	0	76	0.000	11	305	0.036
Zinc, total	5	76	0.066	77	306	0.252

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	76	0.000									nonpar
Arsenic, total	2	76	0.026									nonpar
Barium, total	76	76	1.000	2.661	2.898					2.326	non-norm	nonpar
Beryllium, total	0	76	0.000									nonpar
Cadmium, total	0	76	0.000									nonpar
Chromium, total	0	76	0.000									nonpar
Cobalt, total	12	76	0.158	0.421	0.600					2.326	normal	nonpar
Copper, total	0	76	0.000									nonpar
Lead, total	0	76	0.000									nonpar
Nickel, total	5	76	0.066	0.460	0.593					2.326	normal	nonpar
Selenium, total	23	76	0.303	0.468	0.181					2.326	normal	nonpar
Silver, total	1	76	0.013									nonpar
Thallium, total	1	76	0.013									nonpar
Vanadium, total	0	76	0.000									nonpar
Zinc, total	5	76	0.066	0.090	0.311					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	76					2.0000	nonpar	***	0.99
Arsenic, total	ug/L	2	76					7.3000	nonpar		0.99
Barium, total	ug/L	76	76					357.0000	nonpar		0.99
Beryllium, total	ug/L	0	76					4.0000	nonpar	***	0.99
Cadmium, total	ug/L	0	76					0.8000	nonpar	***	0.99
Chromium, total	ug/L	0	76					8.0000	nonpar	***	0.99
Cobalt, total	ug/L	12	76					6.9000	nonpar		0.99
Copper, total	ug/L	0	76					4.0000	nonpar	***	0.99
Lead, total	ug/L	0	76					4.0000	nonpar	***	0.99
Nickel, total	ug/L	5	76					8.7000	nonpar		0.99
Selenium, total	ug/L	23	76					10.6000	nonpar		0.99
Silver, total	ug/L	1	76					6.4000	nonpar		0.99
Thallium, total	ug/L	1	76					2.4000	nonpar		0.99
Vanadium, total	ug/L	0	76					20.0000	nonpar	***	0.99
Zinc, total	ug/L	5	76					32.3000	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
1% 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
Nickel, total	ug/L	MW-58	09/27/2010		13.2000	*	8.7000
Nickel, total	ug/L	MW-58	03/23/2011		67.5000	*	8.7000
Nickel, total	ug/L	MW-58	09/08/2011		17.6000	*	8.7000
Nickel, total	ug/L	MW-58	03/09/2012		31.4000	*	8.7000
Nickel, total	ug/L	MW-58	09/25/2012		24.1000	*	8.7000
Nickel, total	ug/L	MW-58	03/15/2013		12.4000	*	8.7000
Nickel, total	ug/L	MW-58	09/25/2013		17.2000	*	8.7000
Nickel, total	ug/L	MW-58	03/25/2014		12.8000	*	8.7000
Nickel, total	ug/L	MW-58	09/24/2014		6.5000		8.7000
Nickel, total	ug/L	MW-58	03/11/2015		8.7000		8.7000
Nickel, total	ug/L	MW-58	09/17/2015		12.8000	*	8.7000
Nickel, total	ug/L	MW-58	03/22/2016		21.2000	*	8.7000
Nickel, total	ug/L	MW-58	09/15/2016		13.3000	*	8.7000
Nickel, total	ug/L	MW-58	03/23/2017		23.8000	*	8.7000
Nickel, total	ug/L	MW-58	09/08/2017		21.1000	*	8.7000
Nickel, total	ug/L	MW-58	03/19/2018		25.5000	*	8.7000
Nickel, total	ug/L	MW-58	09/11/2018		18.4000	*	8.7000
Nickel, total	ug/L	MW-58	12/05/2018		18.4000	*	8.7000
Nickel, total	ug/L	MW-58	03/26/2019		22.9000	*	8.7000
Nickel, total	ug/L	MW-58	09/04/2019		4.3000		8.7000
Nickel, total	ug/L	MW-58	03/26/2020		19.9000	*	8.7000
Nickel, total	ug/L	MW-58	09/15/2020		17.7000	*	8.7000
Nickel, total	ug/L	MW-58	03/02/2021		14.7000	*	8.7000
Nickel, total	ug/L	MW-58	09/07/2021		16.3000	*	8.7000
Nickel, total	ug/L	MW-58	03/24/2022		18.3000	*	8.7000
Nickel, total	ug/L	MW-58	08/31/2022		14.7000	*	8.7000
Nickel, total	ug/L	MW-58	03/02/2023		15.5000	*	8.7000
Nickel, total	ug/L	MW-58	09/12/2023		13.9000	*	8.7000
Nickel, total	ug/L	MW-58	03/04/2024		16.7000	*	8.7000
Nickel, total	ug/L	MW-58	09/23/2024		12.6000	*	8.7000
Nickel, total	ug/L	MW-60	09/28/2010		16.9000	*	8.7000
Nickel, total	ug/L	MW-60	03/23/2011		19.7000	*	8.7000
Nickel, total	ug/L	MW-60	09/08/2011		21.4000	*	8.7000
Nickel, total	ug/L	MW-60	03/09/2012		24.4000	*	8.7000
Nickel, total	ug/L	MW-60	09/25/2012		18.0000	*	8.7000
Nickel, total	ug/L	MW-60	03/15/2013		6.8000		8.7000
Nickel, total	ug/L	MW-60	09/24/2013		26.6000	*	8.7000
Nickel, total	ug/L	MW-60	03/25/2014		14.6000	*	8.7000
Nickel, total	ug/L	MW-60	09/24/2014		7.0000		8.7000
Nickel, total	ug/L	MW-60	03/11/2015	ND	4.0000		8.7000
Nickel, total	ug/L	MW-60	09/17/2015		13.6000	*	8.7000
Nickel, total	ug/L	MW-60	12/17/2015	ND	4.0000		8.7000
Nickel, total	ug/L	MW-60	03/22/2016		7.9000		8.7000
Nickel, total	ug/L	MW-60	09/15/2016		17.3000	*	8.7000
Nickel, total	ug/L	MW-60	03/23/2017	ND	4.0000		8.7000
Nickel, total	ug/L	MW-60	09/08/2017		7.5000		8.7000
Nickel, total	ug/L	MW-60	03/19/2018	ND	4.0000		8.7000
Nickel, total	ug/L	MW-60	09/11/2018	ND	4.0000		8.7000
Nickel, total	ug/L	MW-60	03/26/2019		15.2000	*	8.7000
Nickel, total	ug/L	MW-60	09/04/2019		24.8000	*	8.7000
Nickel, total	ug/L	MW-60	03/26/2020		19.4000	*	8.7000
Nickel, total	ug/L	MW-60	09/15/2020		34.4000	*	8.7000
Nickel, total	ug/L	MW-60	03/02/2021		22.0000	*	8.7000
Nickel, total	ug/L	MW-60	09/07/2021		30.1000	*	8.7000
Nickel, total	ug/L	MW-60	03/24/2022		18.2000	*	8.7000
Nickel, total	ug/L	MW-60	08/31/2022		45.7000	*	8.7000
Nickel, total	ug/L	MW-60	03/02/2023		11.5000	*	8.7000
Nickel, total	ug/L	MW-60	09/12/2023		26.4000	*	8.7000
Nickel, total	ug/L	MW-60	03/04/2024	ND	4.0000		8.7000
Nickel, total	ug/L	MW-60	09/23/2024		29.2000	*	8.7000
Copper, total	ug/L	MW-61	09/28/2010		5.8000	*	4.0000
Copper, total	ug/L	MW-61	03/23/2011	ND	5.0000		4.0000
Copper, total	ug/L	MW-61	09/08/2011	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	03/09/2012	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	09/25/2012	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	03/15/2013	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	09/25/2013		10.5000	*	4.0000
Copper, total	ug/L	MW-61	03/25/2014		4.2000	*	4.0000
Copper, total	ug/L	MW-61	09/24/2014	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	03/11/2015	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	09/17/2015		13.1000	*	4.0000

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

Table 8

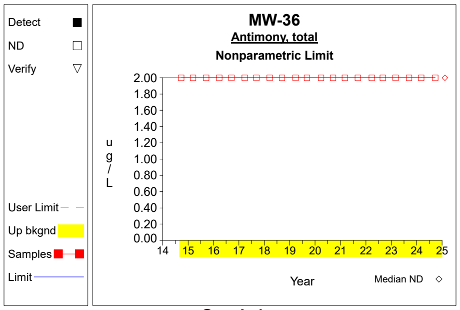
Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

Constituent	Units	Well	Date		Result		Pred. Limit
Copper, total	ug/L	MW-61	12/17/2015	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	03/22/2016	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	09/15/2016	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	03/23/2017	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	09/08/2017	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	03/19/2018	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	09/11/2018	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	03/26/2019	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	09/04/2019	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	03/26/2020	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	09/15/2020	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	03/02/2021	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	09/07/2021	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	03/24/2022	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	08/31/2022	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	03/02/2023	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	09/12/2023	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	03/04/2024	ND	4.0000		4.0000
Copper, total	ug/L	MW-61	09/23/2024		5.0000	*	4.0000
Barium, total	ug/L	MW-62R	09/28/2010		775.0000	*	357.0000
Barium, total	ug/L	MW-62R	12/22/2010		805.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/23/2011		688.0000	*	357.0000
Barium, total	ug/L	MW-62R	05/17/2011		716.0000	*	357.0000
Barium, total	ug/L	MW-62R	07/14/2011		615.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/08/2011		706.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/09/2012		651.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/25/2012		612.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/15/2013		685.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/24/2013		925.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/25/2014		706.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/24/2014		833.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/11/2015		773.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/16/2015		802.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/22/2016		817.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/15/2016		784.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/23/2017		831.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/08/2017		864.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/19/2018		858.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/11/2018		816.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/26/2019		891.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/04/2019		917.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/26/2020		1060.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/15/2020		1070.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/02/2021		1010.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/07/2021		1060.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/24/2022		1020.0000	*	357.0000
Barium, total	ug/L	MW-62R	08/31/2022		1060.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/02/2023		1170.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/12/2023		1050.0000	*	357.0000
Barium, total	ug/L	MW-62R	03/04/2024		1010.0000	*	357.0000
Barium, total	ug/L	MW-62R	09/23/2024		945.0000	*	357.0000

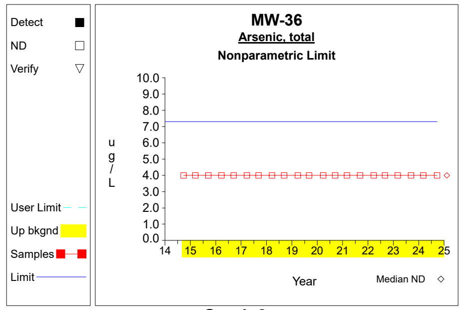
* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

Newton [GW] October 2024

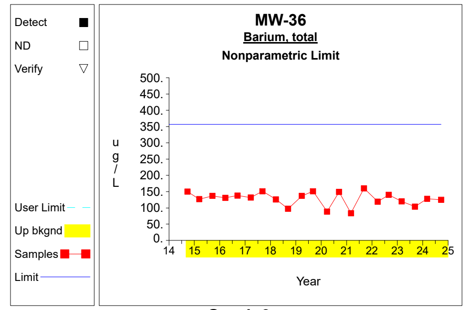
Up vs. Down Prediction Limits



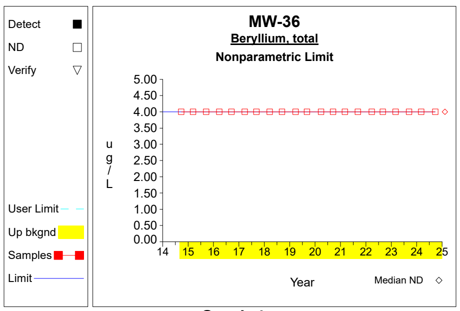
Graph 1



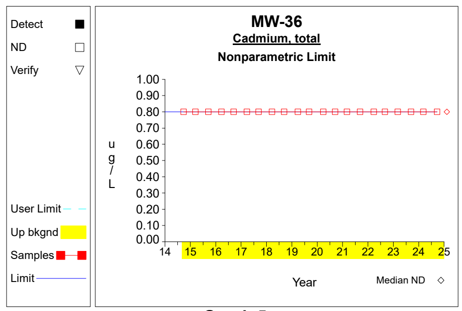
Graph 2



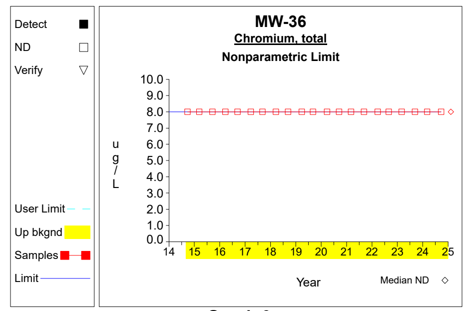
Graph 3



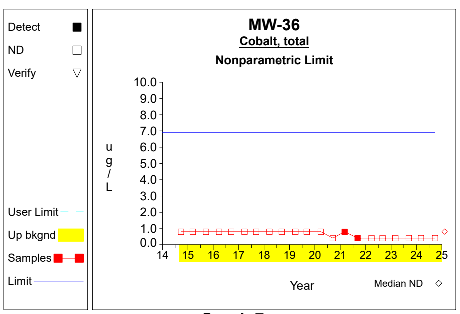
Graph 4



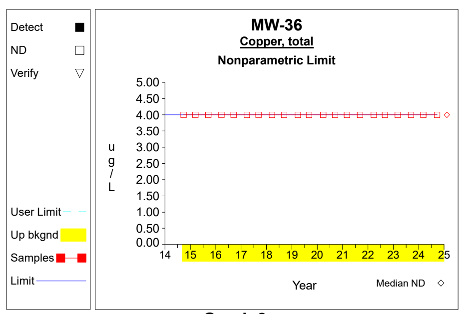
Graph 5



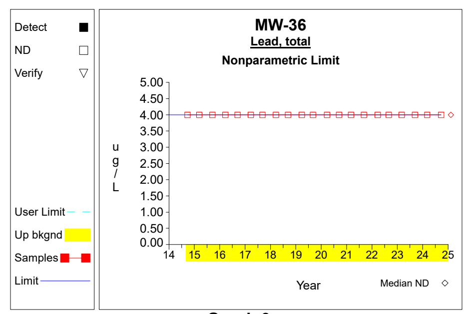
Graph 6



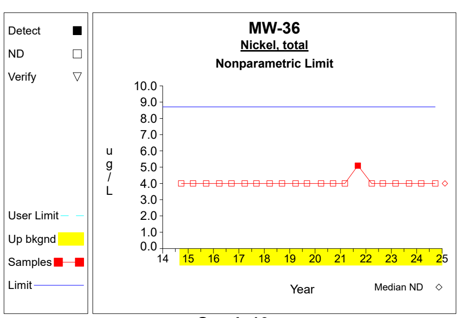
Graph 7



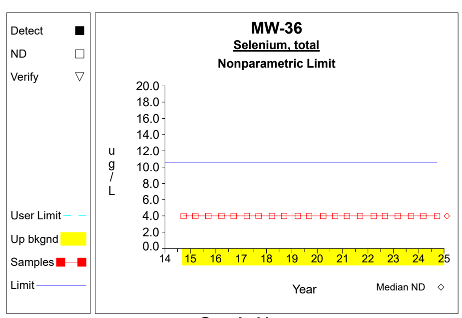
Graph 8



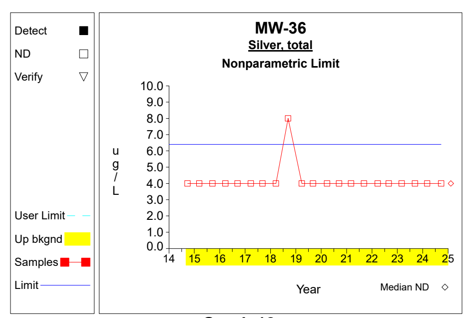
Graph 9



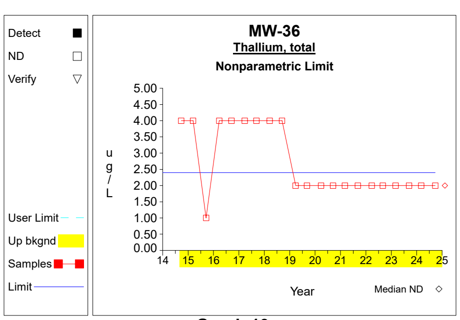
Graph 10



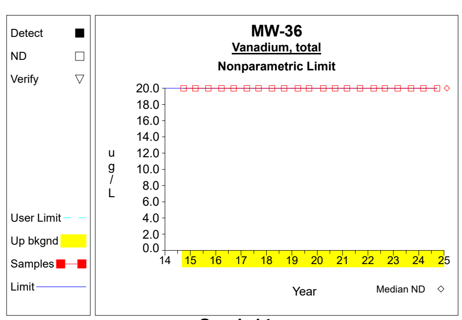
Graph 11



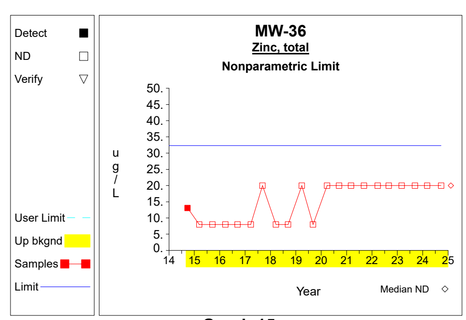
Graph 12



Graph 13



Graph 14

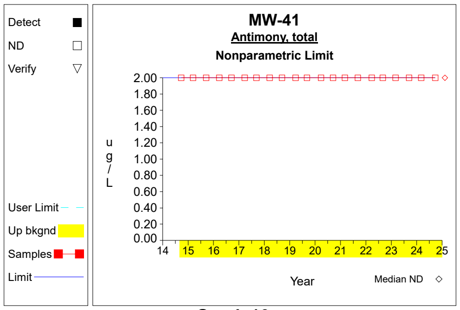


Graph 15

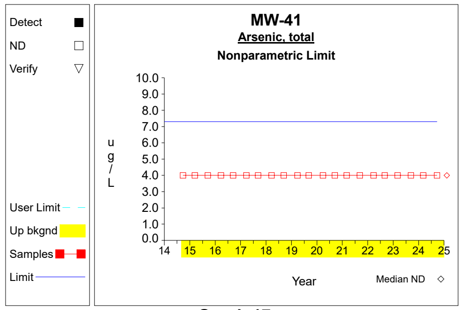
Prepared by: Otter Creek Environmental

Newton [GW] October 2024

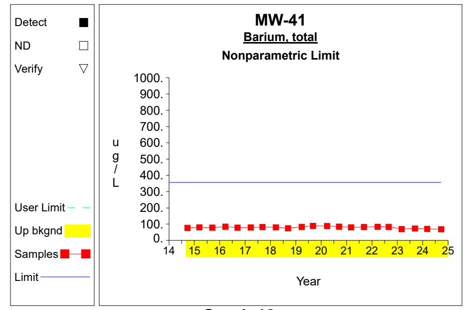
Up vs. Down Prediction Limits



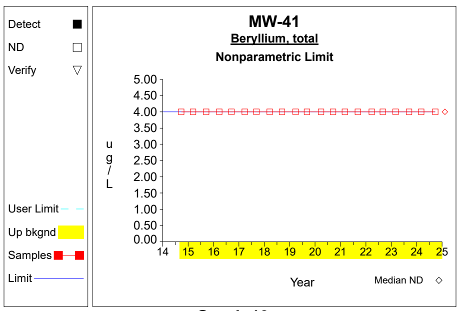
Graph 16



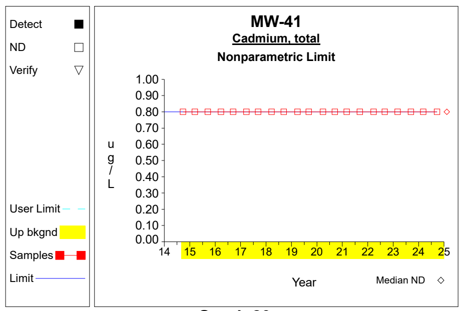
Graph 17



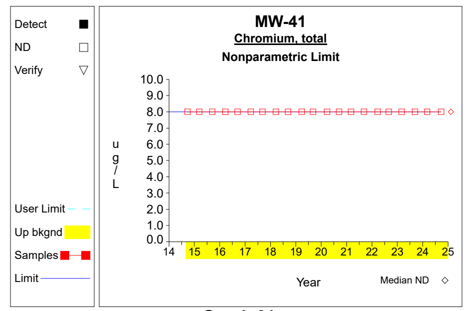
Graph 18



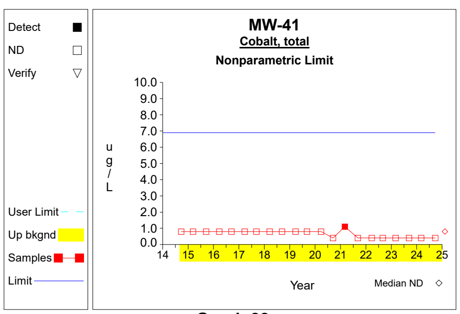
Graph 19



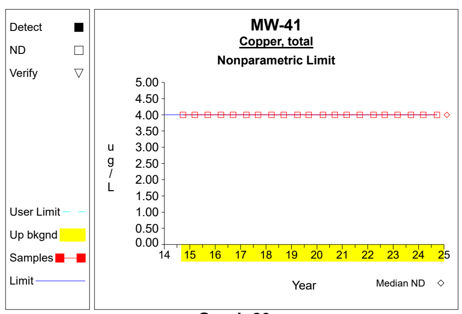
Graph 20



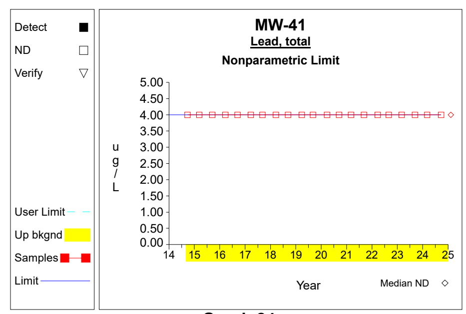
Graph 21



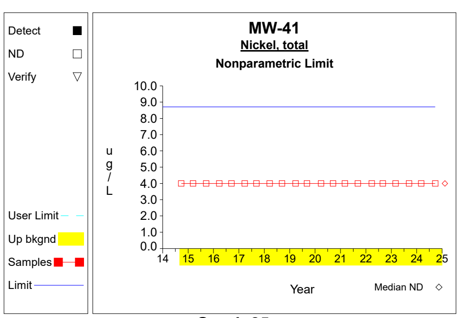
Graph 22



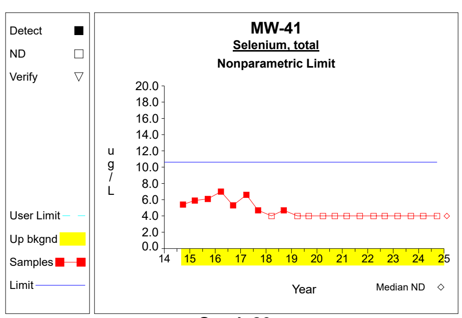
Graph 23



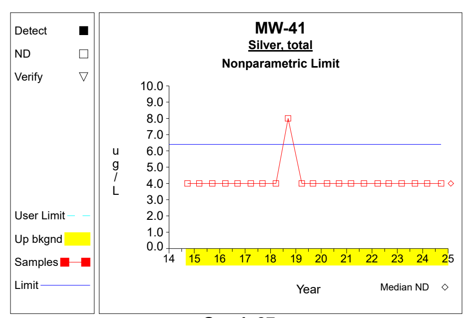
Graph 24



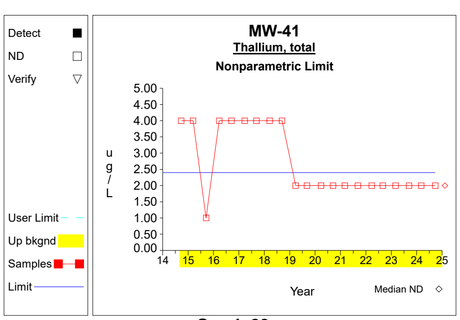
Graph 25



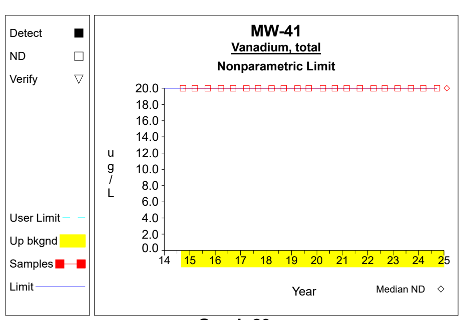
Graph 26



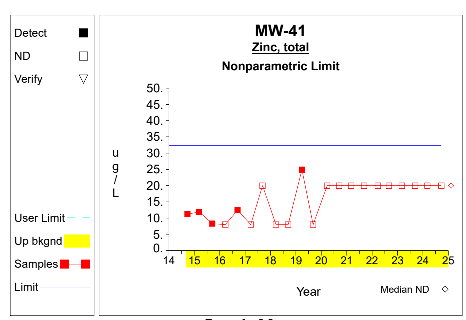
Graph 27



Graph 28



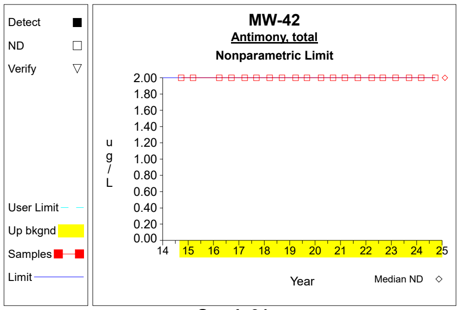
Graph 29



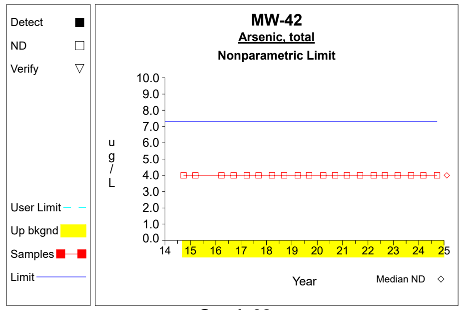
Graph 30

Prepared by: Otter Creek Environmental

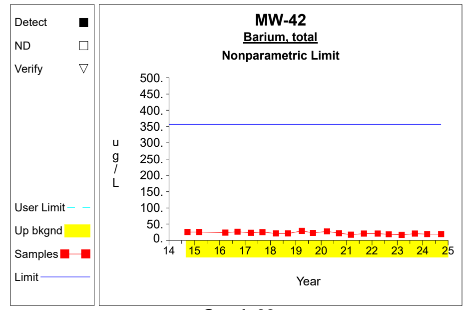
Up vs. Down Prediction Limits



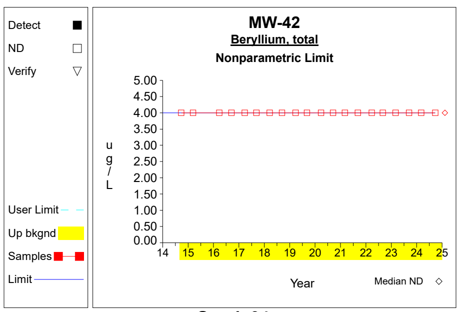
Graph 31



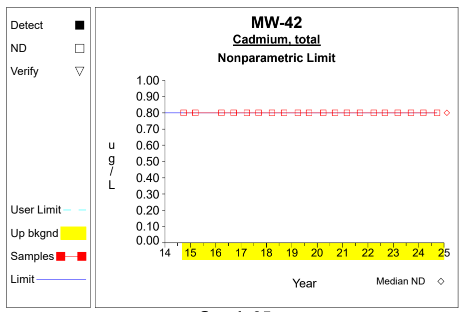
Graph 32



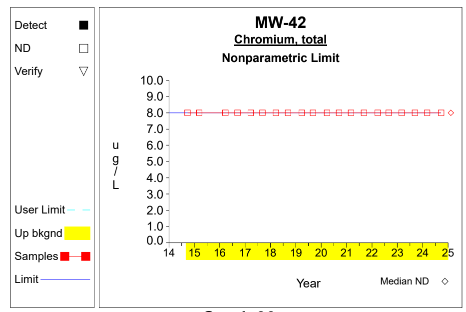
Graph 33



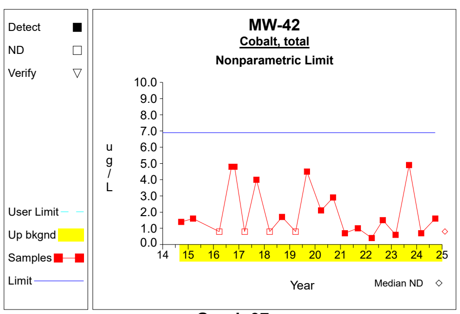
Graph 34



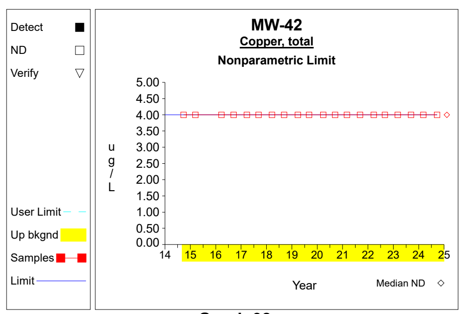
Graph 35



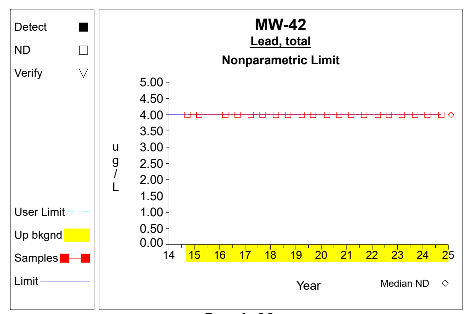
Graph 36



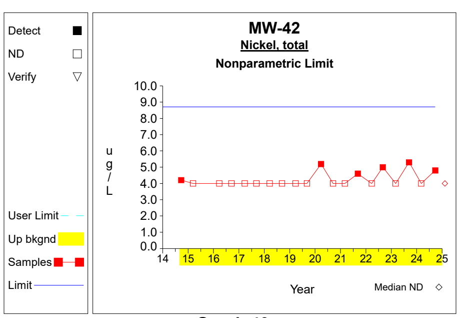
Graph 37



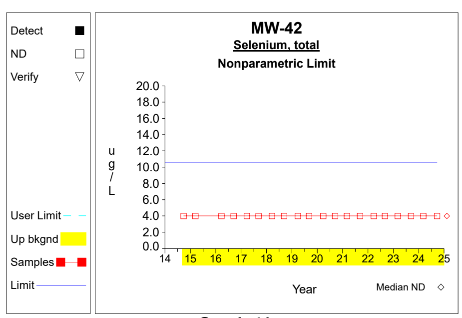
Graph 38



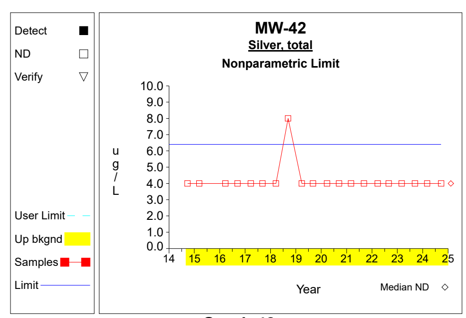
Graph 39



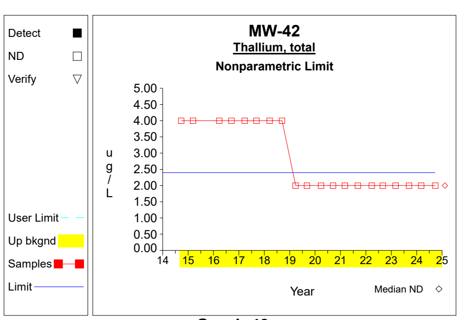
Graph 40



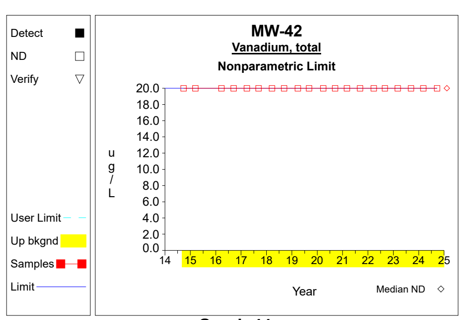
Graph 41



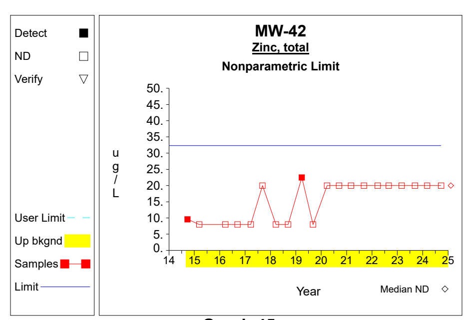
Graph 42



Graph 43

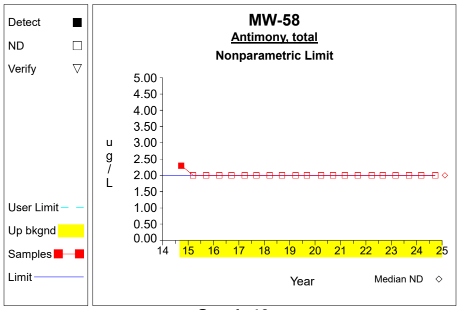


Graph 44

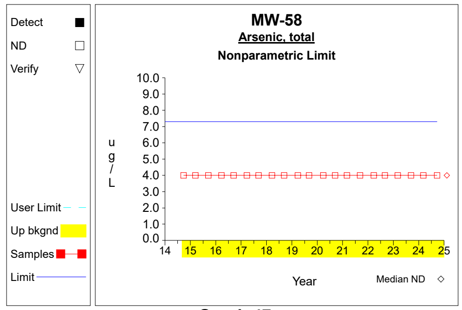


Graph 45

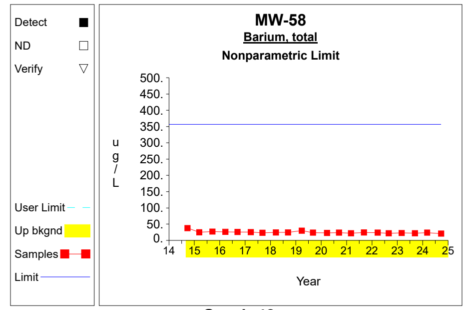
Up vs. Down Prediction Limits



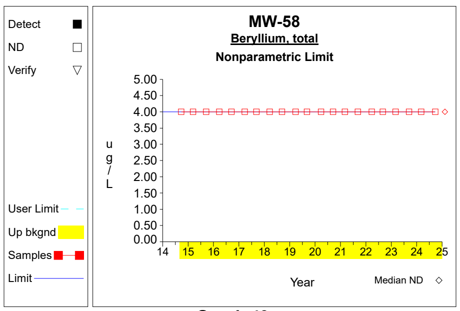
Graph 46



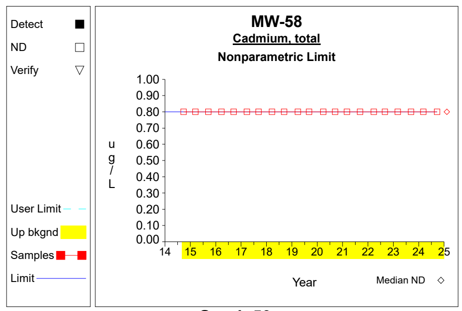
Graph 47



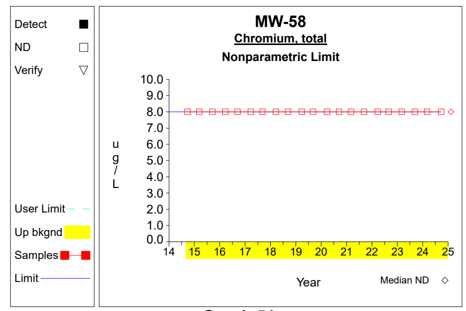
Graph 48



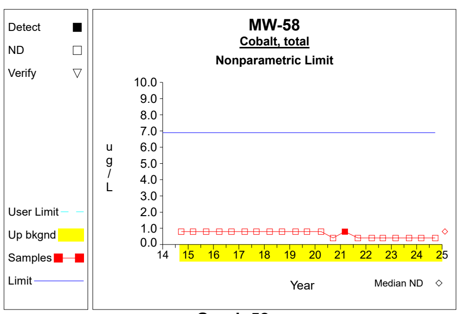
Graph 49



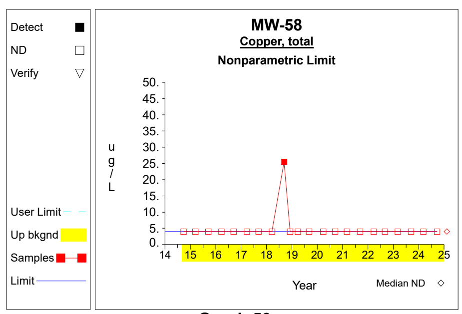
Graph 50



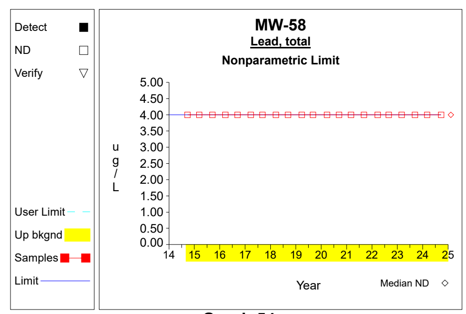
Graph 51



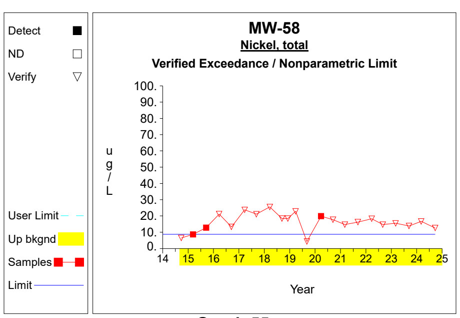
Graph 52



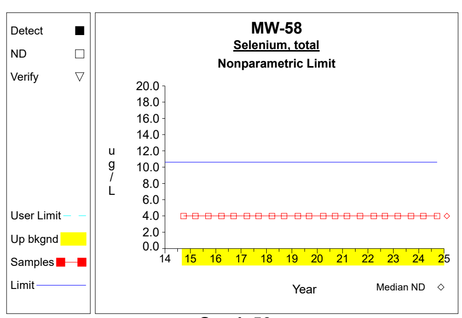
Graph 53



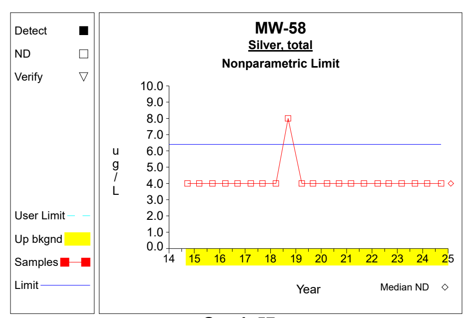
Graph 54



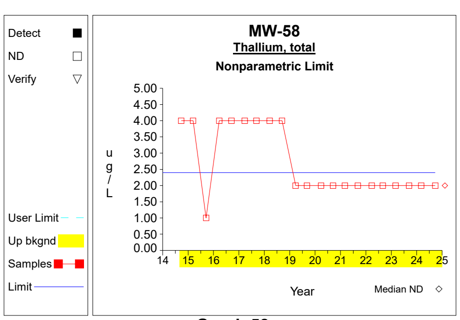
Graph 55



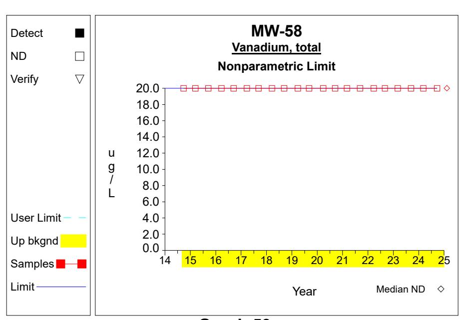
Graph 56



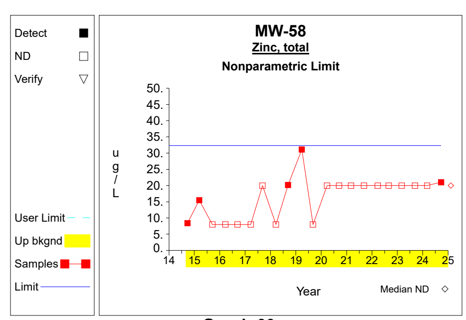
Graph 57



Graph 58



Graph 59

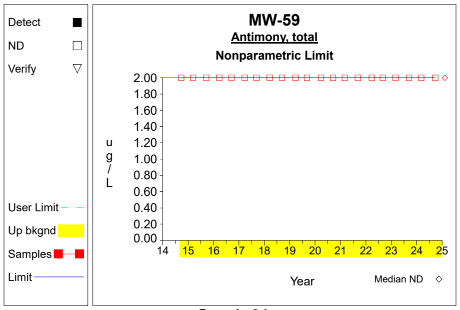


Graph 60

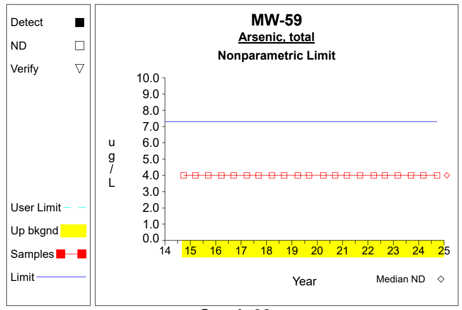
Prepared by: Otter Creek Environmental

Newton [GW] October 2024

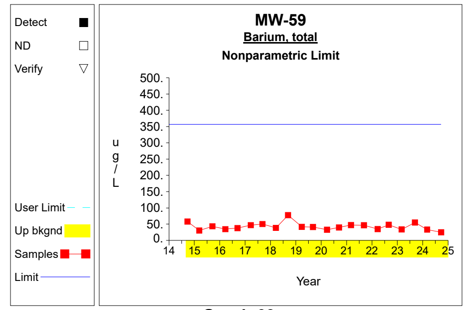
Up vs. Down Prediction Limits



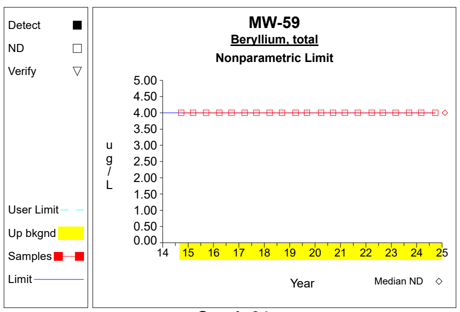
Graph 61



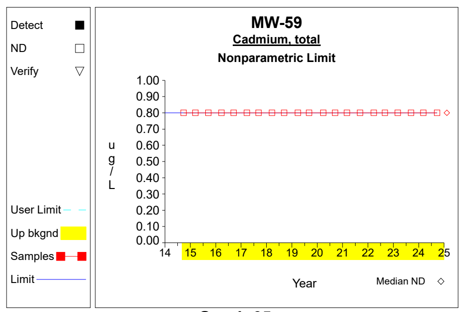
Graph 62



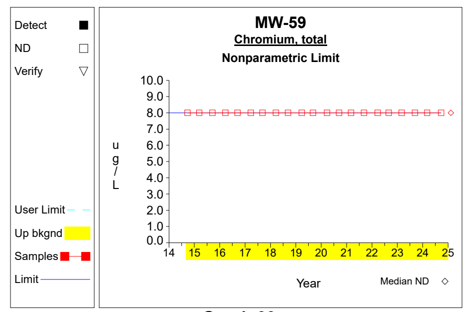
Graph 63



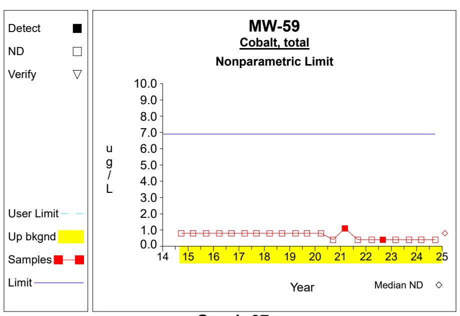
Graph 64



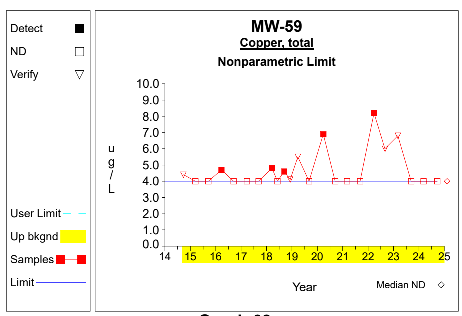
Graph 65



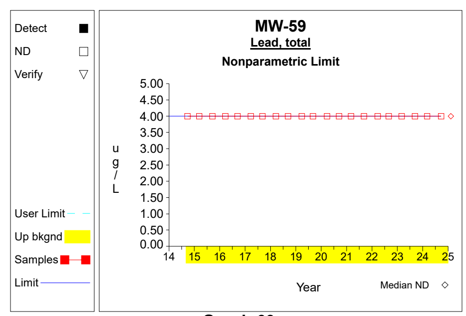
Graph 66



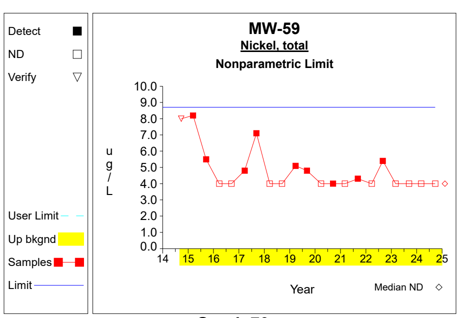
Graph 67



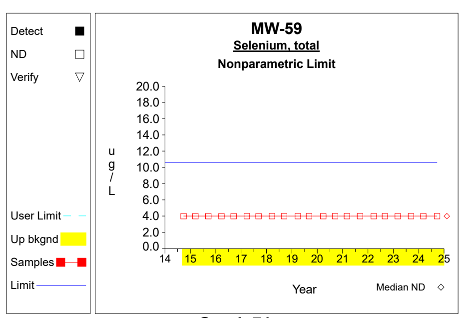
Graph 68



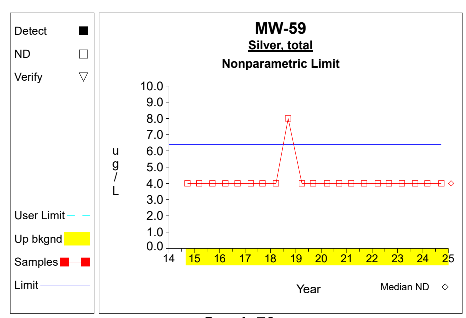
Graph 69



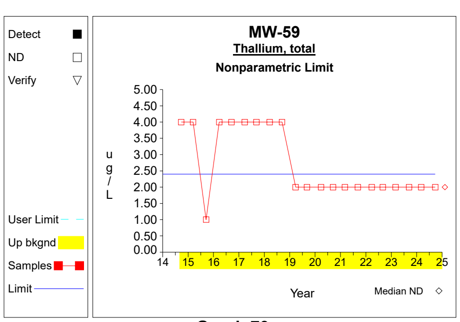
Graph 70



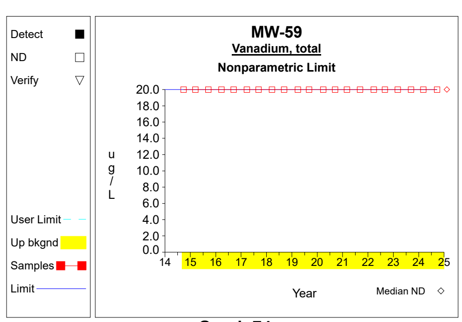
Graph 71



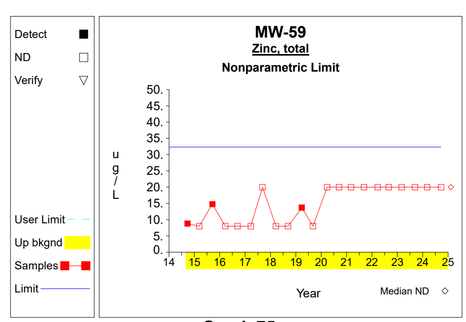
Graph 72



Graph 73



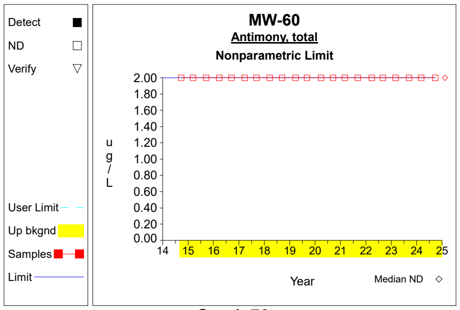
Graph 74



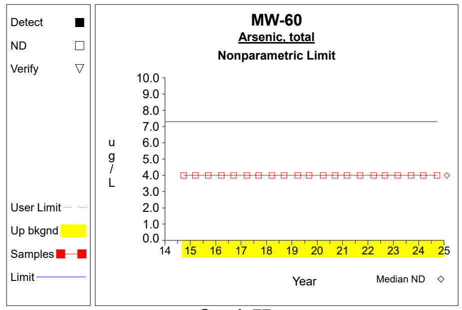
Graph 75

Prepared by: Otter Creek Environmental

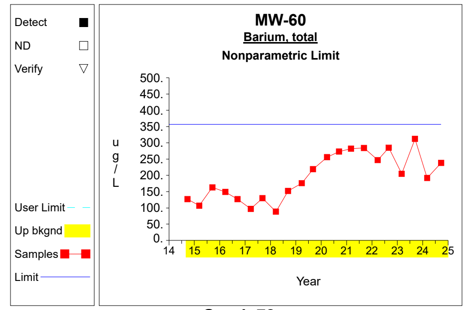
Up vs. Down Prediction Limits



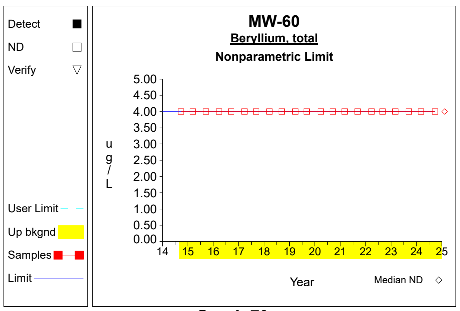
Graph 76



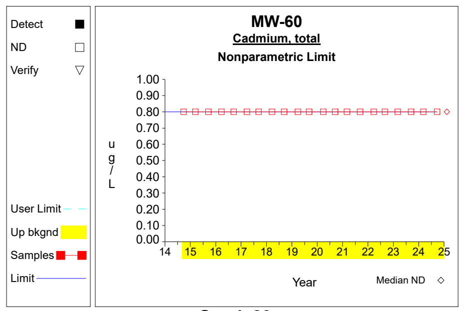
Graph 77



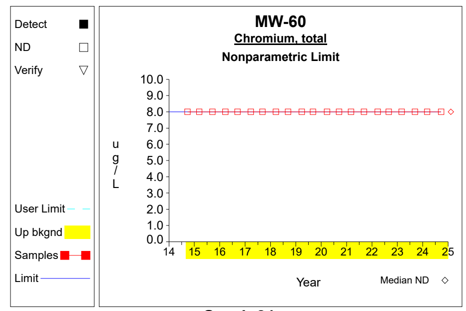
Graph 78



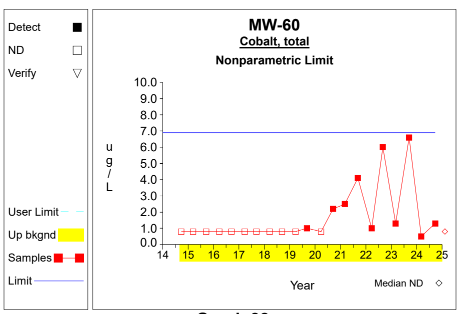
Graph 79



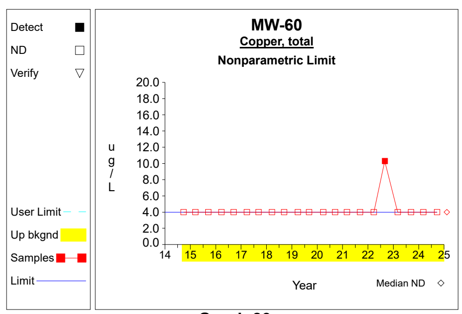
Graph 80



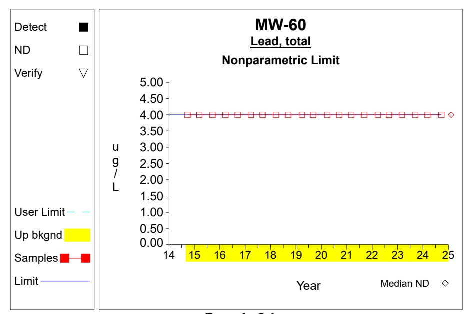
Graph 81



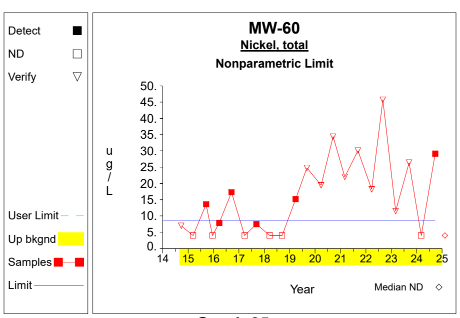
Graph 82



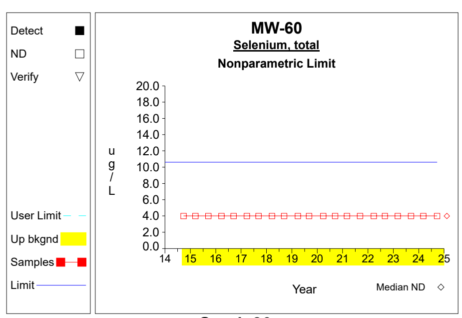
Graph 83



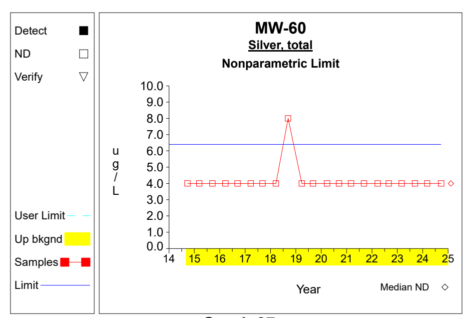
Graph 84



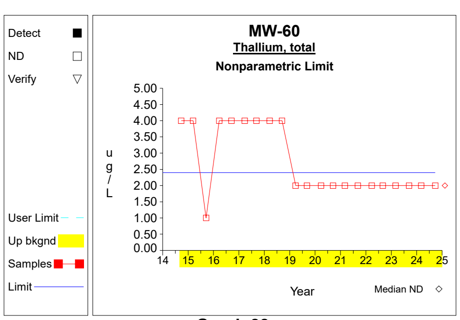
Graph 85



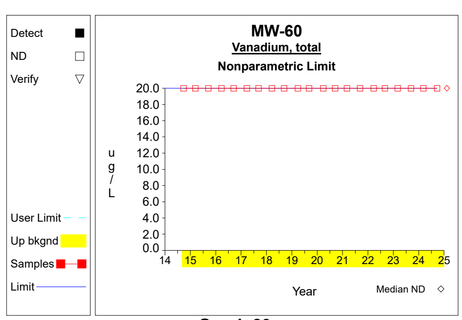
Graph 86



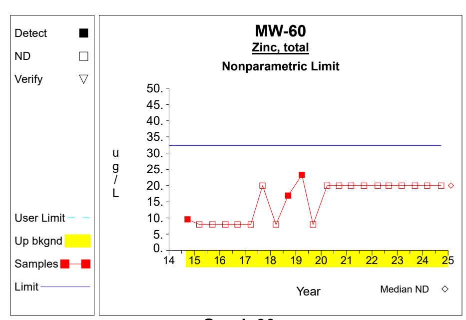
Graph 87



Graph 88



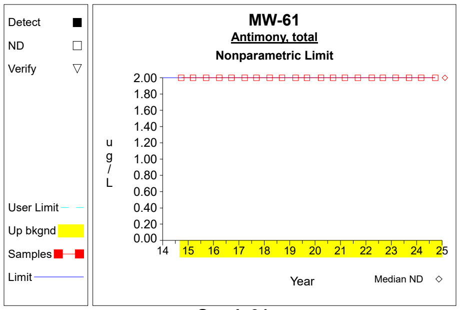
Graph 89



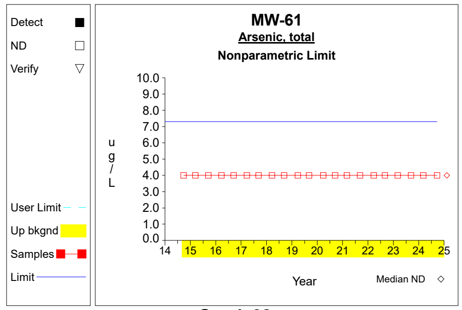
Graph 90

Newton [GW] October 2024

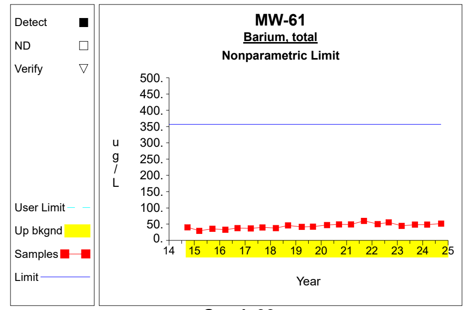
Up vs. Down Prediction Limits



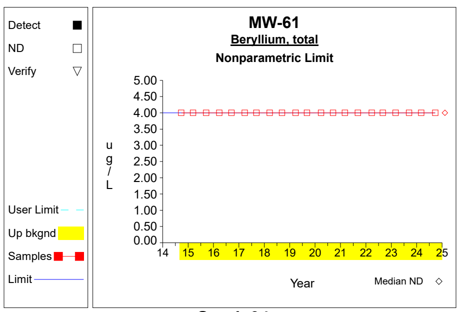
Graph 91



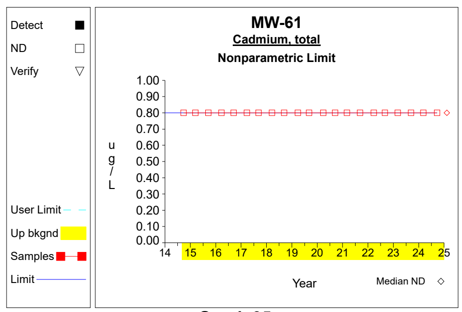
Graph 92



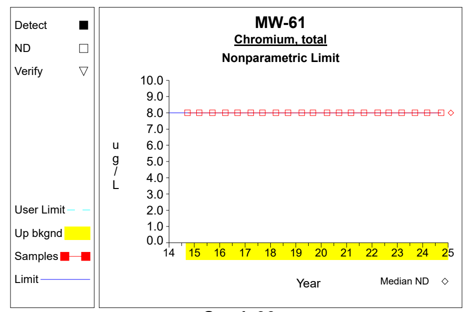
Graph 93



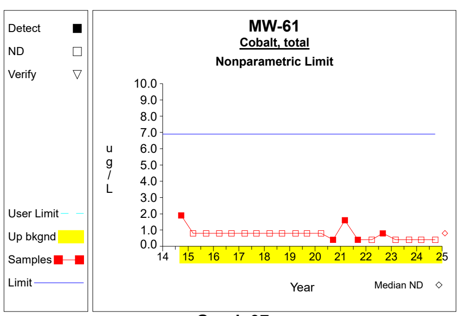
Graph 94



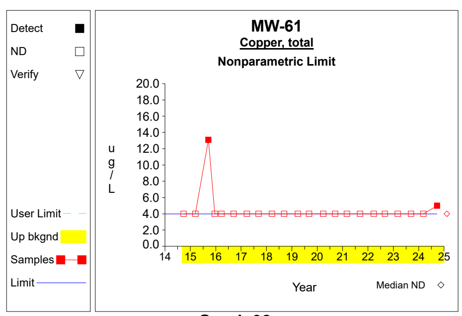
Graph 95



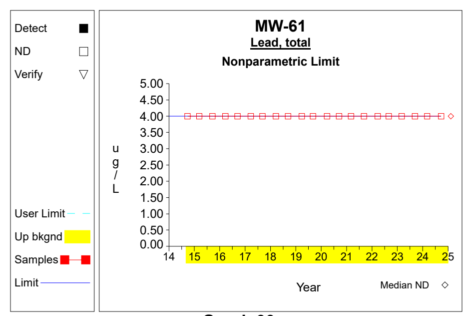
Graph 96



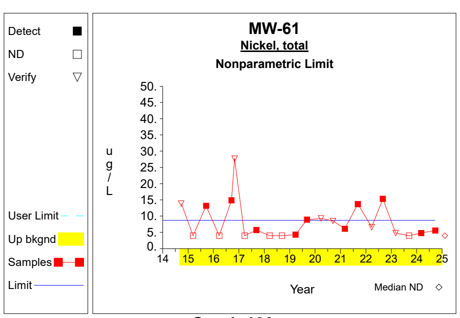
Graph 97



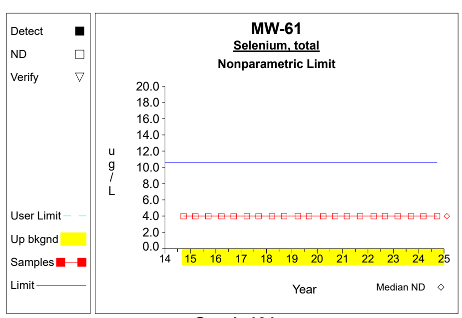
Graph 98



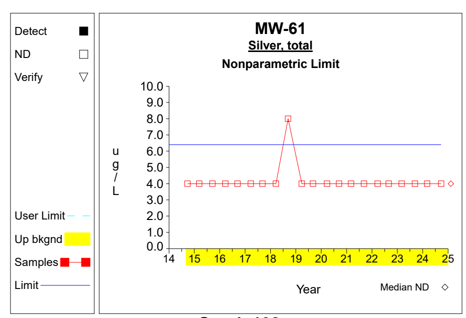
Graph 99



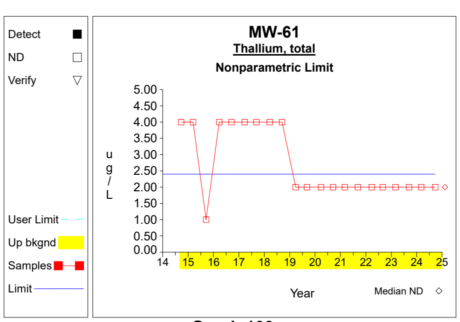
Graph 100



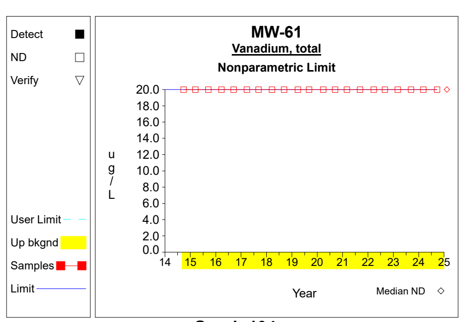
Graph 101



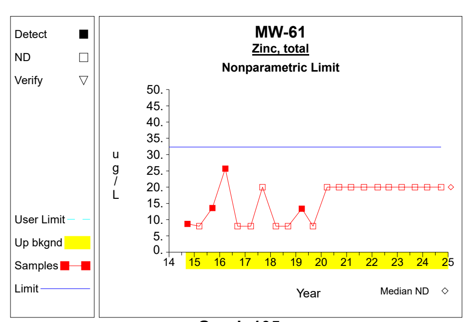
Graph 102



Graph 103



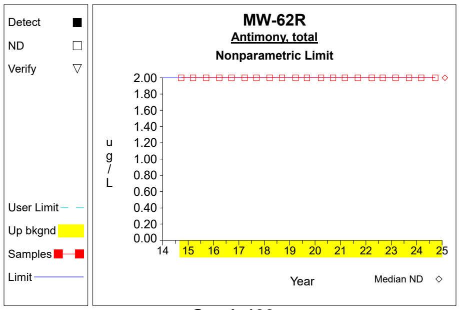
Graph 104



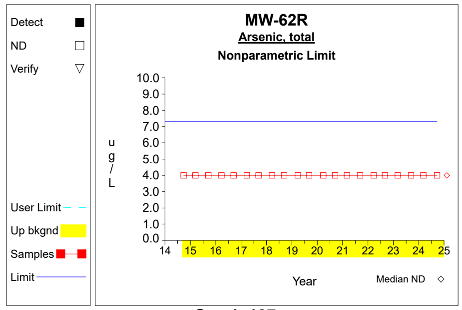
Graph 105

Prepared by: Otter Creek Environmental

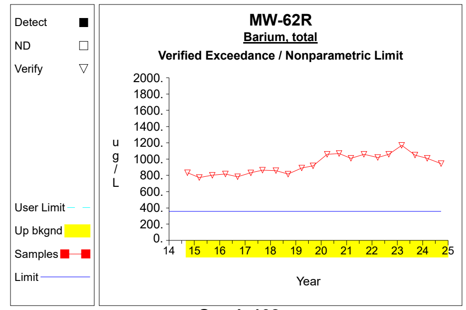
Up vs. Down Prediction Limits



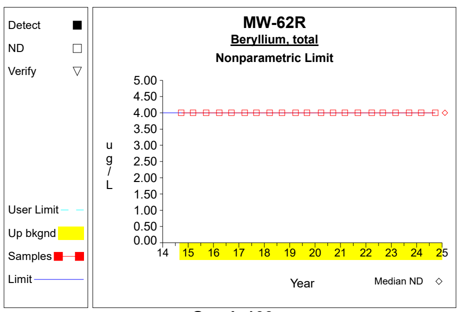
Graph 106



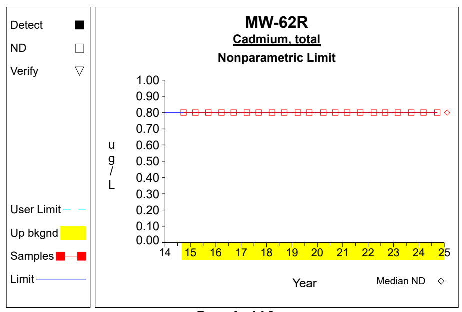
Graph 107



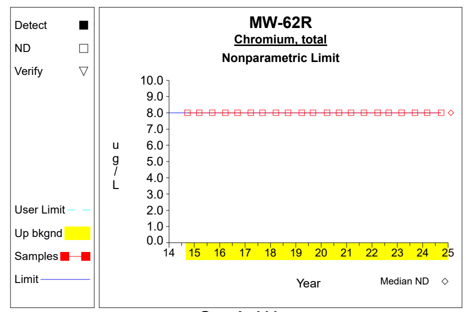
Graph 108



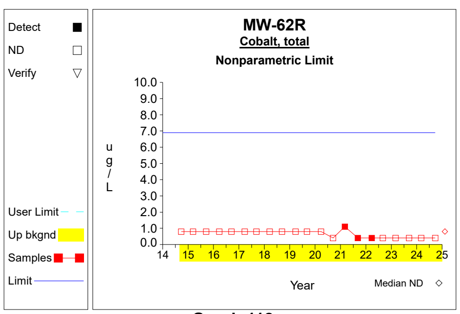
Graph 109



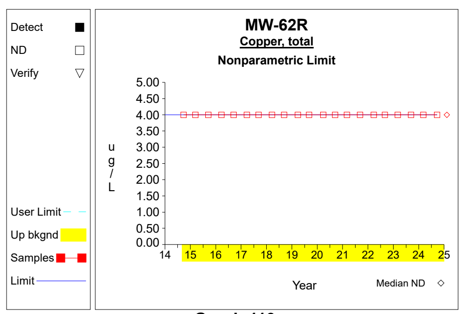
Graph 110



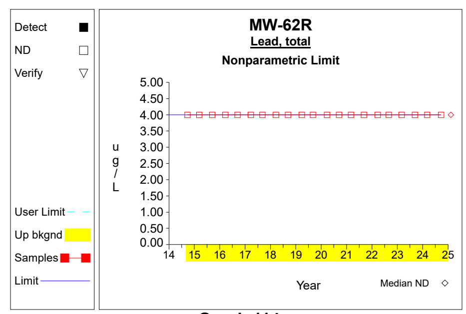
Graph 111



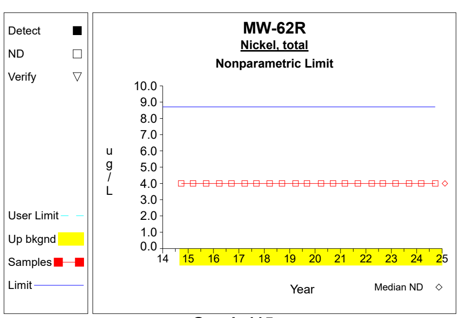
Graph 112



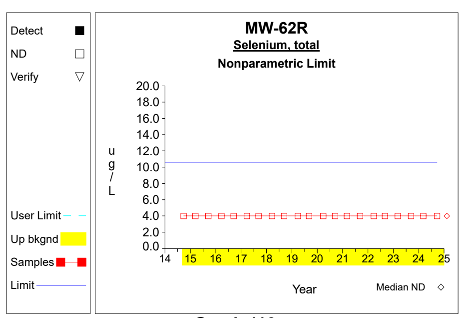
Graph 113



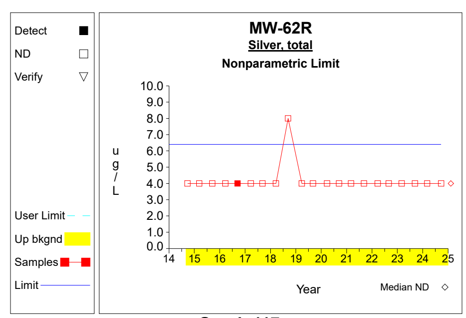
Graph 114



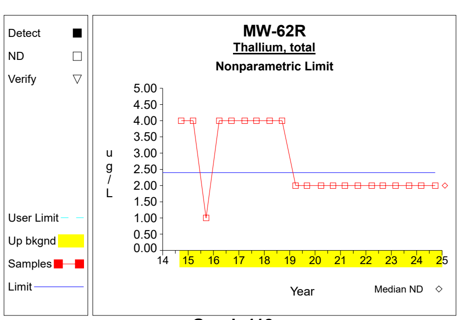
Graph 115



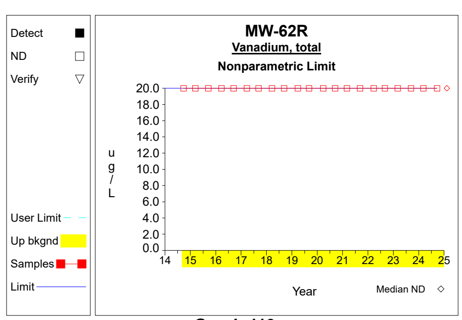
Graph 116



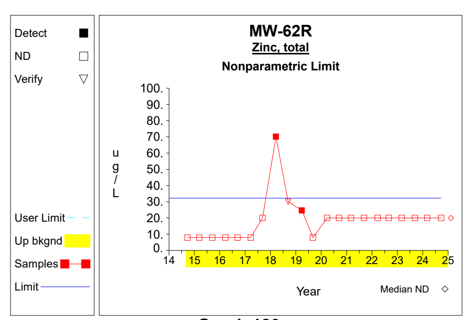
Graph 117



Graph 118

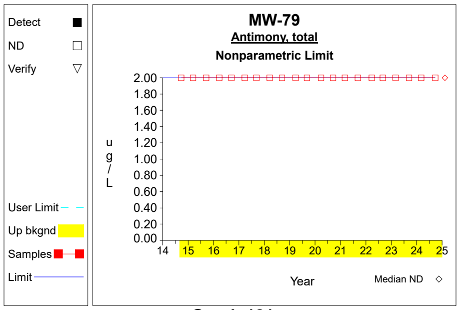


Graph 119

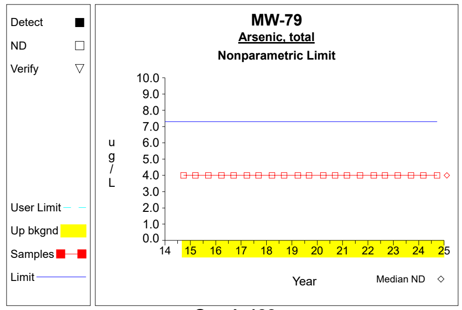


Graph 120

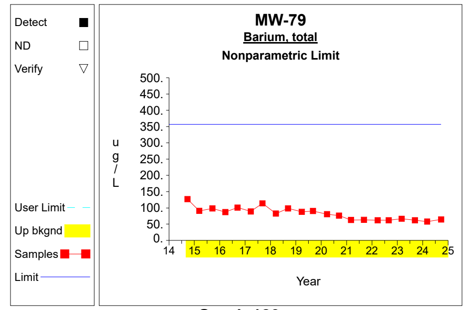
Up vs. Down Prediction Limits



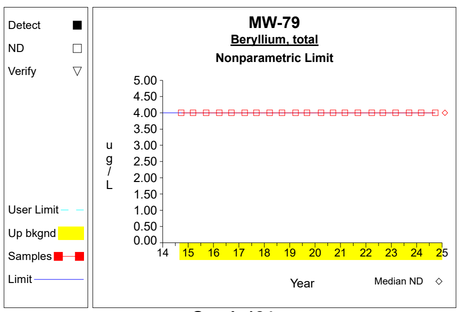
Graph 121



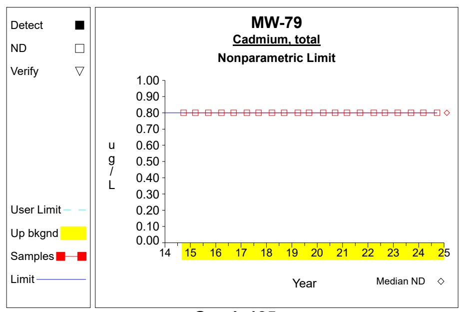
Graph 122



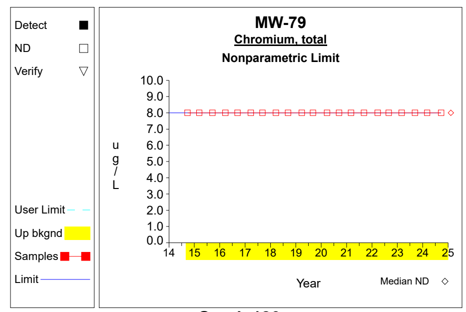
Graph 123



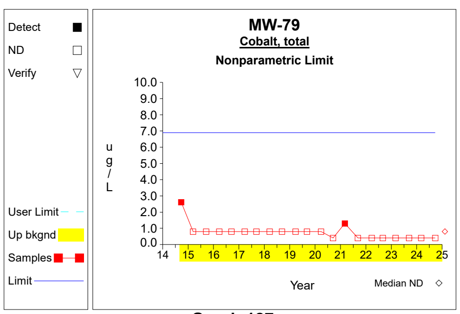
Graph 124



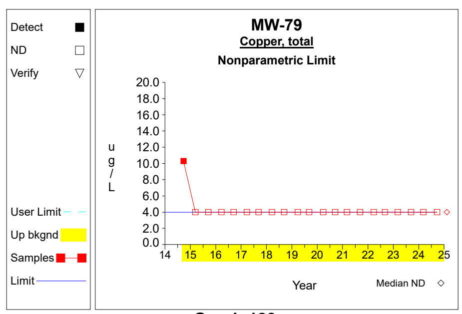
Graph 125



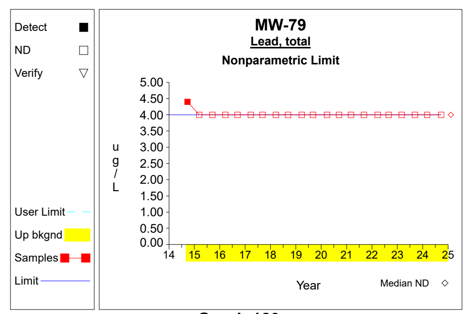
Graph 126



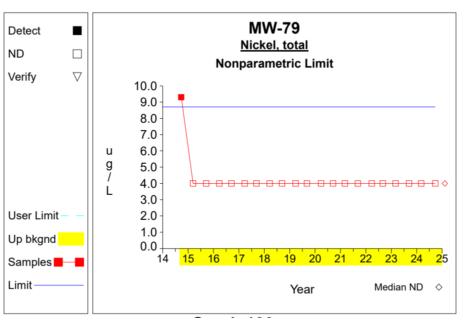
Graph 127



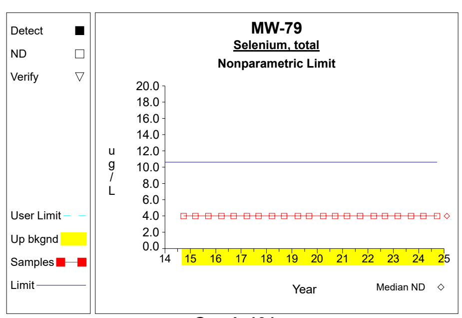
Graph 128



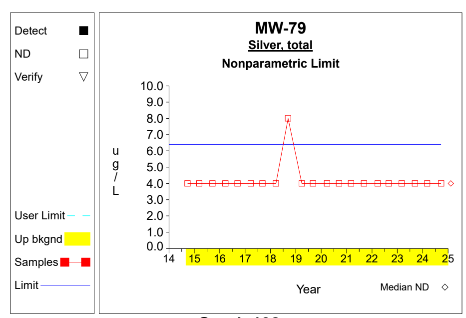
Graph 129



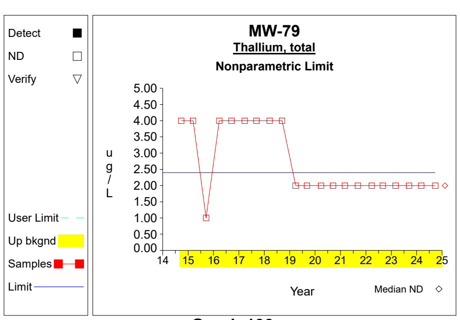
Graph 130



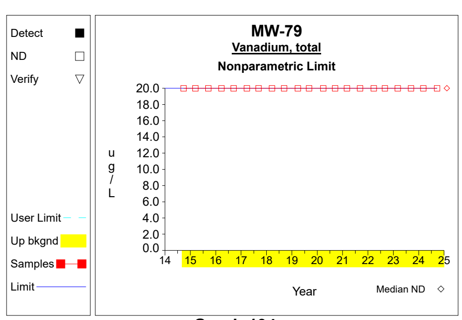
Graph 131



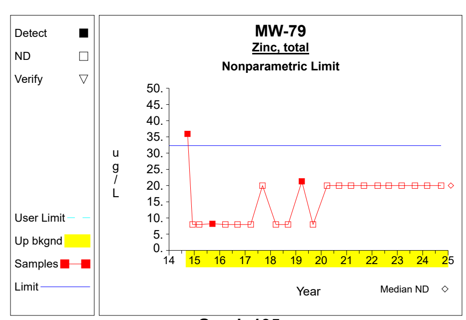
Graph 132



Graph 133

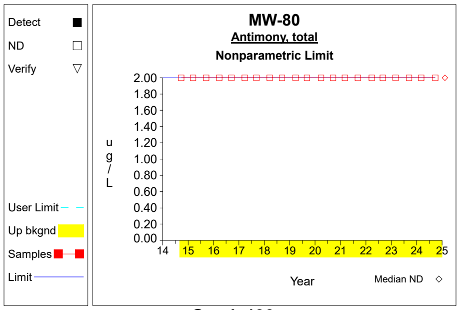


Graph 134

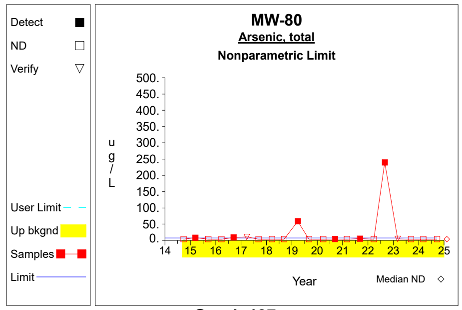


Graph 135

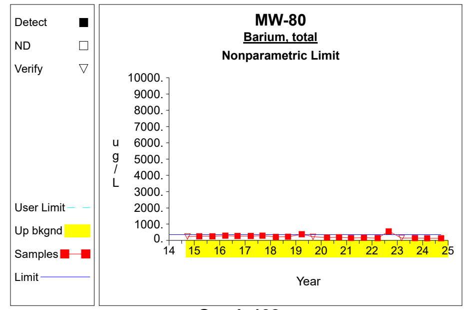
Up vs. Down Prediction Limits



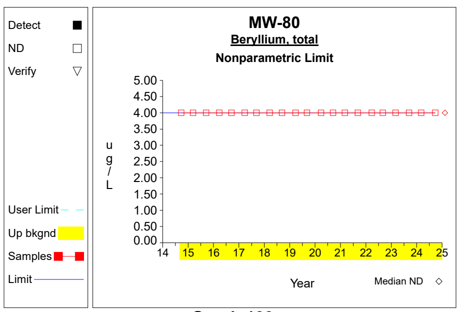
Graph 136



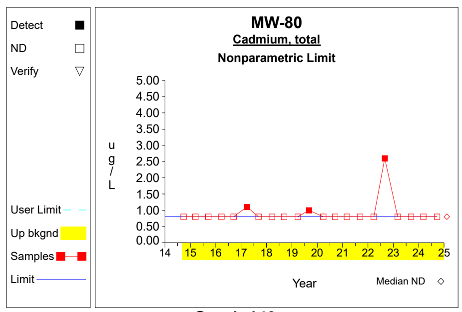
Graph 137



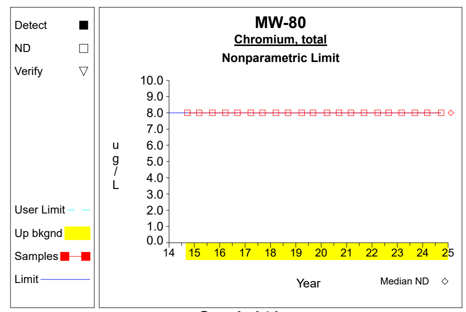
Graph 138



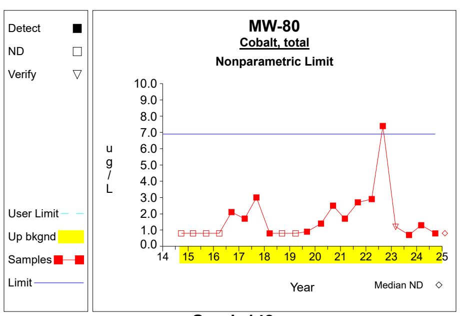
Graph 139



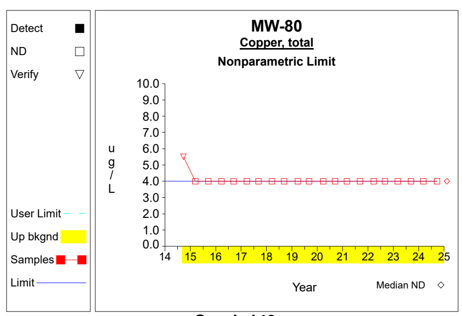
Graph 140



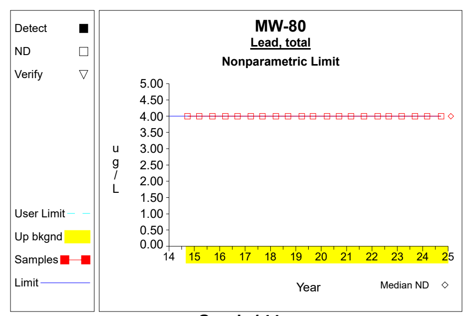
Graph 141



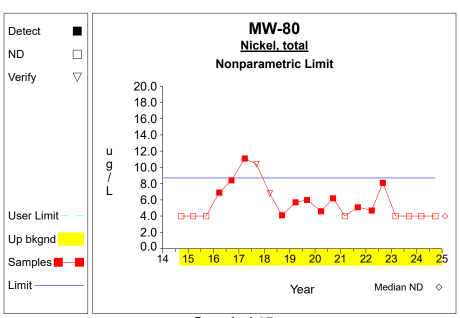
Graph 142



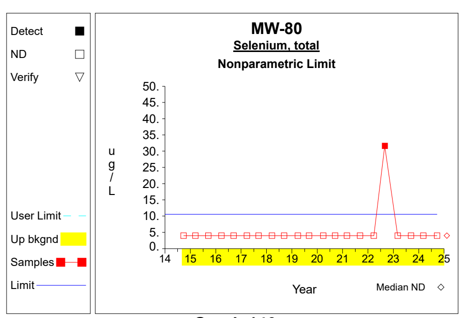
Graph 143



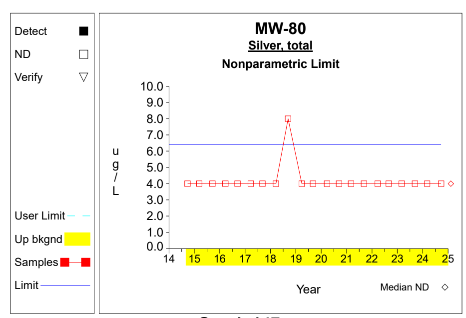
Graph 144



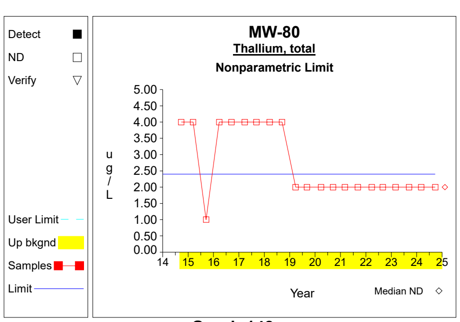
Graph 145



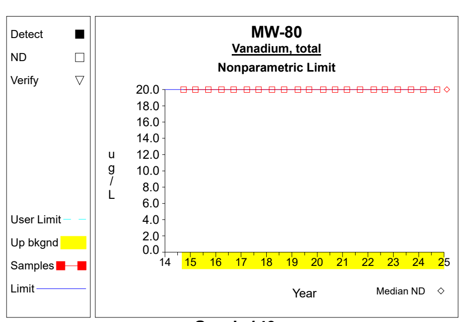
Graph 146



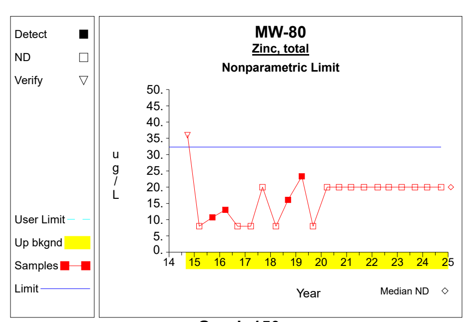
Graph 147



Graph 148



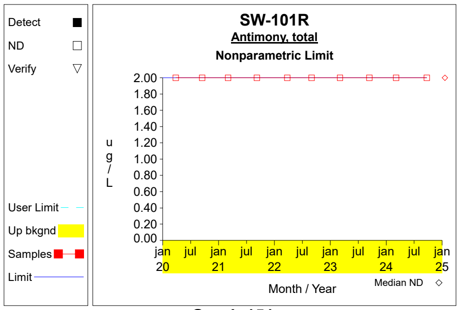
Graph 149



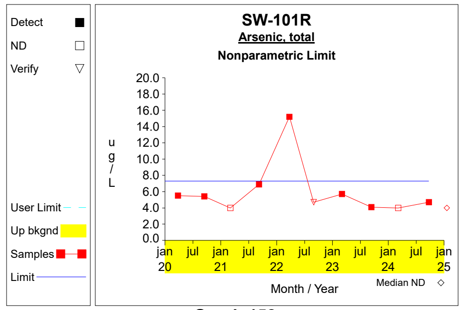
Graph 150

Newton [GW] October 2024

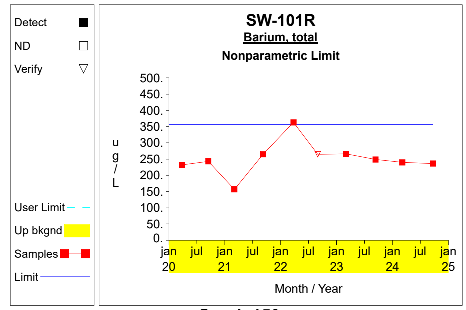
Up vs. Down Prediction Limits



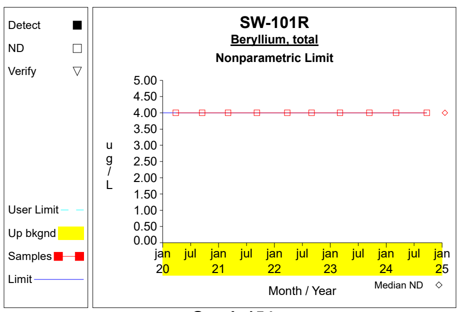
Graph 151



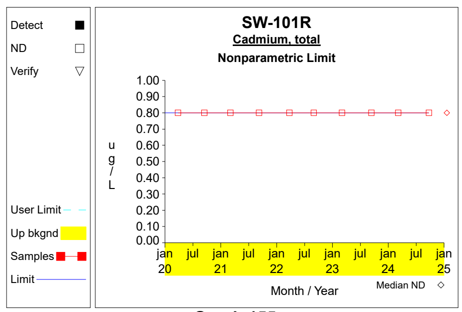
Graph 152



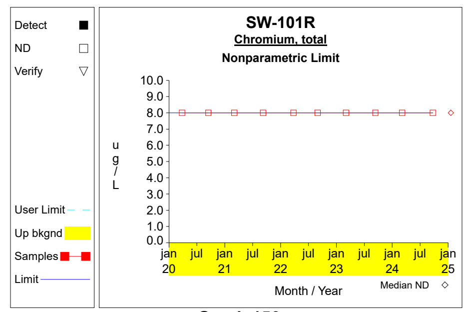
Graph 153



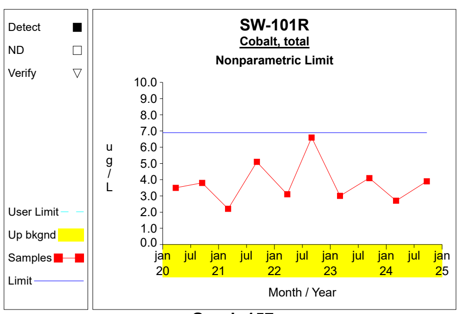
Graph 154



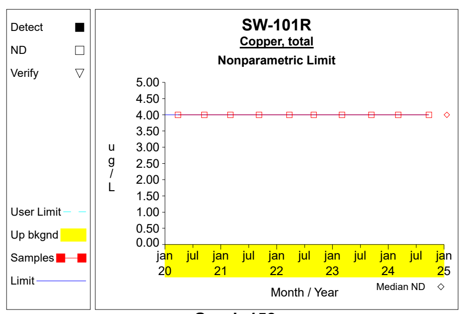
Graph 155



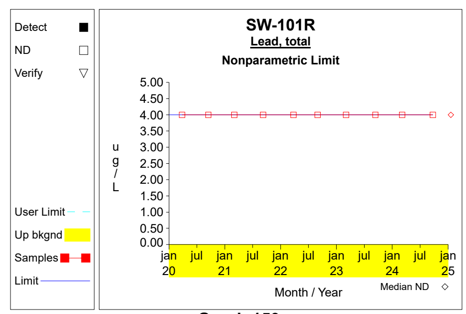
Graph 156



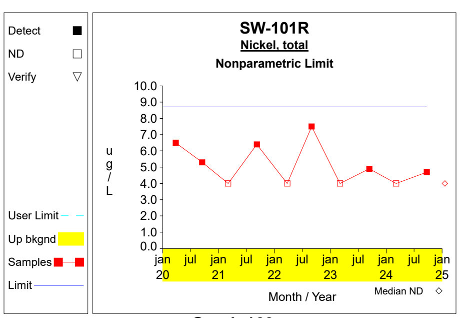
Graph 157



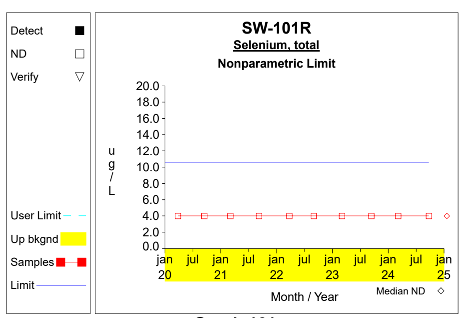
Graph 158



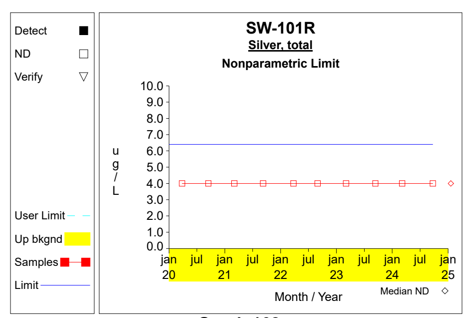
Graph 159



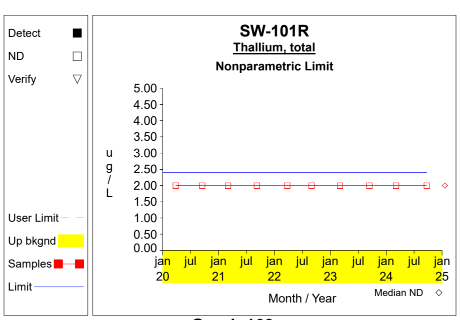
Graph 160



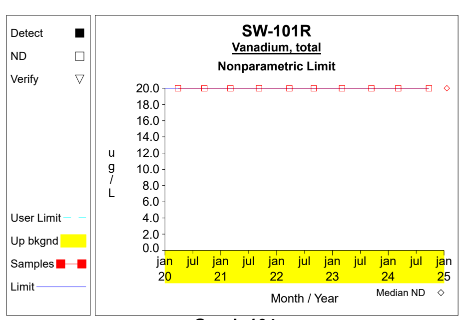
Graph 161



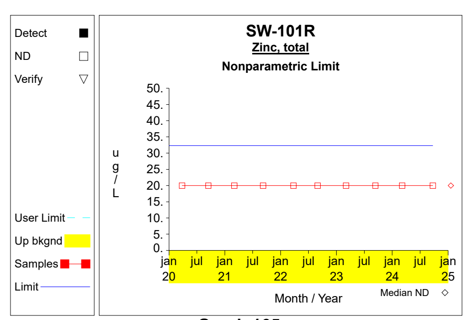
Graph 162



Graph 163



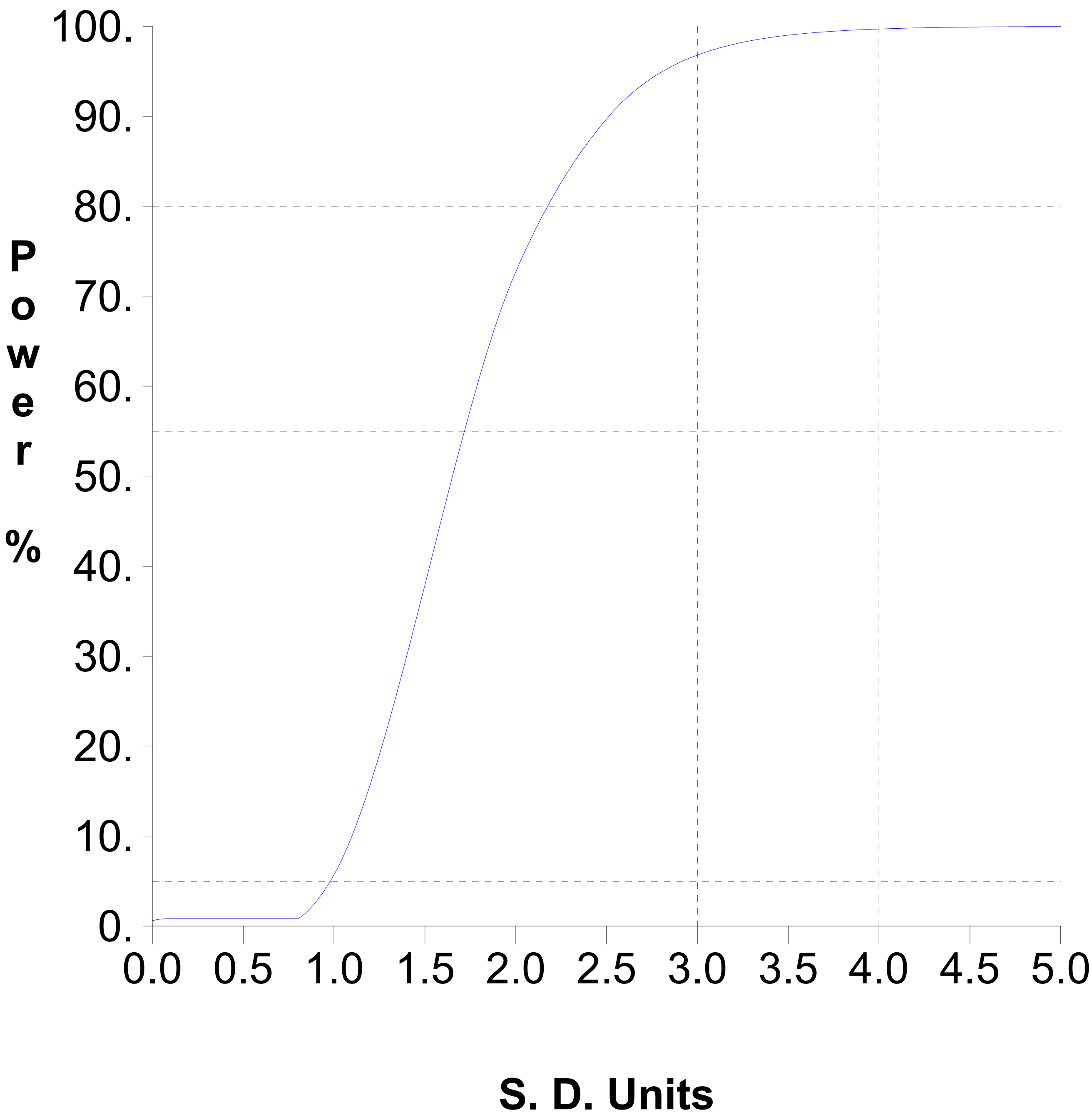
Graph 164



Graph 165

Prepared by: Otter Creek Environmental

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.
	= **7.3**	
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.
	= **357.0**	
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 = 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 1 - Upgradient vs. Downgradient Comparisons
Chromium, total (ug/L)
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 1 - Upgradient vs. Downgradient Comparisons
Cobalt, total (ug/L)
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = max(X) = **6.9**	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 = 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
Lead, 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
Nickel, 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
Selenium, total (ug/L)
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = max(X) = **10.6**	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 = max(X) = **6.4**	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
Thallium, total (ug/L)
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = max(X) = **2.4**	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
Vanadium, total (ug/L)
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 1 - Upgradient vs. Downgradient Comparisons
Zinc, total (ug/L)
Nonparametric Prediction Limit

Step	Equation	Description
1	PL = max(X) = **32.3**	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

95% LCLs for Trace Metal Exceedances

Table 1

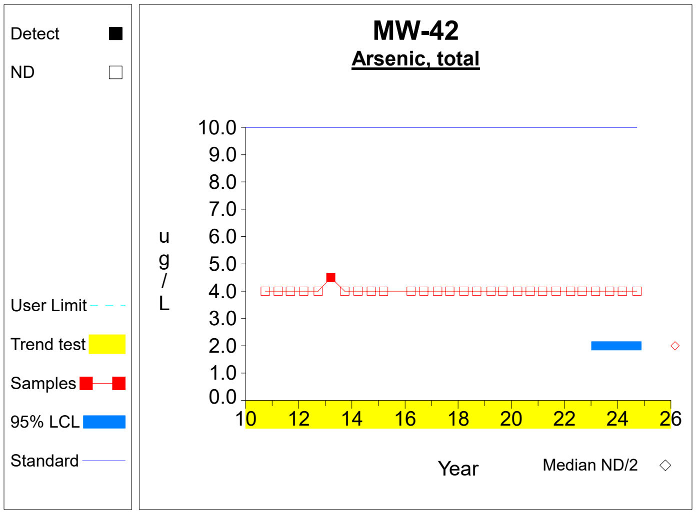
Confidence Intervals for Comparing the Mean of the Last 4 Measurements to an Assessment Monitoring Standard

Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
Arsenic, total	ug/L	MW-42	4	2.000	0.000	1.176	2.000	2.000	10.000		
Barium, total	ug/L	MW-42	4	19.300	1.594	1.176	17.425	21.175	2000.000	dec	
Cobalt, total	ug/L	MW-42	4	1.950	2.017	1.176	0.000	4.323	2.100		
Copper, total	ug/L	MW-42	4	2.000	0.000	1.176	2.000	2.000	1300.000		
Nickel, total	ug/L	MW-42	4	3.525	1.773	1.176	1.440	5.610	100.000		
Arsenic, total	ug/L	MW-58	4	2.000	0.000	1.176	2.000	2.000	10.000		
Barium, total	ug/L	MW-58	4	22.425	1.231	1.176	20.977	23.873	2000.000	dec	
Cobalt, total	ug/L	MW-58	4	0.400	0.000	1.176	0.400	0.400	2.100		
Copper, total	ug/L	MW-58	4	2.000	0.000	1.176	2.000	2.000	1300.000		
Nickel, total	ug/L	MW-58	4	14.675	1.797	1.176	12.561	16.789	100.000		
Arsenic, total	ug/L	MW-60	4	2.000	0.000	1.176	2.000	2.000	10.000		
Barium, total	ug/L	MW-60	4	236.750	53.773	1.176	173.497	300.003	2000.000		
Cobalt, total	ug/L	MW-60	4	2.425	2.809	1.176	0.000	5.729	2.100		
Copper, total	ug/L	MW-60	4	2.000	0.000	1.176	2.000	2.000	1300.000		
Nickel, total	ug/L	MW-60	4	17.275	12.808	1.176	2.209	32.341	100.000		
Arsenic, total	ug/L	MW-61	4	2.000	0.000	1.176	2.000	2.000	10.000		
Barium, total	ug/L	MW-61	4	48.400	2.778	1.176	45.132	51.668	2000.000		
Cobalt, total	ug/L	MW-61	4	0.400	0.000	1.176	0.400	0.400	2.100		
Copper, total	ug/L	MW-61	4	2.750	1.500	1.176	0.986	4.514	1300.000		
Nickel, total	ug/L	MW-61	4	4.300	1.579	1.176	2.443	6.157	100.000		
Arsenic, total	ug/L	MW-62R	4	2.000	0.000	1.176	2.000	2.000	10.000		
Barium, total	ug/L	MW-62R	4	1043.750	94.637	1.176	932.429	1155.071	2000.000	inc	
Cobalt, total	ug/L	MW-62R	4	0.400	0.000	1.176	0.400	0.400	2.100		
Copper, total	ug/L	MW-62R	4	2.000	0.000	1.176	2.000	2.000	1300.000		
Nickel, total	ug/L	MW-62R	4	2.000	0.000	1.176	2.000	2.000	100.000		
Arsenic, total	ug/L	MW-80	4	2.650	1.300	1.176	1.121	4.179	10.000		
Barium, total	ug/L	MW-80	4	139.250	7.411	1.176	130.533	147.967	2000.000	dec	
Cobalt, total	ug/L	MW-80	4	1.000	0.294	1.176	0.654	1.346	2.100		
Copper, total	ug/L	MW-80	4	2.000	0.000	1.176	2.000	2.000	1300.000		
Nickel, total	ug/L	MW-80	4	2.000	0.000	1.176	2.000	2.000	100.000	dec	
Arsenic, total	ug/L	SW-101R	4	4.125	1.563	1.176	2.287	5.963	10.000		
Barium, total	ug/L	SW-101R	4	247.750	13.326	1.176	232.075	263.425	2000.000		
Cobalt, total	ug/L	SW-101R	4	3.425	0.680	1.176	2.625	4.225	2.100		**
Copper, total	ug/L	SW-101R	4	2.000	0.000	1.176	2.000	2.000	1300.000		
Nickel, total	ug/L	SW-101R	4	3.400	1.619	1.176	1.496	5.304	100.000		

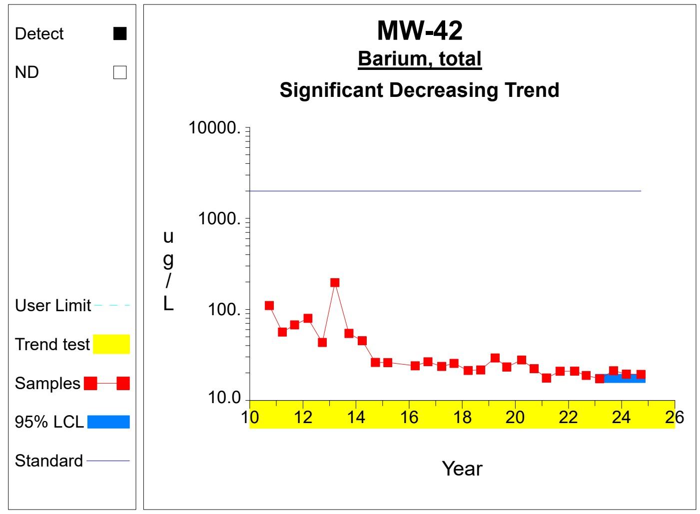
* - Insufficient Data
** - Significant Exceedance
LCL = Lower Confidence Limit
UCL = Upper Confidence Limit

Newton [GW] October 2024

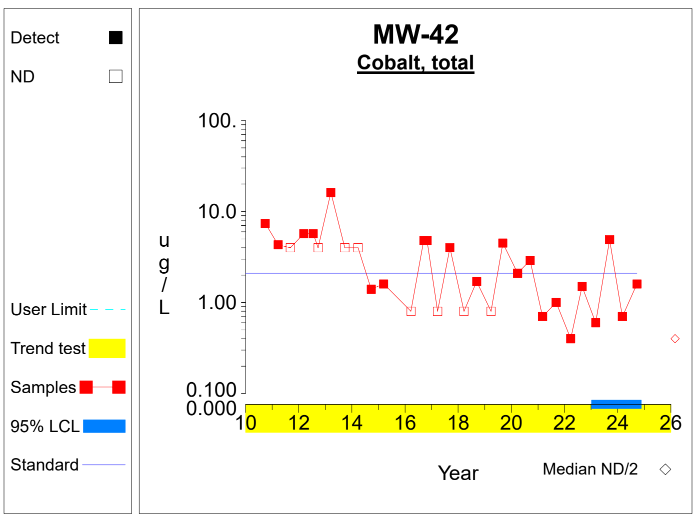
Confidence Limits (Assessment)



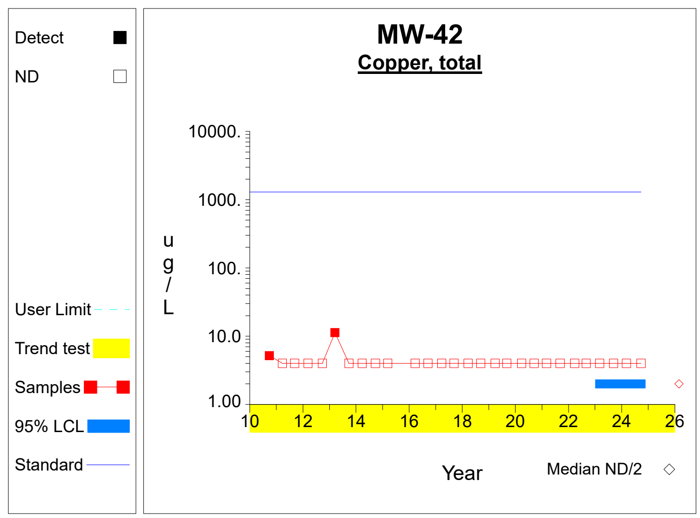
Graph 1



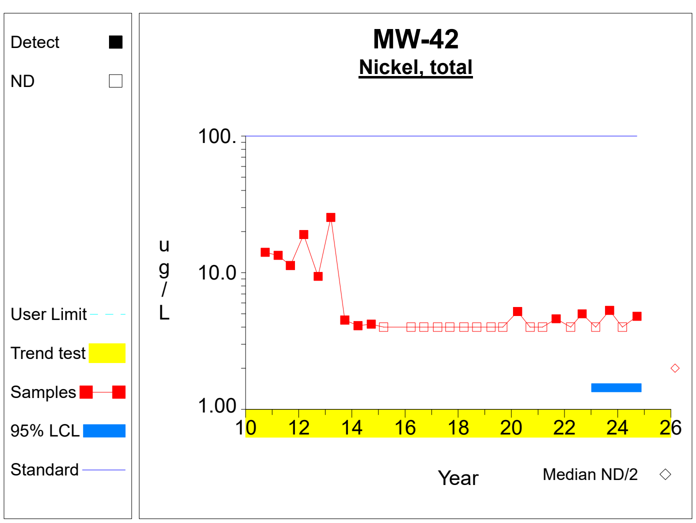
Graph 2



Graph 3



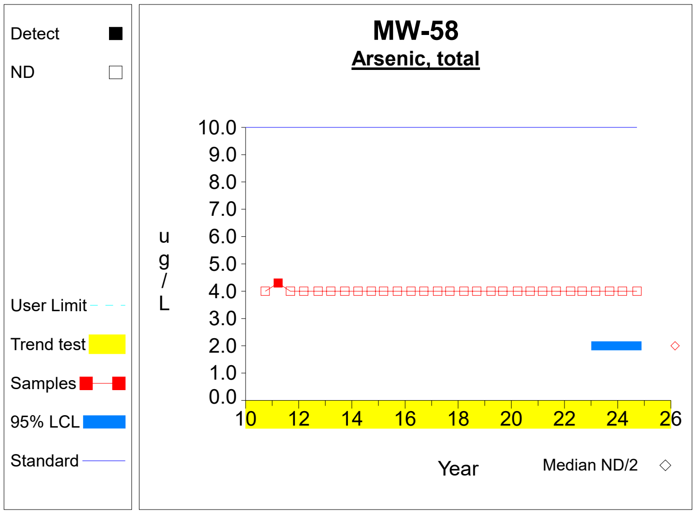
Graph 4



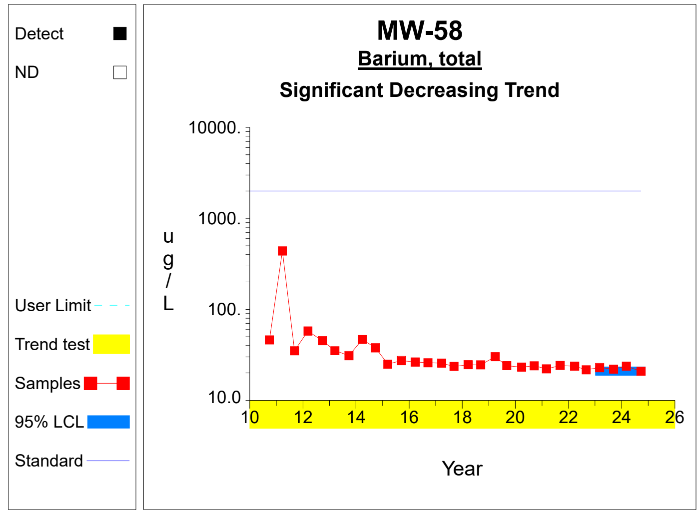
Graph 5

Prepared by: Otter Creek Environmental

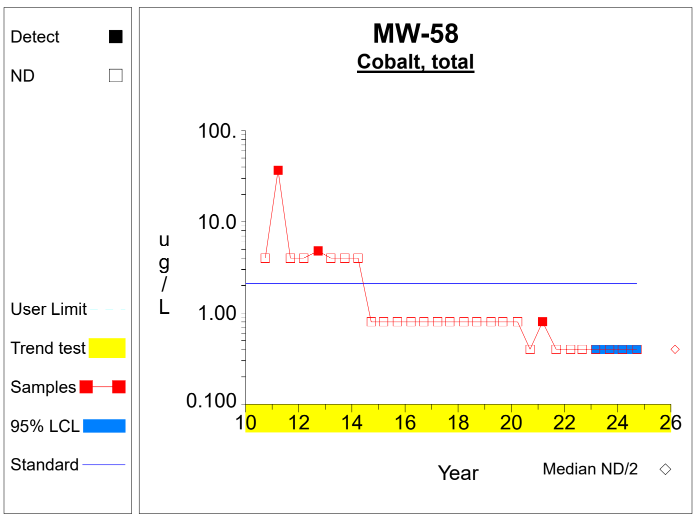
Confidence Limits (Assessment)



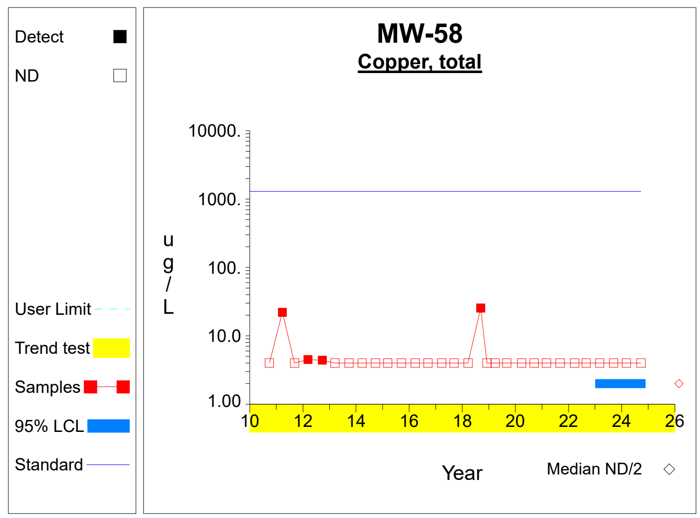
Graph 6



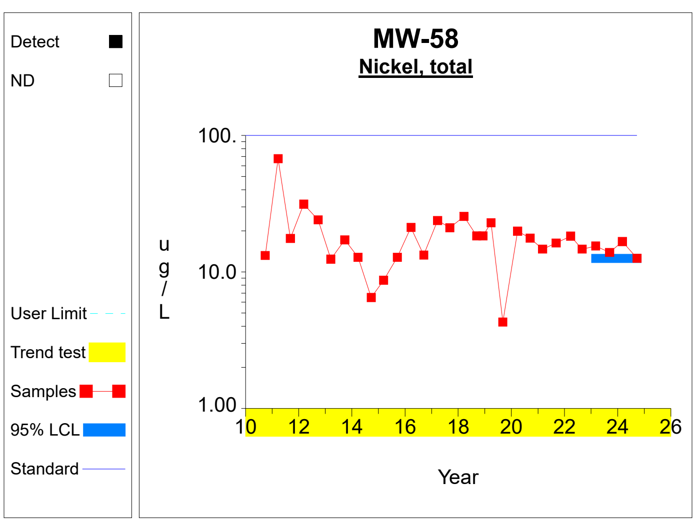
Graph 7



Graph 8



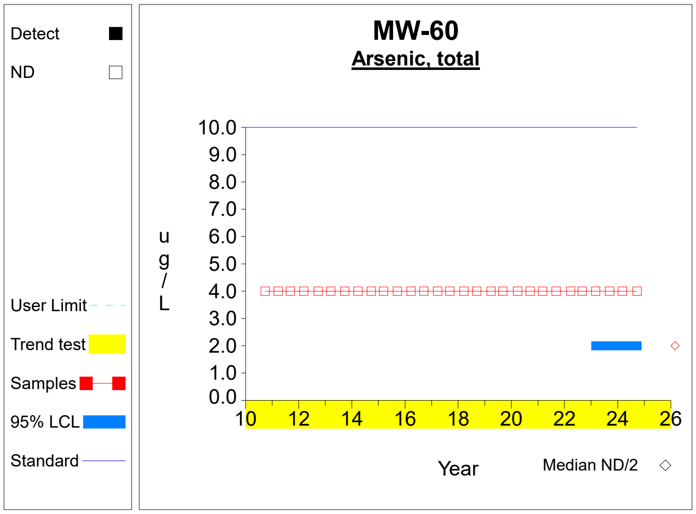
Graph 9



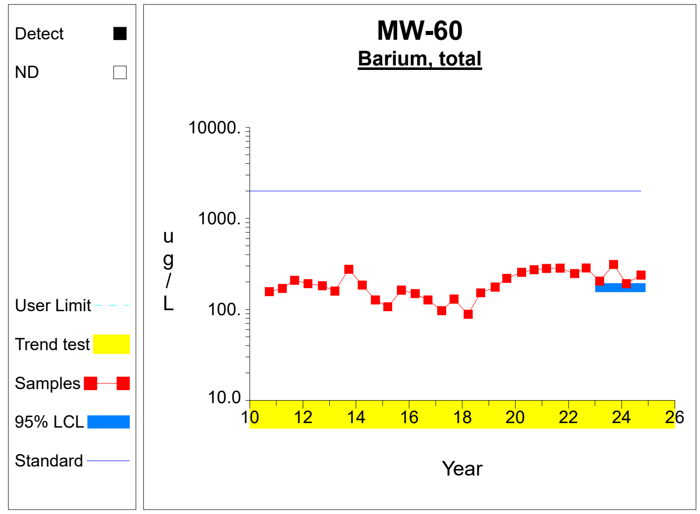
Graph 10

Prepared by: Otter Creek Environmental

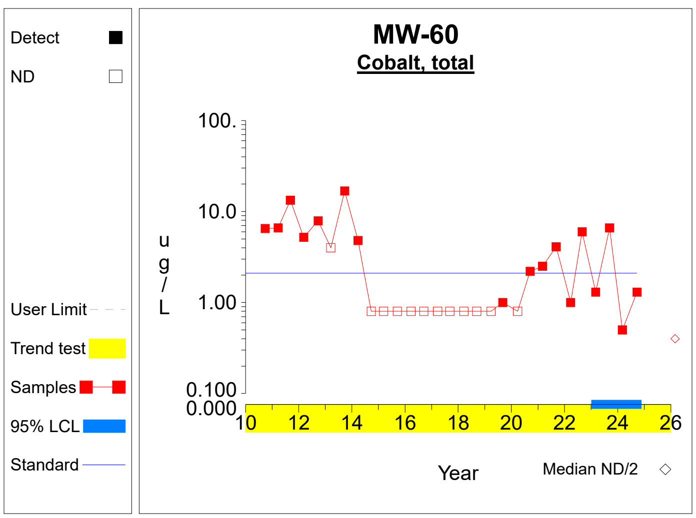
Confidence Limits (Assessment)



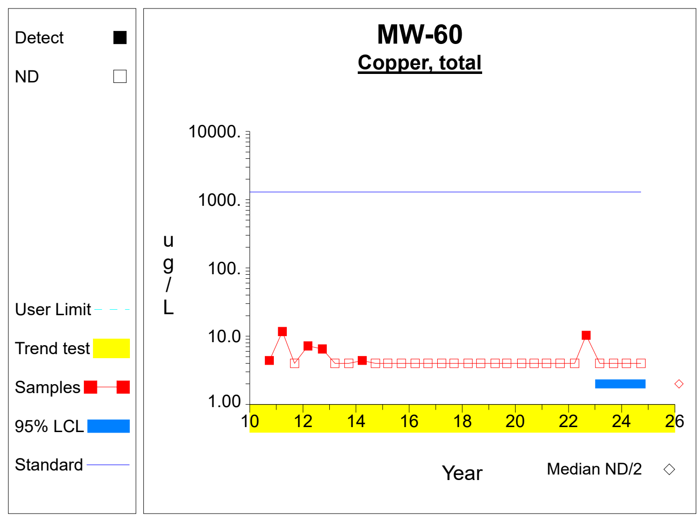
Graph 11



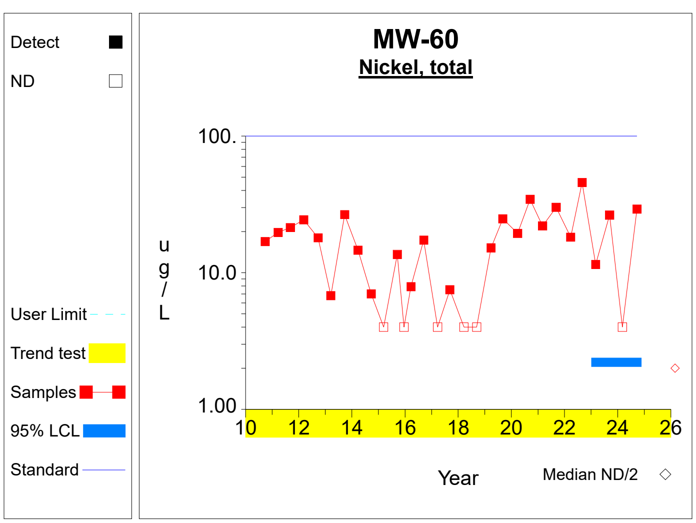
Graph 12



Graph 13

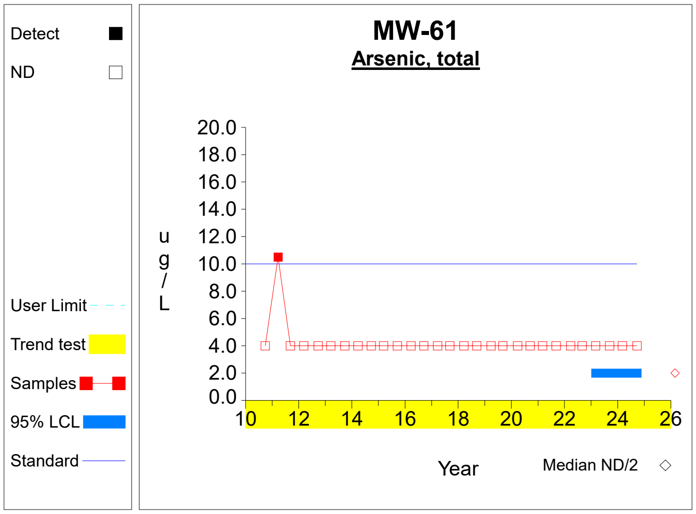


Graph 14

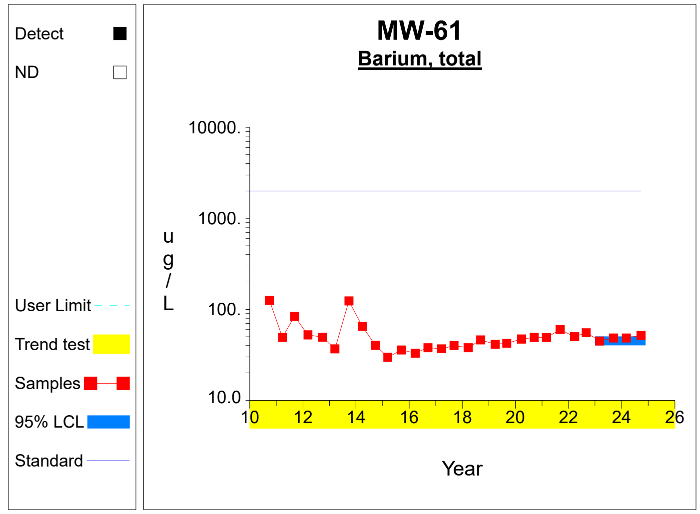


Graph 15

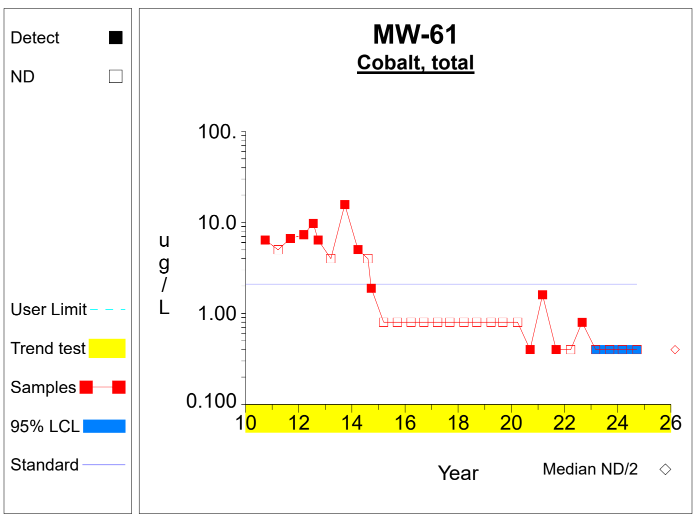
Confidence Limits (Assessment)



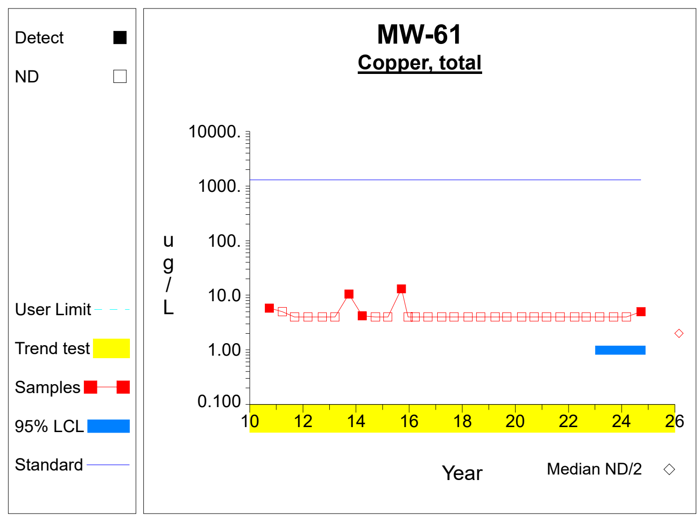
Graph 16



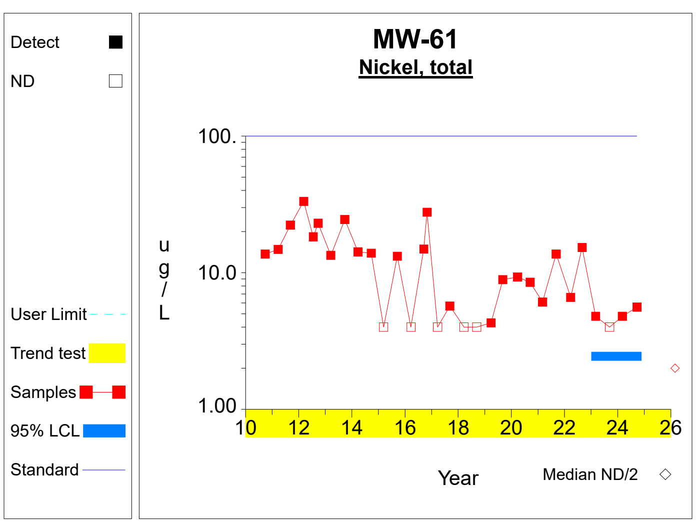
Graph 17



Graph 18

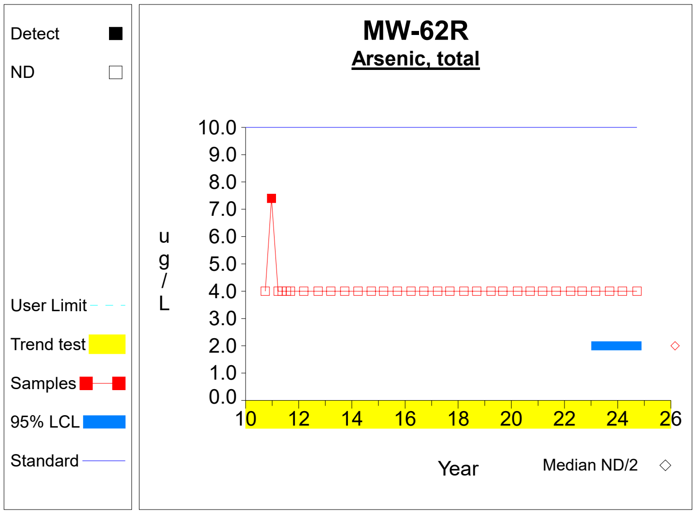


Graph 19

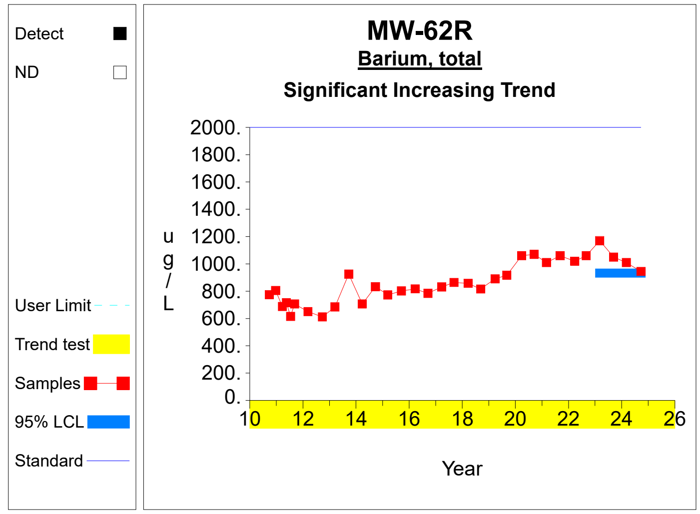


Graph 20

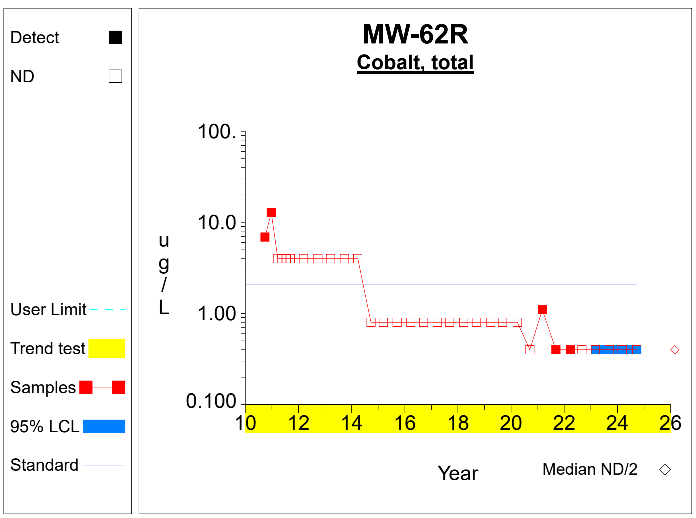
Confidence Limits (Assessment)



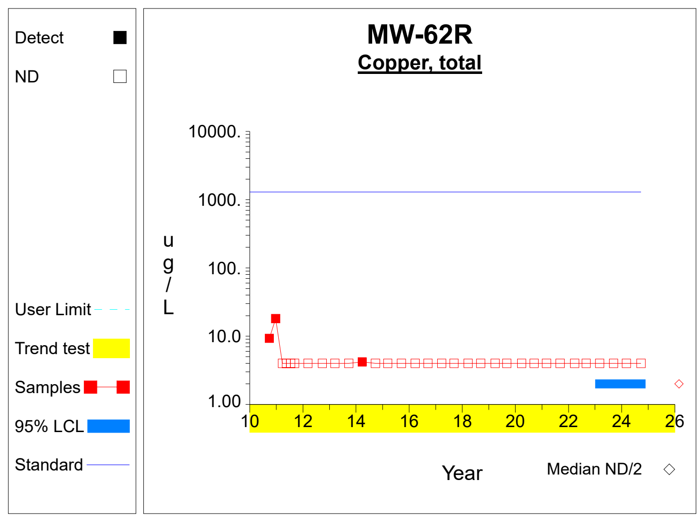
Graph 21



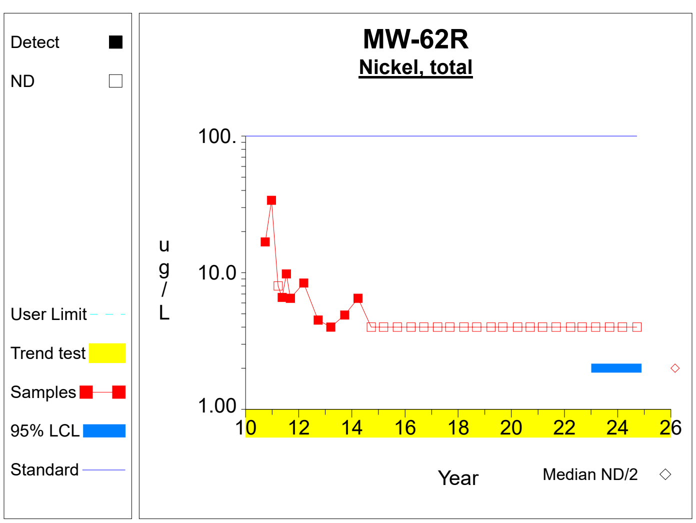
Graph 22



Graph 23



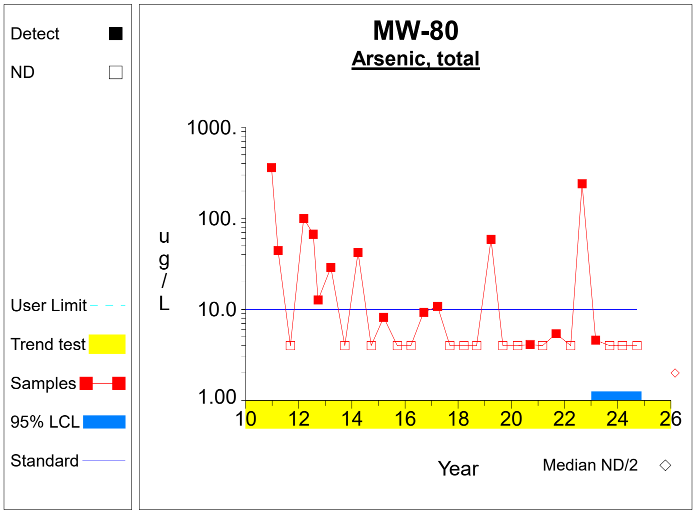
Graph 24



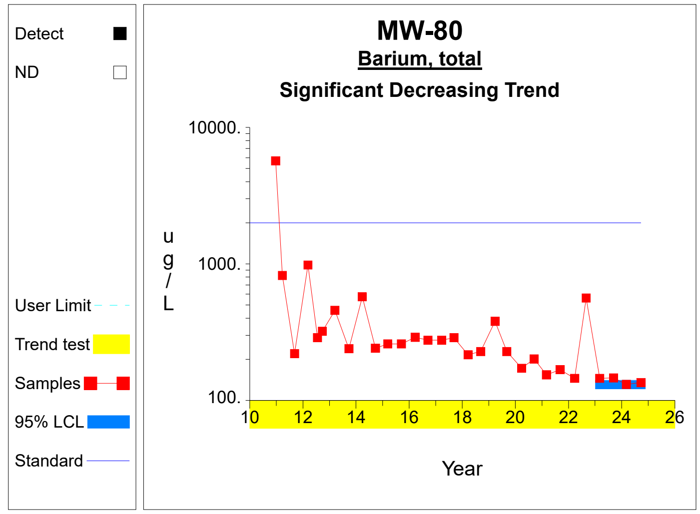
Graph 25

Newton [GW] October 2024

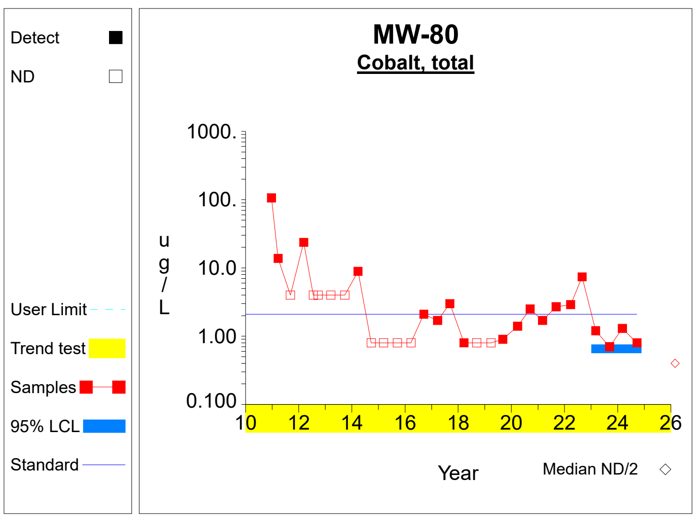
Confidence Limits (Assessment)



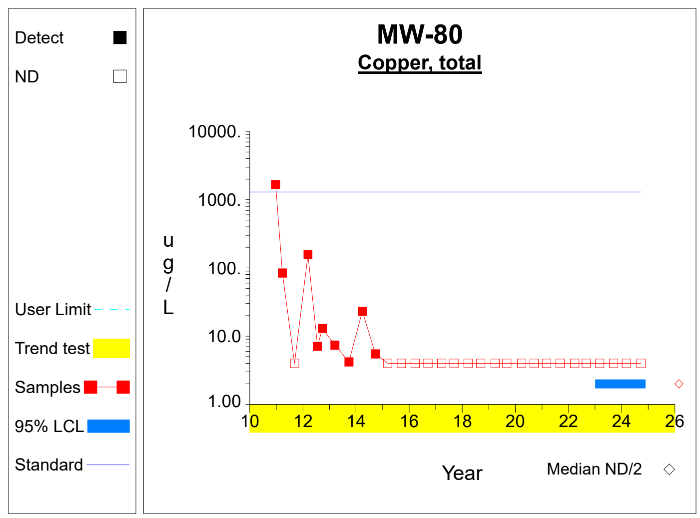
Graph 26



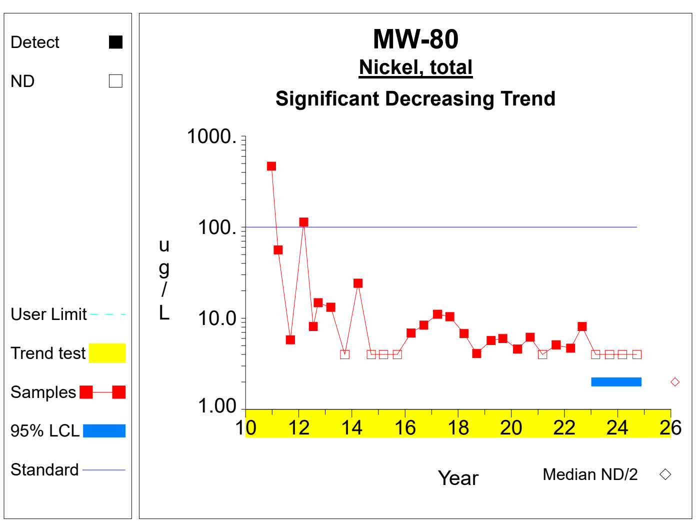
Graph 27



Graph 28



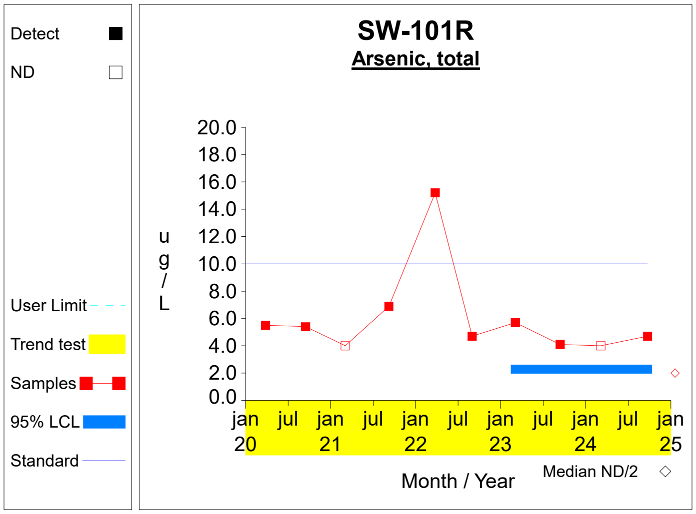
Graph 29



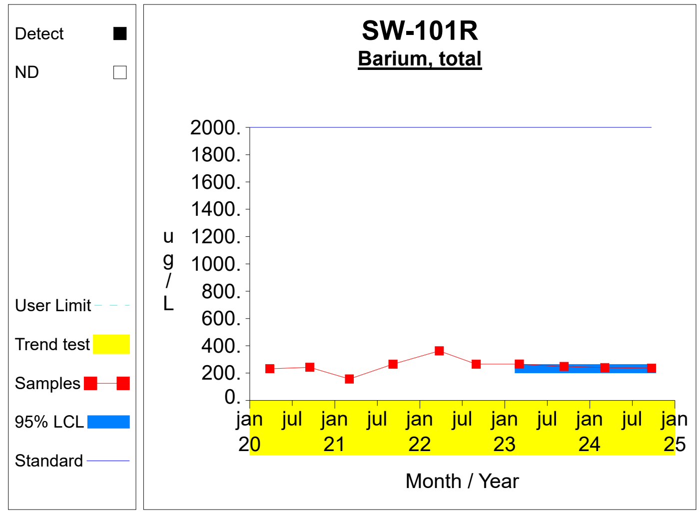
Graph 30

Prepared by: Otter Creek Environmental

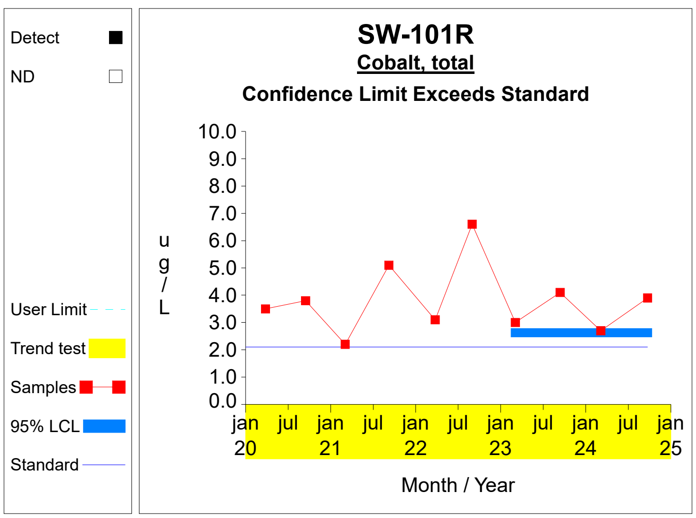
Confidence Limits (Assessment)



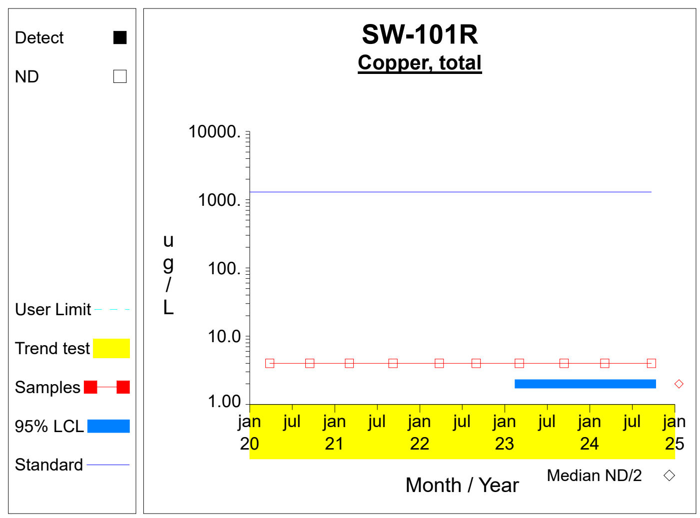
Graph 31



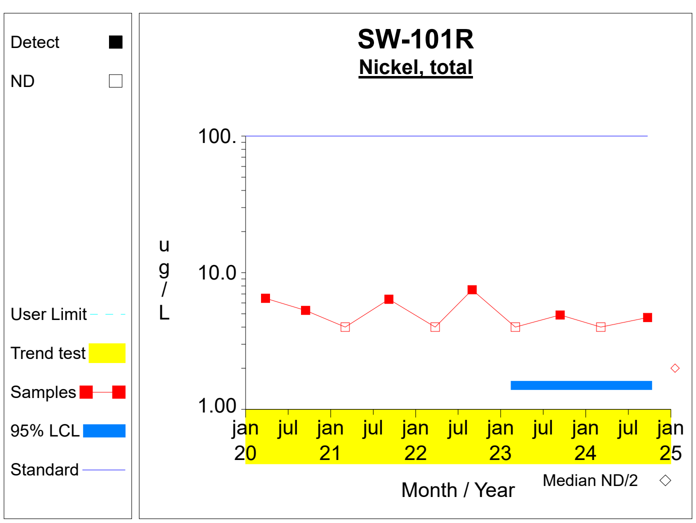
Graph 32



Graph 33



Graph 34



Graph 35

Worksheet 6 - Assessment Monitoring
Arsenic, total (ug/L) at MW-42

Step	Equation	Description
1	$\bar{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{8.0} / \mathbf{4}$ $= \mathbf{2.0}$	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	$LCL = \bar{\mathbf{X}} - \mathbf{tS/N}^{1/2}$ $= \mathbf{2.0} - \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ $= \mathbf{2.0}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\mathbf{X}} + \mathbf{tS/N}^{1/2}$ $= \mathbf{2.0} + \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ $= \mathbf{2.0}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{28} * (\mathbf{28}-1) / 2$ $= \mathbf{378}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \mathbf{261.0}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{378} \pm \mathbf{2.576} * \mathbf{261.0}^{1/2}) / 2$ $= [\ \mathbf{168.192}, \mathbf{209.808}\ ]$	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-42

Step	Equation	Description
1	$\bar{X} = \textbf{sum[X]} / \textbf{N}$ $= \textbf{77.2} / \textbf{4}$ $= \textbf{19.3}$	Compute the mean of the last 4 measurements.
2	$S = ((\textbf{sum[X}^{\textbf{2}}\textbf{]} - \textbf{sum[X]}^2/\textbf{N}) / (\textbf{N}-1))^{1/2}$ $= ((\textbf{1497.58} - \textbf{5959.84/4}) / (\textbf{4}-1))^{1/2}$ $= \textbf{1.594}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{\mathbf{X}} - \textbf{tS/N}^{1/2}$ $= \textbf{19.3} - \textbf{2.353} * \textbf{1.594/4}^{1/2}$ $= \textbf{17.425}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\mathbf{X}} + \textbf{tS/N}^{1/2}$ $= \textbf{19.3} + \textbf{2.353} * \textbf{1.594/4}^{1/2}$ $= \textbf{21.175}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \textbf{N} * (\textbf{N}-1) / 2$ $= \textbf{28} * (\textbf{28}-1) / 2$ $= \textbf{378}$	Number of sample pairs during trend detection period.
6	$S = \textbf{-2.565}$	Sen's estimator of trend.
7	$var(S) = \textbf{2562.0}$	Variance estimate for slope.
8	$M(S) = (\textbf{N'} \pm \textbf{Z}_{.995} * \textbf{var(S)}^{1/2}) / 2$ $= (\textbf{378} \pm \textbf{2.576} * \textbf{2562.0}^{1/2}) / 2$ $= [\ \textbf{123.806}, \textbf{254.194}\ ]$	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	$CL(S) = [\ \textbf{-4.774}, \textbf{-0.969}\ ]$	Two-sided confidence interval for slope.
10	$UCL(S) < 0$	**Significant decreasing trend.**

Worksheet 6 - Assessment Monitoring
Cobalt, total (ug/L) at MW-42

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **7.8** / **4** = **1.95**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2/N**) / (**N**-1))$^{1/2}$ = ((**27.42 - 60.84/4**) / (**4**-1))$^{1/2}$ = **2.017**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$ - tS/N**$^{1/2}$ = **1.95** - **2.353** * **2.017/4**$^{1/2}$ = **0.0**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$ + tS/N**$^{1/2}$ = **1.95** + **2.353** * **2.017/4**$^{1/2}$ = **4.323**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **30** * (**30**-1) / 2 = **435**	Number of sample pairs during trend detection period.
6	S = **-0.05**	Sen's estimator of trend.
7	var(S) = **3045.667**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**435** ± **2.576** * **3045.667**$^{1/2}$) / 2 = [**146.418**, **288.582**]	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) = [**-0.472**, **0.056**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Copper, total (ug/L) at MW-42

Step	Equation	Description
1	$\bar{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{8.0} / \mathbf{4}$ $= \mathbf{2.0}$	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{½}$ $= ((\mathbf{16.0} - \mathbf{64.0/4}) / (\mathbf{4}-1))^{½}$ $= \mathbf{0.0}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{\mathbf{X}} - \mathbf{tS/N}^{½}$ $= \mathbf{2.0} - \mathbf{2.353} * \mathbf{0.0/4}^{½}$ $= \mathbf{2.0}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\mathbf{X}} + \mathbf{tS/N}^{½}$ $= \mathbf{2.0} + \mathbf{2.353} * \mathbf{0.0/4}^{½}$ $= \mathbf{2.0}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{28} * (\mathbf{28}-1) / 2$ $= \mathbf{378}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \mathbf{503.667}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{½}) / 2$ $= (\mathbf{378} \pm \mathbf{2.576} * \mathbf{503.667}^{½}) / 2$ $= [\ \mathbf{160.094},\ \mathbf{217.906}\ ]$	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
Nickel, total (ug/L) at MW-42

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **14.1** / **4** = **3.525**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**59.13** - **198.81**/**4**) / (**4**-1))^{½} = **1.773**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$** - **tS**/**N**^{½} = **3.525** - **2.353** * **1.773**/**4**^{½} = **1.44**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$** + **tS**/**N**^{½} = **3.525** + **2.353** * **1.773**/**4**^{½} = **5.61**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **28** * (**28**-1) / 2 = **378**	Number of sample pairs during trend detection period.
6	S = **-0.279**	Sen's estimator of trend.
7	var(S) = **2228.333**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**378** ± **2.576** * **2228.333**^{½}) / 2 = [**128.2**, **249.8**]	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) = [**-0.925**, **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-58

Step	Equation	Description
1	$\bar{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{8.0} / \mathbf{4}$ $= \mathbf{2.0}$	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{½}$ $= ((\mathbf{16.0} - \mathbf{64.0}/\mathbf{4}) / (\mathbf{4}-1))^{½}$ $= \mathbf{0.0}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{\mathbf{X}} - \mathbf{tS}/\mathbf{N}^{½}$ $= \mathbf{2.0} - \mathbf{2.353} * \mathbf{0.0}/\mathbf{4}^{½}$ $= \mathbf{2.0}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\mathbf{X}} + \mathbf{tS}/\mathbf{N}^{½}$ $= \mathbf{2.0} + \mathbf{2.353} * \mathbf{0.0}/\mathbf{4}^{½}$ $= \mathbf{2.0}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{29} * (\mathbf{29}-1) / 2$ $= \mathbf{406}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \mathbf{280.0}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{½}) / 2$ $= (\mathbf{406} \pm \mathbf{2.576} * \mathbf{280.0}^{½}) / 2$ $= [\ \mathbf{181.448}, \mathbf{224.552}\ ]$	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-58

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **89.7** / **4** = **22.425**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))$^{1/2}$ = ((**2016.07** - **8046.09**/**4**) / (**4**-1))$^{1/2}$ = **1.231**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$** - **tS**/**N**$^{1/2}$ = **22.425** - **2.353** * **1.231**/**4**$^{1/2}$ = **20.977**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$** + **tS**/**N**$^{1/2}$ = **22.425** + **2.353** * **1.231**/**4**$^{1/2}$ = **23.873**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **29** * (**29**-1) / 2 = **406**	Number of sample pairs during trend detection period.
6	S = **-1.237**	Sen's estimator of trend.
7	var(S) = **2841.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**406** ± **2.576** * **2841.0**$^{1/2}$) / 2 = [**134.348**, **271.652**]	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) = [**-2.333**, **-0.653**]	Two-sided confidence interval for slope.
10	UCL(S) < 0	**Significant decreasing trend.**

Worksheet 6 - Assessment Monitoring
Cobalt, total (ug/L) at MW-58

Step	Equation	Description
1	$\overline{X} = \textbf{sum[X]} / \textbf{N}$ $= \textbf{1.6} / \textbf{4}$ $= \textbf{0.4}$	Compute the mean of the last 4 measurements.
2	$S = ((\textbf{sum[X}^{\textbf{2}}\textbf{]} - \textbf{sum[X]}^2/\textbf{N}) / (\textbf{N}-1))^{1/2}$ $= ((\textbf{0.64} - \textbf{2.56}/\textbf{4}) / (\textbf{4}-1))^{1/2}$ $= \textbf{4.21}\times\textbf{10}^{\textbf{-9}}$	Compute sd of the last 4 measurements.
3	$LCL = \overline{\textbf{X}} - \textbf{tS}/\textbf{N}^{1/2}$ $= \textbf{0.4} - \textbf{2.353} * \textbf{4.21}\times\textbf{10}^{\textbf{-9}}/\textbf{4}^{1/2}$ $= \textbf{0.4}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \overline{\textbf{X}} + \textbf{tS}/\textbf{N}^{1/2}$ $= \textbf{0.4} + \textbf{2.353} * \textbf{4.21}\times\textbf{10}^{\textbf{-9}}/\textbf{4}^{1/2}$ $= \textbf{0.4}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \textbf{N} * (\textbf{N}-1) / 2$ $= \textbf{29} * (\textbf{29}-1) / 2$ $= \textbf{406}$	Number of sample pairs during trend detection period.
6	$S = \textbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \textbf{783.667}$	Variance estimate for slope.
8	$M(S) = (\textbf{N'} \pm \textbf{Z}_{.995} * \textbf{var(S)}^{1/2}) / 2$ $= (\textbf{406} \pm \textbf{2.576} * \textbf{783.667}^{1/2}) / 2$ $= [\ \textbf{166.944}, \textbf{239.056}\ ]$	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	$CL(S) = [\ \textbf{0.0}, \textbf{0.0}\ ]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Copper, total (ug/L) at MW-58

Step	Equation	Description
1	$\bar{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{8.0} / \mathbf{4}$ $= \mathbf{2.0}$	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	$LCL = \bar{X} - tS/N^{1/2}$ $= \mathbf{2.0} - \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ $= \mathbf{2.0}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{1/2}$ $= \mathbf{2.0} + \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ $= \mathbf{2.0}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{30} * (\mathbf{30}-1) / 2$ $= \mathbf{435}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \mathbf{1083.333}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{435} \pm \mathbf{2.576} * \mathbf{1083.333}^{1/2}) / 2$ $= [\ \mathbf{175.107}, \mathbf{259.893}\ ]$	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
Nickel, total (ug/L) at MW-58

Step	Equation	Description
1	$\bar{X} = \textbf{sum[X]} / \textbf{N}$ $= \textbf{58.7} / \textbf{4}$ $= \textbf{14.675}$	Compute the mean of the last 4 measurements.
2	$S = ((\textbf{sum[X}^2\textbf{]} - \textbf{sum[X]}^2/\textbf{N}) / (\textbf{N}-1))^{1/2}$ $= ((\textbf{871.11} - \textbf{3445.69/4}) / (\textbf{4}-1))^{1/2}$ $= \textbf{1.797}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{\textbf{X}} - \textbf{tS/N}^{1/2}$ $= \textbf{14.675} - \textbf{2.353} * \textbf{1.797/4}^{1/2}$ $= \textbf{12.561}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\textbf{X}} + \textbf{tS/N}^{1/2}$ $= \textbf{14.675} + \textbf{2.353} * \textbf{1.797/4}^{1/2}$ $= \textbf{16.789}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \textbf{N} * (\textbf{N}-1) / 2$ $= \textbf{30} * (\textbf{30}-1) / 2$ $= \textbf{435}$	Number of sample pairs during trend detection period.
6	$S = \textbf{-0.336}$	Sen's estimator of trend.
7	$var(S) = \textbf{3138.667}$	Variance estimate for slope.
8	$M(S) = (\textbf{N'} \pm \textbf{Z}_{.995} * \textbf{var(S)}^{1/2}) / 2$ $= (\textbf{435} \pm \textbf{2.576} * \textbf{3138.667}^{1/2}) / 2$ $= [\ \textbf{145.341}, \textbf{289.659}\ ]$	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	$CL(S) = [\ \textbf{-1.27}, \textbf{0.391}\ ]$	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-60

Step	Equation	Description
1	$\bar{X} = \textbf{sum[X]} / \textbf{N}$ $= \textbf{8.0} / \textbf{4}$ $= \textbf{2.0}$	Compute the mean of the last 4 measurements.
2	$S = ((\textbf{sum[X}^2\textbf{]} - \textbf{sum[X]}^2/\textbf{N}) / (\textbf{N}-1))^{1/2}$ $= ((\textbf{16.0} - \textbf{64.0}/\textbf{4}) / (\textbf{4}-1))^{1/2}$ $= \textbf{0.0}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{\mathbf{X}} - \mathbf{tS}/\mathbf{N}^{1/2}$ $= \textbf{2.0} - \textbf{2.353} * \textbf{0.0}/\textbf{4}^{1/2}$ $= \textbf{2.0}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\mathbf{X}} + \mathbf{tS}/\mathbf{N}^{1/2}$ $= \textbf{2.0} + \textbf{2.353} * \textbf{0.0}/\textbf{4}^{1/2}$ $= \textbf{2.0}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \textbf{N} * (\textbf{N}-1) / 2$ $= \textbf{29} * (\textbf{29}-1) / 2$ $= \textbf{406}$	Number of sample pairs during trend detection period.
6	$S = \textbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \textbf{0.0}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\textbf{406} \pm \textbf{2.576} * \textbf{0.0}^{1/2}) / 2$ $= [\ \textbf{203.0}, \textbf{203.0}\ ]$	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	$CL(S) = [\ \textbf{0.0}, \textbf{0.0}\ ]$	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-60

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **947.0** / **4** = **236.75**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))^{½} = ((**232877.0** - **896809.0**/**4**) / (**4**-1))^{½} = **53.773**	Compute sd of the last 4 measurements.
3	LCL = $\bar{X}$ - **tS**/**N**^{½} = **236.75** - **2.353** * **53.773**/**4**^{½} = **173.497**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = $\bar{X}$ + **tS**/**N**^{½} = **236.75** + **2.353** * **53.773**/**4**^{½} = **300.003**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **29** * (**29**-1) / 2 = **406**	Number of sample pairs during trend detection period.
6	S = **7.601**	Sen's estimator of trend.
7	var(S) = **2840.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**406** ± **2.576** * **2840.0**^{½}) / 2 = [**134.36**, **271.64**]	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) = [**-1.424**, **13.88**]	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-60

Step	Equation	Description
1	$\bar{X}$ = **sum[X] / N** = **9.7 / 4** = **2.425**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2/N**) / (**N**-1))$^{1/2}$ = ((**47.19 - 94.09/4**) / (**4**-1))$^{1/2}$ = **2.809**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$ - tS/N**$^{1/2}$ = **2.425 - 2.353 * 2.809/4**$^{1/2}$ = **0.0**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$ + tS/N**$^{1/2}$ = **2.425 + 2.353 * 2.809/4**$^{1/2}$ = **5.729**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **29** * (**29**-1) / 2 = **406**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **2626.333**	Variance estimate for slope.
8	M(S) = (**N' ± $Z_{.995}$ * var(S)**$^{1/2}$) / 2 = (**406 ± 2.576 * 2626.333**$^{1/2}$) / 2 = [**136.993**, **269.007**]	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) = [**-0.509**, **0.092**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Copper, total (ug/L) at MW-60

Step	Equation	Description
1	$\bar{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{8.0} / \mathbf{4}$ $= \mathbf{2.0}$	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	$LCL = \bar{\mathbf{X}} - \mathbf{tS/N}^{1/2}$ $= \mathbf{2.0} - \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ $= \mathbf{2.0}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\mathbf{X}} + \mathbf{tS/N}^{1/2}$ $= \mathbf{2.0} + \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ $= \mathbf{2.0}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{29} * (\mathbf{29}-1) / 2$ $= \mathbf{406}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \mathbf{1407.333}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{406} \pm \mathbf{2.576} * \mathbf{1407.333}^{1/2}) / 2$ $= [\ \mathbf{154.681}, \mathbf{251.319}\ ]$	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
Nickel, total (ug/L) at MW-60

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **69.1** / **4** = **17.275**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))$^{1/2}$ = ((**1685.85** - **4774.81**/**4**) / (**4**-1))$^{1/2}$ = **12.808**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$** - **tS**/**N**$^{1/2}$ = **17.275** - **2.353** * **12.808**/**4**$^{1/2}$ = **2.209**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$** + **tS**/**N**$^{1/2}$ = **17.275** + **2.353** * **12.808**/**4**$^{1/2}$ = **32.341**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **30** * (**30**-1) / 2 = **435**	Number of sample pairs during trend detection period.
6	S = **0.44**	Sen's estimator of trend.
7	var(S) = **3113.333**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**435** ± **2.576** * **3113.333**$^{1/2}$) / 2 = [**145.633**, **289.367**]	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) = [**-0.947**, **2.189**]	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-61

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 = **29** * (**29**-1) / 2 = **406**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **280.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**406** ± **2.576** * **280.0**$^{1/2}$) / 2 = [**181.448**, **224.552**]	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 MW-61

Step	Equation	Description
1	$\overline{X} = \textbf{sum[X]} / \textbf{N}$ $= \textbf{193.6} / \textbf{4}$ $= \textbf{48.4}$	Compute the mean of the last 4 measurements.
2	$S = ((\textbf{sum[X}^{\textbf{2}}\textbf{]} - \textbf{sum[X]}^2/\textbf{N}) / (\textbf{N}-1))^{1/2}$ $= ((\textbf{9393.4} - \textbf{37480.96}/\textbf{4}) / (\textbf{4}-1))^{1/2}$ $= \textbf{2.778}$	Compute sd of the last 4 measurements.
3	$LCL = \overline{\textbf{X}} - \textbf{tS}/\textbf{N}^{1/2}$ $= \textbf{48.4} - \textbf{2.353} * \textbf{2.778}/\textbf{4}^{1/2}$ $= \textbf{45.132}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \overline{\textbf{X}} + \textbf{tS}/\textbf{N}^{1/2}$ $= \textbf{48.4} + \textbf{2.353} * \textbf{2.778}/\textbf{4}^{1/2}$ $= \textbf{51.668}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \textbf{N} * (\textbf{N}-1) / 2$ $= \textbf{29} * (\textbf{29}-1) / 2$ $= \textbf{406}$	Number of sample pairs during trend detection period.
6	$S = \textbf{0.353}$	Sen's estimator of trend.
7	$var(S) = \textbf{2841.0}$	Variance estimate for slope.
8	$M(S) = (\textbf{N'} \pm \textbf{Z}_{.995} * \textbf{var(S)}^{1/2}) / 2$ $= (\textbf{406} \pm \textbf{2.576} * \textbf{2841.0}^{1/2}) / 2$ $= [\ \textbf{134.348}, \textbf{271.652}\ ]$	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	$CL(S) = [\ \textbf{-1.923}, \textbf{1.683}\ ]$	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-61

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))^{½} = ((**0.64** - **2.56/4**) / (**4**-1))^{½} = **4.21**x**10^{-9}**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$ - tS/N**^{½} = **0.4** - **2.353** * **4.21**x**10^{-9}/4**^{½} = **0.4**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$ + tS/N**^{½} = **0.4** + **2.353** * **4.21**x**10^{-9}/4**^{½} = **0.4**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **31** * (**31**-1) / 2 = **465**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **2364.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**465** ± **2.576** * **2364.0**^{½}) / 2 = [**169.876**, **295.124**]	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) = [**-0.483**, **0.0**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Copper, total (ug/L) at MW-61

Step	Equation	Description
1	$\overline{X} = \textbf{sum[X]} / \textbf{N}$ $= \textbf{11.0} / \textbf{4}$ $= \textbf{2.75}$	Compute the mean of the last 4 measurements.
2	$S = ((\textbf{sum[X}^2\textbf{]} - \textbf{sum[X]}^2/\textbf{N}) / (\textbf{N}-1))^{1/2}$ $= ((\textbf{37.0} - \textbf{121.0}/\textbf{4}) / (\textbf{4}-1))^{1/2}$ $= \textbf{1.5}$	Compute sd of the last 4 measurements.
3	$LCL = \overline{\textbf{X}} - \textbf{tS}/\textbf{N}^{1/2}$ $= \textbf{2.75} - \textbf{2.353} * \textbf{1.5}/\textbf{4}^{1/2}$ $= \textbf{0.986}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \overline{\textbf{X}} + \textbf{tS}/\textbf{N}^{1/2}$ $= \textbf{2.75} + \textbf{2.353} * \textbf{1.5}/\textbf{4}^{1/2}$ $= \textbf{4.514}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \textbf{N} * (\textbf{N}-1) / 2$ $= \textbf{30} * (\textbf{30}-1) / 2$ $= \textbf{435}$	Number of sample pairs during trend detection period.
6	$S = \textbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \textbf{1308.333}$	Variance estimate for slope.
8	$M(S) = (\textbf{N'} \pm \textbf{Z}_{.995} * \textbf{var(S)}^{1/2}) / 2$ $= (\textbf{435} \pm \textbf{2.576} * \textbf{1308.333}^{1/2}) / 2$ $= [\ \textbf{170.912}, \textbf{264.088}\ ]$	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	$CL(S) = [\ \textbf{0.0}, \textbf{0.0}\ ]$	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-61

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **17.2** / **4** = **4.3**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X²] - sum[X]²/N**) / (**N**-1))$^{1/2}$ = ((**81.44 - 295.84/4**) / (**4**-1))$^{1/2}$ = **1.579**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$ - tS/N**$^{1/2}$ = **4.3** - **2.353** * **1.579/4**$^{1/2}$ = **2.443**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$ + tS/N**$^{1/2}$ = **4.3** + **2.353** * **1.579/4**$^{1/2}$ = **6.157**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **31** * (**31**-1) / 2 = **465**	Number of sample pairs during trend detection period.
6	S = **-0.945**	Sen's estimator of trend.
7	var(S) = **3431.333**	Variance estimate for slope.
8	M(S) = (**N'** ± $\mathbf{Z}_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**465** ± **2.576** * **3431.333**$^{1/2}$) / 2 = [**157.052**, **307.948**]	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) = [**-1.818**, **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-62R

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))^{½} = ((**16.0** - **64.0**/**4**) / (**4**-1))^{½} = **0.0**	Compute sd of the last 4 measurements.
3	LCL = $\overline{X}$ - **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 = $\overline{X}$ + **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 = **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) = **341.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**496** ± **2.576** * **341.0**^{½}) / 2 = [**224.216**, **271.784**]	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 MW-62R

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **4175.0** / **4** = **1043.75**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))$^{1/2}$ = ((**4.38**x**10^6** - **1.74**x**10^7**/**4**) / (**4**-1))$^{1/2}$ = **94.637**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$** - **tS**/**N**$^{1/2}$ = **1043.75** - **2.353** * **94.637**/**4**$^{1/2}$ = **932.429**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$** + **tS**/**N**$^{1/2}$ = **1043.75** + **2.353** * **94.637**/**4**$^{1/2}$ = **1155.071**	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 = **29.987**	Sen's estimator of trend.
7	var(S) = **3797.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**496** ± **2.576** * **3797.0**$^{1/2}$) / 2 = [**168.634**, **327.366**]	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) = [**20.763**, **39.125**]	Two-sided confidence interval for slope.
10	LCL(S) > 0	**Significant increasing trend.**

Worksheet 6 - Assessment Monitoring
Cobalt, total (ug/L) at MW-62R

Step	Equation	Description
1	$\bar{X} = \textbf{sum[X]} / \textbf{N}$ $= \textbf{1.6} / \textbf{4}$ $= \textbf{0.4}$	Compute the mean of the last 4 measurements.
2	$S = ((\textbf{sum[X}^2\textbf{]} - \textbf{sum[X]}^2/\textbf{N}) / (\textbf{N}-1))^{1/2}$ $= ((\textbf{0.64} - \textbf{2.56}/\textbf{4}) / (\textbf{4}-1))^{1/2}$ $= \textbf{4.21}\times\textbf{10}^{-9}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/N^{1/2}$ $= \textbf{0.4} - \textbf{2.353} * \textbf{4.21}\times\textbf{10}^{-9}/\textbf{4}^{1/2}$ $= \textbf{0.4}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{1/2}$ $= \textbf{0.4} + \textbf{2.353} * \textbf{4.21}\times\textbf{10}^{-9}/\textbf{4}^{1/2}$ $= \textbf{0.4}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \textbf{N} * (\textbf{N}-1) / 2$ $= \textbf{32} * (\textbf{32}-1) / 2$ $= \textbf{496}$	Number of sample pairs during trend detection period.
6	$S = \textbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \textbf{960.667}$	Variance estimate for slope.
8	$M(S) = (\textbf{N'} \pm \textbf{Z}_{.995} * \textbf{var(S)}^{1/2}) / 2$ $= (\textbf{496} \pm \textbf{2.576} * \textbf{960.667}^{1/2}) / 2$ $= [\ \textbf{208.079}, \textbf{287.921}\ ]$	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	$CL(S) = [\ \textbf{0.0}, \textbf{0.0}\ ]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Copper, total (ug/L) at MW-62R

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 = **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) = **960.667**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**496** ± **2.576** * **960.667**^{½}) / 2 = [**208.079**, **287.921**]	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
Nickel, total (ug/L) at MW-62R

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 = **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) = **2544.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**496** ± **2.576** * **2544.0**^{½}) / 2 = [**183.036**, **312.964**]	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) = [**-0.503**, **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-80

Step	Equation	Description
1	$\overline{X} = \textbf{sum[X]} / \textbf{N}$ $= \textbf{10.6} / \textbf{4}$ $= \textbf{2.65}$	Compute the mean of the last 4 measurements.
2	$S = ((\textbf{sum[X}^2\textbf{]} - \textbf{sum[X]}^2/\textbf{N}) / (\textbf{N}-1))^{1/2}$ $= ((\textbf{33.16} - \textbf{112.36}/\textbf{4}) / (\textbf{4}-1))^{1/2}$ $= \textbf{1.3}$	Compute sd of the last 4 measurements.
3	$LCL = \overline{\mathbf{X}} - \mathbf{tS}/\mathbf{N}^{1/2}$ $= \textbf{2.65} - \textbf{2.353} * \textbf{1.3}/\textbf{4}^{1/2}$ $= \textbf{1.121}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \overline{\mathbf{X}} + \mathbf{tS}/\mathbf{N}^{1/2}$ $= \textbf{2.65} + \textbf{2.353} * \textbf{1.3}/\textbf{4}^{1/2}$ $= \textbf{4.179}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \textbf{30} * (\textbf{30}-1) / 2$ $= \textbf{435}$	Number of sample pairs during trend detection period.
6	$S = \textbf{-0.729}$	Sen's estimator of trend.
7	$var(S) = \textbf{2733.333}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\textbf{435} \pm \textbf{2.576} * \textbf{2733.333}^{1/2}) / 2$ $= [\ \textbf{150.162}, \textbf{284.838}\ ]$	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	$CL(S) = [\ \textbf{-3.834}, \textbf{0.0}\ ]$	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-80

Step	Equation	Description
1	$\bar{X} = \textbf{sum[X]} / \textbf{N}$ $= \textbf{557.0} / \textbf{4}$ $= \textbf{139.25}$	Compute the mean of the last 4 measurements.
2	$S = ((\textbf{sum[X}^2\textbf{]} - \textbf{sum[X]}^2/\textbf{N}) / (\textbf{N}-1))^{1/2}$ $= ((\textbf{77727.0} - \textbf{310249.0/4}) / (\textbf{4}-1))^{1/2}$ $= \textbf{7.411}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/N^{1/2}$ $= \textbf{139.25} - \textbf{2.353} * \textbf{7.411/4}^{1/2}$ $= \textbf{130.533}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{1/2}$ $= \textbf{139.25} + \textbf{2.353} * \textbf{7.411/4}^{1/2}$ $= \textbf{147.967}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \textbf{N} * (\textbf{N}-1) / 2$ $= \textbf{30} * (\textbf{30}-1) / 2$ $= \textbf{435}$	Number of sample pairs during trend detection period.
6	$S = \textbf{-18.389}$	Sen's estimator of trend.
7	$var(S) = \textbf{3136.667}$	Variance estimate for slope.
8	$M(S) = (\textbf{N'} \pm \textbf{Z}_{.995} * \textbf{var(S)}^{1/2}) / 2$ $= (\textbf{435} \pm \textbf{2.576} * \textbf{3136.667}^{1/2}) / 2$ $= [\ \textbf{145.364}, \textbf{289.636}\ ]$	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	$CL(S) = [\ \textbf{-34.563}, \textbf{-10.504}\ ]$	Two-sided confidence interval for slope.
10	$UCL(S) < 0$	**Significant decreasing trend.**

Worksheet 6 - Assessment Monitoring
Cobalt, total (ug/L) at MW-80

Step	Equation	Description
1	$\bar{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{4.0} / \mathbf{4}$ $= \mathbf{1.0}$	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{½}$ $= ((\mathbf{4.26} - \mathbf{16.0}/\mathbf{4}) / (\mathbf{4}-1))^{½}$ $= \mathbf{0.294}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{\mathbf{X}} - \mathbf{tS}/\mathbf{N}^{½}$ $= \mathbf{1.0} - \mathbf{2.353} * \mathbf{0.294}/\mathbf{4}^{½}$ $= \mathbf{0.654}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\mathbf{X}} + \mathbf{tS}/\mathbf{N}^{½}$ $= \mathbf{1.0} + \mathbf{2.353} * \mathbf{0.294}/\mathbf{4}^{½}$ $= \mathbf{1.346}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{30} * (\mathbf{30}-1) / 2$ $= \mathbf{435}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \mathbf{2974.667}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{½}) / 2$ $= (\mathbf{435} \pm \mathbf{2.576} * \mathbf{2974.667}^{½}) / 2$ $= [\ \mathbf{147.252}, \mathbf{287.748}\ ]$	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	$CL(S) = [\ \mathbf{-0.202}, \mathbf{0.117}\ ]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Copper, total (ug/L) at MW-80

Step	Equation	Description
1	$\bar{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{8.0} / \mathbf{4}$ $= \mathbf{2.0}$	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	$LCL = \bar{\mathbf{X}} - \mathbf{tS/N}^{1/2}$ $= \mathbf{2.0} - \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ $= \mathbf{2.0}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\mathbf{X}} + \mathbf{tS/N}^{1/2}$ $= \mathbf{2.0} + \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ $= \mathbf{2.0}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{30} * (\mathbf{30}-1) / 2$ $= \mathbf{435}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \mathbf{2045.0}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{435} \pm \mathbf{2.576} * \mathbf{2045.0}^{1/2}) / 2$ $= [\ \mathbf{159.254}, \mathbf{275.746}\ ]$	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	$CL(S) = [\ \mathbf{-0.775}, \mathbf{0.0}\ ]$	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-80

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 = **30** * (**30**-1) / 2 = **435**	Number of sample pairs during trend detection period.
6	S = **-0.915**	Sen's estimator of trend.
7	var(S) = **3048.667**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**435** ± **2.576** * **3048.667**^{½}) / 2 = [**146.383**, **288.617**]	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) = [**-1.762**, **-0.146**]	Two-sided confidence interval for slope.
10	UCL(S) < 0	**Significant decreasing trend.**

Worksheet 6 - Assessment Monitoring
Arsenic, total (ug/L) at SW-101R

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **16.5** / **4** = **4.125**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**75.39** - **272.25**/**4**) / (**4**-1))^{½} = **1.563**	Compute sd of the last 4 measurements.
3	LCL = $\overline{\mathbf{X}}$ - **tS**/**N**^{½} = **4.125** - **2.353** * **1.563**/**4**^{½} = **2.287**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = $\overline{\mathbf{X}}$ + **tS**/**N**^{½} = **4.125** + **2.353** * **1.563**/**4**^{½} = **5.963**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **10** * (**10**-1) / 2 = **45**	Number of sample pairs during trend detection period.
6	S = **-0.357**	Sen's estimator of trend.
7	var(S) = **123.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**45** ± **2.576** * **123.0**^{½}) / 2 = [**8.215**, **36.785**]	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) = [**-3.737**, **1.744**]	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 SW-101R

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **991.0** / **4** = **247.75**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))$^{1/2}$ = ((**246053.0** - **982081.0**/**4**) / (**4**-1))$^{1/2}$ = **13.326**	Compute sd of the last 4 measurements.
3	LCL = $\bar{X}$ - **tS**/**N**$^{1/2}$ = **247.75** - **2.353** * **13.326**/**4**$^{1/2}$ = **232.075**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = $\bar{X}$ + **tS**/**N**$^{1/2}$ = **247.75** + **2.353** * **13.326**/**4**$^{1/2}$ = **263.425**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **10** * (**10**-1) / 2 = **45**	Number of sample pairs during trend detection period.
6	S = **0.675**	Sen's estimator of trend.
7	var(S) = **124.0**	Variance estimate for slope.
8	M(S) = (**N'** ± $Z_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**45** ± **2.576** * **124.0**$^{1/2}$) / 2 = [**8.157**, **36.843**]	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) = [**-31.011**, **26.915**]	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 SW-101R

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **13.7** / **4** = **3.425**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))$^{1/2}$ = ((**48.31** - **187.69**/**4**) / (**4**-1))$^{1/2}$ = **0.68**	Compute sd of the last 4 measurements.
3	LCL = $\overline{X}$ - **tS**/**N**$^{1/2}$ = **3.425** - **2.353** * **0.68**/**4**$^{1/2}$ = **2.625**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = $\overline{X}$ + **tS**/**N**$^{1/2}$ = **3.425** + **2.353** * **0.68**/**4**$^{1/2}$ = **4.225**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **10** * (**10**-1) / 2 = **45**	Number of sample pairs during trend detection period.
6	S = **0.025**	Sen's estimator of trend.
7	var(S) = **125.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**45** ± **2.576** * **125.0**$^{1/2}$) / 2 = [**8.1**, **36.9**]	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) = [**-1.386**, **1.258**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Copper, total (ug/L) at SW-101R

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	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{½}$ $= ((\mathbf{16.0} - \mathbf{64.0/4}) / (\mathbf{4}-1))^{½}$ $= \mathbf{0.0}$	Compute sd of the last 4 measurements.
3	$LCL = \overline{\mathbf{X}} - \mathbf{tS/N}^{½}$ $= \mathbf{2.0} - \mathbf{2.353} * \mathbf{0.0/4}^{½}$ $= \mathbf{2.0}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \overline{\mathbf{X}} + \mathbf{tS/N}^{½}$ $= \mathbf{2.0} + \mathbf{2.353} * \mathbf{0.0/4}^{½}$ $= \mathbf{2.0}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{10} * (\mathbf{10}-1) / 2$ $= \mathbf{45}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \mathbf{0.0}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{½}) / 2$ $= (\mathbf{45} \pm \mathbf{2.576} * \mathbf{0.0}^{½}) / 2$ $= [\ \mathbf{22.5}, \mathbf{22.5}\ ]$	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
Nickel, total (ug/L) at SW-101R

Step	Equation	Description
1	$\bar{X} = \textbf{sum[X]} / \textbf{N}$ $= \textbf{13.6} / \textbf{4}$ $= \textbf{3.4}$	Compute the mean of the last 4 measurements.
2	$S = ((\textbf{sum[X}^2\textbf{]} - \textbf{sum[X]}^2/\textbf{N}) / (\textbf{N}-1))^{1/2}$ $= ((\textbf{54.1} - \textbf{184.96/4}) / (\textbf{4}-1))^{1/2}$ $= \textbf{1.619}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{\textbf{X}} - \textbf{tS/N}^{1/2}$ $= \textbf{3.4} - \textbf{2.353} * \textbf{1.619/4}^{1/2}$ $= \textbf{1.496}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\textbf{X}} + \textbf{tS/N}^{1/2}$ $= \textbf{3.4} + \textbf{2.353} * \textbf{1.619/4}^{1/2}$ $= \textbf{5.304}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \textbf{N} * (\textbf{N}-1) / 2$ $= \textbf{10} * (\textbf{10}-1) / 2$ $= \textbf{45}$	Number of sample pairs during trend detection period.
6	$S = \textbf{-0.149}$	Sen's estimator of trend.
7	$var(S) = \textbf{116.333}$	Variance estimate for slope.
8	$M(S) = (\textbf{N'} \pm \textbf{Z}_{.995} * \textbf{var(S)}^{1/2}) / 2$ $= (\textbf{45} \pm \textbf{2.576} * \textbf{116.333}^{1/2}) / 2$ $= [\ \textbf{8.608}, \textbf{36.392}\ ]$	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	$CL(S) = [\ \textbf{-2.526}, \textbf{1.124}\ ]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Attachment D

Summary Tables and Graphs for the Interwell Comparisons – Old Landfill

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony, total	ug/L	MW-39	09/24/2014	ND	2.0000		
Antimony, total	ug/L	MW-39	12/05/2014	ND	2.0000		
Antimony, total	ug/L	MW-39	03/11/2015	ND	2.0000		
Antimony, total	ug/L	MW-39	06/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-39	09/17/2015	ND	2.0000		
Antimony, total	ug/L	MW-39	03/22/2016	ND	2.0000		
Antimony, total	ug/L	MW-39	09/15/2016	ND	2.0000		
Antimony, total	ug/L	MW-39	03/23/2017	ND	2.0000		
Antimony, total	ug/L	MW-39	09/08/2017	ND	2.0000		
Antimony, total	ug/L	MW-39	03/19/2018	ND	2.0000		
Antimony, total	ug/L	MW-39	09/11/2018	ND	2.0000		
Antimony, total	ug/L	MW-39	03/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-39	09/04/2019	ND	2.0000		
Antimony, total	ug/L	MW-39	03/26/2020	ND	2.0000		
Antimony, total	ug/L	MW-39	09/15/2020	ND	2.0000		
Antimony, total	ug/L	MW-39	03/02/2021	ND	2.0000		
Antimony, total	ug/L	MW-39	09/07/2021	ND	2.0000		
Antimony, total	ug/L	MW-39	03/24/2022	ND	2.0000		
Antimony, total	ug/L	MW-39	08/31/2022	ND	2.0000		
Antimony, total	ug/L	MW-39	03/02/2023	ND	2.0000		
Antimony, total	ug/L	MW-39	09/12/2023	ND	2.0000		
Antimony, total	ug/L	MW-39	03/04/2024	ND	2.0000		
Antimony, total	ug/L	MW-39	09/23/2024	ND	2.0000		
Arsenic, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Arsenic, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Arsenic, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Arsenic, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Arsenic, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Arsenic, total	ug/L	MW-39	09/23/2024	ND	4.0000		
Barium, total	ug/L	MW-39	09/24/2014		60.6000		
Barium, total	ug/L	MW-39	12/05/2014		139.0000		
Barium, total	ug/L	MW-39	03/11/2015		136.0000		
Barium, total	ug/L	MW-39	06/16/2015		148.0000		
Barium, total	ug/L	MW-39	09/17/2015		128.0000		
Barium, total	ug/L	MW-39	03/22/2016		123.0000		
Barium, total	ug/L	MW-39	09/15/2016		103.0000		
Barium, total	ug/L	MW-39	03/23/2017		129.0000		
Barium, total	ug/L	MW-39	09/08/2017		117.0000		
Barium, total	ug/L	MW-39	03/19/2018		131.0000		
Barium, total	ug/L	MW-39	09/11/2018		114.0000		
Barium, total	ug/L	MW-39	03/26/2019		121.0000		
Barium, total	ug/L	MW-39	09/04/2019		138.0000		
Barium, total	ug/L	MW-39	03/26/2020		150.0000		
Barium, total	ug/L	MW-39	09/15/2020		136.0000		
Barium, total	ug/L	MW-39	03/02/2021		125.0000		
Barium, total	ug/L	MW-39	09/07/2021		141.0000		
Barium, total	ug/L	MW-39	03/24/2022		137.0000		
Barium, total	ug/L	MW-39	08/31/2022		132.0000		
Barium, total	ug/L	MW-39	03/02/2023		134.0000		
Barium, total	ug/L	MW-39	09/12/2023		133.0000		
Barium, total	ug/L	MW-39	03/04/2024		128.0000		
Barium, total	ug/L	MW-39	09/23/2024		119.0000		
Beryllium, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Beryllium, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Beryllium, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/17/2015	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-39	03/22/2016	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Beryllium, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Beryllium, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Beryllium, total	ug/L	MW-39	09/23/2024	ND	4.0000		
Cadmium, total	ug/L	MW-39	09/24/2014	ND	0.8000		
Cadmium, total	ug/L	MW-39	12/05/2014	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/11/2015	ND	0.8000		
Cadmium, total	ug/L	MW-39	06/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/17/2015	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/22/2016	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/15/2016	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/23/2017	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/08/2017	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/19/2018	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/11/2018	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/26/2019	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/04/2019	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/26/2020	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/15/2020	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/02/2021	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/07/2021	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/24/2022	ND	0.8000		
Cadmium, total	ug/L	MW-39	08/31/2022	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/02/2023	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/12/2023	ND	0.8000		
Cadmium, total	ug/L	MW-39	03/04/2024	ND	0.8000		
Cadmium, total	ug/L	MW-39	09/23/2024	ND	0.8000		
Chromium, total	ug/L	MW-39	09/24/2014	ND	8.0000		
Chromium, total	ug/L	MW-39	12/05/2014	ND	8.0000		
Chromium, total	ug/L	MW-39	03/11/2015	ND	8.0000		
Chromium, total	ug/L	MW-39	06/16/2015	ND	8.0000		
Chromium, total	ug/L	MW-39	09/17/2015	ND	8.0000		
Chromium, total	ug/L	MW-39	03/22/2016	ND	8.0000		
Chromium, total	ug/L	MW-39	09/15/2016	ND	8.0000		
Chromium, total	ug/L	MW-39	03/23/2017	ND	8.0000		
Chromium, total	ug/L	MW-39	09/08/2017	ND	8.0000		
Chromium, total	ug/L	MW-39	03/19/2018	ND	8.0000		
Chromium, total	ug/L	MW-39	09/11/2018	ND	8.0000		
Chromium, total	ug/L	MW-39	03/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-39	09/04/2019	ND	8.0000		
Chromium, total	ug/L	MW-39	03/26/2020	ND	8.0000		
Chromium, total	ug/L	MW-39	09/15/2020	ND	8.0000		
Chromium, total	ug/L	MW-39	03/02/2021	ND	8.0000		
Chromium, total	ug/L	MW-39	09/07/2021	ND	8.0000		
Chromium, total	ug/L	MW-39	03/24/2022	ND	8.0000		
Chromium, total	ug/L	MW-39	08/31/2022	ND	8.0000		
Chromium, total	ug/L	MW-39	03/02/2023	ND	8.0000		
Chromium, total	ug/L	MW-39	09/12/2023	ND	8.0000		
Chromium, total	ug/L	MW-39	03/04/2024	ND	8.0000		
Chromium, total	ug/L	MW-39	09/23/2024	ND	8.0000		
Cobalt, total	ug/L	MW-39	09/24/2014	ND	0.8000		
Cobalt, total	ug/L	MW-39	12/05/2014	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/11/2015	ND	0.8000		
Cobalt, total	ug/L	MW-39	06/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/17/2015	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/22/2016	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/15/2016	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/23/2017	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/08/2017	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/19/2018	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	
Cobalt, total	ug/L	MW-39	09/11/2018	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/26/2019	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/04/2019	ND	0.8000		
Cobalt, total	ug/L	MW-39	03/26/2020	ND	0.8000		
Cobalt, total	ug/L	MW-39	09/15/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	03/02/2021		0.8000		
Cobalt, total	ug/L	MW-39	09/07/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	03/24/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	08/31/2022		0.8000		
Cobalt, total	ug/L	MW-39	03/02/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	09/12/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	03/04/2024	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-39	09/23/2024	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Copper, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Copper, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Copper, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Copper, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Copper, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Copper, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Copper, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Copper, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Copper, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Copper, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Copper, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Copper, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Copper, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Copper, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Copper, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Copper, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Copper, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Copper, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Copper, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Copper, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Copper, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Copper, total	ug/L	MW-39	09/23/2024	ND	4.0000		
Lead, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Lead, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Lead, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Lead, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Lead, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Lead, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Lead, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Lead, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Lead, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Lead, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Lead, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Lead, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Lead, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Lead, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Lead, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Lead, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Lead, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Lead, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Lead, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Lead, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Lead, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Lead, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Lead, total	ug/L	MW-39	09/23/2024	ND	4.0000		
Nickel, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Nickel, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Nickel, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Nickel, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Nickel, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Nickel, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Nickel, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Nickel, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Nickel, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Nickel, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Nickel, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Nickel, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Nickel, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Nickel, total	ug/L	MW-39	09/15/2020	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	
Nickel, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Nickel, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Nickel, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Nickel, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Nickel, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Nickel, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Nickel, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Nickel, total	ug/L	MW-39	09/23/2024	ND	4.0000		
Selenium, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Selenium, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Selenium, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Selenium, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Selenium, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Selenium, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Selenium, total	ug/L	MW-39	09/15/2016	ND	4.0000		
Selenium, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Selenium, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Selenium, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Selenium, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Selenium, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Selenium, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Selenium, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Selenium, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Selenium, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Selenium, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Selenium, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Selenium, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Selenium, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Selenium, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Selenium, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Selenium, total	ug/L	MW-39	09/23/2024	ND	4.0000		
Silver, total	ug/L	MW-39	09/24/2014	ND	4.0000		
Silver, total	ug/L	MW-39	12/05/2014	ND	4.0000		
Silver, total	ug/L	MW-39	03/11/2015	ND	4.0000		
Silver, total	ug/L	MW-39	06/16/2015	ND	4.0000		
Silver, total	ug/L	MW-39	09/17/2015	ND	4.0000		
Silver, total	ug/L	MW-39	03/22/2016	ND	4.0000		
Silver, total	ug/L	MW-39	09/15/2016		6.4000		
Silver, total	ug/L	MW-39	03/23/2017	ND	4.0000		
Silver, total	ug/L	MW-39	09/08/2017	ND	4.0000		
Silver, total	ug/L	MW-39	03/19/2018	ND	4.0000		
Silver, total	ug/L	MW-39	09/11/2018	ND	4.0000		
Silver, total	ug/L	MW-39	03/26/2019	ND	4.0000		
Silver, total	ug/L	MW-39	09/04/2019	ND	4.0000		
Silver, total	ug/L	MW-39	03/26/2020	ND	4.0000		
Silver, total	ug/L	MW-39	09/15/2020	ND	4.0000		
Silver, total	ug/L	MW-39	03/02/2021	ND	4.0000		
Silver, total	ug/L	MW-39	09/07/2021	ND	4.0000		
Silver, total	ug/L	MW-39	03/24/2022	ND	4.0000		
Silver, total	ug/L	MW-39	08/31/2022	ND	4.0000		
Silver, total	ug/L	MW-39	03/02/2023	ND	4.0000		
Silver, total	ug/L	MW-39	09/12/2023	ND	4.0000		
Silver, total	ug/L	MW-39	03/04/2024	ND	4.0000		
Silver, total	ug/L	MW-39	09/23/2024	ND	4.0000		
Thallium, total	ug/L	MW-39	09/24/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	12/05/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	03/11/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	06/16/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	09/17/2015		2.4000		
Thallium, total	ug/L	MW-39	03/22/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	09/15/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	03/23/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	09/08/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	03/19/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	09/11/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-39	03/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-39	09/04/2019	ND	2.0000		
Thallium, total	ug/L	MW-39	03/26/2020	ND	2.0000		
Thallium, total	ug/L	MW-39	09/15/2020	ND	2.0000		
Thallium, total	ug/L	MW-39	03/02/2021	ND	2.0000		
Thallium, total	ug/L	MW-39	09/07/2021	ND	2.0000		
Thallium, total	ug/L	MW-39	03/24/2022	ND	2.0000		
Thallium, total	ug/L	MW-39	08/31/2022	ND	2.0000		
Thallium, total	ug/L	MW-39	03/02/2023	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-39	09/12/2023	ND	2.0000		
Thallium, total	ug/L	MW-39	03/04/2024	ND	2.0000		
Thallium, total	ug/L	MW-39	09/23/2024	ND	2.0000		
Vanadium, total	ug/L	MW-39	09/24/2014	ND	20.0000		
Vanadium, total	ug/L	MW-39	12/05/2014	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/11/2015	ND	20.0000		
Vanadium, total	ug/L	MW-39	06/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/17/2015	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/22/2016	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/15/2016	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/23/2017	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/08/2017	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/19/2018	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/11/2018	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/04/2019	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/26/2020	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/15/2020	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/02/2021	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/07/2021	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/24/2022	ND	20.0000		
Vanadium, total	ug/L	MW-39	08/31/2022	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/02/2023	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/12/2023	ND	20.0000		
Vanadium, total	ug/L	MW-39	03/04/2024	ND	20.0000		
Vanadium, total	ug/L	MW-39	09/23/2024	ND	20.0000		
Zinc, total	ug/L	MW-39	09/24/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	12/05/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	03/11/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	06/16/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	09/17/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	03/22/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	09/15/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	03/23/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	09/08/2017	ND	20.0000		
Zinc, total	ug/L	MW-39	03/19/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	09/11/2018	ND	20.0000		
Zinc, total	ug/L	MW-39	03/26/2019		24.6000		
Zinc, total	ug/L	MW-39	09/04/2019	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-39	03/26/2020	ND	20.0000		
Zinc, total	ug/L	MW-39	09/15/2020	ND	20.0000		
Zinc, total	ug/L	MW-39	03/02/2021	ND	20.0000		
Zinc, total	ug/L	MW-39	09/07/2021	ND	20.0000		
Zinc, total	ug/L	MW-39	03/24/2022	ND	20.0000		
Zinc, total	ug/L	MW-39	08/31/2022	ND	20.0000		
Zinc, total	ug/L	MW-39	03/02/2023	ND	20.0000		
Zinc, total	ug/L	MW-39	09/12/2023	ND	20.0000		
Zinc, total	ug/L	MW-39	03/04/2024	ND	20.0000		
Zinc, total	ug/L	MW-39	09/23/2024	ND	20.0000		
Antimony, total	ug/L	MW-48	09/24/2014	ND	2.0000		
Antimony, total	ug/L	MW-48	12/05/2014	ND	2.0000		
Antimony, total	ug/L	MW-48	03/11/2015	ND	2.0000		
Antimony, total	ug/L	MW-48	06/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-48	09/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-48	03/22/2016	ND	2.0000		
Antimony, total	ug/L	MW-48	09/14/2016	ND	2.0000		
Antimony, total	ug/L	MW-48	03/23/2017	ND	2.0000		
Antimony, total	ug/L	MW-48	09/08/2017	ND	2.0000		
Antimony, total	ug/L	MW-48	03/19/2018	ND	2.0000		
Antimony, total	ug/L	MW-48	09/11/2018	ND	2.0000		
Antimony, total	ug/L	MW-48	03/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-48	09/04/2019	ND	2.0000		
Antimony, total	ug/L	MW-48	03/26/2020	ND	2.0000		
Antimony, total	ug/L	MW-48	09/15/2020	ND	2.0000		
Antimony, total	ug/L	MW-48	03/02/2021	ND	2.0000		
Antimony, total	ug/L	MW-48	09/07/2021	ND	2.0000		
Antimony, total	ug/L	MW-48	03/24/2022	ND	2.0000		
Antimony, total	ug/L	MW-48	08/31/2022	ND	2.0000		
Antimony, total	ug/L	MW-48	03/02/2023	ND	2.0000		
Antimony, total	ug/L	MW-48	09/12/2023	ND	2.0000		
Antimony, total	ug/L	MW-48	03/04/2024	ND	2.0000		
Antimony, total	ug/L	MW-48	09/23/2024	ND	2.0000		
Arsenic, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Arsenic, total	ug/L	MW-48	12/05/2014	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	
Arsenic, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Arsenic, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Arsenic, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Arsenic, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Arsenic, total	ug/L	MW-48	09/23/2024	ND	4.0000		
Barium, total	ug/L	MW-48	09/24/2014		181.0000		
Barium, total	ug/L	MW-48	12/05/2014		168.0000		
Barium, total	ug/L	MW-48	03/11/2015		143.0000		
Barium, total	ug/L	MW-48	06/16/2015		161.0000		
Barium, total	ug/L	MW-48	09/16/2015		150.0000		
Barium, total	ug/L	MW-48	03/22/2016		153.0000		
Barium, total	ug/L	MW-48	09/14/2016		140.0000		
Barium, total	ug/L	MW-48	03/23/2017		146.0000		
Barium, total	ug/L	MW-48	09/08/2017		171.0000		
Barium, total	ug/L	MW-48	03/19/2018		145.0000		
Barium, total	ug/L	MW-48	09/11/2018		151.0000		
Barium, total	ug/L	MW-48	03/26/2019		153.0000		
Barium, total	ug/L	MW-48	09/04/2019		160.0000		
Barium, total	ug/L	MW-48	03/26/2020		156.0000		
Barium, total	ug/L	MW-48	09/15/2020		152.0000		
Barium, total	ug/L	MW-48	03/02/2021		159.0000		
Barium, total	ug/L	MW-48	09/07/2021		149.0000		
Barium, total	ug/L	MW-48	03/24/2022		143.0000		
Barium, total	ug/L	MW-48	08/31/2022		157.0000		
Barium, total	ug/L	MW-48	03/02/2023		149.0000		
Barium, total	ug/L	MW-48	09/12/2023		168.0000		
Barium, total	ug/L	MW-48	03/04/2024		149.0000		
Barium, total	ug/L	MW-48	09/23/2024		148.0000		
Beryllium, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Beryllium, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Beryllium, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Beryllium, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Beryllium, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Beryllium, total	ug/L	MW-48	09/23/2024	ND	4.0000		
Cadmium, total	ug/L	MW-48	09/24/2014	ND	0.8000		
Cadmium, total	ug/L	MW-48	12/05/2014	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/11/2015	ND	0.8000		
Cadmium, total	ug/L	MW-48	06/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/22/2016	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/14/2016	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-48	03/23/2017	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/08/2017	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/19/2018	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/11/2018	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/26/2019	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/04/2019	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/26/2020	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/15/2020	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/02/2021	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/07/2021	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/24/2022	ND	0.8000		
Cadmium, total	ug/L	MW-48	08/31/2022	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/02/2023	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/12/2023	ND	0.8000		
Cadmium, total	ug/L	MW-48	03/04/2024	ND	0.8000		
Cadmium, total	ug/L	MW-48	09/23/2024	ND	0.8000		
Chromium, total	ug/L	MW-48	09/24/2014	ND	8.0000		
Chromium, total	ug/L	MW-48	12/05/2014	ND	8.0000		
Chromium, total	ug/L	MW-48	03/11/2015	ND	8.0000		
Chromium, total	ug/L	MW-48	06/16/2015	ND	8.0000		
Chromium, total	ug/L	MW-48	09/16/2015	ND	8.0000		
Chromium, total	ug/L	MW-48	03/22/2016	ND	8.0000		
Chromium, total	ug/L	MW-48	09/14/2016	ND	8.0000		
Chromium, total	ug/L	MW-48	03/23/2017	ND	8.0000		
Chromium, total	ug/L	MW-48	09/08/2017	ND	8.0000		
Chromium, total	ug/L	MW-48	03/19/2018	ND	8.0000		
Chromium, total	ug/L	MW-48	09/11/2018	ND	8.0000		
Chromium, total	ug/L	MW-48	03/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-48	09/04/2019	ND	8.0000		
Chromium, total	ug/L	MW-48	03/26/2020	ND	8.0000		
Chromium, total	ug/L	MW-48	09/15/2020	ND	8.0000		
Chromium, total	ug/L	MW-48	03/02/2021	ND	8.0000		
Chromium, total	ug/L	MW-48	09/07/2021	ND	8.0000		
Chromium, total	ug/L	MW-48	03/24/2022	ND	8.0000		
Chromium, total	ug/L	MW-48	08/31/2022	ND	8.0000		
Chromium, total	ug/L	MW-48	03/02/2023	ND	8.0000		
Chromium, total	ug/L	MW-48	09/12/2023	ND	8.0000		
Chromium, total	ug/L	MW-48	03/04/2024	ND	8.0000		
Chromium, total	ug/L	MW-48	09/23/2024	ND	8.0000		
Cobalt, total	ug/L	MW-48	09/24/2014	ND	0.8000		
Cobalt, total	ug/L	MW-48	12/05/2014	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/11/2015	ND	0.8000		
Cobalt, total	ug/L	MW-48	06/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/22/2016	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/14/2016	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/23/2017	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/08/2017	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/19/2018	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/11/2018	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/26/2019	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/04/2019	ND	0.8000		
Cobalt, total	ug/L	MW-48	03/26/2020	ND	0.8000		
Cobalt, total	ug/L	MW-48	09/15/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	03/02/2021		0.9000		
Cobalt, total	ug/L	MW-48	09/07/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	03/24/2022		0.4000		
Cobalt, total	ug/L	MW-48	08/31/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	03/02/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	09/12/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	03/04/2024	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-48	09/23/2024	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Copper, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Copper, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Copper, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Copper, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Copper, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Copper, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Copper, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Copper, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Copper, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Copper, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Copper, total	ug/L	MW-48	03/26/2019	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	
Copper, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Copper, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Copper, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Copper, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Copper, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Copper, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Copper, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Copper, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Copper, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Copper, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Copper, total	ug/L	MW-48	09/23/2024	ND	4.0000		
Lead, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Lead, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Lead, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Lead, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Lead, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Lead, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Lead, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Lead, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Lead, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Lead, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Lead, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Lead, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Lead, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Lead, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Lead, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Lead, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Lead, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Lead, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Lead, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Lead, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Lead, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Lead, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Lead, total	ug/L	MW-48	09/23/2024	ND	4.0000		
Nickel, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Nickel, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Nickel, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Nickel, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Nickel, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Nickel, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Nickel, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Nickel, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Nickel, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Nickel, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Nickel, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Nickel, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Nickel, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Nickel, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Nickel, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Nickel, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Nickel, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Nickel, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Nickel, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Nickel, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Nickel, total	ug/L	MW-48	09/23/2024	ND	4.0000		
Selenium, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Selenium, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Selenium, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Selenium, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Selenium, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Selenium, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Selenium, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Selenium, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Selenium, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Selenium, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Selenium, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Selenium, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Selenium, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Selenium, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Selenium, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Selenium, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Selenium, total	ug/L	MW-48	09/07/2021	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-48	03/24/2022	ND	4.0000		
Selenium, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Selenium, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Selenium, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Selenium, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Selenium, total	ug/L	MW-48	09/23/2024	ND	4.0000		
Silver, total	ug/L	MW-48	09/24/2014	ND	4.0000		
Silver, total	ug/L	MW-48	12/05/2014	ND	4.0000		
Silver, total	ug/L	MW-48	03/11/2015	ND	4.0000		
Silver, total	ug/L	MW-48	06/16/2015	ND	4.0000		
Silver, total	ug/L	MW-48	09/16/2015	ND	4.0000		
Silver, total	ug/L	MW-48	03/22/2016	ND	4.0000		
Silver, total	ug/L	MW-48	09/14/2016	ND	4.0000		
Silver, total	ug/L	MW-48	03/23/2017	ND	4.0000		
Silver, total	ug/L	MW-48	09/08/2017	ND	4.0000		
Silver, total	ug/L	MW-48	03/19/2018	ND	4.0000		
Silver, total	ug/L	MW-48	09/11/2018	ND	4.0000		
Silver, total	ug/L	MW-48	03/26/2019	ND	4.0000		
Silver, total	ug/L	MW-48	09/04/2019	ND	4.0000		
Silver, total	ug/L	MW-48	03/26/2020	ND	4.0000		
Silver, total	ug/L	MW-48	09/15/2020	ND	4.0000		
Silver, total	ug/L	MW-48	03/02/2021	ND	4.0000		
Silver, total	ug/L	MW-48	09/07/2021	ND	4.0000		
Silver, total	ug/L	MW-48	03/24/2022	ND	4.0000		
Silver, total	ug/L	MW-48	08/31/2022	ND	4.0000		
Silver, total	ug/L	MW-48	03/02/2023	ND	4.0000		
Silver, total	ug/L	MW-48	09/12/2023	ND	4.0000		
Silver, total	ug/L	MW-48	03/04/2024	ND	4.0000		
Silver, total	ug/L	MW-48	09/23/2024	ND	4.0000		
Thallium, total	ug/L	MW-48	09/24/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	12/05/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/11/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	06/16/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	09/16/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/22/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	09/14/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/23/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	09/08/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/19/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	09/11/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-48	03/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-48	09/04/2019	ND	2.0000		
Thallium, total	ug/L	MW-48	03/26/2020	ND	2.0000		
Thallium, total	ug/L	MW-48	09/15/2020	ND	2.0000		
Thallium, total	ug/L	MW-48	03/02/2021	ND	2.0000		
Thallium, total	ug/L	MW-48	09/07/2021	ND	2.0000		
Thallium, total	ug/L	MW-48	03/24/2022	ND	2.0000		
Thallium, total	ug/L	MW-48	08/31/2022	ND	2.0000		
Thallium, total	ug/L	MW-48	03/02/2023	ND	2.0000		
Thallium, total	ug/L	MW-48	09/12/2023	ND	2.0000		
Thallium, total	ug/L	MW-48	03/04/2024	ND	2.0000		
Thallium, total	ug/L	MW-48	09/23/2024	ND	2.0000		
Vanadium, total	ug/L	MW-48	09/24/2014	ND	20.0000		
Vanadium, total	ug/L	MW-48	12/05/2014	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/11/2015	ND	20.0000		
Vanadium, total	ug/L	MW-48	06/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/22/2016	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/14/2016	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/23/2017	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/08/2017	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/19/2018	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/11/2018	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/04/2019	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/26/2020	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/15/2020	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/02/2021	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/07/2021	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/24/2022	ND	20.0000		
Vanadium, total	ug/L	MW-48	08/31/2022	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/02/2023	ND	20.0000		
Vanadium, total	ug/L	MW-48	09/12/2023	ND	20.0000		
Vanadium, total	ug/L	MW-48	03/04/2024	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	
Vanadium, total	ug/L	MW-48	09/23/2024	ND	20.0000		
Zinc, total	ug/L	MW-48	09/24/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	12/05/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	03/11/2015		32.3000		
Zinc, total	ug/L	MW-48	06/16/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	09/16/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	03/22/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	09/14/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	03/23/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	09/08/2017	ND	20.0000		
Zinc, total	ug/L	MW-48	03/19/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	09/11/2018	ND	20.0000		
Zinc, total	ug/L	MW-48	03/26/2019	ND	20.0000		
Zinc, total	ug/L	MW-48	09/04/2019	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-48	03/26/2020	ND	20.0000		
Zinc, total	ug/L	MW-48	09/15/2020	ND	20.0000		
Zinc, total	ug/L	MW-48	03/02/2021	ND	20.0000		
Zinc, total	ug/L	MW-48	09/07/2021	ND	20.0000		
Zinc, total	ug/L	MW-48	03/24/2022	ND	20.0000		
Zinc, total	ug/L	MW-48	08/31/2022	ND	20.0000		
Zinc, total	ug/L	MW-48	03/02/2023	ND	20.0000		
Zinc, total	ug/L	MW-48	09/12/2023	ND	20.0000		
Zinc, total	ug/L	MW-48	03/04/2024	ND	20.0000		
Zinc, total	ug/L	MW-48	09/23/2024	ND	20.0000		
Antimony, total	ug/L	MW-78	09/24/2014	ND	2.0000		
Antimony, total	ug/L	MW-78	12/05/2014	ND	2.0000		
Antimony, total	ug/L	MW-78	03/11/2015	ND	2.0000		
Antimony, total	ug/L	MW-78	06/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-78	09/16/2015	ND	2.0000		
Antimony, total	ug/L	MW-78	03/22/2016	ND	2.0000		
Antimony, total	ug/L	MW-78	09/15/2016	ND	2.0000		
Antimony, total	ug/L	MW-78	03/23/2017	ND	2.0000		
Antimony, total	ug/L	MW-78	09/08/2017	ND	2.0000		
Antimony, total	ug/L	MW-78	03/19/2018	ND	2.0000		
Antimony, total	ug/L	MW-78	09/11/2018	ND	2.0000		
Antimony, total	ug/L	MW-78	03/26/2019	ND	2.0000		
Antimony, total	ug/L	MW-78	09/04/2019	ND	2.0000		
Antimony, total	ug/L	MW-78	03/26/2020	ND	2.0000		
Antimony, total	ug/L	MW-78	09/15/2020	ND	2.0000		
Antimony, total	ug/L	MW-78	03/02/2021	ND	2.0000		
Antimony, total	ug/L	MW-78	09/07/2021	ND	2.0000		
Antimony, total	ug/L	MW-78	03/24/2022	ND	2.0000		
Antimony, total	ug/L	MW-78	08/31/2022	ND	2.0000		
Antimony, total	ug/L	MW-78	03/02/2023	ND	2.0000		
Antimony, total	ug/L	MW-78	09/12/2023	ND	2.0000		
Antimony, total	ug/L	MW-78	03/04/2024	ND	2.0000		
Antimony, total	ug/L	MW-78	09/23/2024	ND	2.0000		
Arsenic, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Arsenic, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Arsenic, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Arsenic, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Arsenic, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Arsenic, total	ug/L	MW-78	09/23/2024	ND	4.0000		
Barium, total	ug/L	MW-78	09/24/2014		304.0000		
Barium, total	ug/L	MW-78	12/05/2014		291.0000		
Barium, total	ug/L	MW-78	03/11/2015		304.0000		
Barium, total	ug/L	MW-78	06/16/2015		329.0000		

* - 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-78	09/16/2015		298.0000		
Barium, total	ug/L	MW-78	03/22/2016		309.0000		
Barium, total	ug/L	MW-78	09/15/2016		311.0000		
Barium, total	ug/L	MW-78	03/23/2017		307.0000		
Barium, total	ug/L	MW-78	09/08/2017		357.0000		
Barium, total	ug/L	MW-78	03/19/2018		320.0000		
Barium, total	ug/L	MW-78	09/11/2018		295.0000		
Barium, total	ug/L	MW-78	03/26/2019		285.0000		
Barium, total	ug/L	MW-78	09/04/2019		332.0000		
Barium, total	ug/L	MW-78	03/26/2020		304.0000		
Barium, total	ug/L	MW-78	09/15/2020		319.0000		
Barium, total	ug/L	MW-78	03/02/2021		304.0000		
Barium, total	ug/L	MW-78	09/07/2021		332.0000		
Barium, total	ug/L	MW-78	03/24/2022		291.0000		
Barium, total	ug/L	MW-78	08/31/2022		340.0000		
Barium, total	ug/L	MW-78	03/02/2023		345.0000		
Barium, total	ug/L	MW-78	09/12/2023		309.0000		
Barium, total	ug/L	MW-78	03/04/2024		341.0000		
Barium, total	ug/L	MW-78	09/23/2024		284.0000		
Beryllium, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Beryllium, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Beryllium, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Beryllium, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Beryllium, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Beryllium, total	ug/L	MW-78	09/23/2024	ND	4.0000		
Cadmium, total	ug/L	MW-78	09/24/2014	ND	0.8000		
Cadmium, total	ug/L	MW-78	12/05/2014	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/11/2015	ND	0.8000		
Cadmium, total	ug/L	MW-78	06/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/16/2015	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/22/2016	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/15/2016	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/23/2017	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/08/2017	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/19/2018	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/11/2018	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/26/2019	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/04/2019	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/26/2020	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/15/2020	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/02/2021	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/07/2021	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/24/2022	ND	0.8000		
Cadmium, total	ug/L	MW-78	08/31/2022	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/02/2023	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/12/2023	ND	0.8000		
Cadmium, total	ug/L	MW-78	03/04/2024	ND	0.8000		
Cadmium, total	ug/L	MW-78	09/23/2024	ND	0.8000		
Chromium, total	ug/L	MW-78	09/24/2014	ND	8.0000		
Chromium, total	ug/L	MW-78	12/05/2014	ND	8.0000		
Chromium, total	ug/L	MW-78	03/11/2015	ND	8.0000		
Chromium, total	ug/L	MW-78	06/16/2015	ND	8.0000		
Chromium, total	ug/L	MW-78	09/16/2015	ND	8.0000		
Chromium, total	ug/L	MW-78	03/22/2016	ND	8.0000		
Chromium, total	ug/L	MW-78	09/15/2016	ND	8.0000		
Chromium, total	ug/L	MW-78	03/23/2017	ND	8.0000		
Chromium, total	ug/L	MW-78	09/08/2017	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-78	03/19/2018	ND	8.0000		
Chromium, total	ug/L	MW-78	09/11/2018	ND	8.0000		
Chromium, total	ug/L	MW-78	03/26/2019	ND	8.0000		
Chromium, total	ug/L	MW-78	09/04/2019	ND	8.0000		
Chromium, total	ug/L	MW-78	03/26/2020	ND	8.0000		
Chromium, total	ug/L	MW-78	09/15/2020	ND	8.0000		
Chromium, total	ug/L	MW-78	03/02/2021	ND	8.0000		
Chromium, total	ug/L	MW-78	09/07/2021	ND	8.0000		
Chromium, total	ug/L	MW-78	03/24/2022	ND	8.0000		
Chromium, total	ug/L	MW-78	08/31/2022	ND	8.0000		
Chromium, total	ug/L	MW-78	03/02/2023	ND	8.0000		
Chromium, total	ug/L	MW-78	09/12/2023	ND	8.0000		
Chromium, total	ug/L	MW-78	03/04/2024	ND	8.0000		
Chromium, total	ug/L	MW-78	09/23/2024	ND	8.0000		
Cobalt, total	ug/L	MW-78	09/24/2014	ND	0.8000		
Cobalt, total	ug/L	MW-78	12/05/2014	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/11/2015	ND	0.8000		
Cobalt, total	ug/L	MW-78	06/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/16/2015	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/22/2016	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/15/2016	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/23/2017	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/08/2017	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/19/2018	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/11/2018	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/26/2019	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/04/2019	ND	0.8000		
Cobalt, total	ug/L	MW-78	03/26/2020	ND	0.8000		
Cobalt, total	ug/L	MW-78	09/15/2020	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	03/02/2021		1.0000		
Cobalt, total	ug/L	MW-78	09/07/2021	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	03/24/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	08/31/2022	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	03/02/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	09/12/2023	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	03/04/2024	ND	0.4000	0.8000	**
Cobalt, total	ug/L	MW-78	09/23/2024	ND	0.4000	0.8000	**
Copper, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Copper, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Copper, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Copper, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Copper, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Copper, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Copper, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Copper, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Copper, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Copper, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Copper, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Copper, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Copper, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Copper, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Copper, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Copper, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Copper, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Copper, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Copper, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Copper, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Copper, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Copper, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Copper, total	ug/L	MW-78	09/23/2024	ND	4.0000		
Lead, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Lead, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Lead, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Lead, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Lead, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Lead, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Lead, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Lead, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Lead, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Lead, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Lead, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Lead, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Lead, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Lead, total	ug/L	MW-78	03/26/2020	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-78	09/15/2020	ND	4.0000		
Lead, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Lead, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Lead, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Lead, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Lead, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Lead, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Lead, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Lead, total	ug/L	MW-78	09/23/2024	ND	4.0000		
Nickel, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Nickel, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Nickel, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Nickel, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Nickel, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Nickel, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Nickel, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Nickel, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Nickel, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Nickel, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Nickel, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Nickel, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Nickel, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Nickel, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Nickel, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Nickel, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Nickel, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Nickel, total	ug/L	MW-78	08/31/2022	ND	4.0000		
Nickel, total	ug/L	MW-78	03/02/2023	ND	4.0000		
Nickel, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Nickel, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Nickel, total	ug/L	MW-78	09/23/2024	ND	4.0000		
Selenium, total	ug/L	MW-78	09/24/2014		5.4000		
Selenium, total	ug/L	MW-78	12/05/2014		5.6000		
Selenium, total	ug/L	MW-78	03/11/2015		6.5000		
Selenium, total	ug/L	MW-78	06/16/2015		8.6000		
Selenium, total	ug/L	MW-78	09/16/2015		8.1000		
Selenium, total	ug/L	MW-78	03/22/2016		8.9000		
Selenium, total	ug/L	MW-78	09/15/2016		9.4000		
Selenium, total	ug/L	MW-78	03/23/2017		10.6000		
Selenium, total	ug/L	MW-78	09/08/2017		6.9000		
Selenium, total	ug/L	MW-78	03/19/2018		8.3000		
Selenium, total	ug/L	MW-78	09/11/2018		5.6000		
Selenium, total	ug/L	MW-78	03/26/2019		9.5000		
Selenium, total	ug/L	MW-78	09/04/2019		6.8000		
Selenium, total	ug/L	MW-78	03/26/2020		5.4000		
Selenium, total	ug/L	MW-78	09/15/2020		8.5000		
Selenium, total	ug/L	MW-78	03/02/2021		9.4000		
Selenium, total	ug/L	MW-78	09/07/2021		4.9000		
Selenium, total	ug/L	MW-78	03/24/2022		6.3000		
Selenium, total	ug/L	MW-78	08/31/2022		6.2000		
Selenium, total	ug/L	MW-78	03/02/2023		7.9000		
Selenium, total	ug/L	MW-78	09/12/2023		5.8000		
Selenium, total	ug/L	MW-78	03/04/2024		5.7000		
Selenium, total	ug/L	MW-78	09/23/2024		4.1000		
Silver, total	ug/L	MW-78	09/24/2014	ND	4.0000		
Silver, total	ug/L	MW-78	12/05/2014	ND	4.0000		
Silver, total	ug/L	MW-78	03/11/2015	ND	4.0000		
Silver, total	ug/L	MW-78	06/16/2015	ND	4.0000		
Silver, total	ug/L	MW-78	09/16/2015	ND	4.0000		
Silver, total	ug/L	MW-78	03/22/2016	ND	4.0000		
Silver, total	ug/L	MW-78	09/15/2016	ND	4.0000		
Silver, total	ug/L	MW-78	03/23/2017	ND	4.0000		
Silver, total	ug/L	MW-78	09/08/2017	ND	4.0000		
Silver, total	ug/L	MW-78	03/19/2018	ND	4.0000		
Silver, total	ug/L	MW-78	09/11/2018	ND	4.0000		
Silver, total	ug/L	MW-78	03/26/2019	ND	4.0000		
Silver, total	ug/L	MW-78	09/04/2019	ND	4.0000		
Silver, total	ug/L	MW-78	03/26/2020	ND	4.0000		
Silver, total	ug/L	MW-78	09/15/2020	ND	4.0000		
Silver, total	ug/L	MW-78	03/02/2021	ND	4.0000		
Silver, total	ug/L	MW-78	09/07/2021	ND	4.0000		
Silver, total	ug/L	MW-78	03/24/2022	ND	4.0000		
Silver, total	ug/L	MW-78	08/31/2022	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-78	03/02/2023	ND	4.0000		
Silver, total	ug/L	MW-78	09/12/2023	ND	4.0000		
Silver, total	ug/L	MW-78	03/04/2024	ND	4.0000		
Silver, total	ug/L	MW-78	09/23/2024	ND	4.0000		
Thallium, total	ug/L	MW-78	09/24/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	12/05/2014	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/11/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	06/16/2015	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	09/16/2015	ND	1.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/22/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	09/15/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/23/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	09/08/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/19/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	09/11/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	MW-78	03/26/2019	ND	2.0000		
Thallium, total	ug/L	MW-78	09/04/2019	ND	2.0000		
Thallium, total	ug/L	MW-78	03/26/2020	ND	2.0000		
Thallium, total	ug/L	MW-78	09/15/2020	ND	2.0000		
Thallium, total	ug/L	MW-78	03/02/2021	ND	2.0000		
Thallium, total	ug/L	MW-78	09/07/2021	ND	2.0000		
Thallium, total	ug/L	MW-78	03/24/2022	ND	2.0000		
Thallium, total	ug/L	MW-78	08/31/2022	ND	2.0000		
Thallium, total	ug/L	MW-78	03/02/2023	ND	2.0000		
Thallium, total	ug/L	MW-78	09/12/2023	ND	2.0000		
Thallium, total	ug/L	MW-78	03/04/2024	ND	2.0000		
Thallium, total	ug/L	MW-78	09/23/2024	ND	2.0000		
Vanadium, total	ug/L	MW-78	09/24/2014	ND	20.0000		
Vanadium, total	ug/L	MW-78	12/05/2014	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/11/2015	ND	20.0000		
Vanadium, total	ug/L	MW-78	06/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/16/2015	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/22/2016	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/15/2016	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/23/2017	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/08/2017	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/19/2018	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/11/2018	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/26/2019	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/04/2019	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/26/2020	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/15/2020	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/02/2021	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/07/2021	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/24/2022	ND	20.0000		
Vanadium, total	ug/L	MW-78	08/31/2022	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/02/2023	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/12/2023	ND	20.0000		
Vanadium, total	ug/L	MW-78	03/04/2024	ND	20.0000		
Vanadium, total	ug/L	MW-78	09/23/2024	ND	20.0000		
Zinc, total	ug/L	MW-78	09/24/2014		10.7000		
Zinc, total	ug/L	MW-78	12/05/2014	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	03/11/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	06/16/2015		8.4000		
Zinc, total	ug/L	MW-78	09/16/2015	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	03/22/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	09/15/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	03/23/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	09/08/2017	ND	20.0000		
Zinc, total	ug/L	MW-78	03/19/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	MW-78	09/11/2018	ND	20.0000		
Zinc, total	ug/L	MW-78	03/26/2019	ND	20.0000		
Zinc, total	ug/L	MW-78	09/04/2019		17.6000		
Zinc, total	ug/L	MW-78	03/26/2020	ND	20.0000		
Zinc, total	ug/L	MW-78	09/15/2020	ND	20.0000		
Zinc, total	ug/L	MW-78	03/02/2021	ND	20.0000		
Zinc, total	ug/L	MW-78	09/07/2021	ND	20.0000		
Zinc, total	ug/L	MW-78	03/24/2022	ND	20.0000		
Zinc, total	ug/L	MW-78	08/31/2022	ND	20.0000		
Zinc, total	ug/L	MW-78	03/02/2023	ND	20.0000		
Zinc, total	ug/L	MW-78	09/12/2023	ND	20.0000		
Zinc, total	ug/L	MW-78	03/04/2024	ND	20.0000		
Zinc, total	ug/L	MW-78	09/23/2024	ND	20.0000		
Antimony, total	ug/L	SW-101	09/14/2016	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	SW-101	03/23/2017	ND	2.0000		
Antimony, total	ug/L	SW-101	09/08/2017	ND	2.0000		
Antimony, total	ug/L	SW-101	03/19/2018	ND	2.0000		
Antimony, total	ug/L	SW-101	09/11/2018	ND	2.0000		
Antimony, total	ug/L	SW-101	03/26/2019	ND	2.0000		
Antimony, total	ug/L	SW-101	09/04/2019	ND	2.0000		
Arsenic, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Arsenic, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Arsenic, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Arsenic, total	ug/L	SW-101	03/19/2018		4.4000		
Arsenic, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Arsenic, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Arsenic, total	ug/L	SW-101	09/04/2019		7.3000		
Barium, total	ug/L	SW-101	09/14/2016		188.0000		
Barium, total	ug/L	SW-101	03/23/2017		233.0000		
Barium, total	ug/L	SW-101	09/08/2017		272.0000		
Barium, total	ug/L	SW-101	03/19/2018		162.0000		
Barium, total	ug/L	SW-101	09/11/2018		127.0000		
Barium, total	ug/L	SW-101	03/26/2019		160.0000		
Barium, total	ug/L	SW-101	09/04/2019		256.0000		
Beryllium, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Beryllium, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Beryllium, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Beryllium, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Beryllium, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Beryllium, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Beryllium, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Cadmium, total	ug/L	SW-101	09/14/2016	ND	0.8000		
Cadmium, total	ug/L	SW-101	03/23/2017	ND	0.8000		
Cadmium, total	ug/L	SW-101	09/08/2017	ND	0.8000		
Cadmium, total	ug/L	SW-101	03/19/2018	ND	0.8000		
Cadmium, total	ug/L	SW-101	09/11/2018	ND	0.8000		
Cadmium, total	ug/L	SW-101	03/26/2019	ND	0.8000		
Cadmium, total	ug/L	SW-101	09/04/2019	ND	0.8000		
Chromium, total	ug/L	SW-101	09/14/2016	ND	8.0000		
Chromium, total	ug/L	SW-101	03/23/2017	ND	8.0000		
Chromium, total	ug/L	SW-101	09/08/2017	ND	8.0000		
Chromium, total	ug/L	SW-101	03/19/2018	ND	8.0000		
Chromium, total	ug/L	SW-101	09/11/2018	ND	8.0000		
Chromium, total	ug/L	SW-101	03/26/2019	ND	8.0000		
Chromium, total	ug/L	SW-101	09/04/2019	ND	8.0000		
Cobalt, total	ug/L	SW-101	09/14/2016		4.5000		
Cobalt, total	ug/L	SW-101	03/23/2017		4.2000		
Cobalt, total	ug/L	SW-101	09/08/2017		6.9000		
Cobalt, total	ug/L	SW-101	03/19/2018		2.3000		
Cobalt, total	ug/L	SW-101	09/11/2018		1.9000		
Cobalt, total	ug/L	SW-101	03/26/2019		1.8000		
Cobalt, total	ug/L	SW-101	09/04/2019		5.9000		
Copper, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Copper, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Copper, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Copper, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Copper, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Copper, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Copper, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Lead, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Lead, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Lead, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Lead, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Lead, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Lead, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Lead, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Nickel, total	ug/L	SW-101	09/14/2016		8.7000		
Nickel, total	ug/L	SW-101	03/23/2017		5.4000		
Nickel, total	ug/L	SW-101	09/08/2017		8.6000		
Nickel, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Nickel, total	ug/L	SW-101	09/11/2018	ND	4.0000		
Nickel, total	ug/L	SW-101	03/26/2019		4.2000		
Nickel, total	ug/L	SW-101	09/04/2019		7.5000		
Selenium, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Selenium, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Selenium, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Selenium, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Selenium, total	ug/L	SW-101	09/11/2018	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	
Selenium, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Selenium, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Silver, total	ug/L	SW-101	09/14/2016	ND	4.0000		
Silver, total	ug/L	SW-101	03/23/2017	ND	4.0000		
Silver, total	ug/L	SW-101	09/08/2017	ND	4.0000		
Silver, total	ug/L	SW-101	03/19/2018	ND	4.0000		
Silver, total	ug/L	SW-101	09/11/2018	ND	8.0000	4.0000	**
Silver, total	ug/L	SW-101	03/26/2019	ND	4.0000		
Silver, total	ug/L	SW-101	09/04/2019	ND	4.0000		
Thallium, total	ug/L	SW-101	09/14/2016	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	03/23/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	09/08/2017	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	03/19/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	09/11/2018	ND	4.0000	2.0000	**
Thallium, total	ug/L	SW-101	03/26/2019	ND	2.0000		
Thallium, total	ug/L	SW-101	09/04/2019	ND	2.0000		
Vanadium, total	ug/L	SW-101	09/14/2016	ND	20.0000		
Vanadium, total	ug/L	SW-101	03/23/2017	ND	20.0000		
Vanadium, total	ug/L	SW-101	09/08/2017	ND	20.0000		
Vanadium, total	ug/L	SW-101	03/19/2018	ND	20.0000		
Vanadium, total	ug/L	SW-101	09/11/2018	ND	20.0000		
Vanadium, total	ug/L	SW-101	03/26/2019	ND	20.0000		
Vanadium, total	ug/L	SW-101	09/04/2019	ND	20.0000		
Zinc, total	ug/L	SW-101	09/14/2016	ND	8.0000	20.0000	**
Zinc, total	ug/L	SW-101	03/23/2017	ND	8.0000	20.0000	**
Zinc, total	ug/L	SW-101	09/08/2017	ND	20.0000		
Zinc, total	ug/L	SW-101	03/19/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	SW-101	09/11/2018	ND	8.0000	20.0000	**
Zinc, total	ug/L	SW-101	03/26/2019	ND	20.0000		
Zinc, total	ug/L	SW-101	09/04/2019	ND	8.0000	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	MW-44	09/23/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-44	09/23/2024		11.9000	*	7.3000
Barium, total	ug/L	MW-44	09/23/2024		142.0000		357.0000
Beryllium, total	ug/L	MW-44	09/23/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-44	09/23/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-44	09/23/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-44	09/23/2024		10.3000	***	6.9000
Copper, total	ug/L	MW-44	09/23/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-44	09/23/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-44	09/23/2024		10.9000	***	8.7000
Selenium, total	ug/L	MW-44	09/23/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-44	09/23/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-44	09/23/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-44	09/23/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-44	09/23/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-56	09/23/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-56	09/23/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-56	09/23/2024		39.2000		357.0000
Beryllium, total	ug/L	MW-56	09/23/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-56	09/23/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-56	09/23/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-56	09/23/2024		2.5000		6.9000
Copper, total	ug/L	MW-56	09/23/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	09/23/2024	ND	4.0000	**	4.0000
Nickel, total	ug/L	MW-56	09/23/2024		7.3000		8.7000
Selenium, total	ug/L	MW-56	09/23/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-56	09/23/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-56	09/23/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-56	09/23/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-56	09/23/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-57	09/23/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-57	09/23/2024	ND	4.0000		7.3000
Barium, total	ug/L	MW-57	09/23/2024		302.0000		357.0000
Beryllium, total	ug/L	MW-57	09/23/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-57	09/23/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-57	09/23/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-57	09/23/2024		1.0000		6.9000
Copper, total	ug/L	MW-57	09/23/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-57	09/23/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-57	09/23/2024		4.6000		8.7000
Selenium, total	ug/L	MW-57	09/23/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-57	09/23/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-57	09/23/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-57	09/23/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-57	09/23/2024	ND	20.0000		32.3000
Antimony, total	ug/L	MW-64	09/23/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-64	09/23/2024		30.6000	***	7.3000
Barium, total	ug/L	MW-64	09/23/2024		52.8000		357.0000
Beryllium, total	ug/L	MW-64	09/23/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-64	09/23/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-64	09/23/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-64	09/23/2024		17.9000	***	6.9000
Copper, total	ug/L	MW-64	09/23/2024	ND	4.0000		4.0000
Lead, total	ug/L	MW-64	09/23/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-64	09/23/2024		42.6000	***	8.7000
Selenium, total	ug/L	MW-64	09/23/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-64	09/23/2024	ND	4.0000		6.4000
Thallium, total	ug/L	MW-64	09/23/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-64	09/23/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-64	09/23/2024		21.5000	**	32.3000
Antimony, total	ug/L	MW-65	09/23/2024	ND	2.0000		2.0000
Arsenic, total	ug/L	MW-65	09/23/2024		7.9000	*	7.3000
Barium, total	ug/L	MW-65	09/23/2024		35.4000		357.0000
Beryllium, total	ug/L	MW-65	09/23/2024	ND	4.0000		4.0000
Cadmium, total	ug/L	MW-65	09/23/2024	ND	0.8000		0.8000
Chromium, total	ug/L	MW-65	09/23/2024	ND	8.0000		8.0000
Cobalt, total	ug/L	MW-65	09/23/2024		3.4000	**	6.9000
Copper, total	ug/L	MW-65	09/23/2024		8.7000	*	4.0000
Lead, total	ug/L	MW-65	09/23/2024	ND	4.0000		4.0000
Nickel, total	ug/L	MW-65	09/23/2024		13.5000	***	8.7000
Selenium, total	ug/L	MW-65	09/23/2024	ND	4.0000		10.6000
Silver, total	ug/L	MW-65	09/23/2024	ND	4.0000		6.4000

* - 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-65	09/23/2024	ND	2.0000		2.4000
Vanadium, total	ug/L	MW-65	09/23/2024	ND	20.0000		20.0000
Zinc, total	ug/L	MW-65	09/23/2024		29.4000		32.3000

*   - 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	76	0.000	0	80	0.000
Arsenic, total	2	76	0.026	39	81	0.481
Barium, total	76	76	1.000	84	84	1.000
Beryllium, total	0	76	0.000	0	80	0.000
Cadmium, total	0	76	0.000	0	80	0.000
Chromium, total	0	76	0.000	0	80	0.000
Cobalt, total	12	76	0.158	70	81	0.864
Copper, total	0	76	0.000	10	81	0.123
Lead, total	0	76	0.000	1	80	0.013
Nickel, total	5	76	0.066	64	81	0.790
Selenium, total	23	76	0.303	1	80	0.013
Silver, total	1	76	0.013	0	80	0.000
Thallium, total	1	76	0.013	0	80	0.000
Vanadium, total	0	76	0.000	0	80	0.000
Zinc, total	5	76	0.066	20	80	0.250

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	76	0.000									nonpar
Arsenic, total	2	76	0.026									nonpar
Barium, total	76	76	1.000	2.661	2.898					2.326	non-norm	nonpar
Beryllium, total	0	76	0.000									nonpar
Cadmium, total	0	76	0.000									nonpar
Chromium, total	0	76	0.000									nonpar
Cobalt, total	12	76	0.158	0.421	0.600					2.326	normal	nonpar
Copper, total	0	76	0.000									nonpar
Lead, total	0	76	0.000									nonpar
Nickel, total	5	76	0.066	0.460	0.593					2.326	normal	nonpar
Selenium, total	23	76	0.303	0.468	0.181					2.326	normal	nonpar
Silver, total	1	76	0.013									nonpar
Thallium, total	1	76	0.013									nonpar
Vanadium, total	0	76	0.000									nonpar
Zinc, total	5	76	0.066	0.090	0.311					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	76					2.0000	nonpar	***	0.99
Arsenic, total	ug/L	2	76					7.3000	nonpar		0.99
Barium, total	ug/L	76	76					357.0000	nonpar		0.99
Beryllium, total	ug/L	0	76					4.0000	nonpar	***	0.99
Cadmium, total	ug/L	0	76					0.8000	nonpar	***	0.99
Chromium, total	ug/L	0	76					8.0000	nonpar	***	0.99
Cobalt, total	ug/L	12	76					6.9000	nonpar		0.99
Copper, total	ug/L	0	76					4.0000	nonpar	***	0.99
Lead, total	ug/L	0	76					4.0000	nonpar	***	0.99
Nickel, total	ug/L	5	76					8.7000	nonpar		0.99
Selenium, total	ug/L	23	76					10.6000	nonpar		0.99
Silver, total	ug/L	1	76					6.4000	nonpar		0.99
Thallium, total	ug/L	1	76					2.4000	nonpar		0.99
Vanadium, total	ug/L	0	76					20.0000	nonpar	***	0.99
Zinc, total	ug/L	5	76					32.3000	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
1% 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	MW-44	09/14/2016	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-44	09/08/2017		5.6000		7.3000
Arsenic, total	ug/L	MW-44	12/05/2017	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-44	03/19/2018	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-44	09/11/2018	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-44	03/26/2019		6.6000		7.3000
Arsenic, total	ug/L	MW-44	09/04/2019		7.9000	*	7.3000
Arsenic, total	ug/L	MW-44	03/26/2020	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-44	09/15/2020		13.1000	*	7.3000
Arsenic, total	ug/L	MW-44	03/02/2021	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-44	09/07/2021		9.4000	*	7.3000
Arsenic, total	ug/L	MW-44	03/24/2022		7.6000	*	7.3000
Arsenic, total	ug/L	MW-44	08/31/2022		10.0000	*	7.3000
Arsenic, total	ug/L	MW-44	03/02/2023	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-44	09/12/2023		10.8000	*	7.3000
Arsenic, total	ug/L	MW-44	03/04/2024		4.1000		7.3000
Arsenic, total	ug/L	MW-44	09/23/2024		11.9000	*	7.3000
Cobalt, total	ug/L	MW-44	09/14/2016		6.3000		6.9000
Cobalt, total	ug/L	MW-44	09/08/2017		7.3000	*	6.9000
Cobalt, total	ug/L	MW-44	12/05/2017		8.7000	*	6.9000
Cobalt, total	ug/L	MW-44	03/19/2018		8.9000	*	6.9000
Cobalt, total	ug/L	MW-44	09/11/2018		8.4000	*	6.9000
Cobalt, total	ug/L	MW-44	03/26/2019		10.2000	*	6.9000
Cobalt, total	ug/L	MW-44	09/04/2019		8.7000	*	6.9000
Cobalt, total	ug/L	MW-44	03/26/2020		9.2000	*	6.9000
Cobalt, total	ug/L	MW-44	09/15/2020		14.5000	*	6.9000
Cobalt, total	ug/L	MW-44	03/02/2021		8.8000	*	6.9000
Cobalt, total	ug/L	MW-44	09/07/2021		8.1000	*	6.9000
Cobalt, total	ug/L	MW-44	03/24/2022		11.0000	*	6.9000
Cobalt, total	ug/L	MW-44	08/31/2022		11.6000	*	6.9000
Cobalt, total	ug/L	MW-44	03/02/2023		8.8000	*	6.9000
Cobalt, total	ug/L	MW-44	09/12/2023		10.7000	*	6.9000
Cobalt, total	ug/L	MW-44	03/04/2024		9.7000	*	6.9000
Cobalt, total	ug/L	MW-44	09/23/2024		10.3000	*	6.9000
Nickel, total	ug/L	MW-44	09/14/2016		17.3000	*	8.7000
Nickel, total	ug/L	MW-44	09/08/2017		16.0000	*	8.7000
Nickel, total	ug/L	MW-44	03/19/2018		12.7000	*	8.7000
Nickel, total	ug/L	MW-44	09/11/2018		12.8000	*	8.7000
Nickel, total	ug/L	MW-44	03/26/2019		11.9000	*	8.7000
Nickel, total	ug/L	MW-44	09/04/2019		11.7000	*	8.7000
Nickel, total	ug/L	MW-44	03/26/2020		13.2000	*	8.7000
Nickel, total	ug/L	MW-44	09/15/2020		26.2000	*	8.7000
Nickel, total	ug/L	MW-44	03/02/2021		9.7000	*	8.7000
Nickel, total	ug/L	MW-44	09/07/2021		13.2000	*	8.7000
Nickel, total	ug/L	MW-44	03/24/2022		12.2000	*	8.7000
Nickel, total	ug/L	MW-44	08/31/2022		13.5000	*	8.7000
Nickel, total	ug/L	MW-44	03/02/2023		10.0000	*	8.7000
Nickel, total	ug/L	MW-44	09/12/2023		13.2000	*	8.7000
Nickel, total	ug/L	MW-44	03/04/2024		10.0000	*	8.7000
Nickel, total	ug/L	MW-44	09/23/2024		10.9000	*	8.7000
Lead, total	ug/L	MW-56	09/14/2016	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	09/08/2017	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	03/19/2018	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	09/11/2018	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	03/26/2019	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	09/04/2019	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	03/26/2020	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	09/15/2020	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	03/02/2021	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	09/07/2021	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	03/24/2022	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	08/31/2022	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	03/02/2023	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	09/12/2023	ND	4.0000		4.0000
Lead, total	ug/L	MW-56	03/04/2024		14.6000	*	4.0000
Lead, total	ug/L	MW-56	09/23/2024	ND	4.0000		4.0000
Arsenic, total	ug/L	MW-64	09/14/2016		21.6000	*	7.3000
Arsenic, total	ug/L	MW-64	09/08/2017		7.9000	*	7.3000
Arsenic, total	ug/L	MW-64	03/19/2018		19.3000	*	7.3000
Arsenic, total	ug/L	MW-64	09/11/2018		24.2000	*	7.3000
Arsenic, total	ug/L	MW-64	03/26/2019		40.2000	*	7.3000

* - 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-64	09/04/2019		22.2000	*	7.3000
Arsenic, total	ug/L	MW-64	03/26/2020		40.3000	*	7.3000
Arsenic, total	ug/L	MW-64	09/15/2020		21.1000	*	7.3000
Arsenic, total	ug/L	MW-64	03/02/2021		20.2000	*	7.3000
Arsenic, total	ug/L	MW-64	09/07/2021		25.2000	*	7.3000
Arsenic, total	ug/L	MW-64	03/24/2022		19.2000	*	7.3000
Arsenic, total	ug/L	MW-64	08/31/2022		27.4000	*	7.3000
Arsenic, total	ug/L	MW-64	03/02/2023		26.4000	*	7.3000
Arsenic, total	ug/L	MW-64	09/12/2023		23.1000	*	7.3000
Arsenic, total	ug/L	MW-64	03/04/2024		29.6000	*	7.3000
Arsenic, total	ug/L	MW-64	09/23/2024		30.6000	*	7.3000
Cobalt, total	ug/L	MW-64	09/14/2016		27.0000	*	6.9000
Cobalt, total	ug/L	MW-64	09/08/2017		34.4000	*	6.9000
Cobalt, total	ug/L	MW-64	03/19/2018		19.1000	*	6.9000
Cobalt, total	ug/L	MW-64	09/11/2018		25.1000	*	6.9000
Cobalt, total	ug/L	MW-64	03/26/2019		16.1000	*	6.9000
Cobalt, total	ug/L	MW-64	09/04/2019		23.0000	*	6.9000
Cobalt, total	ug/L	MW-64	03/26/2020		14.7000	*	6.9000
Cobalt, total	ug/L	MW-64	09/15/2020		20.8000	*	6.9000
Cobalt, total	ug/L	MW-64	03/02/2021		14.6000	*	6.9000
Cobalt, total	ug/L	MW-64	09/07/2021		21.0000	*	6.9000
Cobalt, total	ug/L	MW-64	03/24/2022		11.8000	*	6.9000
Cobalt, total	ug/L	MW-64	08/31/2022		21.6000	*	6.9000
Cobalt, total	ug/L	MW-64	03/02/2023		11.0000	*	6.9000
Cobalt, total	ug/L	MW-64	09/12/2023		18.7000	*	6.9000
Cobalt, total	ug/L	MW-64	03/04/2024		12.0000	*	6.9000
Cobalt, total	ug/L	MW-64	09/23/2024		17.9000	*	6.9000
Nickel, total	ug/L	MW-64	09/14/2016		56.3000	*	8.7000
Nickel, total	ug/L	MW-64	09/08/2017		73.1000	*	8.7000
Nickel, total	ug/L	MW-64	03/19/2018		46.2000	*	8.7000
Nickel, total	ug/L	MW-64	09/11/2018		55.4000	*	8.7000
Nickel, total	ug/L	MW-64	03/26/2019		41.6000	*	8.7000
Nickel, total	ug/L	MW-64	09/04/2019		45.9000	*	8.7000
Nickel, total	ug/L	MW-64	03/26/2020		39.4000	*	8.7000
Nickel, total	ug/L	MW-64	09/15/2020		46.6000	*	8.7000
Nickel, total	ug/L	MW-64	03/02/2021		35.4000	*	8.7000
Nickel, total	ug/L	MW-64	09/07/2021		49.9000	*	8.7000
Nickel, total	ug/L	MW-64	03/24/2022		33.0000	*	8.7000
Nickel, total	ug/L	MW-64	08/31/2022		49.9000	*	8.7000
Nickel, total	ug/L	MW-64	03/02/2023		30.6000	*	8.7000
Nickel, total	ug/L	MW-64	09/12/2023		43.1000	*	8.7000
Nickel, total	ug/L	MW-64	03/04/2024		32.0000	*	8.7000
Nickel, total	ug/L	MW-64	09/23/2024		42.6000	*	8.7000
Zinc, total	ug/L	MW-64	09/14/2016		11.1000		32.3000
Zinc, total	ug/L	MW-64	09/08/2017	ND	20.0000		32.3000
Zinc, total	ug/L	MW-64	03/19/2018	ND	8.0000		32.3000
Zinc, total	ug/L	MW-64	09/11/2018		8.2000		32.3000
Zinc, total	ug/L	MW-64	03/26/2019		62.6000	*	32.3000
Zinc, total	ug/L	MW-64	09/04/2019	ND	8.0000		32.3000
Zinc, total	ug/L	MW-64	03/26/2020	ND	20.0000		32.3000
Zinc, total	ug/L	MW-64	09/15/2020	ND	20.0000		32.3000
Zinc, total	ug/L	MW-64	03/02/2021	ND	20.0000		32.3000
Zinc, total	ug/L	MW-64	09/07/2021	ND	20.0000		32.3000
Zinc, total	ug/L	MW-64	03/24/2022	ND	20.0000		32.3000
Zinc, total	ug/L	MW-64	08/31/2022	ND	20.0000		32.3000
Zinc, total	ug/L	MW-64	03/02/2023	ND	20.0000		32.3000
Zinc, total	ug/L	MW-64	09/12/2023	ND	20.0000		32.3000
Zinc, total	ug/L	MW-64	03/04/2024		51.4000	*	32.3000
Zinc, total	ug/L	MW-64	09/23/2024		21.5000		32.3000
Arsenic, total	ug/L	MW-65	09/14/2016		8.0000	*	7.3000
Arsenic, total	ug/L	MW-65	09/08/2017	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-65	03/19/2018	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-65	09/11/2018	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-65	03/26/2019		5.8000		7.3000
Arsenic, total	ug/L	MW-65	09/04/2019		4.0000		7.3000
Arsenic, total	ug/L	MW-65	03/26/2020	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-65	09/15/2020		4.1000		7.3000
Arsenic, total	ug/L	MW-65	03/02/2021	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-65	09/07/2021	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-65	03/24/2022	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-65	08/31/2022		4.3000		7.3000

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

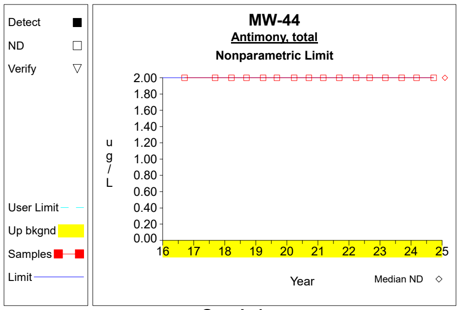
Table 8

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

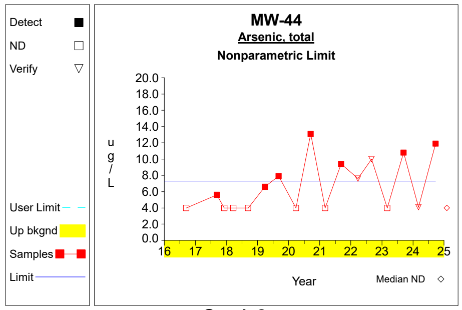
Constituent	Units	Well	Date		Result		Pred. Limit
Arsenic, total	ug/L	MW-65	03/02/2023		9.5000	*	7.3000
Arsenic, total	ug/L	MW-65	09/12/2023	ND	4.0000		7.3000
Arsenic, total	ug/L	MW-65	03/04/2024		6.7000		7.3000
Arsenic, total	ug/L	MW-65	09/23/2024		7.9000	*	7.3000
Cobalt, total	ug/L	MW-65	09/14/2016		10.7000	*	6.9000
Cobalt, total	ug/L	MW-65	09/08/2017		3.1000		6.9000
Cobalt, total	ug/L	MW-65	03/19/2018		8.8000	*	6.9000
Cobalt, total	ug/L	MW-65	09/11/2018		11.3000	*	6.9000
Cobalt, total	ug/L	MW-65	03/26/2019		10.0000	*	6.9000
Cobalt, total	ug/L	MW-65	09/04/2019		3.7000		6.9000
Cobalt, total	ug/L	MW-65	03/26/2020		1.6000		6.9000
Cobalt, total	ug/L	MW-65	09/15/2020		2.7000		6.9000
Cobalt, total	ug/L	MW-65	03/02/2021		3.2000		6.9000
Cobalt, total	ug/L	MW-65	09/07/2021		2.1000		6.9000
Cobalt, total	ug/L	MW-65	03/24/2022		0.7000		6.9000
Cobalt, total	ug/L	MW-65	08/31/2022		5.5000		6.9000
Cobalt, total	ug/L	MW-65	03/02/2023		9.3000	*	6.9000
Cobalt, total	ug/L	MW-65	09/12/2023		5.2000		6.9000
Cobalt, total	ug/L	MW-65	03/04/2024		9.2000	*	6.9000
Cobalt, total	ug/L	MW-65	09/23/2024		3.4000		6.9000
Copper, total	ug/L	MW-65	09/14/2016		6.7000	*	4.0000
Copper, total	ug/L	MW-65	09/08/2017	ND	4.0000		4.0000
Copper, total	ug/L	MW-65	03/19/2018	ND	4.0000		4.0000
Copper, total	ug/L	MW-65	09/11/2018		8.0000	*	4.0000
Copper, total	ug/L	MW-65	03/26/2019		4.0000	**	4.0000
Copper, total	ug/L	MW-65	09/04/2019	ND	4.0000		4.0000
Copper, total	ug/L	MW-65	03/26/2020	ND	4.0000		4.0000
Copper, total	ug/L	MW-65	09/15/2020	ND	4.0000		4.0000
Copper, total	ug/L	MW-65	03/02/2021		10.3000	*	4.0000
Copper, total	ug/L	MW-65	09/07/2021	ND	4.0000		4.0000
Copper, total	ug/L	MW-65	03/24/2022	ND	4.0000		4.0000
Copper, total	ug/L	MW-65	08/31/2022		4.4000	*	4.0000
Copper, total	ug/L	MW-65	03/02/2023		5.2000	*	4.0000
Copper, total	ug/L	MW-65	09/12/2023	ND	4.0000		4.0000
Copper, total	ug/L	MW-65	03/04/2024	ND	4.0000		4.0000
Copper, total	ug/L	MW-65	09/23/2024		8.7000	*	4.0000
Nickel, total	ug/L	MW-65	09/14/2016		28.2000	*	8.7000
Nickel, total	ug/L	MW-65	09/08/2017		10.9000	*	8.7000
Nickel, total	ug/L	MW-65	03/19/2018		15.3000	*	8.7000
Nickel, total	ug/L	MW-65	09/11/2018		24.8000	*	8.7000
Nickel, total	ug/L	MW-65	03/26/2019		12.3000	*	8.7000
Nickel, total	ug/L	MW-65	09/04/2019		9.2000	*	8.7000
Nickel, total	ug/L	MW-65	03/26/2020		7.6000		8.7000
Nickel, total	ug/L	MW-65	09/15/2020		5.8000		8.7000
Nickel, total	ug/L	MW-65	03/02/2021		7.4000		8.7000
Nickel, total	ug/L	MW-65	09/07/2021		4.5000		8.7000
Nickel, total	ug/L	MW-65	03/24/2022	ND	4.0000		8.7000
Nickel, total	ug/L	MW-65	08/31/2022		13.0000	*	8.7000
Nickel, total	ug/L	MW-65	03/02/2023		20.7000	*	8.7000
Nickel, total	ug/L	MW-65	09/12/2023		7.3000		8.7000
Nickel, total	ug/L	MW-65	03/04/2024		14.9000	*	8.7000
Nickel, total	ug/L	MW-65	09/23/2024		13.5000	*	8.7000

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

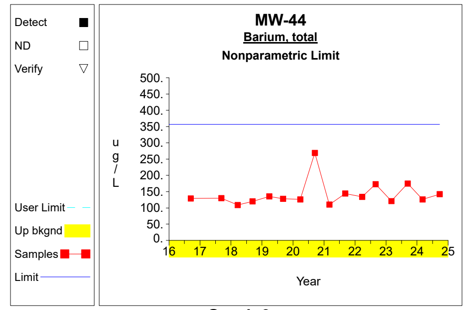
Up vs. Down Prediction Limits



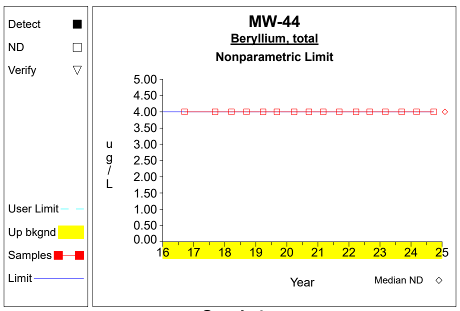
Graph 1



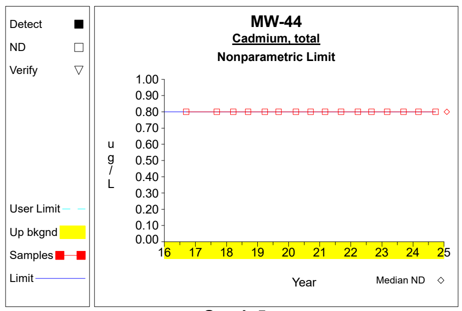
Graph 2



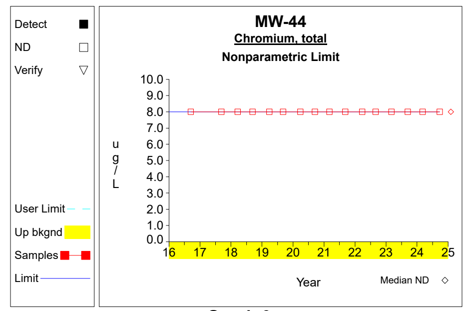
Graph 3



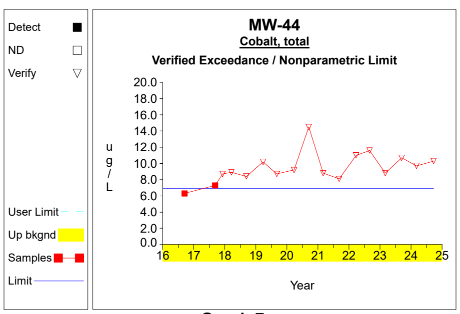
Graph 4



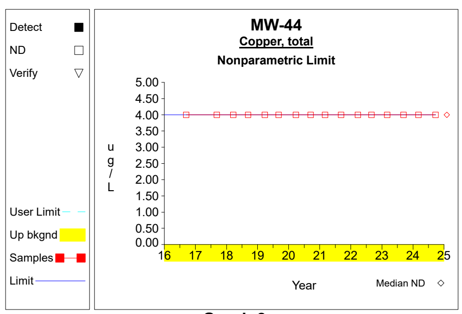
Graph 5



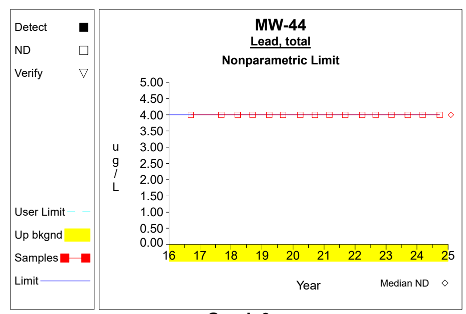
Graph 6



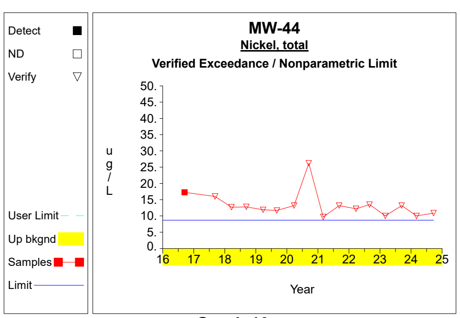
Graph 7



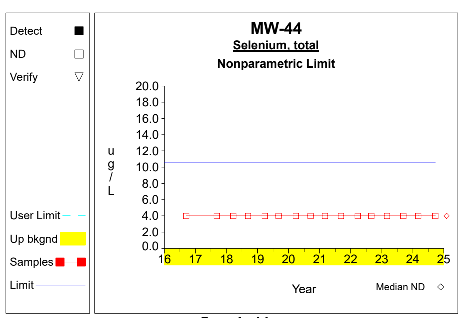
Graph 8



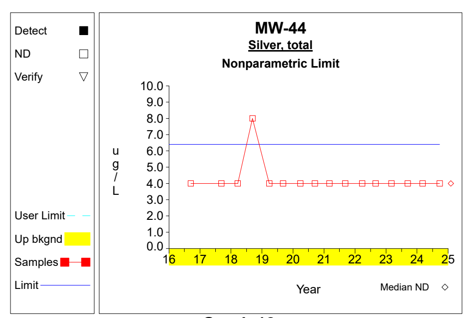
Graph 9



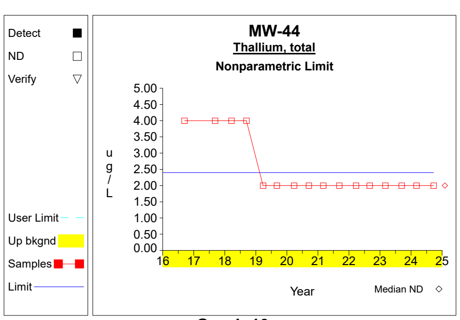
Graph 10



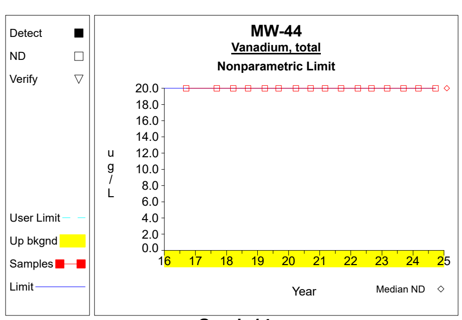
Graph 11



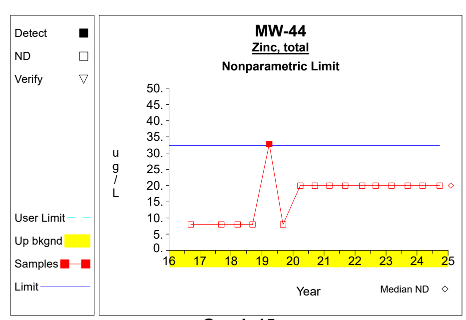
Graph 12



Graph 13

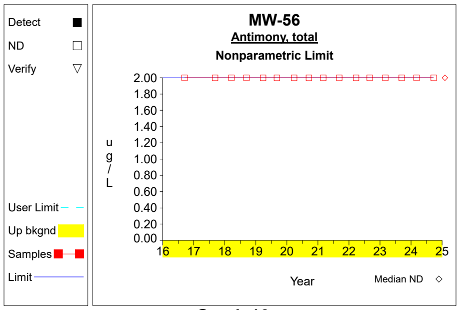


Graph 14

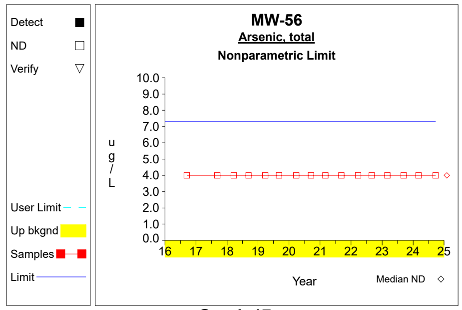


Graph 15

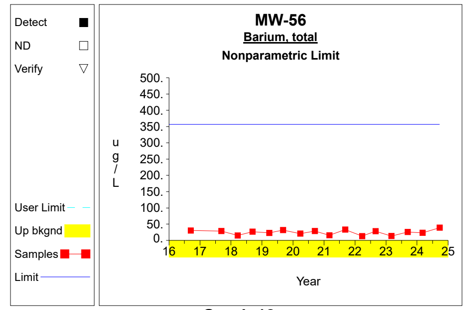
Up vs. Down Prediction Limits



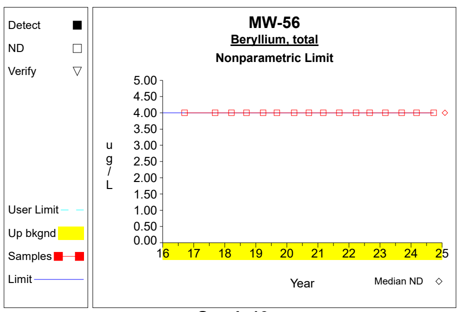
Graph 16



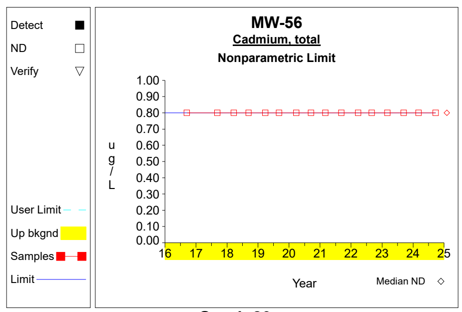
Graph 17



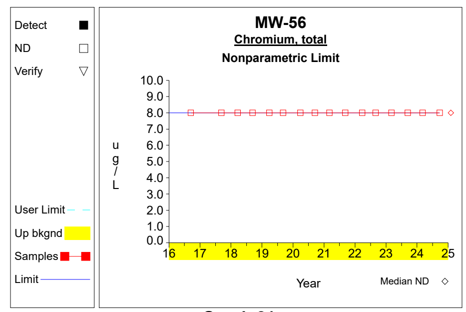
Graph 18



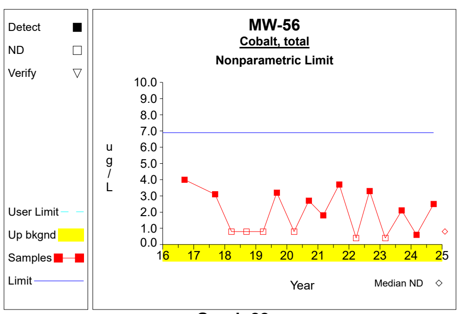
Graph 19



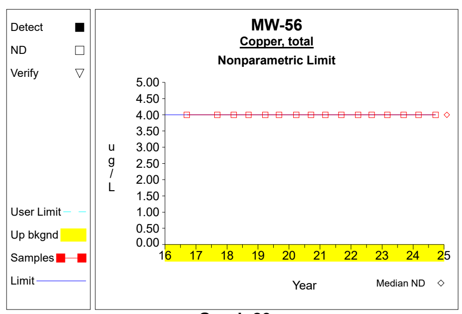
Graph 20



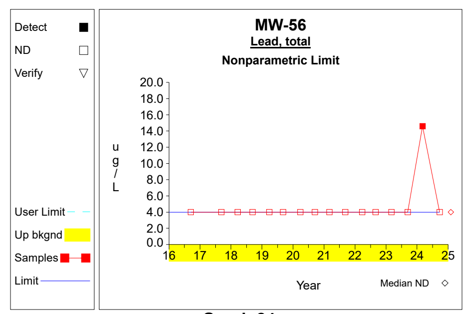
Graph 21



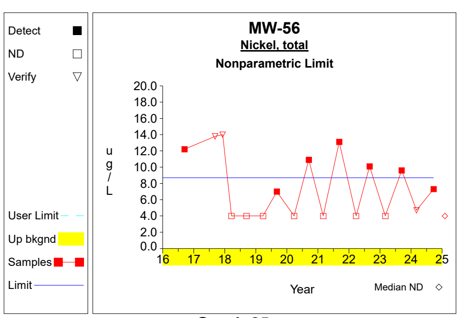
Graph 22



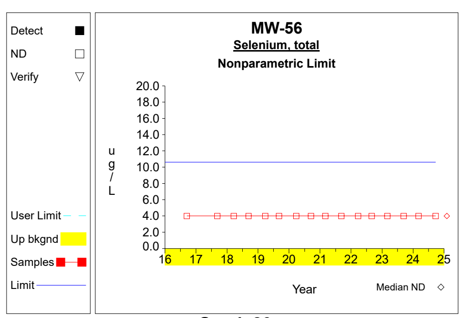
Graph 23



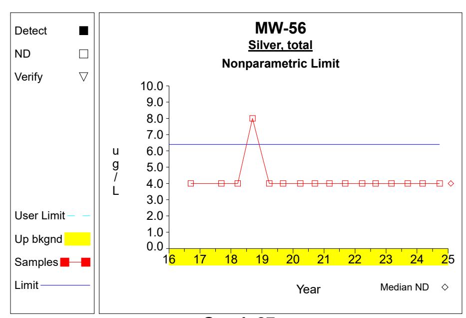
Graph 24



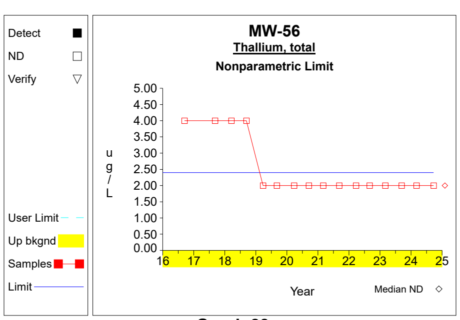
Graph 25



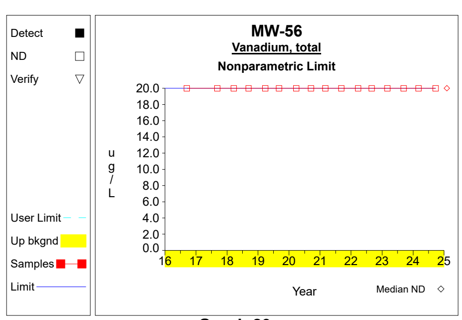
Graph 26



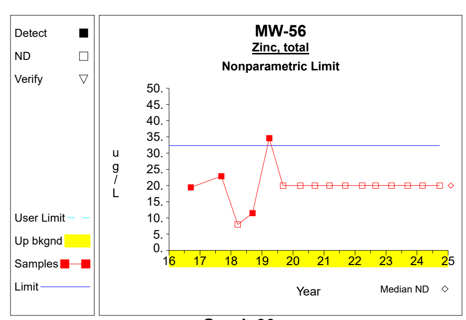
Graph 27



Graph 28



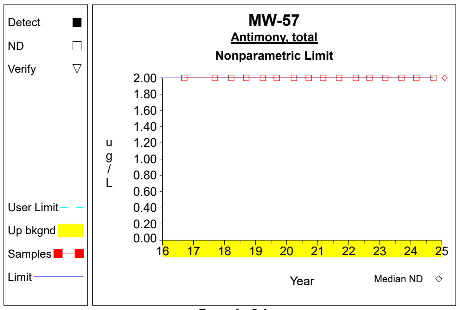
Graph 29



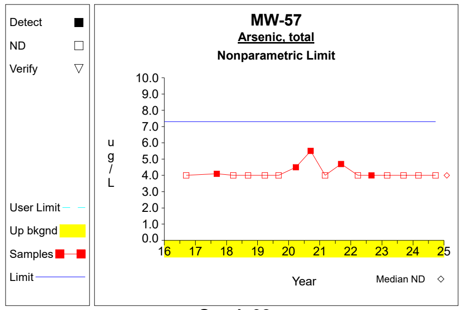
Graph 30

Prepared by: Otter Creek Environmental

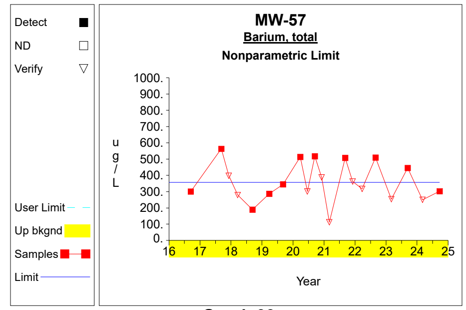
Up vs. Down Prediction Limits



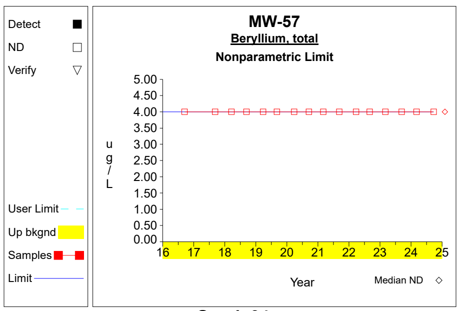
Graph 31



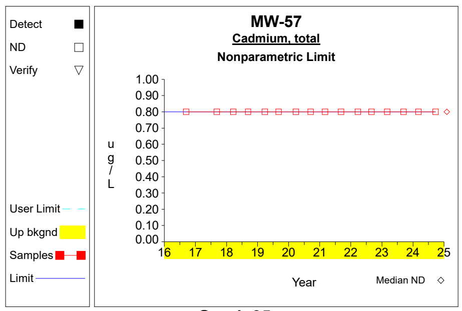
Graph 32



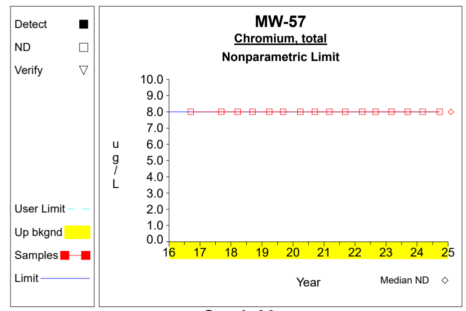
Graph 33



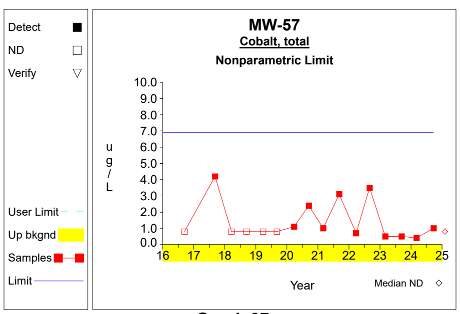
Graph 34



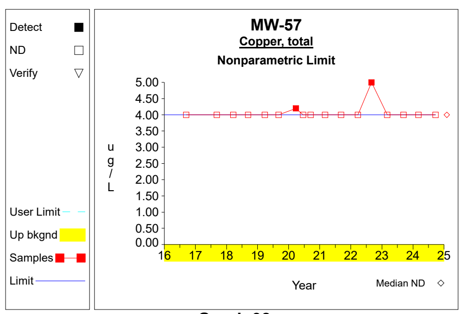
Graph 35



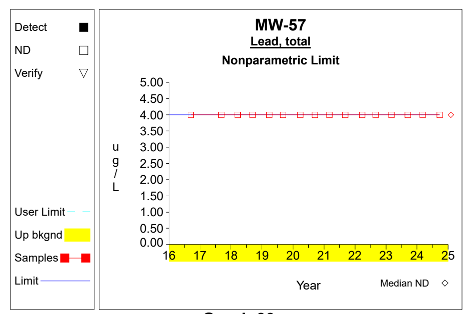
Graph 36



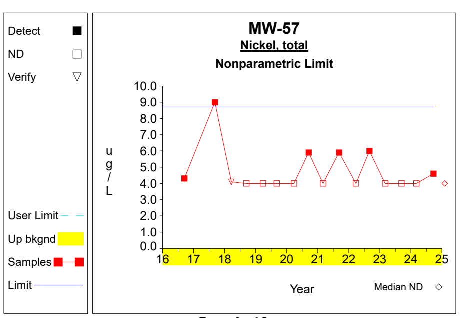
Graph 37



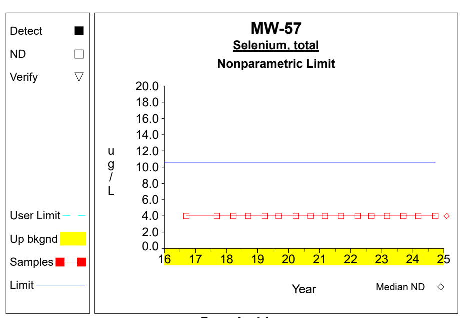
Graph 38



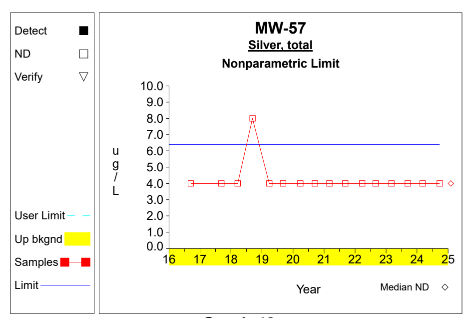
Graph 39



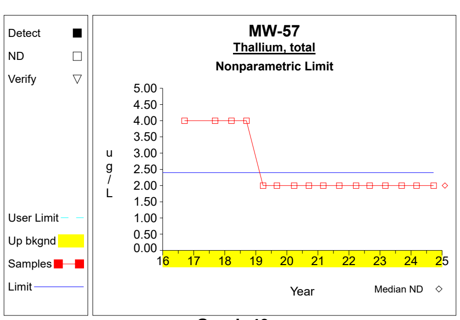
Graph 40



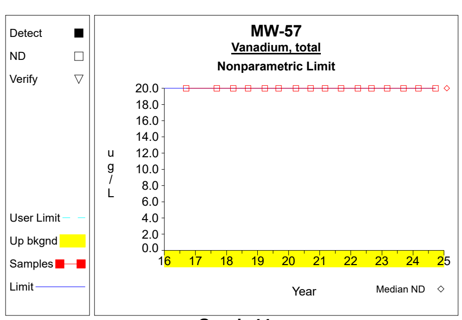
Graph 41



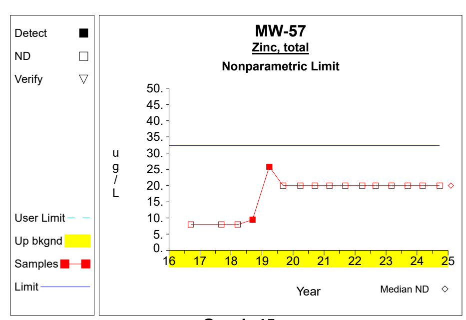
Graph 42



Graph 43

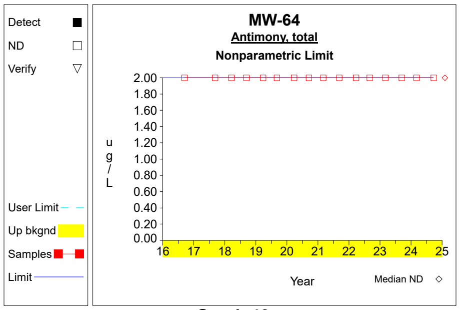


Graph 44

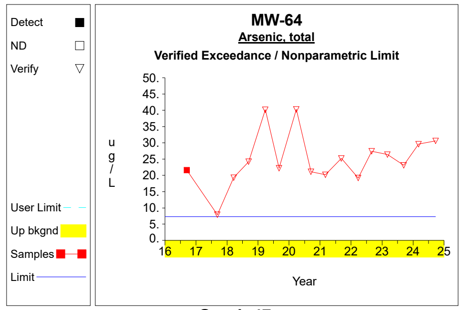


Graph 45

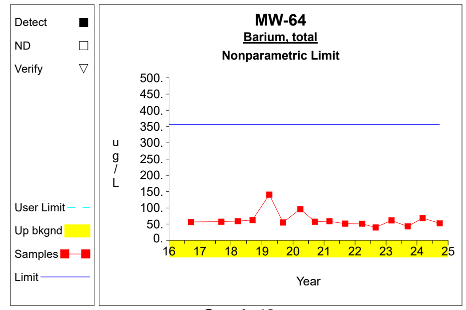
Up vs. Down Prediction Limits



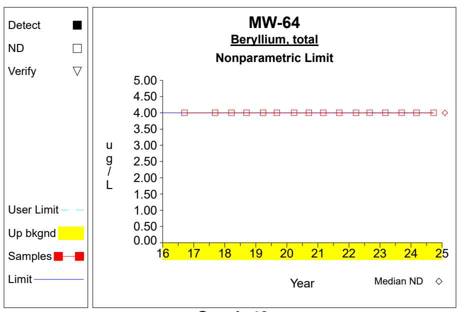
Graph 46



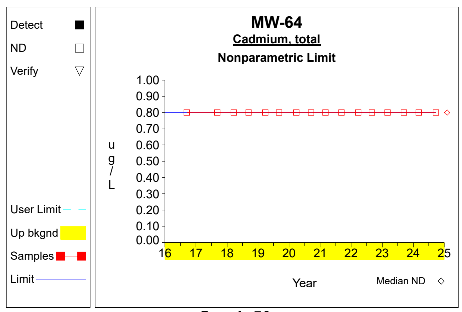
Graph 47



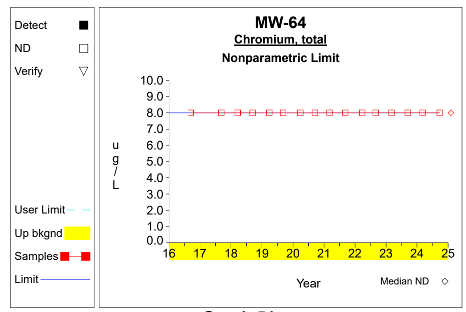
Graph 48



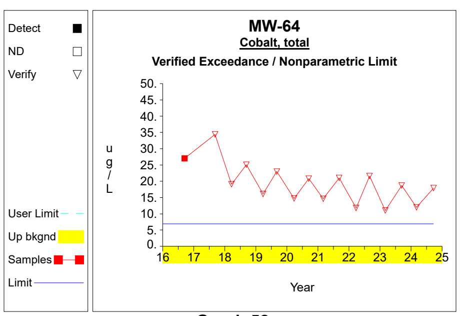
Graph 49



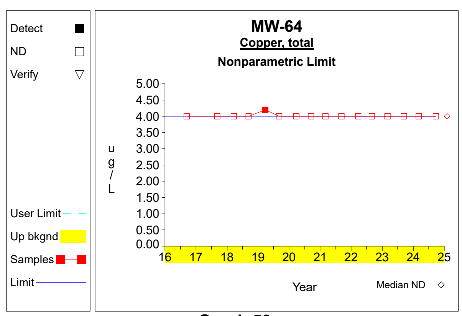
Graph 50



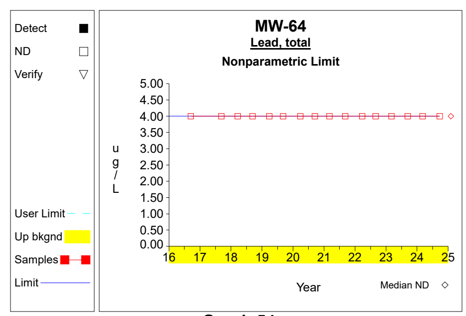
Graph 51



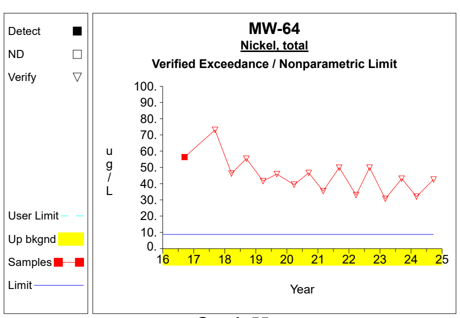
Graph 52



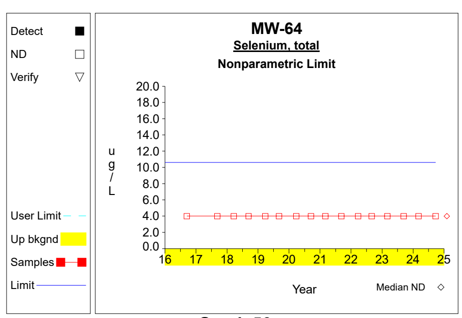
Graph 53



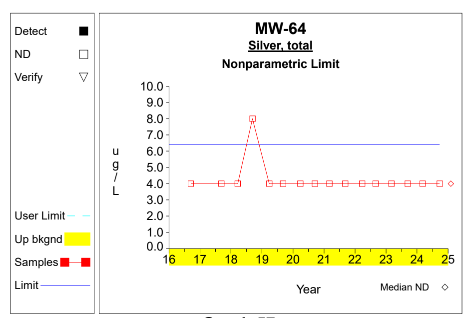
Graph 54



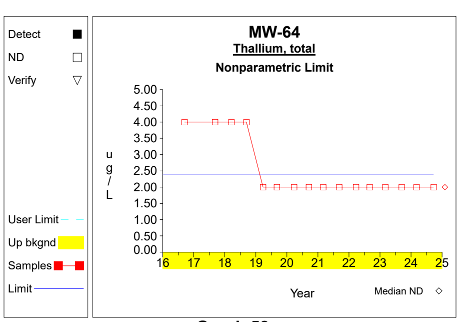
Graph 55



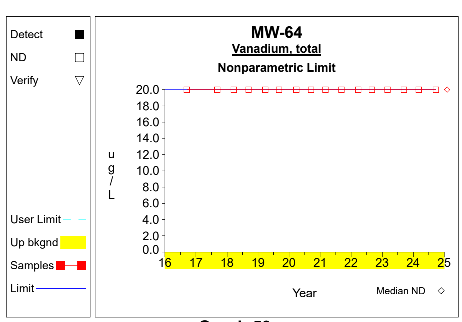
Graph 56



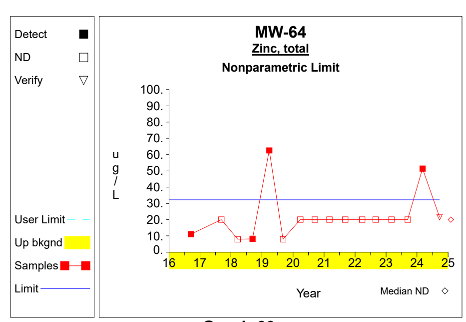
Graph 57



Graph 58



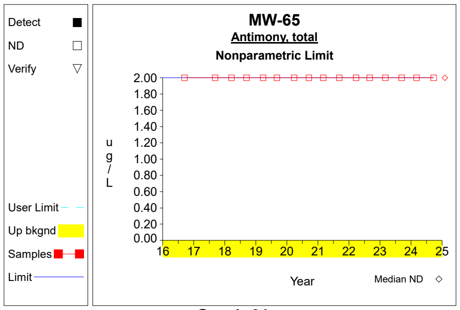
Graph 59



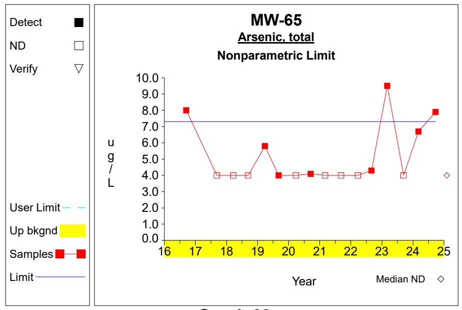
Graph 60

Newton [OLDLF] October 2024

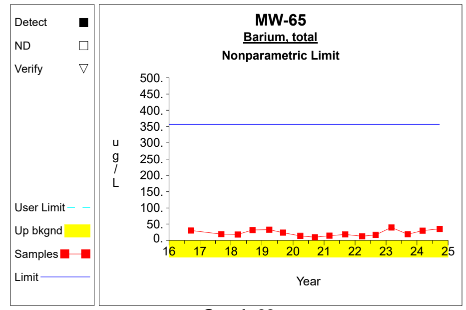
Up vs. Down Prediction Limits



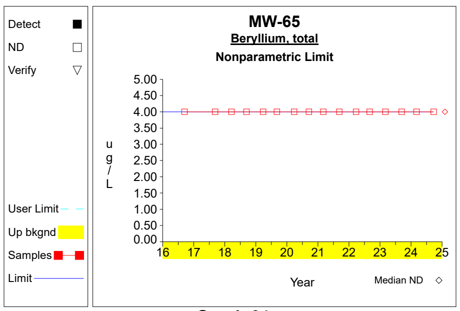
Graph 61



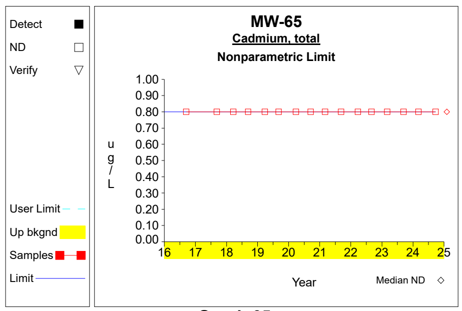
Graph 62



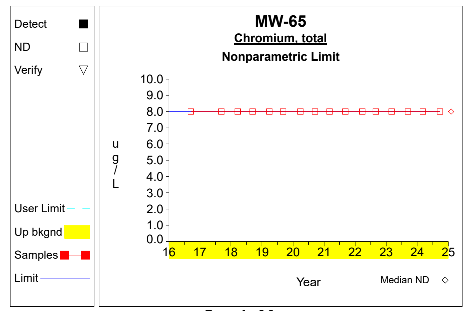
Graph 63



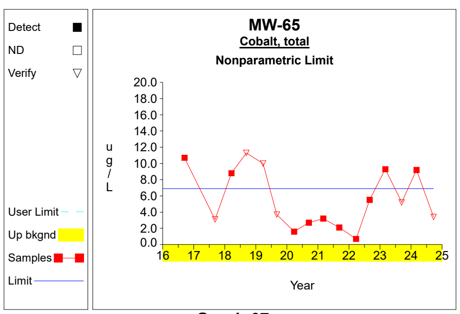
Graph 64



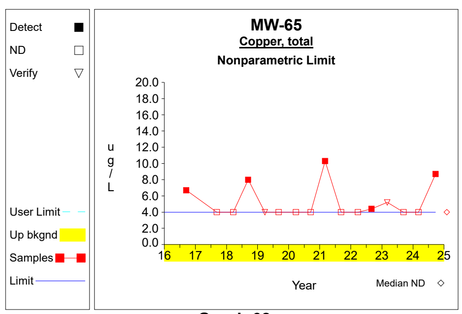
Graph 65



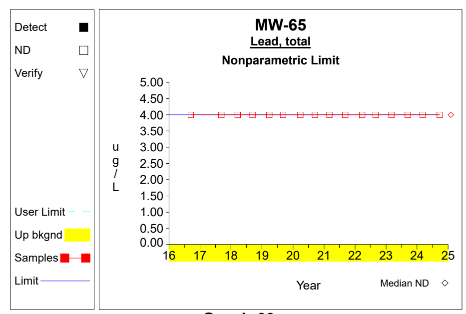
Graph 66



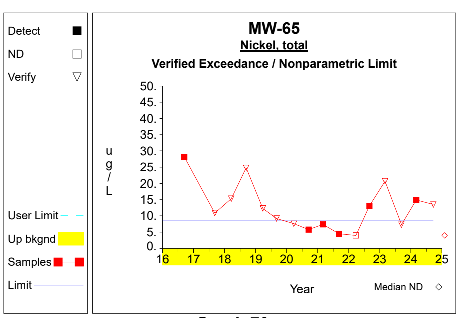
Graph 67



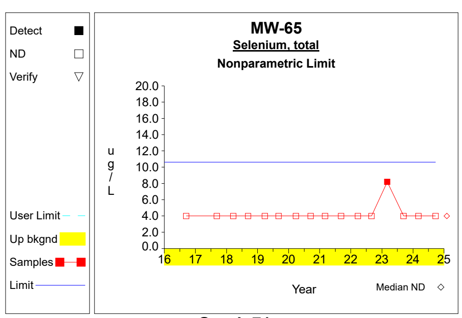
Graph 68



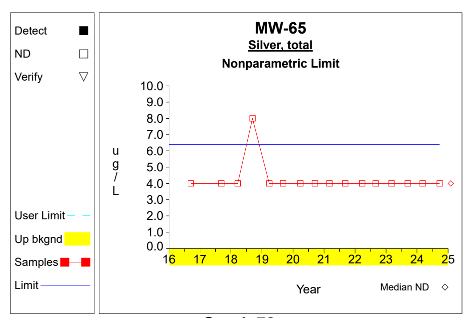
Graph 69



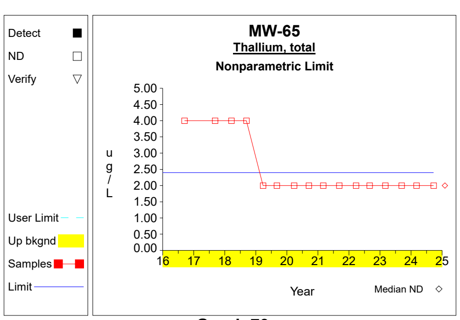
Graph 70



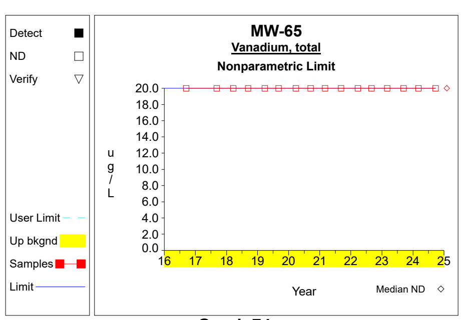
Graph 71



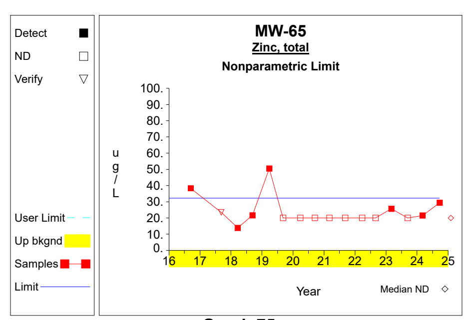
Graph 72



Graph 73



Graph 74



Graph 75

Prepared by: Otter Creek Environmental

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

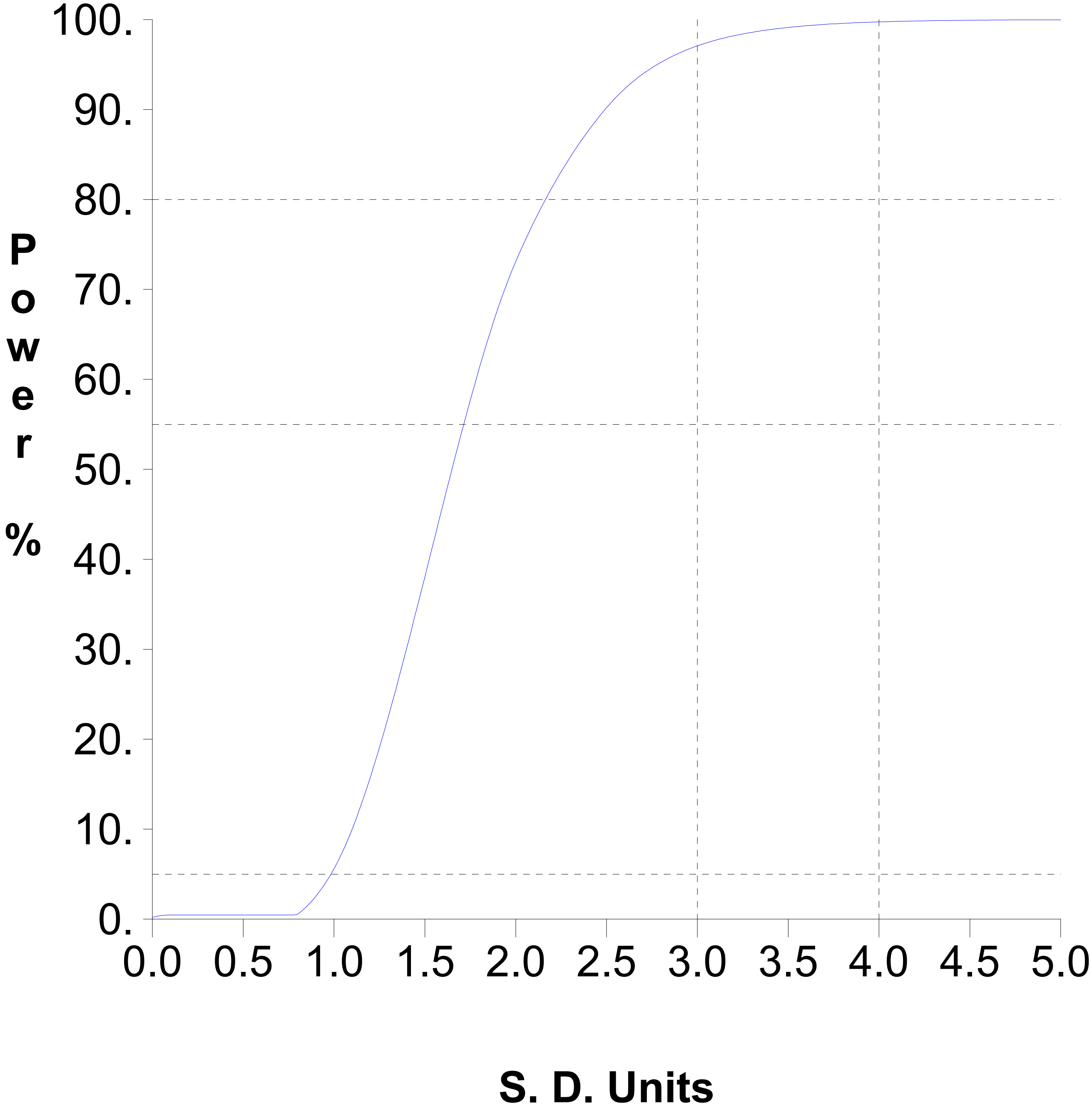


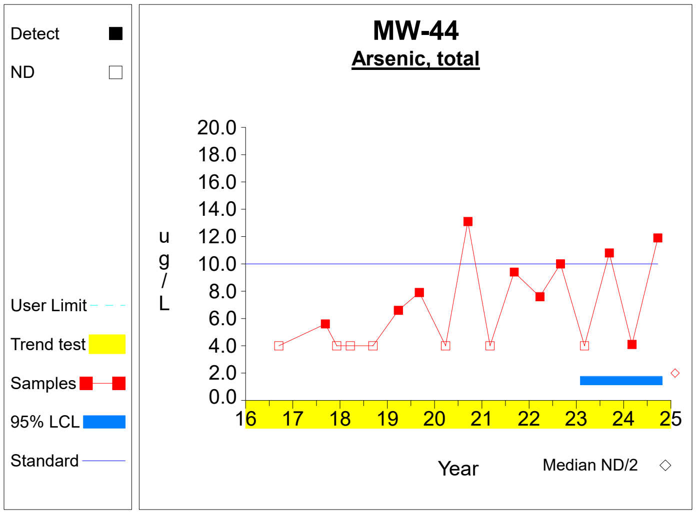
Table 1

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

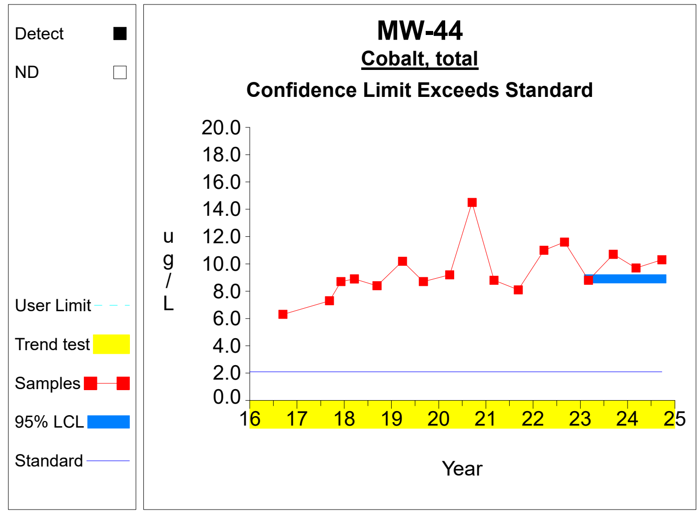
Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
Arsenic, total	ug/L	MW-44	4	7.200	4.889	1.176	1.449	12.951	10.000		
Cobalt, total	ug/L	MW-44	4	9.875	0.826	1.176	8.903	10.847	2.100		**
Copper, total	ug/L	MW-44	4	2.000	0.000	1.176	2.000	2.000	1300.000		
Nickel, total	ug/L	MW-44	4	11.025	1.511	1.176	9.248	12.802	100.000		
Arsenic, total	ug/L	MW-56	4	2.000	0.000	1.176	2.000	2.000	10.000		
Cobalt, total	ug/L	MW-56	4	1.400	1.055	1.176	0.159	2.641	2.100		
Copper, total	ug/L	MW-56	4	2.000	0.000	1.176	2.000	2.000	1300.000		
Nickel, total	ug/L	MW-56	4	5.900	3.281	1.176	2.040	9.760	100.000		
Arsenic, total	ug/L	MW-57	4	2.000	0.000	1.176	2.000	2.000	10.000		
Cobalt, total	ug/L	MW-57	4	0.600	0.271	1.176	0.281	0.919	2.100		
Copper, total	ug/L	MW-57	4	2.000	0.000	1.176	2.000	2.000	1300.000		
Nickel, total	ug/L	MW-57	4	2.650	1.300	1.176	1.121	4.179	100.000		
Arsenic, total	ug/L	MW-64	4	27.425	3.394	1.176	23.432	31.418	10.000		**
Cobalt, total	ug/L	MW-64	4	14.900	3.961	1.176	10.241	19.559	2.100		**
Copper, total	ug/L	MW-64	4	2.000	0.000	1.176	2.000	2.000	1300.000		
Nickel, total	ug/L	MW-64	4	37.075	6.696	1.176	29.199	44.951	100.000		
Arsenic, total	ug/L	MW-65	4	6.525	3.227	1.176	2.729	10.321	10.000		
Cobalt, total	ug/L	MW-65	4	6.775	2.951	1.176	3.304	10.246	2.100		**
Copper, total	ug/L	MW-65	4	4.475	3.195	1.176	0.717	8.233	1300.000		
Nickel, total	ug/L	MW-65	4	14.100	5.502	1.176	7.629	20.571	100.000		

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

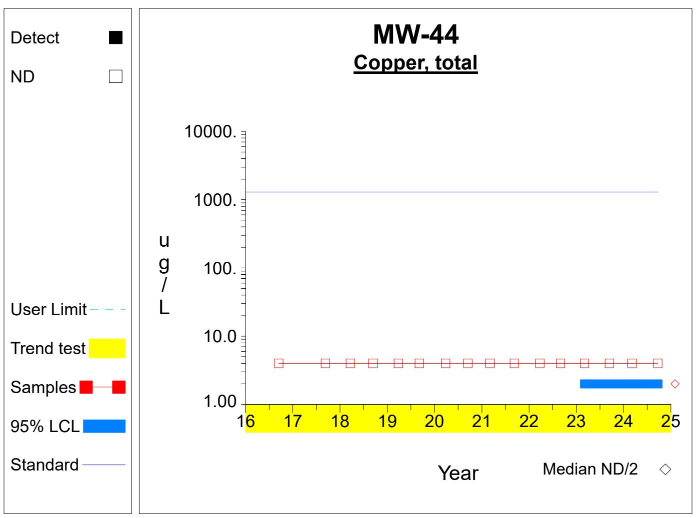
Confidence Limits (Assessment)



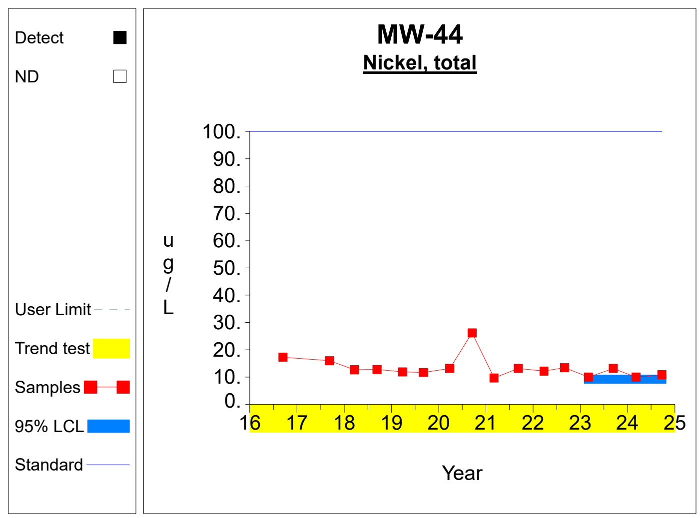
Graph 1



Graph 2

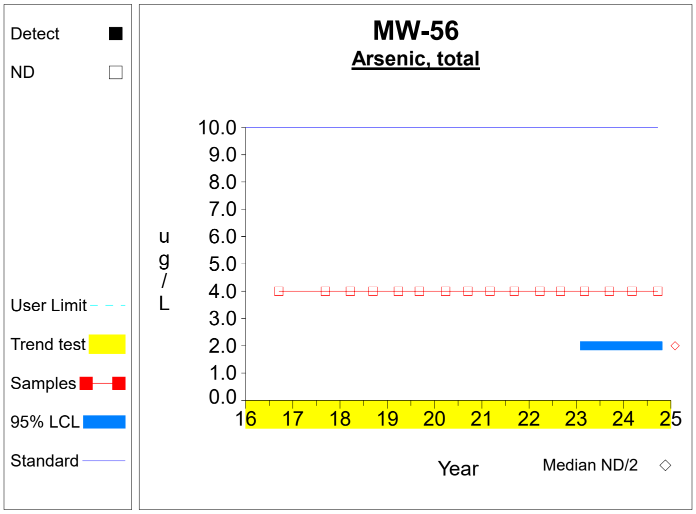


Graph 3

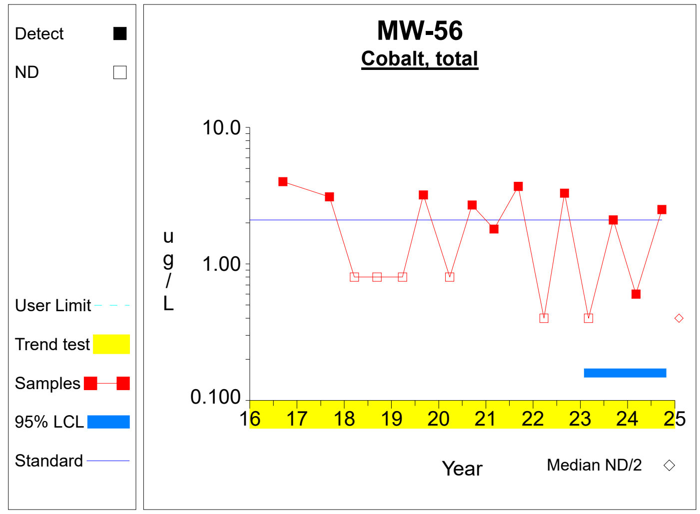


Graph 4

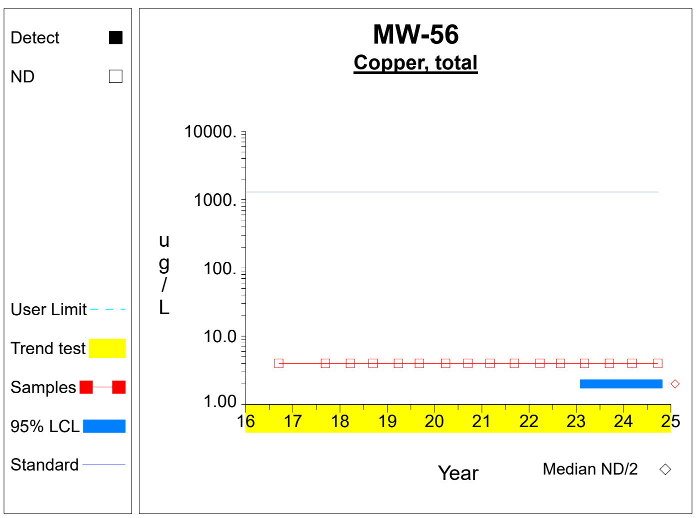
Confidence Limits (Assessment)



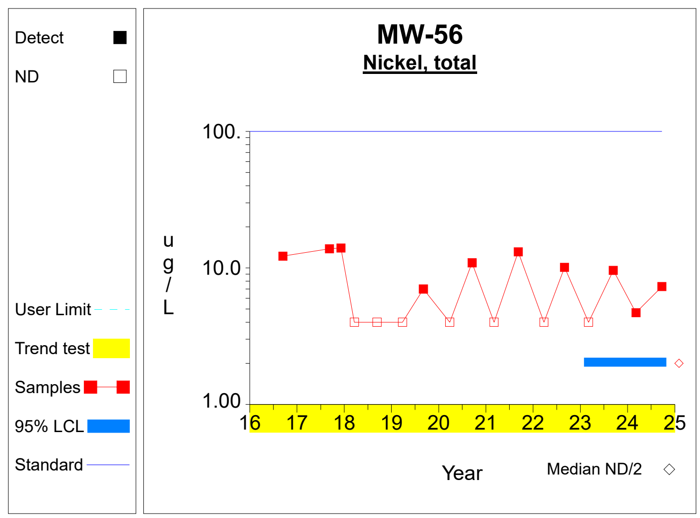
Graph 5



Graph 6

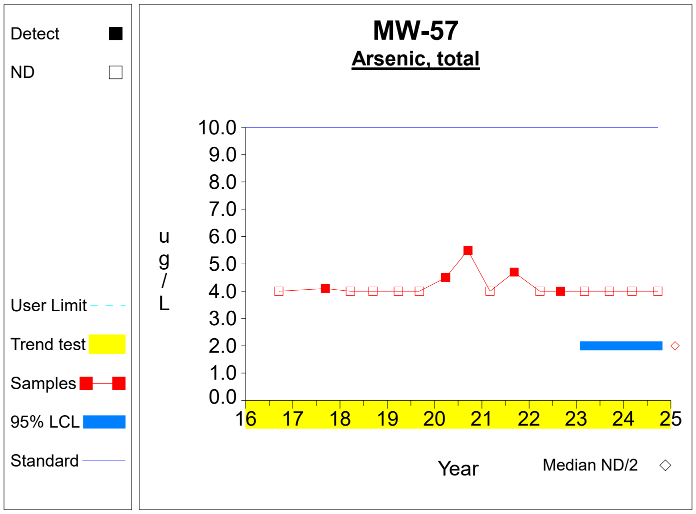


Graph 7

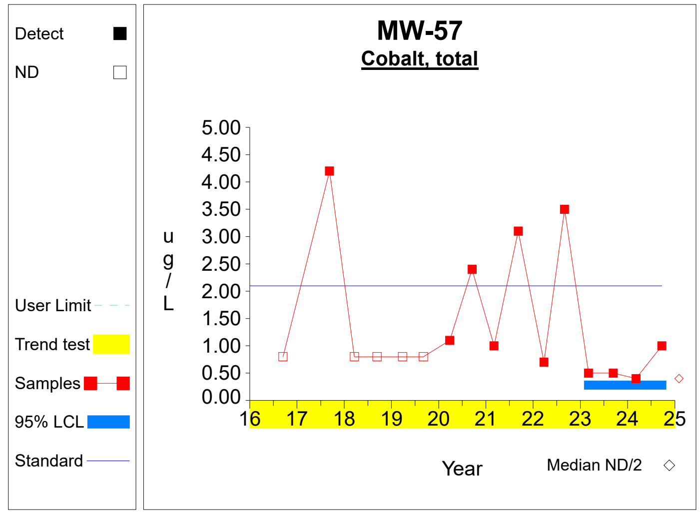


Graph 8

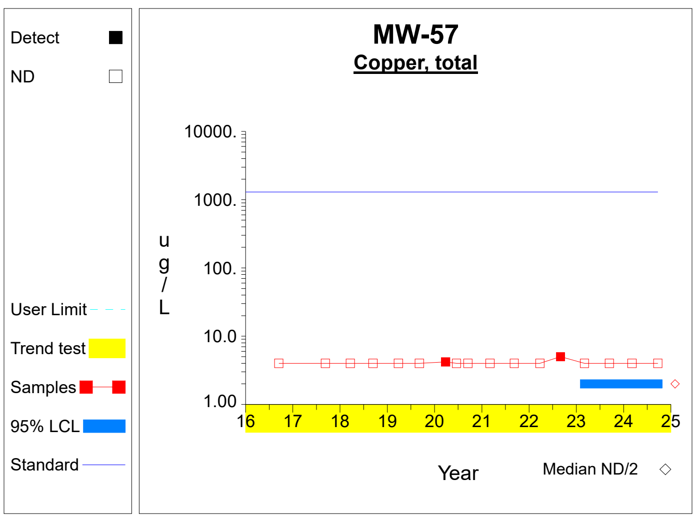
Confidence Limits (Assessment)



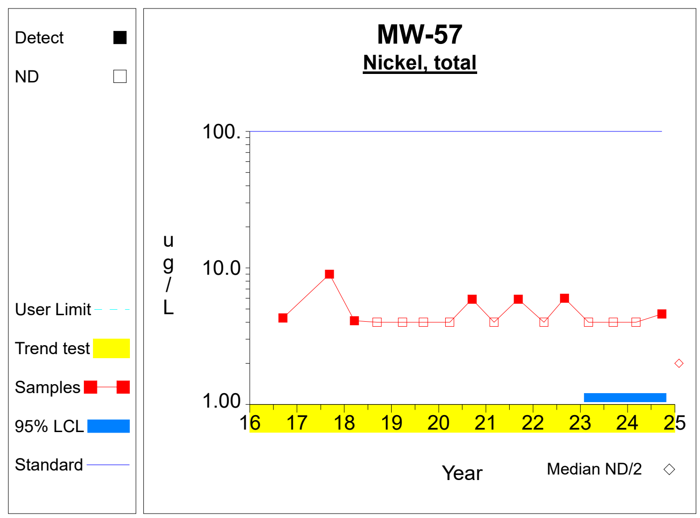
Graph 9



Graph 10

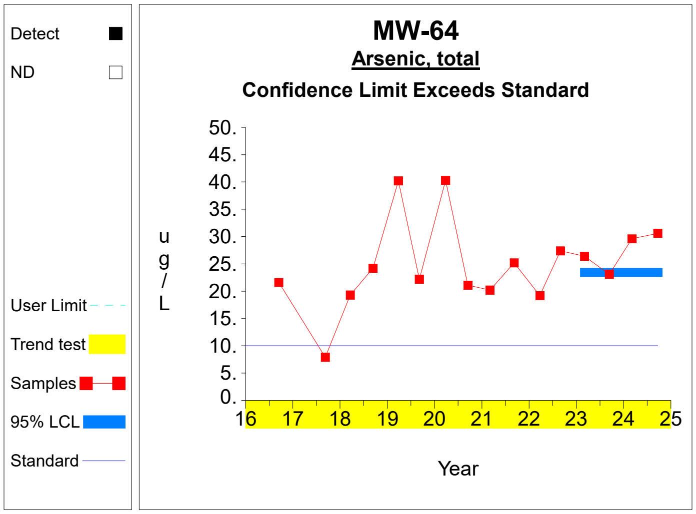


Graph 11

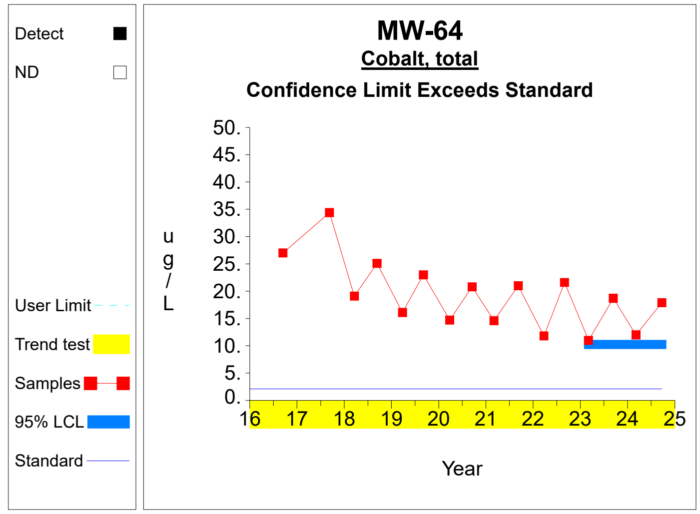


Graph 12

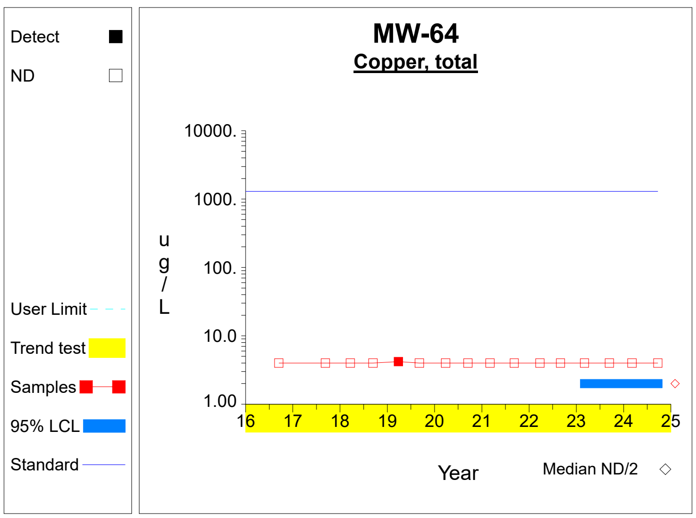
Confidence Limits (Assessment)



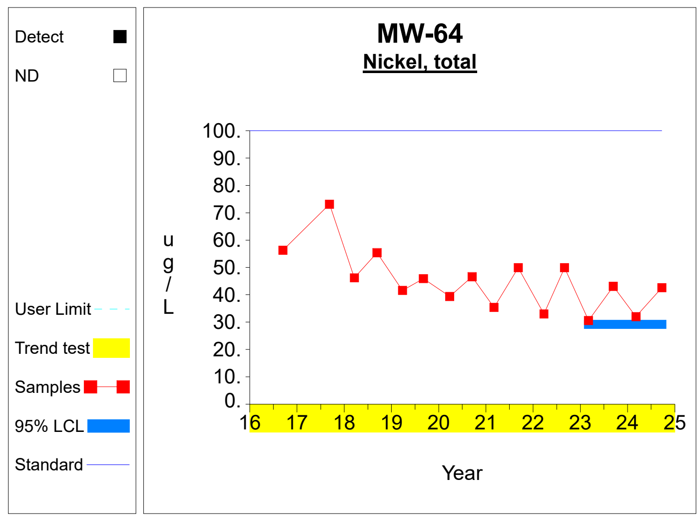
Graph 13



Graph 14

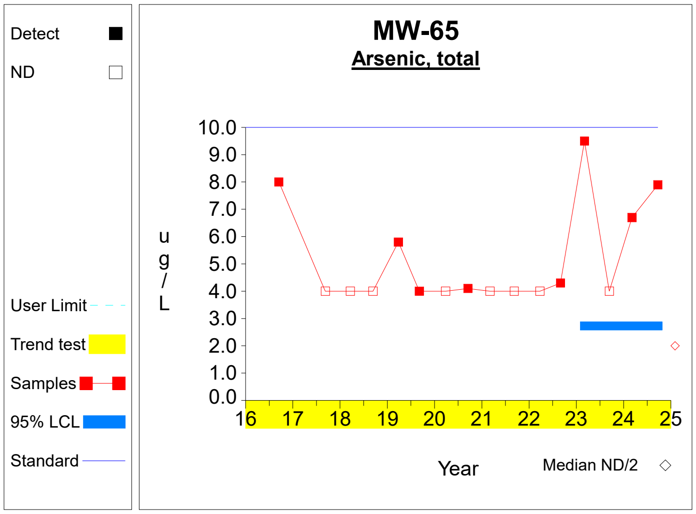


Graph 15

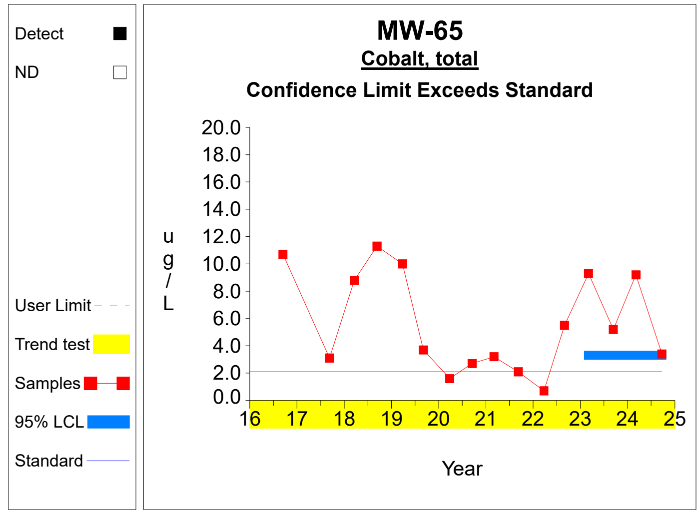


Graph 16

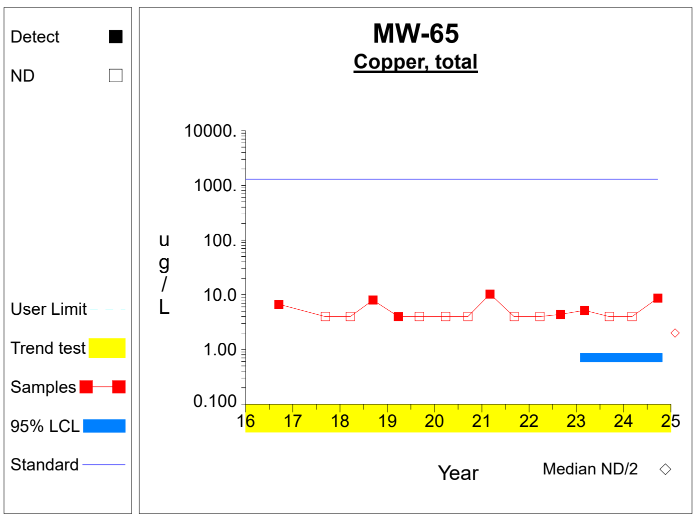
Confidence Limits (Assessment)



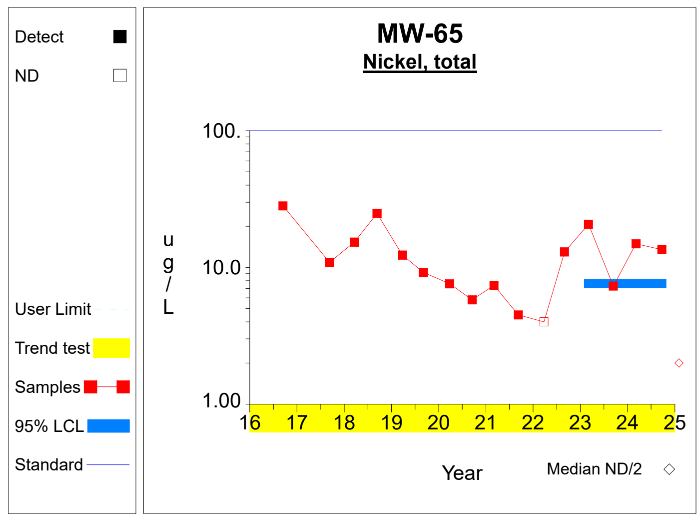
Graph 17



Graph 18



Graph 19



Graph 20

Worksheet 6 - Assessment Monitoring
Arsenic, total (ug/L) at MW-44

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **28.8** / **4** = **7.2**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2**/**N**) / (**N**-1))^{½} = ((**279.06** - **829.44**/**4**) / (**4**-1))^{½} = **4.889**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$** - **tS**/**N**^{½} = **7.2** - **2.353** * **4.889**/**4**^{½} = **1.449**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$** + **tS**/**N**^{½} = **7.2** + **2.353** * **4.889**/**4**^{½} = **12.951**	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 = **0.783**	Sen's estimator of trend.
7	var(S) = **545.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**136** ± **2.576** * **545.0**^{½}) / 2 = [**37.931**, **98.069**]	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**, **1.798**]	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-44

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **39.5** / **4** = **9.875**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))$^{1/2}$ = ((**392.11** - **1560.25**/**4**) / (**4**-1))$^{1/2}$ = **0.826**	Compute sd of the last 4 measurements.
3	LCL = $\bar{X}$ - **tS**/**N**$^{1/2}$ = **9.875** - **2.353** * **0.826**/**4**$^{1/2}$ = **8.903**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = $\bar{X}$ + **tS**/**N**$^{1/2}$ = **9.875** + **2.353** * **0.826**/**4**$^{1/2}$ = **10.847**	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 = **0.378**	Sen's estimator of trend.
7	var(S) = **587.333**	Variance estimate for slope.
8	M(S) = (**N'** ± $Z_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**136** ± **2.576** * **587.333**$^{1/2}$) / 2 = [**36.785**, **99.215**]	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) = [**-0.023**, **0.854**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Copper, total (ug/L) at MW-44

Step	Equation	Description
1	$\bar{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{8.0} / \mathbf{4}$ $= \mathbf{2.0}$	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{1/2}$ $= ((\mathbf{16.0} - \mathbf{64.0}/\mathbf{4}) / (\mathbf{4}-1))^{1/2}$ $= \mathbf{0.0}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{\mathbf{X}} - \mathbf{tS}/\mathbf{N}^{1/2}$ $= \mathbf{2.0} - \mathbf{2.353} * \mathbf{0.0}/\mathbf{4}^{1/2}$ $= \mathbf{2.0}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\mathbf{X}} + \mathbf{tS}/\mathbf{N}^{1/2}$ $= \mathbf{2.0} + \mathbf{2.353} * \mathbf{0.0}/\mathbf{4}^{1/2}$ $= \mathbf{2.0}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{16} * (\mathbf{16}-1) / 2$ $= \mathbf{120}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \mathbf{0.0}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{120} \pm \mathbf{2.576} * \mathbf{0.0}^{1/2}) / 2$ $= [\ \mathbf{60.0}, \mathbf{60.0}\ ]$	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
Nickel, total (ug/L) at MW-44

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **44.1** / **4** = **11.025**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))^{½} = ((**493.05** - **1944.81/4**) / (**4**-1))^{½} = **1.511**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$ - tS/N^{½}** = **11.025 - 2.353** * **1.511/4^{½}** = **9.248**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$** + **tS/N^{½}** = **11.025** + **2.353** * **1.511/4^{½}** = **12.802**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **16** * (**16**-1) / 2 = **120**	Number of sample pairs during trend detection period.
6	S = **-0.507**	Sen's estimator of trend.
7	var(S) = **488.667**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**120** ± **2.576** * **488.667**^{½}) / 2 = [**31.528**, **88.472**]	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) = [**-1.257**, **0.162**]	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-56

Step	Equation	Description
1	$\overline{X}$ = **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	$LCL = \mathbf{\overline{X}} - \mathbf{tS/N}^{1/2}$ $= \mathbf{2.0} - \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ = **2.0**	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \mathbf{\overline{X}} + \mathbf{tS/N}^{1/2}$ $= \mathbf{2.0} + \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ = **2.0**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **16** * (**16**-1) / 2 = **120**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **0.0**	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{120} \pm \mathbf{2.576} * \mathbf{0.0}^{1/2}) / 2$ = [**60.0**, **60.0**]	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
Cobalt, total (ug/L) at MW-56

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **5.6** / **4** = **1.4**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2**/**N**) / (**N**-1))^{½} = ((**11.18** - **31.36**/**4**) / (**4**-1))^{½} = **1.055**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$ - tS/N**^{½} = **1.4** - **2.353** * **1.055/4**^{½} = **0.159**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$ + tS/N**^{½} = **1.4** + **2.353** * **1.055/4**^{½} = **2.641**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **16** * (**16**-1) / 2 = **120**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **465.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**120** ± **2.576** * **465.0**^{½}) / 2 = [**32.226**, **87.774**]	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) = [**-0.493**, **0.373**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Copper, total (ug/L) at MW-56

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 = **16** * (**16**-1) / 2 = **120**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **0.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**120** ± **2.576** * **0.0**^{½}) / 2 = [**60.0**, **60.0**]	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-56

Step	Equation	Description
1	$\overline{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{23.6} / \mathbf{4}$ $= \mathbf{5.9}$	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{½}$ $= ((\mathbf{171.54} - \mathbf{556.96}/\mathbf{4}) / (\mathbf{4}-1))^{½}$ $= \mathbf{3.281}$	Compute sd of the last 4 measurements.
3	$LCL = \overline{\mathbf{X}} - \mathbf{tS}/\mathbf{N}^{½}$ $= \mathbf{5.9} - \mathbf{2.353} * \mathbf{3.281}/\mathbf{4}^{½}$ $= \mathbf{2.04}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \overline{\mathbf{X}} + \mathbf{tS}/\mathbf{N}^{½}$ $= \mathbf{5.9} + \mathbf{2.353} * \mathbf{3.281}/\mathbf{4}^{½}$ $= \mathbf{9.76}$	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	$S = \mathbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \mathbf{545.0}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{½}) / 2$ $= (\mathbf{136} \pm \mathbf{2.576} * \mathbf{545.0}^{½}) / 2$ $= [\ \mathbf{37.931}, \mathbf{98.069}\ ]$	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	$CL(S) = [\ \mathbf{-1.792}, \mathbf{0.969}\ ]$	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-57

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **8.0** / **4** = **2.0**	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{1/2}$ $= ((\mathbf{16.0} - \mathbf{64.0/4}) / (\mathbf{4}-1))^{1/2}$ = **0.0**	Compute sd of the last 4 measurements.
3	$LCL = \mathbf{\overline{X}} - \mathbf{tS/N}^{1/2}$ $= \mathbf{2.0} - \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ = **2.0**	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \mathbf{\overline{X}} + \mathbf{tS/N}^{1/2}$ $= \mathbf{2.0} + \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ = **2.0**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **16** * (**16**-1) / 2 = **120**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **328.333**	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{120} \pm \mathbf{2.576} * \mathbf{328.333}^{1/2}) / 2$ = [**36.661**, **83.339**]	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) = [**-0.007**, **0.0**]	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-57

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **2.4** / **4** = **0.6**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))^{½} = ((**1.66** - **5.76**/**4**) / (**4**-1))^{½} = **0.271**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$** - **tS**/**N**^{½} = **0.6** - **2.353** * **0.271**/**4**^{½} = **0.281**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$** + **tS**/**N**^{½} = **0.6** + **2.353** * **0.271**/**4**^{½} = **0.919**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **16** * (**16**-1) / 2 = **120**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **463.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **$Z_{.995}$** * **var(S)**^{½}) / 2 = (**120** ± **2.576** * **463.0**^{½}) / 2 = [**32.286**, **87.714**]	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) = [**-0.208**, **0.317**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Copper, total (ug/L) at MW-57

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **8.0** / **4** = **2.0**	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{1/2}$ $= ((\mathbf{16.0} - \mathbf{64.0/4}) / (\mathbf{4}-1))^{1/2}$ = **0.0**	Compute sd of the last 4 measurements.
3	$LCL = \mathbf{\overline{X}} - \mathbf{tS/N}^{1/2}$ $= \mathbf{2.0} - \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ = **2.0**	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \mathbf{\overline{X}} + \mathbf{tS/N}^{1/2}$ $= \mathbf{2.0} + \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ = **2.0**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **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) = **181.0**	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{136} \pm \mathbf{2.576} * \mathbf{181.0}^{1/2}) / 2$ = [**50.672**, **85.328**]	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-57

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **10.6** / **4** = **2.65**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2/N**) / (**N**-1))$^{1/2}$ = ((**33.16** - **112.36/4**) / (**4**-1))$^{1/2}$ = **1.3**	Compute sd of the last 4 measurements.
3	LCL = $\overline{X}$ - **tS/N**$^{1/2}$ = **2.65** - **2.353** * **1.3/4**$^{1/2}$ = **1.121**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = $\overline{X}$ + **tS/N**$^{1/2}$ = **2.65** + **2.353** * **1.3/4**$^{1/2}$ = **4.179**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **16** * (**16**-1) / 2 = **120**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **400.333**	Variance estimate for slope.
8	M(S) = (**N'** ± $Z_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**120** ± **2.576** * **400.333**$^{1/2}$) / 2 = [**34.229**, **85.771**]	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) = [**-0.645**, **0.029**]	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-64

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **109.7** / **4** = **27.425**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))^{½} = ((**3043.09** - **12034.09**/**4**) / (**4**-1))^{½} = **3.394**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$** - **tS**/**N**^{½} = **27.425** - **2.353** * **3.394**/**4**^{½} = **23.432**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$** + **tS**/**N**^{½} = **27.425** + **2.353** * **3.394**/**4**^{½} = **31.418**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **16** * (**16**-1) / 2 = **120**	Number of sample pairs during trend detection period.
6	S = **1.134**	Sen's estimator of trend.
7	var(S) = **493.333**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**120** ± **2.576** * **493.333**^{½}) / 2 = [**31.392**, **88.608**]	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) = [**-1.306**, **3.115**]	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-64

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **59.6** / **4** = **14.9**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))$^{1/2}$ = ((**935.1** - **3552.16**/**4**) / (**4**-1))$^{1/2}$ = **3.961**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$** - **tS**/**N**$^{1/2}$ = **14.9** - **2.353** * **3.961**/**4**$^{1/2}$ = **10.241**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$** + **tS**/**N**$^{1/2}$ = **14.9** + **2.353** * **3.961**/**4**$^{1/2}$ = **19.559**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **16** * (**16**-1) / 2 = **120**	Number of sample pairs during trend detection period.
6	S = **-1.321**	Sen's estimator of trend.
7	var(S) = **493.333**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**120** ± **2.576** * **493.333**$^{1/2}$) / 2 = [**31.392**, **88.608**]	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) = [**-3.274**, **0.034**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Copper, total (ug/L) at MW-64

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 = **16** * (**16**-1) / 2 = **120**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **85.0**	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{120} \pm \mathbf{2.576} * \mathbf{85.0}^{1/2}) / 2$ = [**48.125**, **71.875**]	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-64

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **148.3** / **4** = **37.075**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))^{½} = ((**5632.73** - **21992.89**/**4**) / (**4**-1))^{½} = **6.696**	Compute sd of the last 4 measurements.
3	LCL = $\overline{\mathbf{X}}$ - **tS**/**N**^{½} = **37.075** - **2.353** * **6.696**/**4**^{½} = **29.199**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = $\overline{\mathbf{X}}$ + **tS**/**N**^{½} = **37.075** + **2.353** * **6.696**/**4**^{½} = **44.951**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **16** * (**16**-1) / 2 = **120**	Number of sample pairs during trend detection period.
6	S = **-2.506**	Sen's estimator of trend.
7	var(S) = **492.333**	Variance estimate for slope.
8	M(S) = (**N'** ± $\mathbf{Z}_{.995}$ * **var(S)**^{½}) / 2 = (**120** ± **2.576** * **492.333**^{½}) / 2 = [**31.421**, **88.579**]	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) = [**-5.341**, **0.093**]	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-65

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **26.1** / **4** = **6.525**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))$^{1/2}$ = ((**201.55** - **681.21**/**4**) / (**4**-1))$^{1/2}$ = **3.227**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$** - **tS**/**N**$^{1/2}$ = **6.525** - **2.353** * **3.227**/**4**$^{1/2}$ = **2.729**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$** + **tS**/**N**$^{1/2}$ = **6.525** + **2.353** * **3.227**/**4**$^{1/2}$ = **10.321**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **16** * (**16**-1) / 2 = **120**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **428.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**120** ± **2.576** * **428.0**$^{1/2}$) / 2 = [**33.354**, **86.646**]	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) = [**-0.344**, **0.996**]	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-65

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **27.1** / **4** = **6.775**	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{1/2}$ $= ((\mathbf{209.73} - \mathbf{734.41/4}) / (\mathbf{4}-1))^{1/2}$ = **2.951**	Compute sd of the last 4 measurements.
3	$LCL = \overline{\mathbf{X}} - \mathbf{tS/N}^{1/2}$ $= \mathbf{6.775} - \mathbf{2.353} * \mathbf{2.951/4}^{1/2}$ = **3.304**	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \overline{\mathbf{X}} + \mathbf{tS/N}^{1/2}$ $= \mathbf{6.775} + \mathbf{2.353} * \mathbf{2.951/4}^{1/2}$ = **10.246**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **16** * (**16**-1) / 2 = **120**	Number of sample pairs during trend detection period.
6	S = **-0.284**	Sen's estimator of trend.
7	var(S) = **493.333**	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{120} \pm \mathbf{2.576} * \mathbf{493.333}^{1/2}) / 2$ = [**31.392**, **88.608**]	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) = [**-1.785**, **1.064**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Copper, total (ug/L) at MW-65

Step	Equation	Description
1	$\bar{X} = \textbf{sum[X]} / \textbf{N}$ $= \textbf{17.9} / \textbf{4}$ $= \textbf{4.475}$	Compute the mean of the last 4 measurements.
2	$S = ((\textbf{sum[X}^2\textbf{]} - \textbf{sum[X]}^2/\textbf{N}) / (\textbf{N}-1))^{1/2}$ $= ((\textbf{110.73} - \textbf{320.41/4}) / (\textbf{4}-1))^{1/2}$ $= \textbf{3.195}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{\textbf{X}} - \textbf{tS/N}^{1/2}$ $= \textbf{4.475} - \textbf{2.353} * \textbf{3.195/4}^{1/2}$ $= \textbf{0.717}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\textbf{X}} + \textbf{tS/N}^{1/2}$ $= \textbf{4.475} + \textbf{2.353} * \textbf{3.195/4}^{1/2}$ $= \textbf{8.233}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \textbf{N} * (\textbf{N}-1) / 2$ $= \textbf{16} * (\textbf{16}-1) / 2$ $= \textbf{120}$	Number of sample pairs during trend detection period.
6	$S = \textbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \textbf{401.333}$	Variance estimate for slope.
8	$M(S) = (\textbf{N'} \pm \textbf{Z}_{.995} * \textbf{var(S)}^{1/2}) / 2$ $= (\textbf{120} \pm \textbf{2.576} * \textbf{401.333}^{1/2}) / 2$ $= [\ \textbf{34.197}, \textbf{85.803}\ ]$	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	$CL(S) = [\ \textbf{-0.629}, \textbf{0.773}\ ]$	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-65

Step	Equation	Description
1	$\bar{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{56.4} / \mathbf{4}$ $= \mathbf{14.1}$	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{1/2}$ $= ((\mathbf{886.04} - \mathbf{3180.96/4}) / (\mathbf{4}-1))^{1/2}$ $= \mathbf{5.502}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{\mathbf{X}} - \mathbf{tS/N}^{1/2}$ $= \mathbf{14.1} - \mathbf{2.353} * \mathbf{5.502/4}^{1/2}$ $= \mathbf{7.629}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\mathbf{X}} + \mathbf{tS/N}^{1/2}$ $= \mathbf{14.1} + \mathbf{2.353} * \mathbf{5.502/4}^{1/2}$ $= \mathbf{20.571}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{16} * (\mathbf{16}-1) / 2$ $= \mathbf{120}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{-1.252}$	Sen's estimator of trend.
7	$var(S) = \mathbf{493.333}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{120} \pm \mathbf{2.576} * \mathbf{493.333}^{1/2}) / 2$ $= [\ \mathbf{31.392}, \mathbf{88.608}\ ]$	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	$CL(S) = [\ \mathbf{-3.475}, \mathbf{1.296}\ ]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Attachment E

Historical Summary of the VOCs Detected

Table 1

Historical Volatile Organic Compound Detections

Constituent	Well	Date	Identifier	Result	Limit	Units
1,1-dichloroethane	GWD-1	9/08/2011		1	1	ug/L
Acetone	GWD-1	9/16/2008		66.7	20.0	ug/L
Chloroethane	GWD-1	3/06/2009		1.0	1.0	ug/L
Chloroethane	GWD-1	3/29/2010		1.4	1.0	ug/L
Chloroethane	GWD-1	9/08/2011		1.6	1.0	ug/L
Chloroethane	GWD-1	9/25/2012		1.0	1.0	ug/L
Cis-1,2-dichloroethylene	GWD-1	3/29/2010		1.4	1.0	ug/L
Cis-1,2-dichloroethylene	GWD-1	9/28/2010		1.4	1.0	ug/L
Cis-1,2-dichloroethylene	GWD-1	3/22/2011		1.2	1.0	ug/L
Cis-1,2-dichloroethylene	GWD-1	9/08/2011		1.7	1.0	ug/L
Cis-1,2-dichloroethylene	GWD-1	9/25/2012		1.1	1.0	ug/L
Vinyl chloride	GWD-1	3/29/2010		1.4	1.0	ug/L
Vinyl chloride	GWD-1	9/28/2010		1.0	1.0	ug/L
Vinyl chloride	GWD-1	3/22/2011		1.1	1.0	ug/L
Vinyl chloride	GWD-1	9/08/2011		1.2	1.0	ug/L
Trichlorofluoromethane	MW-39	9/25/2013		9	1	ug/L
1,1-dichloroethane	MW-41	9/27/2010		18.6	1.0	ug/L
1,1-dichloroethane	MW-41	3/23/2011		16.0	1.0	ug/L
1,1-dichloroethane	MW-41	9/08/2011		22.5	1.0	ug/L
1,1-dichloroethane	MW-41	3/09/2012		14.7	1.0	ug/L
1,1-dichloroethane	MW-41	9/25/2012		16.4	1.0	ug/L
1,1-dichloroethane	MW-41	3/15/2013		16.0	1.0	ug/L
1,1-dichloroethane	MW-41	9/25/2013		16.8	1.0	ug/L
1,1-dichloroethane	MW-41	3/25/2014		16.0	1.0	ug/L
1,1-dichloroethane	MW-41	9/24/2014		19.3	1.0	ug/L
1,1-dichloroethane	MW-41	3/11/2015		23.1	1.0	ug/L
1,1-dichloroethane	MW-41	9/16/2015		24.9	1.0	ug/L
1,1-dichloroethane	MW-41	3/22/2016		24.1	1.0	ug/L
1,1-dichloroethane	MW-41	9/15/2016		26.2	1.0	ug/L
1,1-dichloroethane	MW-41	3/23/2017		24.4	1.0	ug/L
1,1-dichloroethane	MW-41	9/08/2017		23.4	1.0	ug/L
1,1-dichloroethane	MW-41	3/19/2018		26.7	1.0	ug/L
1,1-dichloroethane	MW-41	9/11/2018		24.6	1.0	ug/L
1,1-dichloroethane	MW-41	3/26/2019		24.6	1.0	ug/L
1,1-dichloroethane	MW-41	9/04/2019		26.3	1.0	ug/L
1,1-dichloroethane	MW-41	3/26/2020		30.8	1.0	ug/L
1,1-dichloroethane	MW-41	9/15/2020		25.8	1.0	ug/L
1,1-dichloroethane	MW-41	3/02/2021		24.5	1.0	ug/L
1,1-dichloroethane	MW-41	9/07/2021		24.4	1.0	ug/L
1,1-dichloroethane	MW-41	3/24/2022		25.1	1.0	ug/L
1,1-dichloroethane	MW-41	8/31/2022		22.0	1.0	ug/L
1,1-dichloroethane	MW-41	3/02/2023		23.9	1.0	ug/L
1,1-dichloroethane	MW-41	9/12/2023		23.0	1.0	ug/L
1,1-dichloroethane	MW-41	3/04/2024		19.0	1.0	ug/L
1,1-dichloroethane	MW-41	9/23/2024		22.0	1.0	ug/L
1,2-dichloropropane	MW-41	3/26/2020		1.2	1.0	ug/L
1,2-dichloropropane	MW-41	3/02/2023		1.0	1.0	ug/L
1,2-dichloropropane	MW-41	9/23/2024		1.0	1.0	ug/L
Bis(2-ethylhexyl) phthalate	MW-41	3/09/2012		22	8	ug/L
Bis(2-ethylhexyl) phthalate	MW-41	3/25/2014		83	10	ug/L
Bis(2-ethylhexyl) phthalate	MW-41	9/16/2015		10	10	ug/L
Bis(2-ethylhexyl) phthalate	MW-41	3/26/2020		8	6	ug/L
Chloroethane	MW-41	3/26/2019		1.1	1.0	ug/L
Chloroethane	MW-41	3/26/2020		1.0	1.0	ug/L
Chloroethane	MW-41	9/07/2021		1.0	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/08/2011		1.1	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/24/2014		1.4	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/11/2015		2.0	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/16/2015		2.3	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/22/2016		2.5	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/15/2016		2.7	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/23/2017		2.7	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/08/2017		2.2	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/19/2018		2.2	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/11/2018		2.6	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/26/2019		3.9	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/04/2019		3.9	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/26/2020		5.3	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/15/2020		5.0	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/02/2021		4.6	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/07/2021		4.9	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/24/2022		4.9	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	8/31/2022		4.0	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/02/2023		4.1	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	9/12/2023		3.6	1.0	ug/L
Cis-1,2-dichloroethylene	MW-41	3/04/2024		2.4	1.0	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

Historical Volatile Organic Compound Detections

Constituent	Well	Date	Identifier	Result	Limit	Units
Cis-1,2-dichloroethylene	MW-41	9/23/2024		3.1	1.0	ug/L
Tetrachloroethylene	MW-41	9/11/2018		1	1	ug/L
Trichloroethylene	MW-41	9/11/2018		1.1	1.0	ug/L
2,4,5-t	MW-42	3/19/2018		5.0	.5	ug/L
Bis(2-ethylhexyl) phthalate	MW-42	3/02/2023		6	6	ug/L
Acetone	MW-44	9/08/2017		20	10	ug/L
Acetone	MW-45	3/02/2021		21.1	10.0	ug/L
Tetrachloroethylene	MW-48	3/04/2024		2.3	1.0	ug/L
1,1-dichloroethane	MW-56	9/14/2016		5.0	1.0	ug/L
1,1-dichloroethane	MW-56	9/08/2017		10.4	1.0	ug/L
1,1-dichloroethane	MW-56	9/04/2019		4.7	1.0	ug/L
1,1-dichloroethane	MW-56	9/15/2020		6.9	1.0	ug/L
1,1-dichloroethane	MW-56	9/07/2021		8.4	1.0	ug/L
1,1-dichloroethane	MW-56	8/31/2022		7.4	1.0	ug/L
1,1-dichloroethane	MW-56	9/12/2023		4.0	1.0	ug/L
1,1-dichloroethane	MW-56	3/04/2024		1.7	1.0	ug/L
1,1-dichloroethane	MW-56	9/23/2024		2.6	1.0	ug/L
Benzene	MW-56	3/11/1992		7.8	5.0	ug/L
Benzene	MW-56	6/30/1992		1.4	1.0	ug/L
Benzene	MW-56	9/24/1992		9.7	5.0	ug/L
Benzene	MW-56	12/29/1992		8.3	5.0	ug/L
Benzene	MW-56	9/26/1995		10.0	5.0	ug/L
Benzene	MW-56	12/13/1995		11.3	5.0	ug/L
Benzene	MW-56	3/20/1996		11.1	5.0	ug/L
Benzene	MW-56	6/19/1996		11.7	5.0	ug/L
Benzene	MW-56	9/06/1996		9.6	5.0	ug/L
Benzene	MW-56	3/27/1997		10.4	5.0	ug/L
Benzene	MW-56	9/10/1997		11.3	5.0	ug/L
Benzene	MW-56	1/20/1998		9.6	5.0	ug/L
Benzene	MW-56	3/23/1998		5.9	5.0	ug/L
Benzene	MW-56	9/08/1998		9.1	5.0	ug/L
Benzene	MW-56	3/19/1999		7.4	5.0	ug/L
Benzene	MW-56	9/03/1999		7.6	5.0	ug/L
Benzene	MW-56	3/24/2000		9.5	5.0	ug/L
Benzene	MW-56	9/15/2000		7.1	5.0	ug/L
Benzene	MW-56	9/04/2001		6.4	5.0	ug/L
Benzene	MW-56	9/12/2002		7.1	5.0	ug/L
Benzene	MW-56	3/21/2003		5.8	5.0	ug/L
Benzene	MW-56	9/20/2003		5.9	5.0	ug/L
Benzene	MW-56	3/24/2004		.4	.3	ug/L
Benzene	MW-56	9/13/2005		5.8	5.0	ug/L
Benzene	MW-56	9/01/2006		5.3	5.0	ug/L
Benzene	MW-56	9/25/2007		2.3	1.0	ug/L
Benzene	MW-56	9/08/2017		1.4	1.0	ug/L
Benzene	MW-56	9/07/2021		1.0	1.0	ug/L
Chlorobenzene	MW-56	12/13/1995		5.6	5.0	ug/L
Chlorobenzene	MW-56	3/20/1996		4.7	1.0	ug/L
Chlorobenzene	MW-56	6/19/1996		4.7	1.0	ug/L
Chlorobenzene	MW-56	9/06/1996		4.4	1.0	ug/L
Chlorobenzene	MW-56	3/27/1997		5.0	1.0	ug/L
Chlorobenzene	MW-56	1/20/1998		4.8	1.0	ug/L
Chlorobenzene	MW-56	9/08/1998		5.1	5.0	ug/L
Chlorobenzene	MW-56	3/19/1999		4.6	1.0	ug/L
Chlorobenzene	MW-56	9/03/1999		5.1	5.0	ug/L
Chlorobenzene	MW-56	3/24/2000		7.0	5.0	ug/L
Chlorobenzene	MW-56	9/15/2000		5.2	5.0	ug/L
Chlorobenzene	MW-56	9/04/2001		5.4	5.0	ug/L
Chlorobenzene	MW-56	9/12/2002		4.8	1.0	ug/L
Chlorobenzene	MW-56	3/21/2003		5.3	5.0	ug/L
Chlorobenzene	MW-56	9/20/2003		4.5	1.0	ug/L
Chlorobenzene	MW-56	3/24/2004		.5	.3	ug/L
Chlorobenzene	MW-56	9/11/2004		4.1	1.0	ug/L
Chlorobenzene	MW-56	9/13/2005		4.3	1.0	ug/L
Chlorobenzene	MW-56	9/01/2006		3.7	1.0	ug/L
Chlorobenzene	MW-56	9/25/2007		1.3	1.0	ug/L
Cis-1,2-dichloroethylene	MW-56	12/13/1995		113.0	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	3/20/1996		118.0	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	6/19/1996		101.0	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	9/06/1996		86.5	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	3/27/1997		71.4	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	9/10/1997		61.3	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	1/20/1998		42.7	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	3/23/1998		27.0	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	9/08/1998		26.6	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	3/19/1999		18.6	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	9/03/1999		13.1	5.0	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

Historical Volatile Organic Compound Detections

Constituent	Well	Date	Identifier	Result	Limit	Units
Cis-1,2-dichloroethylene	MW-56	3/24/2000		8.6	5.0	ug/L
Cis-1,2-dichloroethylene	MW-56	9/15/2000		6.2	5.0	ug/L
Trans-1,2-dichloroethylene	MW-56	12/13/1995		3.7	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	3/20/1996		4.4	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	9/06/1996		3.2	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	3/27/1997		3.2	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	9/10/1997		3.0	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	1/20/1998		2.6	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	9/08/1998		2.0	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	3/19/1999		1.1	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	9/03/1999		1.8	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	3/24/2000		1.8	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	9/15/2000		1.3	1.0	ug/L
Trans-1,2-dichloroethylene	MW-56	9/12/2002		1.1	1.0	ug/L
Vinyl chloride	MW-56	12/13/1995		299.0	2.0	ug/L
Vinyl chloride	MW-56	3/20/1996		286.0	2.0	ug/L
Vinyl chloride	MW-56	6/19/1996		287.0	2.0	ug/L
Vinyl chloride	MW-56	9/06/1996		255.0	2.0	ug/L
Vinyl chloride	MW-56	3/27/1997		200.4	2.0	ug/L
Vinyl chloride	MW-56	9/10/1997		195.0	2.0	ug/L
Vinyl chloride	MW-56	1/20/1998		174.0	2.0	ug/L
Vinyl chloride	MW-56	3/23/1998		99.8	2.0	ug/L
Vinyl chloride	MW-56	9/08/1998		126.0	2.0	ug/L
Vinyl chloride	MW-56	3/19/1999		63.8	2.0	ug/L
Vinyl chloride	MW-56	9/03/1999		43.0	2.0	ug/L
Vinyl chloride	MW-56	3/24/2000		47.9	2.0	ug/L
Vinyl chloride	MW-56	9/15/2000		25.8	2.0	ug/L
Vinyl chloride	MW-56	9/04/2001		9.4	2.0	ug/L
Vinyl chloride	MW-56	9/12/2002		4.5	2.0	ug/L
Vinyl chloride	MW-56	9/20/2003		4.5	2.0	ug/L
Vinyl chloride	MW-56	3/24/2004		.4	.2	ug/L
Vinyl chloride	MW-56	9/11/2004		3.2	2.0	ug/L
Vinyl chloride	MW-56	9/13/2005		2.7	2.0	ug/L
Vinyl chloride	MW-56	9/01/2006		10.2	2.0	ug/L
Vinyl chloride	MW-56	9/25/2007		2.1	2.0	ug/L
Vinyl chloride	MW-56	9/24/2013		3.3	1.0	ug/L
Vinyl chloride	MW-56	9/14/2016		2.8	1.0	ug/L
Vinyl chloride	MW-56	9/08/2017		4.2	1.0	ug/L
Vinyl chloride	MW-56	9/15/2020		1.9	1.0	ug/L
Vinyl chloride	MW-56	9/07/2021		2.2	1.0	ug/L
Acetone	MW-57	9/08/2017		18.2	10.0	ug/L
Bis(2-ethylhexyl) phthalate	MW-57	3/02/2023		7	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-58	3/26/2020		6	6	ug/L
Cis-1,2-dichloroethylene	MW-58	9/27/2010		14.3	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/23/2011		16.2	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/08/2011		16.2	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/09/2012		12.0	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/25/2012		14.5	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/15/2013		10.2	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/25/2013		7.9	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/25/2014		8.9	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/24/2014		3.8	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/11/2015		5.8	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/17/2015		5.3	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/22/2016		4.1	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/15/2016		5.8	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/23/2017		4.8	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/08/2017		5.2	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/19/2018		4.0	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/11/2018		3.9	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/26/2019		2.7	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/04/2019		3.6	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/26/2020		2.8	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/15/2020		2.9	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/02/2021		1.7	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/07/2021		2.1	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/24/2022		1.7	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	8/31/2022		1.7	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/02/2023		1.8	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	9/12/2023		1.7	1.0	ug/L
Cis-1,2-dichloroethylene	MW-58	3/04/2024		1.0	1.0	ug/L
Bis(2-ethylhexyl) phthalate	MW-59	3/26/2019		15	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-59	12/04/2019		6	6	ug/L
Bis(2-ethylhexyl) phthalate	MW-62R	9/25/2012		18	8	ug/L
Bis(2-ethylhexyl) phthalate	MW-62R	9/24/2013		19	10	ug/L
Trichlorofluoromethane	MW-62R	9/28/2010		5.3	1.0	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

Historical Volatile Organic Compound Detections

Constituent	Well	Date	Identifier	Result	Limit	Units
Trichlorofluoromethane	MW-62R	12/22/2010		3.1	1.0	ug/L
Trichlorofluoromethane	MW-62R	5/17/2011		3.2	1.0	ug/L
Trichlorofluoromethane	MW-62R	7/14/2011		2.1	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/08/2011		6.1	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/09/2012		4.2	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/25/2012		4.7	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/15/2013		5.1	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/25/2014		7.1	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/24/2014		8.6	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/11/2015		8.8	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/16/2015		6.3	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/22/2016		5.5	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/15/2016		6.5	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/23/2017		6.0	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/08/2017		5.1	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/19/2018		4.8	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/11/2018		5.1	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/26/2019		3.4	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/04/2019		3.4	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/26/2020		2.2	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/15/2020		1.7	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/02/2021		2.0	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/07/2021		1.3	1.0	ug/L
Trichlorofluoromethane	MW-62R	8/31/2022		1.6	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/02/2023		1.9	1.0	ug/L
Trichlorofluoromethane	MW-62R	9/12/2023		1.4	1.0	ug/L
Trichlorofluoromethane	MW-62R	3/04/2024		1.0	1.0	ug/L
1,1-dichloroethane	MW-64	9/14/2016		1.9	1.0	ug/L
1,1-dichloroethane	MW-64	9/08/2017		2.0	1.0	ug/L
1,1-dichloroethane	MW-64	3/19/2018		2.6	1.0	ug/L
1,1-dichloroethane	MW-64	9/11/2018		1.2	1.0	ug/L
1,1-dichloroethane	MW-64	3/26/2019		2.4	1.0	ug/L
1,1-dichloroethane	MW-64	9/04/2019		2.3	1.0	ug/L
1,1-dichloroethane	MW-64	3/26/2020		2.4	1.0	ug/L
1,1-dichloroethane	MW-64	9/15/2020		1.8	1.0	ug/L
1,1-dichloroethane	MW-64	3/02/2021		2.7	1.0	ug/L
1,1-dichloroethane	MW-64	9/07/2021		1.6	1.0	ug/L
1,1-dichloroethane	MW-64	3/24/2022		2.1	1.0	ug/L
1,1-dichloroethane	MW-64	8/31/2022		1.6	1.0	ug/L
1,1-dichloroethane	MW-64	3/02/2023		2.3	1.0	ug/L
1,1-dichloroethane	MW-64	9/12/2023		1.8	1.0	ug/L
1,1-dichloroethane	MW-64	3/04/2024		1.5	1.0	ug/L
1,1-dichloroethane	MW-64	9/23/2024		1.7	1.0	ug/L
Benzene	MW-64	9/03/1999		1.4	1.0	ug/L
Benzene	MW-64	3/24/2000		2.1	1.0	ug/L
Benzene	MW-64	9/15/2000		1.1	1.0	ug/L
Benzene	MW-64	3/20/2001		1.4	1.0	ug/L
Benzene	MW-64	3/20/2002		1.8	1.0	ug/L
Benzene	MW-64	9/12/2002		2.1	1.0	ug/L
Benzene	MW-64	3/21/2003		1.9	1.0	ug/L
Benzene	MW-64	9/20/2003		1.8	1.0	ug/L
Benzene	MW-64	3/24/2004		1.8	1.0	ug/L
Benzene	MW-64	3/03/2005		1.6	1.0	ug/L
Benzene	MW-64	9/13/2005		1.5	1.0	ug/L
Benzene	MW-64	3/16/2006		1.4	1.0	ug/L
Benzene	MW-64	9/01/2006		1.5	1.0	ug/L
Benzene	MW-64	3/27/2007		1.1	1.0	ug/L
Benzene	MW-64	9/25/2007		1.0	.3	ug/L
Benzene	MW-64	3/20/2008		1.0	.3	ug/L
Benzene	MW-64	3/20/2008		1.0	1.0	ug/L
Benzene	MW-64	9/16/2008		1.0	1.0	ug/L
Chlorobenzene	MW-64	9/03/1999		1.1	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/23/1998		19.8	5.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/08/1998		28.2	5.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/19/1999		46.5	5.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/03/1999		34.2	5.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/24/2000		82.1	5.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/15/2000		43.8	5.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/20/2001		56.4	5.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/04/2001		67.0	5.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/20/2002		82.1	5.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/14/2016		36.4	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/08/2017		23.7	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/19/2018		17.2	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/11/2018		15.1	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/26/2019		9.7	1.0	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

Historical Volatile Organic Compound Detections

Constituent	Well	Date	Identifier	Result	Limit	Units
Cis-1,2-dichloroethylene	MW-64	9/04/2019		8.3	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/26/2020		4.6	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/15/2020		6.4	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/02/2021		7.4	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/07/2021		7.4	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/24/2022		3.9	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	8/31/2022		5.4	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/02/2023		3.3	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/12/2023		4.5	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	3/04/2024		2.4	1.0	ug/L
Cis-1,2-dichloroethylene	MW-64	9/23/2024		4.1	1.0	ug/L
Trans-1,2-dichloroethylene	MW-64	9/15/2000		1.1	1.0	ug/L
Trans-1,2-dichloroethylene	MW-64	3/20/2001		1.4	1.0	ug/L
Trans-1,2-dichloroethylene	MW-64	3/20/2002		2.0	1.0	ug/L
Trans-1,2-dichloroethylene	MW-64	9/12/2002		2.4	1.0	ug/L
Vinyl chloride	MW-64	1/20/1998		7.4	2.0	ug/L
Vinyl chloride	MW-64	3/23/1998		8.0	2.0	ug/L
Vinyl chloride	MW-64	9/08/1998		12.0	2.0	ug/L
Vinyl chloride	MW-64	3/19/1999		17.8	2.0	ug/L
Vinyl chloride	MW-64	9/03/1999		12.1	2.0	ug/L
Vinyl chloride	MW-64	3/24/2000		59.8	2.0	ug/L
Vinyl chloride	MW-64	9/15/2000		19.7	2.0	ug/L
Vinyl chloride	MW-64	3/20/2001		35.4	2.0	ug/L
Vinyl chloride	MW-64	9/04/2001		35.6	2.0	ug/L
Vinyl chloride	MW-64	3/20/2002		44.3	2.0	ug/L
Vinyl chloride	MW-64	9/12/2002		51.8	2.0	ug/L
Vinyl chloride	MW-64	3/21/2003		56.1	2.0	ug/L
Vinyl chloride	MW-64	9/20/2003		57.0	2.0	ug/L
Vinyl chloride	MW-64	3/24/2004		65.8	2.0	ug/L
Vinyl chloride	MW-64	9/11/2004		65.8	2.0	ug/L
Vinyl chloride	MW-64	3/03/2005		81.3	2.0	ug/L
Vinyl chloride	MW-64	9/13/2005		85.2	2.0	ug/L
Vinyl chloride	MW-64	3/16/2006		103.0	2.0	ug/L
Vinyl chloride	MW-64	9/01/2006		122.0	2.0	ug/L
Vinyl chloride	MW-64	3/27/2007		87.5	2.0	ug/L
Vinyl chloride	MW-64	9/25/2007		74.4	2.0	ug/L
Vinyl chloride	MW-64	3/20/2008		61.9	1.0	ug/L
Vinyl chloride	MW-64	3/20/2008		61.9	2.0	ug/L
Vinyl chloride	MW-64	9/16/2008		77.9	2.0	ug/L
Vinyl chloride	MW-64	9/16/2008		77.9	1.0	ug/L
Vinyl chloride	MW-64	3/06/2009		45.9	1.0	ug/L
Vinyl chloride	MW-64	9/13/2009		42.5	1.0	ug/L
Vinyl chloride	MW-64	9/24/2013		70.6	1.0	ug/L
Vinyl chloride	MW-64	9/25/2014		38.9	1.0	ug/L
Vinyl chloride	MW-64	3/25/2015		20.0	1.0	ug/L
Vinyl chloride	MW-64	9/16/2015		20.1	1.0	ug/L
Vinyl chloride	MW-64	9/14/2016		23.7	1.0	ug/L
Vinyl chloride	MW-64	3/23/2017		14.3	1.0	ug/L
Vinyl chloride	MW-64	9/08/2017		17.4	1.0	ug/L
Vinyl chloride	MW-64	3/19/2018		14.4	1.0	ug/L
Vinyl chloride	MW-64	9/11/2018		7.9	1.0	ug/L
Vinyl chloride	MW-64	3/26/2019		7.0	1.0	ug/L
Vinyl chloride	MW-64	9/04/2019		5.6	1.0	ug/L
Vinyl chloride	MW-64	3/26/2020		3.7	1.0	ug/L
Vinyl chloride	MW-64	9/15/2020		5.6	1.0	ug/L
Vinyl chloride	MW-64	3/02/2021		3.4	1.0	ug/L
Vinyl chloride	MW-64	9/07/2021		2.6	1.0	ug/L
Vinyl chloride	MW-64	3/24/2022		1.6	1.0	ug/L
Vinyl chloride	MW-64	8/31/2022		1.7	1.0	ug/L
Vinyl chloride	MW-64	3/02/2023		1.9	1.0	ug/L
Vinyl chloride	MW-64	9/12/2023		1.8	1.0	ug/L
Vinyl chloride	MW-64	3/04/2024		2.7	1.0	ug/L
Vinyl chloride	MW-64	9/23/2024		1.7	1.0	ug/L
Vinyl chloride	MW-65	9/16/2008		1.2	1.0	ug/L
Vinyl chloride	MW-65	9/16/2008		1.2	1.0	ug/L
Vinyl chloride	MW-65	9/24/2013		3.1	1.0	ug/L
Carbon disulfide	MW-79	12/22/2010		1	1	ug/L
Trichlorofluoromethane	MW-79	3/24/2022		1.6	1.0	ug/L
Toluene	PECS-1	9/23/2024		1.8	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101	3/23/2017		1.4	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101	3/26/2019		2.8	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101	9/04/2019		2.9	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101	12/04/2019		3.6	1.0	ug/L
Vinyl chloride	SW-101	9/04/2019		1.6	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101R	3/26/2020		2.6	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101R	9/15/2020		1.8	1.0	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

Historical Volatile Organic Compound Detections

Constituent	Well	Date	Identifier	Result	Limit	Units
Cis-1,2-dichloroethylene	SW-101R	3/02/2021		2.1	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101R	9/07/2021		5.9	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101R	3/24/2022		5.5	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101R	8/31/2022		6.1	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101R	3/02/2023		5.9	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101R	9/12/2023		6.0	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101R	3/04/2024		4.0	1.0	ug/L
Cis-1,2-dichloroethylene	SW-101R	9/23/2024		3.4	1.0	ug/L
Vinyl chloride	SW-101R	9/15/2020		1.8	1.0	ug/L
Vinyl chloride	SW-101R	3/02/2021		1.8	1.0	ug/L
Vinyl chloride	SW-101R	9/07/2021		4.6	1.0	ug/L
Vinyl chloride	SW-101R	3/24/2022		6.5	1.0	ug/L
Vinyl chloride	SW-101R	8/31/2022		3.9	1.0	ug/L
Vinyl chloride	SW-101R	3/02/2023		5.9	1.0	ug/L
Vinyl chloride	SW-101R	9/12/2023		4.4	1.0	ug/L
Vinyl chloride	SW-101R	3/04/2024		5.3	1.0	ug/L
Vinyl chloride	SW-101R	9/23/2024		3.1	1.0	ug/L
Cis-1,2-dichloroethylene	SW-103	12/13/1995		5.3	5.0	ug/L
Cis-1,2-dichloroethylene	SW-103	3/20/1996		1.1	1.0	ug/L
Cis-1,2-dichloroethylene	SW-103	3/27/1997		1.1	1.0	ug/L
Cis-1,2-dichloroethylene	SW-103	3/20/2002		1.4	1.0	ug/L
Vinyl chloride	SW-103	12/13/1995		6.2	2.0	ug/L

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

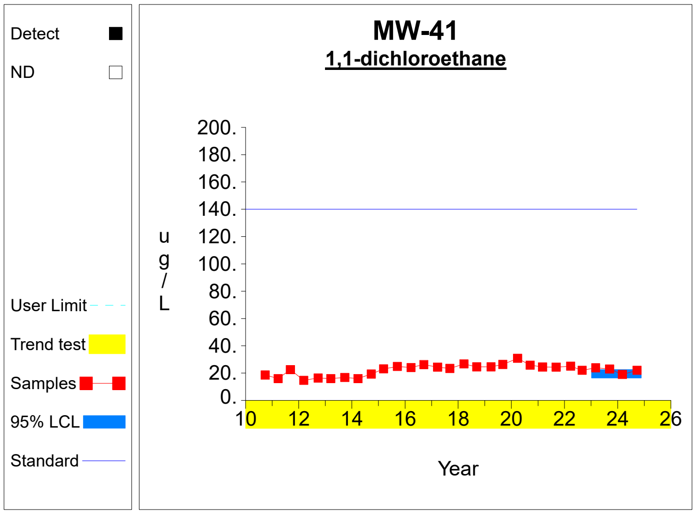
Table 1

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

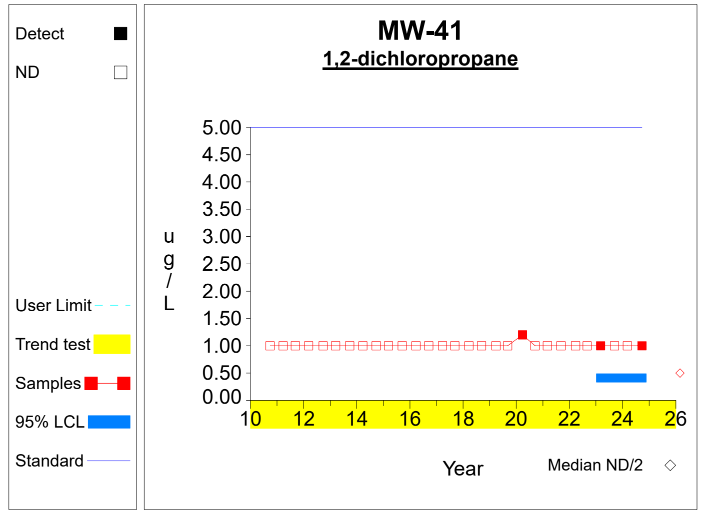
Constituent	Units	Well	N	Mean	SD	Factor	95% LCL	95% UCL	Standard	Trend	
1,1-dichloroethane	ug/L	MW-41	4	21.975	2.130	1.176	19.470	24.480	140.000		
1,2-dichloropropane	ug/L	MW-41	4	0.750	0.289	1.176	0.410	1.090	5.000		
Cis-1,2-dichloroethylene	ug/L	MW-41	4	3.300	0.726	1.176	2.446	4.154	70.000	inc	
Toluene	ug/L	MW-41	4	0.500	0.000	1.176	0.500	0.500	1000.000		
Trichlorofluoromethane	ug/L	MW-41	4	0.500	0.000	1.176	0.500	0.500	2000.000		
Vinyl chloride	ug/L	MW-41	4	0.500	0.000	1.176	0.500	0.500	2.000		
1,1-dichloroethane	ug/L	MW-56	4	2.200	1.476	1.176	0.463	3.937	140.000		
1,2-dichloropropane	ug/L	MW-56	4	0.500	0.000	1.176	0.500	0.500	5.000		
Cis-1,2-dichloroethylene	ug/L	MW-56	4	0.500	0.000	1.176	0.500	0.500	70.000		
Toluene	ug/L	MW-56	4	0.500	0.000	1.176	0.500	0.500	1000.000		
Trichlorofluoromethane	ug/L	MW-56	4	0.500	0.000	1.176	0.500	0.500	2000.000		
Vinyl chloride	ug/L	MW-56	4	0.500	0.000	1.176	0.500	0.500	2.000		
1,1-dichloroethane	ug/L	MW-58	4	0.500	0.000	1.176	0.500	0.500	140.000		
1,2-dichloropropane	ug/L	MW-58	4	0.500	0.000	1.176	0.500	0.500	5.000		
Cis-1,2-dichloroethylene	ug/L	MW-58	4	1.250	0.614	1.176	0.528	1.972	70.000	dec	
Toluene	ug/L	MW-58	4	0.500	0.000	1.176	0.500	0.500	1000.000		
Trichlorofluoromethane	ug/L	MW-58	4	0.500	0.000	1.176	0.500	0.500	2000.000		
Vinyl chloride	ug/L	MW-58	4	0.500	0.000	1.176	0.500	0.500	2.000		
1,1-dichloroethane	ug/L	MW-62R	4	0.500	0.000	1.176	0.500	0.500	140.000		
1,2-dichloropropane	ug/L	MW-62R	4	0.500	0.000	1.176	0.500	0.500	5.000		
Cis-1,2-dichloroethylene	ug/L	MW-62R	4	0.500	0.000	1.176	0.500	0.500	70.000		
Toluene	ug/L	MW-62R	4	0.500	0.000	1.176	0.500	0.500	1000.000		
Trichlorofluoromethane	ug/L	MW-62R	4	1.200	0.594	1.176	0.501	1.899	2000.000	dec	
Vinyl chloride	ug/L	MW-62R	4	0.500	0.000	1.176	0.500	0.500	2.000		
1,1-dichloroethane	ug/L	MW-64	4	1.825	0.340	1.176	1.425	2.225	140.000		
1,2-dichloropropane	ug/L	MW-64	4	0.500	0.000	1.176	0.500	0.500	5.000		
Cis-1,2-dichloroethylene	ug/L	MW-64	4	3.575	0.929	1.176	2.483	4.667	70.000	dec	
Toluene	ug/L	MW-64	4	0.500	0.000	1.176	0.500	0.500	1000.000		
Trichlorofluoromethane	ug/L	MW-64	4	0.500	0.000	1.176	0.500	0.500	2000.000		
Vinyl chloride	ug/L	MW-64	4	2.025	0.457	1.176	1.487	2.563	2.000	dec	
1,1-dichloroethane	ug/L	SW-101R	4	0.500	0.000	1.176	0.500	0.500	140.000		
1,2-dichloropropane	ug/L	SW-101R	4	0.500	0.000	1.176	0.500	0.500	5.000		
Cis-1,2-dichloroethylene	ug/L	SW-101R	4	4.825	1.323	1.176	3.269	6.381	70.000		
Toluene	ug/L	SW-101R	4	0.500	0.000	1.176	0.500	0.500	1000.000		
Trichlorofluoromethane	ug/L	SW-101R	4	0.500	0.000	1.176	0.500	0.500	2000.000		
Vinyl chloride	ug/L	SW-101R	4	4.675	1.218	1.176	3.243	6.107	2.000		**

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

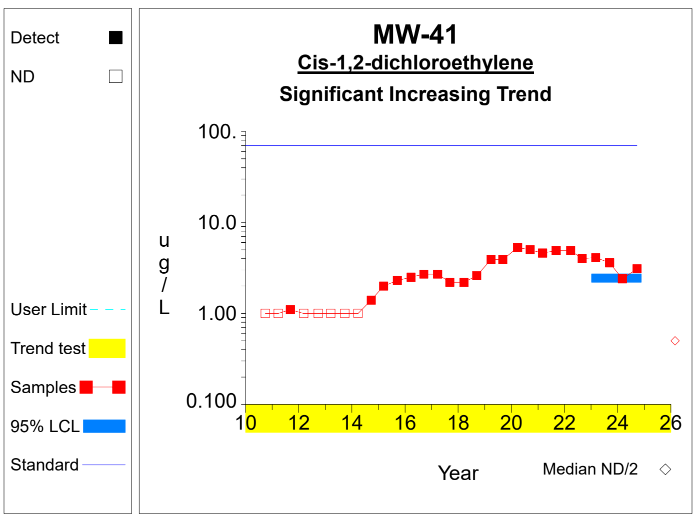
Confidence Limits (Assessment)



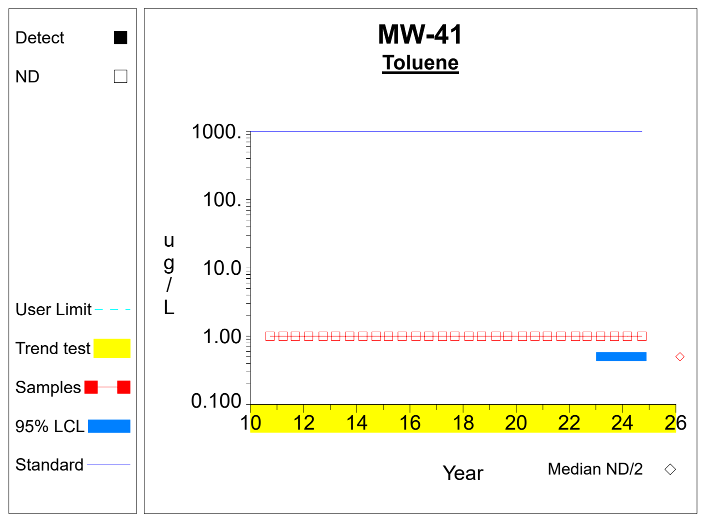
Graph 1



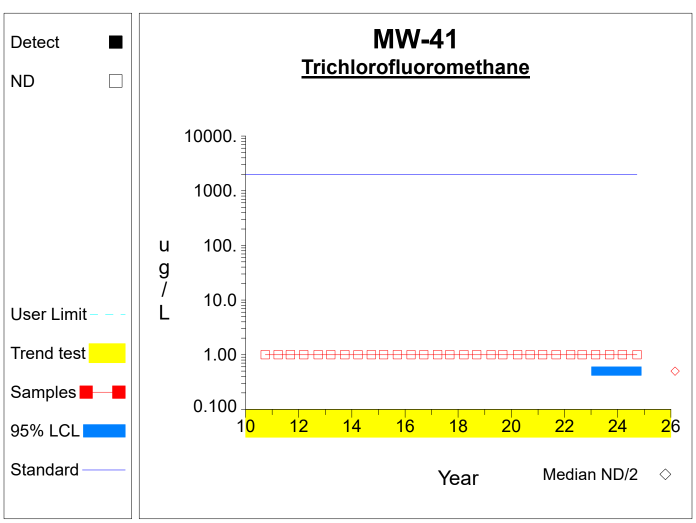
Graph 2



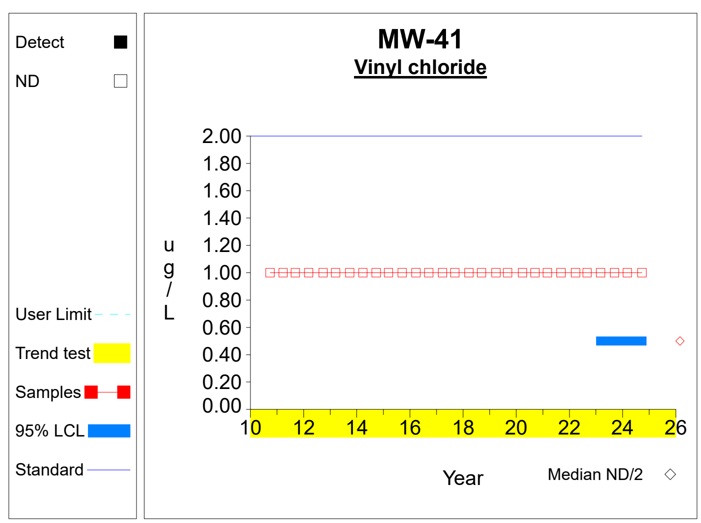
Graph 3



Graph 4



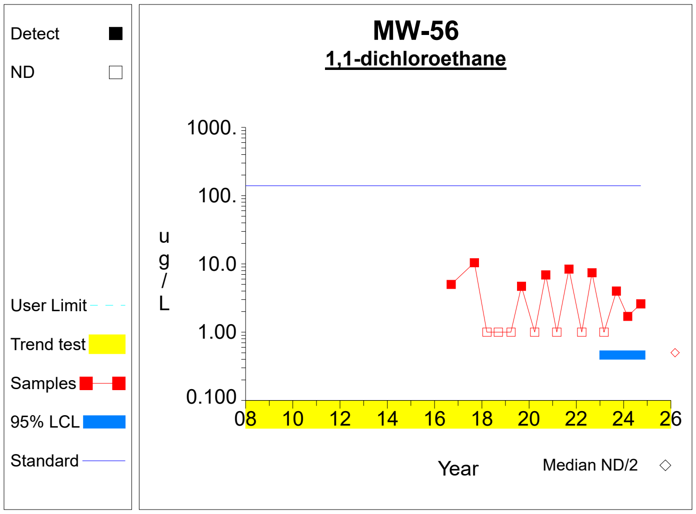
Graph 5



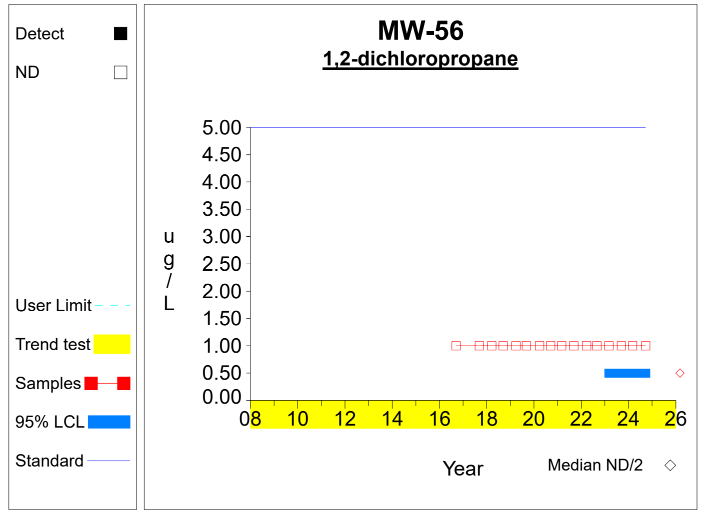
Graph 6

Prepared by: Otter Creek Environmental

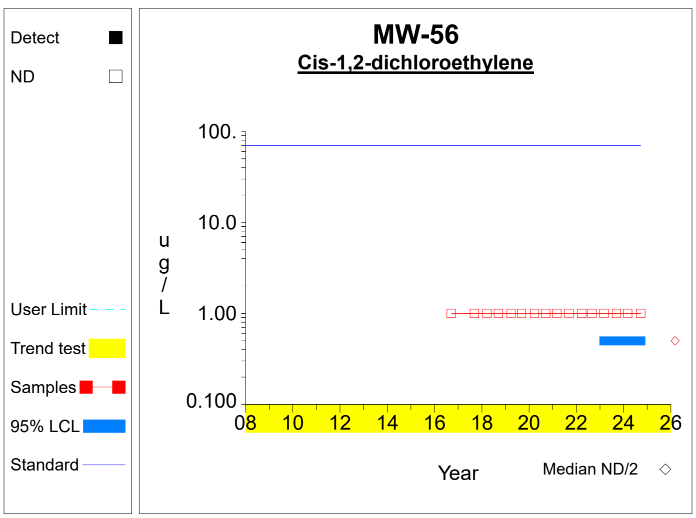
Confidence Limits (Assessment)



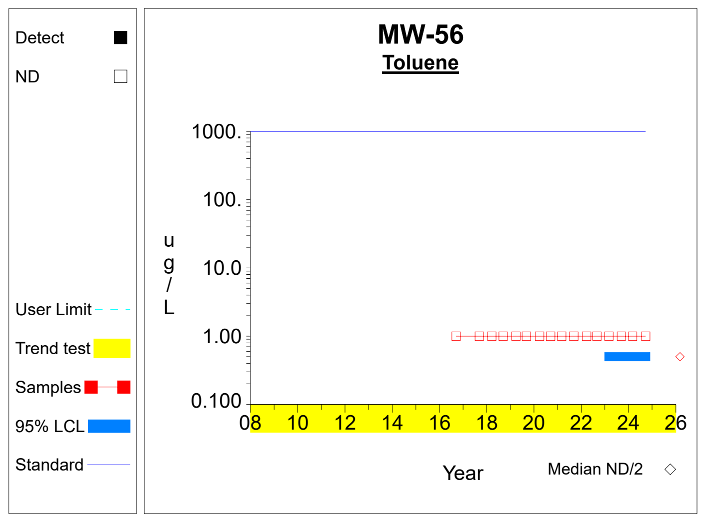
Graph 7



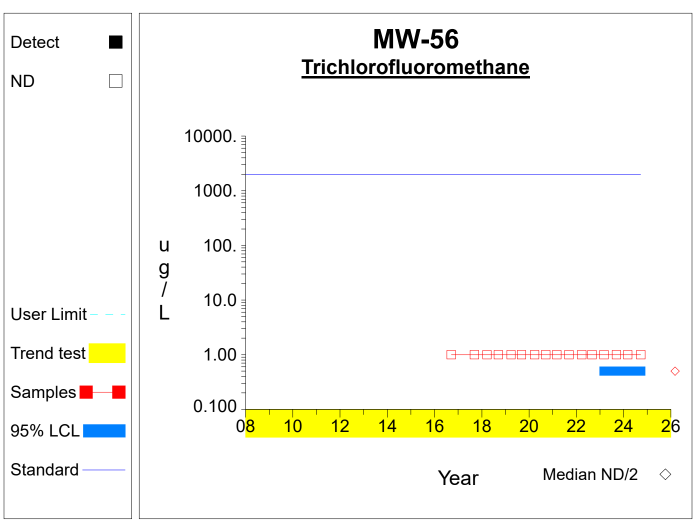
Graph 8



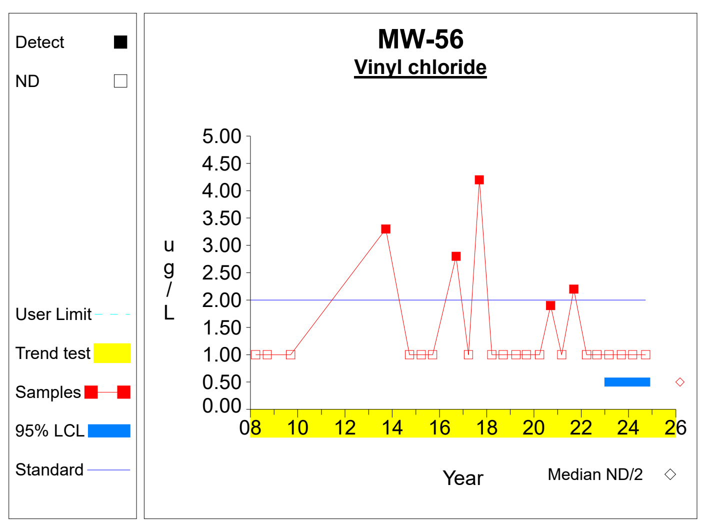
Graph 9



Graph 10



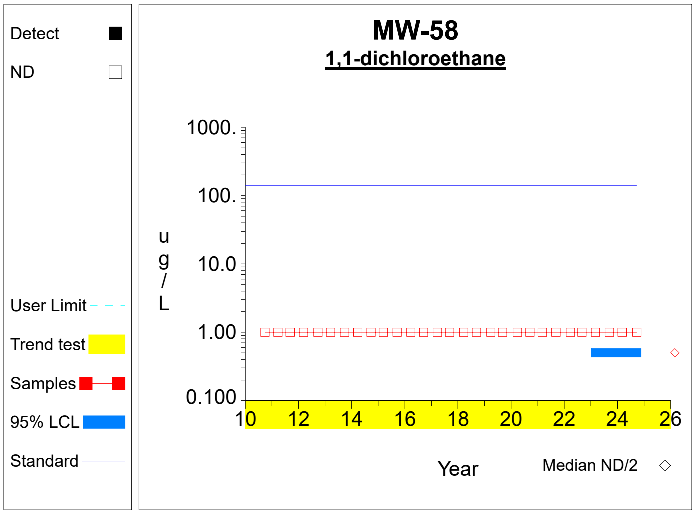
Graph 11



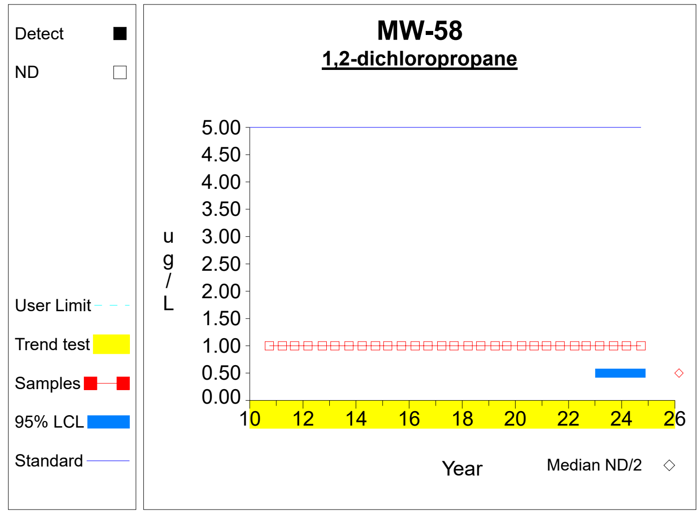
Graph 12

Prepared by: Otter Creek Environmental

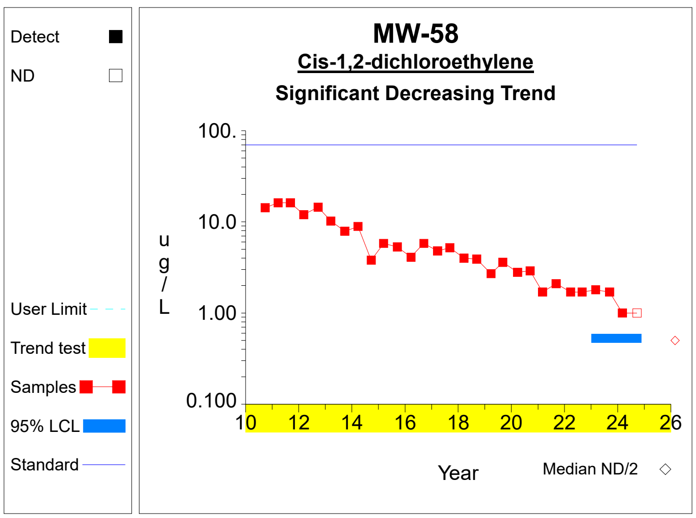
Confidence Limits (Assessment)



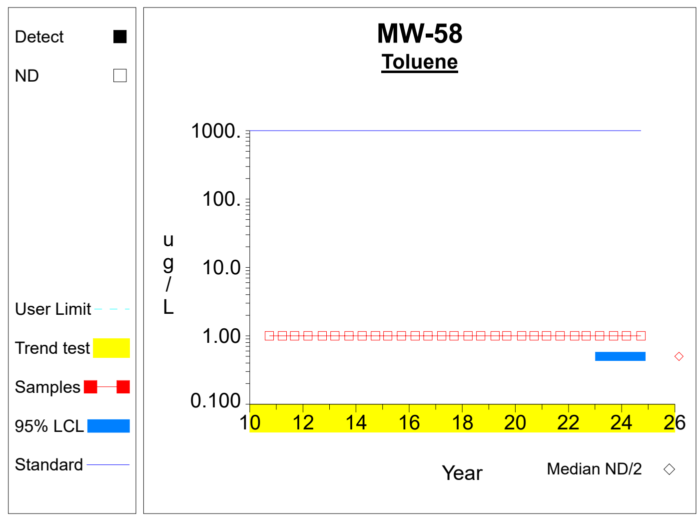
Graph 13



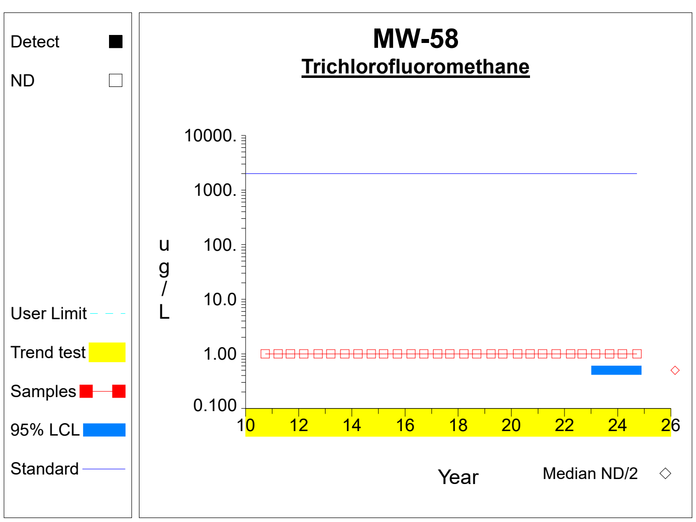
Graph 14



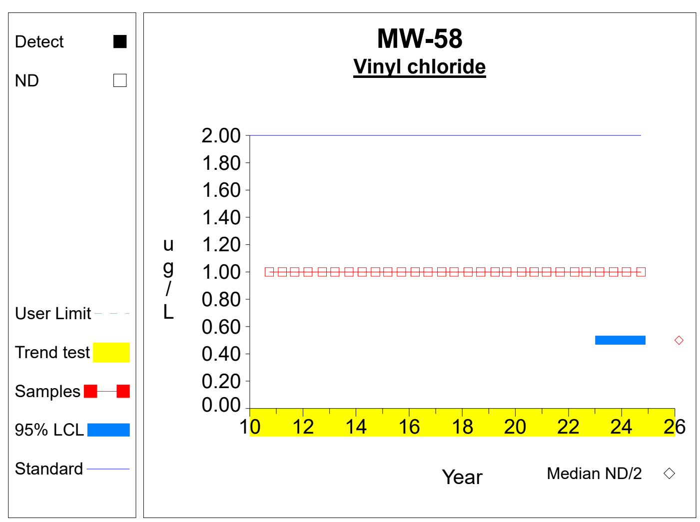
Graph 15



Graph 16

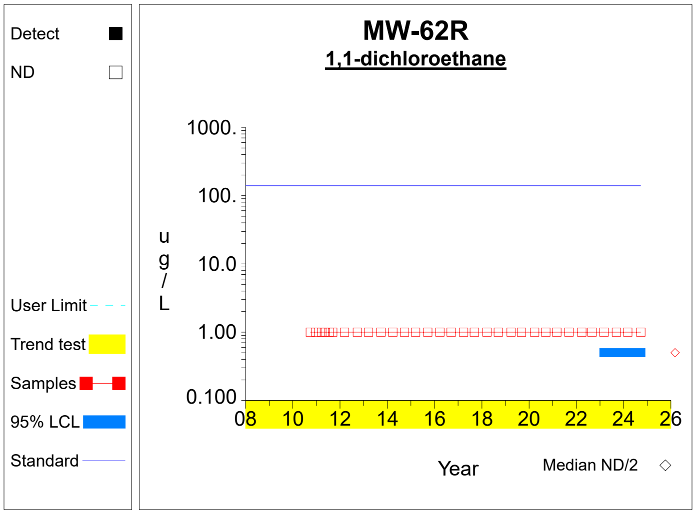


Graph 17

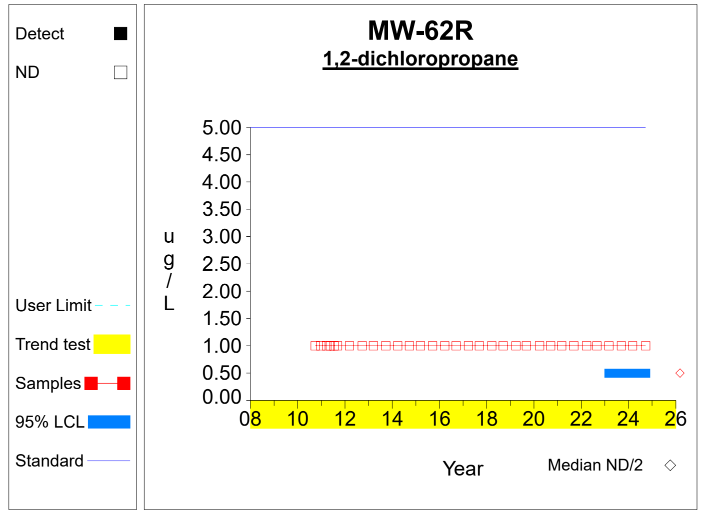


Graph 18

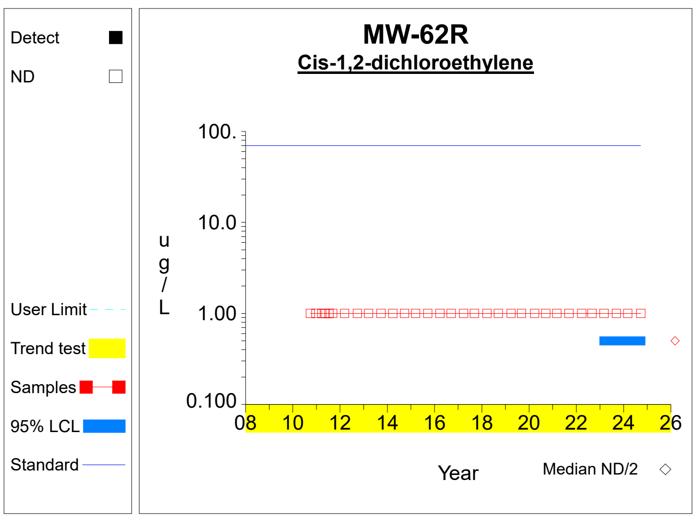
Confidence Limits (Assessment)



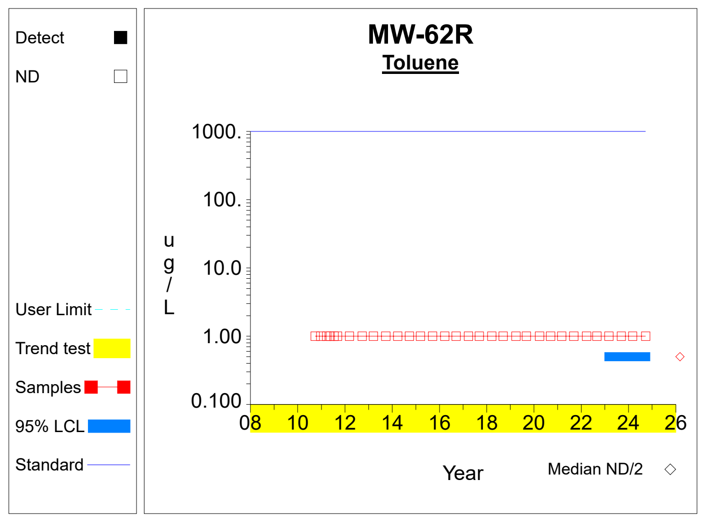
Graph 19



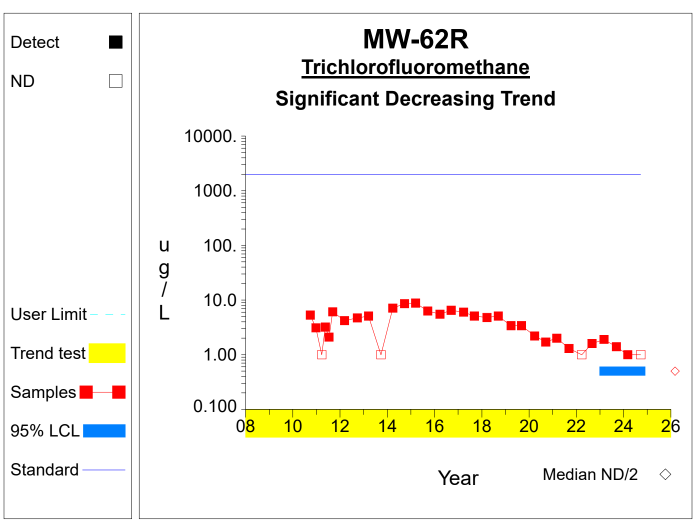
Graph 20



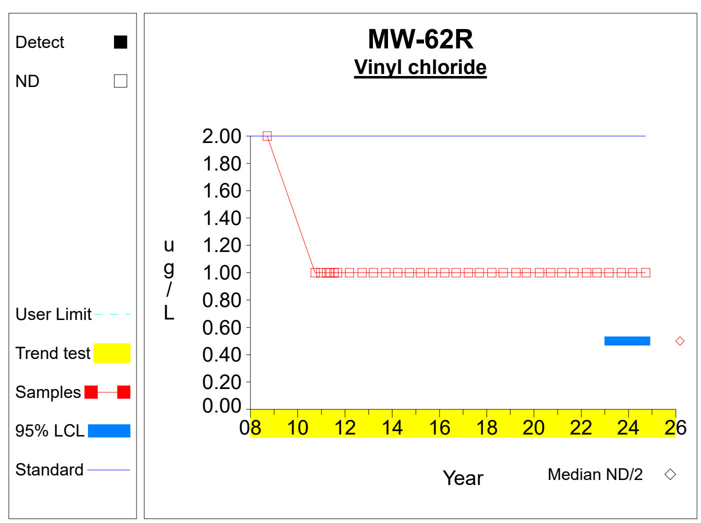
Graph 21



Graph 22

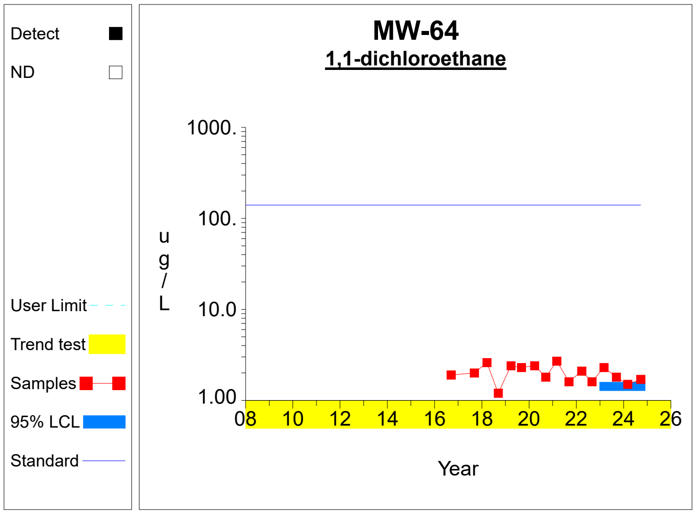


Graph 23

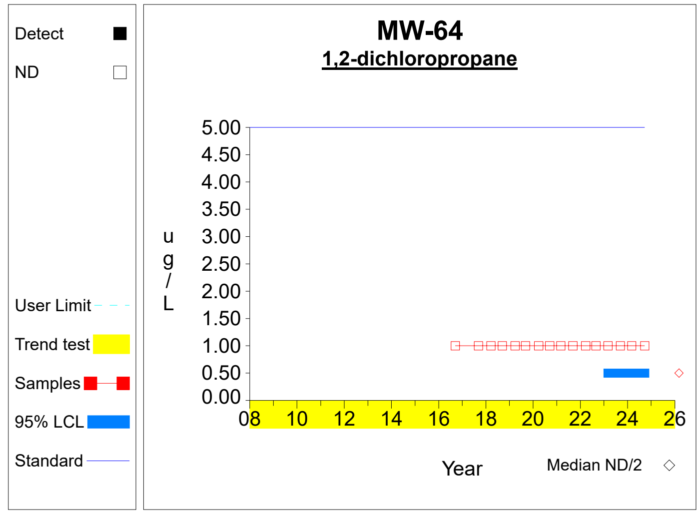


Graph 24

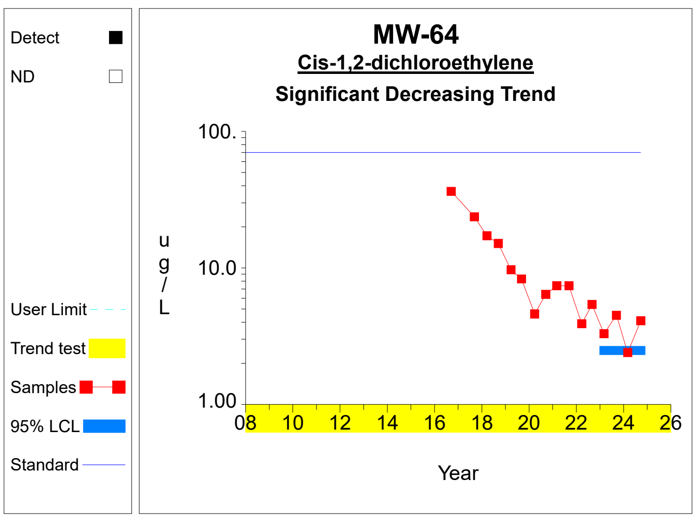
Confidence Limits (Assessment)



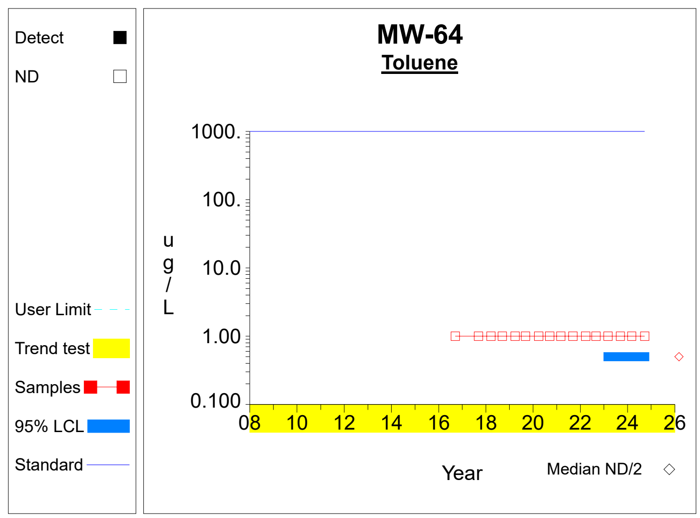
Graph 25



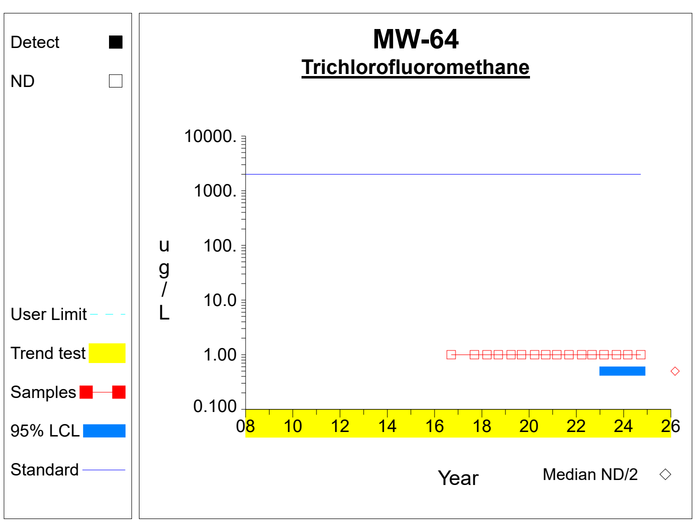
Graph 26



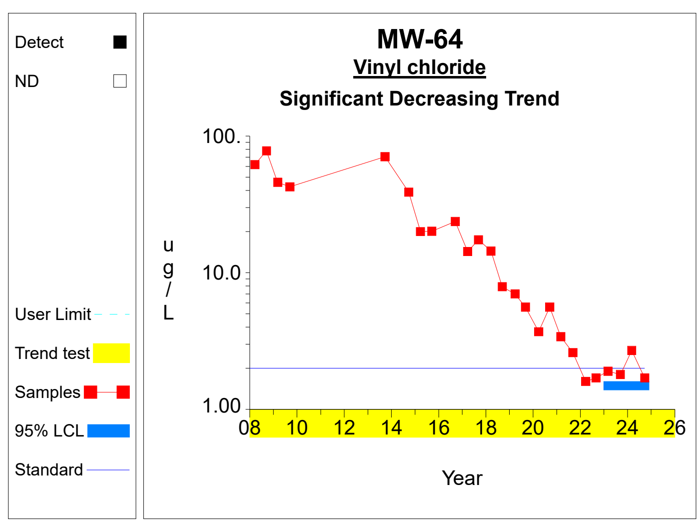
Graph 27



Graph 28

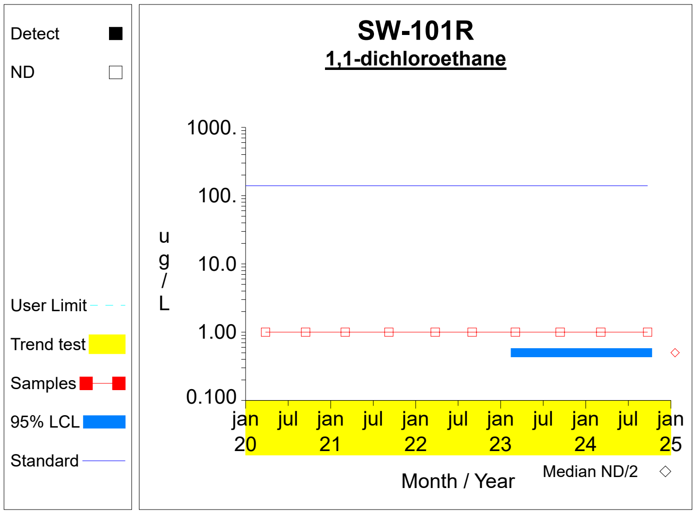


Graph 29

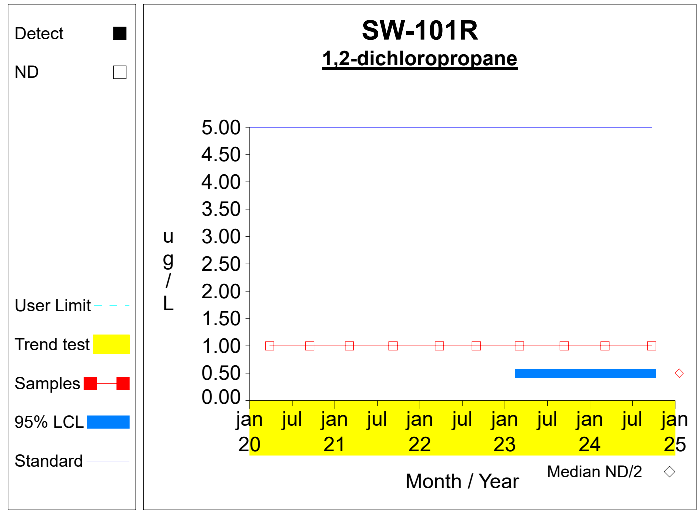


Graph 30

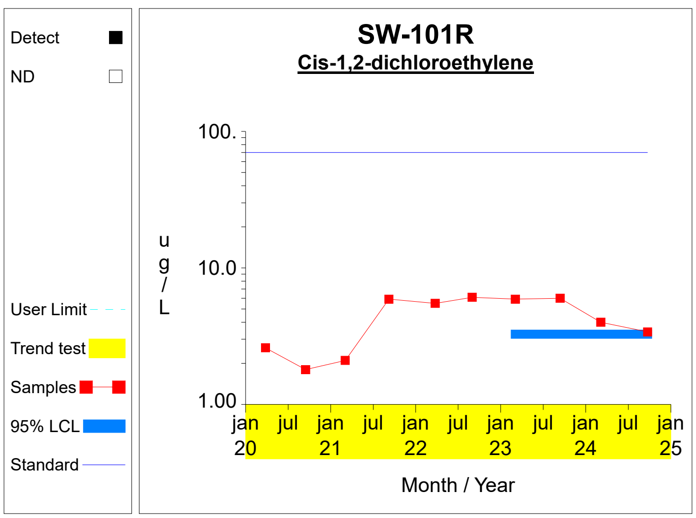
Confidence Limits (Assessment)



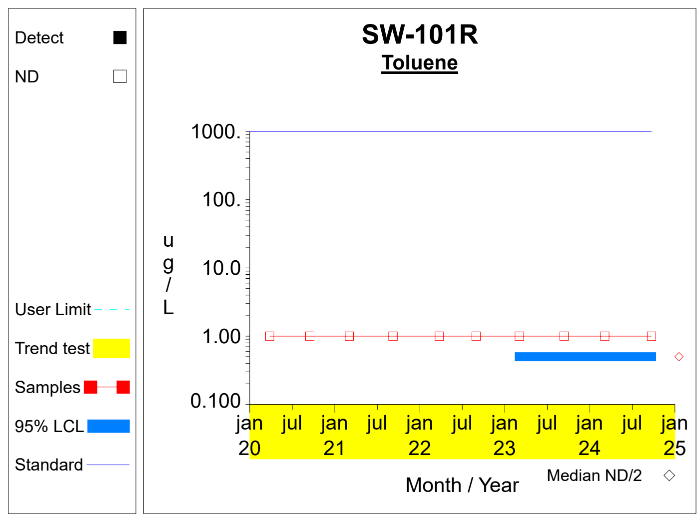
Graph 31



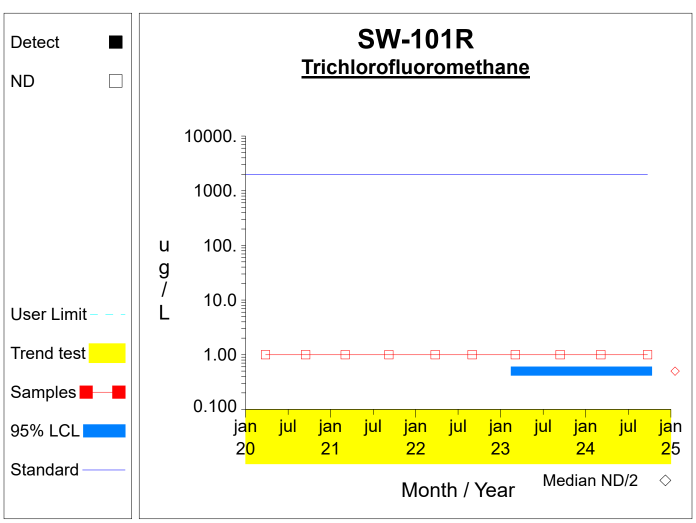
Graph 32



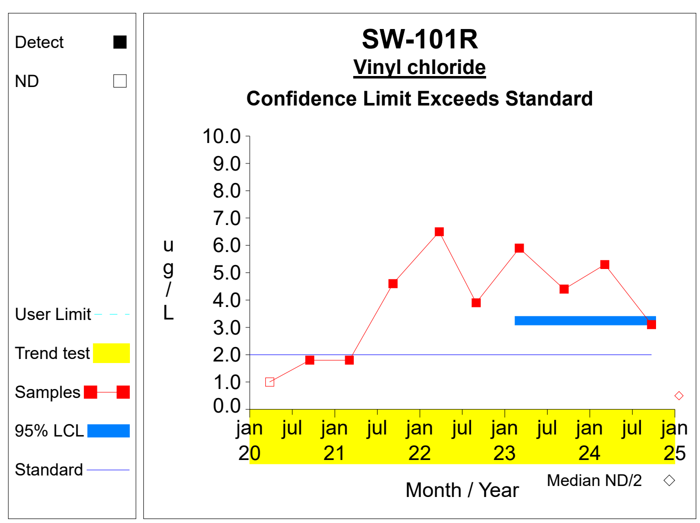
Graph 33



Graph 34



Graph 35



Graph 36

Prepared by: Otter Creek Environmental

Worksheet 6 - Assessment Monitoring
1,1-dichloroethane (ug/L) at MW-41

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **87.9** / **4** = **21.975**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))^{½} = ((**1945.21** - **7726.41**/**4**) / (**4**-1))^{½} = **2.13**	Compute sd of the last 4 measurements.
3	LCL = $\bar{X}$ - **tS**/**N**^{½} = **21.975** - **2.353** * **2.13**/**4**^{½} = **19.47**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = $\bar{X}$ + **tS**/**N**^{½} = **21.975** + **2.353** * **2.13**/**4**^{½} = **24.48**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **29** * (**29**-1) / 2 = **406**	Number of sample pairs during trend detection period.
6	S = **0.42**	Sen's estimator of trend.
7	var(S) = **2835.333**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**406** ± **2.576** * **2835.333**^{½}) / 2 = [**134.417**, **271.583**]	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) = [**-0.043**, **0.998**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
1,2-dichloropropane (ug/L) at MW-41

Step	Equation	Description
1	$\bar{X} = \textbf{sum[X]} / \textbf{N}$ $= \textbf{3.0} / \textbf{4}$ $= \textbf{0.75}$	Compute the mean of the last 4 measurements.
2	$S = ((\textbf{sum}[\textbf{X}^2] - \textbf{sum[X]}^2/\textbf{N}) / (\textbf{N}-1))^{1/2}$ $= ((\textbf{2.5} - \textbf{9.0}/\textbf{4}) / (\textbf{4}-1))^{1/2}$ $= \textbf{0.289}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{\textbf{X}} - \textbf{tS}/\textbf{N}^{1/2}$ $= \textbf{0.75} - \textbf{2.353} * \textbf{0.289}/\textbf{4}^{1/2}$ $= \textbf{0.41}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\textbf{X}} + \textbf{tS}/\textbf{N}^{1/2}$ $= \textbf{0.75} + \textbf{2.353} * \textbf{0.289}/\textbf{4}^{1/2}$ $= \textbf{1.09}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \textbf{N} * (\textbf{N}-1) / 2$ $= \textbf{29} * (\textbf{29}-1) / 2$ $= \textbf{406}$	Number of sample pairs during trend detection period.
6	$S = \textbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \textbf{782.667}$	Variance estimate for slope.
8	$M(S) = (\textbf{N'} \pm \textbf{Z}_{.995} * \textbf{var(S)}^{1/2}) / 2$ $= (\textbf{406} \pm \textbf{2.576} * \textbf{782.667}^{1/2}) / 2$ $= [\ \textbf{166.967}, \textbf{239.033}\ ]$	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	$CL(S) = [\ \textbf{0.0}, \textbf{0.0}\ ]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Cis-1,2-dichloroethylene (ug/L) at MW-41

Step	Equation	Description
1	$\bar{X}$ = **sum[X] / N** = **13.2** / **4** = **3.3**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2/N**) / (**N**-1))^{½} = ((**45.14** - **174.24/4**) / (**4**-1))^{½} = **0.726**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$ - tS/N**^{½} = **3.3** - **2.353** * **0.726/4**^{½} = **2.446**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$ + tS/N**^{½} = **3.3** + **2.353** * **0.726/4**^{½} = **4.154**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **29** * (**29**-1) / 2 = **406**	Number of sample pairs during trend detection period.
6	S = **0.349**	Sen's estimator of trend.
7	var(S) = **2793.667**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**406** ± **2.576** * **2793.667**^{½}) / 2 = [**134.923**, **271.077**]	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) = [**0.2**, **0.442**]	Two-sided confidence interval for slope.
10	LCL(S) > 0	**Significant increasing trend.**

Worksheet 6 - Assessment Monitoring
Toluene (ug/L) at MW-41

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **2.0** / **4** = **0.5**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))^{½} = ((**1.0** - **4.0**/**4**) / (**4**-1))^{½} = **0.0**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$** - **tS**/**N**^{½} = **0.5** - **2.353** * **0.0**/**4**^{½} = **0.5**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$** + **tS**/**N**^{½} = **0.5** + **2.353** * **0.0**/**4**^{½} = **0.5**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **29** * (**29**-1) / 2 = **406**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **0.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**406** ± **2.576** * **0.0**^{½}) / 2 = [**203.0**, **203.0**]	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
Trichlorofluoromethane (ug/L) at MW-41

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **2.0** / **4** = **0.5**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**1.0** - **4.0**/**4**) / (**4**-1))^{½} = **0.0**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$** - **tS**/**N**^{½} = **0.5** - **2.353** * **0.0**/**4**^{½} = **0.5**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$** + **tS**/**N**^{½} = **0.5** + **2.353** * **0.0**/**4**^{½} = **0.5**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **29** * (**29**-1) / 2 = **406**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **0.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**406** ± **2.576** * **0.0**^{½}) / 2 = [**203.0**, **203.0**]	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
Vinyl chloride (ug/L) at MW-41

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **2.0** / **4** = **0.5**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))$^{1/2}$ = ((**1.0** - **4.0**/**4**) / (**4**-1))$^{1/2}$ = **0.0**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$** - **tS**/**N**$^{1/2}$ = **0.5** - **2.353** * **0.0**/**4**$^{1/2}$ = **0.5**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$** + **tS**/**N**$^{1/2}$ = **0.5** + **2.353** * **0.0**/**4**$^{1/2}$ = **0.5**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **29** * (**29**-1) / 2 = **406**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **0.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**406** ± **2.576** * **0.0**$^{1/2}$) / 2 = [**203.0**, **203.0**]	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
1,1-dichloroethane (ug/L) at MW-56

Step	Equation	Description
1	$\overline{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{8.8} / \mathbf{4}$ $= \mathbf{2.2}$	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{½}$ $= ((\mathbf{25.9} - \mathbf{77.44/4}) / (\mathbf{4}-1))^{½}$ $= \mathbf{1.476}$	Compute sd of the last 4 measurements.
3	$LCL = \overline{\mathbf{X}} - \mathbf{tS/N}^{½}$ $= \mathbf{2.2} - \mathbf{2.353} * \mathbf{1.476/4}^{½}$ $= \mathbf{0.463}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \overline{\mathbf{X}} + \mathbf{tS/N}^{½}$ $= \mathbf{2.2} + \mathbf{2.353} * \mathbf{1.476/4}^{½}$ $= \mathbf{3.937}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{16} * (\mathbf{16}-1) / 2$ $= \mathbf{120}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \mathbf{449.0}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{½}) / 2$ $= (\mathbf{120} \pm \mathbf{2.576} * \mathbf{449.0}^{½}) / 2$ $= [\ \mathbf{32.708}, \mathbf{87.292}\ ]$	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	$CL(S) = [\ \mathbf{-1.172}, \mathbf{0.688}\ ]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
1,2-dichloropropane (ug/L) at MW-56

Step	Equation	Description
1	$\bar{X} = \textbf{sum[X]} / \textbf{N}$ $= \textbf{2.0} / \textbf{4}$ $= \textbf{0.5}$	Compute the mean of the last 4 measurements.
2	$S = ((\textbf{sum[X}^{\textbf{2}}\textbf{]} - \textbf{sum[X]}^2/\textbf{N}) / (\textbf{N}-1))^{1/2}$ $= ((\textbf{1.0} - \textbf{4.0}/\textbf{4}) / (\textbf{4}-1))^{1/2}$ $= \textbf{0.0}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{\textbf{X}} - \textbf{tS}/\textbf{N}^{1/2}$ $= \textbf{0.5} - \textbf{2.353} * \textbf{0.0}/\textbf{4}^{1/2}$ $= \textbf{0.5}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\textbf{X}} + \textbf{tS}/\textbf{N}^{1/2}$ $= \textbf{0.5} + \textbf{2.353} * \textbf{0.0}/\textbf{4}^{1/2}$ $= \textbf{0.5}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \textbf{N} * (\textbf{N}-1) / 2$ $= \textbf{16} * (\textbf{16}-1) / 2$ $= \textbf{120}$	Number of sample pairs during trend detection period.
6	$S = \textbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \textbf{0.0}$	Variance estimate for slope.
8	$M(S) = (\textbf{N'} \pm \textbf{Z}_{.995} * \textbf{var(S)}^{1/2}) / 2$ $= (\textbf{120} \pm \textbf{2.576} * \textbf{0.0}^{1/2}) / 2$ $= [\ \textbf{60.0}, \textbf{60.0}\ ]$	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	$CL(S) = [\ \textbf{0.0}, \textbf{0.0}\ ]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Cis-1,2-dichloroethylene (ug/L) at MW-56

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **2.0** / **4** = **0.5**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))$^{1/2}$ = ((**1.0** - **4.0**/**4**) / (**4**-1))$^{1/2}$ = **0.0**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$** - **tS**/**N**$^{1/2}$ = **0.5** - **2.353** * **0.0**/**4**$^{1/2}$ = **0.5**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$** + **tS**/**N**$^{1/2}$ = **0.5** + **2.353** * **0.0**/**4**$^{1/2}$ = **0.5**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **16** * (**16**-1) / 2 = **120**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **0.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**120** ± **2.576** * **0.0**$^{1/2}$) / 2 = [**60.0**, **60.0**]	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
Toluene (ug/L) at MW-56

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **2.0** / **4** = **0.5**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))$^{1/2}$ = ((**1.0** - **4.0**/**4**) / (**4**-1))$^{1/2}$ = **0.0**	Compute sd of the last 4 measurements.
3	LCL = $\overline{\mathbf{X}}$ - **tS**/**N**$^{1/2}$ = **0.5** - **2.353** * **0.0**/**4**$^{1/2}$ = **0.5**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = $\overline{\mathbf{X}}$ + **tS**/**N**$^{1/2}$ = **0.5** + **2.353** * **0.0**/**4**$^{1/2}$ = **0.5**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **16** * (**16**-1) / 2 = **120**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **0.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**120** ± **2.576** * **0.0**$^{1/2}$) / 2 = [**60.0**, **60.0**]	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
Trichlorofluoromethane (ug/L) at MW-56

Step	Equation	Description
1	$\bar{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{2.0} / \mathbf{4}$ $= \mathbf{0.5}$	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{1/2}$ $= ((\mathbf{1.0} - \mathbf{4.0/4}) / (\mathbf{4}-1))^{1/2}$ $= \mathbf{0.0}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{\mathbf{X}} - \mathbf{tS/N}^{1/2}$ $= \mathbf{0.5} - \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ $= \mathbf{0.5}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\mathbf{X}} + \mathbf{tS/N}^{1/2}$ $= \mathbf{0.5} + \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ $= \mathbf{0.5}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{16} * (\mathbf{16}-1) / 2$ $= \mathbf{120}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \mathbf{0.0}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{120} \pm \mathbf{2.576} * \mathbf{0.0}^{1/2}) / 2$ $= [\ \mathbf{60.0}, \mathbf{60.0}\ ]$	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
Vinyl chloride (ug/L) at MW-56

Step	Equation	Description
1	$\bar{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{2.0} / \mathbf{4}$ $= \mathbf{0.5}$	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{1/2}$ $= ((\mathbf{1.0} - \mathbf{4.0}/\mathbf{4}) / (\mathbf{4}-1))^{1/2}$ $= \mathbf{0.0}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{\mathbf{X}} - \mathbf{tS}/\mathbf{N}^{1/2}$ $= \mathbf{0.5} - \mathbf{2.353} * \mathbf{0.0}/\mathbf{4}^{1/2}$ $= \mathbf{0.5}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\mathbf{X}} + \mathbf{tS}/\mathbf{N}^{1/2}$ $= \mathbf{0.5} + \mathbf{2.353} * \mathbf{0.0}/\mathbf{4}^{1/2}$ $= \mathbf{0.5}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{24} * (\mathbf{24}-1) / 2$ $= \mathbf{276}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \mathbf{808.333}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{276} \pm \mathbf{2.576} * \mathbf{808.333}^{1/2}) / 2$ $= [\ \mathbf{101.381}, \mathbf{174.619}\ ]$	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
1,1-dichloroethane (ug/L) at MW-58

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **2.0** / **4** = **0.5**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))^{½} = ((**1.0** - **4.0**/**4**) / (**4**-1))^{½} = **0.0**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$** - **tS**/**N**^{½} = **0.5** - **2.353** * **0.0**/**4**^{½} = **0.5**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$** + **tS**/**N**^{½} = **0.5** + **2.353** * **0.0**/**4**^{½} = **0.5**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **29** * (**29**-1) / 2 = **406**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **0.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**406** ± **2.576** * **0.0**^{½}) / 2 = [**203.0**, **203.0**]	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
1,2-dichloropropane (ug/L) at MW-58

Step	Equation	Description
1	$\bar{X} = \textbf{sum[X]} / \textbf{N}$ $= \textbf{2.0} / \textbf{4}$ $= \textbf{0.5}$	Compute the mean of the last 4 measurements.
2	$S = ((\textbf{sum[X}^2\textbf{]} - \textbf{sum[X]}^2/\textbf{N}) / (\textbf{N}-1))^{1/2}$ $= ((\textbf{1.0} - \textbf{4.0}/\textbf{4}) / (\textbf{4}-1))^{1/2}$ $= \textbf{0.0}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/N^{1/2}$ $= \textbf{0.5} - \textbf{2.353} * \textbf{0.0}/\textbf{4}^{1/2}$ $= \textbf{0.5}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{1/2}$ $= \textbf{0.5} + \textbf{2.353} * \textbf{0.0}/\textbf{4}^{1/2}$ $= \textbf{0.5}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \textbf{N} * (\textbf{N}-1) / 2$ $= \textbf{29} * (\textbf{29}-1) / 2$ $= \textbf{406}$	Number of sample pairs during trend detection period.
6	$S = \textbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \textbf{0.0}$	Variance estimate for slope.
8	$M(S) = (\textbf{N'} \pm \textbf{Z}_{.995} * \textbf{var(S)}^{1/2}) / 2$ $= (\textbf{406} \pm \textbf{2.576} * \textbf{0.0}^{1/2}) / 2$ $= [\ \textbf{203.0}, \textbf{203.0}\ ]$	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	$CL(S) = [\ \textbf{0.0}, \textbf{0.0}\ ]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Cis-1,2-dichloroethylene (ug/L) at MW-58

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **5.0** / **4** = **1.25**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**7.38** - **25.0**/**4**) / (**4**-1))^{½} = **0.614**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$** - **tS**/**N**^{½} = **1.25** - **2.353** * **0.614**/**4**^{½} = **0.528**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$** + **tS**/**N**^{½} = **1.25** + **2.353** * **0.614**/**4**^{½} = **1.972**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **29** * (**29**-1) / 2 = **406**	Number of sample pairs during trend detection period.
6	S = **-0.802**	Sen's estimator of trend.
7	var(S) = **2831.333**	Variance estimate for slope.
8	M(S) = (**N'** ± **$Z_{.995}$** * **var(S)**^{½}) / 2 = (**406** ± **2.576** * **2831.333**^{½}) / 2 = [**134.465**, **271.535**]	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) = [**-1.196**, **-0.559**]	Two-sided confidence interval for slope.
10	UCL(S) < 0	**Significant decreasing trend.**

Worksheet 6 - Assessment Monitoring
Toluene (ug/L) at MW-58

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **2.0** / **4** = **0.5**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2/N**) / (**N**-1))$^{1/2}$ = ((**1.0 - 4.0/4**) / (**4**-1))$^{1/2}$ = **0.0**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$ - tS/N$^{1/2}$** = **0.5** - **2.353** * **0.0/4$^{1/2}$** = **0.5**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$ + tS/N$^{1/2}$** = **0.5** + **2.353** * **0.0/4$^{1/2}$** = **0.5**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **29** * (**29**-1) / 2 = **406**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **0.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**406** ± **2.576** * **0.0**$^{1/2}$) / 2 = [**203.0**, **203.0**]	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
Trichlorofluoromethane (ug/L) at MW-58

Step	Equation	Description
1	$\overline{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{2.0} / \mathbf{4}$ $= \mathbf{0.5}$	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{½}$ $= ((\mathbf{1.0} - \mathbf{4.0}/\mathbf{4}) / (\mathbf{4}-1))^{½}$ $= \mathbf{0.0}$	Compute sd of the last 4 measurements.
3	$LCL = \mathbf{\overline{X}} - \mathbf{tS}/\mathbf{N}^{½}$ $= \mathbf{0.5} - \mathbf{2.353} * \mathbf{0.0}/\mathbf{4}^{½}$ $= \mathbf{0.5}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \mathbf{\overline{X}} + \mathbf{tS}/\mathbf{N}^{½}$ $= \mathbf{0.5} + \mathbf{2.353} * \mathbf{0.0}/\mathbf{4}^{½}$ $= \mathbf{0.5}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{29} * (\mathbf{29}-1) / 2$ $= \mathbf{406}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \mathbf{0.0}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{½}) / 2$ $= (\mathbf{406} \pm \mathbf{2.576} * \mathbf{0.0}^{½}) / 2$ $= [\ \mathbf{203.0}, \mathbf{203.0}\ ]$	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
Vinyl chloride (ug/L) at MW-58

Step	Equation	Description
1	$\overline{X} = \textbf{sum[X]} / \textbf{N}$ $= \textbf{2.0} / \textbf{4}$ $= \textbf{0.5}$	Compute the mean of the last 4 measurements.
2	$S = ((\textbf{sum[X}^2\textbf{]} - \textbf{sum[X]}^2/\textbf{N}) / (\textbf{N}-1))^{1/2}$ $= ((\textbf{1.0} - \textbf{4.0}/\textbf{4}) / (\textbf{4}-1))^{1/2}$ $= \textbf{0.0}$	Compute sd of the last 4 measurements.
3	$LCL = \overline{\textbf{X}} - \textbf{tS}/\textbf{N}^{1/2}$ $= \textbf{0.5} - \textbf{2.353} * \textbf{0.0}/\textbf{4}^{1/2}$ $= \textbf{0.5}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \overline{\textbf{X}} + \textbf{tS}/\textbf{N}^{1/2}$ $= \textbf{0.5} + \textbf{2.353} * \textbf{0.0}/\textbf{4}^{1/2}$ $= \textbf{0.5}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \textbf{N} * (\textbf{N}-1) / 2$ $= \textbf{29} * (\textbf{29}-1) / 2$ $= \textbf{406}$	Number of sample pairs during trend detection period.
6	$S = \textbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \textbf{0.0}$	Variance estimate for slope.
8	$M(S) = (\textbf{N'} \pm \textbf{Z}_{.995} * \textbf{var(S)}^{1/2}) / 2$ $= (\textbf{406} \pm \textbf{2.576} * \textbf{0.0}^{1/2}) / 2$ $= [\ \textbf{203.0},\ \textbf{203.0}\ ]$	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	$CL(S) = [\ \textbf{0.0},\ \textbf{0.0}\ ]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
1,1-dichloroethane (ug/L) at MW-62R

Step	Equation	Description
1	$\overline{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{2.0} / \mathbf{4}$ $= \mathbf{0.5}$	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{1/2}$ $= ((\mathbf{1.0} - \mathbf{4.0/4}) / (\mathbf{4}-1))^{1/2}$ $= \mathbf{0.0}$	Compute sd of the last 4 measurements.
3	$LCL = \overline{\mathbf{X}} - \mathbf{tS/N}^{1/2}$ $= \mathbf{0.5} - \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ $= \mathbf{0.5}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \overline{\mathbf{X}} + \mathbf{tS/N}^{1/2}$ $= \mathbf{0.5} + \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ $= \mathbf{0.5}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{32} * (\mathbf{32}-1) / 2$ $= \mathbf{496}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \mathbf{0.0}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{496} \pm \mathbf{2.576} * \mathbf{0.0}^{1/2}) / 2$ $= [\ \mathbf{248.0}, \mathbf{248.0}\ ]$	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
1,2-dichloropropane (ug/L) at MW-62R

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **2.0** / **4** = **0.5**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2/N**) / (**N**-1))^{½} = ((**1.0 - 4.0/4**) / (**4**-1))^{½} = **0.0**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$ - tS/N**^{½} = **0.5** - **2.353** * **0.0/4**^{½} = **0.5**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$ + tS/N**^{½} = **0.5** + **2.353** * **0.0/4**^{½} = **0.5**	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) = **0.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **$Z_{.995}$** * **var(S)**^{½}) / 2 = (**496** ± **2.576** * **0.0**^{½}) / 2 = [**248.0**, **248.0**]	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
Cis-1,2-dichloroethylene (ug/L) at MW-62R

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **2.0** / **4** = **0.5**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))$^{1/2}$ = ((**1.0** - **4.0**/**4**) / (**4**-1))$^{1/2}$ = **0.0**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$** - **tS**/**N**$^{1/2}$ = **0.5** - **2.353** * **0.0**/**4**$^{1/2}$ = **0.5**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$** + **tS**/**N**$^{1/2}$ = **0.5** + **2.353** * **0.0**/**4**$^{1/2}$ = **0.5**	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) = **0.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**496** ± **2.576** * **0.0**$^{1/2}$) / 2 = [**248.0**, **248.0**]	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
Toluene (ug/L) at MW-62R

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N**	Compute the mean of the last 4 measurements.
	= **2.0** / **4**	
	= **0.5**	
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{1/2}$	Compute sd of the last 4 measurements.
	$= ((\mathbf{1.0} - \mathbf{4.0}/\mathbf{4}) / (\mathbf{4}-1))^{1/2}$	
	= **0.0**	
3	$LCL = \bar{\mathbf{X}} - \mathbf{tS}/\mathbf{N}^{1/2}$	Compute lower confidence limit for the mean of the last 4 measurements.
	$= \mathbf{0.5} - \mathbf{2.353} * \mathbf{0.0}/\mathbf{4}^{1/2}$	
	= **0.5**	
4	$UCL = \bar{\mathbf{X}} + \mathbf{tS}/\mathbf{N}^{1/2}$	Compute upper confidence limit for the mean of the last 4 measurements.
	$= \mathbf{0.5} + \mathbf{2.353} * \mathbf{0.0}/\mathbf{4}^{1/2}$	
	= **0.5**	
5	N' = **N** * (**N**-1) / 2	Number of sample pairs during trend detection period.
	= **32** * (**32**-1) / 2	
	= **496**	
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **0.0**	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$	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.
	$= (\mathbf{496} \pm \mathbf{2.576} * \mathbf{0.0}^{1/2}) / 2$	
	= [**248.0**, **248.0**]	
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
Trichlorofluoromethane (ug/L) at MW-62R

Step	Equation	Description
1	$\bar{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{4.8} / \mathbf{4}$ $= \mathbf{1.2}$	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{1/2}$ $= ((\mathbf{6.82} - \mathbf{23.04/4}) / (\mathbf{4}-1))^{1/2}$ $= \mathbf{0.594}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/N^{1/2}$ $= \mathbf{1.2} - \mathbf{2.353} * \mathbf{0.594/4}^{1/2}$ $= \mathbf{0.501}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{1/2}$ $= \mathbf{1.2} + \mathbf{2.353} * \mathbf{0.594/4}^{1/2}$ $= \mathbf{1.899}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{32} * (\mathbf{32}-1) / 2$ $= \mathbf{496}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{-0.314}$	Sen's estimator of trend.
7	$var(S) = \mathbf{3789.333}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{496} \pm \mathbf{2.576} * \mathbf{3789.333}^{1/2}) / 2$ $= [\ \mathbf{168.714}, \mathbf{327.286}\ ]$	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	$CL(S) = [\ \mathbf{-0.622}, \mathbf{-0.023}\ ]$	Two-sided confidence interval for slope.
10	$UCL(S) < 0$	**Significant decreasing trend.**

Worksheet 6 - Assessment Monitoring
Vinyl chloride (ug/L) at MW-62R

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **2.0** / **4** = **0.5**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2/N**) / (**N**-1))$^{1/2}$ = ((**1.0 - 4.0/4**) / (**4**-1))$^{1/2}$ = **0.0**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$ - tS/N$^{1/2}$** = **0.5** - **2.353** * **0.0/4$^{1/2}$** = **0.5**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$ + tS/N$^{1/2}$** = **0.5** + **2.353** * **0.0/4$^{1/2}$** = **0.5**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **33** * (**33**-1) / 2 = **528**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **0.0**	Variance estimate for slope.
8	M(S) = (**N' ± $Z_{.995}$** * **var(S)$^{1/2}$**) / 2 = (**528** ± **2.576** * **0.0$^{1/2}$**) / 2 = [**264.0**, **264.0**]	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
1,1-dichloroethane (ug/L) at MW-64

Step	Equation	Description
1	$\overline{X}$ = **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))^{½} = ((**13.67 - 53.29/4**) / (**4**-1))^{½} = **0.34**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$ - tS/N**^{½} = **1.825** - **2.353** * **0.34/4**^{½} = **1.425**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$ + tS/N**^{½} = **1.825** + **2.353** * **0.34/4**^{½} = **2.225**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **16** * (**16**-1) / 2 = **120**	Number of sample pairs during trend detection period.
6	S = **-0.06**	Sen's estimator of trend.
7	var(S) = **489.333**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**120** ± **2.576** * **489.333**^{½}) / 2 = [**31.508**, **88.492**]	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) = [**-0.204**, **0.111**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
1,2-dichloropropane (ug/L) at MW-64

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **2.0** / **4** = **0.5**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))^{½} = ((**1.0** - **4.0**/**4**) / (**4**-1))^{½} = **0.0**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$** - **tS**/**N**^{½} = **0.5** - **2.353** * **0.0**/**4**^{½} = **0.5**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$** + **tS**/**N**^{½} = **0.5** + **2.353** * **0.0**/**4**^{½} = **0.5**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **16** * (**16**-1) / 2 = **120**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **0.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**120** ± **2.576** * **0.0**^{½}) / 2 = [**60.0**, **60.0**]	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
Cis-1,2-dichloroethylene (ug/L) at MW-64

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **14.3** / **4** = **3.575**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2/N**) / (**N**-1))^{½} = ((**53.71 - 204.49/4**) / (**4**-1))^{½} = **0.929**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$ - tS/N^{½}** = **3.575 - 2.353 * 0.929/4^{½}** = **2.483**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$ + tS/N^{½}** = **3.575 + 2.353 * 0.929/4^{½}** = **4.667**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **16** * (**16**-1) / 2 = **120**	Number of sample pairs during trend detection period.
6	S = **-2.178**	Sen's estimator of trend.
7	var(S) = **492.333**	Variance estimate for slope.
8	M(S) = (**N' ± Z$_{.995}$ * var(S)^{½}**) / 2 = (**120** ± **2.576** * **492.333**^{½}) / 2 = [**31.421**, **88.579**]	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) = [**-4.389**, **-0.941**]	Two-sided confidence interval for slope.
10	UCL(S) < 0	**Significant decreasing trend.**

Worksheet 6 - Assessment Monitoring
Toluene (ug/L) at MW-64

Step	Equation	Description
1	$\overline{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{2.0} / \mathbf{4}$ $= \mathbf{0.5}$	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{1/2}$ $= ((\mathbf{1.0} - \mathbf{4.0}/\mathbf{4}) / (\mathbf{4}-1))^{1/2}$ $= \mathbf{0.0}$	Compute sd of the last 4 measurements.
3	$LCL = \overline{\mathbf{X}} - \mathbf{tS}/\mathbf{N}^{1/2}$ $= \mathbf{0.5} - \mathbf{2.353} * \mathbf{0.0}/\mathbf{4}^{1/2}$ $= \mathbf{0.5}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \overline{\mathbf{X}} + \mathbf{tS}/\mathbf{N}^{1/2}$ $= \mathbf{0.5} + \mathbf{2.353} * \mathbf{0.0}/\mathbf{4}^{1/2}$ $= \mathbf{0.5}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{16} * (\mathbf{16}-1) / 2$ $= \mathbf{120}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \mathbf{0.0}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{120} \pm \mathbf{2.576} * \mathbf{0.0}^{1/2}) / 2$ $= [\ \mathbf{60.0}, \mathbf{60.0}\ ]$	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
Trichlorofluoromethane (ug/L) at MW-64

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **2.0** / **4** = **0.5**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**1.0** - **4.0**/**4**) / (**4**-1))^{½} = **0.0**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$** - **tS**/**N**^{½} = **0.5** - **2.353** * **0.0**/**4**^{½} = **0.5**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$** + **tS**/**N**^{½} = **0.5** + **2.353** * **0.0**/**4**^{½} = **0.5**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **16** * (**16**-1) / 2 = **120**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **0.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**120** ± **2.576** * **0.0**^{½}) / 2 = [**60.0**, **60.0**]	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
Vinyl chloride (ug/L) at MW-64

Step	Equation	Description
1	$\bar{X} = \textbf{sum[X]} / \textbf{N}$ $= \textbf{8.1} / \textbf{4}$ $= \textbf{2.025}$	Compute the mean of the last 4 measurements.
2	$S = ((\textbf{sum[X}^2\textbf{]} - \textbf{sum[X]}^2/\textbf{N}) / (\textbf{N}-1))^{½}$ $= ((\textbf{17.03} - \textbf{65.61/4}) / (\textbf{4}-1))^{½}$ $= \textbf{0.457}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{X} - tS/N^{½}$ $= \textbf{2.025} - \textbf{2.353} * \textbf{0.457/4}^{½}$ $= \textbf{1.487}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{X} + tS/N^{½}$ $= \textbf{2.025} + \textbf{2.353} * \textbf{0.457/4}^{½}$ $= \textbf{2.563}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \textbf{N} * (\textbf{N}-1) / 2$ $= \textbf{25} * (\textbf{25}-1) / 2$ $= \textbf{300}$	Number of sample pairs during trend detection period.
6	$S = \textbf{-3.285}$	Sen's estimator of trend.
7	$var(S) = \textbf{1831.333}$	Variance estimate for slope.
8	$M(S) = (\textbf{N'} \pm \textbf{Z}_{.995} * \textbf{var(S)}^{½}) / 2$ $= (\textbf{300} \pm \textbf{2.576} * \textbf{1831.333}^{½}) / 2$ $= [\ \textbf{94.881}, \textbf{205.119}\ ]$	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	$CL(S) = [\ \textbf{-4.31}, \textbf{-2.142}\ ]$	Two-sided confidence interval for slope.
10	$UCL(S) < 0$	**Significant decreasing trend.**

Worksheet 6 - Assessment Monitoring
1,1-dichloroethane (ug/L) at SW-101R

Step	Equation	Description
1	$\overline{X} = \textbf{sum[X]} / \textbf{N}$ $= \textbf{2.0} / \textbf{4}$ $= \textbf{0.5}$	Compute the mean of the last 4 measurements.
2	$S = ((\textbf{sum[X}^2\textbf{]} - \textbf{sum[X]}^2/\textbf{N}) / (\textbf{N}-1))^{1/2}$ $= ((\textbf{1.0} - \textbf{4.0}/\textbf{4}) / (\textbf{4}-1))^{1/2}$ $= \textbf{0.0}$	Compute sd of the last 4 measurements.
3	$LCL = \overline{\textbf{X}} - \textbf{tS}/\textbf{N}^{1/2}$ $= \textbf{0.5} - \textbf{2.353} * \textbf{0.0}/\textbf{4}^{1/2}$ $= \textbf{0.5}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \overline{\textbf{X}} + \textbf{tS}/\textbf{N}^{1/2}$ $= \textbf{0.5} + \textbf{2.353} * \textbf{0.0}/\textbf{4}^{1/2}$ $= \textbf{0.5}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \textbf{N} * (\textbf{N}-1) / 2$ $= \textbf{10} * (\textbf{10}-1) / 2$ $= \textbf{45}$	Number of sample pairs during trend detection period.
6	$S = \textbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \textbf{0.0}$	Variance estimate for slope.
8	$M(S) = (\textbf{N'} \pm \textbf{Z}_{.995} * \textbf{var(S)}^{1/2}) / 2$ $= (\textbf{45} \pm \textbf{2.576} * \textbf{0.0}^{1/2}) / 2$ $= [\ \textbf{22.5}, \textbf{22.5}\ ]$	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	$CL(S) = [\ \textbf{0.0}, \textbf{0.0}\ ]$	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
1,2-dichloropropane (ug/L) at SW-101R

Step	Equation	Description
1	$\bar{X} = \mathbf{sum[X]} / \mathbf{N}$ $= \mathbf{2.0} / \mathbf{4}$ $= \mathbf{0.5}$	Compute the mean of the last 4 measurements.
2	$S = ((\mathbf{sum[X^2]} - \mathbf{sum[X]}^2/\mathbf{N}) / (\mathbf{N}-1))^{1/2}$ $= ((\mathbf{1.0} - \mathbf{4.0/4}) / (\mathbf{4}-1))^{1/2}$ $= \mathbf{0.0}$	Compute sd of the last 4 measurements.
3	$LCL = \bar{\mathbf{X}} - \mathbf{tS/N}^{1/2}$ $= \mathbf{0.5} - \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ $= \mathbf{0.5}$	Compute lower confidence limit for the mean of the last 4 measurements.
4	$UCL = \bar{\mathbf{X}} + \mathbf{tS/N}^{1/2}$ $= \mathbf{0.5} + \mathbf{2.353} * \mathbf{0.0/4}^{1/2}$ $= \mathbf{0.5}$	Compute upper confidence limit for the mean of the last 4 measurements.
5	$N' = \mathbf{N} * (\mathbf{N}-1) / 2$ $= \mathbf{10} * (\mathbf{10}-1) / 2$ $= \mathbf{45}$	Number of sample pairs during trend detection period.
6	$S = \mathbf{0.0}$	Sen's estimator of trend.
7	$var(S) = \mathbf{0.0}$	Variance estimate for slope.
8	$M(S) = (\mathbf{N'} \pm \mathbf{Z}_{.995} * \mathbf{var(S)}^{1/2}) / 2$ $= (\mathbf{45} \pm \mathbf{2.576} * \mathbf{0.0}^{1/2}) / 2$ $= [\ \mathbf{22.5}, \mathbf{22.5}\ ]$	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
Cis-1,2-dichloroethylene (ug/L) at SW-101R

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **19.3** / **4** = **4.825**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**98.37** - **372.49**/**4**) / (**4**-1))^{½} = **1.323**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$** - **tS**/**N**^{½} = **4.825** - **2.353** * **1.323**/**4**^{½} = **3.269**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$** + **tS**/**N**^{½} = **4.825** + **2.353** * **1.323**/**4**^{½} = **6.381**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **10** * (**10**-1) / 2 = **45**	Number of sample pairs during trend detection period.
6	S = **0.355**	Sen's estimator of trend.
7	var(S) = **124.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**45** ± **2.576** * **124.0**^{½}) / 2 = [**8.157**, **36.843**]	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) = [**-1.044**, **1.647**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

Worksheet 6 - Assessment Monitoring
Toluene (ug/L) at SW-101R

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **2.0** / **4** = **0.5**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2] - sum[X]^2**/**N**) / (**N**-1))$^{1/2}$ = ((**1.0 - 4.0**/**4**) / (**4**-1))$^{1/2}$ = **0.0**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$** - **tS**/**N**$^{1/2}$ = **0.5** - **2.353** * **0.0**/**4**$^{1/2}$ = **0.5**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$** + **tS**/**N**$^{1/2}$ = **0.5** + **2.353** * **0.0**/**4**$^{1/2}$ = **0.5**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **10** * (**10**-1) / 2 = **45**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **0.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**$^{1/2}$) / 2 = (**45** ± **2.576** * **0.0**$^{1/2}$) / 2 = [**22.5**, **22.5**]	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
Trichlorofluoromethane (ug/L) at SW-101R

Step	Equation	Description
1	$\bar{X}$ = **sum[X]** / **N** = **2.0** / **4** = **0.5**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))^{½} = ((**1.0** - **4.0**/**4**) / (**4**-1))^{½} = **0.0**	Compute sd of the last 4 measurements.
3	LCL = **$\bar{X}$** - **tS**/**N**^{½} = **0.5** - **2.353** * **0.0**/**4**^{½} = **0.5**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\bar{X}$** + **tS**/**N**^{½} = **0.5** + **2.353** * **0.0**/**4**^{½} = **0.5**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **10** * (**10**-1) / 2 = **45**	Number of sample pairs during trend detection period.
6	S = **0.0**	Sen's estimator of trend.
7	var(S) = **0.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**45** ± **2.576** * **0.0**^{½}) / 2 = [**22.5**, **22.5**]	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
Vinyl chloride (ug/L) at SW-101R

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **18.7** / **4** = **4.675**	Compute the mean of the last 4 measurements.
2	S = ((**sum[X^2]** - **sum[X]^2**/**N**) / (**N**-1))^{½} = ((**91.87** - **349.69**/**4**) / (**4**-1))^{½} = **1.218**	Compute sd of the last 4 measurements.
3	LCL = **$\overline{X}$** - **tS**/**N**^{½} = **4.675** - **2.353** * **1.218**/**4**^{½} = **3.243**	Compute lower confidence limit for the mean of the last 4 measurements.
4	UCL = **$\overline{X}$** + **tS**/**N**^{½} = **4.675** + **2.353** * **1.218**/**4**^{½} = **6.107**	Compute upper confidence limit for the mean of the last 4 measurements.
5	N' = **N** * (**N**-1) / 2 = **10** * (**10**-1) / 2 = **45**	Number of sample pairs during trend detection period.
6	S = **0.928**	Sen's estimator of trend.
7	var(S) = **124.0**	Variance estimate for slope.
8	M(S) = (**N'** ± **Z**$_{.995}$ * **var(S)**^{½}) / 2 = (**45** ± **2.576** * **124.0**^{½}) / 2 = [**8.157**, **36.843**]	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) = [**-0.702**, **2.64**]	Two-sided confidence interval for slope.
10	the interval includes 0	There is no significant trend.

ATTACHMENT D

SRAMP Evaluation Data

NEWTON SANITARY LANDFILL
50-SDP-1-75P
CONCENTRATIONS - GROUNDWATER

		MCL	D.G.W		
Date	PARAMETER		MW 56	MW 64	MW 65
	ug/L				
03/11/1992	Benzene *	5.00	**7.80**		
06/30/1992	Benzene *	5.00	**1.40**		
09/24/1992	Benzene *	5.00	**9.70**		
12/29/1992	Benzene *	5.00	**8.30**		
03/16/1993	Benzene *	5.00	NT		
09/14/1993	Benzene *	5.00	NT		
03/24/1994	Benzene *	5.00	NT		
09/08/1994	Benzene *	5.00	NT		
03/21/1995	Benzene *	5.00	NT		
09/26/1995	Benzene *	5.00	**10.00**		
12/13/1995	Benzene *	5.00	**11.30**		
03/20/1996	Benzene *	5.00	**11.10**		
06/19/1996	Benzene *	5.00	**11.70**		
09/06/1996	Benzene *	5.00	**9.60**		
03/27/1997	Benzene *	5.00	**10.40**		
09/10/1997	Benzene *	5.00	**11.30**		
01/20/1998	Benzene *	5.00	**9.60**		
03/23/1998	Benzene *	5.00	**5.90**	<1	<1
09/08/1998	Benzene *	5.00	**9.10**	<1	<1
03/19/1999	Benzene *	5.00	**7.40**	<1	<1
09/03/1999	Benzene *	5.00	**7.60**	**1.40**	<1
03/24/2000	Benzene *	5.00	**9.50**	**2.10**	<1
09/15/2000	Benzene *	5.00	**7.10**	**1.10**	<1
03/20/2001	Benzene *	5.00	<1	**1.40**	<1
09/04/2001	Benzene *	5.00	**6.40**	<5	<1
03/20/2002	Benzene *	5.00	<1	**1.80**	<1
09/12/2002	Benzene *	5.00	**7.10**	**2.10**	<1
03/21/2003	Benzene *	5.00	**5.80**	**1.90**	<1
09/20/2003	Benzene *	5.00	**5.90**	**1.80**	<1.0
03/24/2004	Benzene *	5.00	**0.40**	**1.80**	<0.3
09/11/2004	Benzene *	5.00	<0.3	<0.3	<0.3
03/03/2005	Benzene *	5.00	<1.0	**1.60**	<1.0
09/13/2005	Benzene *	5.00	**5.80**	**1.50**	<0.2
03/16/2006	Benzene *	5.00	<0.2	**1.40**	<0.2
09/01/2006	Benzene *	5.00	**5.30**	**1.50**	<1.0
03/27/2007	Benzene *	5.00	<1.0	**1.10**	<1.0
09/25/2007	Benzene *	5.00	**2.30**	**1.00**	<1.0
12/21/2007	Benzene *	5.00	NT	NT	NT
03/20/2008	Benzene *	5.00	<1.0	**1.00**	<1.0
09/16/2008	Benzene *	5.00	<1.0	<1.0	<1.0
03/20/2009	Benzene *	5.00	<1.0	<1.0	<1.0
09/28/2009	Benzene *	5.00	<1.0	<1.0	<1.0
03/28/2010	Benzene *	5.00	<1.0	<1.0	<1.0
09/27/2010	Benzene *	5.00	<1.0	<1.0	<1.0
03/23/2011	Benzene *	5.00	<1.0	<1.0	<1.0
09/07/2011	Benzene *	5.00	<1.0	<1.0	<1.0
03/08/2012	Benzene *	5.00	<1.0	<1.0	<1.0
09/12/2012	Benzene *	5.00	<1.0	<1.0	<1.0
03/14/2013	Benzene *	5.00	<1.0	<1.0	<1.0
09/24/2013	Benzene *	5.00	<1.0	<1.0	<1.0
03/24/2014	Benzene *	5.00	<1.0	<1.0	<1.0
09/25/2014	Benzene *	5.00	<1.0	<1.0	<1.0
03/25/2015	Benzene *	5.00	<1.0	<1.0	<1.0
09/16/2015	Benzene *	5.00	<1.0	<1.0	<1.0
09/14/2016	Benzene *	5.00	<1.0	<1.0	<1.0
03/23/2017	Benzene *	5.00	<1.0	<1.0	<1.0
09/08/2017	Benzene *	5.00	**1.40**	<1.0	<1.0
03/19/2018	Benzene *	5.00	<1.0	<1.0	<1.0
09/11/2018	Benzene *	5.00	<1.0	<1.0	<1.0
03/26/2019	Benzene *	5.00	<1.0	<1.0	<1.0
09/04/2019	Benzene *	5.00	<1.0	<1.0	<1.0
03/26/2020	Benzene *	5.00	<1.0	<1.0	<1.0
09/15/2020	Benzene *	5.00	<1.0	<1.0	<1.0
03/02/2021	Benzene *	5.00	<1.0	<1.0	<1.0
09/07/2021	Benzene *	5.00	**1.00**	<1.0	<1.0
03/24/2022	Benzene *	5.00	<1.0	<1.0	<1.0
08/31/2022	Benzene *	5.00	<1.0	<1.0	<1.0
03/02/2023	Benzene *	5.00	<1.0	<1.0	<1.0
09/12/2023	Benzene *	5.00	<1.0	<1.0	<1.0
03/04/2024	Benzene *	5.00	<1.0	<1.0	<1.0
09/23/2024	Benzene *	5.00	<1.0	<1.0	<1.0

NEWTON SANITARY LANDFILL
50-SDP-1-75P
CONCENTRATIONS - GROUNDWATER

		MCL	D.G.W		
Date	PARAMETER		MW 56	MW 64	MW 65
	ug/L				
03/24/1994	Chlorobenzene	100	NT		
09/08/1994	Chlorobenzene	100	NT		
12/13/1995	Chlorobenzene	100	**5.6**		
03/20/1996	Chlorobenzene	100	**4.70**		
06/19/1996	Chlorobenzene	100	**4.70**		
09/06/1996	Chlorobenzene	100	**4.40**		
03/27/1997	Chlorobenzene	100	**5.00**		
09/10/1997	Chlorobenzene	100	<1		
01/20/1998	Chlorobenzene	100	**4.80**		
03/23/1998	Chlorobenzene	100	<1	<1	<1
09/08/1998	Chlorobenzene	100	**5.10**	<1	<1
03/19/1999	Chlorobenzene	100	**4.60**	<1	<1
09/03/1999	Chlorobenzene	100	**5.10**	**1.10**	<1
03/24/2000	Chlorobenzene	100	**7.00**	<1	<1
09/15/2000	Chlorobenzene	100	**5.20**	<1	<1
03/20/2001	Chlorobenzene	100	<1	<1	<1
09/04/2001	Chlorobenzene	100	**5.40**	<5	<1
03/20/2002	Chlorobenzene	100	<1	<1	<1
09/12/2002	Chlorobenzene	100	**4.80**	<1	<1
03/21/2003	Chlorobenzene	100	**5.30**	<1	<1
09/20/2003	Chlorobenzene	100	**4.50**	<1.0	<1.0
03/24/2004	Chlorobenzene	100	**0.50**	<0.3	<0.3
09/11/2004	Chlorobenzene	100	**4.10**	<0.3	<0.3
03/03/2005	Chlorobenzene	100	<1.0	<1.0	<1.0
09/13/2005	Chlorobenzene	100	**4.30**	<0.2	<0.2
03/16/2006	Chlorobenzene	100	<0.2	<0.2	<0.2
09/01/2006	Chlorobenzene	100	**3.70**	<1.0	<1.0
03/27/2007	Chlorobenzene	100	<1.0	<1.0	<1.0
09/25/2007	Chlorobenzene	100	**1.30**	<1.0	<1.0
12/21/2007	Chlorobenzene	100	NT	NT	NT
03/20/2008	Chlorobenzene	100	<1.0	<1.0	<1.0
09/16/2008	Chlorobenzene	100	<1.0	<1.0	<1.0
03/20/2009	Chlorobenzene	100	<1.0	<1.0	<1.0
09/28/2009	Chlorobenzene	100	<1.0	<1.0	<1.0
03/28/2010	Chlorobenzene	100	<1.0	<1.0	<1.0
09/27/2010	Chlorobenzene	100	<1.0	<1.0	<1.0
03/23/2011	Chlorobenzene	100	<1.0	<1.0	<1.0
09/07/2011	Chlorobenzene	100	<1.0	<1.0	<1.0
03/08/2012	Chlorobenzene	100	<1.0	<1.0	<1.0
09/12/2012	Chlorobenzene	100	<1.0	<1.0	<1.0
03/14/2013	Chlorobenzene	100	<1.0	<1.0	<1.0
09/24/2013	Chlorobenzene	100	<1.0	<1.0	<1.0
03/24/2014	Chlorobenzene	100	<1.0	<1.0	<1.0
09/25/2014	Chlorobenzene	100	<1.0	<1.0	<1.0
03/25/2015	Chlorobenzene	100	<1.0	<1.0	<1.0
09/16/2015	Chlorobenzene	100	<1.0	<1.0	<1.0
09/14/2016	Chlorobenzene	100	<1.0	<1.0	<1.0
03/23/2017	Chlorobenzene	100	<1.0	<1.0	<1.0
09/08/2017	Chlorobenzene	100	<1.0	<1.0	<1.0
03/19/2018	Chlorobenzene	100	<1.0	<1.0	<1.0
09/11/2018	Chlorobenzene	100	<1.0	<1.0	<1.0
03/26/2019	Chlorobenzene	100	<1.0	<1.0	<1.0
09/04/2019	Chlorobenzene	100	<1.0	<1.0	<1.0
03/26/2020	Chlorobenzene	100	<1.0	<1.0	<1.0
09/15/2020	Chlorobenzene	100	<1.0	<1.0	<1.0
03/02/2021	Chlorobenzene	100	<1.0	<1.0	<1.0
09/07/2021	Chlorobenzene	100	<1.0	<1.0	<1.0
03/24/2022	Chlorobenzene	100	<1.0	<1.0	<1.0
08/31/2022	Chlorobenzene	100	<1.0	<1.0	<1.0
03/02/2023	Chlorobenzene	100	<1.0	<1.0	<1.0
09/12/2023	Chlorobenzene	100	<1.0	<1.0	<1.0
03/04/2024	Chlorobenzene	100	<1.0	<1.0	<1.0
09/23/2024	Chlorobenzene	100	<1.0	<1.0	<1.0

NEWTON SANITARY LANDFILL
50-SDP-1-75P
CONCENTRATIONS - GROUNDWATER

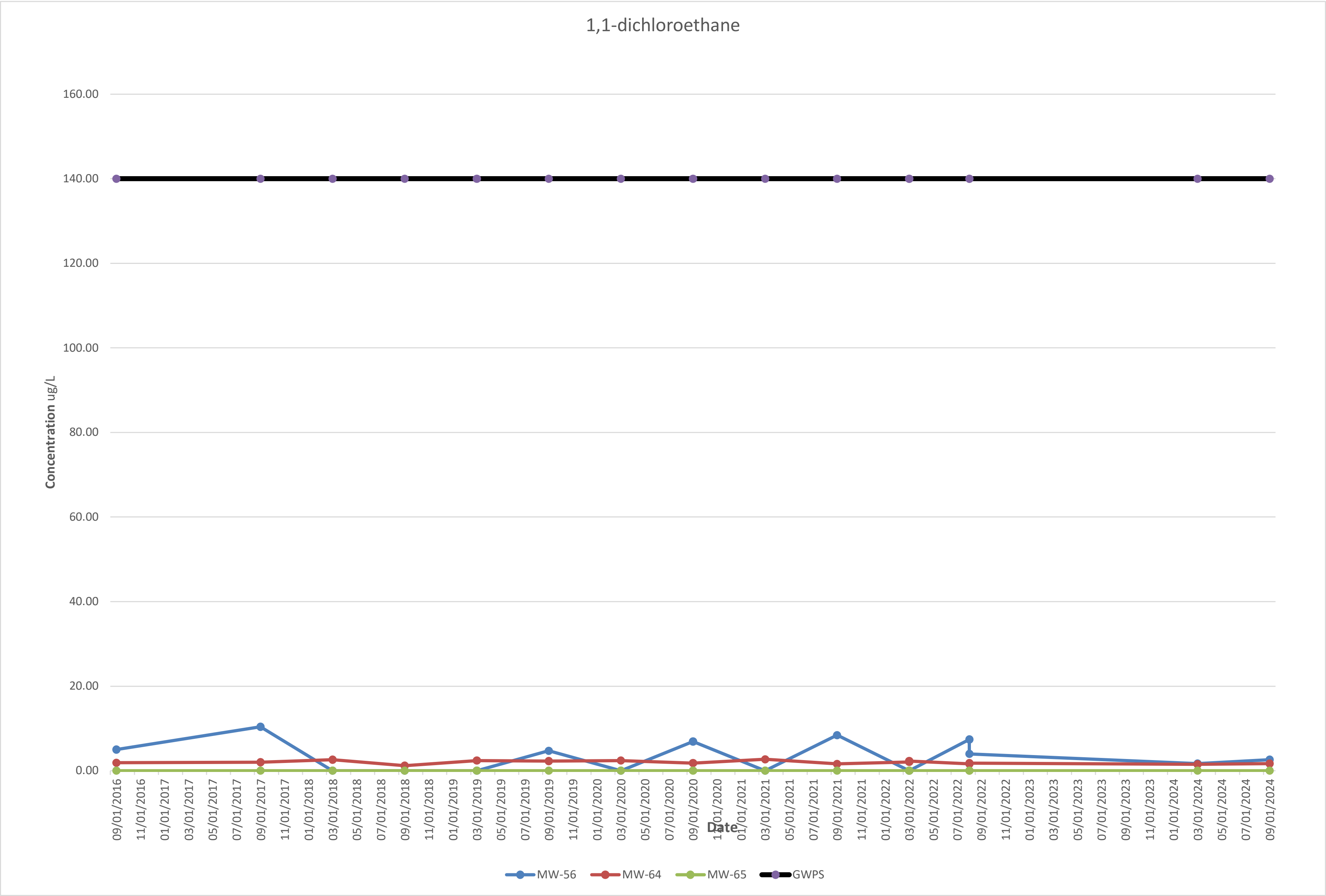
Date	PARAMETER	MCL	D.G.W MW 56	MW 64	MW 65
		ug/L			
03/24/1994	Vinyl Chloride	2.00			
09/08/1994	Vinyl Chloride	2.00			
12/13/1995	Vinyl Chloride	2.00	**299.00**		
03/20/1996	Vinyl Chloride	2.00	**286.00**		
06/19/1996	Vinyl Chloride	2.00	**287.00**		
09/06/1996	Vinyl Chloride	2.00	**255.00**		
03/27/1997	Vinyl Chloride	2.00	**200.40**		
09/10/1997	Vinyl Chloride	2.00	**195.00**		
01/20/1998	Vinyl Chloride	2.00	**174.00**	**7.40**	<1
03/23/1998	Vinyl Chloride	2.00	**99.80**	**8.00**	<1
09/08/1998	Vinyl Chloride	2.00	**126.00**	**12.00**	<1
03/19/1999	Vinyl Chloride	2.00	**63.80**	**17.80**	<1
09/03/1999	Vinyl Chloride	2.00	**43.00**	**12.10**	<1
03/24/2000	Vinyl Chloride	2.00	**47.90**	**59.80**	<1
09/15/2000	Vinyl Chloride	2.00	**25.80**	**19.70**	<1
03/20/2001	Vinyl Chloride	2.00	<1	**35.40**	<1
09/04/2001	Vinyl Chloride	2.00	**9.40**	**35.60**	<1
03/20/2002	Vinyl Chloride	2.00	<1	**44.30**	<1
09/12/2002	Vinyl Chloride	2.00	**4.50**	**51.80**	<1
03/21/2003	Vinyl Chloride	2.00	<1	**56.10**	<1
09/20/2003	Vinyl Chloride	2.00	**4.50**	**57.00**	<1.0
03/24/2004	Vinyl Chloride	2.00	**0.40**	**65.80**	<0.2
09/11/2004	Vinyl Chloride	2.00	**3.20**	**65.80**	<0.2
03/03/2005	Vinyl Chloride	2.00	<1.0	**81.30**	<1.0
09/13/2005	Vinyl Chloride	2.00	**2.70**	**85.20**	<0.1
03/16/2006	Vinyl Chloride	2.00	<0.1	**103.00**	<0.1
09/01/2006	Vinyl Chloride	2.00	**10.20**	**122.00**	<1.0
03/27/2007	Vinyl Chloride	2.00	<1.0	**87.50**	<1.0
09/25/2007	Vinyl Chloride	2.00	**2.10**	**74.40**	<1.0
12/21/2007	Vinyl Chloride	2.00	NT	NT	NT
03/20/2008	Vinyl Chloride	2.00	<1.0	**61.90**	<1.0
09/16/2008	Vinyl Chloride	2.00	<1.0	**77.90**	**1.20**
03/20/2009	Vinyl Chloride	2.00	<1.0	**45.90**	<1.0
09/28/2009	Vinyl Chloride	2.00	<1.0	**42.50**	<1.0
03/28/2010	Vinyl Chloride	2.00	<1.0	**35.60**	<1.0
09/27/2010	Vinyl Chloride	2.00	<1.0	**39.60**	<1.0
03/23/2011	Vinyl Chloride	2.00	<1.0	**19.20**	<1.0
09/07/2011	Vinyl Chloride	2.00	**4.80**	**24.50**	<1.0
03/08/2012	Vinyl Chloride	2.00	<1.0	**25.10**	<1.0
09/12/2012	Vinyl Chloride	2.00	**2.80**	**63.20**	<1.0
03/14/2013	Vinyl Chloride	2.00	<1.0	**42.00**	<1.0
09/24/2013	Vinyl Chloride	2.00	**3.30**	**70.60**	**3.10**
03/24/2014	Vinyl Chloride	2.00	**1.50**	**71.80**	<1.0
09/25/2014	Vinyl Chloride	2.00	<1.0	**38.90**	<1.0
03/25/2015	Vinyl Chloride	2.00	<1.0	**20.00**	<1.0
09/16/2015	Vinyl Chloride	2.00	<1.0	**20.10**	<1.0
09/14/2016	Vinyl Chloride	2.00	**2.80**	**23.70**	<1.0
03/23/2017	Vinyl Chloride	2.00	<1.0	**14.30**	<1.0
09/08/2017	Vinyl Chloride	2.00	**4.20**	**17.40**	<1.0
03/19/2018	Vinyl Chloride	2.00	<1.0	**14.40**	<1.0
09/11/2018	Vinyl Chloride	2.00	<1.0	**7.90**	<1.0
03/26/2019	Vinyl Chloride	2.00	<1.0	**7.00**	<1.0
09/04/2019	Vinyl Chloride	2.00	<1.0	**5.60**	<1.0
03/26/2020	Vinyl Chloride	2.00	<1.0	**3.70**	<1.0
09/15/2020	Vinyl Chloride	2.00	**1.90**	**5.60**	<1.0
03/02/2021	Vinyl Chloride	2.00	<1.0	**3.40**	<1.0
09/07/2021	Vinyl Chloride	2.00	**2.20**	**2.60**	<1.0
03/24/2022	Vinyl Chloride	2.00	<1.0	**1.60**	<1.0
08/31/2022	Vinyl Chloride	2.00	<1.0	**1.70**	<1.0
03/02/2023	Vinyl Chloride	2.00	<1.0	**1.90**	<1.0
09/12/2023	Vinyl Chloride	2.00	<1.0	**1.80**	<1.0
03/04/2024	Vinyl Chloride	2.00	<1.0	**2.70**	<1.0
09/23/2024	Vinyl Chloride	2.00	<1.0	**1.70**	<1.0

NEWTON SANITARY LANDFILL
50-SDP-1-75P
CONCENTRATIONS - GROUNDWATER

Date	PARAMETER	MCL	D.G.W		
			MW 56	MW 64	MW 65
	ug/L				
12/13/1995	cis-1,2 DCE	70.00	**113.00**		
03/20/1996	cis-1,2 DCE	70.00	**118.00**		
06/19/1996	cis-1,2 DCE	70.00	**101.00**		
09/06/1996	cis-1,2 DCE	70.00	**86.50**		
03/27/1997	cis-1,2 DCE	70.00	**71.40**		
09/10/1997	cis-1,2 DCE	70.00	**61.30**		
01/20/1998	cis-1,2 DCE	70.00	**42.70**		<1
03/23/1998	cis-1,2 DCE	70.00	**27.00**	**19.80**	<1
09/08/1998	cis-1,2 DCE	70.00	**26.60**	**28.20**	<1
03/19/1999	cis-1,2 DCE	70.00	**18.60**	**46.50**	<1
09/03/1999	cis-1,2 DCE	70.00	**13.10**	**34.20**	<1
03/24/2000	cis-1,2 DCE	70.00	**8.60**	**82.10**	<1
09/15/2000	cis-1,2 DCE	70.00	**6.20**	**43.80**	<1
03/20/2001	cis-1,2 DCE	70.00	NT	**56.40**	<1
09/04/2001	cis-1,2 DCE	70.00	NT	**67.00**	<1
03/20/2002	cis-1,2 DCE	70.00	NT	**82.10**	<1
09/14/2016	cis-1,2 DCE	70.00	<1	**36.40**	<1
09/08/2017	cis-1,2 DCE	70.00	<1	**23.70**	<1
03/19/2018	cis-1,2 DCE	70.00	<1	**17.20**	<1
09/11/2018	cis-1,2 DCE	70.00	<1	**15.10**	<1
03/26/2019	cis-1,2 DCE	70.00	<1	**9.70**	<1
09/04/2019	cis-1,2 DCE	70.00	<1	**8.30**	<1
03/26/2020	cis-1,2 DCE	70.00	<1	**4.60**	<1
09/15/2020	cis-1,2 DCE	70.00	<1	**6.40**	<1
03/02/2021	cis-1,2 DCE	70.00	<1	**7.40**	<1
09/07/2021	cis-1,2 DCE	70.00	<1	**7.40**	<1
03/24/2022	cis-1,2 DCE	70.00	<1	**3.90**	<1
08/31/2022	cis-1,2 DCE	70.00	<1	**5.40**	<1
03/02/2023	cis-1,2 DCE	70.00	<1	**3.30**	<1
09/12/2023	cis-1,2 DCE	70.00	<1	**4.50**	<1
03/04/2024	cis-1,2 DCE	70.00	<1	**2.40**	<1
09/23/2024	cis-1,2 DCE	70.00	<1	**4.10**	<1

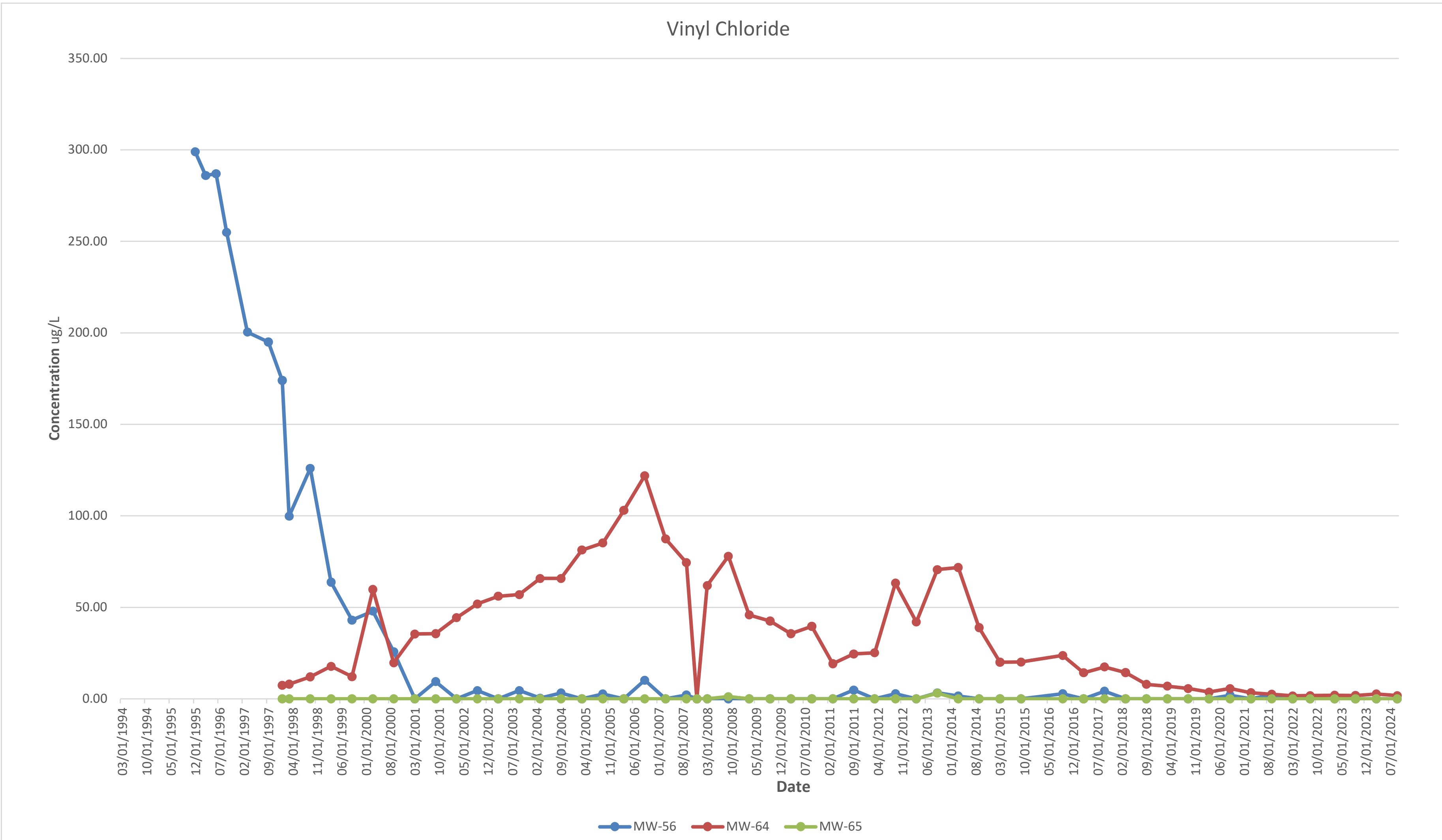
NEWTON SANITARY LANDFILL
50-SDP-1-75P
CONCENTRATIONS - GROUNDWATER

Date	PARAMETER	MCL	D.G.W MW 56	MW 64	MW 65
	ug/L				
09/14/2016	1,1-dichloroethane	140.00	**5.00**	**1.90**	<1
09/08/2017	1,1-dichloroethane	140.00	**10.40**	**2.00**	<1
03/19/2018	1,1-dichloroethane	140.00	<1	**2.60**	<1
09/11/2018	1,1-dichloroethane	140.00	<1	**1.20**	<1
03/26/2019	1,1-dichloroethane	140.00	<1	**2.40**	<1
09/04/2019	1,1-dichloroethane	140.00	**4.70**	**2.30**	<1
03/26/2020	1,1-dichloroethane	140.00	<1	**2.40**	<1
09/15/2020	1,1-dichloroethane	140.00	**6.90**	**1.80**	<1
03/02/2021	1,1-dichloroethane	140.00	<1	**2.70**	<1
09/07/2021	1,1-dichloroethane	140.00	**8.40**	**1.60**	<1
03/24/2022	1,1-dichloroethane	140.00	<1	**2.10**	<1
08/31/2022	1,1-dichloroethane	140.00	**7.40**	**1.60**	<1
03/24/2022	1,1-dichloroethane	140.00	<1	**2.30**	<1
08/31/2022	1,1-dichloroethane	140.00	**4.00**	**1.80**	<1
03/04/2024	1,1-dichloroethane	140.00	**1.70**	**1.50**	<1
09/23/2024	1,1-dichloroethane	140.00	**2.60**	**1.70**	<1



1,1-dichloroethane
Concentration ug/L
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
Date
MW-56
MW-64
MW-65
GWPS


cis 1,2-DCE
Concentration ug/L
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
Date
MW-56
MW-64
MW-65
GWPS



Vinyl Chloride
Concentration ug/L
350.00
300.00
250.00
200.00
150.00
100.00
50.00
0.00
03/01/1994
10/01/1994
05/01/1995
12/01/1995
07/01/1996
02/01/1997
09/01/1997
04/01/1998
11/01/1998
06/01/1999
01/01/2000
08/01/2000
03/01/2001
10/01/2001
05/01/2002
12/01/2002
07/01/2003
02/01/2004
09/01/2004
04/01/2005
11/01/2005
06/01/2006
01/01/2007
08/01/2007
03/01/2008
10/01/2008
05/01/2009
12/01/2009
07/01/2010
02/01/2011
09/01/2011
04/01/2012
11/01/2012
06/01/2013
01/01/2014
08/01/2014
03/01/2015
10/01/2015
05/01/2016
12/01/2016
07/01/2017
02/01/2018
09/01/2018
04/01/2019
11/01/2019
06/01/2020
01/01/2021
08/01/2021
03/01/2022
10/01/2022
05/01/2023
12/01/2023
07/01/2024
Date
MW-56
MW-64
MW-65

ATTACHMENT E

Water Elevation Data

NEWTON SANITARY LANDFILL
50-SDP-1-75P
MONTHLY WATER ELEVATIONS

	MW 48	MW 44	MW 45	MW 45R	MW 56	MW 57	MW-64	MW-65
TOP PVC, FT.	875.20	834.55	859.92	875.51	839.21	844.10	839.60	833.68
(Revised)								
DATE								
6/29/92	864.8	826.33	840.87		830.83	835.35		
12/14/92	869.94	828.09	843.62		831.33	839.58		
1/28/93	869.53	826.56	842.65		830.73	837.65		
3/5/93	869.59	827.01	843.48		830.72	839.30		
9/14/93	869.64	829.53	848.56		831.87	840.82		
3/14/94	868.74	827.06	848.10		830.55	839.20		
9/6/94	864.02	825.91	839.80		831.01	834.86		
3/14/95	867.2	826.75	842.32		829.49	839.52		
9/25/95	863.2	826.97	840.82		830.61	836.05		
03/19/1996	868	827.18	839.82		829.46	838.90		
09/05/1996	864.8	826.95	841.22		828.41	834.95		
01/20/1997	866.28	827.36	839.14		829.39	838.87		
03/12/1997	869.42	828.75	839.37		829.76	839.70		
04/24/1997	869.33	828.63	841.47		829.66	838.50		
05/24/1997	869.09	828.41	844.96		829.36	838.28		
06/27/1997	867	827.89	842.96		829.51	836.73		
07/30/1997	865.57	827.13	839.80		829.44	834.22		
09/10/1997	865	826.90	838.92		829.41	835.05		
01/15/1998	869.35	828.69	843.18		829.59	839.42		
03/25/1998	870.2	831.05	846.94		830.61	840.50	832.10	827.43
07/21/1998	868.35	828.69	843.78		830.01	838.89		
08/31/1998	866.23	828.25	840.79		829.93	838.71		
09/08/1998	865.5	828.05	840.57		829.81	837.90	831.55	823.83
01/30/1999	865.92	826.36	839.75		829.46	837.40		
03/10/1999	868.95	828.90	840.80		829.66	839.40	831.15	825.10
05/30/1999	869.13	829.36	845.85		829.74	838.81		
06/26/1999	868.68	828.75	843.14		829.70	838.67		
07/30/1999	865.03	827.67	840.56		829.39	836.88		
08/30/1999	866.48	828.92	841.87		829.65	839.10		
09/05/1999	856.5	828.70	841.87		829.61	838.80	831.30	824.08
03/27/1900	865.22	827.65	838.54		829.21	837.85	830.65	823.81
09/14/2000	864.5	828.35	840.02		829.81	836.50	829.50	823.88
03/19/2001	870.3	831.58	839.42		753.21	841.30	832.00	825.18
08/31/2001	864.35	828.25	840.02		829.36	839.00	831.00	823.88
03/19/2002	865.25	828.57	837.97		829.46	838.70	830.85	823.98
09/06/2002	864.6	827.35	838.20		828.81	837.55	830.55	823.08
03/27/2003	867	827.65	837.62		829.01	836.85	830.50	823.58
09/20/2003	863.9	827.59	838.26		829.08	837.48	830.61	823.05

P.N. 6002

NEWTON SANITARY LANDFILL
50-SDP-1-75P
MONTHLY WATER ELEVATIONS

	MW 48	MW 44	MW 45	MW 45R	MW 56	MW 57	MW-64	MW-65
TOP PVC, FT.	875.20	834.55	859.92	875.51	839.21	844.10	839.60	833.68
(Revised)								
DATE								
03/24/2004	870.1	831.75	843.42		830.21	840.00	831.40	825.48
09/11/2004	864.7	827.85	839.62		829.11	838.50	830.70	823.48
03/02/2005	869.35	829.05	839.17		829.81	839.06	830.98	824.05
09/09/2005	863.56	827.41	839.20		828.89	837.30	830.48	822.78
11/01/2005	862.82	826.93	838.18		828.96	835.05	830.29	822.70
03/09/2006	865.7	830.20	837.61		831.49	840.89	831.76	826.54
06/29/2006	NT	NT	NT		NT	NT	NT	NT
09/01/2006	864.08	828.95	837.82		829.25	838.91	830.87	823.67
12/29/2006	NT	NT	NT		NT	NT	NT	NT
03/27/2007	870.07	829.05	840.27		831.18	840.08	831.92	824.68
06/20/2007	NT	NT	NT		NT	NT	NT	NT
09/24/2007	866	828.95	839.81		829.26	838.64	831.12	823.55
12/21/2007	NT	NT	NT		NT	NT	NT	NT
03/19/2008	870.33	830.54	844.42		832.52	840.32	832.95	827.53
06/09/2008	NT	NT	NT		NT	NT	NT	NT
09/15/2008	867.3	823.05	840.62		830.96	839.30	831.65	824.03
12/22/2008	NT	NT	NT		NT	NT	NT	NT
03/05/2009	869.1	828.85	843.62		830.01	838.90	831.45	824.08
06/24/2009	NT	NT	NT		NT	NT	NT	NT
09/12/2009	866.6	829.00	843.07		829.51	838.72	831.05	823.76
12/07/2009	NT	NT	NT		NT	NT	NT	NT
03/30/2010	869.7	829.75	848.02		831.41	838.90	831.80	824.68
06/28/2010	NT	NT	NT		NT	NT	NT	NT
09/27/2010	869.8	831.55	847.87		831.96	839.70	832.20	824.98
03/23/2011	869.55	830.65	844.42		830.76	839.90	832.00	824.38
09/08/2011	864.45	828.25	840.82		828.81	835.30	830.30	822.48
03/08/2012	865.5	830.05	839.37		831.76	839.45	831.55	824.93
07/18/2012	864.2	NT	NT		NT	NT	NT	NT
09/24/2012	862.5	826.80	838.22		828.31	833.75	829.60	822.08
03/14/2013	868.45	829.30	839.02		831.21	840.10	831.70	826.23
09/24/2013	862.7	827.50	840.47		828.61	834.15	830.00	822.08
03/24/2014	864.4	827.50	838.92		829.81	834.50	831.10	823.73
09/24/2014	869.6	829.15	845.07		829.61	838.65	831.10	824.18
03/11/2015	869.5	828.75	843.92		829.71	838.95	831.25	825.18
09/17/2015	866.6	828.89	841.97		829.71	838.25	831.25	824.64
03/22/2016	869.35	NT	NT		NT	NT	NT	NT
09/14/2016	865.35	828.40	840.52		829.08	838.47	831.15	824.48
03/23/2017	867.48	828.35	841.42		829.79	838.50	831.25	825.02

P.N. 6002

NEWTON SANITARY LANDFILL
50-SDP-1-75P
MONTHLY WATER ELEVATIONS

	MW 48	MW 44	MW 45	MW 45R	MW 56	MW 57	MW-64	MW-65
TOP PVC, FT.	875.20	834.55	859.92	875.51	839.21	844.10	839.60	833.68
(Revised)								
DATE								
09/08/2017	863.5	827.32	838.33		828.59	834.66	830.09	823.02
3/19/2018	867.99	830.01	838.42		830.49	839.51	832.07	827.05
9/11/2018	869.68	830.96	841.76		830.44	839.01	831.59	826.69
3/26/2019	869.62	829.65	846.92		830.74	838.78	831.76	825.80
9/4/2019	864.89	828.46	840.51		829.08	836.88	831.04	823.72
3/26/2020	869.3	830.55	847.12		831.53	839.00	832.07	826.40
9/15/2020	864.95	828.74	839.69		829.19	834.64	830.80	823.29
3/2/2021	868.6	831.10	840.98		831.71	840.18	832.75	827.50
9/7/2021	863.87	828.29	Plugged	812.21	828.84	835.40	831.22	822.92
3/24/2022	868.18	830.44	Plugged	812.21	831.82	839.80	832.92	826.81
9/1/2022	863.21	827.58	Plugged	812.21	828.20	833.75	829.89	821.08
3/2/2023	867.6	829.82	Plugged	812.21	831.25	839.44	832.32	825.57
9/12/2023	863.2	828.20	Plugged	812.21	828.43	836.75	830.09	821.95
3/4/2024	866.03	828.60	Plugged	812.21	829.39	837.62	831.05	824.41
9/23/2024	864.31	828.44	Plugged	812.21	828.86	837.51	830.72	823.97

ATTACHMENT F

Leachate Levels LPZ-209, LPZ-210, and LPZ-211

NEWTON SANITARY LANDFILL 50-SDP-1-75P
LEACHATE ELEVATIONS
1945 Landfill

	LW-209	LW-210	LW-211
TOP PVC, FT.	861.36	887.12	871.53
(Revised)			
BTM ELEV	838.5	861.92	837.23
DATE			
06/29/1992			
12/14/1992			
01/28/1993			
03/05/1993			
09/14/1993			
03/14/1994			
09/06/1994	852.06	872.42	861.03
03/14/1995	851.36	872.82	859.98
09/25/1995	851.96	875.72	861.63
03/19/1996	850.96	875.72	860.03
09/05/1996	851.46	875.62	860.93
01/20/1997	850.96	874.79	860.15
03/12/1997	850.36	872.02	859.73
04/24/1997	851.80	874.04	859.81
05/24/1997	852.34	875.10	859.86
06/27/1997	851.99	875.21	860.00
07/30/1997	851.51	875.46	860.24
09/10/1997	850.86	875.52	860.73
01/15/1998	852.44	876.26	860.35
03/25/1998	853.46	876.32	860.63
07/21/1998	853.94	875.77	862.65
08/31/1998	852.53	875.88	862.71
09/08/1998	852.56	875.92	862.73
01/30/1999	851.02	873.42	860.38
03/10/1999	851.16	875.62	860.13
05/30/1999	853.13	876.27	860.63
06/26/1999	853.06	876.28	861.19
07/30/1999	852.25	876.08	861.16
08/30/1999	852.03	875.97	861.10
09/05/1999	852.26	875.92	861.33
03/27/2000	850.06	875.52	859.33
09/14/2000	850.80	875.82	859.13
03/19/1901	849.76	876.42	856.23
08/31/1901	851.66	876.32	859.43
03/19/2002	850.16	871.12	858.23
09/06/2002	851.06	876.02	858.53
03/27/2003	849.66	869.72	857.53
09/20/2003	851.40	876.38	858.63
03/24/2004	852.26	876.42	858.33
09/11/2004	852.16	876.12	859.83
03/02/2005	850.46	876.12	858.73
09/09/2005	851.88	876.27	860.28
03/09/2006	850.10	876.37	858.88
06/29/2006	851.81	876.20	858.51
09/01/2006	851.30	876.28	858.83
12/26/2006	852.28	876.26	858.96
03/27/2007	852.32	876.29	858.85
06/20/2007	853.82	876.24	859.46
09/24/2007	853.47	876.27	860.33
12/21/2007	852.95	876.23	860.39
03/19/2008	853.13	876.32	859.99
06/09/2008	856.05	856.30	860.86
09/15/2008	853.66	876.22	861.23
12/22/2008	851.86	876.12	860.43
03/05/2009	851.46	876.22	859.83
06/24/2009	854.96	876.22	861.13
09/12/2009	854.66	876.22	860.93
12/07/2009	854.56	876.12	860.63
03/30/2010	855.96	876.02	860.43
06/28/2010	857.46	876.27	861.03
09/27/2010	856.06	875.82	861.13

NEWTON SANITARY LANDFILL 50-SDP-1-75P
LEACHATE ELEVATIONS
1945 Landfill

	LW-209	LW-210	LW-211
TOP PVC, FT.	861.36	887.12	871.53
(Revised)			871.13
DATE			
03/23/2011	851.86	876.12	859.33
09/08/2011	853.26	876.12	859.78
12/05/2011	851.51	872.42	857.93
02/15/2012	851.19	876.18	858.61
03/08/2012	851.36	876.22	857.43
04/23/2012	852.98	876.24	858.06
05/21/2012	853.73	876.26	858.33
06/21/2012	853.01	876.22	858.78
07/25/2012	852.26	876.18	858.99
08/27/2012	851.45	875.42	858.88
09/24/2012	851.16	874.22	858.53
10/30/2012	850.85	876.20	858.46
12/05/2012	850.66	876.12	858.03
01/15/2013	850.48	876.08	857.81
02/15/2013	850.52	876.20	857.49
03/15/2013	850.96	876.12	857.53
04/15/2013	854.96	876.12	857.43
05/15/2013	856.51	876.19	857.73
06/21/2013	853.01	876.22	858.78
07/10/2013	855.76	876.22	858.73
08/20/2013	853.76	876.12	859.18
09/24/2013	852.91	875.27	859.43
10/09/2013	852.44	874.72	859.22
11/13/2013	851.51	872.55	858.62
12/19/2013	851.16	870.32	858.73
01/14/2014	850.76	869.42	858.43
02/19/2014	850.44	867.82	857.84
03/24/2014	850.26	866.72	857.23
04/11/2014	850.16	866.22	857.13
05/19/2014	850.86	876.12	856.83
06/09/2014	851.96	876.22	857.13
07/25/2014	856.01	876.17	857.80
08/18/2014	854.36	876.02	857.98
09/25/2014	855.56	876.22	858.53
10/28/2014	854.51	876.02	858.88
11/20/2014	853.84	878.07	859.01
12/05/2014	853.46	876.17	859.08
01/16/2015	852.91	876.17	858.93
02/11/2015	852.61	876.12	858.63
03/11/2015	852.36	876.22	858.53
04/13/2015	852.66	876.12	858.53
05/05/2015	853.36	876.12	858.53
06/16/2015	853.66	876.17	858.78
07/07/2015	855.01	875.97	858.98
08/11/2015	852.06	876.17	859.43
09/17/2015	853.96	875.74	859.44
10/06/2015	854.11	876.15	859.73
11/18/2015	853.46	876.12	860.18
12/17/2015	854.96	876.17	859.43
01/06/2016	856.36	876.02	859.51
02/19/2016	855.36	876.02	859.93
03/22/2016	855.40	875.98	859.83
04/26/2016	855.76	875.92	859.93
05/24/2016	852.36	875.82	859.83
06/23/2016	854.24	875.67	859.53
07/29/2016	853.54	875.82	859.83
08/24/2016	853.16	875.92	859.83
09/14/2016	853.01	875.92	859.53
10/14/2016	852.61	875.92	859.43
11/16/2016	852.09	875.97	859.38
12/15/2016	851.76	875.82	860.43

NEWTON SANITARY LANDFILL 50-SDP-1-75P
LEACHATE ELEVATIONS
1945 Landfill

	LW-209	LW-210	LW-211
TOP PVC, FT.	861.36	887.12	871.53
(Revised)			871.13
DATE			
01/11/2017	851.21	876.12	858.78
02/14/2017	761.06	876.12	858.11
03/23/2017	851.16	875.89	857.82
04/20/2017	852.81	875.77	857.83
05/22/2017	853.96	875.77	857.98
06/09/2017	853.76	875.87	858.08
07/19/2017	852.56	875.77	858.21
08/23/2017	851.86	875.52	858.33
09/08/2017	851.65	875.85	858.29
10/13/2017	850.16	877.12	858.31
11/15/2017	851.16	875.37	858.33
12/05/2017	851.12	875.82	858.08
01/09/2018	850.96	875.12	858.23
02/21/2018	850.46	876.09	856.98
03/19/2018	850.46	875.07	857.38
04/30/2018	851.26	876.09	857.13
05/30/2018	852.76	875.72	857.23
06/05/2018	852.98	875.87	857.13
07/27/2018	854.16	874.32	857.48
08/30/2018	852.56	875.17	857.78
09/11/2018	853.36	876.02	858.04
10/30/2018	856.36	875.02	858.73
11/29/2018	855.16	875.09	859.05
12/05/2018	854.66	875.72	858.75
1/28/2019	855.36	875.07	859.10
2/28/2019	855.26	875.02	859.03
3/26/2019	853.91	875.84	858.48
4/26/2019	855.36	875.31	859.22
5/15/2019	852.61	875.22	858.98
6/6/2019	857.36	876.02	859.43
7/24/2019	855.36	874.92	859.63
8/28/2019	853.86	874.42	859.93
9/4/2019	853.65	873.37	859.88
10/28/2019	856.16	875.42	859.83
11/25/2019	855.36	875.11	860.13
12/4/2019	857.36	876.02	859.43
1/30/2020	855.66	875.12	859.83
2/21/2020	853.76	875.62	859.03
3/2/2020	854.36	875.65	859.43
April 2020	NR	NR	NR
5/21/2020	855.16	874.52	859.43
6/18/2020	855.83	874.31	859.73
7/14/2020	854.56	874.52	859.33
8/29/2020	853.51	872.87	859.93
9/15/2020	853.71	873.02	859.69
12/3/2020	853.06	873.72	859.21
3/2/2021	853.04	873.11	858.73
6/2/2021	854.39	873.04	858.93
9/7/2021	852.76	871.35	859.41
12/3/2021	852.71	872.46	858.96
3/24/2022	852.21	874.60	858.16
6/13/2022	854.26	874.19	858.18
9/1/2022	852.05	871.97	858.33
12/2/2022	851.21	872.82	858.35
3/2/2023	851.00	874.14	857.63
6/8/2023	852.93	872.62	857.58
9/12/2023	851.73	871.25	857.92
12/21/2023	850.68	870.41	857.68
3/4/2024	850.51	871.87	857.48
6/3/2024	852.94	871.72	857.50
9/23/2024	852.71	871.28	858.43
	861.36	887.12	871.13

ATTACHMENT G

Explosive Gas Monitoring Results

NEWTON SANITARY LANDFILL **1945 Landfill**
50-SDP-1-75P
EXPLOSIVE GAS MONITORING RESULTS

	12/21/2023	3/4/2024	6/3/2024	9/23/2024
Reference* Location	Combustible % LEL	Combustible % LEL	Combustible % LEL	Combustible % LEL
Breathing Zone				
G1 - Scale House	0	0	0	0
G2 - Under Scale	0	0	0	0
G3 - Outside Scale House	0	0	0	0
G4 - Southeast Shed	0	0	0	0
G5 - MW-47	0	0	0	0
G6 - MW-45R	0	0	0	0
G7 - MW-44	0	0	0	0
G8 - MW-42	0	0	0	0
G9 - MW-41	0	0	0	0
G10 - MW-60	0	0	0	0
G11 - Near Lagoon	0	0	0	0
G12 - MW-39	0	0	0	0
G13 - MW-62	0	0	0	0
G14 - MW-48	0	0	0	0
Subsurface Soil Gas				
GP-1	0	0	0	0
GP-2	**65.1**	**40.9**	**36.5**	**59.9**
GP-3	0	0	0	0
GP-4	0	0	0	0
GP-5	0	0	0	0
GP-6	0	**44.7**	**36.4**	0
GP-7	0	0	0	0
GP-8	0	0	0	0
GP-9	0	0	0	0
GP-10	0	0	**85.0**	0

Near 1945 Landfill